



307B SW Market Street Lee's Summit, MO, 64063 P: 816.249.2270 | www.collinsandwebb.com

# ITAP - LEE'S SUMMIT

228 SW MAIN ST.  
LEE'S SUMMIT, MO 64063

## PERMIT DOCUMENTS

27 FEB 2023

COLLINS WEBB #: 22066

SHEET INDEX	
SHEET NUMBER	SHEET NAME
GENERAL INFORMATION	
CS	COVER SHEET
G001	GENERAL INFORMATION
G002	ACCESSIBILITY GUIDELINES
G003	CODE INFORMATION AND LIFE SAFETY PLANS
G500	GENERAL PROJECT SPECIFICATIONS
G501	GENERAL PROJECT SPECIFICATIONS
G502	GENERAL PROJECT SPECIFICATIONS
STRUCTURAL	
S101	STRUCTURAL PLANS AND SECTIONS
ARCHITECTURAL	
A101	FLOOR PLANS, ENLARGED PLANS, AND DETAILS
A501	ENLARGED BAR PLAN, INTERIOR ELEVATIONS + DETAILS
A502	INTERIOR ELEVATIONS + DETAILS
A503	INTERIOR DETAILS
A504	ENLARGED RESTROOM BLOCK PLAN + INTERIOR DETAILS
A601	REFLECTED CEILING PLAN
ELECTRICAL	
E101	ELECTRICAL NOTES, SYMBOLS & ABBREVIATIONS
E102	ELECTRICAL DETAILS
E201	ELECTRICAL POWER PLAN
E301	ELECTRICAL LIGHTING PLAN
E401	ELECTRICAL RISER DIAGRAM & SCHEDULES
E501	ELECTRICAL SPECIFICATIONS
E502	ELECTRICAL SPECIFICATIONS
MECHANICAL	
M101	MECHANICAL NOTES, SYMBOLS & ABBREVIATIONS
M201	MECHANICAL PLAN
M301	MECHANICAL SCHEDULE AND DETAILS
M401	MECHANICAL SPECIFICATIONS
PLUMBING	
P101	PLUMBING NOTES, SYMBOLS & ABBREVIATIONS
P102	PLUMBING DETAILS AND SCHEDULES
P201	PLUMBING WASTE AND VENT PLAN
P202	PLUMBING WATER AND GAS PLAN
P301	PLUMBING SPECIFICATIONS



**OWNER**  
  
INTERNATIONAL TAP HOUSE  
18TH & OAK  
KANSAS CITY, MO 64108  
P: 816.298.6541  
www.internationaltaphouse.com

**ARCHITECT**  
  
COLLINS WEBB ARCHITECTURE  
307B SW MARKET ST.  
LEE'S SUMMIT, MISSOURI 64063  
P: 816.249.2270  
www.collinsandwebb.com

**STRUCTURAL ENGINEER**  
  
LEIGH & O'KANE  
250 NE MULBERRY SUITE 201  
LEE'S SUMMIT, MO 64086  
P: 816.444.3144  
www.leok.com

**MEP ENGINEER**  
  
ENGINEER BUILDING SOLUTIONS  
P.O. BOX #11101  
OVERLAND PARK, KS 66207  
P: 913.735.5654  
www.EBSolutionsKC.com











3/14/2023 10:38:03 AM

12	11	10	9	8	7	6	5	4	3	2	1
<div>DIVISION 10 - SPECIALTIES</div> <div>10 2800 TOILET AND BATH ACCESSORIES</div> <div>A. REFERENCE CONSTRUCTION DRAWINGS &amp; SCHEDULES FOR TYPE, QUANTITY, AND LOCATIONS OF TOILET AND BATH ACCESSORIES.</div> <div>B. SUBMITTALS</div> <div>1. PRODUCT DATA: MANUFACTURER'S DATA SHEETS ON EACH PRODUCT TO BE USED, INCLUDING:</div> <div>2. PREPARATION INSTRUCTIONS AND RECOMMENDATIONS.</div> <div>3. STORAGE AND HANDLING REQUIREMENTS AND RECOMMENDATIONS.</div> <div>4. INSTALLATION METHODS.</div> <div>B. INSTALLATION:</div> <div>1. INSTALLER MUST EXAMINE SUBSTRATES, PREVIOUSLY INSTALLED INSERTS AND ANCHORAGES NECESSARY FOR MOUNTING OF TOILET ACCESSORIES, AND OTHER CONDITIONS UNDER WHICH INSTALLATION IS TO OCCUR, AND MUST NOTIFY CONTRACTOR IN WRITING OF CONDITIONS DETRIMENTAL TO PROPER AND TIMELY COMPLETION OF WORK. DO NOT PROCEED WITH WORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED IN MANNER ACCEPTABLE TO INSTALLER.</div> <div>2. INSTALL ACCESSORIES ACCORDING TO RESPECTIVE MANUFACTURERS' WRITTEN INSTRUCTIONS, USING FASTENERS APPROPRIATE TO SUBSTRATE INDICATED AND RECOMMENDED BY UNIT MANUFACTURER. 1. INSTALL UNITS LEVEL, PLUMB, AND FIRMLY ANCHORED IN LOCATIONS AND AT HEIGHTS INDICATED. ADHESIVE INSTALLATIONS ARE NOT PERMITTED.</div> <div>3. MOUNTING HEIGHTS SHALL BE AS RECOMMENDED BY THE ACCESSORY MANUFACTURER AND AT HEIGHTS RECOMMENDED BY USE FOR PHYSICALLY HANDICAPPED TO COMPLY WITH THE AMERICANS WITH DISABILITIES ACT.</div> <div>4. GRAB BARS: INSTALL TO WITHSTAND A DOWNWARD LOAD OF AT LEAST 250 LBF, WHEN TESTED ACCORDING TO ASTM F 446.</div> <div>5. ADJUST ACCESSORIES FOR PROPER OPERATION AND VERIFY THAT MECHANISMS FUNCTION SMOOTHLY.</div> <div>6. CLEAN AND POLISH ALL EXPOSED SURFACES AFTER REMOVING PROTECTIVE COATINGS.</div> <div>10 3000 SOLID PLASTIC TOILET COMPARTMENTS</div> <div>A. REFERENCE CONSTRUCTION DRAWINGS &amp; SCHEDULES FOR TYPE, QUANTITY, AND LOCATIONS OF TOILET AND BATH ACCESSORIES.</div> <div>B. PRODUCTS</div> <div>BASIS OF DESIGN: ECLIPSE TOILET PARTITIONS AS MANUFACTURED BY AND SUPPLIED BY SCRANTON</div> <div>1. STYLE: FLOOR MOUNTED OVERHEAD-BRACED TOILET COMPARTMENTS.</div> <div>2. DOORS AND PANELS: HIGH DENSITY POLYETHYLENE (HDPE), FABRICATED FROM SEQ CHAPTER 1 EXTRUDED POLYMER RESINS, FORMING SINGLE THICKNESS PANEL.</div> <div>A. WATERPROOF AND NONABSORBENT, WITH SELF-LUBRICATING SURFACE, RESISTANT TO MARKS BY PENS, PENCILS, MARKERS, AND OTHER WRITING INSTRUMENTS.</div> <div>B. THICKNESS: 1 INCH (25 MM).</div> <div>C. EDGES: SHIP-LAP.</div> <div>3. PANEL COLOR: TRADITIONAL SERIES-1: SHALE - ORANGE PEEL.</div> <div>4. DOORS AND PANELS: HIGH PRIVACY: HEIGHT: 62 INCHES (1575 MM) HIGH AND MOUNTED AT 8 TO 14 INCHES (203 TO 356 MM) ABOVE THE FINISHED FLOOR.</div> <div>C. SUBMITTALS</div> <div>1. PRODUCT DATA: MANUFACTURER'S DATA SHEETS ON EACH PRODUCT TO BE USED, INCLUDING:</div> <div>2. PREPARATION INSTRUCTIONS AND RECOMMENDATIONS.</div> <div>3. STORAGE AND HANDLING REQUIREMENTS AND RECOMMENDATIONS.</div> <div>4. INSTALLATION METHODS.</div> <div>5. SHOP DRAWINGS: PROVIDE LAYOUT DRAWINGS AND INSTALLATION DETAILS WITH LOCATION AND TYPE OF HARDWARE REQUIRED.</div> <div>6. SELECTION SAMPLES: FOR EACH FINISH PRODUCT SPECIFIED, TWO COMPLETE SETS OF COLOR CHIPS REPRESENTING MANUFACTURERS' FULL RANGE OF AVAILABLE COLORS AND PATTERNS.</div> <div>D. POSTS, RAILS AND HARDWARE:</div> <div>1. METAL POSTS: 62.75 INCHES (2102 MM) HIGH, HEAVY DUTY EXTRUDED ALUMINUM, CLEAR ANODIZED FINISH, FASTENED TO FOOT WITH STAINLESS STEEL TAMPER RESISTANT SCREW.</div> <div>2. HIDDEN SHOE (FOOT): ONE-PIECE MOLDED POLYETHYLENE INVISIBLE SHOE INSERTED INTO METAL POST AND SECURED TO METAL POST WITH STAINLESS STEEL TAMPER RESISTANT SCREW.</div> <div>3. HEADRAL CAP AND CORNER CAP: ONE-PIECE MOLDED POLYETHYLENE SECURED TO METAL POST WITH STAINLESS STEEL TAMPER RESISTANT SCREW, ADJUSTABLE TO LEVEL HEADRAL TO FINISHED FLOOR.</div> <div>4. WALL BRACKETS: CONTINUOUS HEAVY DUTY EXTRUDED ALUMINUM, CLEAR ANODIZED FINISH, INSERTED INTO SLOTTED PANEL AND FASTENED TO PANELS WITH STAINLESS STEEL TAMPER RESISTANT SCREWS.</div> <div>5. HEADRAL: HEAVY DUTY EXTRUDED ALUMINUM, CLEAR ANODIZED FINISH, SECURED TO WALL WITH STAINLESS STEEL TAMPER SCREWS.</div> <div>6. DOOR HARDWARE:</div> <div>A. HINGES: EDGE-MOUNTED HELIX STYLE STAINLESS STEEL CONTINUOUS HINGE, CLOSING DEGREE: 5 DEGREES, COMES TO A FULL CLOSE ON ITS OWN WEIGHT.</div> <div>B. OCCUPANCY INDICATOR LATCH AND HOUSING: MATERIAL: SATIN STAINLESS STEEL, OCCUPANCY INDICATORS: GREEN FOR OCCUPIED AND RED NOT OCCUPIED, SLIDE BOLT AND BUTTON.</div> <div>C. COAT HOOK AND DOOR BUMPER COMBINATION: MATERIAL: CHROME PLATED ZAMAK, HANDICAP DOOR: EQUIP WITH SECOND DOOR PULL AND DOOR STOP.</div> <div>D. DOOR PULLS: CHROME PLATED ZAMAK.</div> <div>E. INSTALLATION:</div> <div>1. CLEAN SURFACES THOROUGHLY PRIOR TO INSTALLATION.</div> <div>2. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND APPROVED SHOP DRAWINGS.</div> <div>3. INSTALL PARTITIONS RIGID, STRAIGHT, PLUMB, AND LEVEL.</div> <div>4. LOCATE BOTTOM EDGE OF DOORS AND PANELS _____ INCHES ABOVE FINISHED FLOOR.</div> <div>5. CLEARANCE AT VERTICAL EDGES OF DOORS SHALL BE UNIFORM TOP TO BOTTOM AND SHALL NOT EXCEED 3/8 INCH (9.5 MM).</div> <div>6. NO EVIDENCE OF CUTTING, DRILLING, AND/OR PATCHING SHALL BE VISIBLE ON THE FINISHED WORK.</div> <div>7. FINISHED SURFACES SHALL BE CLEANED AFTER INSTALLATION AND BE LEFT FREE OF IMPERFECTIONS.</div> <div>8. ADJUST DOORS AND LATCHES TO OPERATE CORRECTLY.</div> <div>9. PROTECT INSTALLED PRODUCTS UNTIL COMPLETION OF PROJECT.</div> <div>10. TOUCH-UP: REPAIR OR REPLACE DAMAGED PRODUCTS BEFORE SUBSTANTIAL COMPLETION.</div> <div>DIVISION 11 - EQUIPMENT</div> <div>11 3000 - APPLIANCES</div> <div>A. REFERENCE CONSTRUCTION DRAWINGS FOR QUANTITY, AND LOCATION OF APPLIANCES TO BE FURNISHED BY OWNER.</div> <div>10 4400 - FIRE PROTECTION SPECIALTIES</div> <div>A. REFERENCE CONSTRUCTION DRAWINGS FOR TYPE, SIZE AND LOCATIONS OF FIRE EXTINGUISHERS AND CABINETS.</div>											
K	J	I	H	G	F	E	D	C	B	A	



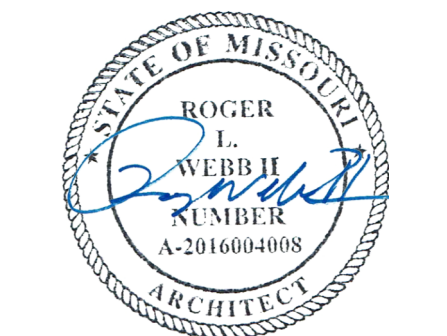
PERMIT DOCUMENTS

ITAP - LEE'S SUMMIT

228 SW MAIN ST.  
LEE'S SUMMIT, MO 64063

COPYRIGHT © BY  
COLLINS WEBB  
ARCHITECTURE, LLC

REVISION DATES:



PROFESSIONAL SEAL

G502

ISSUE DATE: 27 FEB 2023  
COLLINS WEBB #: 22066

GENERAL PROJECT  
SPECIFICATIONS

11. STRUCTURAL STEEL

A. STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED, AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, LATEST APPLICABLE EDITION AND AISC CODE OF STANDARD PRACTICE

B. ALL STRUCTURAL STEEL FABRICATION SHALL BE A992 GRADE 50 UNLESS NOTED OTHERWISE. ALL ANGLES, PLATES AND CHANNELS SHALL BE ASTM A572 UNLESS NOTED OTHERWISE. ALL RECTANGULAR AND ROUND HSS SHALL BE ASTM A500, GRADE B.

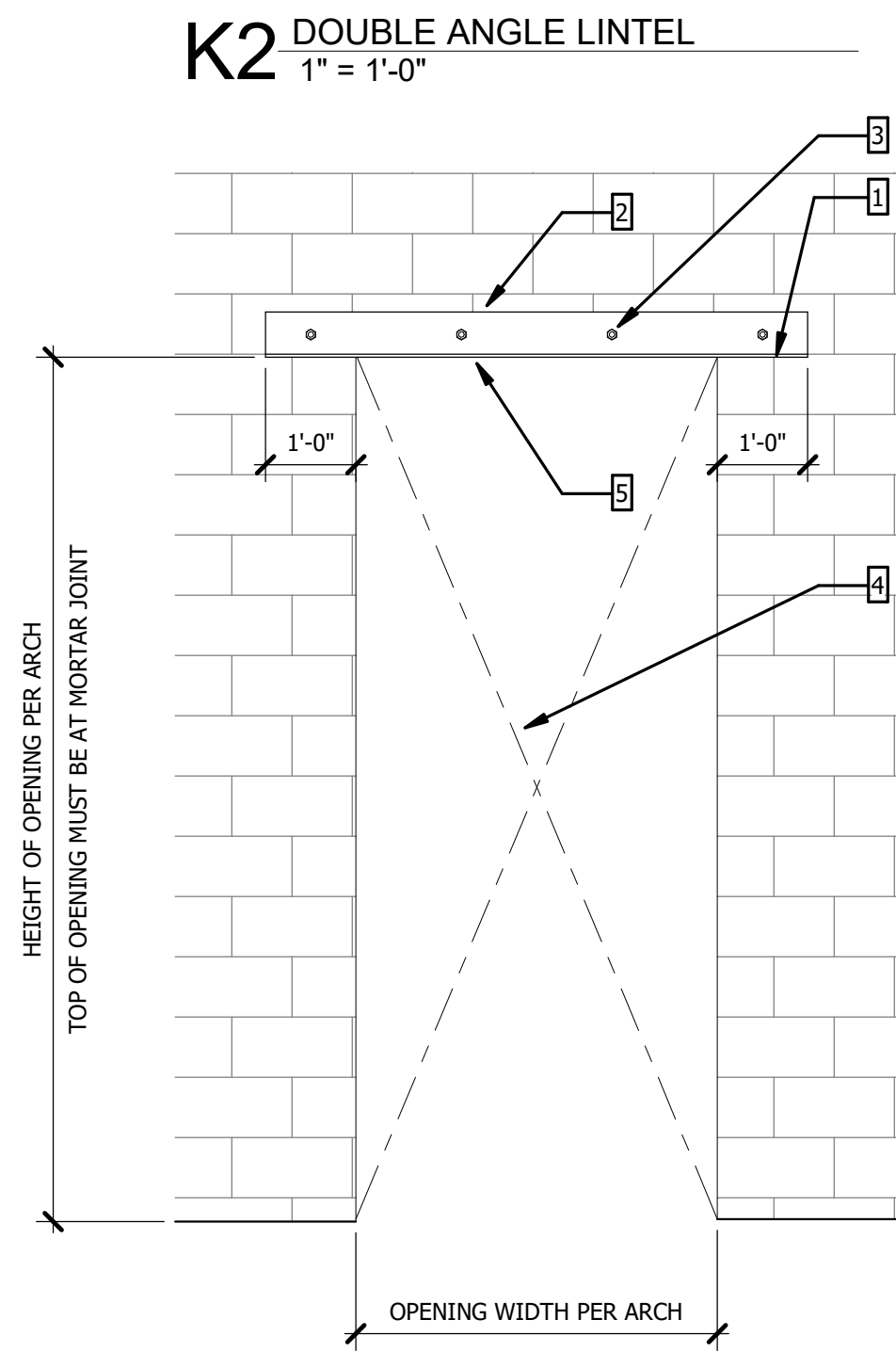
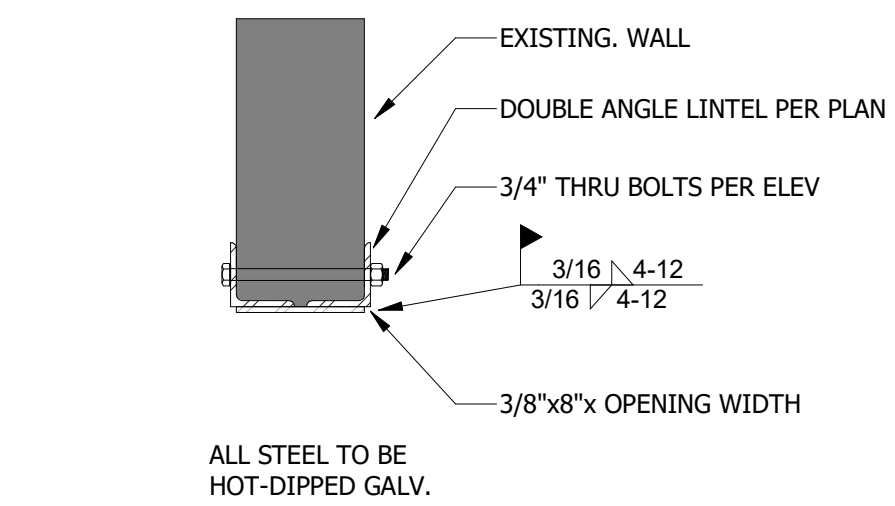
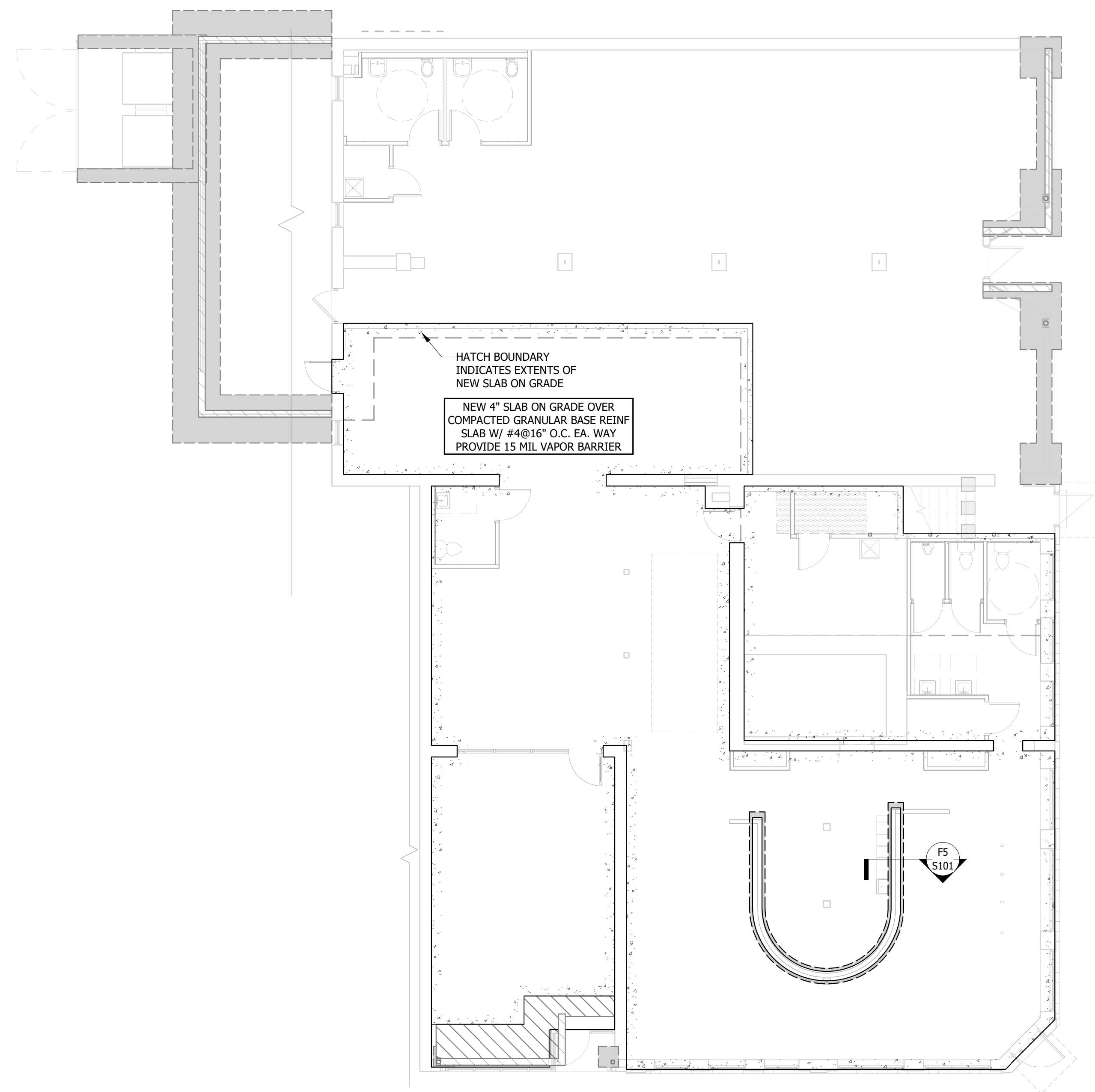
C. ALL BOLTS SHALL BE A325 OR A490 UNLESS NOTED OTHERWISE. ALL WELDS SHALL BE E70T1-K5 UNLESS NOTED OTHERWISE. ALL CONNECTIONS SHALL HAVE A MINIMUM OF (2) 3/4" Ø BOLTS, BEARING TYPE CONNECTION ONLY.

D. ALL STRUCTURAL STEEL WELDS IN THE SHOP OR IN THE FIELD SHALL BE PERFORMED BY A QUALIFIED WELDER AND SHALL CONFORM TO THE CURRENT REQUIREMENTS OF A.W.S.

E. SHOP WELDED AND FIELD BOLTED CONNECTIONS ARE PREFERRED UNLESS NOTED OTHERWISE.

F. THE CONTRACTOR SHALL PROVIDE SHEET ANGLES, GLASS SUPPORTS, LINTELS, AND OTHER MISC. STEEL AS SHOWN ON THESE DRAWINGS AS REQUIRED TO PROVIDE SUPPORT (STABILIZATION) AROUND THE PERIMETER OF THE BUILDING. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL MISC. STEEL DETAILS.

**A5** LEVEL 1 FLOOR PLAN  
1/8" = 1'-0"



### INSTALL SEQUENCE

1. SAW-CUT EXISTING MORTAR JOINT AT OPENING HEIGHT FULL WIDTH OF OPENING PLUS 1'-0" EITHER SIDE
2. INSTALL ANGLES BOTH SIDES OF OPENING
3. INSTALL THRU-BOLTS FOR LENGTH OF LINTEL. TIGHTEN ALL NUTS AND WASHERS
4. INTERIOR MASONRY REMOVED FROM OPENING
5. WELD PLATE TO UNDERSIDE OF LINTEL

**F3** DOUBLE ANGLE LINTEL ELEV.  
1/2" = 1'-0"

1. 4" SLAB ON GRADE REINFORCED WITH 6x6 W2.9XW2.9 OVER 4" GRANULAR FILL AND 10 MIL VAPOR BARRIER, UNLESS NOTED OTHERWISE.
2. #4x5'-0" LONG AT ALL RE-ENTRANT CORNERS.
3. REFER TO DETAILS F3/S101 & K2/S101 FOR LINTELS REQUIRED OVER NEW WALL OPENINGS.
4. CONTRACTOR TO COORDINATE ALL FLOOR AND SLAB PENETRATIONS WITH ALL OTHER DISCIPLINES.
5. REFER TO ARCHITECTURAL FOR ALL DIMENSIONS NOT SHOWN ON THESE DRAWINGS.



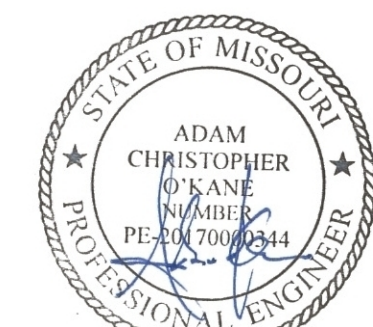
# PERMIT DOCUMENTS

# ITAP - LEE'S SUMMIT

228 SW MAIN ST.  
LEE'S SUMMIT, MO 64063

COPYRIGHT © BY  
COLLINS WEBB  
ARCHITECTURE LLC

### REVISION DATES



02.24.23  
PROFESSIONAL SEAL

S101

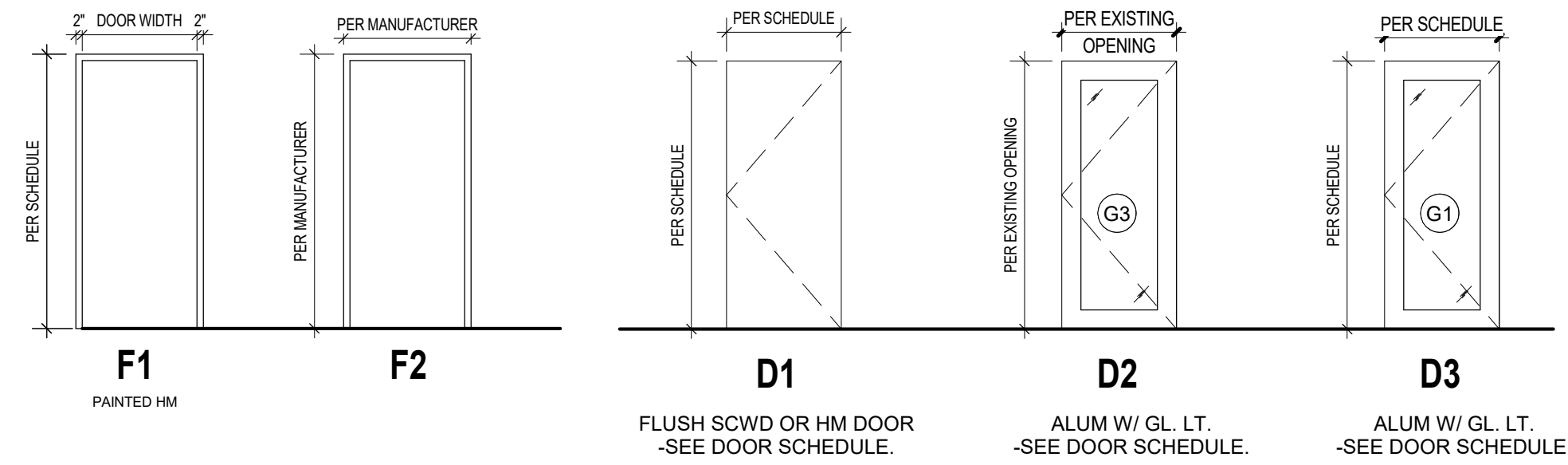
ISSUE DATE: 27 FEB 2023  
COLLINS WEBB #: 22066

# STRUCTURAL PLANS AND SECTIONS

DOOR SCHEDULE									
DOOR #	WIDTH	HEIGHT	ROOM NAME	TYPE	DOOR		FRAME		REMARKS
					MATERIAL	FINISH	MATERIAL	FINISH	
T100	EXIST	EXIST	BAR/DINING	EXIST	EXIST	COORD. W/ OWNER	EXIST	COORD. W/ OWNER	1, 2, 3, 5, 8
T101	3'-2"	7'-0"	DELI	D3	ALUM/GLASS	MATCH EXISTING STOREFRONT			1, 3, 6, 7
T103	3'-0"	7'-0"	ADA UNISEX RR	D1	SCWD		WD		1, 3, 4
T104	PER EXISTING OPENING	PER EXISTING OPENING	POOL ROOM	D2	ALUM/GLASS	MATCH EXISTING STOREFRONT			3, 4, 5, 7
T105	3'-0"	7'-0"	MEP/ITAP STORAGE	D1	SCWD		HM	PAINT	1, 3, 4, 8
T108A	3'-0"	7'-0"	UTILITY	D1	SCWD		HM	PAINT	1, 3, 6, 8
T108B	2'-10"	7'-0"	RESTROOM	D1	SCWD		HM	PAINT	1, 3, 8
T108C	2'-10"	7'-0"	RESTROOM	D1	SCWD		HM	PAINT	1, 3, 8
T108D	3'-0"	7'-0"	RESTROOM	D1	SCWD		HM	PAINT	1, 3, 4, 8
T109	3'-0"	7'-0"	RESTROOM	D1	SCWD		HM	PAINT	1, 3, 8

DOOR SCHEDULE REMARKS:

1. MATCH EXISTING MASTER KEYING SYSTEM. COORDINATE WITH BUILDING OWNER.
2. MAINTAIN EXISTING HARDWARE.
3. PROTECT DOOR AND FRAME FROM DAMAGE THROUGHOUT CONSTRUCTION. ANY DAMAGE TO BE REPAIRED/REPLACED PER OWNER DISCRETION.
4. DOOR FRAME 2" OFF FINISHED FACE ON HINGE SIDE, U.N.O.
5. PROVIDE PANIC HARDWARE.
6. MANUALLY LOCKABLE FROM INSIDE OF ROOM. MASTER KEY LOCK ON OUTSIDE OF ROOM.
7. COORDINATE HARDWARE WITH MANUFACTURER.
8. COORDINATE PAINT FINISH WITH OWNER



FRAME TYPES

1/4" = 1'-0"

NOTE:

1. DOORS TO BE 1 3/4" THICK, UNLESS NOTED OTHERWISE ON DOOR SCHEDULE.

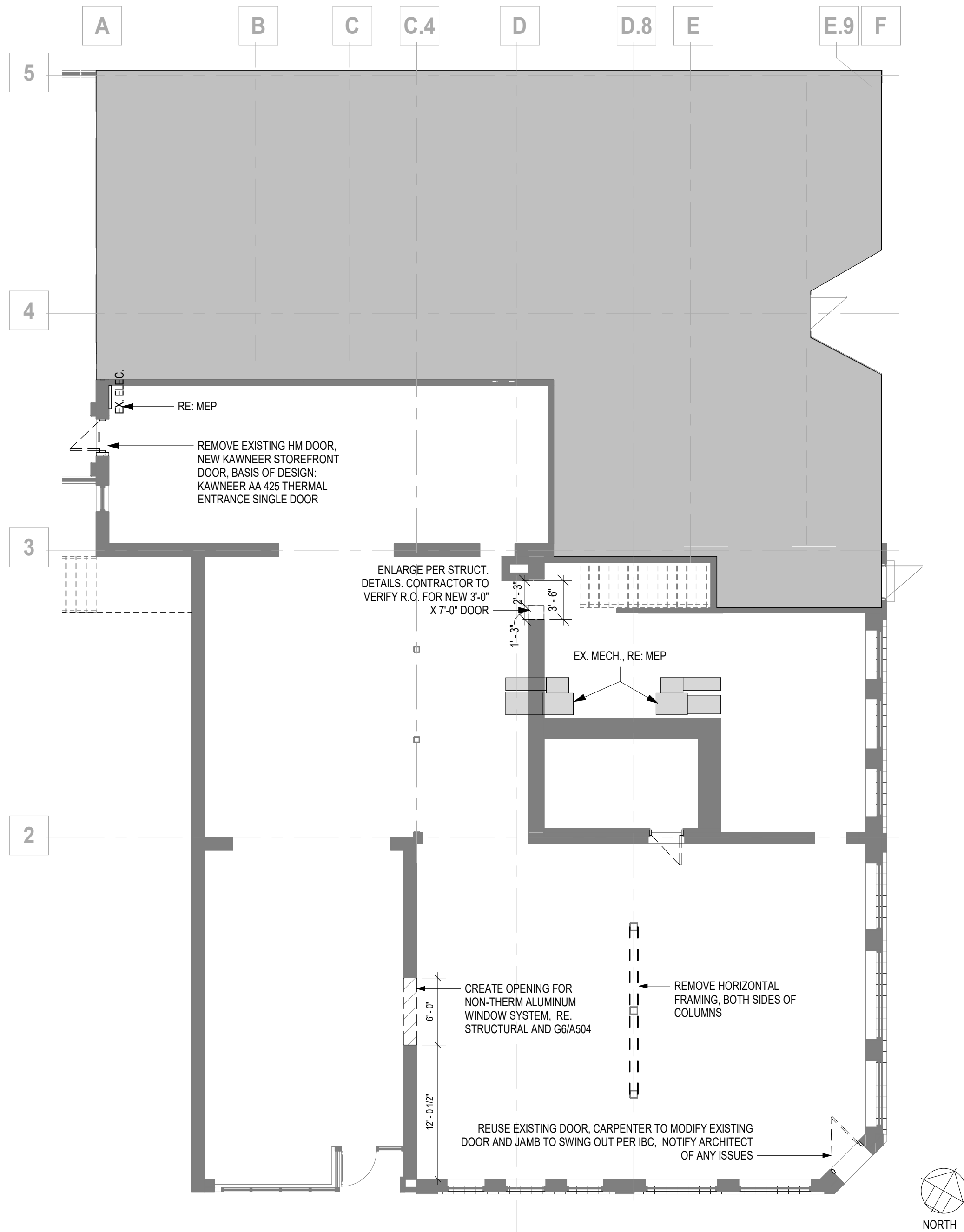
ACCESSORY SCHEDULE						
TYPE MARK	MANUFACTURER	DESCRIPTION	MODEL	WxHxD	FINISH	REMARKS
1	BOBRICK WASHROOM EQUIPMENT, INC.	SOAP DISPENSER - SURFACE MOUNTED	B-2012	4-3/16", 10-17/32", 4-7/32"	SATIN	
2	BOBRICK WASHROOM EQUIPMENT, INC.	SURFACE MOUNTED PAPER TOWEL DISPENSER	B-262	10-3/4", 14", 4"	SATIN	
3	BOBRICK WASHROOM EQUIPMENT, INC.	VERTICAL GRAB BAR, 1-1/2" DIA., SS, 18"	B-6806-18	1-1/2" DIA X 18"	SATIN, WITH PEENED GRIP	
4	BOBRICK WASHROOM EQUIPMENT, INC.	GRAB BAR, 1-1/4" DIA., SS, 42"	B-5806-42	1-1/2" DIA X 42"	SATIN	
5	BOBRICK WASHROOM EQUIPMENT, INC.	DOUBLE ROLL TOILET TISSUE DISPENSER	B-6999	12-3/8", 4-3/4", 6-3/16"	STAINLESS STEEL	
6	BOBRICK WASHROOM EQUIPMENT, INC.	GRAB BAR, 1-1/2" DIA., SS, 36"	B-5806-36	1-1/2" DIA X 36"	SATIN	
7		MIRROR		24"x48"	SATIN	1

ACCESSORY SCHEDULE GENERAL NOTES:

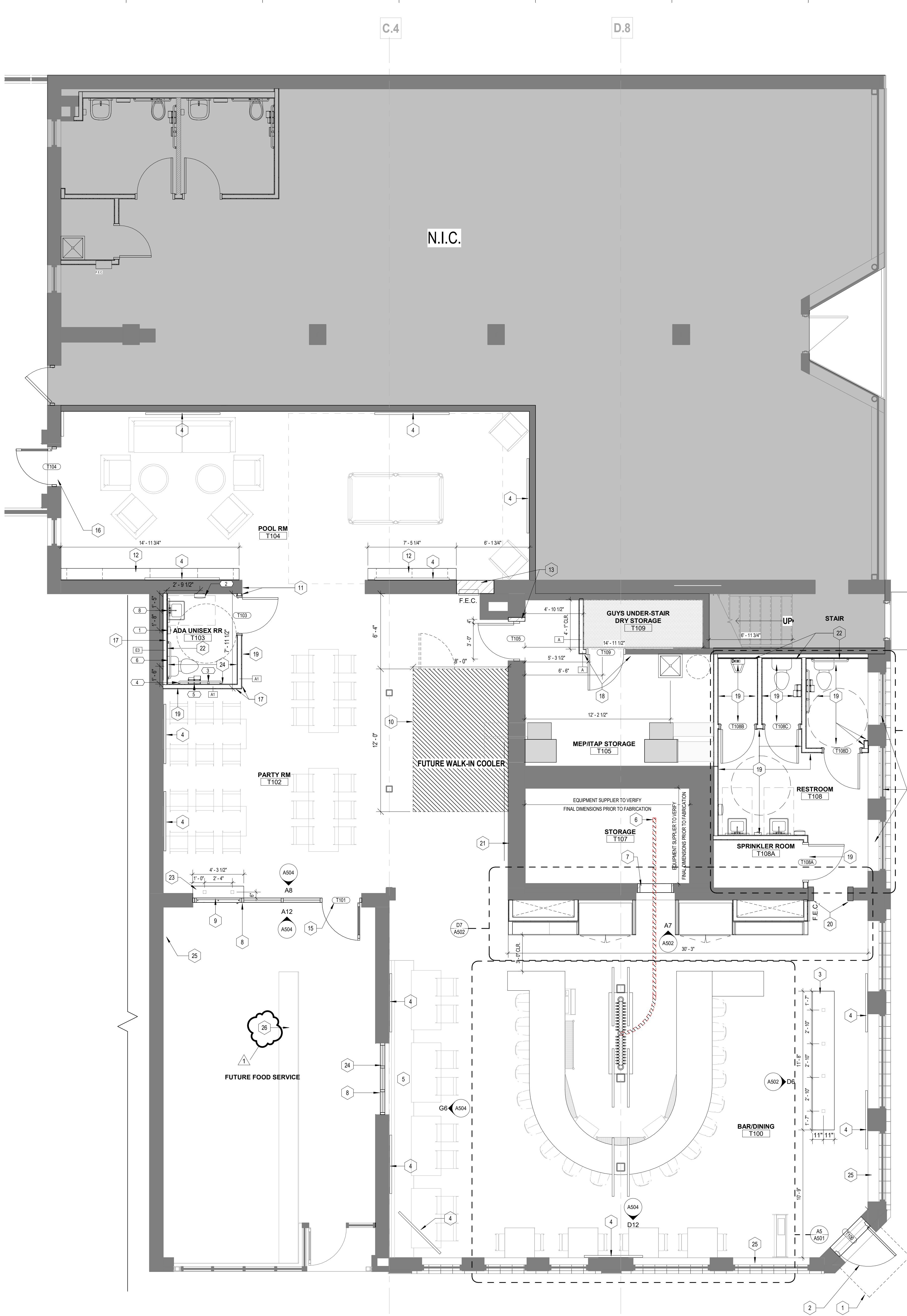
- A. ACCESSORIES SCHEDULE BASIS OF DESIGN, COORDINATE FINAL SELECTION WITH OWNER

ACCESSORY SCHEDULE REMARKS:

1. MIRRORS TO BE CENTERED AT SINKS TYP.



1 1ST FLOOR DEMO PLAN - ITAP  
1/8" = 1'-0"



A8 1ST FLOOR PLAN - ITAP  
1/4" = 1'-0"

GENERAL NOTES:  
FLOOR PLANS

1. RE: GENERAL ARCHITECTURAL SHEETS FOR ADDITIONAL NOTES AND DETAILS THAT ARE APPLICABLE.
2. ARCHITECTURAL ELEVATION 100'-0".
3. DIMENSIONS SHOWN ON THE FLOOR PLAN ARE TO THE FACE OF GYP. BOARD WALL (FG), FACE OF MASONRY (FM), FACE OF CONCRETE WALLS (FC), AND COLUMN GRID LINES, UNLESS NOTED OR SHOWN OTHERWISE.
4. NOTE: WALL THICKNESSES ARE ACTUAL DIMENSIONS AND PER WALL TYPES SEE GENERAL SHEETS.
5. DOOR OPENINGS NOT LOCATED BY DIMENSION SHALL BE CENTERED IN WALL SHOWN OR LOCATED 4 INCHES FROM FINISH WALL TO HINGE SIDE OF THE DOOR, ALWAYS ALLOWING A MINIMUM OF 18" FROM THE PULL SIDE (STRIKE SIDE) OF THE DOOR TO THE INTERSECTING WALL OR OTHER PROTRUDING OBJECTS.
6. ALL ALCOVES WITHOUT A SPACE IDENTIFICATION NUMBER SHALL HAVE THE SAME FINISHES AS THE ADJOINING SPACES.
7. PROVIDE FINISH LEVELS AS DESCRIBED:  
LEVEL 4:  
- ALL WALLS TO BE BROUGHT UP TO LEVEL 4 FINISH.  
- AREAS FOR BACK OF HOUSE EMPLOYEE OPERATIONS WHERE ROOM SIDE WALLS AND/OR CEILINGS HAVE PAINTED SURFACES.  
CONCESSION AND CIRCULATION CORRIDORS WHERE ROOM SIDE WALLS AND/OR CEILINGS HAVE PAINTED SURFACES.
8. STAIR ENCLOSURES, SHAFT WALLS, EXIT PASSAGEWAYS AND EXTERIOR WALLS TO BE COORDINATED FOR PHASE OF WORK PER MATRIX AND PROJECT SCOPING.
9. MAINTAIN AND PROTECT EXISTING EXPANSION JOINTS DURING CONSTRUCTION. PATCH/REPAIR/REPLACE TO MATCH EXISTING RATINGS AS REQUIRED ON THE SHELL PORTION OF PROJECT.
10. CONSTRUCTION TO BE IN STRICT ACCORDANCE WITH ALL APPLICABLE BUILDING CODES, LOCAL RULES, AND REGULATIONS, AND ALL OTHER CODES, REGULATIONS AND GOVERNING AGENCIES HAVING JURISDICTION WITH ALL APPLICABLE AMENDMENTS UNLESS ALTERED OR CHANGED THROUGH VARIANCES OF OTHER LEGAL PROCEDURES.

FLOOR PLAN KEYED  
NOTES

MARK	DESCRIPTION
1	SIGNAGE BY OTHERS
2	CARPENTER TO MODIFY EXISTING DOOR AND JAMB TO SWING OUT PER IBC. NOTIFY ARCHITECT OF ANY ISSUES
3	BUILT-IN WOOD HIGHTOP, 42" H, COORD. TOP FINISH W/ OWNER, RE: GR6/A502.
4	TELEVISIONS BY OWNER, COORD. MOUNTING HT W/ OWNER. OUTLETS IN CEILING ABOVE TVS TYP. RE: ELECTRICAL
5	ALL DINING AND BAR FURNITURE BY OWNER
6	PROVIDE BENDS AND SWEEPS PER EQUIPMENT SUPPLIERS RECOMMENDATIONS, ENDPOINTS, BENDS/TURNS PER EQUIPMENT SUPPLIER RECOMMENDATIONS
7	EQUIPMENT SUPPLIER TO VERIFY FINAL OPENING DIMENSIONS PRIOR TO FABRICATION
8	MULLIONS FINISH TO MATCH EXISTING EXTERIOR STOREFRONT FINISH
9	BASIS OF DESIGN: QUIKSERV SC-484 MANUAL SELF CLOSING SLIDER, 1/4" TEMPERED GLAZING, RE: A12/A504 AND A8/A504
10	FUTURE COOLER
11	ALIGN F.F.
12	12" DRINK RAIL, COORD. MATERIAL AND FINISH W/ OWNER. CONTRACTOR INSTALLED, CENTERLINE BRACKETS - COUNTERTOP SUPPORT BRACKET FRONT MOUNTING PLUS-10X8 BLACK, 4" MAX OFF CENTER
13	INFILL TO MATCH EXISTING
14	GLAZINGS TO BE BLACKED OUT
15	COORDINATE HARDWARE REQUIREMENTS W/ OWNER
16	NEW STOREFRONT DOOR, BASIS OF DESIGN: KAVINEER AA-425 THERMAL ENTRANCE SINGLE DOOR, FINISH TO MATCH EXISTING STREET STOREFRONT
17	8' - 6" H WALL
18	EXTEND EXISTING WALL, ALIGN F.F.
19	BASIS OF DESIGN: ALL NEW GYP WALLS TO RECEIVE DALTILE; PORTFOLIO 6"x12" P-36C9TB COVE BASE - IRON GREY
20	ALL EXISTING DOOR AND WINDOW TRIM TO BE PAINTED SW 6992 INKWELL - EGG SHELL FINISH
21	COORD. BRICK FINISH W/ OWNER
22	BASIS OF DESIGN: RESTROOM WET WALLS TO RECEIVE DALTILE - BEVELED 3"x8" 0100 ARTIC WHITE SUBWAY TILE, FULL HT. HORIZONTAL RUNNING BOND INSTALLATION
23	12"D COUNTER, FLOOR MOUNTED, 3"x3" SQUARE SOCKET AND FLANGE, PAINTED TO MATCH STOREFRONT, COORD. COUNTER MATERIAL AND FINISH W/ OWNER, RE: A8/A504
24	NON-THERM ALUMINUM WINDOW SYSTEM, RE: GR6/A504
25	DOOR UTILITY STUB-INS FOR FUTURE TENANT W/ OWNER PRIOR TO INSTALLATION OF NEW STUBS
26	FUTURE FOOD SERVICE COUNTER

GLASS LITE SCHED.

GLAZING TYPE	DESCRIPTION
G1	1/4" TEMPERED CLEAR GLAZING
G2	1/4" CLEAR GLAZING
G3	1/2" TEMPERED INSULATED CLEAR GLAZING

DOOR SCHED.  
GENERAL NOTES

1. HM REFERS TO HOLLOW METAL.
2. AL REFERS TO ALUMINUM
3. WD REFERS TO WOOD
4. SCWD REFERS TO SOLID CORE WOOD
5. ALL EXTERIOR ALUMINUM DOORS & FRAMES ARE TO BE FINISHED TO MATCH ADJACENT ALUMINUM WINDOW FRAME, U.N.O.
6. REFER TO SPECIFICATION FOR DOOR HARDWARE SET DESIGNATIONS.
7. PROTECT ALL DOORS & FRAMES FROM DAMAGE THROUGHOUT CONSTRUCTION PHASES.

FLOOR PLANS, ENLARGED PLANS,  
AND DETAILS



3075 SW Market Street, Lee's Summit, Mo. 64063 P: 816.249.2270  
www.collinswebb.com

PERMIT DOCUMENTS

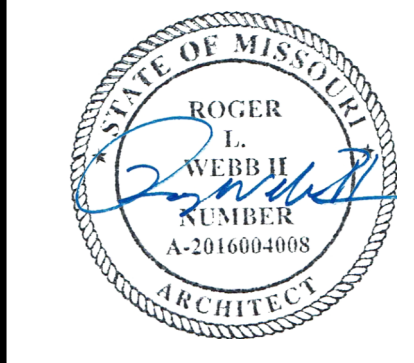
ITAP - LEE'S SUMMIT

228 SW MAIN ST.  
LEE'S SUMMIT, MO 64063

COPYRIGHT © BY  
COLLINS WEBB  
ARCHITECTURE, LLC

REVISION DATES:

1 City Comments 03/09/23



PROFESSIONAL SEAL

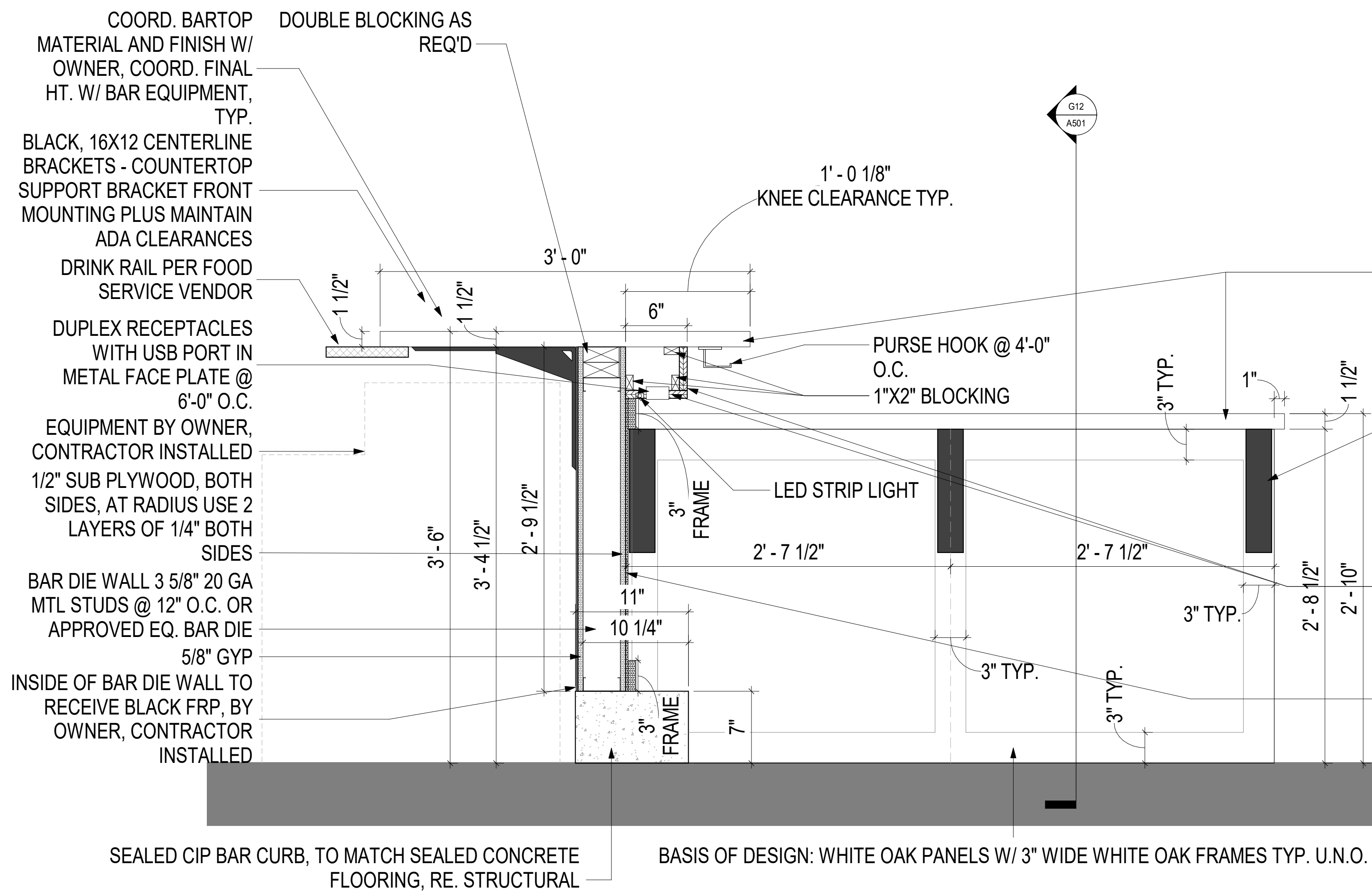
A101

ISSUE DATE: 27 FEB 2023  
COLLINS WEBB #: 22066

3/14/2023 10:37:30 AM

## G12 ADA COUNTER SECTION

1 1/2" = 1'-0"



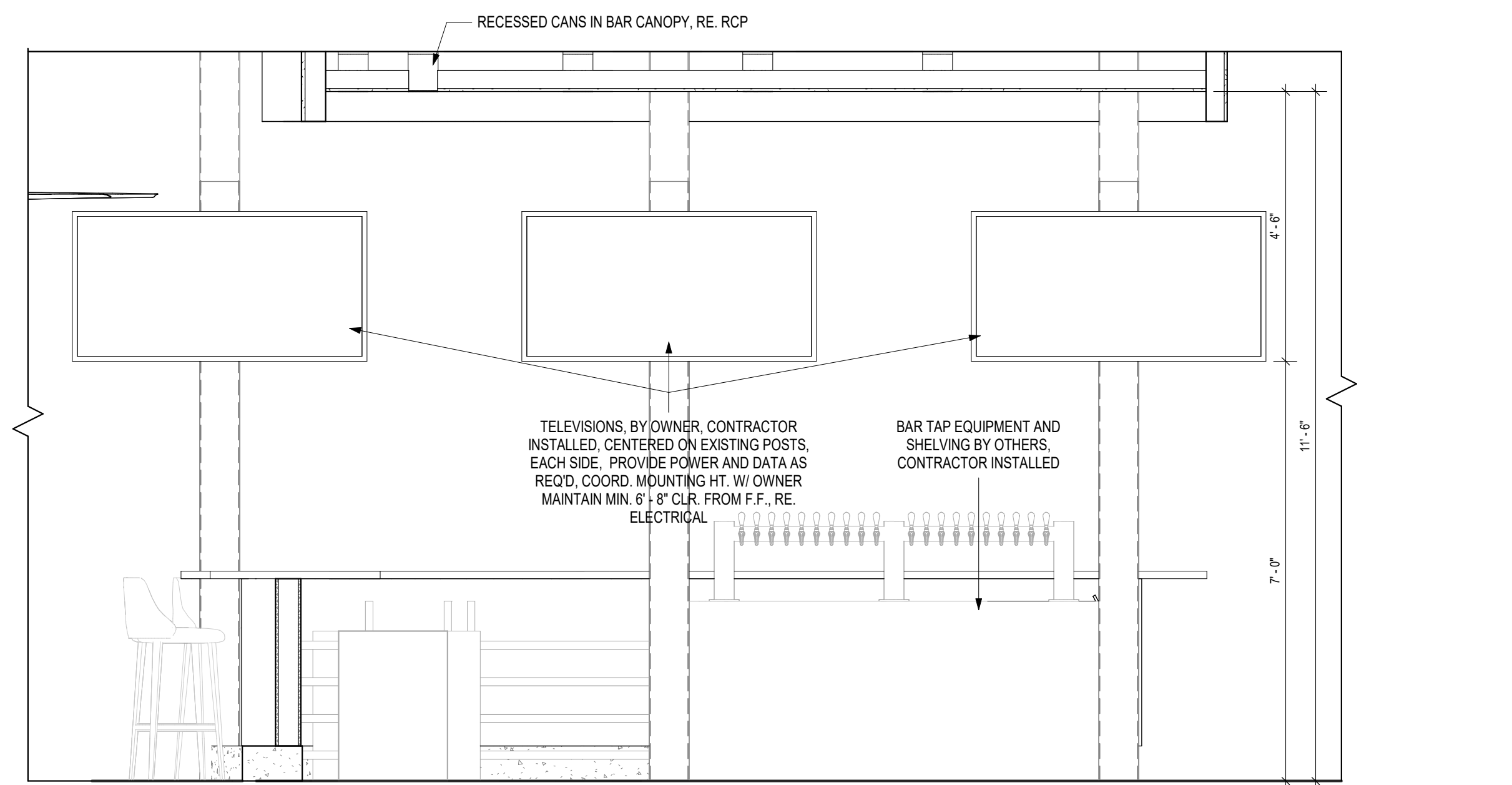
## C12 BAR COUNTER AND CURB, ADA COUNTER

1 1/2" = 1'-0"



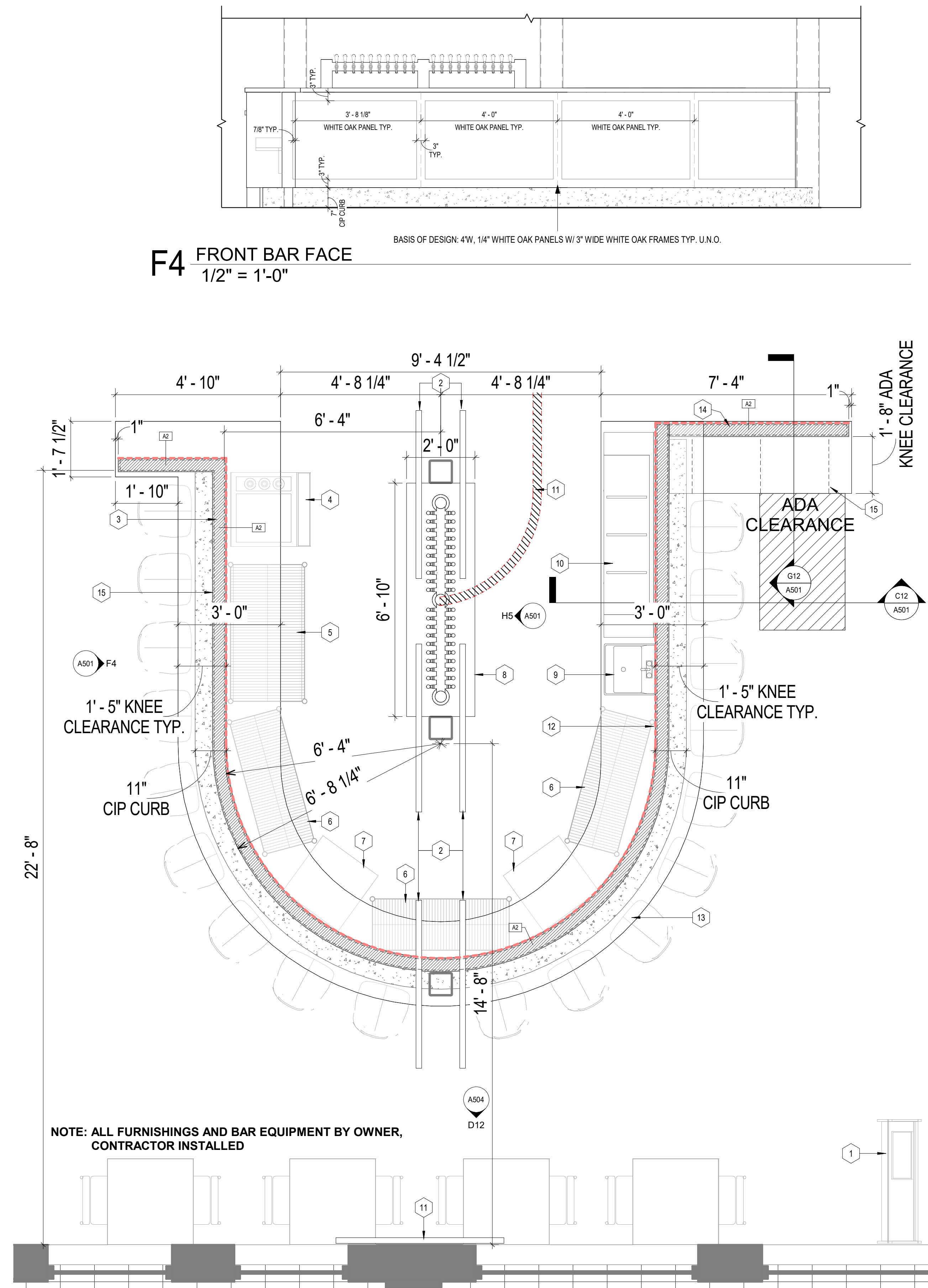
## H5 BACK BAR

1/2" = 1'-0"



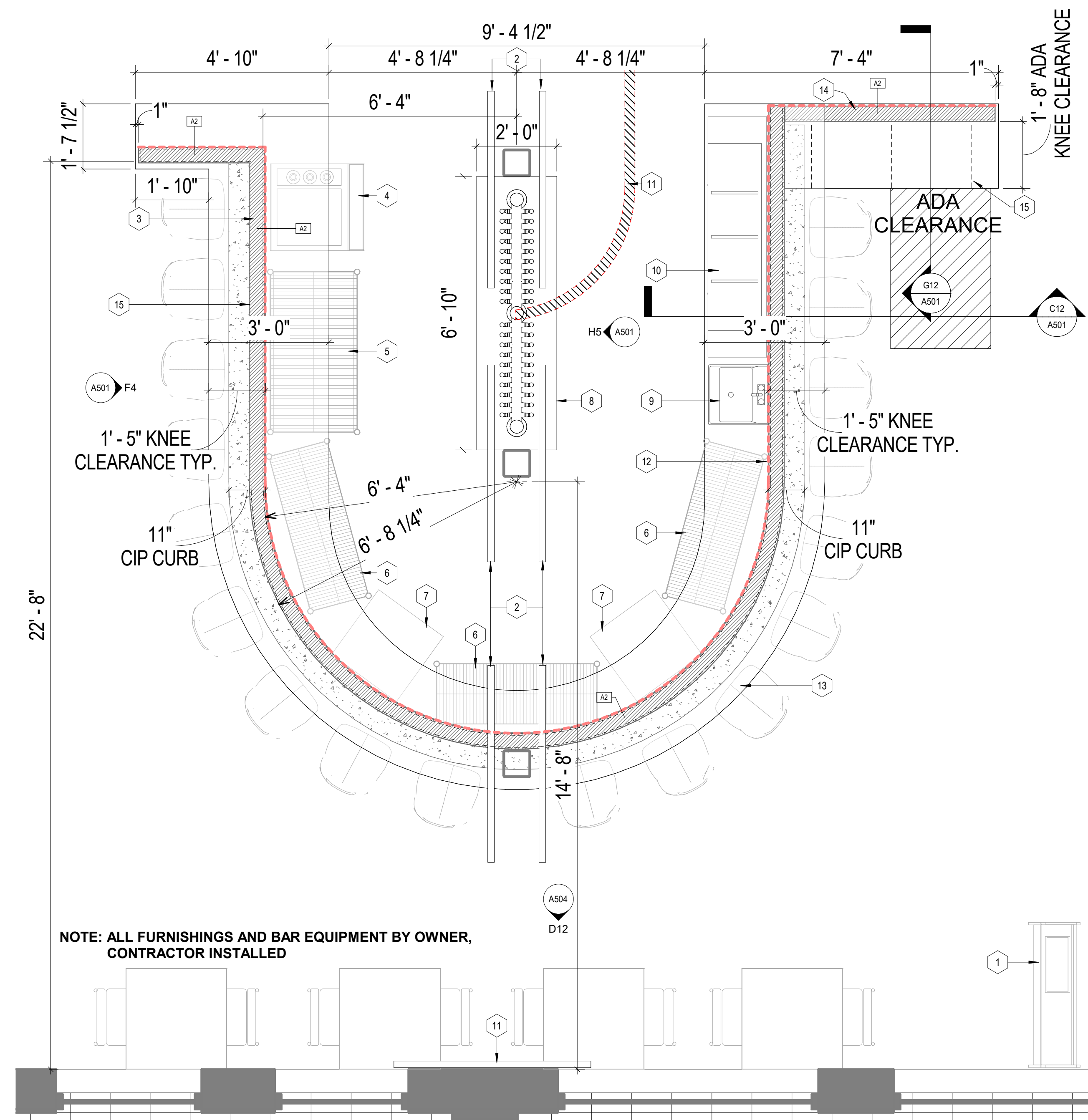
## F4 FRONT BAR FACE

1/2" = 1'-0"



## A5 1ST FLOOR PLAN - ITAP BAR

1/2" = 1'-0"



## ENLARGED BAR FLOOR PLAN KEYED NOTES

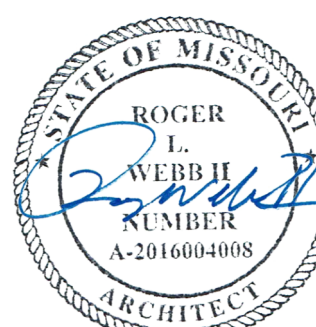
MARK	DESCRIPTION
1	HOSTESS STAND
2	TELEVISIONS ABOVE, PROVIDE POWER AND DATA AS REQ'D. MOUNTED ON EXISTING POSTS. COORD. MOUNTING HT. W/ OWNER. MAINTAIN MIN. 6'-8" CLR. FROM F.F., RE. HS/A502
3	4" METAL STUD BAR DIE WALL
4	ICE MACHINE
5	WHISKEY SHELF
6	GLASSWARE SHELF
7	POS STATION, PROVIDE POWER AND DATA AS REQ'D
8	BEER TAPS EQUIPMENT AND SHELVEING BY OTHERS, CONTRACTOR INSTALLED
9	HAND SINK
10	DISHWASH SINK
11	PROVIDE BENDS AND SWEEPS PER EQUIPMENT SUPPLIERS RECOMMENDATIONS, ENDPOINTS, BENDS/TURNS PER EQUIPMENT SUPPLIERS RECOMMENDATIONS
12	INSIDE OF BAR DIE WALL TO RECEIVE BLACK FRP, FROM TOP OF CIP CURB TO BOTTOM OF COUNTERTOP
13	COORD. BAR TOP MATERIAL AND FINISH W/ OWNER, CONTRACTOR INSTALLED
14	BAR FACE BASIS OF DESIGN: 4"W. 1/4" WHITE OAK PANELS W/ 3" WIDE WHITE OAK FRAMES TYP.
15	PROVIDE SOLID BLOCKING IN WALL FOR BRACKET LASS
16	CENTERLINE BRACKETS - COUNTERTOP SUPPORT BRACK FRONT MOUNTING PLUS - 16X12 BLACK - MAINTAIN ADA CLEARANCES

ITAP - LEE'S SUMMIT

228 SW MAIN ST.  
LEE'S SUMMIT, MO 64063

COPYRIGHT © BY  
COLLINS WEBB  
ARCHITECTURE, LLC

REVISION DATES:



PROFESSIONAL SEAL

A501

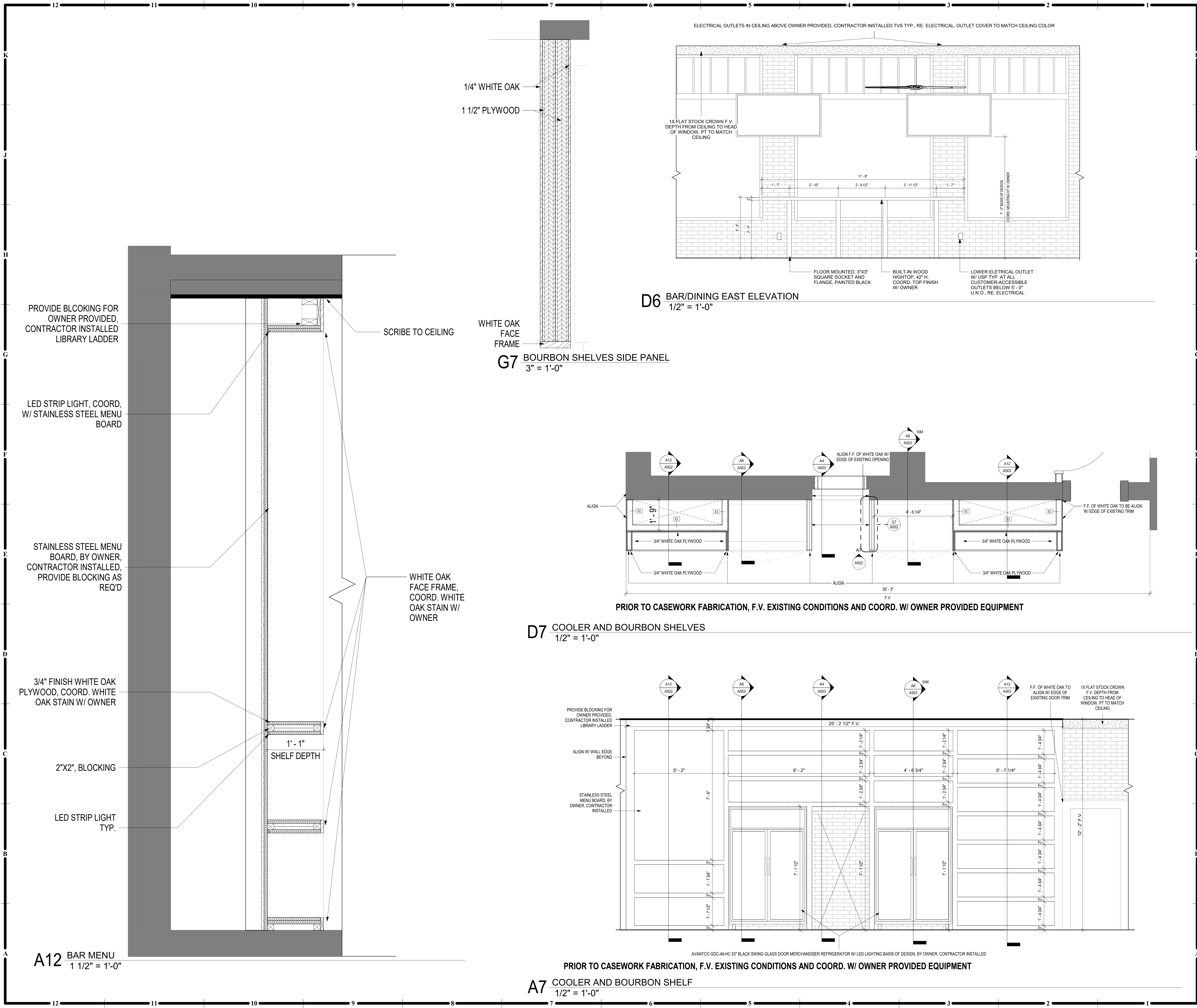
ISSUE DATE: 27 FEB 2023  
COLLINS WEBB #: 22066

ENLARGED BAR PLAN, INTERIOR  
ELEVATIONS + DETAILS

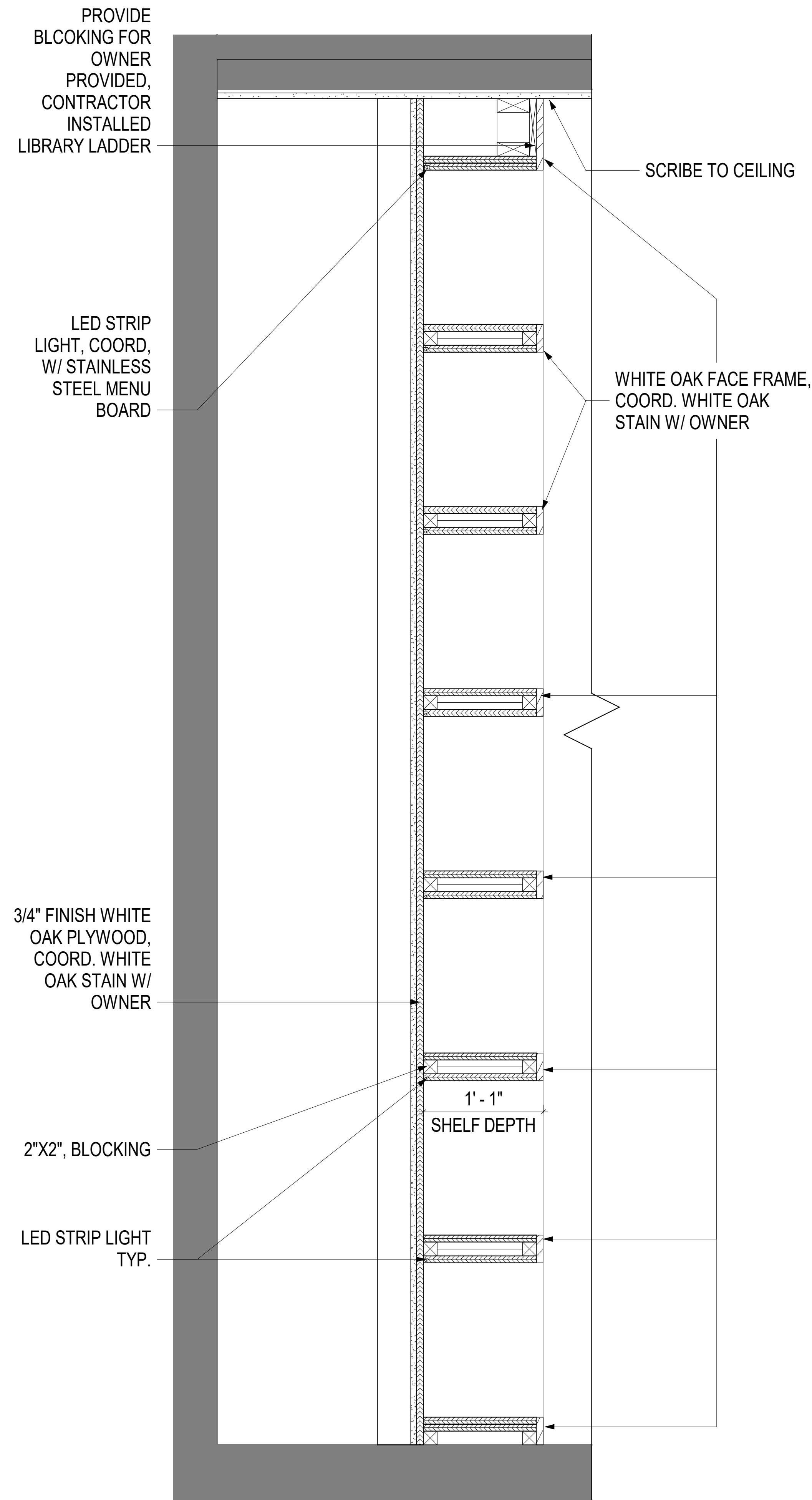
PERMIT DOCUMENTS



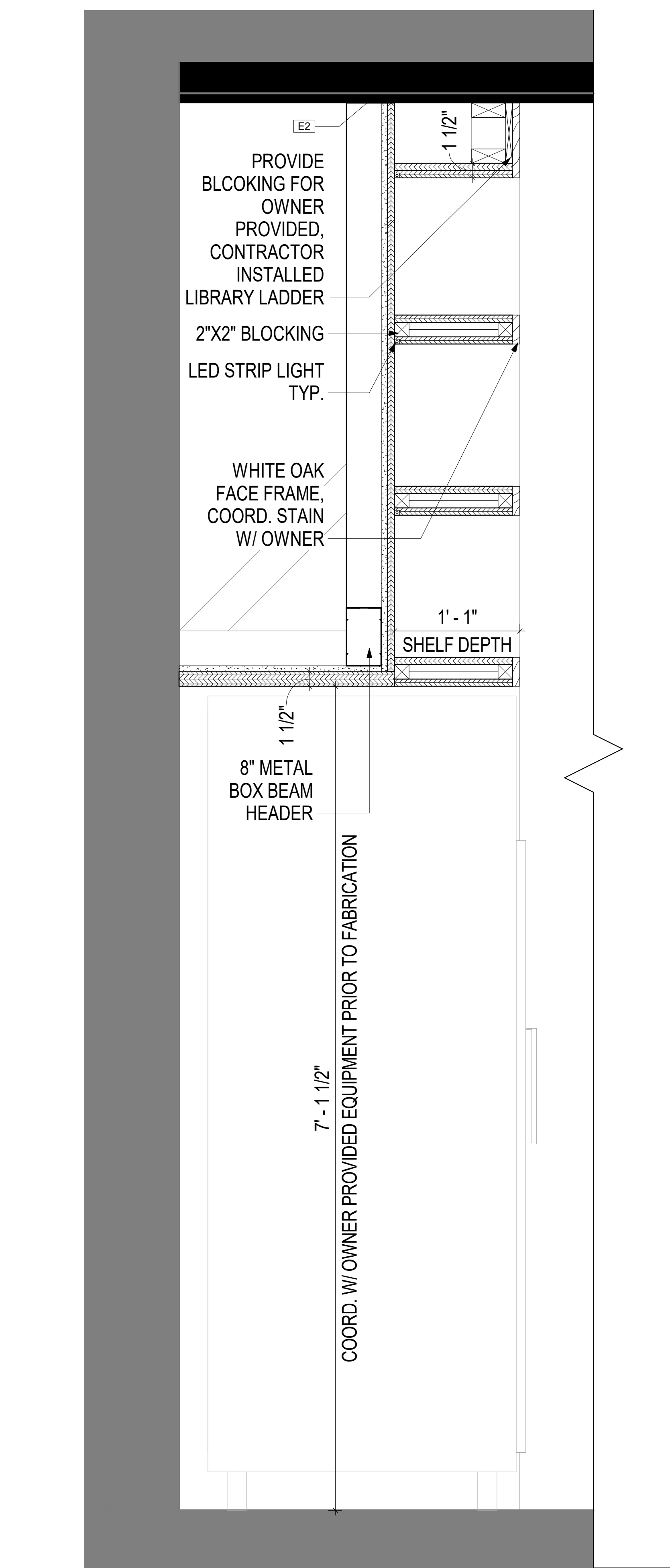
3/14/2023 10:37:34 AM



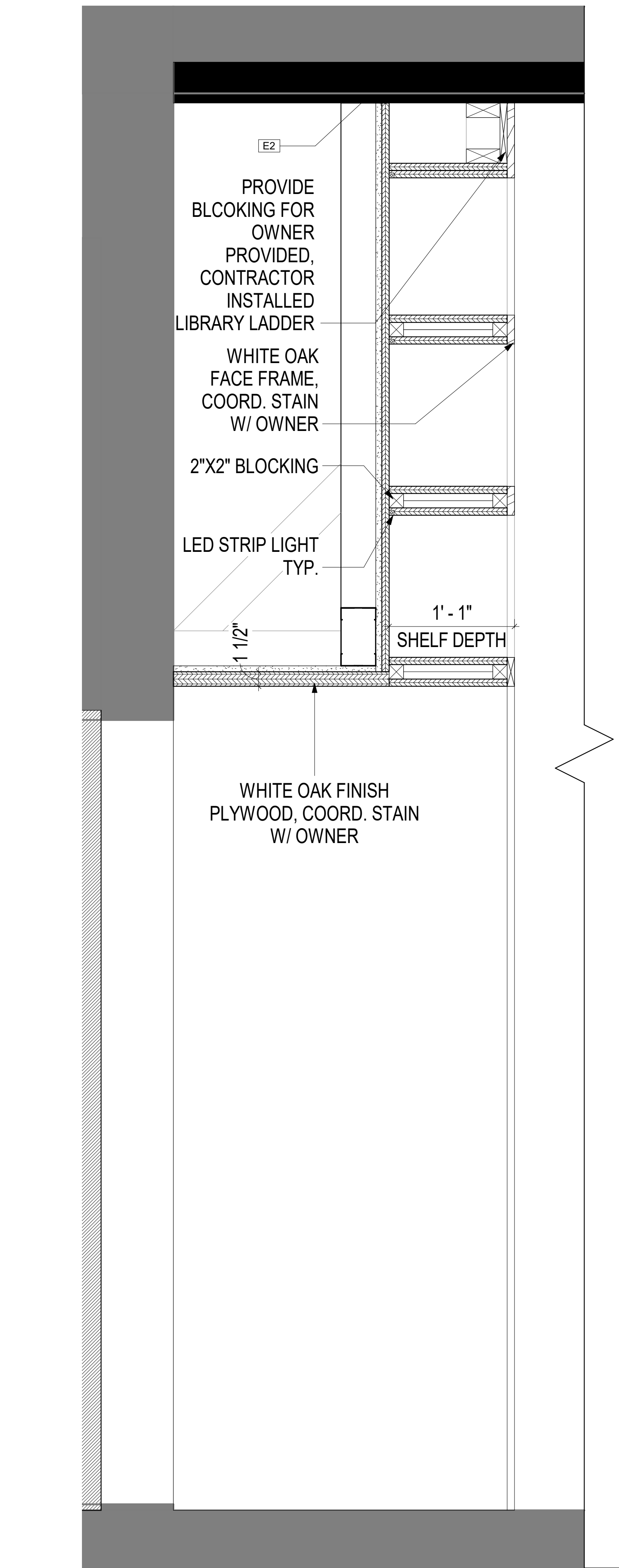
3/14/2023 10:37:35 AM



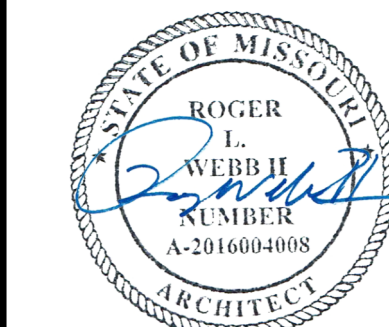
**A12** Section 43  
1 1/2" = 1'-0"



**A8** REACH-IN COOLER W/ SHELVES ABOVE  
1 1/2" = 1'-0"



**A4** WALK-IN COOLOR OPENING AND SHELVES  
1 1/2" = 1'-0"



PROFESSIONAL SEAL

**A503**

ISSUE DATE: 27 FEB 2023  
COLLINS WEBB #: 22066

**ITAP - LEE'S SUMMIT**

228 SW MAIN ST.  
LEE'S SUMMIT, MO 64063

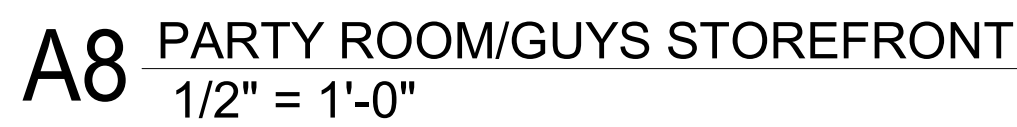
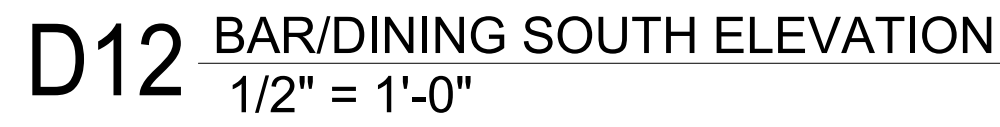
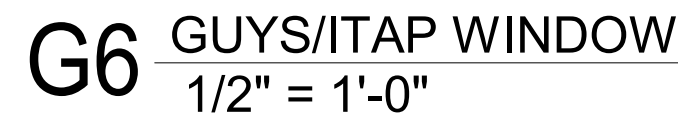
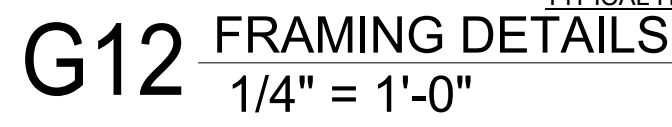
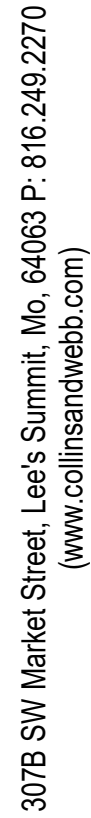
COPYRIGHT © BY  
COLLINS WEBB  
ARCHITECTURE, LLC

REVISION DATES:

PERMIT DOCUMENTS



INTERIOR DETAILS



ACCESSORY SCHEDULE						
TYPE MARK	MANUFACTURER	DESCRIPTION	MODEL	WXxHD	FINISH	REMARKS
1	BOBRICK WASHROOM EQUIPMENT, INC.	SOAP DISPENSER - SURFACE MOUNTED	B-2012	4-3/16", 10-1/32", 4-7/32"	SATIN	
2	BOBRICK WASHROOM EQUIPMENT, INC.	PAPER TOWEL DISPENSER	B-262	10-3/4", 14", 4"	SATIN	
3	BOBRICK WASHROOM EQUIPMENT, INC.	VERTICAL GRAB BAR, 1-1/2" DIA., SS, 18"	B-6806-18	1-1/2" DIA X 18"	SATIN, WITH PEENED GRIP	
4	BOBRICK WASHROOM EQUIPMENT, INC.	GRAB BAR, 1-1/4" DIA., SS, 42"	B-6806-42	1-1/2" DIA X 42"	SATIN	
5	BOBRICK WASHROOM EQUIPMENT, INC.	DOUBLE ROLL TOILET TISSUE DISPENSER	B-4990	12-3/8", 4-3/4", 6-3/16"	STAINLESS STEEL	
6	BOBRICK WASHROOM EQUIPMENT, INC.	GRAB BAR, 1-1/2" DIA., SS, 36"	B-6806-36	1-1/2" DIA X 36"	SATIN	
7		MIRROR		24"x48"	SATIN	1

**ACCESSORY SCHEDULE GENERAL NOTES:**

**A. ACCESSORIES SCHEDULE BASIS OF DESIGN, COORDINATE FINAL SELECTION WITH OWNER**

**ACCESSORY SCHEDULE REMARKS:**

1. MIRROS TO BE CENTERED AT SINKS TYP.

3/14/2023 10:37:46 AM

A12 BAR CANOPY  
1 1/2" = 1'-0"

A8 OVERALL RCP - UPPER LEVEL  
1/4" = 1'-0"

GENERAL NOTE: ALL EXPOSED CEILING CONDUIT TO BE PAINTED TO MATCH CEILING

MTL. C-JOIST TO MATCH STUD LAYOUT AT 16" O.C.

BASIS OF DESIGN: 1/4"  
WHITE OAK, COORD.  
STAIN W/ OWNER

METAL RUNNER  
TOP AND BTM  
METAL STUD

BASIS OF DESIGN:  
GYP TO BE PAINTED  
TO MATCH CEILING

BASIS OF DESIGN: NEMO ZIRKOL-C,  
HOME 58" BLACK, BOTTOM OF  
FIXTURE @ 9'-0". FINAL FIXTURE  
SELECTION BY OWNER, RE. ELECTRICAL FOR TYP.

BASIS OF DESIGN: NEMO ZIRKOL-C,  
HOME 58" BLACK, BOTTOM OF  
FIXTURE @ 9'-0". FINAL FIXTURE  
SELECTION BY OWNER, RE. ELECTRICAL FOR TYP.

EXISTING CEILING CONDITIONS TO  
REMAIN, BASIS OF DESIGN: CEILING TO BE  
PAINTED SHERWIN WILLIAMS SW 6992  
INKWELL, FLAT FINISH

COORD. POWER  
IN CEILING FOR  
STRING LIGHTS

BASIS OF DESIGN: SIGNIFY  
DAY-BRITE CFI 4' SDS  
SELECTABLE STRIP,  
MOUNTED, UNDERSIDE OF  
STAR, MAINTAIN MIN. 6'-5"  
CLR. FROM F.F., RE.  
ELECTRICAL FOR TYP.

BASIS OF DESIGN: SIGNIFY  
DAY-BRITE CFI 4' SDS  
SELECTABLE STRIP,  
MOUNTED, UNDERSIDE OF  
STAR, MAINTAIN MIN. 6'-5"  
CLR. FROM F.F., RE.  
ELECTRICAL FOR TYP.

OWNER PROVIDED  
STRING LIGHTS

BASIS OF DESIGN: CSL  
ENTITY - 25W LED CYLINDER,  
MATTE BLACK, SURFACE  
MOUNTED, CENTERED ON  
JOIST TYP. U.N.O., FINAL  
FIXTURE SELECTION BY  
OWNER, RE. ELECTRICAL FOR  
TYP.

EXISTING CONDITIONS W/ EXPOSED JOIST  
FRAMING TO REMAIN, BASIS OF DESIGN:  
PAINTED SHERWIN WILLIAMS SW 6992  
INKWELL, FLAT FINISH

BASIS OF DESIGN: RP  
LIGHTING 7806 6" BLACK  
TRACK W/ 7554 BLACK  
LED TRACK HEADS,  
MOUNTED, FINAL FIXTURE  
SELECTION BY OWNER,  
RE. ELECTRICAL FOR TYP.

EXISTING CEILING  
CONDITIONS TO REMAIN

BASIS OF DESIGN: MODERN  
FORMS ROBOTO XL FAN,  
MODEL # FR-W2301-70-AMB,  
BOTTOM OF FAN TO BE AT  
9'-9" FINAL FAN SELECTION  
BY OWNER

PROJECTOR MOUNTED TO  
EXISTING EXPOSED JOISTS,  
POWER AND DATA AS REQ'D,  
COORD. LOCATION W/ OWNER  
PROVIDED, CONTRACTOR  
INSTALLED PROJECTOR

BASIS OF DESIGN: SIGNIFY  
DAY-BRITE CFI 4' SDS  
SELECTABLE STRIP,  
SUSPENDED FROM  
STRUCTURE, BOTTOM OF  
FIXTURE @ 9'-0" COORD.  
W/ MECH. EQUIPMENT, RE.  
ELECTRICAL FOR TYP.

LIGHT BAR WALL SCONCE,  
BASIS OF DESIGN:  
KUZCO - 30"L INTERLUX 20  
LINEAR SURFACE, MODEL  
#WG-20LDL-SM, BLACK,  
FINAL FIXTURE SELECTION  
BY OWNER, MOUNTED  
HORIZONTALLY, CENTER  
ABOVE MIRROR AND SINKS

BASIS OF DESIGN: NEMO ZIRKOL-  
C, HOME 58" BLACK, BOTTOM OF  
FIXTURE @ 9'-0", FINAL  
FIXTURE SELECTION BY OWNER,  
RE. ELECTRICAL FOR TYP.

BASIS OF DESIGN: NEMO ZIRKOL-  
C, HOME 58" BLACK, BOTTOM OF  
FIXTURE @ 9'-0", FINAL  
FIXTURE SELECTION BY OWNER,  
RE. ELECTRICAL FOR TYP.

BASIS OF DESIGN: RP LIGHTING  
7806 6" BLACK TRACK W/ 7554  
BLACK LED TRACK HEADS,  
MOUNTED, FINAL FIXTURE  
SELECTION BY OWNER, RE.  
ELECTRICAL FOR TYP.

BASIS OF DESIGN: SIGNIFY  
DAY-BRITE CFI 4' SDS  
SELECTABLE STRIP,  
SUSPENDED FROM  
STRUCTURE, CENTERED IN  
ROOM, COORD. W/  
SPRINKLER RISER  
SYSTEM, BOTTOM OF  
FIXTURE @ 9'-0", RE.  
ELECTRICAL FOR TYP.

COORD. FINAL TV  
LOCATIONS W/ OWNER

BASIS OF DESIGN: GYP  
CEILING TO BE  
PAINTED SHERWIN  
WILLIAMS SW 6992  
INKWELL, FLAT FINISH

## GENERAL NOTES - REFLECTED CEILING PLANS:

- RE: SHEET G001 FOR ADDITIONAL GENERAL NOTES THAT ARE APPLICABLE.
- DIMENSIONS SHOWN ON THE REFLECTED CEILING PLANS ARE TO THE FACE OF GYP. BOARD (FOS), AND COLUMN GRID LINES, UNLESS NOTED OR SHOWN OTHERWISE.
- ALL CEILINGS TO BE 9'-0" A.F.F., UNLESS NOTED OTHERWISE.
- ALL CEILING HEIGHTS AS SHOWN ON PLANS AND DETAILS ARE FROM SLAB OR TILE FLOOR (FINISHED FLOOR) TO FINISH CEILING.
- AT ALL GYP. BD. SOFFITS: EXTEND GYP. BD. UP 6 INCHES ABOVE ADJACENT CEILING.
- RE: DETAILS FOR ADDITIONAL CONDITIONS AND CEILING HEIGHT INFORMATION.
- RE: FINISH LEGEND AND FINISH SCHEDULE FOR ROOM CEILING FINISHES.
- CEILING TILES/GRID TO BE CENTERED IN THE ROOM, UNLESS NOTED OTHERWISE.
- RECESSED LIGHTING: SPEAKERS, SMOKE DETECTORS, ETC. AND PENDANT LIGHT FIXTURES - SHALL BE CENTERED IN CEILING TILE OR GYP. BD. CEILING, UNLESS NOTED OTHERWISE.
- RE: INTERIOR ELEVATIONS FOR LOCATION OF WALL MOUNTED LIGHT FIXTURES.
- RE: ELECTRICAL SHEETS AND SPECIFICATIONS FOR DETAILED INFORMATION ON LIGHT FIXTURE SCHEDULE.
- RE: MECHANICAL SHEETS AND SPECIFICATIONS FOR DETAILED INFORMATION ON DIFFUSERS.
- COORDINATE ALL PENDANT MOUNTED LIGHT FIXTURES IN EQUIPMENT AREAS WITH EXPOSED STRUCTURE.
- COORDINATE ALL CEILING MOUNTED EQUIPMENT WITH CASEWORK BELOW.
- IF THERE IS A CONFLICT BETWEEN ANY ABOVE-CEILING MECHANICAL / ELECTRICAL / PLUMBING WORK & THE SCHEDULED OR SHOWN CEILING HEIGHT, CONTACT THE ARCHITECT IMMEDIATELY FOR CLARIFICATION.
- REF. MECH DWGS FOR LOCATIONS OF SOUND ISOLATION BELOW AND OR AROUND MECH. EQUIPMENT.
- PROVIDE OVERALL CEILING COORDINATION DRAWING SHOWING ALL DEVICES DURING SHOP SUBMITTAL PROCESS.

## CEILING PLAN LEGEND

\*SOME SYMBOLS MAY NOT BE USED IN THIS PROJECT.

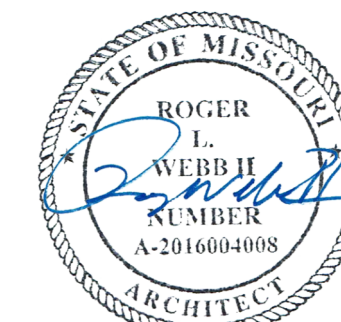
WOOD VISUAL	WC-SA OR WC-SB / PRICE BOTH MATERIALS FOR CLIENT APPROVAL
	5/8" GYPSUM BOARD BULKHEAD, CEILING OR SOFFIT. SEE APPLICABLE DETAILS AND SECTIONS.
	RECESSED CAN LIGHT FIXTURE. SEE ELECTRICAL DRAWINGS FOR TYPE.
	BASIS OF DESIGN: CSL ENTITY - 25W LED CYLINDER, MATTE BLACK, SURFACE MOUNTED, CENTERED ON JOIST TYP. U.N.O., FINAL FIXTURE SELECTION BY OWNER, RE. ELECTRICAL FOR TYP.
	SUSPENDED OR MOUNTED SIGNIFY DAY-BRITE CFI LINEAR 4' SDS SELECTABLE STRIP LIGHT SEE ELECTRICAL DRAWINGS FOR TYPE.
	LIGHT BAR WALL SCONCE, BASIS OF DESIGN: KUZCO - 30"L INTERLUX 20 LINEAR SURFACE, MODEL #WG-20LDL-SM, BLACK, FINAL FIXTURE SELECTION BY OWNER, MOUNTED HORIZONTALLY, CENTER ABOVE MIRROR AND SINKS
	BASIS OF DESIGN: NEMO ZIRKOL-C, HOME 58" BLACK, BOTTOM OF FIXTURE @ 9'-0", FINAL FIXTURE SELECTION BY OWNER, RE. ELECTRICAL FOR TYP.
	BASIS OF DESIGN: NEMO ZIRKOL-C, HOME 58" BLACK, BOTTOM OF FIXTURE @ 9'-0", FINAL FIXTURE SELECTION BY OWNER, RE. ELECTRICAL FOR TYP.
	BASIS OF DESIGN: RP LIGHTING 7806 6" BLACK TRACK W/ 7554 BLACK LED TRACK HEADS, MOUNTED, FINAL FIXTURE SELECTION BY OWNER, RE. ELECTRICAL FOR TYP.
	EMERGENCY WALL MOUNTED LIGHT FIXTURE. SEE ELECTRICAL DRAWINGS FOR TYPE.
	EMERGENCY EXIT LIGHT FIXTURE (CEILING MOUNTED). SEE ELECTRICAL DRAWINGS FOR TYPE.
	EMERGENCY EXIT LIGHT FIXTURE (WALL MOUNTED). SEE ELECTRICAL DRAWINGS FOR TYPE.
	CEILING MOUNTED RETURN AIR GRILLE. SEE MECHANICAL DRAWINGS FOR TYPE.
	CEILING MOUNTED SUPPLY DIFFUSER. SEE MECHANICAL DRAWINGS FOR TYPE.
	EXHAUST DUCT. SEE MECHANICAL DRAWINGS FOR TYPE.
	CEILING MOUNTED SPEAKER GRILLE. SEE ELECTRICAL DRAWINGS FOR TYPE.
	SPRINKLER HEAD. SEE PLUMBING DRAWINGS FOR TYPE.

ITAP - LEE'S SUMMIT

228 SW MAIN ST.  
LEE'S SUMMIT, MO 64063

COPYRIGHT © BY  
COLLINS WEBB  
ARCHITECTURE, LLC

REVISION DATES:



PROFESSIONAL SEAL

A601

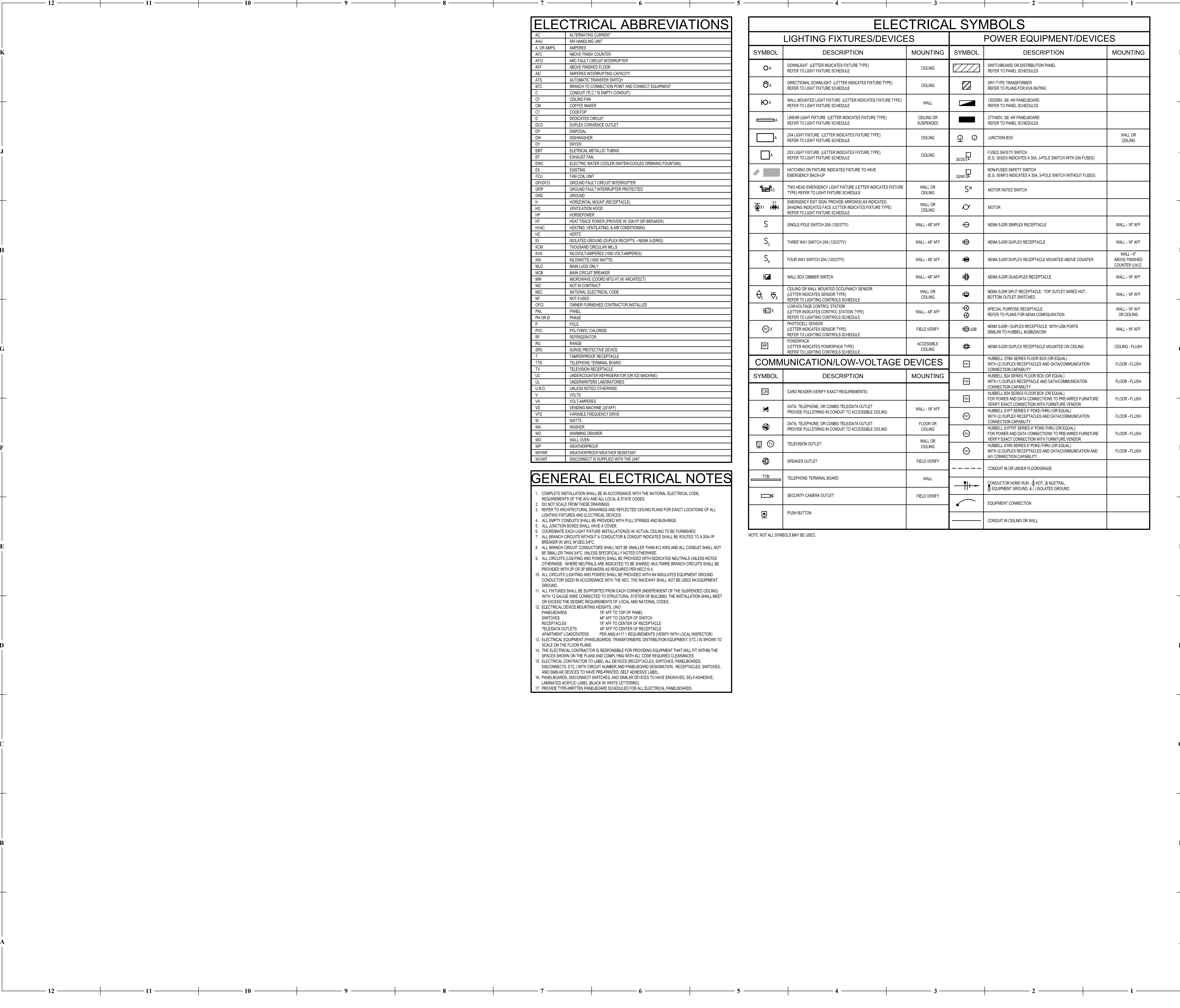
ISSUE DATE: 27 FEB 2023  
COLLINS WEBB #: 22066

REFLECTED CEILING PLAN



3075 SW Market Street, Lee's Summit, Mo. 64063 P. 816.249.2270  
(www.collinswebb.com)

PERMIT DOCUMENTS



ELECTRICAL ABBREVIATIONS	
AC	ALTERNATING CURRENT
AHU	AIR HANDLING UNIT
A OR AMPS	AMPERES
AFC	ABOVE FINISH COUNTER
AFCI	ARC FAULT CIRCUIT INTERRUPTER
AFB	ABOVE FINISHED FLOOR
ANC	AMPERES INTERRUPTING CAPACITY
ATS	AUTOMATIC TRANSFER SWITCH
BTC	BRANCH TO CONNECTION POINT AND CONNECT EQUIPMENT
C	CONDUIT (E.G. "IS EMPTY CONDUIT)
CF	CEILING FAN
CM	COFFEE MAKER
CT	COOKTOP
D	DEDICATED CIRCUIT
DCO	DUPLEX CONVENIENCE OUTLET
DP	DISPOSAL
DW	DISHWASHER
DY	DRYER
EMT	ELECTRICAL METALLIC TUBING
EF	EXHAUST FAN
EW	ELECTRIC WATER COOLER (WATER-COOLED DRINKING FOUNTAIN)
EX	EXISTING
FCU	FAN COIL UNIT
GFICFI	GROUND FAULT CIRCUIT INTERRUPTER
GFIP	GROUND FAULT INTERRUPTER PROTECTED
GRD	GROUND
H	HORIZONTAL MOUNT (RECEPTACLE)
HO	VENTILATION HOOD
HP	HORSEPOWER
HT	HEAT TRACE POWER (PROVIDE W/ 20A/1P GFI BREAKER)
HVAC	HEATING, VENTILATING, & AIR CONDITIONING
HZ	HERTZ
IG	ISOLATED GROUND (DUPLEX RECEPTS. - NEMA 5-20IRIG)
KCM	THOUSAND CIRCULAR MILLS
KVA	KILOVOLT-AMPERES (1000 VOLT-AMPERES)
KW	KILOWATTS (1000 WATTS)
MLO	MAIN LUGS ONLY
MCB	MAIN CIRCUIT BREAKER
MW	MICROWAVE (COORD MTG HT W/ ARCHITECT)
N/C	NOT IN CONTRACT
NEC	NATIONAL ELECTRICAL CODE
NF	NOT FUSED
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
PNL	PANEL
PH OR Ø	PHASE
P	POLE
PVC	POLYVINYL CHLORIDE
RF	REFRIGERATOR
RG	RANGE
SPD	SURGE PROTECTIVE DEVICE
T	TAMPERPROOF RECEPTACLE
TB	TELEPHONE TERMINAL BOARD
TV	TELEVISION RECEPTACLE
UC	UNDERCOUNTER REFRIGERATOR (OR ICE MACHINE)
UL	UNDERWRITERS LABORATORIES
U.N.O.	UNLESS NOTED OTHERWISE
V	VOLTS
VA	VOLT-AMPERES
VD	VENDING MACHINE (24" AFF)
VFD	VARIABLE FREQUENCY DRIVE
W	WATTS
WA	WASHER
WD	WARMING DRAWER
WO	WALL OVEN
WP	WEATHERPROOF
WPWR	WEATHERPROOF/WEATHER RESISTANT
W/UNT	DISCONNECT IS SUPPLIED WITH THE UNIT

GENERAL ELECTRICAL NOTES	
1. COMPLETE INSTALLATION SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, REQUIREMENTS OF THE AHJ AND ALL LOCAL & STATE CODES.	
2. DO NOT SCALE FROM THESE DRAWINGS.	
3. REFER TO ARCHITECTURAL DRAWINGS AND REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF ALL LIGHTING FIXTURES AND ELECTRICAL DEVICES.	
4. ALL EMPTY CONDUITS SHALL BE PROVIDED WITH PULL STRINGS AND BUSHINGS.	
5. ALL JUNCTION BOXES SHALL HAVE A COVER.	
6. COORDINATE EACH LIGHT FIXTURE INSTALLATION(S) W/ ACTUAL CEILING TO BE FURNISHED.	
7. ALL BRANCH CIRCUITS WITHOUT A CONDUCTOR & CONDUIT INDICATED SHALL BE ROUTED TO A 20A-1P BREAKER W/ 20/12, 10/25, 3/4"C.	
8. ALL BRANCH CIRCUIT CONDUCTORS SHALL NOT BE SMALLER THAN #12 AWG AND ALL CONDUIT SHALL NOT BE SMALLER THAN 3/4"C. UNLESS SPECIFICALLY NOTED OTHERWISE.	
9. ALL CIRCUITS (LIGHTING AND POWER) SHALL BE PROVIDED WITH DEDICATED NEUTRALS UNLESS NOTED OTHERWISE. WHERE NEUTRALS ARE INDICATED TO BE SHARED, MULTIWIRE BRANCH CIRCUITS SHALL BE PROVIDED WITH 2P OR 3P BREAKERS AS REQUIRED PER NEC210.4.	
10. ALL CIRCUITS (LIGHTING AND POWER) SHALL BE PROVIDED WITH AN INSULATED EQUIPMENT GROUND CONDUCTOR SIZED IN ACCORDANCE WITH THE NEC. THE RACEWAY SHALL NOT BE USED AN EQUIPMENT GROUND.	
11. ALL FIXTURES SHALL BE SUPPORTED FROM EACH CORNER, INDEPENDENT OF THE SUSPENDED CEILING) WITH 10 GAUGE WIRE CONNECTED TO STRUCTURAL SYSTEM OF BUILDING. THE INSTALLATION SHALL MEET OR EXCEED THE SEISMIC REQUIREMENTS OF LOCAL AND NATIONAL CODES.	
12. ELECTRICAL DEVICE MOUNTING HEIGHTS: UNO: PANELBOARDS 18" AFF TO TOP OF PANEL SWITCHES 48" AFF TO CENTER OF SWITCH RECEPTACLES 18" AFF TO CENTER OF RECEPTACLE TELEDATA OUTLETS 48" AFF TO CENTER OF RECEPTACLE APARTMENT LOADCENTERS PER ANSI A117.1 REQUIREMENTS (VERIFY WITH LOCAL INSPECTOR)	
13. ELECTRICAL EQUIPMENT (PANELBOARDS, TRANSFORMERS, DISTRIBUTION EQUIPMENT, ETC.) IS SHOWN TO SCALE ON THE FLOOR PLANS.	
14. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING EQUIPMENT THAT WILL FIT WITHIN THE SPACES SHOWN ON THE PLANS AND COMPLYING WITH ALL CODE REQUIRED CLEARANCES.	
15. ELECTRICAL CONTRACTOR TO LABEL ALL DEVICES (RECEPTACLES, SWITCHES, PANELBOARDS, DISCONNECTS, ETC.) WITH CIRCUIT NUMBER AND PANELBOARD DESIGNATION. RECEPTACLES, SWITCHES, AND SIMILAR DEVICES TO HAVE PRE-PRINTED, SELF ADHESIVE LABEL.	
16. PANELBOARDS, DISCONNECT SWITCHES, AND SIMILAR DEVICES TO HAVE ENGRAVED, SELF-ADHESIVE, LAMINATED ACRYLIC LABEL (BLACK W/ WHITE LETTERING).	
17. PROVIDE TYPE-WRITTEN PANELBOARD SCHEDULES FOR ALL ELECTRICAL PANELBOARDS.	

ELECTRICAL SYMBOLS					
LIGHTING FIXTURES/DEVICES			POWER EQUIPMENT/DEVICES		
SYMBOL	DESCRIPTION	MOUNTING	SYMBOL	DESCRIPTION	MOUNTING
	DOWNLIGHT (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	CEILING		SWITCHBOARD OR DISTRIBUTION PANEL REFER TO PANEL SCHEDULES	
	DIRECTIONAL DOWNLIGHT (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	CEILING		DRY-TYPE TRANSFORMER REFER TO PLANS FOR KVA RATING	
	WALL MOUNTED LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	WALL		120/208V, 3Ø, 4W PANELBOARD REFER TO PANEL SCHEDULES	
	LINEAR LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	CEILING OR SUSPENDED		277/480V, 3Ø, 4W PANELBOARD REFER TO PANEL SCHEDULES	
	2X4 LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	CEILING		JUNCTION BOX	WALL OR CEILING
	2X2 LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	CEILING		FUSED SAFETY SWITCH (E.G. 3Ø/2Ø/3 INDICATES A 3ØA, 3-POLE SWITCH WITH 2ØA FUSES)	
	HATCHING ON FIXTURE INDICATES FIXTURE TO HAVE EMERGENCY BACK-UP			NON-FUSED SAFETY SWITCH (E.G. 3Ø/NE/Ø INDICATES A 3ØA, 3-POLE SWITCH WITHOUT FUSES)	
	TWO HEAD EMERGENCY LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	WALL OR CEILING		MOTOR RATED SWITCH	
	EMERGENCY EXIT SIGN (PROVIDE ARROWS) AS INDICATED. SHADING INDICATES FACE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	WALL OR CEILING		MOTOR	
	SINGLE POLE SWITCH 2ØA (120/277V)	WALL - 48" AFF		NEMA 5-2ØR SIMPLEX RECEPTACLE	WALL - 18" AFF
	THREE WAY SWITCH 2ØA (120/277V)	WALL - 48" AFF		NEMA 5-2ØR DUPLEX RECEPTACLE	WALL - 18" AFF
	FOUR WAY SWITCH 2ØA (120/277V)	WALL - 48" AFF		NEMA 5-2ØR DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER	WALL - 6" ABOVE FINISHED COUNTER U.N.O.
	WALL BOX DIMMER SWITCH	WALL - 48" AFF		NEMA 5-2ØR QUAD-PLEX RECEPTACLE	WALL - 18" AFF
	CEILING OR WALL MOUNTED OCCUPANCY SENSOR (LETTER INDICATES SENSOR TYPE) REFER TO LIGHTING CONTROLS SCHEDULE	WALL OR CEILING		NEMA 5-2ØR SPLIT RECEPTACLE. TOP OUTLET WIRED HOT. BOTTOM OUTLET SWITCHED.	WALL - 18" AFF
	LOW-VOLTAGE CONTROL STATION (LETTER INDICATES CONTROL STATION TYPE) REFER TO LIGHTING CONTROLS SCHEDULE	WALL - 48" AFF		SPECIAL PURPOSE RECEPTACLE REFER TO PLANS FOR NEMA CONFIGURATION	WALL - 18" AFF OR CEILING
	PHOTOCELL SENSOR (LETTER INDICATES SENSOR TYPE) REFER TO LIGHTING CONTROLS SCHEDULE	FIELD VERIFY		NEMA 5-2ØR - DUPLEX RECEPTACLE WITH USB PORTS SIMILAR TO HUBBELL FUSEBOX/ACSW	WALL - 18" AFF
	POWERPACK (LETTER INDICATES POWERPACK TYPE) REFER TO LIGHTING CONTROLS SCHEDULE	ACCESSIBLE CEILING		NEMA 5-2ØR DUPLEX RECEPTACLE MOUNTED ON CEILING	CEILING - FLUSH
COMMUNICATION/LOW-VOLTAGE DEVICES				HUBBELL CFB4 SERIES FLOOR BOX (OR EQUAL) WITH (2) DUPLEX RECEPTACLES AND DATA/COMMUNICATION CONNECTION CAPABILITY	FLOOR - FLUSH
SYMBOL	DESCRIPTION	MOUNTING		HUBBELL B24 SERIES FLOOR BOX (OR EQUAL) WITH (1) DUPLEX RECEPTACLE AND DATA/COMMUNICATION CONNECTION CAPABILITY	FLOOR - FLUSH
	CARD READER (VERIFY EXACT REQUIREMENTS)			HUBBELL B24 SERIES FLOOR BOX (OR EQUAL) FOR POWER AND DATA CONNECTIONS TO PRE-WIRED FURNITURE VERIFY EXACT CONNECTION WITH FURNITURE VENDOR	FLOOR - FLUSH
	DATA, TELEPHONE, OR COMBO TELE/ATA OUTLET PROVIDE PULLSTRING IN CONDUIT TO ACCESSIBLE CEILING	WALL - 18" AFF		HUBBELL S1PT SERIES 4" POKE-THRU (OR EQUAL) WITH (2) DUPLEX RECEPTACLES AND DATA/COMMUNICATION CONNECTION CAPABILITY	FLOOR - FLUSH
	DATA, TELEPHONE, OR COMBO TELE/ATA OUTLET PROVIDE PULLSTRING IN CONDUIT TO ACCESSIBLE CEILING	FLOOR OR CEILING		HUBBELL S1PTFF SERIES 4" POKE-THRU (OR EQUAL) FOR POWER AND DATA CONNECTIONS TO PRE-WIRED FURNITURE VERIFY EXACT CONNECTION WITH FURNITURE VENDOR	FLOOR - FLUSH
	TELEVISION OUTLET	WALL OR CEILING		HUBBELL S1R6 SERIES 6" POKE-THRU (OR EQUAL) WITH (2) DUPLEX RECEPTACLES AND DATA/COMMUNICATION AND AV CONNECTION CAPABILITY	FLOOR - FLUSH
	SPEAKER OUTLET	FIELD VERIFY		CONDUIT IN OR UNDER FLOOR/GRADE	
	TELEPHONE TERMINAL BOARD	WALL		CONDUCTOR HOME RUN - (H) HOT, (N) NEUTRAL, (E) EQUIPMENT GROUND, & (I) ISOLATED GROUND	
	SECURITY CAMERA OUTLET	FIELD VERIFY		EQUIPMENT CONNECTION	
	PUSH BUTTON			CONDUIT IN CEILING OR WALL	

NOTE: NOT ALL SYMBOLS MAY BE USED.



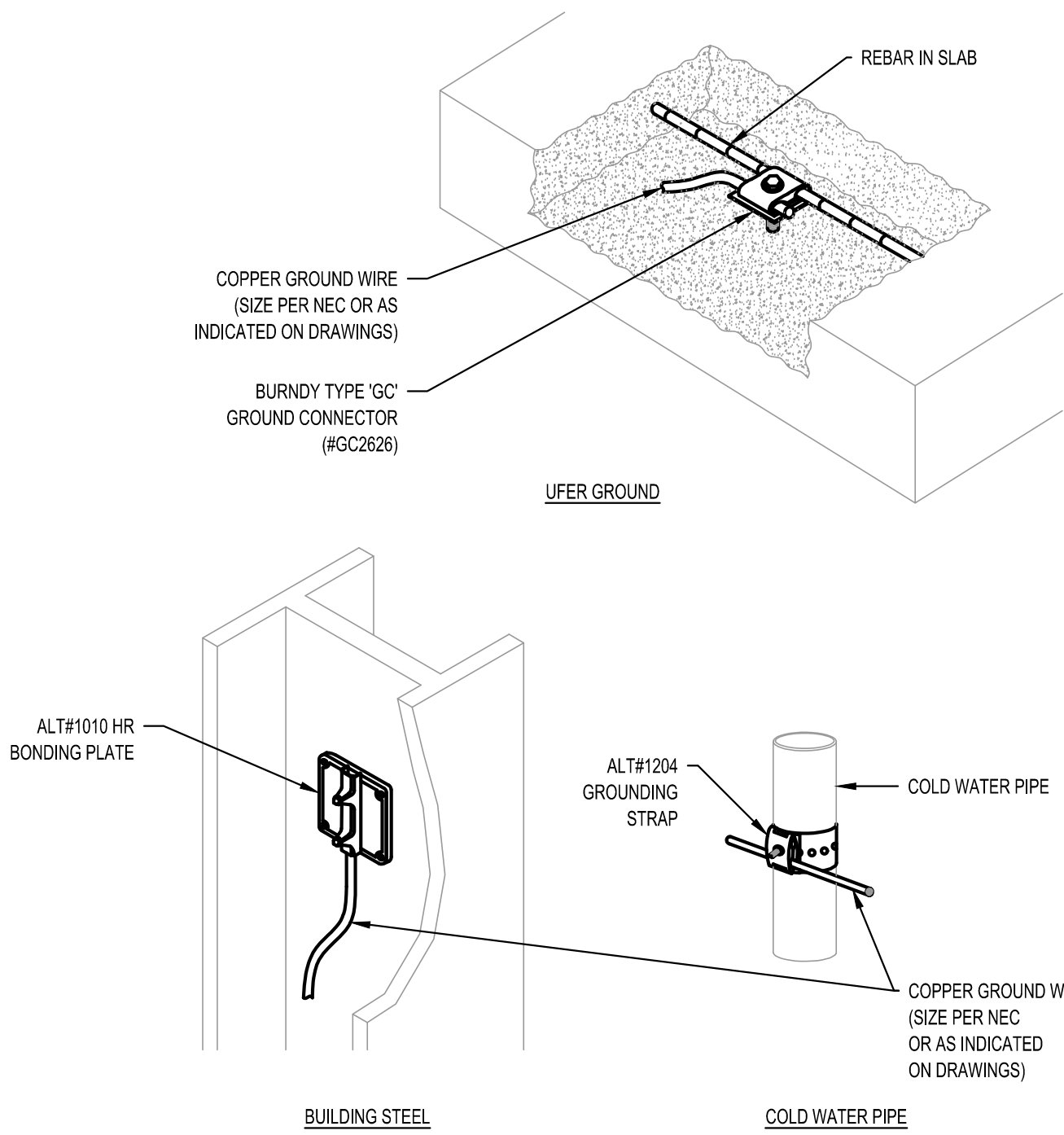
PERMIT DOCUMENTS

ITAP - LEE'S SUMMIT  
228 SW MAIN ST.  
LEE'S SUMMIT, MO 64063

COPYRIGHT © BY  
COLLINS WEBB  
ARCHITECTURE, LLC  
REVISION DATES:

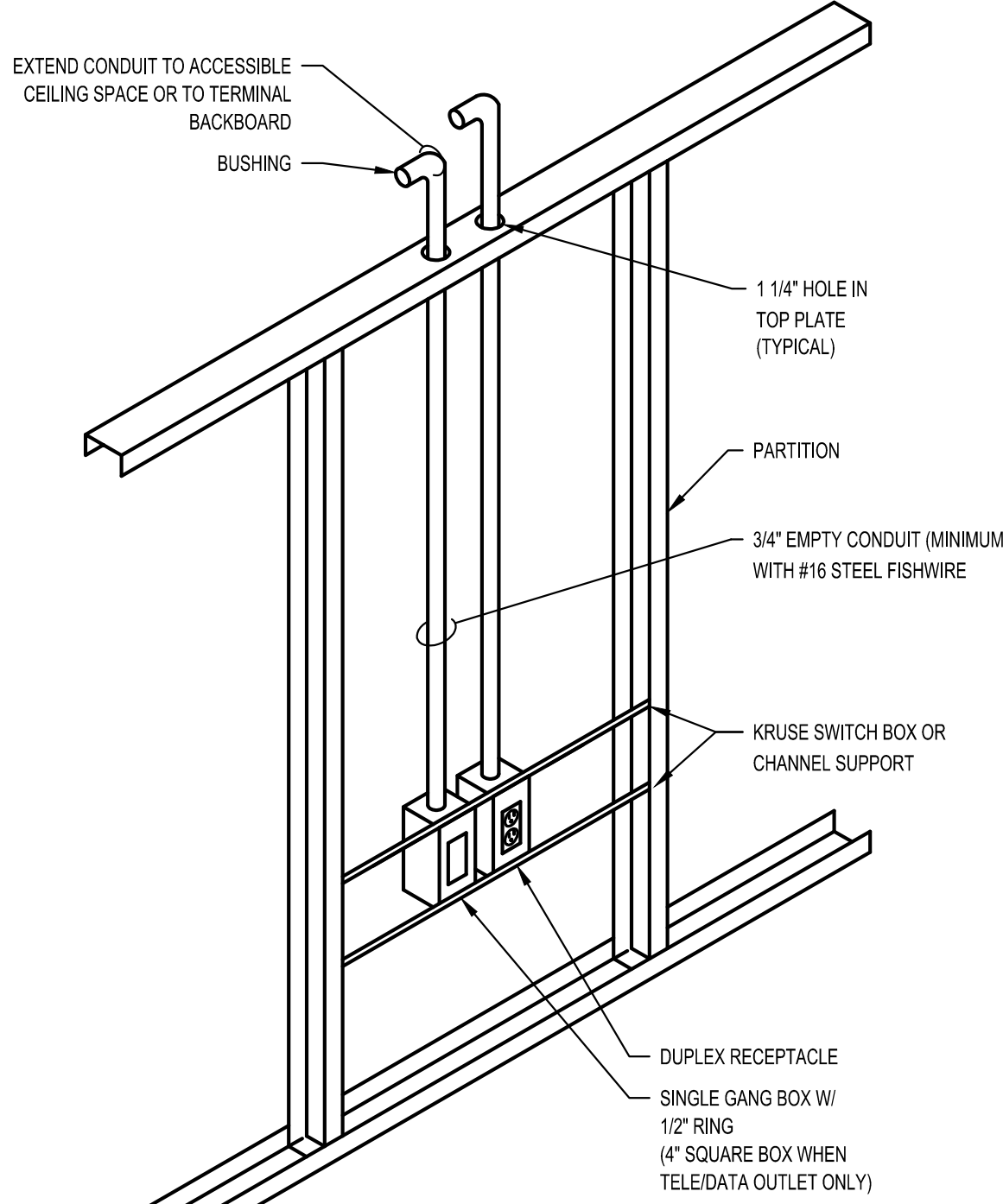


ELECTRICAL NOTES,  
SYMBOLS & ABBREVIATIONS



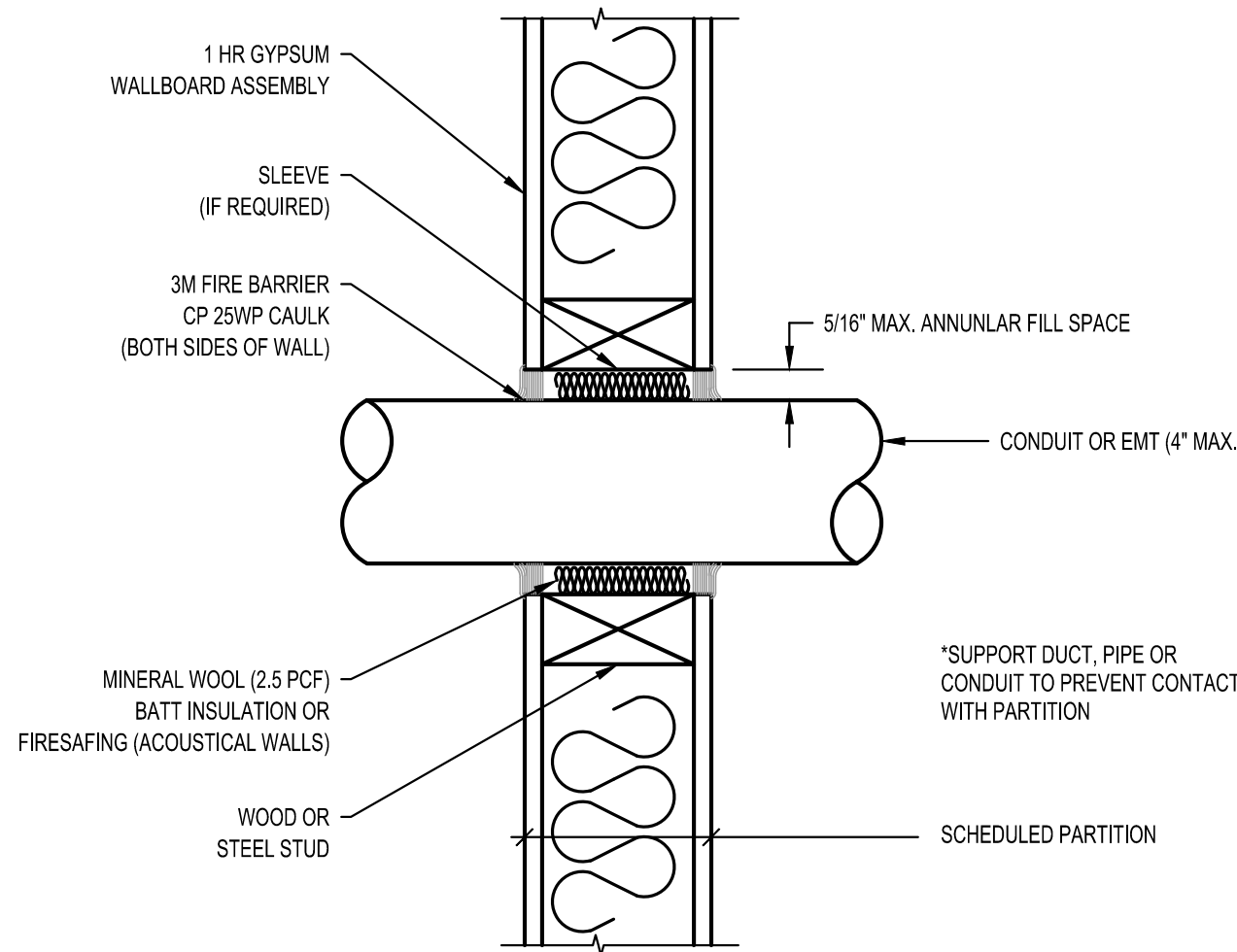
### 1 TYPICAL GROUND CONNECTION DETAILS

SCALE: NOT TO SCALE



### 2 OUTLET IN HOLLOW PARTITION

SCALE: NOT TO SCALE



### 3 TYPICAL FIRE RATED PENETRATION THROUGH A GYP WALL ASSEMBLY

SCALE: NOT TO SCALE

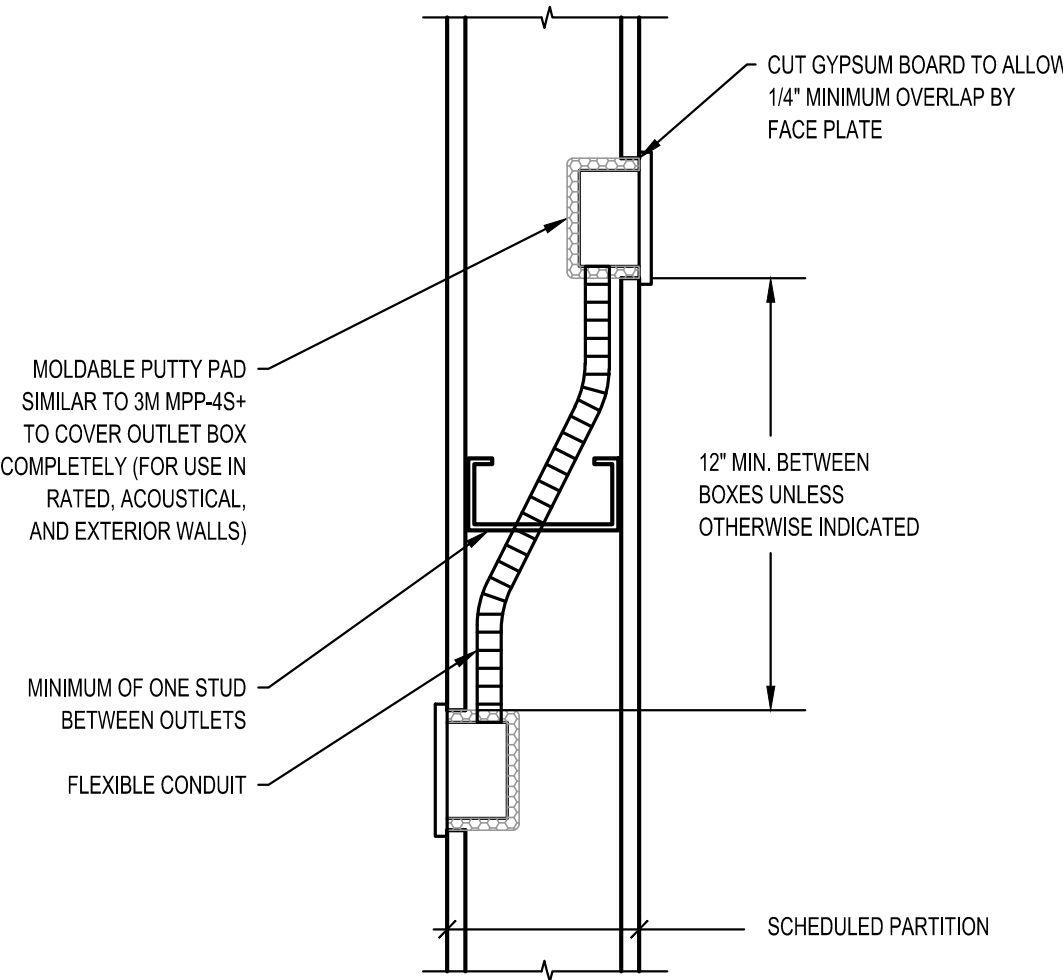
#### FIRE RATED PENETRATION NOTES:

- FOR UL WALL SYSTEM NO. WL101 (FORMERLY NO. 101)  
F-RATINGS - 1,2,3 & 4 HR. (SEE ITEMS #2 & #3)  
T-RATINGS - 0,1,2,3 (SEE ITEM #3)  
L-RATING @ 60°F - LESS THAN 1" (7/16) O.D. (SEE ITEM #3)  
1. WALL ASSEMBLY - THE 1,2,3 OR 4 HR FIRE RATED GYPSUM WALL BOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER DESCRIBED IN THE INDIVIDUAL ULDO OR ULHO SERIES WALL OR PARTITION DESIGN IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:  
A. STUDS - WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS (MAX. 2 HR FIRE RATED ASSEMBLIES) OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOM 2X4 IN. LUMBER SPACED 16 IN. O.C. WITH NOM 2X4 IN. LUMBER AND PLATES AND CROSS BRACES. STEEL STUDS TO BE MIN. 3/8 IN. WIDE BY 13/16 IN. DEEP. CHANGES SPACED MAX 24 IN. O.C.  
B. WALLBOARD - GYPSUM - NOM 1/2 OR 5/8 IN. THICK, 4 FT. WIDE WITH SQUARE OR TAPERED EDGES. THE GYPSUM WALLBOARD RYPS. THICKNESS, NUMBER OF LAYERS, FASTENER TYPE AND SHEET ORIENTATION SHALL BE SPECIFIED IN THE INDIVIDUAL ULDO OR ULHO SERIES DESIGN IN THE UL FIRE R RESISTANCE DIRECTORY. MAX. DIAM. OF OPENING IS 13-1/2 IN.  
2. PIPE OR CONDUIT - NOM 1/2 IN. DIAM. (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE NOM 1/2 IN. DIAM. (OR SMALLER) STEEL CONDUIT NOM 4 IN. DIAM. (OR SMALLER) FLEXIBLE STEEL CONDUIT. WHEN COPPER PIPE OR FLEXIBLE STEEL CONDUIT IS USED, MAX F-RATING OF FIRESTOP SYSTEM (ITEM CONSTRUCTED USING STEEL CHANNEL STUDS, A MAX OF ONE PIPE OR CONDUIT IS PERMITTED IN THE FIRESTOP SYSTEM. PIPE OR CONDUIT TO BE INSTALLED NEAR CENTER OF STUD CAVITY WIDTH AND TO BE RIDGELY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY.  
3. FILL, VOID OR CAVITY MATERIAL - CAULK - CAULK FILL MATERIAL INSTALLED TO COMPLETELY FILL ANULAR SPACE BETWEEN PIPE OR CONDUIT AND GYPSUM WALLBOARD AND WITH A MIN 1/4 IN. DIAM BOARD OF CAULK APPLIED TO PERIMETER OF PIPE OR CONDUIT AT ITS GRESS FROM THE WALL. CAULK INSTALLED SYMMETRICALLY ON BOTH SIDES OF WALL ASSEMBLY. THE HOURLY F-RATING OF THE FIRESTOP SYSTEM IS DEPENDENT UPON THE HOURLY F-RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED. AS SHOWN IN THE FOLLOWING TABLE, THE HOURLY T-RATING OF THE FIRESTOP SYSTEM IS DEPENDENT UPON THE TYPE OR SIZE OF THE PIPE OR CONDUIT AND THE HOURLY F-RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED. AS TABULATED BELOW.
- | MAX PIPE OR CONDUIT DIAM (IN) | ANULAR SPACE (IN) | F-RATING (HR) | T-RATING (HR) |
|-------------------------------|-------------------|---------------|---------------|
| 1                             | 0 TO 3/16         | 1 OR 2        | 0 + 1 OR 2    |
| 1                             | 1/4 TO 1/2        | 3 OR 4        | 3 OR 4        |
| 4                             | 0 TO 1/4          | 1 OR 2        | 0             |
| 6                             | 1/4 TO 1/2        | 3 OR 4        | 0             |
| 12                            | 1/2 TO 1          | 1 OR 2        | 0             |

\*WHEN COPPER PIPE IS USED, T-RATING IS 0 NOM.  
MINNESOTA WINING & MFG. CO. TYPES CP-25 SL, CP-25 NB, CP-25 WS, CP-25 WS+ (NOTE: L-RATINGS APPLY WHEN TYPE CP-25 WS+ CAULK IS USED).

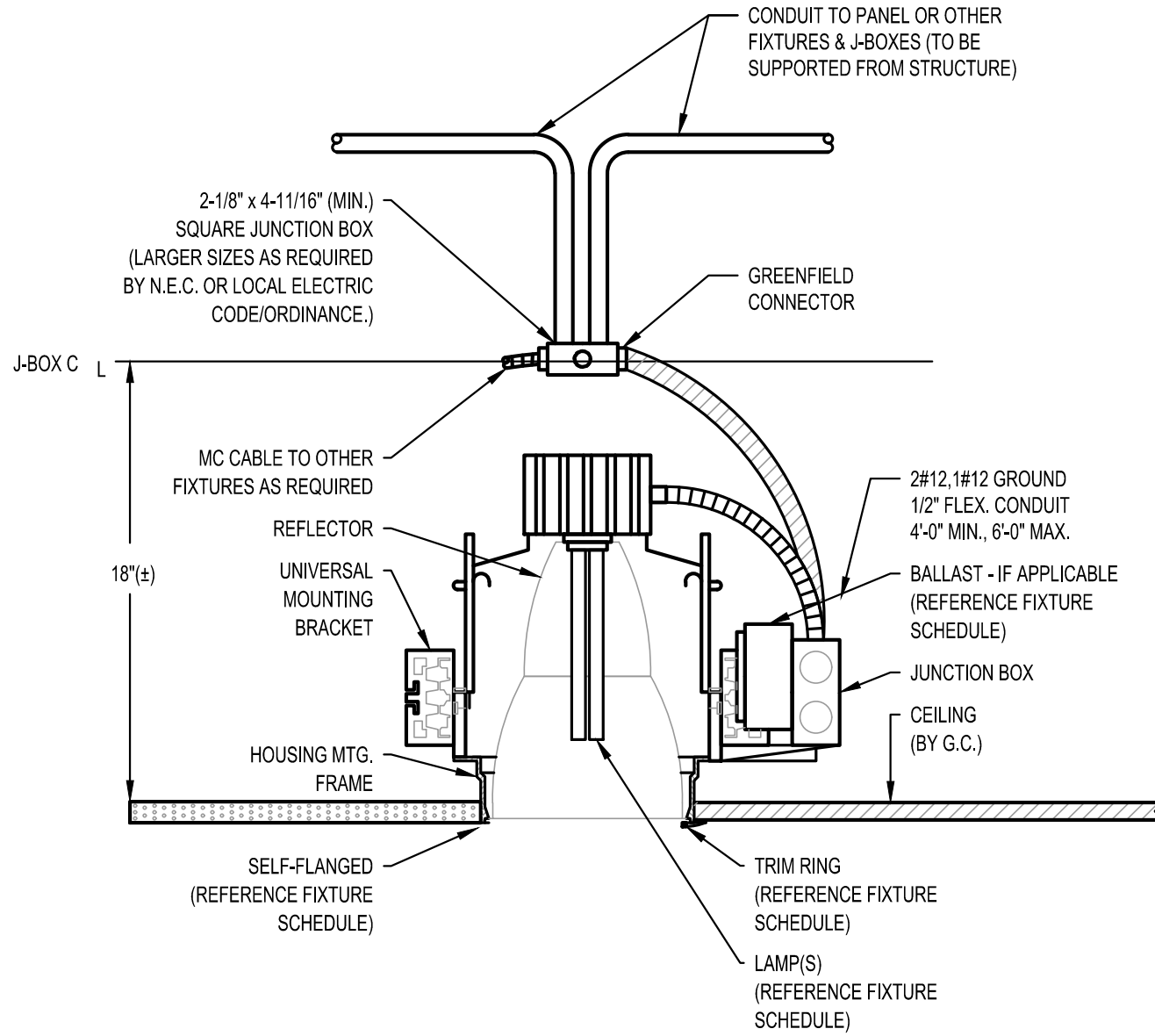
### 4 FIRE RATED PENETRATION NOTES

SCALE: NOT TO SCALE



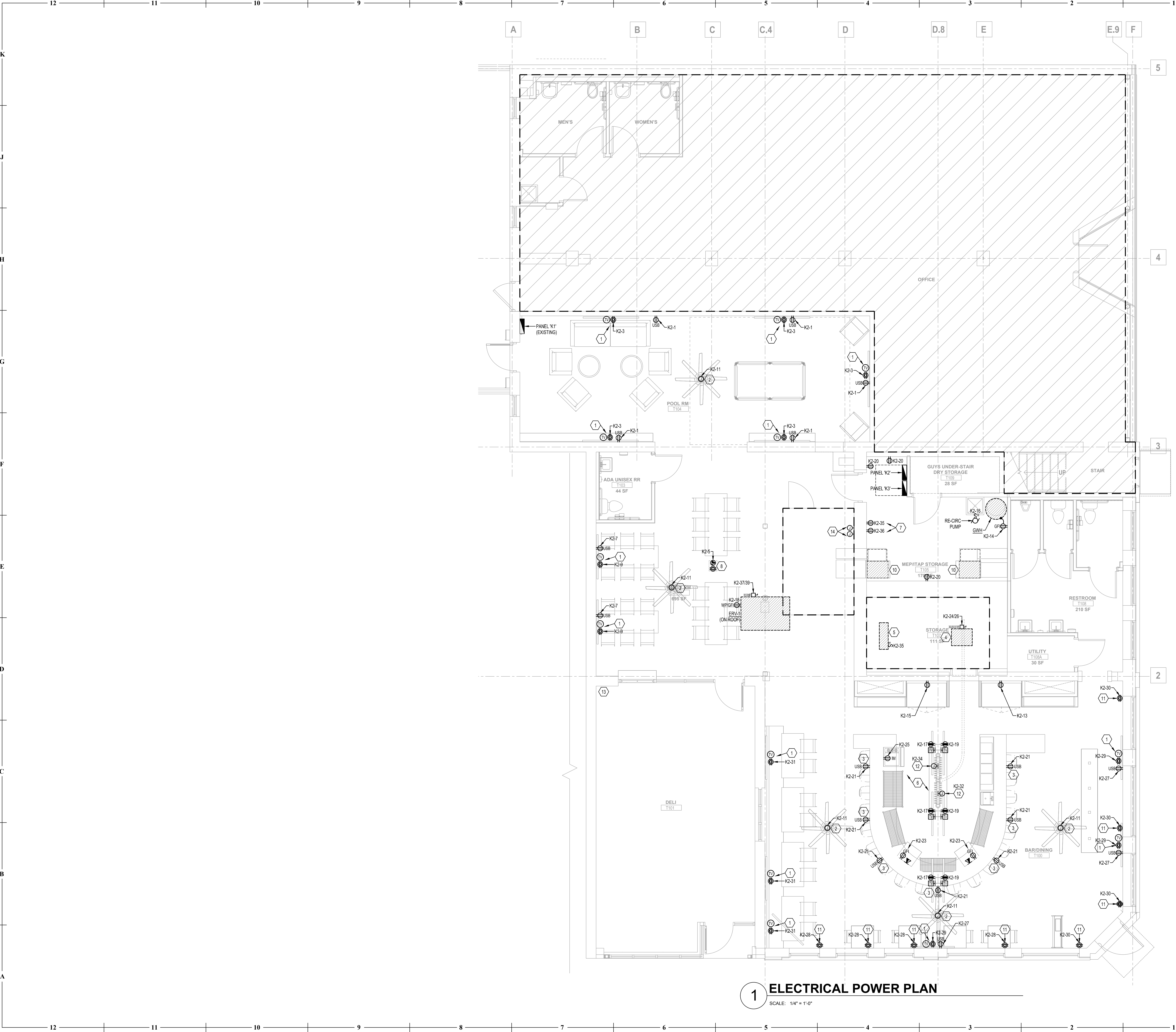
### 5 BACK-TO-BACK BOX ARRANGEMENT FOR NOISE CONTROL

SCALE: NOT TO SCALE



### 6 TYPICAL RECESSED DOWNLIGHT FIXTURE DETAIL

SCALE: NOT TO SCALE



- GENERAL NOTES
- (NOT ALL NOTES APPLY)
1. REFERENCE SHEET E101 FOR GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.

2. REFERENCE SHEET E102 FOR ELECTRICAL DETAILS.

3. COORDINATE MOUNTING HEIGHTS AND LOCATIONS FOR ALL DEVICES WITH ARCHITECT AND/OR INTERIOR ELEVATIONS PRIOR TO ROUGH-IN.

- KEYED NOTES:
1. OVERHEAD POWER AND DATA FOR TV. FIELD VERIFY EXACT LOCATION PRIOR TO ROUGH-IN.

2. POWER FOR OVERHEAD FANS. VERIFY EXACT LOCATION AND EXACT CONTROL REQUIREMENTS WITH OWNER PRIOR TO ROUGH-IN.

3. RECEPTACLES TO BE MOUNTED ON FACE OF BAR BELOW COUNTER. COORDINATE EXACT LOCATION WITH BAR SUPPLIER AND OWNER PRIOR TO ROUGH-IN. RECEPTACLES TO BE SILVER COLOR WITH STAINLESS STEEL COVER PLATE.

4. CONDENSING UNIT FOR WALK-IN COOLER. FIELD VERIFY EXACT LOCATION AND ELECTRICAL REQUIREMENTS WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN.

5. EVAPORATOR FOR WALK-IN COOLER. FIELD VERIFY EXACT ELECTRICAL REQUIREMENTS WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN.

6. FIELD VERIFY EXACT CONNECTION REQUIREMENTS OF ALL BAR EQUIPMENT WITH OWNER PRIOR TO ROUGH-IN.

7. POWER FOR GLYCOL SYSTEM AND CO2/NITROGEN BLENDER. FIELD VERIFY EXACT ELECTRICAL REQUIREMENTS AND LOCATION PRIOR TO ROUGH-IN.

8. POWER AND DATA FOR OVERHEAD PROJECTOR. FIELD VERIFY EXACT LOCATION PRIOR TO ROUGH-IN.

9. FIELD VERIFY EXACT CONNECTION REQUIREMENTS OF ALL KITCHEN EQUIPMENT WITH OWNER PRIOR TO ROUGH-IN.

10. EXISTING FURNACE AND ASSOCIATED CONDENSING UNIT TO REMAIN.

11. PROVIDE CEILING MOUNTED SHOW WINDOW RECEPTACLE WITHIN 18" OF THE TOP OF THE WINDOW AS REQUIRED PER NEC 210.62. FIELD COORDINATE EXACT LOCATION WITH OWNER/ARCHITECT PRIOR TO ROUGH-IN. RECEPTACLES SHALL BE CONTROLLED ON A TIME-OF-DAY SCHEDULE. REFER TO DETAIL 2 ON SHEET E301 FOR ADDITIONAL INFORMATION.

12. POWER FOR UNDER COUNTER GLASS WASHER. FIELD VERIFY EXACT ELECTRICAL REQUIREMENTS AND LOCATION PRIOR TO ROUGH-IN.

13. STUB (20) 3/4" EMPTY CONDUITS WITH PULL STRINGS FROM PANEL K3' LOCATION INTO THIS SPACE FOR FUTURE TENANT BRANCH CIRCUITING.

14. PROVIDE JUNCTION BOX ON BRICK WALL WITH 3/4" CONDUITS AND PULL STRINGS STUBBED INTO THE MECHANICAL ROOM FOR WALK-IN COOLER CIRCUITS FOR FUTURE TENANT.

collins|webb

ARCHITECTURE

307B SW Market St., Lee's Summit, Missouri 64083

816.249.2270

www.collinswebb.com

PERMIT DOCUMENTS

ITAP - LEE'S SUMMIT

228 SW MAIN ST.

LEE'S SUMMIT, MO 64063

COPYRIGHT © BY

COLLINS WEBB

ARCHITECTURE, LLC

REVISION DATES:

STATE OF MISSOURI

RYAN BREWER

NUMBER

PE-2020010759

02/27/2023

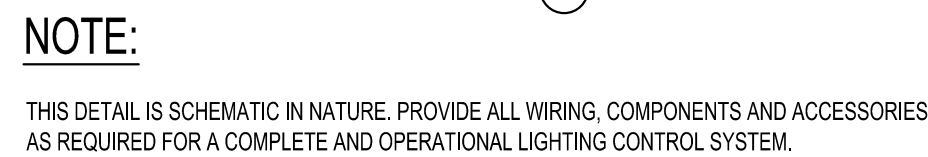
PROFESSIONAL SEAL

E201

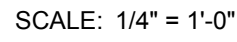
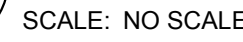
ISSUE DATE: 27 FEB 2023

COLLINS WEBB #: 22066

ELECTRICAL POWER PLAN



## SCALE: NO SCALE



(NOT ALL NOTES APPLY)

1. REFERENCE SHEET E101 FOR GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.
2. REFERENCE SHEET E102 FOR ELECTRICAL DETAILS.
3. VERIFY ALL MOUNTING HEIGHTS AND LOCATIONS FOR ALL DEVICES WITH ARCHITECT AND/OR INTERIOR EVALUATIONS PRIOR TO ROUGH-IN.
4. CIRCUIT ALL EXIST LIGHT SIGNS TO NEAREST EXISTING LIGHTING CIRCUIT (OR NEW LIGHTING CIRCUIT IF NO GENERATOR).
5. VERIFY ALL EXISTING BRANCH CIRCUITING. CONTRACTOR SHALL WIRE FIXTURES IN ACCORDANCE WITH SWITCHING INDICATED. CONNECTED LOAD ON 277V-240V CIRCUITS SHALL NOT EXCEED 4000W, 120V-240V CIRCUITS SHALL NOT EXCEED 1800W.
6. CIRCUIT NUMBERS ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS.
7. EXISTING RELOCATED, AND EXISTING TO REMAIN FIXTURES SHALL BE REFINISHED AND CLEANED. REPLACE BAD BALLASTS AND/OR BALLASTS WITH LED BALLASTS AND PUT LAMPS. LAMP COLOR AND WATTAGE TO MATCH EXISTING.
8. FIXTURES LABELED "EX" ARE EXISTING FIXTURES TO REMAIN.

2. LIGHTING IN THIS AREA IS INTEGRAL TO WALK-IN COOLER UNIT. LIGHTING CONTROL INTENT FOR THIS AREA IS FOR FIXTURES TO BE MANUAL "ON/AUTO OFF" VIA OCCUPANCY SENSOR WITH MANUAL OVERRIDE AVAILABLE VIA THE LOW-VOLTAGE CONTROL STATION.
3. LIGHTING CONTROL INTENT FOR THIS AREA IS FOR FIXTURES TO BE AUTO "ON/AUTO OFF" VIA OCCUPANCY SENSOR WITH MANUAL OVERRIDE AVAILABLE VIA THE OCCUPANCY SENSOR SWITCH.
4. LIGHTING CONTROL INTENT FOR THIS AREA IS FOR FIXTURES TO BE MANUAL "ON/AUTO OFF" VIA OCCUPANCY SENSOR WITH MANUAL OVERRIDE AVAILABLE VIA THE OCCUPANCY SENSOR SWITCH.
5. LIGHTING CONTROL INTENT FOR THIS AREA IS FOR FIXTURES TO BE "ON/OFF" VIA TIME-OF-DAY SCHEDULE WITH MANUAL OVERRIDE AVAILABLE VIA THE LOW-VOLTAGE CONTROL STATION.
6. PROVIDE NEMA 3R LOCKABLE DISCONNECT SWITCH FOR EXTERIOR SIGNAGE, FIELD VERIFY EXACT LOCATION PRIOR TO ROUGH-IN. CONTROL INTENT IS FOR SIGNAGE TO BE "ON/OFF" VIA TIME-OF-DAY SCHEDULE WITH MANUAL OVERRIDE TO DETAIL 2. (THIS SHEET) FOR ADDITIONAL INFORMATION.
7. PROVIDE 1P-20A CIRCUIT CAPPED IN JUNCTION BOX FOR FUTURE TENDON LIGHTING.
8. MANUAL OVERRIDE LIGHTING CONTROL SWITCH-BANK, FIELD VERIFY EXACT LOCATION WITH OWNER PRIOR TO ROUGH-IN. REFER TO DETAIL 3. (THIS SHEET) FOR ADDITIONAL INFORMATION.
9. PROVIDE ISOLITE #E33N/20W-250A CIMA (OR EQUAL) FOR EXTERIOR BACKLAP OF BOW AREA TRAIL LIGHTING. (SWITCH/LEG V) CONTROL INTENT IS FOR FIXTURES TO ENERGIZE "ON/OFF" VIA TIME-OF-DAY SCHEDULE WITH MANUAL CONTROL FROM THE WALL BOX DIMMER. DURING LOSS OF POWER, FIXTURES WILL REMAIN ON "FULL ON".
10. EXTERIOR LIGHTING TO BE "ON/OFF" VIA TIME-OF-DAY SCHEDULE.
11. SWITCHED RECEPTACLE FOR STRING LIGHTING, FIELD VERIFY EXACT LOCATION PRIOR TO ROUGH-IN. CONTROL INTENT IS FOR THE RECEPTABLES TO ENERGIZE "ON/OFF" VIA TIME-OF-DAY SCHEDULE WITH MANUAL CONTROL FROM THE WALL SWITCH.
12. PROVIDE WALLBOX DIMMER SIMILAR TO LUTRON DIA SERIES (OR EQUAL), FIELD VERIFY COMPATIBILITY OF FIXTURES WITH WALLBOX DIMMER PRIOR TO ORDERING.
13. PROVIDE STANDARD TOGGLE SWITCH.
14. DETAIL SWITCH AND LIGHTING CONTROLS FOR LIGHTING CONTROLS. REFER TO LIGHTING CONTROLS DETAIL. (THIS SHEET) FOR ADDITIONAL INFORMATION.

1. PROVIDE TORK DIGITAL SERIES, MODEL DGLC200A-NC (2-CHANNEL) TIME/CLOCK (OR EQUAL), COORDINATE TIME-OF-DAY SCHEDULES WITH OWNER.
2. PROVIDE SQUARE D MODEL 8903 ELECTRICALLY HELD LIGHTING CONTACTORS (LC1 & LC2) WITH POLE QUANTITY AS REQUIRED.
3. PROVIDE PARAGON #SWP2H 2-HOUR SPRING WOUND OVERRIDE SWITCH (OR EQUAL).
4. PROVIDE NEMA 1 ENCLOSURE TO HOUSE ALL CONTACTORS INDICATED.
5. REMOVE MANUAL SWITCH(ES). REFER TO LIGHTING PLAN FOR ADDITIONAL INFORMATION.



228 SW MAIN ST.  
LEE'S SUMMIT, MO 64063

COPYRIGHT © BY  
COLLINS WEBB  
ARCHITECTURE, LLC  
REVISION DATES:



ISSUE DATE: 27 FEB 2023  
COLLINS WEBB #: 22066

# ELECTRICAL LIGHTING PLAN

(NOT ALL NOTES APPLY)

- KEYED NOTES:** 

THHN/THWN COPPER CONDUCTORS W/ EG CONDUCTOR  
XHHW ALUMINUM CONDUCTORS W/ EG CONDUCTOR

NOTES:

1. ALL CONDUCTORS AMPACITY BASED ON THE NEC TABLE 310-16 FOR CONDUCTORS W/ 75° INSULATION.
2. ALL RACEWAY SYSTEMS (ENTR/CMVPC40) BASED ON THE NEC TABLE 40-40CETR/CMVPC40 1/40% FILL COLUMN.
3. ELECTRICAL CONTRACTOR TO VERIFY ALL EQUIPMENT CONDUCTOR TERMINATION TEMPERATURE RATINGS (IE, 60°C OR 75°C), ADJUST CONDUCTOR AMPACITY AND CONDUIT SIZES ACCORDINGLY.
4. VERIFY MAXIMUM NO. OF SETS OF SERVICE ENTRANCE CONDUCTORS ALLOWED W/ UTILITY CO.
5. EQUIPMENT GROUNDING CONDUCTORS BASED ON NEC 250.122. GROUND TO GROUND PER 1250.6 FOR SEPARATELY DERIVED SYSTEMS.
6. ALUMINUM FEEDERS NOT TO BE USED ON TRANSFORMER SECONDARY CONDUCTORS.

### BRANCH CIRCUIT VOLTAGE DROP WIRING SCHEDULE FOR 1Ø CIRCUITS

NOTES:

1. PROVIDE BRANCH CIRCUIT CONDUCTORS AS INDICATED IN THE TABLE ABOVE FOR ALL LIGHTING AND RECEPTACLE BRANCH CIRCUITS. WHERE BRANCH CIRCUITS SERVE DEDICATED EQUIPMENT, THE CONTRACTOR MAY PERFORM VOLTAGE DROP CALCULATIONS BASED ON ACTUAL EQUIPMENT CONNECTED LOAD AND PROVIDE CONDUCTORS APPROPRIATELY SIZED TO LIMIT VOLTAGE DROP TO A MAXIMUM OF 3%.
2. CONDUCTOR SIZES ARE BASED ON SOLID COPPER CONDUCTORS. IF WIRING SMALLER THAN #6 AND STRANDS OF COPPER CONDUCTORS FOR WIRES #6 AND LARGER, IN A SINGLE METAL CONDUIT.
3. LIMITS FOR CONDUCTOR LENGTHS SHOWN ARE BASED ON A MAXIMUM OF 3% VOLTAGE DROP TO COMPLY WITH THE NEC FOR CONDUCTORS LOADED UP TO 80% OF THE BRANCH BREAKER RATING. FIELD VERIFY EXACT BRANCH CIRCUIT LENGTHS AND PROVIDE CONDUCTORS APPROPRIATELY SIZED TO LIMIT VOLTAGE DROP TO 3%.

UNLESS NOTED OTHERWISE, WIRE SIZES CALLED OUT IN PANEL SCHEDULES DO NOT ACCOUNT FOR VOLTAGE DROP. CONTRACTOR SHALL INCREASE WIRE SIZES AS REQUIRED UTILIZING VOLTAGE DROP TABLE PROVIDED.

FIXT. TYPE	DESCRIPTION & MANUFACTURER OPTIONS	LAMPS		FIXT. VOLT	TOTAL WATTS	FINISH	REMARKS/MOUNTING	NOTES
		NO.	TYPE					
A	Surface Mounted LED Cylinder  Mfr CSL LTG #SS4021-25-2-S	1	LED	UNV	25W	Coord. w/ Architect	Coord. w/ Architect	1
	55" LED Pendant  Mfr NEMO LTG #ZIRKOL-C	1	LED	120V	68W	Coord. w/ Architect	Coord. w/ Architect	1
B1	36 4" LED Pendant  Mfr NEMO LTG #ZIRKOL-C	1	LED	120V	45W	Coord. w/ Architect	Coord. w/ Architect	1
	Linear LED Strip w/ 0-10V Dimming  Mfr SIGNIFY #SS-4-40L-UNV-DIM	1	LED	UNV	29.9W	Standard	Pendant (Verify Ht w/ Architect)	1
C	Linear LED Strip w/ Emergency Battery Pack and 0-10V Dimming  Mfr SIGNIFY #SS-4-40L-UNV-DIM-BNLED	1	LED	UNV	29.9W	Standard	Pendant (Verify Ht w/ Architect)	2
	Surface Wall Mount Linear LED Fixture w/ 0-10V Dimming  Mfr INTERLUX #WG-2SLD-SW	1	LED	UNV	6W/FT	Coord. w/ Architect	Wall (Refer Arch Elevation)	1
D	Track Lighting w/ LED Track Heads and Trnac Dimming  Mfr RP LTG #7550 (TRACK) Mfr RP LTG #7554 (TRACK HEAD)	1	LED	120V	8W/ HEAD	Coord. w/ Architect	Coord. w/ Architect	1
	4" LED Downlight w/ 0-10V Dimming  Mfr LIGHTOLIER #4-R-R_-P4R-DL-25-CL-Z10-U	1	LED	UNV	26W	Standard	Recessed (Ceiling - Provide Flange)	2
G	4" LED Downlight w/ 0-10V Dimming and Emergency Battery Backup  Mfr LIGHTOLIER #4-R-R_-P4R-DL-25-CL-Z10-U-EM6	1	LED	UNV	26W	Standard	Recessed (Ceiling - Provide Flange)	2
	LED Tape Light at Bar Back Shelving. Provide all Power Leads, Jumpers, Channel and Power Supplies as Required for a Complete and Operational System.  Mfr TIVOLI #TFLD-H04-L_-24	1	LED	120V	4.4W/FT	Standard	Coord. w/ Architect	
H	LED Exterior Wall Pack w/ Emergency Battery Pack  Mfr LSI #XV6-LED-2L-FTW-UNV-DIM-60CR-CVBB	1	LED	UNV	15W	Standard	Wall (Refer Arch Elevation)	2
	LED Exit Sign: Single/Double Sided, Universal Mount, Emergency Battery Pack. Provide Arrows as Indicated.  Mfr DUAL LITE #EVC-U-R-W-E [EVEN LITE #TLX-BN-RU-W (OR DUAL)]	1	LED	UNV	2W		Wall/Ceiling/Pendant	2
X1	LED Exit Sign and Emergency Light Fixture, Universal Mount, Emergency Battery Pack. Provide Arrows as Indicated.  Mfr DUAL LITE #EVC-U-R-W	1	LED	UNV	2W		Wall/Ceiling/Pendant	2
	LED Emergency Light w/ (2) 2-Watt Adjustable LED Heads and Emergency Battery Backup  Mfr DUAL LITE #EVD4D-02L	2	LED	UNV	5W	White	Surface (Wall/Ceiling)	2
X3	Combination LED Exit Sign and Emergency Light Fixture w/ Exterior Rated Remote Emergency Heads, Universal Mount, Emergency Battery Pack. Provide Arrows as Indicated.  Mfr DUAL LITE #EVC-U-R-W-D WITH EVO-D-X	1	LED	UNV	5W		Wall/Ceiling/Pendant	1,2

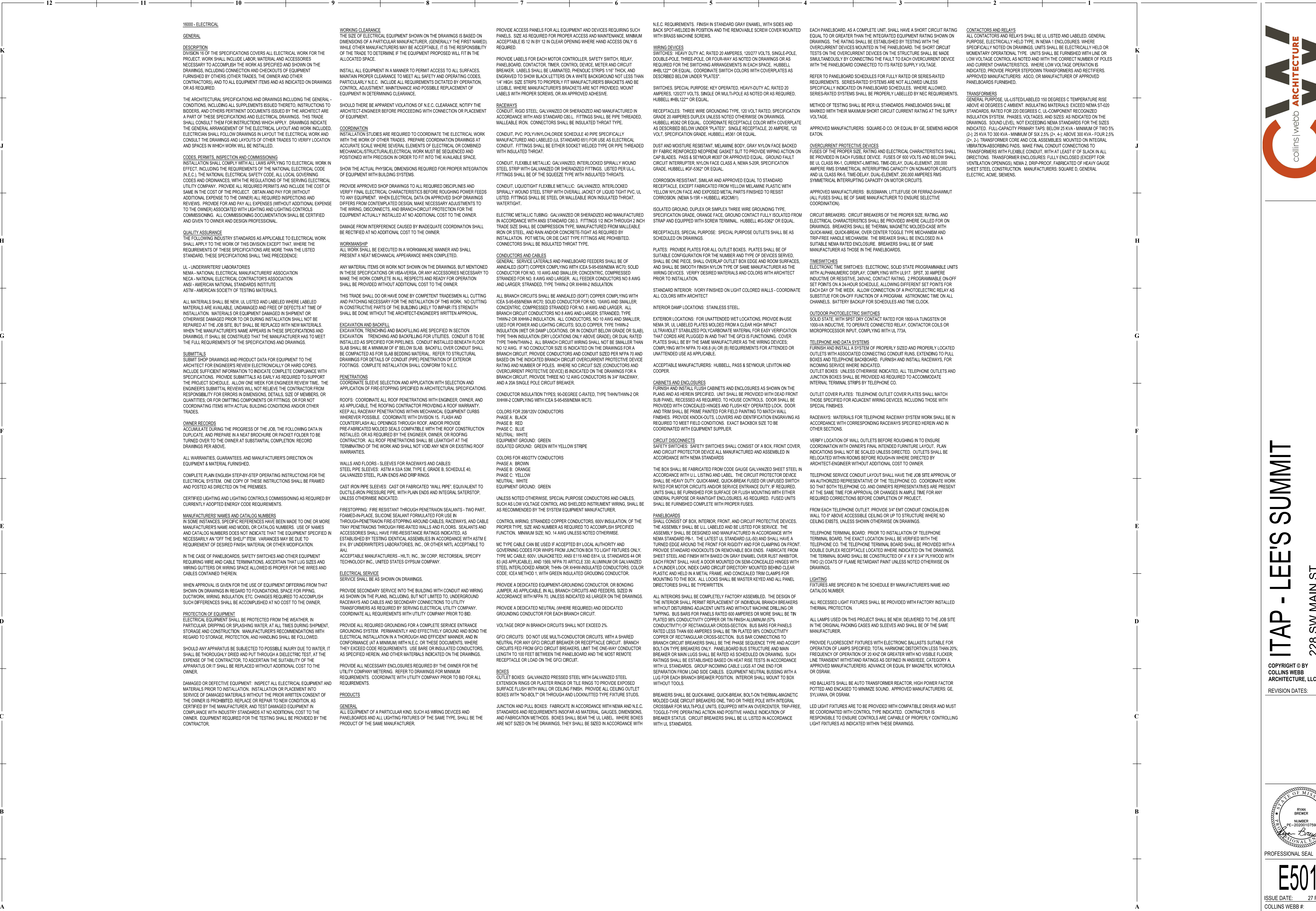
FUTURE TAG	MANUFACTURER	MODEL #	SETTINGS	DESCRIPTION	NOTES
FX C	ACUTY BRANDS: ILHIGHT	HP16 SERIES	REFER TO PLANS FOR CONTROL INTENT	ON/OFF ROOM SWITCH CONTROLLER LINE VOLTAGE - SINGLE RELAY	1,2,4
L3	ACUTY BRANDS: ILHIGHT	HPQDM		ON/OFF LOW VOLTAGE SWITCH WITH 1 CHANNEL CONTROL	1,6
S1	SENSOR SWITCH	WEX SERIES	REFER TO PLANS FOR CONTROL INTENT	WALL MOUNT OCCUPANCY SENSOR LINE VOLTAGE - SINGLE RELAY	1
64	ACUTY BRANDS: ILHIGHT	RCM 10 SERIES		CEILING MOUNT OCCUPANCY SENSOR - LARGE MOTION LOW VOLTAGE	3
WIRE				DATA CATH. OR CAT 6 STRANDED OR SOLID. TERMINATED AS R4S TIA/EIA-568B	

NOTES:

- COORDINATE ALL MODEL NUMBERS WITH MANUFACTURER PRIOR TO ORDERING. PROVIDE DESIGNS TO MEET CONTOUR, INTENT INDICATED ON THE DRAWING.
- PROVIDE 6" O.D. EXPOSED CONTROL WIRING CLOSING AND TIED, BETWEEN CEILING MOUNTED OCCUPANCY SENSOR AND CORRESPONDING LOAD CONTROLLER.
- MODIFY LOCATIONS OF CEILING MOUNTED OCCUPANCY SENSORS AS REQUIRED SO THAT NO OCCUPANCY SENSORS ARE WITHIN 4' OF AN HVAC SUPPLY DIFFUSER.
- COORDINATE ALL OCCUPANCY SENSOR LOCATIONS WITH THE ARCHITECT. PROVIDE SENSORS WITHIN 10' OF ALL EXISTING LIGHT FIXTURES. DRAWINGS ARE SCHEMATIC. ADD ACCESS PANELS WITH CEILING IF NECESSARY. COORDINATE ACCESS PANEL LOCATION AND SPECIFICATION DIRECTLY WITH ARCHITECT.
- LOCATION SHOWN ON PLAN FOR REFERENCE ONLY. CONTRACTOR MAY RELOCATE BRIDGE POINTS FOR A MORE ECONOMICALLY LOGICAL LOCATION IF DESIRED.
- PROVIDE DESIGN WITH DEFAULT MANUFACTURE MARKINGS ON BOTH MOUNTING PLATES.
- ROUTE RECEPTACLE CIRCUIT INDICATED ON PLAN AS "RECEPTACLE" THROUGH PLUG LOAD CONTROLLER FOR AUTOMATIC OFFSEED.
- NO OCCUPANCY SENSOR, SINGLE GANG CONTROL CIRCUIT PER PLUG CONTROLLER.
- DEVICE TO BE INSTALLED IN SINGLE GANG BOX. COORDINATE TIME-OF-DAY SCHEDULES WITH OWNER FOR ZONES TO BE ON TIME-OF-DAY CONTROL.

[illegible][illegible][illegible]

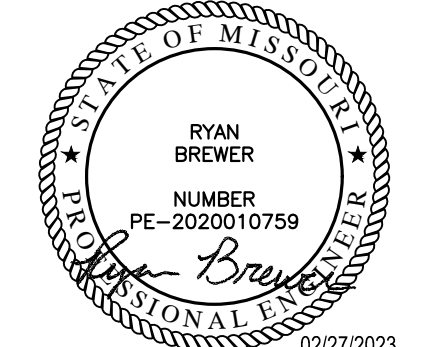
## ELECTRICAL RISER



3078 SW Market St., Lee's Summit, Missouri 64083 | 816.249.2270 |  
www.collinswebbarch.com

ITAP - LEE'S SUMMIT  
228 SW MAIN ST.  
LEE'S SUMMIT, MO 64063

COPYRIGHT © BY  
COLLINS WEBB  
ARCHITECTURE, LLC  
REVISION DATES:



PROFESSIONAL SEAL

E501  
ISSUE DATE: 27 FEB 2023  
COLLINS WEBB #: 22066

ELECTRICAL  
SPECIFICATIONS

18000 - ELECTRICAL

GENERAL

DESCRIPTION

DIVISION 16 OF THE SPECIFICATIONS COVERS ALL ELECTRICAL WORK FOR THE PROJECT. WORK SHALL INCLUDE LABOR, MATERIAL AND ACCESSORIES NECESSARY TO ACCOMPLISH THE WORK AS SPECIFIED AND SHOWN ON THE DRAWINGS, INCLUDING CONNECTION AND CHECKOUTS OF EQUIPMENT FURNISHED BY OTHERS (OTHER TRADES, THE OWNER AND OTHER CONTRACTORS), AND TO ALL EQUIPMENT ITEMS AND AS INDICATED ON DRAWINGS OR AS REQUIRED.

THE ARCHITECTURAL SPECIFICATIONS AND DRAWINGS INCLUDING THE GENERAL - CONDITIONS, INCLUDING ALL SUPPLEMENTS ISSUED THERETO, INSTRUCTIONS TO BIDDERS, AND OTHERS PERTINENT DOCUMENTS ISSUED BY THE ARCHITECT ARE A PART OF THESE SPECIFICATIONS AND ELECTRICAL DRAWINGS. THIS TRADE SHALL CONSULT THEM FOR INSTRUCTIONS WHICH APPLY. DRAWINGS INDICATE THE GENERAL ARRANGEMENT OF THE ELECTRICAL LAYOUT AND WORK INCLUDED. ELECTRICIAN SHALL FOLLOW DRAWINGS IN LAYOUT THE ELECTRICAL WORK AND CONSULT THE DRAWINGS AND LAYOUTS OF OTHER TRADES TO VERIFY LOCATION AND SPACES IN WHICH WORK WILL BE INSTALLED.

CODES, PERMITS, INSPECTION AND COMMISSIONING

INSTALLATION SHALL COMPLY WITH ALL LAWS PERTAINING TO ELECTRICAL WORK IN EFFECT, INCLUDING THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (N.E.C.), THE NATIONAL ELECTRICAL SAFETY CODE, ALL LOCAL GOVERNING CODES AND ORDINANCES, WITH THE REGULATIONS OF THE SERVING ELECTRICAL UTILITY COMPANY. PROVIDE ALL REQUIRED PERMITS AND INCLUDE THE COST OF SAME IN THE COST OF THE PROJECT. OBTAIN AND PAY FOR (WITHOUT ADDITIONAL EXPENSE TO THE OWNER) ALL REQUIRED INSPECTIONS AND REVIEWS. PROVIDE FOR AND PAY ALL EXPENSES (WITHOUT ADDITIONAL EXPENSE TO THE OWNER) ASSOCIATED WITH LIGHTING AND LIGHTING CONTROLS COMMISSIONING. ALL COMMISSIONING DOCUMENTATION SHALL BE CERTIFIED AND GIVEN TO OWNER AND DESIGN PROFESSIONAL.

QUALITY ASSURANCE

THE FOLLOWING INDUSTRY STANDARDS AS APPLICABLE TO ELECTRICAL WORK SHALL APPLY TO THE WORK OF THIS DIVISION EXCEPT THAT, WHERE THE REQUIREMENTS OF THESE SPECIFICATIONS ARE MORE THAN THE LISTED STANDARD, THESE SPECIFICATIONS SHALL TAKE PRECEDENCE:

UL - UNDERWRITERS' LABORATORIES

NEMA - NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION  
NECA - NATIONAL ELECTRICAL CONTRACTORS' ASSOCIATION  
ANSI - AMERICAN NATIONAL STANDARDS INSTITUTE  
ASTM - AMERICAN SOCIETY OF TESTING MATERIALS.

ALL MATERIALS SHALL BE NEW, UL LISTED AND LABELED WHERE LABELED MATERIALS ARE AVAILABLE, UNDAMAGED AND FREE OF DEFECTS AT TIME OF INSTALLATION. MATERIALS OR EQUIPMENT DAMAGED IN SHIPMENT OR OTHERWISE DAMAGED PRIOR TO OR DURING INSTALLATION SHALL NOT BE REPAIRED AT THE JOB SITE, BUT SHALL BE REPLACED WITH NEW MATERIALS. WHEN THE MANUFACTURERS NAME APPEARS IN THESE SPECIFICATIONS AND DRAWINGS, IT SHALL BE CONSTRUED THAT THE MANUFACTURER HAS TO MEET THE FULL REQUIREMENTS OF THE SPECIFICATIONS AND DRAWINGS.

SUBMITTALS

SUBMIT SHOP DRAWINGS AND PRODUCT DATA FOR EQUIPMENT TO THE ARCHITECT FOR ENGINEERS REVIEW ELECTRONICALLY OR HARD COPIES. INCLUDE SUFFICIENT INFORMATION TO INDICATE COMPLETE COMPLIANCE WITH SPECIFICATIONS. PROVIDE SUBMITTALS AS EARLY AS REQUIRED TO SUPPORT THE PROJECT SCHEDULE. ALLOW ONE WEEK FOR ENGINEER REVIEW TIME. THE ENGINEERS SUBMITTAL REVIEWS WILL NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR ERRORS, IN DIMENSIONS, DETAILS, SIZE OF MEMBERS, OR QUANTITIES, OR FOR OMITTING COMPONENTS OR FITTINGS, OR FOR NOT COORDINATING ITEMS WITH ACTUAL BUILDING CONDITIONS AND/OR OTHER TRADES.

OWNER RECORDS

ACCUMULATE DURING THE PROGRESS OF THE JOB, THE FOLLOWING DATA IN DUPLICATE, AND PREPARE IN A NEAT BROCHURE OR PACKET FOLDER TO BE TURNED OVER TO THE OWNER AT SUBSTANTIAL COMPLETION. RECORD DRAWINGS PER ABOVE.

ALL WARRANTIES, GUARANTEES, AND MANUFACTURERS DIRECTION ON EQUIPMENT & MATERIAL FURNISHED.

COMPLETE PLAIN ENGLISH STEP-BY-STEP OPERATING INSTRUCTIONS FOR THE ELECTRICAL SYSTEM, ONE COPY OF THESE INSTRUCTIONS SHALL BE FRAMED AND POSTED AS DIRECTED ON THE PREMISES.

CERTIFIED LIGHTING AND LIGHTING CONTROLS COMMISSIONING AS REQUIRED BY CURRENTLY ADOPTED ENERGY CODE REQUIREMENTS.

MANUFACTURERS' NAMES AND CATALOG NUMBERS  
IN SOME INSTANCES, SPECIFIC REFERENCES HAVE BEEN MADE TO ONE OR MORE MANUFACTURERS NAME AND MODEL OR CATALOG NUMBERS. USE OF NAMES AND CATALOG NUMBERS DOES NOT INDICATE THAT THE EQUIPMENT SPECIFIED IS NECESSARILY AN "OFF THE SHELF" ITEM. VARIANCES MAY BE DUE TO REQUIREMENT OF DESIRED FINISH, MATERIAL OR OTHER MODIFICATION.

IN THE CASE OF PANELBOARDS, SAFETY SWITCHES AND OTHER EQUIPMENT REQUIRING WIRE AND CABLE TERMINATIONS, ASCERTAIN THAT LUG SIZES AND WIRING OUTLETS OR WIRING SPACE ALLOWED IS PROPER FOR THE WIRES AND CABLES CONTAINED THEREIN.

WHEN APPROVAL IS GIVEN FOR THE USE OF EQUIPMENT DIFFERING FROM THAT SHOWN ON DRAWINGS IN REGARD TO FOUNDATIONS, SPACE FOR PIPING, DUCTWORK, WIRING, INSULATION, ETC. CHANGES REQUIRED TO ACCOMPLISH SUCH DIFFERENCES SHALL BE ACCOMPLISHED AT NO COST TO THE OWNER.

PROTECTION OF EQUIPMENT  
ELECTRICAL EQUIPMENT SHALL BE PROTECTED FROM THE WEATHER, IN PARTICULAR, DRIPPING OR SPLASHING WATER, AT ALL TIMES DURING SHIPMENT, STORAGE AND CONSTRUCTION. MANUFACTURER'S RECOMMENDATIONS WITH REGARD TO STORAGE, PROTECTION, AND HANDLING SHALL BE FOLLOWED.

SHOULD ANY APPARATUS BE SUBJECTED TO POSSIBLE INJURY DUE TO WATER, IT SHALL BE THOROUGHLY DRIED AND PUT THROUGH A DIELECTRIC TEST, AT THE EXPENSE OF THE CONTRACTOR, TO ASCERTAIN THE SUITABILITY OF THE APPARATUS OR IT SHALL BE REPLACED WITHOUT ADDITIONAL COST TO THE OWNER.

DAMAGED OR DEFECTIVE EQUIPMENT: INSPECT ALL ELECTRICAL EQUIPMENT AND MATERIALS PRIOR TO INSTALLATION. INSTALLATION OR PLACEMENT INTO SERVICE OF DAMAGED MATERIALS WITHOUT THE PRIOR WRITTEN CONSENT OF THE OWNER IS PROHIBITED. REPLACE OR REPAIR TO NEW CONDITION, AS CERTIFIED BY THE MANUFACTURER, AND TEST DAMAGED EQUIPMENT IN COMPLIANCE WITH INDUSTRY STANDARDS AT NO ADDITIONAL COST TO THE OWNER. EQUIPMENT REQUIRED FOR THE TESTING SHALL BE PROVIDED BY THE CONTRACTOR.

WORKING CLEARANCE

THE SIZE OF ELECTRICAL EQUIPMENT SHOWN ON THE DRAWINGS IS BASED ON DIMENSIONS OF A PARTICULAR MANUFACTURER, (GENERALLY THE FIRST NAMED), WHILE OTHER MANUFACTURERS MAY BE ACCEPTABLE, IT IS THE RESPONSIBILITY OF THE TRADE TO DETERMINE IF THE EQUIPMENT PROPOSED WILL FIT IN THE ALLOCATED SPACE.

INSTALL ALL EQUIPMENT IN A MANNER TO PERMIT ACCESS TO ALL SURFACES, MAINTAIN PROPER CLEARANCE TO MEET ALL SAFETY AND OPERATING CODES, PARTICULARLY N.E.C. INCLUDE ALL REQUIREMENTS DICTATED BY OPERATION, CONTRACTOR INDICATED MAINTENANCE AND POSSIBLE REPLACEMENT OF EQUIPMENT IN DETERMINING CLEARANCE.

SHOULD THERE BE APPARENT VIOLATIONS OF N.E.C. CLEARANCE, NOTIFY THE ARCHITECT-ENGINEER BEFORE PROCEEDING WITH CONNECTION OR PLACEMENT OF EQUIPMENT.

COORDINATION

INSTALLATION STUDIES ARE REQUIRED TO COORDINATE THE ELECTRICAL WORK WITH THE WORK OF OTHER TRADES. PREPARE COORDINATION DRAWINGS AT ACCURATE SCALE WHERE SEVERAL ELEMENTS OF ELECTRICAL OR COMBINED MECHANICAL/STRUCTURAL/ELECTRICAL WORK MUST BE SEQUENCED AND POSITIONED WITH PRECISION IN ORDER TO FIT INTO THE AVAILABLE SPACE.

SHOW THE ACTUAL PHYSICAL DIMENSIONS REQUIRED FOR PROPER INTEGRATION OF EQUIPMENT WITH BUILDING SYSTEMS.

PROVIDE APPROVED SHOP DRAWINGS TO ALL REQUIRED DISCIPLINES AND VERIFY FINAL ELECTRICAL CHARACTERISTICS BEFORE ROUGHING POWER FEEDS TO ANY EQUIPMENT. WHEN ELECTRICAL DATA ON APPROVED SHOP DRAWINGS DIFFERS FROM CONTEMPLATED DESIGN, MAKE NECESSARY ADJUSTMENTS TO THE WIRING, DISCONNECTS, AND BRANCH-CIRCUIT PROTECTION FOR THE EQUIPMENT ACTUALLY INSTALLED AT NO ADDITIONAL COST TO THE OWNER.

DAMAGE FROM INTERFERENCE CAUSED BY INADEQUATE COORDINATION SHALL BE RECTIFIED AT NO ADDITIONAL COST TO THE OWNER.

WORKMANSHIP

ALL WORK SHALL BE EXECUTED IN A WORKMANLIKE MANNER AND SHALL PRESENT A NEAT MECHANICAL APPEARANCE WHEN COMPLETED.

ANY MATERIAL ITEMS OR WORK NOT SHOWN ON THE DRAWINGS, BUT MENTIONED IN THESE SPECIFICATIONS OR VISA-VERSA, OR ANY ACCESSORIES NECESSARY TO MAKE THE WORK COMPLETE IN ALL RESPECTS AND READY FOR OPERATION SHALL BE PROVIDED WITHOUT ADDITIONAL COST TO THE OWNER.

THIS TRADE SHALL DO OR HAVE DONE BY COMPETENT TRADESMEN ALL CUTTING AND PATCHING NECESSARY FOR THE INSTALLATION OF THIS WORK. NO CUTTING IN CONSTRUCTIVE PARTS OF THE BUILDING LIKELY TO IMPAIR ITS STRENGTH SHALL BE DONE WITHOUT THE ARCHITECT-ENGINEERS WRITTEN APPROVAL.

EXCAVATION AND BACKFILL

EXCAVATION, TRENCHING AND BACKFILLING ARE SPECIFIED IN SECTION EXCAVATION - TRENCHING AND BACKFILLING FOR UTILITIES. CONDUIT SHALL BE INSTALLED AS SPECIFIED FOR PIPELINES. CONDUIT INSTALLED BENEATH FLOOR SLAB SHALL BE A MINIMUM OF 6" BELOW SLAB. BACKFILL OVER CONDUIT SHALL BE COMPACTED AS FOR SLAB BEDDING MATERIAL. REFER TO STRUCTURAL DRAWINGS FOR DETAILS OF CONDUIT (PIPE) PENETRATION OF EXTERIOR FOOTINGS. COMPLETE INSTALLATION SHALL CONFORM TO N.E.C.

PENETRATIONS

COORDINATE SLEEVE SELECTION AND APPLICATION WITH SELECTION AND APPLICATION OF FIRE-STOPPING SPECIFIED IN ARCHITECTURAL SPECIFICATIONS.

ROOFS: COORDINATE ALL ROOF PENETRATIONS WITH ENGINEER, OWNER, AND AS APPLICABLE, THE ROOFING CONTRACTOR PROVIDING A ROOF WARRANTY. KEEP ALL RACEWAY PENETRATIONS WITHIN MECHANICAL EQUIPMENT CURBS WHEREVER POSSIBLE. COORDINATE WITH DIVISION 15, FLASH AND COUNTERFLASH ALL OPENINGS THROUGH ROOF, AND/OR PROVIDE PRE-FABRICATED MOLDED SEALS COMPATIBLE WITH THE ROOF CONSTRUCTION INSTALLED, OR AS REQUIRED BY THE ENGINEER, OWNER, OR ROOFING CONTRACTOR. ALL ROOF PENETRATIONS SHALL BE LEAKTIGHT AT THE TERMINATION OF THE WORK AND SHALL NOT VOID ANY NEW OR EXISTING ROOF WARRANTIES.

WALLS AND FLOORS - SLEEVES FOR RACEWAYS AND CABLES, STEEL PIPE SLEEVES: ASTM A 334 S3M, TYPE E, GRADE B, SCHEDULE 40, GALVANIZED STEEL, PLAIN ENDS AND DRIP RINGS.

CAST IRON PIPE SLEEVES: CAST OR FABRICATED "WALL PIPE," EQUIVALENT TO DUCTILE-IRON PRESSURE PIPE, WITH PLAIN ENDS AND INTEGRAL SATERTOP, UNLESS OTHERWISE INDICATED.

FIRESTOPPING: FIRE RESISTANT THROUGH PENETRAION SEALANTS - TWO PART, FOAMED-IN-PLACE, SILICONE SEALANT FORMULATED FOR USE IN THROUGH-PENETRAION FIRE-STOPPING AROUND CABLES, RACEWAYS, AND CABLE TRAY PENETRAIONS THROUGH FIRE-RATED WALLS AND FLOORS. SEALANTS AND ACCESSORIES SHALL HAVE FIRE-RESISTANCE RATINGS INDICATED, AS ESTABLISHED BY TESTING IDENTICAL ASSEMBLIES IN ACCORDANCE WITH ASTM E 814, BY UNDERWRITERS' LABORATORIES, INC. OR OTHER NRTL ACCEPTABLE TO AHJ.

ACCEPTABLE MANUFACTURERS - HILTI, INC., 3M CORP., RECTORS&L, SPECIFY TECHNOLOGY INC., UNITED STATES GYPSUM COMPANY.

ELECTRICAL SERVICE

SERVICE SHALL BE AS SHOWN ON DRAWINGS.

PROVIDE SECONDARY SERVICE INTO THE BUILDING WITH CONDUIT AND WIRING AS SHOWN ON THE PLANS, INCLUDING, BUT NOT LIMITED TO, UNDERGROUND RACEWAYS AND CABLES AND SECONDARY CONNECTIONS TO UTILITY TRANSFORMERS AS REQUIRED BY SERVING ELECTRICAL UTILITY COMPANY. COORDINATE ALL REQUIREMENTS WITH UTILITY COMPANY PRIOR TO BID.

PROVIDE ALL REQUIRED GROUNDING FOR A COMPLETE SERVICE ENTRANCE GROUNDING SYSTEM. PERMANENTLY AND EFFECTIVELY GROUND AND BOND THE ELECTRICAL INSTALLATION IN A THOROUGH AND EFFICIENT MANNER, AND IN CONFORMANCE (AT A MINIMUM) WITH N.E.C. OR THESE DOCUMENTS, WHERE THEY EXCEED CODE REQUIREMENTS. USE BARE OR INSULATED CONDUCTORS, AS SPECIFIED HEREIN, AND OTHER MATERIALS INDICATED ON THE DRAWINGS.

PROVIDE ALL NECESSARY ENCLOSURES REQUIRED BY THE OWNER FOR THE UTILITY COMPANY METERING. REFER TO DRAWINGS FOR MINIMUM REQUIREMENTS. COORDINATE WITH UTILITY COMPANY PRIOR TO BID FOR ALL REQUIREMENTS.

PRODUCTS

GENERAL

ALL EQUIPMENT OF A PARTICULAR KIND, SUCH AS WIRING DEVICES AND PANELBOARDS AND LIGHTING FIXTURES OF THE SAME TYPE, SHALL BE THE PRODUCT OF THE SAME MANUFACTURER.

PROVIDE ACCESS PANELS FOR ALL EQUIPMENT AND DEVICES REQUIRING SUCH PANELS. SIZE AS REQUIRED FOR PROPER ACCESS AND MAINTENANCE. MINIMUM ACCEPTABLE IS 12 IN BY 12 IN CLEAR OPENING WHERE HAND ACCESS ONLY IS REQUIRED.

PROVIDE LABELS FOR EACH MOTOR CONTROLLER, SAFETY SWITCH, RELAY, PANELBOARD, CONTACTOR, TIMER, CONTROL DEVICE, METER AND CIRCUIT BREAKER. LABELS SHALL BE LAMINATED, PHENOLIC STRIPS 1/16" THICK, AND ENGRAVED TO SHOW BLACK LETTERS ON A WHITE BACKGROUND NOT LESS THAN 1/4" HIGH. SIZE STRIPS TO PROPERLY FIT MANUFACTURER'S BRACKETS AND BE LEGIBLE. WHERE MANUFACTURER'S BRACKETS ARE NOT PROVIDED, MOUNT LABELS WITH PROPER SCREWS, OR AN APPROVED ADHESIVE.

RACEWAYS

CONDUIT, RIGID STEEL, GALVANIZED OR SHERADIZED AND MANUFACTURED IN ACCORDANCE WITH ANSI STANDARD C80.1. FITTINGS SHALL BE PIPE THREADED, MALLEABLE IRON. CONNECTORS SHALL BE INSULATED THROAT TYPE.

CONDUIT, P.V.C. POLYVINYLCHLORIDE SCHEDULE 40 PIPE SPECIFICALLY MANUFACTURED AND LABELED (UL STANDARD 651) FOR USE AS ELECTRICAL CONDUIT. FITTINGS SHALL BE EITHER SOCKET WELDED TYPE OR PIPE THREADED WITH INSULATED THROAT.

CONDUIT, FLEXIBLE METALLIC: GALVANIZED, INTERLOCKED SPIRALLY WOUND STEEL STRIP WITH GALVANIZED OR SHERADIZED FITTINGS. LISTED PER U.L. FITTINGS SHALL BE OF THE SQUEEZE TYPE WITH INSULATED THROATS.

CONDUIT, LIQUIDTIGHT FLEXIBLE METALLIC: GALVANIZED, INTERLOCKED SPIRALLY WOUND STEEL STRIP WITH OVERALL JACKET OF LIQUID TIGHT PVC, UL LISTED. FITTINGS SHALL BE STEEL OR MALLEABLE IRON INSULATED THROAT, WATERTIGHT.

ELECTRIC METALLIC TUBING: GALVANIZED OR SHERADIZED AND MANUFACTURED IN ACCORDANCE WITH ANSI STANDARD C80.3. FITTINGS 1/2 INCH THROUGH 2 INCH TRADE SIZE SHALL BE COMPRESSION TYPE, MANUFACTURED FROM MALLEABLE IRON OR STEEL, AND RAIN AND/OR CONCRETE-TIGHT AS REQUIRED BY INSTALLATION. POT METAL OR DIE CAST TYPE FITTINGS ARE PROHIBITED. CONNECTORS SHALL BE INSULATED THROAT TYPE.

CONDUCTORS AND CABLES

GENERAL: SERVICE LATERALS AND PANELBOARD FEEDERS SHALL BE OF ANNEALED (SOFT) COPPER COMPLYING WITH ICSA S-95-658/NEMA WC70, SOLID CONDUCTOR FOR NO. 10 AWG AND SMALLER, CONCENTRIC, COMPRESSED STRANDED FOR NO. 8 AWG AND LARGER. ALL BRANCH CIRCUIT CONDUCTORS NO. 8 AWG AND LARGER, STRANDED, TYPE THHN-2 OR XHHW-2 INSULATION. ALL CONDUCTORS, NO. 10 AWG AND SMALLER, USED FOR POWER AND LIGHTING CIRCUITS; SOLID COPPER, TYPE THWN-2 INSULATION (WET OR DAMP LOCATIONS, OR IN CONDUIT BELOW GRADE OR SLAB), TYPE THHN INSULATION (DRY LOCATIONS ONLY ABOVE GRADE), OR DUAL RATED TYPE THHN/THWN-1. ALL BRANCH CIRCUIT WIRING SHALL NOT BE SMALLER THAN NO. 12 AWG. IF NO CONDUCTOR SIZE IS INDICATED ON THE DRAWINGS FOR A BRANCH CIRCUIT, PROVIDE CONDUCTORS AND CONDUIT SIZED PER NFPA 70 AND BASED ON THE INDICATED BRANCH CIRCUIT OVERCURRENT PROTECTIVE DEVICE RATING AND NUMBER OF CIRCUITS.

CONDUCTOR INSULATION TYPES: 90-DEGREE CRATED, TYPE THHN/THWN-2 OR XHHW-2 COMPLYING WITH ICSA S-95-658/NEMA WC70.  
COLORS FOR 208/120V CONDUCTORS  
PHASE A: BLACK  
PHASE B: RED  
PHASE C: BLUE  
NEUTRAL: WHITE  
EQUIPMENT GROUND: GREEN  
ISOLATED GROUND: GREEN WITH YELLOW STRIPE

COLORS FOR 480/277V CONDUCTORS  
PHASE A: BROWN  
PHASE B: ORANGE  
PHASE C: YELLOW  
NEUTRAL: WHITE  
EQUIPMENT GROUND: GREEN

UNLESS NOTED OTHERWISE, SPECIAL PURPOSE CONDUCTORS AND CABLES, SUCH AS LOW VOLTAGE CONTROL AND SHIELDED INSTRUMENT WIRING, SHALL BE AS RECOMMENDED BY THE SYSTEM EQUIPMENT MANUFACTURER.

CONTROL WIRING: STRANDED COPPER CONDUCTORS, 600V INSULATION, OF THE PROPER TYPE, SIZE AND NUMBER AS REQUIRED TO ACCOMPLISH SPECIFIED FUNCTION. MINIMUM SIZE: NO. 14 AWG UNLESS NOTED OTHERWISE.

MC TYPE CABLE CAN BE USED IF ACCEPTED BY LOCAL AUTHORITY AND GOVERNING CODES FOR WHIPS FROM JUNCTION BOX TO LIGHT FIXTURES ONLY. TYPE MC CABLE 600V, UNJACKETED, ANSI E119 AND E814, UL STANDARDS 44 OR 83 (AS APPLICABLE), AND 1589. NFPA 70 ARTICLE 330, ALUMINUM OR GALVANIZED STEEL, INTERLOCKED ARMOR, THHN-2 OR XHHW-2 INSULATED CONDUCTORS, COLOR CODE: ICSA METHOD 1, WITH GREEN INSULATED GROUNDING CONDUCTOR.

PROVIDE A DEDICATED EQUIPMENT-GROUNDING CONDUCTOR, OR BONDING JUMPER, AS APPLICABLE, IN ALL BRANCH CIRCUITS AND FEEDERS, SIZED IN ACCORDANCE WITH NFPA 70, UNLESS INDICATED AS LARGER ON THE DRAWINGS.

PROVIDE A DEDICATED NEUTRAL (WHERE REQUIRED) AND DEDICATED GROUNDING CONDUCTOR FOR EACH BRANCH CIRCUIT.

VOLTAGE DROP IN BRANCH CIRCUITS SHALL NOT EXCEED 2%.

GFCI CIRCUITS: DO NOT USE MULTI-CONDUCTOR CIRCUITS, WITH A SHARED NEUTRAL, FOR ANY GFCI CIRCUIT BREAKER OR RECEPTACLE CIRCUIT. BRANCH CIRCUITS FED FROM GFCI CIRCUIT BREAKERS, LIMIT THE ONE-WAY CONDUCTOR LENGTH TO 100 FEET BETWEEN THE PANELBOARD AND THE MOST REMOTE RECEPTACLE OR LOAD ON THE GFCI CIRCUIT.

BOXES

OUTLET BOXES: GALVANIZED PRESSED STEEL WITH GALVANIZED EXPOSED EXTENSION RINGS OR PLASTER RINGS OR TILE RINGS TO PROVIDE EXPOSED SURFACE FLUSH WITH WALL OR CEILING FINISH. PROVIDE ALL CEILING OUTLET BOXES WITH "NO-BOLT" OR THROUGH AND LOCKMOUNTED TYPE FIXTURE STUDS.

JUNCTION AND PULL BOXES: FABRICATE IN ACCORDANCE WITH NEMA AND N.E.C. STANDARDS AND REQUIREMENTS INCSOAR AS MATERIAL, GAUGES, DIMENSIONS, AND FABRICATION METHODS. BOXES SHALL BEAR THE UL LABEL. WHERE BOXES ARE NOT SIZED ON THE DRAWINGS, THEY SHALL BE SIZED IN ACCORDANCE WITH

N.E.C. REQUIREMENTS. FINISH IN STANDARD GRAY ENAMEL, WITH SIDES AND BACK SPOT-WELDED IN POSITION AND THE REMOVABLE SCREW COVER MOUNTED WITH BRASS MACHINE SCREWS.

WIRING DEVICES

SWITCHES: HEAVY DUTY AC, RATED 20 AMPERES, 120/277 VOLTS, SINGLE-POLE, DOUBLE-POLE, THREE-POLE, OR FOUR-WAY AS NOTED ON DRAWINGS OR AS REQUIRED FOR THE SWITCHING ARRANGEMENTS IN EACH SPACE. HUBBELL #HBL122" OR EQUAL. COORDINATE SWITCH COLORS WITH COVERPLATES AS DESCRIBED BELOW UNDER "PLATES".

SWITCHES, SPECIAL PURPOSE, KEY OPERATED, HEAVY-DUTY AC, RATED 20 AMPERES, 120/277 VOLTS, SINGLE OR MULTI-POLE AS NOTED OR AS REQUIRED, HUBBELL #HBL122" OR EQUAL.

RECEPTACLES: THREE WIRE GROUNDING TYPE, 120 VOLT RATED, SPECIFICATION GRADE, 20 AMPERES DUPLEX UNLESS NOTED OTHERWISE ON DRAWINGS. HUBBELL #R32 OR EQUAL. COORDINATE RECEPTACLE COLOR WITH COVERPLATE AS DESCRIBED BELOW UNDER "PLATES". SINGLE RECEPTACLE, 20 AMPERE, 120 VOLT, SPECIFICATION GRADE, HUBBELL #R361 OR EQUAL.

DUST AND MOISTURE RESISTANT, MELAMINE BODY, GRAY NYLON FACE BACKED BY FABRIC REINFORCED NEOPRENE GASKET SLIT TO PROVIDE WIPING ACTION ON CAP BLADES. PASS & SEYMOUR #R307 OR APPROVED EQUAL. GROUND FAULT CIRCUIT INTERRUPTER, NYLON FACE CLASS A, NEMA 5-20R, SPECIFICATION GRADE, HUBBELL #R5F-5362" OR EQUAL.

CORROSION RESISTANT, SIMILAR AND APPROVED EQUAL TO STANDARD RECEPTACLE, EXCEPT FABRICATED FROM YELLOW MELAMINE PLASTIC WITH YELLOW NYLON FACE AND EXPOSED METAL PARTS FINISHED TO RESIST CORROSION. (NEMA 5-15R - HUBBELL #R520M1).

ISOLATED GROUND, DUPLEX OR SIMPLEX THREE WIRE GROUNDING TYPE, SPECIFICATION GRADE, ORANGE FACE, GROUND CONTACT FULLY ISOLATED FROM STRAP AND EQUIPPED WITH SCREW TERMINAL. HUBBELL #IG-5362" OR EQUAL.

RECEPTABLES, SPECIAL PURPOSE: SPECIAL PURPOSE OUTLETS SHALL BE AS SCHEDULED ON DRAWINGS.

PLATES: PROVIDE PLATES FOR ALL OUTLET BOXES. PLATES SHALL BE OF SUITABLE CONFIGURATION FOR THE NUMBER AND TYPE OF DEVICES SERVED, SHALL BE ONE PIECE, SHALL OVERLAP OUTLET BOX EDGE AND ROOM SURFACES, AND SHALL BE SMOOTH FINISH NYLON TYPE OF SAME MANUFACTURER AS THE WIRING DEVICES. VERIFY DESIRED MATERIALS AND COLORS WITH ARCHITECT PRIOR TO INSTALLATION.

STANDARD INTERIOR: IVORY FINISHED ON LIGHT COLORED WALLS - COORDINATE ALL COLORS WITH ARCHITECT

INTERIOR DAMP LOCATIONS: STAINLESS STEEL.

EXTERIOR LOCATIONS: FOR UNATTENDED WET LOCATIONS, PROVIDE IN-USE NEMA 3R, UL LABELED PLATES MOLDED FROM A CLEAR HIGH IMPACT ULTRAVIOLET STABILIZED POLYCARBONATE MATERIAL FOR EASY VERIFICATION THAT CORDS ARE PLUGGED IN AND THAT THE GFCI IS FUNCTIONING. COVER PLATES SHALL BE BY THE SAME MANUFACTURER AS THE WIRING DEVICES. COMPLYING WITH NFPA 70 406.8 (A) OR (B) REQUIREMENTS FOR ATTENDED OR UNATTENDED USE AS APPLICABLE.

ACCEPTABLE MANUFACTURERS: HUBBELL, PASS & SEYMOUR, LEVITON AND COOPER.

CABINETS AND ENCLOSURES

FURNISH AND INSTALL FLUSH CABINETS AND ENCLOSURES AS SHOWN ON THE PLANS AND AS HEREIN SPECIFIED. UNIT SHALL BE PROVIDED WITH DED FRONT SUB PANEL, RECESSED AS REQUIRED, TO HOUSE CONTROLS. DOOR SHALL BE PROVIDED WITH CONCEALED HINGES AND FLUSH KEY OPERATED LOCK. DOOR AND TRIM SHALL BE PRIME PAINTED FOR FIELD PAINTING TO MATCH WALL FINISHES. PROVIDE KNOCK-OUTS, LOUVERS AND IDENTIFICATION ENGRAVING AS REQUIRED TO MEET FIELD CONDITIONS. EXACT BACKBOX SIZE TO BE COORDINATED WITH EQUIPMENT SUPPLIER.

CIRCUIT DISCONNECTS

SAFETY SWITCHES: SAFETY SWITCHES SHALL CONSIST OF A BOX, FRONT COVER, AND CIRCUIT PROTECTOR DEVICE ALL MANUFACTURED AND ASSEMBLED IN ACCORDANCE WITH NEMA STANDARDS

THE BOX SHALL BE FABRICATED FROM CODE GAUGE GALVANIZED SHEET STEEL IN ACCORDANCE WITH U.L. LISTING AND LABEL. THE CIRCUIT PROTECTOR DEVICE SHALL BE HEAVY DUTY, QUICK-MAKE, QUICK-BREAK FUSED OR UNFUSED SWITCH RATED FOR MOTOR CIRCUITS AND/OR SERVICE ENTRANCE DUTY. IF REQUIRED, UNITS SHALL BE FURNISHED FOR SURFACE OR FLUSH MOUNTING WITH EITHER GENERAL PURPOSE OR RAIN/TIGHT ENCLOSURES, AS REQUIRED. FUSED UNITS SHALL BE FURNISHED COMPLETE WITH PROPER FUSES.

PANELBOARDS

SHALL CONSIST OF BOX, INTERIOR, FRONT, AND CIRCUIT PROTECTIVE DEVICES. THE ASSEMBLY SHALL BE UL LABELED AND BE LISTED FOR SERVICE. THE ASSEMBLY SHALL BE DESIGNED AND MANUFACTURED IN ACCORDANCE WITH NEMA STANDARD PB-1. THE LATEST UL STANDARD (UL 85) AND SHALL HAVE A TURNED EDGE AROUND THE FRONT FOR RIGIDITY AND FOR CLAMPING ON FRONT. PROVIDE STANDARD KNOCKOUTS ON REMOVABLE BOX ENDS. FABRICATE FROM SHEET STEEL AND FINISH WITH BAKED ON GRAY ENAMEL OVER RUST INHIBITOR. EACH FRONT SHALL HAVE A DOOR MOUNTED ON SEMI-CONCEALED HINGES WITH A CYLINDER LOCK, INDEX CARD CIRCUIT DIRECTORY MOUNTED BEHIND CLEAR PLASTIC AND HELD IN A METAL FRAME, AND CONCEALED TRIM CLAMPS FOR MOUNTING TO THE BOX. ALL LOCKS SHALL BE MASTER KEYED AND ALL PANEL DIRECTORIES SHALL BE TYPEWRITTEN.

ALL INTERIORS SHALL BE COMPLETELY FACTORY ASSEMBLED. THE DESIGN OF THE INTERIOR SHALL PERMIT REPLACEMENT OF INDIVIDUAL BRANCH BREAKERS WITHOUT DISTURBING ADJACENT UNITS AND WITHOUT MACHINE DRILLING OR TAPPING. BUS BARS FOR PANELS RATED 600 AMPERES OR MORE SHALL BE TIN PLATED 98% CONDUCTIVITY COPPER OR TIN FINISH ALUMINUM (5% CONDUCTIVITY) OF RECTANGULAR CROSS-SECTION. BUS BARS FOR PANELS RATED LESS THAN 600 AMPERES SHALL BE TIN PLATED 98% CONDUCTIVITY COPPER OR RECTANGULAR CROSS-SECTION. BUS BAR CONNECTIONS TO BRANOH CIRCUIT BREAKERS SHALL BE THE PHASE SEQUENCE TYPE AND ACCEPT BRANCH CIRCUIT BREAKERS ONLY. PANELBOARD BUS STRUCTURE AND MAIN BREAKER OR MAIN LUGS SHALL BE RATED AS SCHEDULED ON DRAWING. SUCH RATINGS SHALL BE ESTABLISHED BASED ON HEAT RISE TESTS IN ACCORDANCE WITH UL STANDARDS. GROUP INCOMING CABLE LUGS AT ONE END FOR SEPARATION FROM LOW VOLTAGE CABLES. EQUIPMENT NEUTRAL BUSING WITH A LUG FOR EACH BRANCH BREAKER POSITION. INTERIOR SHALL MOUNT TO BOX WITHOUT TOOLS.

BREAKERS SHALL BE QUICK-MAKE, QUICK-BREAK, BOLT-ON THERMAL-MAGNETIC MOLDED CASE CIRCUIT BREAKERS ONE, TWO OR THREE POLE WITH INTEGRAL CROSSBAR FOR MULTI-POLE UNITS, EQUIPPED WITH AN OVERCENTER, TRIP-FREE, TOGGLE-TYPE OPERATING ACTION AND POSITIVE HANDLE INDICATION OF BREAKER STATUS. CIRCUIT BREAKERS SHALL BE UL LISTED IN ACCORDANCE WITH UL STANDARDS.

EACH PANELBOARD, AS A COMPLETE UNIT, SHALL HAVE A SHORT CIRCUIT RATING EQUAL TO OR GREATER THAN THE INTEGRATED EQUIPMENT RATING SHOWN ON DRAWINGS. THE RATING SHALL BE ESTABLISHED BY TESTING WITH THE OVERCURRENT DEVICES MOUNTED IN THE PANELBOARD, THE SHORT CIRCUIT TESTS ON THE OVERCURRENT DEVICES ON THE STRUCTURE SHALL BE MADE SIMULTANEOUSLY BY CONNECTING THE FAULT TO EACH OVERCURRENT DEVICE WITH THE PANELBOARD CONNECTED TO ITS RATED SUPPLY VOLTAGE.

REFER TO PANELBOARD SCHEDULES FOR FULLY RATED OR SERIES-RATED REQUIREMENTS. SERIES-RATED SYSTEMS ARE NOT ALLOWED UNLESS SPECIFICALLY INDICATED ON PANELBOARD SCHEDULES. WHERE ALLOWED, SERIES-RATED SYSTEMS SHALL BE PROPERLY LABELLED BY NEC REQUIREMENTS.

METHOD OF TESTING SHALL BE PER UL STANDARDS. PANELBOARDS SHALL BE MARKED WITH THEIR MAXIMUM SHORT CIRCUIT CURRENT RATINGS AT THE SUPPLY VOLTAGE.

APPROVED MANUFACTURERS: SQUARE-D CO. OR EQUAL, BY GE, SIEMENS AND/OR Eaton.

OVERCURRENT PROTECTIVE DEVICES  
FUSES OF THE PROPER SIZE, RATING AND ELECTRICAL CHARACTERISTICS SHALL BE PROVIDED IN EACH FUSIBLE DEVICE. FUSES OF 800 VOLTS AND BELOW SHALL BE UL CLASS RK-1, CURRENT-LIMITING, TIME-DELAY, DUAL-ELEMENT, 200,000 AMPERE RMS SYMMETRICAL INTERRUPTING CAPACITY ON NON-MOTOR CIRCUITS AND UL CLASS RK-5, TIME-DELAY, DUAL-ELEMENT, 200,000 AMPERES RMS SYMMETRICAL INTERRUPTING CAPACITY ON MOTOR CIRCUITS.

APPROVED MANUFACTURERS: BUSSMANN, LITTELFUSE OR FERRAZ-SHAWMUT (ALL FUSES SHALL BE OF SAME MANUFACTURER TO ENSURE SEPARATE COORDINATION).

CIRCUIT BREAKERS: CIRCUIT BREAKERS OF THE PROPER SIZE, RATING, AND ELECTRICAL CHARACTERISTICS SHALL BE PROVIDED WHERE CALLED FOR ON DRAWINGS. BREAKERS SHALL BE THERMAL MAGNETIC MOLDED-CASE WITH QUICK-MAKE, QUICK-BREAK, OVER CENTER TOGGLE TYPE MECHANISM AND TRIP-FREE HANDLE MECHANISM. THE BREAKER SHALL BE ENCLOSED IN A SUITABLE NEMA RATED ENCLOSURE. BREAKERS SHALL BE OF SAME MANUFACTURER AS THOSE IN THE PANELBOARDS.

TIME SWITCHES  
ELECTRONIC TIME SWITCHES: ELECTRONIC, SOLID STATE PROGRAMMABLE UNITS WITH ALPHANUMERIC DISPLAY, COMPLYING WITH UL917. SPST, 30 AMPERE INDUCTIVE OR RESISTIVE, 240VAC, CONTACT RATING, 2 PROGRAMMABLE ON-OFF SET POINTS ON A 24-HOUR SCHEDULE, ALLOWING DIFFERENT SET POINTS FOR EACH DAY OF THE WEEK. ALLOW CONNECTION OF A PHOTOELECTRIC RELAY AS SUBSTITUTE FOR ON-OFF FUNCTION OF A PROGRAM. ASTRONOMIC TIME ON ALL CHANNELS. BATTERY BACKUP FOR SCHEDULES AND TIME CLOCK.

OUTDOOR PHOTOELECTRIC SWITCHES  
SOLID STATE, WITH SPST DRY CONTACT RATED FOR 1800-VA TUNGSTEN OR 1000-VA INDUCTIVE, TO OPERATE CONNECTED RELAY, CONTACTOR COILS OR MICROPROCESSOR INPUT, COMPLYING WITH UL 773A.

TELEPHONE AND DATA SYSTEMS

FURNISH AND INSTALL A SYSTEM OF PROPERLY SIZED AND PROPERLY LOCATED OUTLETS WITH ASSOCIATED CONNECTING CONDUIT RUNS, EXTENDING TO PULL BOXES AND TELEPHONE BACKBOARD. FURNISH AND INSTALL RACEWAYS, FOR INCONVENIENT SERVICE WHERE INDICATED.

OUTLET BOXES: UNLESS OTHERWISE INDICATED, ALL TELEPHONE OUTLETS AND JUNCTION BOXES SHALL BE PROVIDED AS REQUIRED TO ACCOMMODATE INTERNAL TERMINAL STRIPS BY TELEPHONE CO.

OUTLET COVER PLATES: TELEPHONE OUTLET COVER PLATES SHALL MATCH THOSE SPECIFIED FOR ADJACENT WIRING DEVICES, INCLUDING THOSE WITH SPECIAL FINISHES.

RACEWAYS: MATERIALS FOR TELEPHONE RACEWAY SYSTEM WORK SHALL BE IN ACCORDANCE WITH CORRESPONDING RACEWAYS SPECIFIED HEREIN AND IN OTHER SECTIONS.

VERIFY LOCATION OF WALL OUTLETS BEFORE ROUGHING IN TO ENSURE COORDINATION WITH OWNERS FINAL INTENDED FURNITURE LAYOUT. PLAN INDICATIONS SHALL NOT BE SCALED UNLESS DIRECTED. OUTLETS SHALL BE RELOCATED WITHIN ROOMS BEFORE ROUGH-IN WHERE DIRECTED BY ARCHITECT-ENGINEER WITHOUT ADDITIONAL COST TO OWNER.

TELEPHONE SERVICE CONDUIT LAYOUT SHALL HAVE THE JOB SITE APPROVAL OF AN AUTHORIZED REPRESENTATIVE OF THE TELEPHONE CO. COORDINATE WORK SO THAT BOTH TELEPHONE CO. AND OWNERS REPRESENTATIVES ARE PRESENT AT THE SAME TIME FOR APPROVAL OR CHANGES IN AMPLI TIME FOR ANY REQUIRED CORRECTIONS BEFORE COMPLETION OF PROJECT.

FROM EACH TELEPHONE OUTLET, PROVIDE 3/4" EMT CONDUIT CONCEALED IN WALL TO 6" ABOVE ACCESSIBLE CEILING OR UP TO STRUCTURE WHERE NO CEILING EXISTS, UNLESS SHOWN OTHERWISE ON DRAWINGS.

TELEPHONE TERMINAL BOARD: PRIOR TO INSTALLATION OF TELEPHONE TERMINAL BOARD, THE EXACT LOCATION SHALL BE VERIFIED WITH THE TELEPHONE CO. THE TELEPHONE TERMINAL BOARD SHALL BE PROVIDED WITH A DOUBLE DUPLEX RECEPTACLE LOCATED WHERE INDICATED ON THE DRAWINGS. THE TERMINAL BOARD SHALL BE CONSTRUCTED OF 4" X 8" X 3/4" PLYWOOD WITH TWO (2) COATS OF FLAME RETARDANT PAINT UNLESS NOTED OTHERWISE ON DRAWINGS.

LIGHTING

FIXTURES ARE SPECIFIED IN THE SCHEDULE BY MANUFACTURERS NAME AND CATALOG NUMBER.

ALL RECESSED LIGHT FIXTURES SHALL BE PROVIDED WITH FACTORY INSTALLED THERMAL PROTECTION.

ALL LAMPS USED ON THIS PROJECT SHALL BE NEW, DELIVERED TO THE JOB SITE IN THE ORIGINAL PACKING CASES AND SLEEVES AND SHALL BE OF THE SAME MANUFACTURER.



MECHANICAL ABBREVIATIONS	
(ALPHABETICAL BY ABBREVIATION)	
ABBREVIATION	LONG FORM
ABV	ABOVE
AC OR ACU	AIR-CONDITIONING UNIT
AHAP	AS HIGH AS POSSIBLE
AHU	AIR-HANDLING UNIT
AUTO	AUTOMATIC
BLW	BELOW
C	CHILLER
CD	CONDENSATE
CF	CABINET FAN
CFM	CUBIC FEET PER MINUTE
CH	CABINET HEATER
CHP	CHILLED WATER PUMP
CLNG OR CLG	CEILING
CONC	CONCRETE
CP OR CWP	CONDENSER WATER PUMP
CS	CONDENSER WATER SUPPLY
CR	CONDENSER WATER RETURN
CRAC OR CACU	COMPUTER ROOM AIR-CONDITIONING UNIT
CHFF	CHILLER ROOM EXHAUST FAN
CRV	CONDENSATE (STEAM) RETURN UNIT
CT	COOLING TOWER CELL
CTU	CONDENSATE (STEAM) TRANSFER UNIT
CU	CONDENSING UNIT
DV	CONSTANT VOLUME TERMINAL BOX
DEF	DISHWASER EXHAUST FAN
DMPR	DAMPER
DN	DOWN
EA	EACH
EBH	ELECTRIC BASEBOARD HEATER
EDH	ELECTRIC DUCT-MOUNTED HEATER
EF	EXHAUST FAN
EG	EXHAUST GRILLE
ER	EXHAUST REGISTER
EUH	ELECTRIC UNIT HEATER
EXH	EXHAUST
FD	FIRE DAMPER
FCU	FAN-COIL UNIT
FF	FINAL FILTER
FFCH	FORCED-FLOW CABINET HEATER
FFU	FAN FILTER UNIT
FP	FAN POWERED TERMINAL BOX
GPM	GALLONS PER MINUTE
HC	HEATING COIL
HUM	HUMIDIFIER
HWP OR HP	HEATING WATER PUMP
HX	HEAT EXCHANGER
KEF	KITCHEN (GREASE HOOD) EXHAUST FAN
KW	KILOWATTS
LD	LINEAR SUPPLY DIFFUSER
MOT	MOTORIZED
MTD	MOUNTED
MJAF	MAKE-UP AIR FAN
MJAHU	MAKE-UP AIR-HANDLING UNIT
OA	OUTSIDE AIR
OAF	OUTSIDE AIR FAN
OPG OR OPNG	OPENING
NOT ALL ABBREVIATIONS ON THIS LIST ARE NECESSARILY USED ON THIS PROJECT	

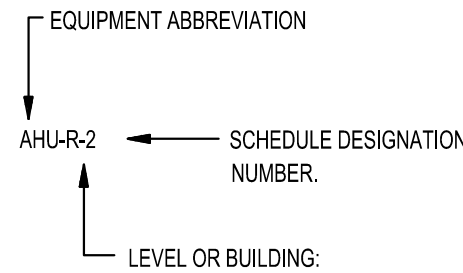
MECHANICAL ABBREVIATIONS	
CONT.	
(ALPHABETICAL BY ABBREVIATION)	
ABBREVIATION	LONG FORM
PF	PRE-FILTER
PLNM	PLENUM
RA	RETURN AIR
RAF	RETURN AIR FAN
RAG OR RG	RETURN AIR GRILLE
RAR OR RR	RETURN AIR REGISTER
RAS	RETURN AIR SILENCER
RE	IN REFERENCE TO
RTU	ROOFTOP UNIT
SA	SUPPLY AIR
SAF OR SF	SUPPLY AIR FAN
SAG OR SG	SUPPLY AIR GRILLE
SAR OR SR	SUPPLY AIR REGISTER
SAS	SUPPLY AIR SILENCER
SCHP	SECONDARY CHILLED WATER PUMP
SD	SMOKE DAMPER OR DETECTOR
SPCHP	SPECIAL PROCESS CHILLED WATER PUMP
TA	THROW AWAY (FILTER TYPE)
TDEF	TRUCK DOCK EXHAUST FAN
TEF	TOILET EXHAUST FAN
TRANS	TRANSITION OR TRANSFER
TYP	TYPICAL
UH	UNIT HEATER
UNO	UNLESS NOTED OTHERWISE
VF	VENTILATION FAN
VFD	VARIABLE FREQUENCY DRIVE
V V	VARIABLE VOLUME TERMINAL BOX
W	WITH
XFMR OR TFMR	TRANSFORMER
XT OR EX	EXPANSION TANK
NOT ALL ABBREVIATIONS ON THIS LIST ARE NECESSARILY USED ON THIS PROJECT	

DUCTWORK LEGEND		
(REFER TO SPECIFICATIONS SECTIONS 15815 AND 15820 FOR ADDITIONAL INFORMATION)		
SINGLE LINE	DESCRIPTION	DOUBLE LINE
	ROUND ELBOW DOWN	
	ROUND ELBOW UP	
	OFFSET TO CHANGE ELEVATION (AT 30° WHEN POSSIBLE. ARROW SLOPES DN, UN.O.)	
	ROUND RADIUS ELBOW	
	90° STRAIGHT TEE	
	90° CONICAL TEE	
	45° LATERAL TAP	
	45° LATERAL CONICAL TEE	
	SIZE OR SHAPE TRANSITION	
	ROUND FLEXIBLE DUCT	
	RECTANGULAR ELBOW DOWN	
	RECTANGULAR ELBOW UP	
	OFFSET TO CHANGE ELEVATION (AT 30° WHERE POSSIBLE. ARROW SLOPES DN, UN.O.)	
	RECTANGULAR RADIUS ELBOW	
	RECTANGULAR ELBOW WITH TURNING VANES	
	SPLIT BRANCH TAKE-OFF WITH SQUARE ELBOW & SPLITTER DAMPER	
	SPLIT BRANCH TAKE-OFF WITH RADIUS ELBOW & SPLITTER DAMPER	
	SPLIT BRANCH TAKE-OFF WITH STATIONARY SPLITTER DAMPER	
	BRANCH TAKE-OFF WITH 45° LEAD IN TAP	
	INSULATED LINED DUCTWORK (UN.O.)	
	SQUARE FACED CEILING DIFFUSER 4-WAY DIRECTIONAL THROW (UN.O.)	
	ROUND FACED CEILING DIFFUSER	
	CEILING RETURN OR EXHAUST AIR GRILLE OR REGISTER	
	SIDEALL SUPPLY GRILLE OR REGISTER	
	SUPPLY DUCT RISER	
	RETURN, EXHAUST OR OUTSIDE AIR DUCT RISER	
	MANUAL BALANCING DAMPER	
	AUTOMATIC (MOTOR-OPERATED) DAMPER	
	FIRE DAMPER	
	GRAVITY BACKDRAFT DAMPER	
	COMBINATION FIRE AND SMOKE DAMPER WITH SMOKE DETECTOR	
	SMOKE DAMPER (AUTOMATIC) WITH SMOKE DETECTOR	
	DUCT MOUNTED SMOKE DETECTOR	
NOT ALL SYMBOLS ON THIS LIST ARE NECESSARILY USED ON THIS PROJECT		

STANDARD MECHANICAL SYMBOLS	
SYMBOL	DESCRIPTION
	GATE VALVE
	BALL VALVE
	GLOBE VALVE
	BUTTERFLY VALVE
	PLUG VALVE
	ANGLE VALVE
	CHECK VALVE
	AUTOMATIC CONTROL VALVE (STRAIGHT THROUGH)
	AUTOMATIC CONTROL VALVE (3-WAY)
	AUTOMATIC CONTROL VALVE (ANGLE)
	AUTOMATIC CONTROL VALVE (STRAIGHT THROUGH)
	SOLENOID VALVE
	PRESSURE REDUCING VALVE
	PRESSURE RELIEF VALVE
	GAUGE COCK
	PRESSURE GAUGE WITH GAUGE COCK
	THERMOMETER
	THERMOMETER WELL
	TEST PLUG
	FLOW METER
	TEMPERATURE SENSOR
	PRESSURE SENSOR
	DIFFERENTIAL PRESSURE SWITCH
	IMMERSION THERMOSTAT
	MANUAL AIR VENT
	AUTOMATIC AIR VENT
	FLOW SWITCH
	ORIFICE
	PIPE SLEEVE THRU WALL OR FLOOR
	EXPANSION JOINT
	FLEXIBLE PIPE JOINT
	PIPE GUIDE
	ANCHOR
	STRAINER (Y-TYPE)
	STRAINER (BASKET TYPE)
	UNION
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER
	DIRECTION OF FLOW
	DIRECTION OF SLOPE
	THERMOSTAT
	HUMIDISTAT
	FAN SPEED CONTROLLER
	CONDENSER WATER SUPPLY
	CONDENSER WATER RETURN
	CONDENSATE DRAIN
NOT ALL SYMBOLS ON THIS LIST ARE NECESSARILY USED ON THIS PROJECT	

OTHER SYMBOLS	
SYMBOL	DESCRIPTION
	INDICATES CONNECTION TO EXISTING DUCT OR PIPE

### GENERAL EQUIPMENT DESIGNATION KEY:



MECHANICAL GENERAL NOTES	
1. PRIOR TO SUBMITTING BID, VISIT THE SITE AND BECOME FULLY ACQUAINTED WITH THE EXISTING CONDITIONS OF THE PROJECT. REVIEW GENERAL NOTES, SPECIFICATIONS AND ALL OTHER DRAWINGS FOR ADDITIONAL REQUIREMENTS WHICH MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY ARCHITECT, ENGINEER AND/OR OWNER OF ANY CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID.	
2. COORDINATE THE INSTALLATION OF MECHANICAL SYSTEMS WITH OTHER TRADES TO ENSURE A NEAT AND ORDERLY INSTALLATION. DUCTWORK AND PIPING SHALL BE ROUTED TO AVOID CONFLICTS WITH ELECTRICAL PANELS, LIGHTING FIXTURES, ETC.	
3. TAKE NECESSARY PRECAUTIONS TO AVOID DAMAGING EXISTING SURFACES AND EQUIPMENT TO REMAIN FOR NEW INSTALLATION DURING WORK. REPAIR ANY DAMAGE CAUSED DURING CONSTRUCTION AT NO COST TO THE OWNER.	
4. ALL MECHANICAL EQUIPMENT SHOWN ON THE MECHANICAL PLANS SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR UNLESS OTHERWISE NOTED.	
5. NEW MECHANICAL EQUIPMENT, DUCTWORK AND PIPING IS SHOWN AT APPROXIMATE LOCATIONS. FIELD MEASURE FINAL DUCTWORK AND PIPING LOCATIONS PRIOR TO FABRICATION AND SHALL MAKE ADJUSTMENTS AS REQUIRED TO FIT THE DUCTWORK AND PIPING WITHIN THE AVAILABLE SPACE. FIELD VERIFY FINAL LOCATIONS TO INSTALL EQUIPMENT IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS REGARDING SERVICE CLEARANCE AND PROPER AIRFLOW CLEARANCE AROUND EQUIPMENT.	
6. REFER TO ARCHITECTURAL DRAWINGS FOR ALL RELATED CONSTRUCTION DETAILS AS APPLICABLE TO THE HVAC SYSTEM. CHASES AND PENETRATIONS INTENDED FOR DUCTWORK AND PIPING SHALL BE VERIFIED WITH ARCHITECTURAL DRAWINGS PRIOR TO INSTALLATION.	
7. COORDINATE LOCATION OF ROOF PENETRATIONS WITH THE EXISTING CONDITIONS AND ARCHITECTURAL DRAWINGS.	
8. SEAL ALL PENETRATIONS THROUGH THE BUILDING COMPONENTS IN ACCORDANCE WITH THE CONSTRUCTION SPECIFICATIONS. FIREPROOF ALL PENETRATIONS THROUGH FIRE RATED COMPONENTS IN ACCORDANCE WITH U.L. REQUIREMENTS.	
9. COORDINATE THE EXACT MOUNTING SIZE AND FRAME TYPE OF DIFFUSERS, REGISTERS AND GRILLES WITH THE SUPPLIER TO MEET THE CEILING, WALL, AND DUCT INSTALLATION REQUIREMENTS.	
10. LOCATION OF CEILING DIFFUSERS, REGISTERS, AND GRILLES SHALL BE ADJUSTED AS REQUIRED TO ACCOMMODATE FINAL CEILING AND LIGHTING LOCATIONS.	
11. DUCTWORK CROSSING FIRE RATED WALL OR OTHER FIRE RATED ASSEMBLIES SHALL BE MINIMUM 26 GAUGE SHEET METAL.	
12. PROVIDE FIRE AND/OR FIRE/SMOKE DAMPERS IN DUCTWORK AT CEILINGS AND WALLS AS REQUIRED BY BUILDING CODE AUTHORITY HAVING JURISDICTION. FIRE AND FIRE/SMOKE DAMPERS SHALL CONFORM TO NFPA AS APPLICABLE.	
13. PROVIDE WALL AND/OR DUCT ACCESS PANELS OR DOORS FOR ACCESS TO ALL FIRE AND/OR FIRE/SMOKE DAMPERS. ACCESS PANEL OR DOOR SHALL BE MINIMUM SIZE OF 6"6" AND SHALL BE INSTALLED WITH 12" OF DAMPER. PROVIDE A REMOVABLE DUCT SECTION WHERE DUCT SIZE IS TOO SMALL FOR 6"6" ACCESS DOOR.	
14. THERMOSTATS AND HUMIDISTATS SHALL BE LOCATED AND SET BY MECHANICAL CONTRACTOR AND WIRED IN CONDUIT BY ELECTRICAL CONTRACTOR. VERIFY EXACT LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION. MOUNTING HEIGHTS SHALL BE 48" AFF TO MEET ADA REQUIREMENTS UNLESS OTHERWISE NOTED ON PLANS.	
15. COORDINATE THE LOCATION AND ELEVATION OF WALL-MOUNTED DEVICES WITH ANY WALL MOUNTED ITEMS INDICATED ON THE ARCHITECTURAL DRAWINGS. CONTRACTOR WILL NOT BE REIMBURSED FOR RELOCATION OF ANY WALL-MOUNTED DEVICES CAUSED BY A LACK OF COORDINATION.	
16. ALL BRANCH DUCT CONNECTIONS AND TAKE-OFFS TO INDIVIDUAL DIFFUSERS, REGISTERS, AND GRILLES SHALL HAVE A PREFABRICATED 45 DEGREE, HIGH EFFICIENCY, RECTANGULAR AROUND BRANCH DUCT TAKE-OFF FITTING WITH MANUAL BALANCING DAMPER AND LOCKING QUADRANT.	
17. BRANCH DUCTWORK TO AIR OUTLETS SHALL BE SAME SIZE AS OUTLET NECK SIZE UNLESS OTHERWISE NOTED.	
18. RIGID DUCTWORK INSULATION. PROVIDE R-6 MINIMUM INSULATION WRAP ON ALL CONCEALED DUCTWORK. PROVIDE R-6 MINIMUM INTERNAL DUCT LINER ON ALL EXPOSED DUCTWORK. DUCT SIZES ON MECHANICAL PLANS INDICATE CLEAR INSIDE DIMENSIONS. SHEET METAL SIZES SHALL INCREASE ACCORDINGLY. PROVIDE R-12 MINIMUM INSULATION ON ALL DUCTWORK INSTALLED IN UNCONDITIONED SPACES. REFER TO SPECIFICATIONS FOR MORE INFORMATION.	
19. FLEXIBLE DUCT WORK SHALL BE THERMAX FLEX TYPE MKE, FLEXMASTER TYPE BM, OR APPROVED EQUAL. SHALL BE LISTED UNDER 181 AS CLASS 1 AIR DUCT AND SHALL BE PROVIDED WITH INTEGRAL R-6 MINIMUM FIBERGLASS INSULATION. FLEXIBLE DUCTWORK SHALL NOT EXCEED 5'-0" IN LENGTH AND SHALL BE INSTALLED AND SUPPORT TO AVOID SHARP BENDS AND SAGGING.	
20. WALL MOUNTED DIFFUSERS AND GRILLES SHALL BE PROVIDED WITH SUITABLE MOUNTING FRAME TO MATCH WALL CONSTRUCTION. COORDINATE WITH ARCHITECTURAL DRAWINGS.	

### GENERAL MECHANICAL NOTES:

- REFER TO ARCHITECTURAL PLANS FOR RATED WALLS AND PARTITIONS. VERIFY FIRE AND/OR SMOKE DAMPER LOCATIONS AT DUCTS OR OPENINGS PENETRATING THESE WALLS.
- REFER TO ARCHITECTURAL PLANS FOR ROOM NAMES AND NUMBERS.
- REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF CEILING DIFFUSERS, REGISTERS, AND GRILLES.
- VERIFY LOCATIONS OF THERMOSTATS WITH ARCHITECT AND OWNER PRIOR TO INSTALLATION.
- VERIFY LOCATIONS OF EXPOSED DUCTS WITH ARCHITECT PRIOR TO INSTALLATION.
- DUCT DIMENSIONS INDICATED ON PLANS ARE FREE AREA DIMENSIONS.
- SUPPLY AND RETURN AIR DUCT SHALL BE INTERNALLY LINED WHERE SPECIFIED.
- ALL COVER SIZES ON MECHANICAL PLANS ARE GIVEN IN FREE AREA REQUIRED. REFER TO ARCHITECTURAL PLANS FOR DIMENSIONS AND LOCATIONS. 9. COORDINATE TERMINAL BOX AND BALANCING DAMPER LOCATIONS CAREFULLY TO INSURE PROPER AND ADEQUATE ACCESS TO FILTERS, MOTORS, CONTROL VALVES, CONTROL PANELS, ETC. PROVIDE ACCESS PANELS AS SPECIFIED WHERE REQUIRED TO ASSURE THIS ACCESS. 10. CEILING PLENUM SPACE IS VERY TIGHT. WHERE REQUIRED, DUCTS OR PIPES SHALL BE ROUTED BETWEEN LIGHT FIXTURES AND UP AND OVER OTHER DUCTS OR PIPES USING THE SPACES BETWEEN STRUCTURAL JOISTS OR BEAMS WHERE APPLICABLE. CONTRACTOR SHALL BE RESPONSIBLE FOR CAREFULLY COORDINATING ALL TRADES. EXISTING UNKNOWN CONDITIONS MAY AFFECT EXACT DUCT OR PIPE ROUTING, OR EXISTING CONDITIONS MAY NEED TO BE MODIFIED TO ACCOMMODATE DUCTS AND PIPES.



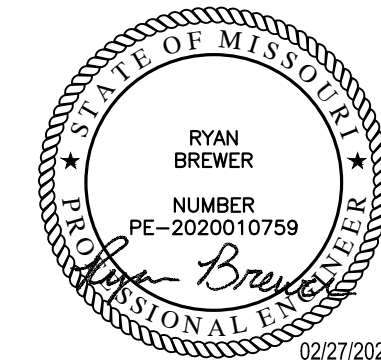
3075 SW Market St., Lee's Summit, Missouri 64063 | 816.249.2270 | www.collinswebb.com

PERMIT DOCUMENTS

ITAP - LEE'S SUMMIT

228 SW MAIN ST.  
LEE'S SUMMIT, MO 64063

COPYRIGHT © BY  
COLLINS WEBB  
ARCHITECTURE, LLC  
REVISION DATES:

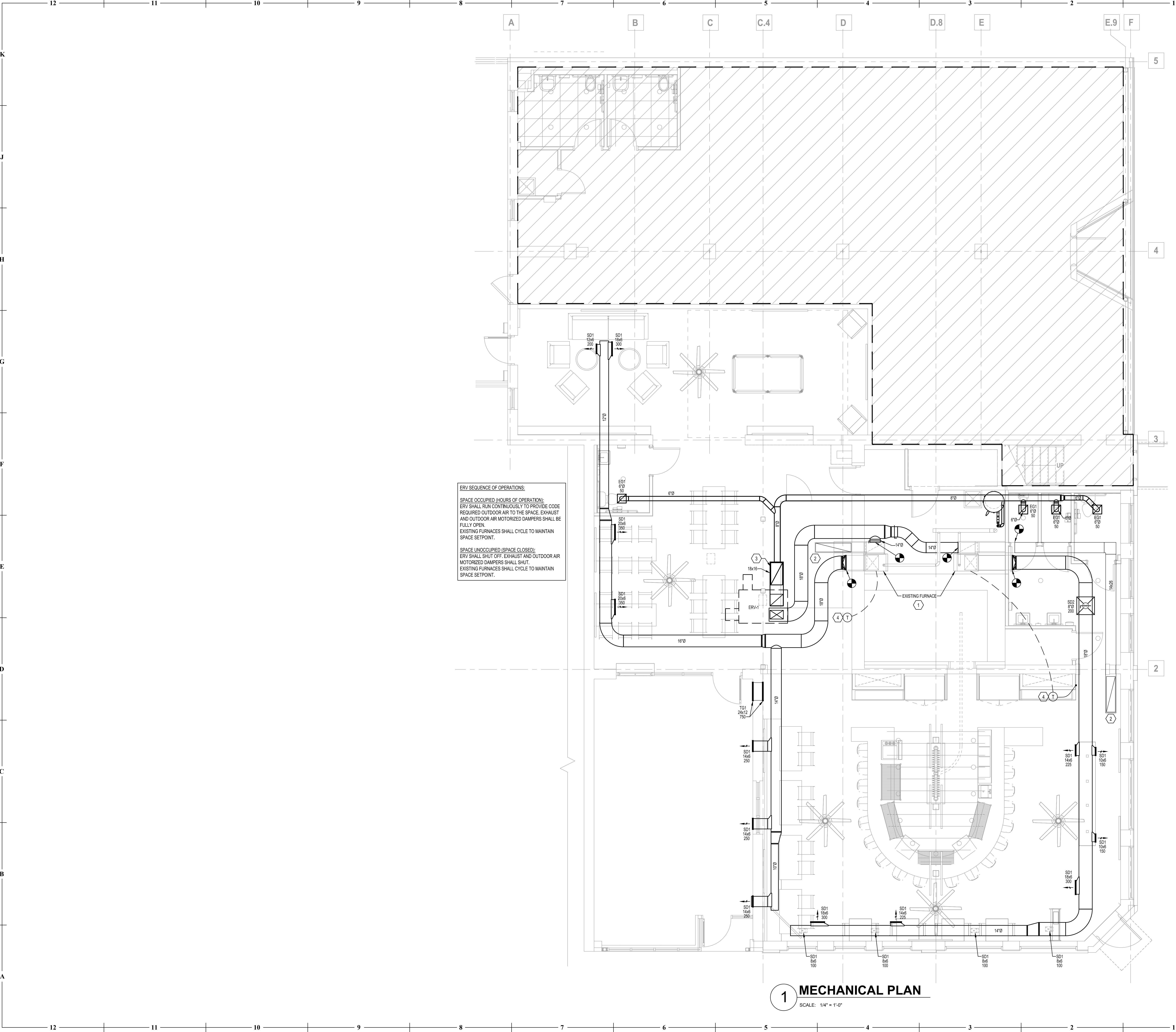


PROFESSIONAL SEAL

M101

ISSUE DATE: 27 FEB 2023  
COLLINS WEBB #: 22066

MECHANICAL NOTES,  
SYMBOLS & ABBREVIATIONS



ERV SEQUENCE OF OPERATIONS:

SPACE OCCUPIED (HOURS OF OPERATION):  
ERV SHALL RUN CONTINUOUSLY TO PROVIDE CODE REQUIRED OUTDOOR AIR TO THE SPACE. EXHAUST AND OUTDOOR AIR MOTORIZED DAMPERS SHALL BE FULLY OPEN.  
EXISTING FURNACES SHALL CYCLE TO MAINTAIN SPACE SETPOINT.

SPACE UNOCCUPIED (SPACE CLOSED):  
ERV SHALL SHUT OFF. EXHAUST AND OUTDOOR AIR MOTORIZED DAMPERS SHALL SHUT.  
EXISTING FURNACES SHALL CYCLE TO MAINTAIN SPACE SETPOINT.

**GENERAL NOTES**  
(NOT ALL NOTES APPLY)

1. REFERENCE SHEET M101 FOR GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.

**KEYED NOTES:** ○

1. EXISTING FURNACE AND ASSOCIATED CONDENSING UNIT ON ROOF TO REMAIN. BALANCE SUPPLY AIR TO 1950 CFM.  
2. PROVIDE 48"x12" OPENING IN TOP OF RETURN AIR DUCT. COVER OPENING WITH 1/2"x1/2" GALVANIZED HARDWARE CLOTH. MAINTAIN MINIMUM 5' UNOBSTRUCTED FREE AREA ABOVE OPENING FOR AIRFLOW.  
3. PROVIDE 16"x30" OPENING IN TOP OF RETURN EXHAUST DUCT FOR ERV-1. MAINTAIN MINIMUM 5' UNOBSTRUCTED FREE AREA ABOVE OPENING FOR AIRFLOW.  
4. PROVIDE 7-DAY PROGRAMMABLE THERMOSTAT WITH AUTO-CHANGEOVER BETWEEN HEATING AND COOLING. MOUNT THERMOSTAT AT 48" AFF. VERIFY FINAL THERMOSTAT LOCATION WITH OWNER.

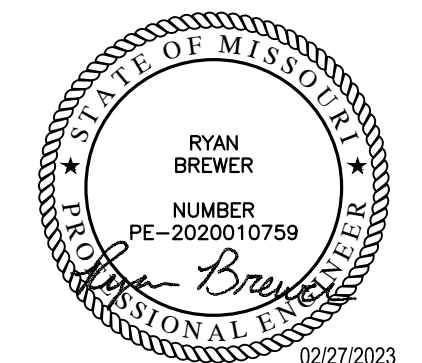


PERMIT DOCUMENTS

**ITAP - LEE'S SUMMIT**  
228 SW MAIN ST.  
LEE'S SUMMIT, MO 64063

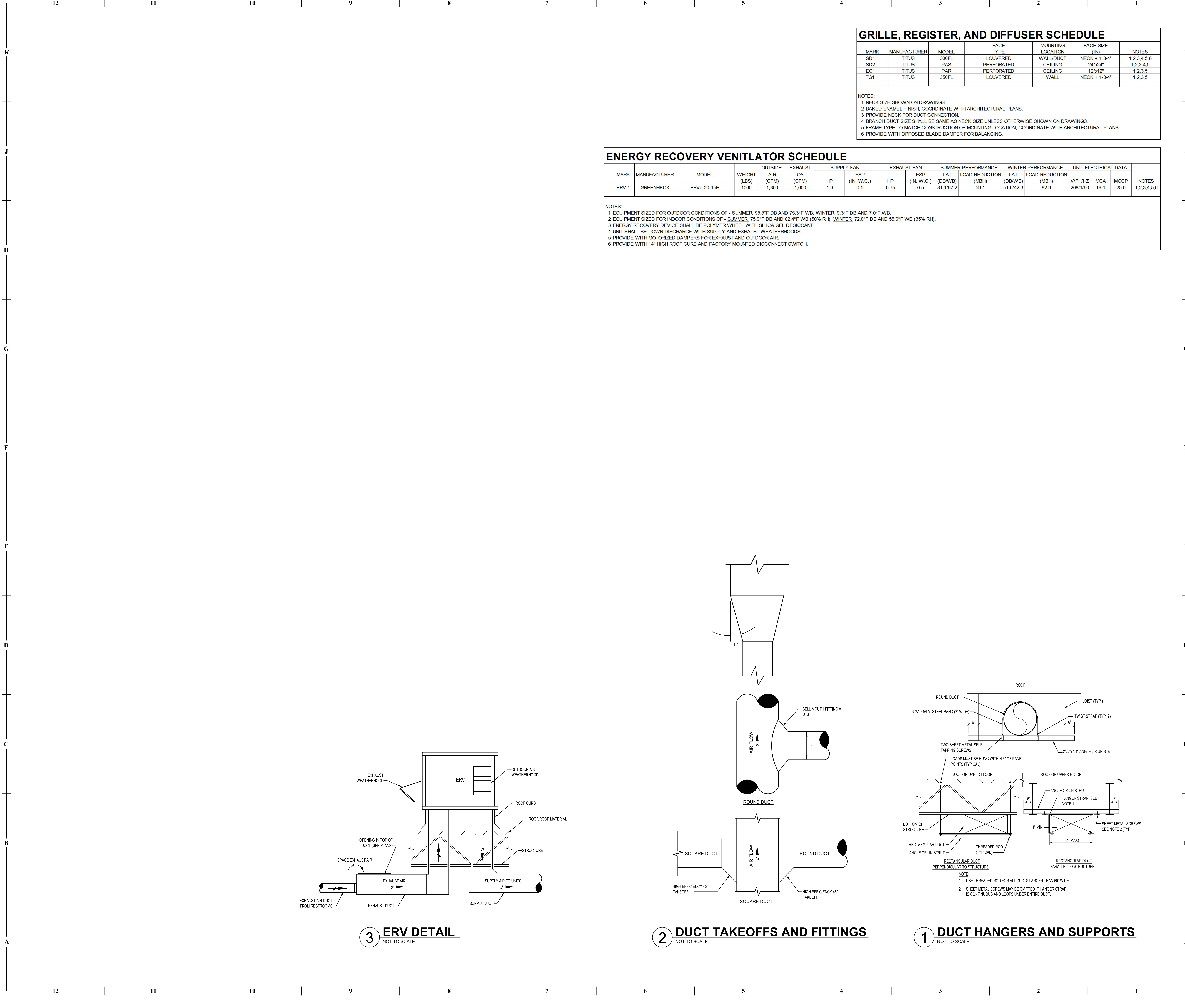
COPYRIGHT © BY  
COLLINS WEBB  
ARCHITECTURE, LLC

REVISION DATES:



**M201**  
ISSUE DATE: 27 FEB 2023  
COLLINS WEBB #: 22066

MECHANICAL PLAN



GRILLE, REGISTER, AND DIFFUSER SCHEDULE

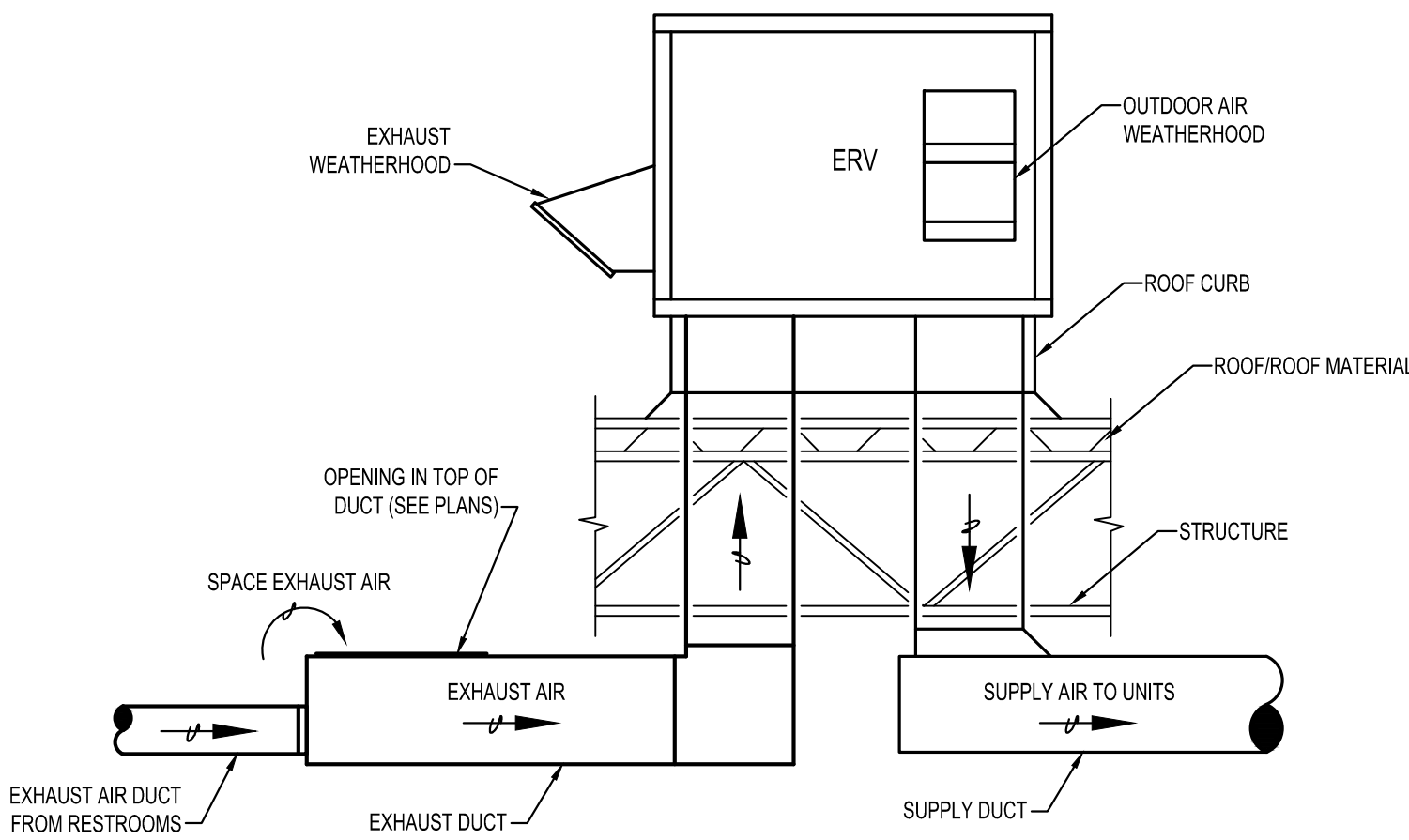
MARK	MANUFACTURER	MODEL	FACE TYPE	MOUNTING LOCATION	FACE SIZE (IN)	NOTES
SD1	TITUS	300FL	LOUVERED	WALL/DUCT	NECK + 1-3/4"	1,2,3,4,5,6
SD2	TITUS	PAS	PERFORATED	CEILING	24"x24"	1,2,3,4,5
EG1	TITUS	PAR	PERFORATED	CEILING	12"x12"	1,2,3,5
TG1	TITUS	350FL	LOUVERED	WALL	NECK + 1-3/4"	1,2,3,5

- NOTES:
- NECK SIZE SHOWN ON DRAWINGS.
  - BAKED ENAMEL FINISH. COORDINATE WITH ARCHITECTURAL PLANS.
  - PROVIDE NECK FOR DUCT CONNECTION.
  - BRANCH DUCT SIZE SHALL BE SAME AS NECK SIZE UNLESS OTHERWISE SHOWN ON DRAWINGS.
  - FRAME TYPE TO MATCH CONSTRUCTION OF MOUNTING LOCATION, COORDINATE WITH ARCHITECTURAL PLANS.
  - PROVIDE WITH OPPOSED BLADE DAMPER FOR BALANCING.

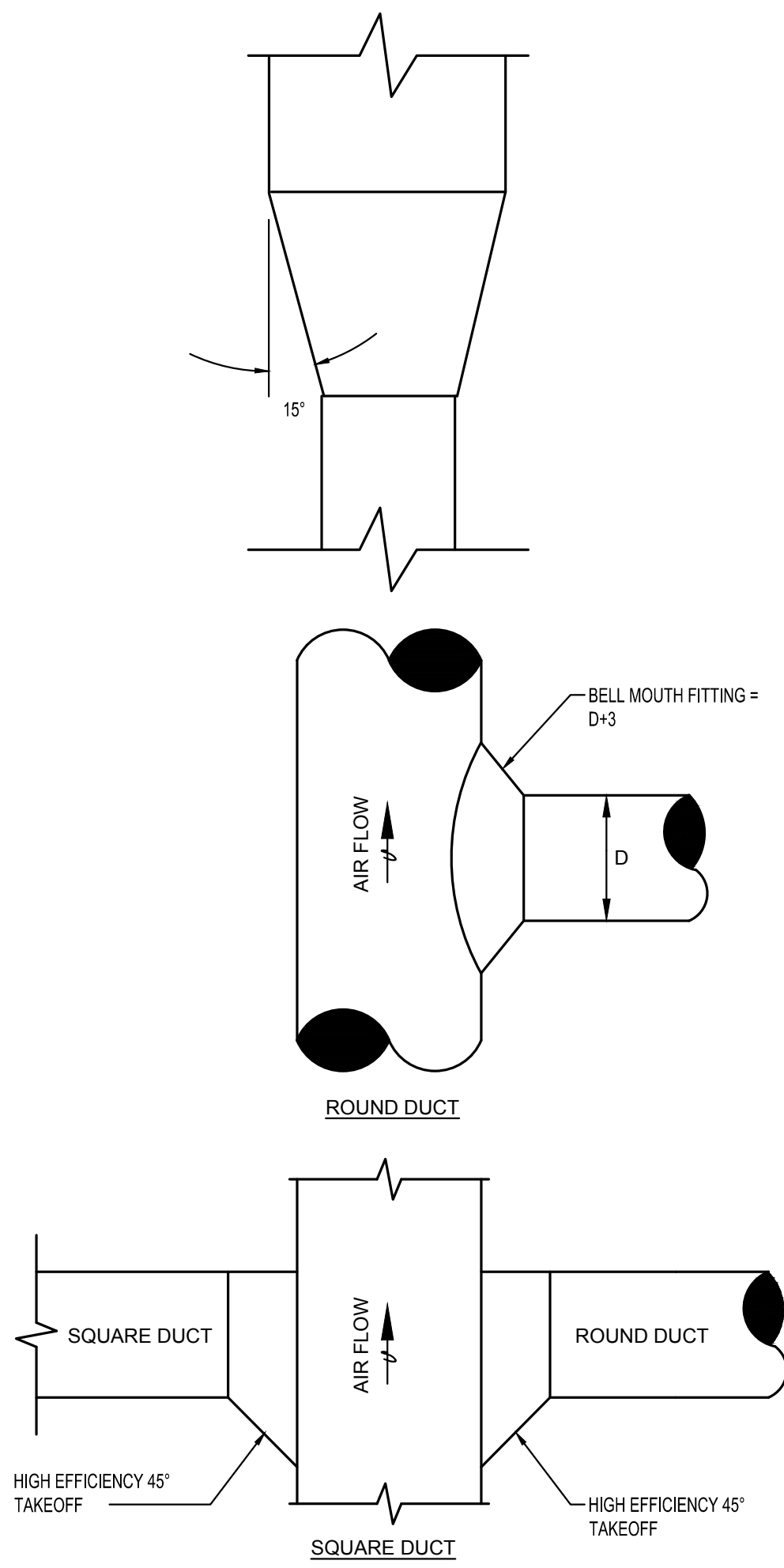
ENERGY RECOVERY VENITLATOR SCHEDULE

MARK	MANUFACTURER	MODEL	WEIGHT (LBS)	OUTSIDE AIR (CFM)	EXHAUST OA (CFM)	SUPPLY FAN		EXHAUST FAN		SUMMER PERFORMANCE		WINTER PERFORMANCE		UNIT ELECTRICAL DATA			NOTES
						HP	ESP (IN. W.C.)	HP	ESP (IN. W.C.)	LAT (DB/WB)	LOAD REDUCTION (MBH)	LAT (DB/WB)	LOAD REDUCTION (MBH)	V/PH/Hz	MCA	MOC/P	
ERV-1	GREENHECK	ERVe-20-15H	1000	1,800	1,600	1.0	0.5	0.75	0.5	81.1/67.2	59.1	51.6/42.3	82.9	208/1/60	19.1	25.0	1,2,3,4,5,6

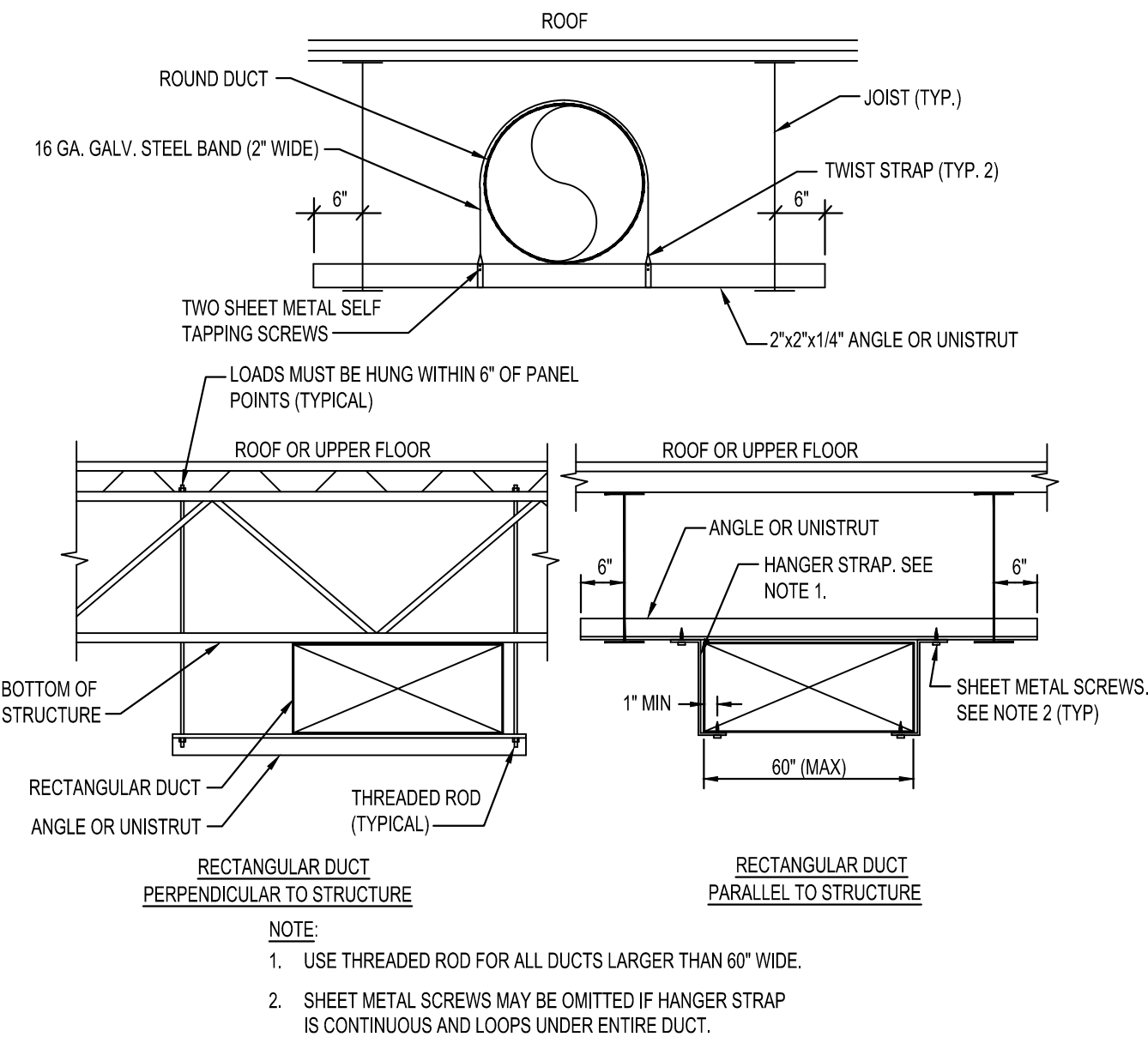
- NOTES:
- EQUIPMENT SIZED FOR OUTDOOR CONDITIONS OF - SUMMER: 95.5°F DB AND 75.3°F WB. WINTER: 9.3°F DB AND 7.0°F WB.
  - EQUIPMENT SIZED FOR INDOOR CONDITIONS OF - SUMMER: 75.0°F DB AND 62.4°F WB (50% RH). WINTER: 72.0°F DB AND 55.6°F WB (35% RH).
  - ENERGY RECOVERY DEVICE SHALL BE POLYMER WHEEL WITH SILICA GEL DESICCANT.
  - UNIT SHALL BE DOWN DISCHARGE WITH SUPPLY AND EXHAUST WEATHERHOODS.
  - PROVIDE WITH MOTORIZED DAMPERS FOR EXHAUST AND OUTDOOR AIR.
  - PROVIDE WITH 14" HIGH ROOF CURB AND FACTORY MOUNTED DISCONNECT SWITCH.



3 ERV DETAIL  
NOT TO SCALE



2 DUCT TAKEOFFS AND FITTINGS  
NOT TO SCALE



1 DUCT HANGERS AND SUPPORTS  
NOT TO SCALE



307B SW Market St., Lee's Summit, Missouri 64033 | 816.249.2270 | www.collinswebbarch.com

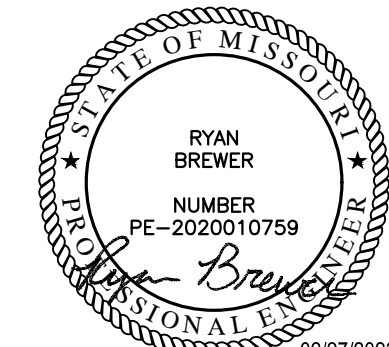
PERMIT DOCUMENTS

ITAP - LEE'S SUMMIT

228 SW MAIN ST.  
LEE'S SUMMIT, MO 64063

COPYRIGHT © BY  
COLLINS WEBB  
ARCHITECTURE, LLC

REVISION DATES:



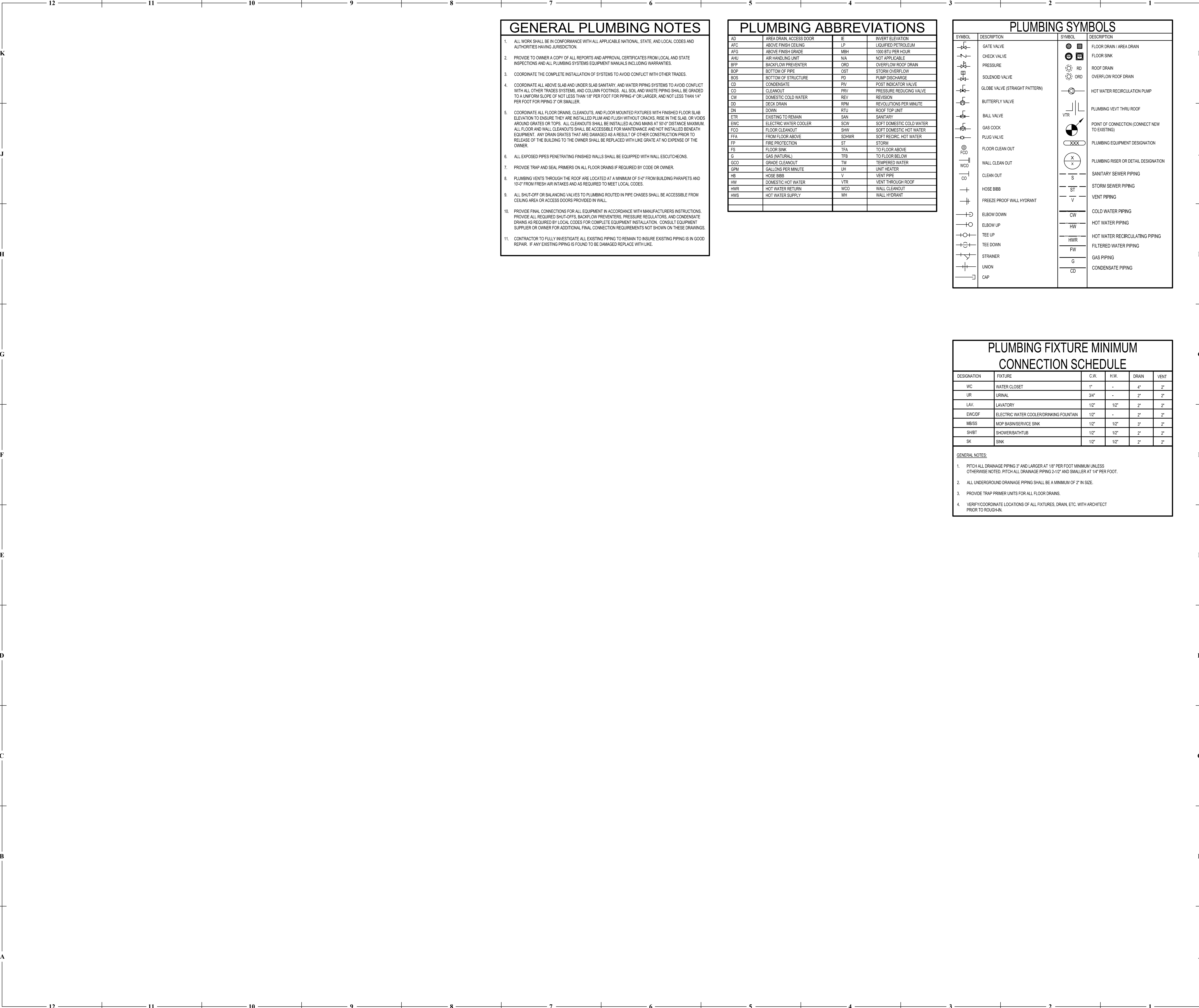
PROFESSIONAL SEAL

M301

ISSUE DATE: 27 FEB 2023  
COLLINS WEBB #: 22066

MECHANICAL  
SCHEDULES AND DETAILS





GENERAL PLUMBING NOTES

- 1. ALL WORK SHALL BE IN CONFORMANCE WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AND AUTHORITIES HAVING JURISDICTION.
- 2. PROVIDE TO OWNER A COPY OF ALL REPORTS AND APPROVAL CERTIFICATES FROM LOCAL AND STATE INSPECTIONS AND ALL PLUMBING SYSTEMS EQUIPMENT MANUALS INCLUDING WARRANTIES.
- 3. COORDINATE THE COMPLETE INSTALLATION OF SYSTEMS TO AVOID CONFLICT WITH OTHER TRADES.
- 4. COORDINATE ALL ABOVE SLAB AND UNDER SLAB SANITARY, AND WATER PIPING SYSTEMS TO AVOID CONFLICT WITH ALL OTHER TRADES SYSTEMS, AND COLUMN FOOTINGS. ALL SOIL AND WASTE PIPING SHALL BE GRADED TO A UNIFORM SLOPE OF NOT LESS THAN 1/8" PER FOOT FOR PIPING 4" OR LARGER, AND NOT LESS THAN 1/4" PER FOOT FOR PIPING 3" OR SMALLER.
- 5. COORDINATE ALL FLOOR DRAINS, CLEANOUTS, AND FLOOR MOUNTED FIXTURES WITH FINISHED FLOOR SLAB ELEVATION TO ENSURE THEY ARE INSTALLED PLUM AND FLUSH WITHOUT CRACKS, RISE IN THE SLAB, OR VOIDS AROUND GRATES OR TOPS. ALL CLEANOUTS SHALL BE INSTALLED ALONG MAINS AT 5'-0" DISTANCE MAXIMUM. ALL FLOOR AND WALL CLEANOUTS SHALL BE ACCESSIBLE FOR MAINTENANCE AND NOT INSTALLED BENEATH EQUIPMENT. ANY DRAIN GRATES THAT ARE DAMAGED AS A RESULT OF OTHER CONSTRUCTION PRIOR TO RELEASE OF THE BUILDING TO THE OWNER SHALL BE REPLACED WITH LIKE GRATE AT NO EXPENSE OF THE OWNER.
- 6. ALL EXPOSED PIPES PENETRATING FINISHED WALLS SHALL BE EQUIPPED WITH WALL ESCUTCHEONS.
- 7. PROVIDE TRAP AND SEAL PRIMERS ON ALL FLOOR DRAINS IF REQUIRED BY CODE OR OWNER.
- 8. PLUMBING VENTS THROUGH THE ROOF ARE LOCATED AT A MINIMUM OF 5'-0" FROM BUILDING PARAPETS AND 10'-0" FROM FRESH AIR INTAKES AND AS REQUIRED TO MEET LOCAL CODES.
- 9. ALL SHUT-OFF OR BALANCING VALVES TO PLUMBING ROUTED IN PIPE CHASES SHALL BE ACCESSIBLE FROM CEILING AREA OR ACCESS DOORS PROVIDED IN WALL.
- 10. PROVIDE FINAL CONNECTIONS FOR ALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS. PROVIDE ALL REQUIRED SHUT-OFFS, BACKFLOW PREVENTERS, PRESSURE REGULATORS, AND CONDENSATE DRAINS AS REQUIRED BY LOCAL CODES FOR COMPLETE EQUIPMENT INSTALLATION. CONSULT EQUIPMENT SUPPLIER OR OWNER FOR ADDITIONAL FINAL CONNECTION REQUIREMENTS NOT SHOWN ON THESE DRAWINGS.
- 11. CONTRACTOR TO FULLY INVESTIGATE ALL EXISTING PIPING TO REMAIN TO INSURE EXISTING PIPING IS IN GOOD REPAIR. IF ANY EXISTING PIPING IS FOUND TO BE DAMAGED REPLACE WITH LIKE.

PLUMBING ABBREVIATIONS

AD	AREA DRAIN, ACCESS DOOR	IE	INVERT ELEVATION
APC	ABOVE FINISH CEILING	LP	LIQUIDED PETROLEUM
AFG	ABOVE FINISH GRADE	MBH	1000 BTU PER HOUR
AHU	AIR HANDLING UNIT	NA	NOT APPLICABLE
BFP	BACKFLOW PREVENTER	ORD	OVERFLOW ROOF DRAIN
BOP	BOTTOM OF PIPE	OST	STORM OVERFLOW
BOS	BOTTOM OF STRUCTURE	PD	PUMP DISCHARGE
CD	CONDENSATE	PIV	PIST INDICATOR VALVE
CO	CLEANOUT	PRV	PRESSURE REDUCING VALVE
CW	DOMESTIC COLD WATER	REV	REVISION
DD	DECK DRAIN	RPM	REVOLUTIONS PER MINUTE
DN	DOWN	RTU	ROOF TOP UNIT
ETR	EXISTING TO REMAIN	SAN	SANITARY
EWCD	ELECTRIC WATER COOLER	SCW	SOFT DOMESTIC COLD WATER
FCD	FLOOR CLEANOUT	SHW	SOFT DOMESTIC HOT WATER
FFA	FROM FLOOR ABOVE	SDHWR	SOFT RECIRC. HOT WATER
FP	FIRE PROTECTION	ST	STORM
FS	FLOOR SINK	TFA	TO FLOOR ABOVE
G	GAS (NATURAL)	TFB	TO FLOOR BELOW
GCO	GRADE CLEANOUT	TW	TEMPERED WATER
GPM	GALLONS PER MINUTE	UH	UNIT HEATER
HB	HOSE BIBB	V	VENT PIPE
HW	DOMESTIC HOT WATER	VTR	VENT THROUGH ROOF
HWR	HOT WATER RETURN	WCO	WALL CLEANOUT
HWS	HOT WATER SUPPLY	WH	WALL HYDRANT

PLUMBING SYMBOLS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	GATE VALVE		FLOOR DRAIN / AREA DRAIN
	CHECK VALVE		FLOOR SINK
	PRESSURE		ROOF DRAIN
	SOLENOID VALVE		OVERFLOW ROOF DRAIN
	GLOBE VALVE (STRAIGHT PATTERN)		HOT WATER RECIRCULATION PUMP
	BUTTERFLY VALVE		PLUMBING VENT THRU ROOF
	BALL VALVE		POINT OF CONNECTION (CONNECT NEW TO EXISTING)
	GAS COCK		PLUMBING EQUIPMENT DESIGNATION
	PLUG VALVE		PLUMBING RISER OR DETAIL DESIGNATION
	FLOOR CLEAN OUT		SANITARY SEWER PIPING
	WALL CLEAN OUT		STORM SEWER PIPING
	CLEAN OUT		VENT PIPING
	HOSE BIBB		COLD WATER PIPING
	FREEZE PROOF WALL HYDRANT		HOT WATER PIPING
	ELBOW DOWN		HOT WATER RECIRCULATING PIPING
	ELBOW UP		FILTERED WATER PIPING
	TEE UP		GAS PIPING
	TEE DOWN		CONDENSATE PIPING
	STRAINER		
	UNION		
	CAP		

PLUMBING FIXTURE MINIMUM CONNECTION SCHEDULE

DESIGNATION	FIXTURE	C.W.	H.W.	DRAIN	VENT
WC	WATER CLOSET	1"	-	4"	2"
UR	URNAL	3/4"	-	2"	2"
LAV.	LAVATORY	1/2"	1/2"	2"	2"
EWCD	ELECTRIC WATER COOLER, DRINKING FOUNTAIN	1/2"	-	2"	2"
MBSS	MOP BASIN, SERVICE SINK	1/2"	1/2"	3"	2"
SHBT	SHOWER, BATH TUB	1/2"	1/2"	2"	2"
SK	SINK	1/2"	1/2"	2"	2"

GENERAL NOTES:

- 1. PITCH ALL DRAINAGE PIPING 3" AND LARGER AT 1/8" PER FOOT MINIMUM UNLESS OTHERWISE NOTED. PITCH ALL DRAINAGE PIPING 2-1/2" AND SMALLER AT 1/4" PER FOOT.
- 2. ALL UNDERGROUND DRAINAGE PIPING SHALL BE A MINIMUM OF 2' IN SIZE.
- 3. PROVIDE TRAP PRIMER UNITS FOR ALL FLOOR DRAINS.
- 4. VERIFY COORDINATE LOCATIONS OF ALL FIXTURES, DRAIN, ETC. WITH ARCHITECT PRIOR TO ROUGH-IN.

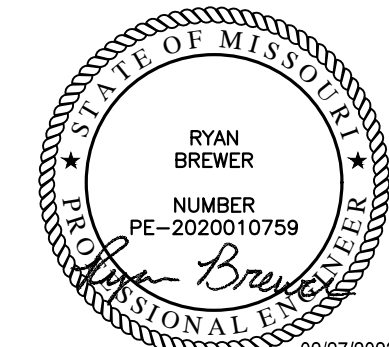


PERMIT DOCUMENTS

ITAP - LEE'S SUMMIT  
228 SW MAIN ST.  
LEE'S SUMMIT, MO 64063

COPYRIGHT © BY  
COLLINS WEBB  
ARCHITECTURE, LLC

REVISION DATES:

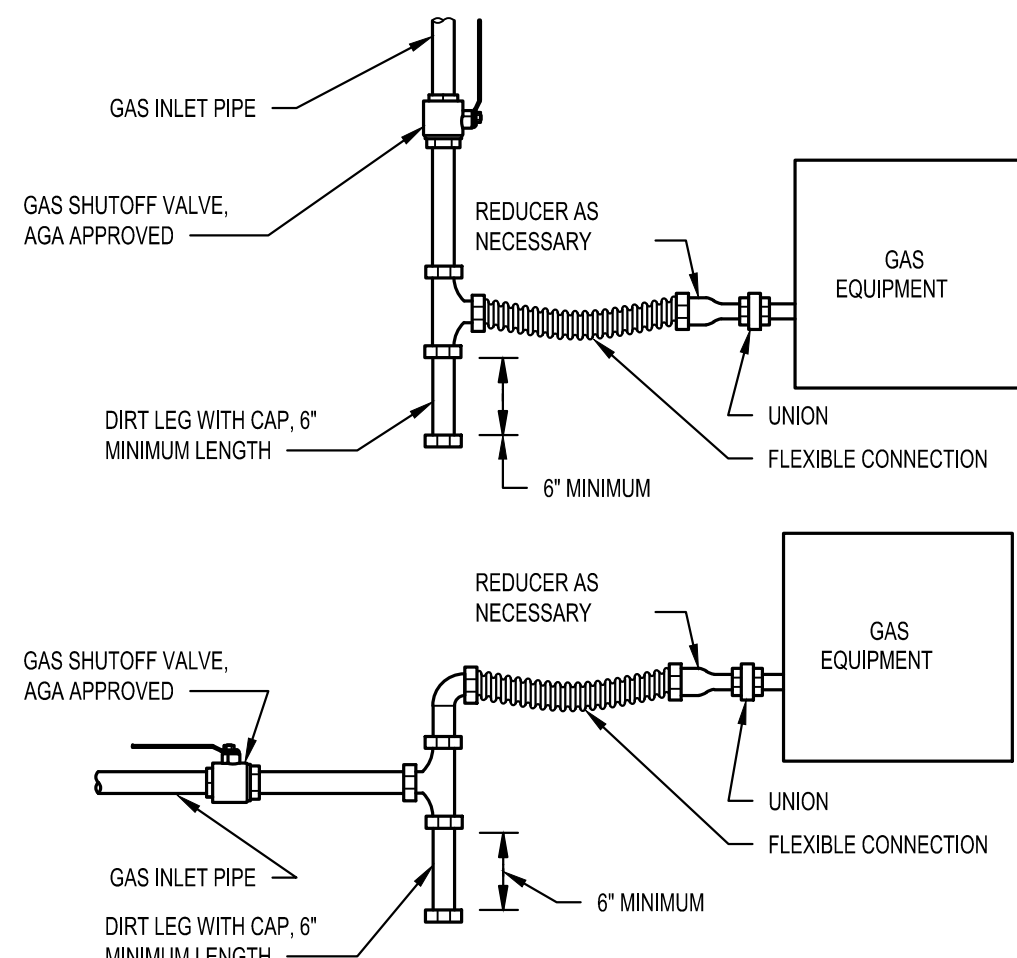


PROFESSIONAL SEAL

P101

ISSUE DATE: 27 FEB 2023  
COLLINS WEBB #: 22066

PLUMBING NOTES, SYMBOLS & ABBREVIATIONS



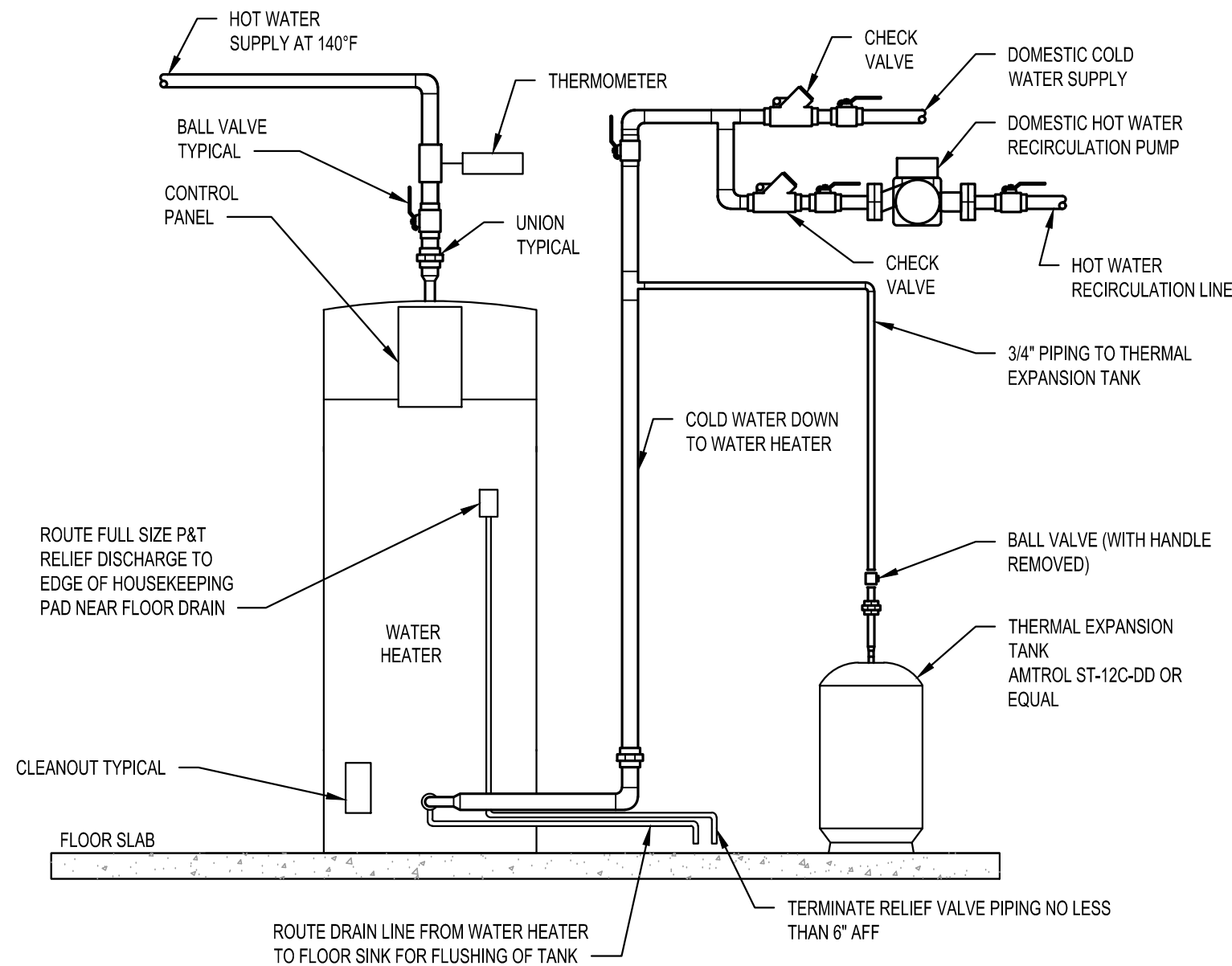
- NOTES:
1. HIGH TENSILE STRENGTH STAINLESS STEEL FLEXIBLE CONNECTION, 12\"/>

## 9 GAS EQUIPMENT PIPE CONNECTION

NOT TO SCALE

PLUMBING FIXTURE SCHEDULE									
TAG	MANUFACTURER	MODEL	DRAIN	VENT	COLD WATER	HOT WATER	ELECTRICAL REQUIREMENTS	DESCRIPTION	
FCO	SIoux CHIEF	834-4ANR	4"	---	---	---		FLOOR CLEANOUT ABS BODY AND NICKEL-BRONZE COVER	
FD	SIoux CHIEF	832-35ANR	2"	2"	---	---		ADJUSTABLE FLOOR DRAIN WITH GRAY ABS BODY AND ROUND NICKEL-BRONZE STRAINER AND TRAP PRIMER CONNECTION.	
FS	SIoux CHIEF	861-3PNJ2	3"	2"	---	---	---	SQUAREMAX PVC FLOOR SINK WITH 3" SCHEDULE 40 HUB CONNECTION AND HALF-OPEN NICKEL-BRONZE RING/STRAINER	
LAV	AMERICAN STANDARD	9024.001EC	2"	1-1/2"	1/2"	1/2"		WALL HUNG LAVATORY WITH SELECTRONIC BATTERY-POWERED CENTERSET SINGLE HOLE FAUCET 6055.105. PROVIDE WITH ASSE 1070 COMPLIANT MIXING VALVE AND TRUEBRO LAV GUARD PIPE WRAPS.	
RP	TACO	007-BF5	---	---	---	3/4"	115V 0.76 AMPS	IN-LINE CARTRIDGE STYLE CIRCULATOR PUMP. CAPABLE OF 10 FEET OF HEAD AT 3 GPM.	
UR	AMERICAN STANDARD	6002.001	2"	1-1/2"	3/4"	---	---	PINTBROOK URINAL 0.125 GPF WITH SELECTRONIC 6063.051.002 SENSOR OPERATED DC POWER FLUSH VALVE.	
WC1	AMERICAN STANDARD	2462.016	3"	2"	3/4"	---		1.6 GPF, FLUSH TANK WATER CLOSET PRESSURE-ASSISTED SIPHON JET. ELONGATED BOWL WITH CHURCH 9500C WHITE, SOLID PLASTIC, OPEN-FRONT SEAT.	
WC2	AMERICAN STANDARD	2467.016	3"	2"	3/4"	---		ADA-COMPLIANT, 1.6 GPF, FLUSH TANK WATER CLOSET PRESSURE-ASSISTED SIPHON JET, ELONGATED BOWL WITH CHURCH 9500C WHITE, SOLID PLASTIC, OPEN-FRONT SEAT.	
WCO	JAY R. SMITH	4531S	PER PLAN	---	---	---		CAST IRON CLEANOUT TEE AND COUNTERSUNK PLUG	
GWH	BRADFORD WHITE	EF60T-125E-3N			1"	1"	120V 15A SUPPLY	NATURAL GAS FIRED WATER HEATER 60 GALLON 145 GALLON RECOVERY AT 100 %WDF RISE. 95% EFFICIENT PROVIDE WITH AMTROL ST-12 THERMAL EXPANSION TANK.	

- NOTES:
1. MODELS IN SCHEDULE ARE A BASIS OF DESIGN CONFIRM FINAL FIXTURE MODELS WITH OWNER PRIOR TO PURCHASING.
  2. ALL LAVATORIES SHALL BE PROVIDED WITH ANTI-SCALD ASSE 1070 COMPLIANT VALVE.
  3. PROVIDE LOOSE KEY STOPS AND FLEXIBLE RISERS.
  4. ON LAVATORY INSULATE EXPOSED TAILPIECE, P-TRAP, AND WATER RISERS WITH TRU-BRO INSULATION KIT.
  5. PROVIDE FLUSH VALVE HANDLE ON WIDE SIDE OF ROOM.
  6. PROVIDE HANDLE STOPS AND FLEXIBLE RISERS.

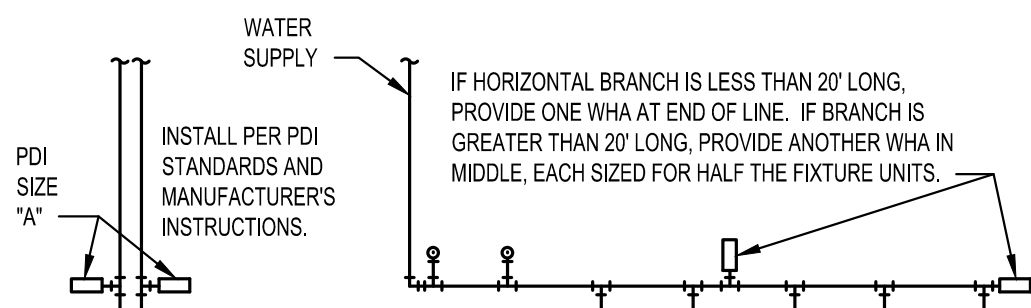


NOTES:

1. THERMOMETERS TO BE INSTALLED TO BE EASILY READABLE.
2. INSTALL PIPING & EQUIPMENT FOR WATER HEATER WITH REQUIRED CLEARANCES TO ALLOW SPACE FOR REMOVAL & SERVICING AS SHOWN.
3. PROVIDE SEPARATE SUPPORT FROM PIPING FOR RECIRCULATING PUMP.
4. INSTALL WATER HEATER PER MANUFACTURER'S WRITTEN INSTRUCTIONS/RECOMMENDATIONS.
5. ROUTE WATER HEATER P&H RELIEF AND DISCHARGE NEAR FLOOR SINK/DRAIN.
6. PROVIDE VACUUM RELIEF VALVE AS REQUIRED BY LOCAL CODE.
7. PIPE INSULATION NOT SHOWN FOR DRAWING CLARITY.

## 8 WATER HEATER PIPING

NOT TO SCALE

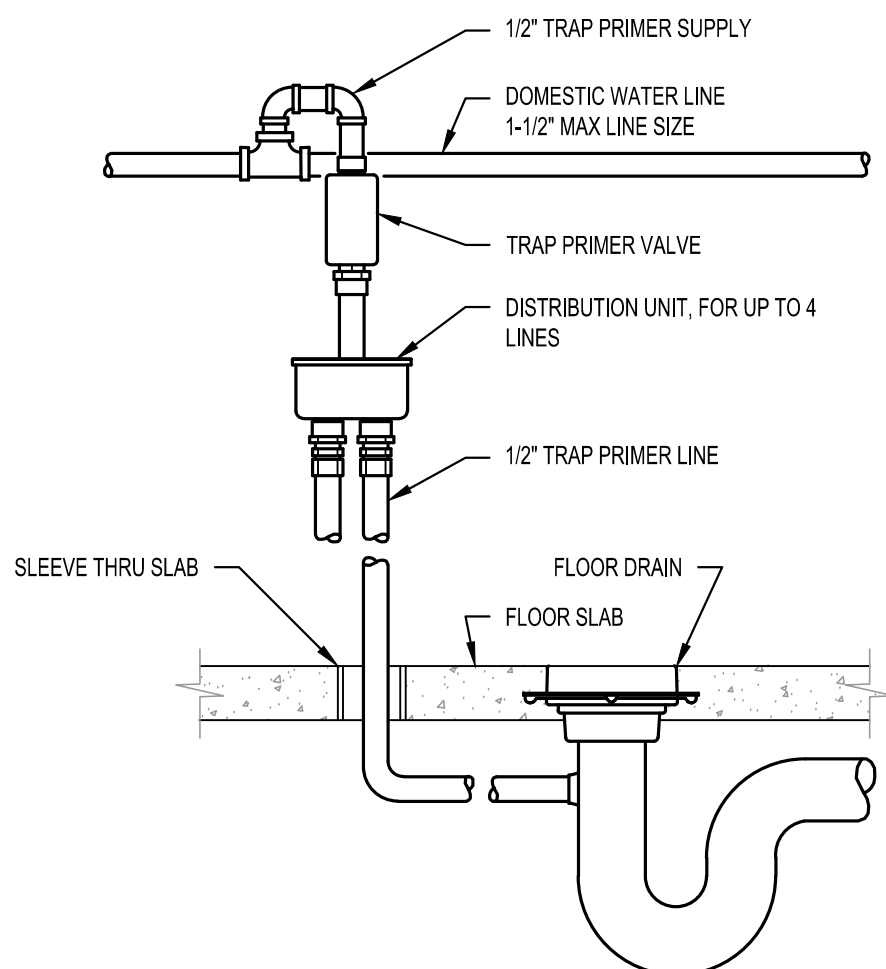


SINGLE FIXTURE			MULTIPLE FIXTURES		
PDI SIZE	PIPE SIZE	FIXTURE UNIT LOAD	FIXTURE	COLD	HOT
A	1/2"	1-11	VALVE WATER CLOSET	10	---
B	3/4"	12-32	TANK WATER CLOSET	5	---
C	1"	33-60	URINAL	5	---
D	1-1/4"	61-113	LAVATORY/SINK	1.5	1.5
E	1-1/2"	114-154	JANITOR'S SINK	3	3
F	2"	154-330	SHOWER/BATHTUB	2	2

PROVIDE WATER HAMMER ARRESTERS ON ALL QUICK CLOSING VALVES. INSTALLED AS CLOSE TO THE FIXTURES AS POSSIBLE TO CONTROL THE EFFECTS OF WATER HAMMER. INSTALLATION SHALL COMPLY WITH ALL LOCAL CODES AND ORDINANCES. DO NOT PROVIDE AIR CHAMBERS. PROVIDE WATER HAMMER ARRESTERS BY SIOUX CHIEF, PRECISION PLUMBING PRODUCTS, WATTS OR APPROVED EQUIVALENT WITH PISTON AND O-RING CONSTRUCTION, HAVING PDI #WH-201, ASSE # 1010 AND ANSI # A112.28.1M CERTIFICATION. INSTALL IN HORIZONTAL OR VERTICAL POSITION, BUT NEVER UPSIDE DOWN. INSTALL IN LINE WITH WATER FLOW DIRECTION IF POSSIBLE. SIZE THE UNITS PER THE TABLES SHOWN ABOVE.

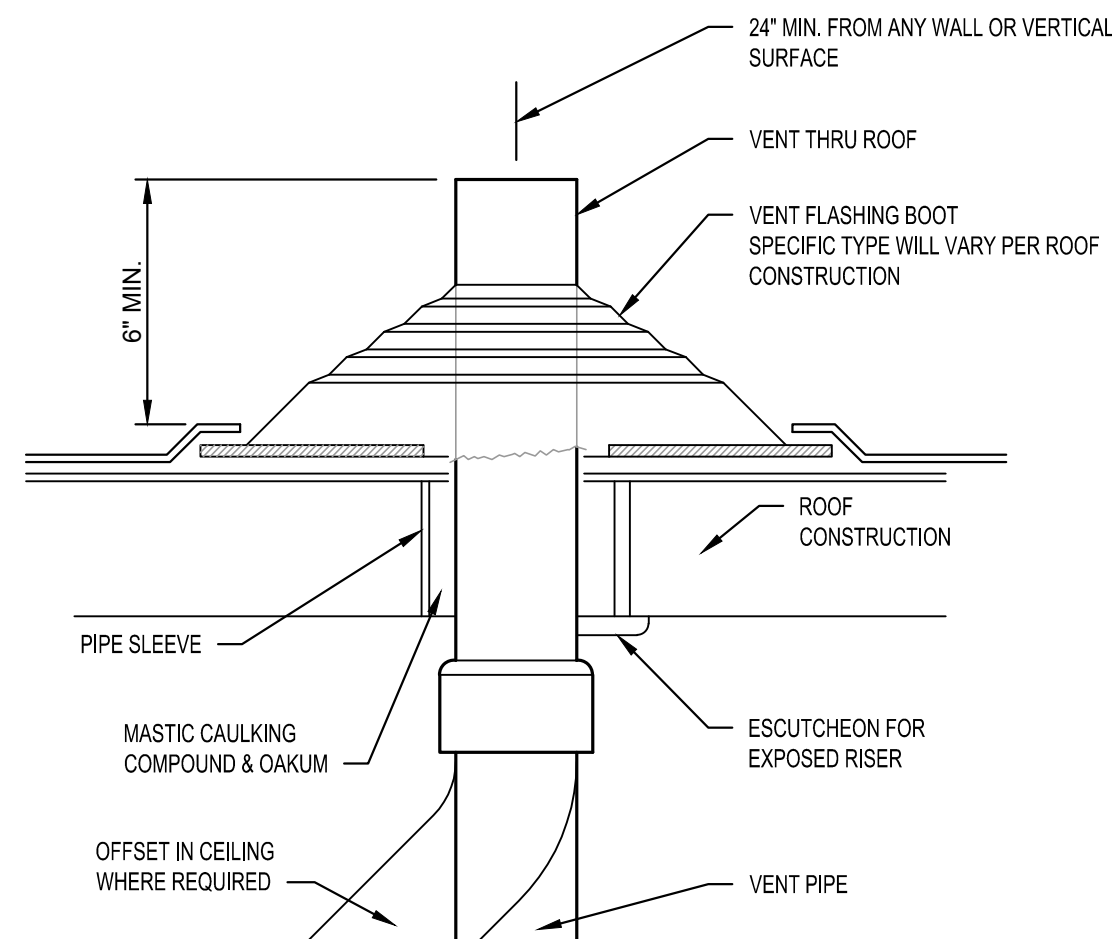
## 7 WATER HAMMER ARRESTERS

NOT TO SCALE



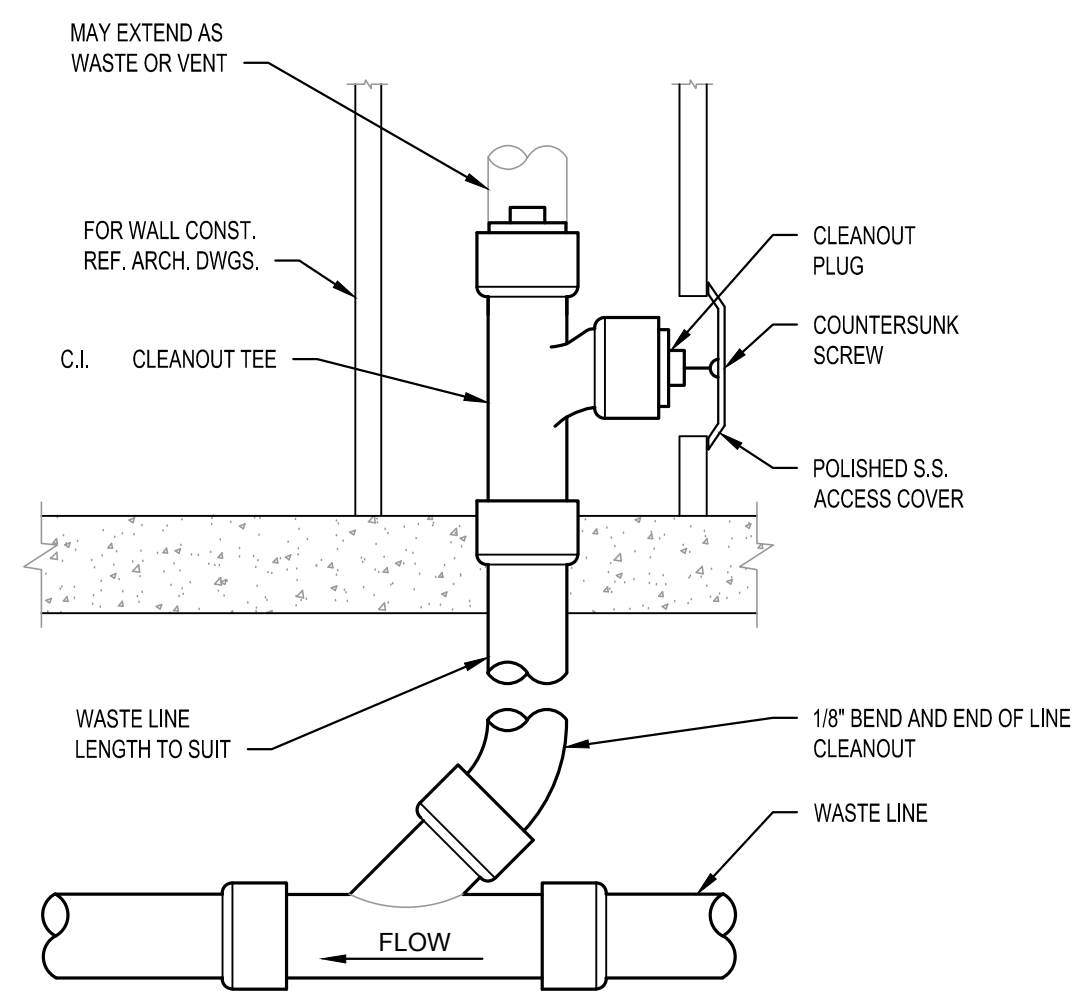
## 6 TRAP SEAL PRIMER DETAIL

NOT TO SCALE



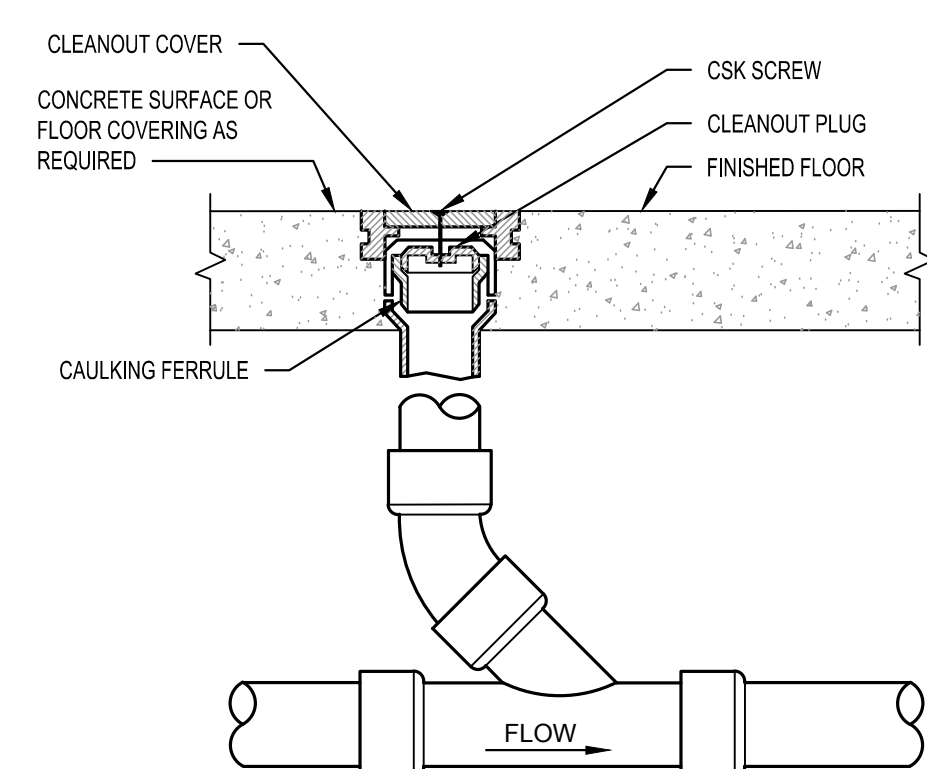
## 5 VENT THROUGH ROOF DETAIL (VTR)

NOT TO SCALE



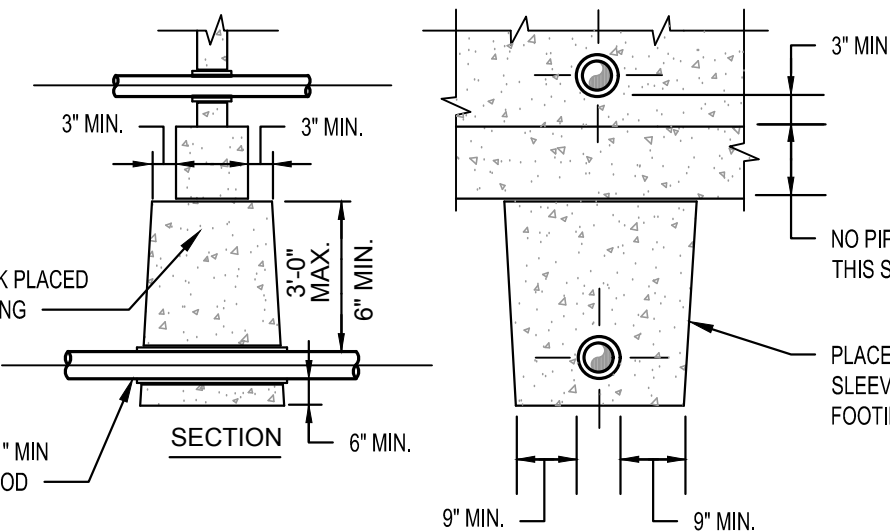
## 4 WALL CLEANOUT

NOT TO SCALE



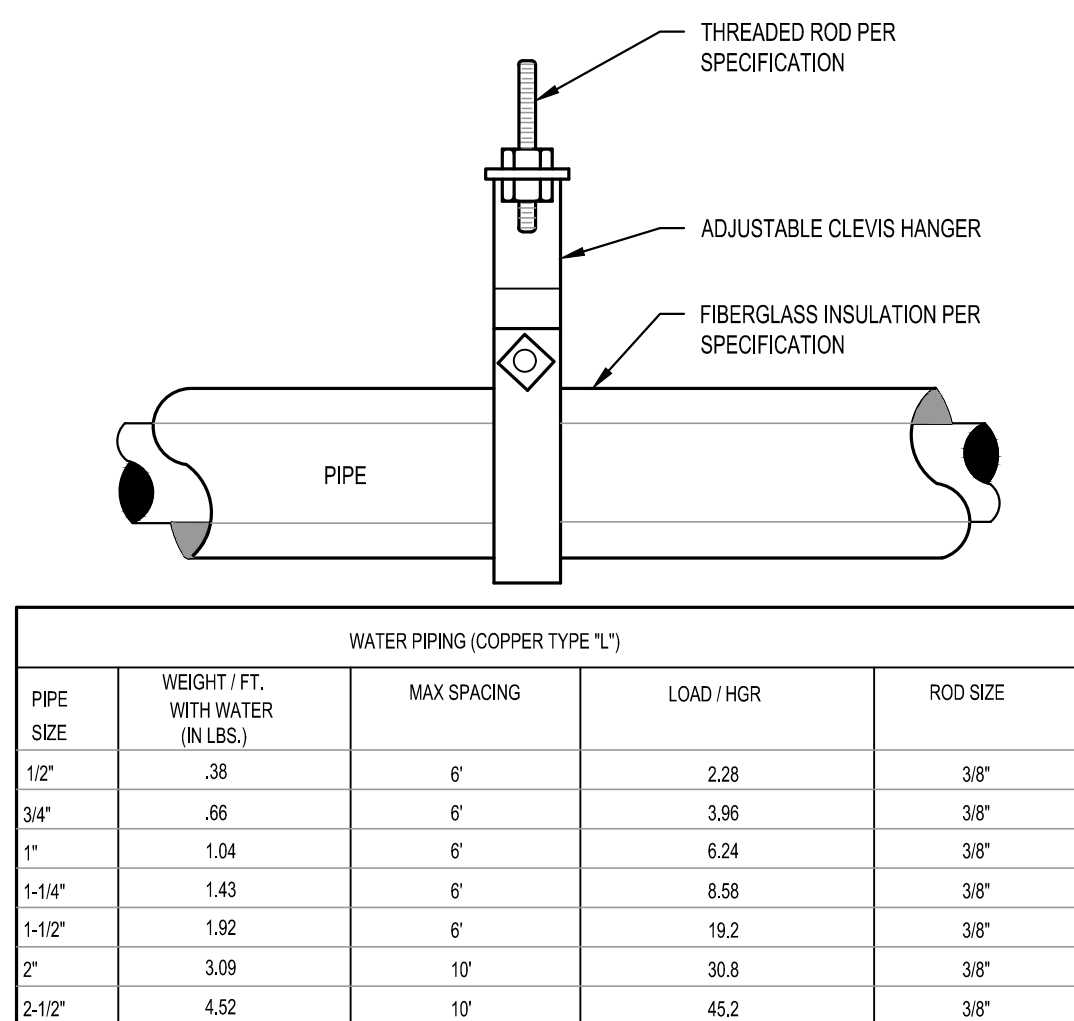
## 3 FLOOR CLEANOUT

NOT TO SCALE



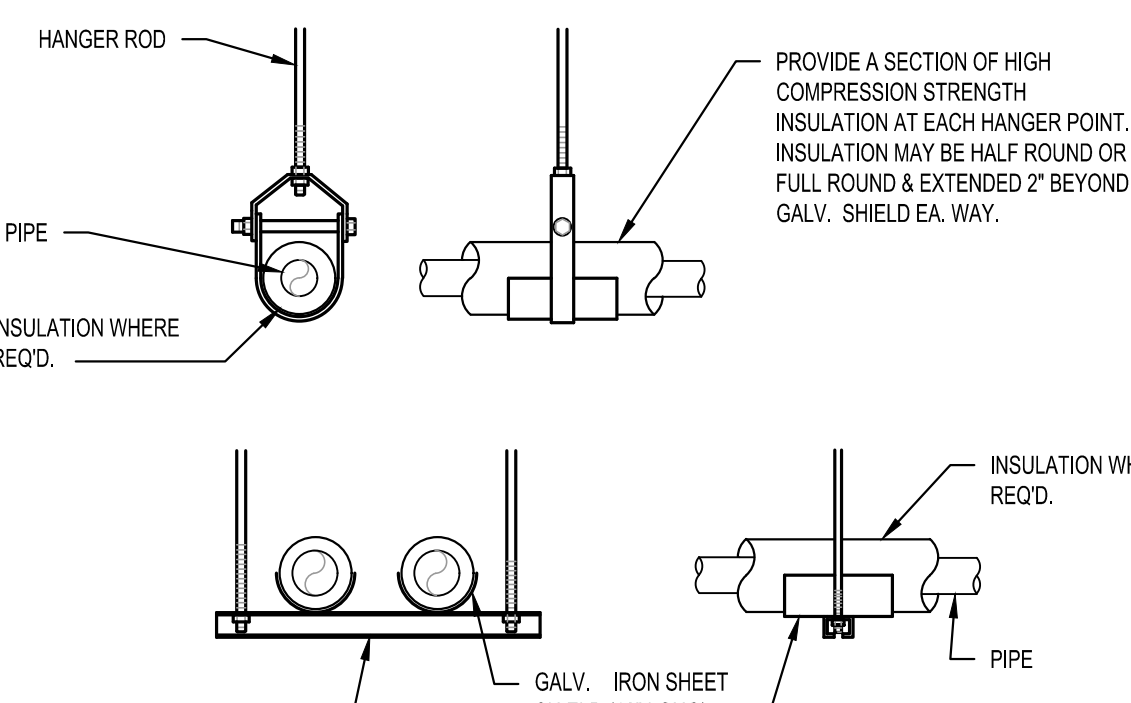
## 2 PIPE AT CONCRETE FOOTING

NOT TO SCALE



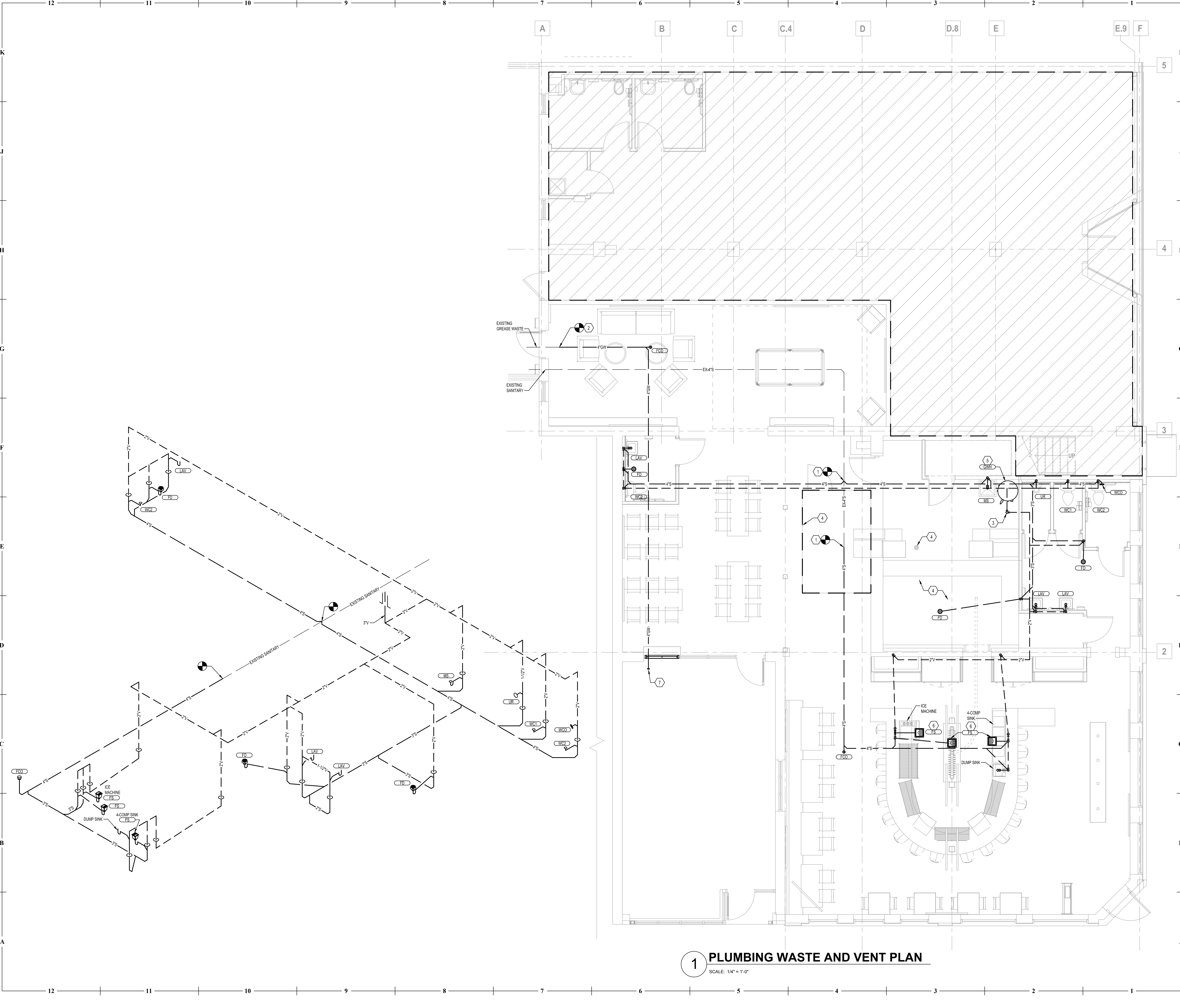
## 1 PIPE HANGING DETAIL

SCALE: NTS



NOTES:

1. ATTACH SUPPORTS FOR ALL PIPING SUSPENDED FROM THE STEEL STRUCTURE TO THE TOP CORD OF JOISTS OR BEAMS.
2. PROVIDE COPPER OR PLASTIC COATED HANGERS FOR NON-INSULATED COPPER PIPE.



- GENERAL NOTES**  
(NOT ALL NOTES APPLY)
1. REFERENCE SHEET P101 FOR GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.

2. ALL SHUT-OFF OR BALANCING VALVES TO PLUMBING ROUTED IN PIPE CHASES SHALL BE ACCESSIBLE FROM CEILING AREA OR ACCESS DOORS PROVIDED IN WALL.

3. ALL EXPOSED PIPES PENETRATING FINISHED WALLS SHALL BE EQUIPPED WITH WALL ESCUTCHEONS.

4. PROVIDE FINAL CONNECTIONS FOR ALL EQUIPMENT SPECIFIED IN PLUMBING FIXTURES AND EQUIPMENT SCHEDULES ON THESE CONSTRUCTION DOCUMENTS IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS. PROVIDE ALL REQUIRED SHUT-OFFS, BACKFLOW PREVENTERS, PRESSURE REGULATORS, AND CONDENSATE DRAINS INDICATED ON PLUMBING SCHEDULES AND AS REQUIRED BY LOCAL CODES FOR COMPLETE EQUIPMENT INSTALLATION. CONSULT EQUIPMENT SUPPLIER OR OWNER FOR ADDITIONAL FINAL CONNECTION REQUIREMENTS NOT SHOWN ON THESE DRAWINGS.
- KEYED NOTES:**
1. ROUTE NEW 4" SANITARY LINE TO EXISTING SANITARY LINE IN THIS AREA. FIELD COORDINATE EXACT CONNECTION POINT, LINE SIZE, MATERIAL AND AVAILABLE INVERT.

2. ROUTE NEW 4" GREASE WASTE LINE TO EXISTING GREASE WASTE LINE IN THIS AREA. FIELD COORDINATE EXACT CONNECTION POINT, LINE SIZE, MATERIAL AND AVAILABLE INVERT.

3. 3" UP THROUGH FLOOR ABOVE TO 3" VTR. COORDINATE FINAL PLACEMENT AND ROUTING THROUGH FLOOR ABOVE WITH ALL ROOF TOP EQUIPMENT AND EXISTING STRUCTURE. MAINTAIN A MINIMUM 10' FROM ALL FRESH AIR INTAKES AND 1' FROM ALL VERTICAL SURFACES.


4. INSTALL COOLER/FREEZER CONDENSATE DRAIN LINES ALONG COOLER WALLS AS HIGH AS POSSIBLE WHILE MAINTAINING A MINIMUM 1/4" PER FOOT FALL. ROUTE PIPING TO EXISTING FLOOR DRAIN AND TERMINATE OVER FLOOR DRAIN WITH AIR GAP PER CODE.

5. ROUTE WATER HEATER T&P DRAIN LINE TO FLOOR DRAIN AND TERMINATE OVER FLOOR DRAIN WITH AIR GAP PER CODE.

6. COORDINATE FINAL LOCATION OF FLOOR SINKS AT BAR WITH OWNER.

7. C&P 4" SW LINE FOR CONTINUATION BY FUTURE TENANT.

**1 PLUMBING WASTE AND VENT PLAN**  
SCALE: 1/4" = 1'-0"



collins | webb  
**ARCHITECTURE**

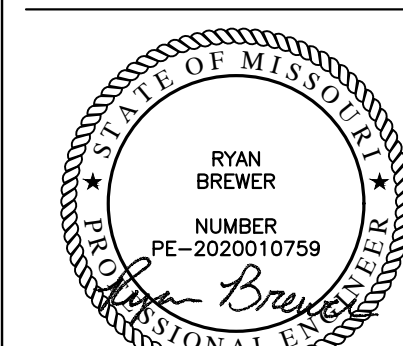
3075 SW Market St., Lee's Summit, Missouri 64033 | 816.249.2270 |  
www.collinswebbarch.com

**PERMIT DOCUMENTS**

**ITAP - LEE'S SUMMIT**  
228 SW MAIN ST.  
LEE'S SUMMIT, MO 64063

COPYRIGHT © BY  
COLLINS WEBB  
ARCHITECTURE, LLC

REVISION DATES:  
02/27/2023

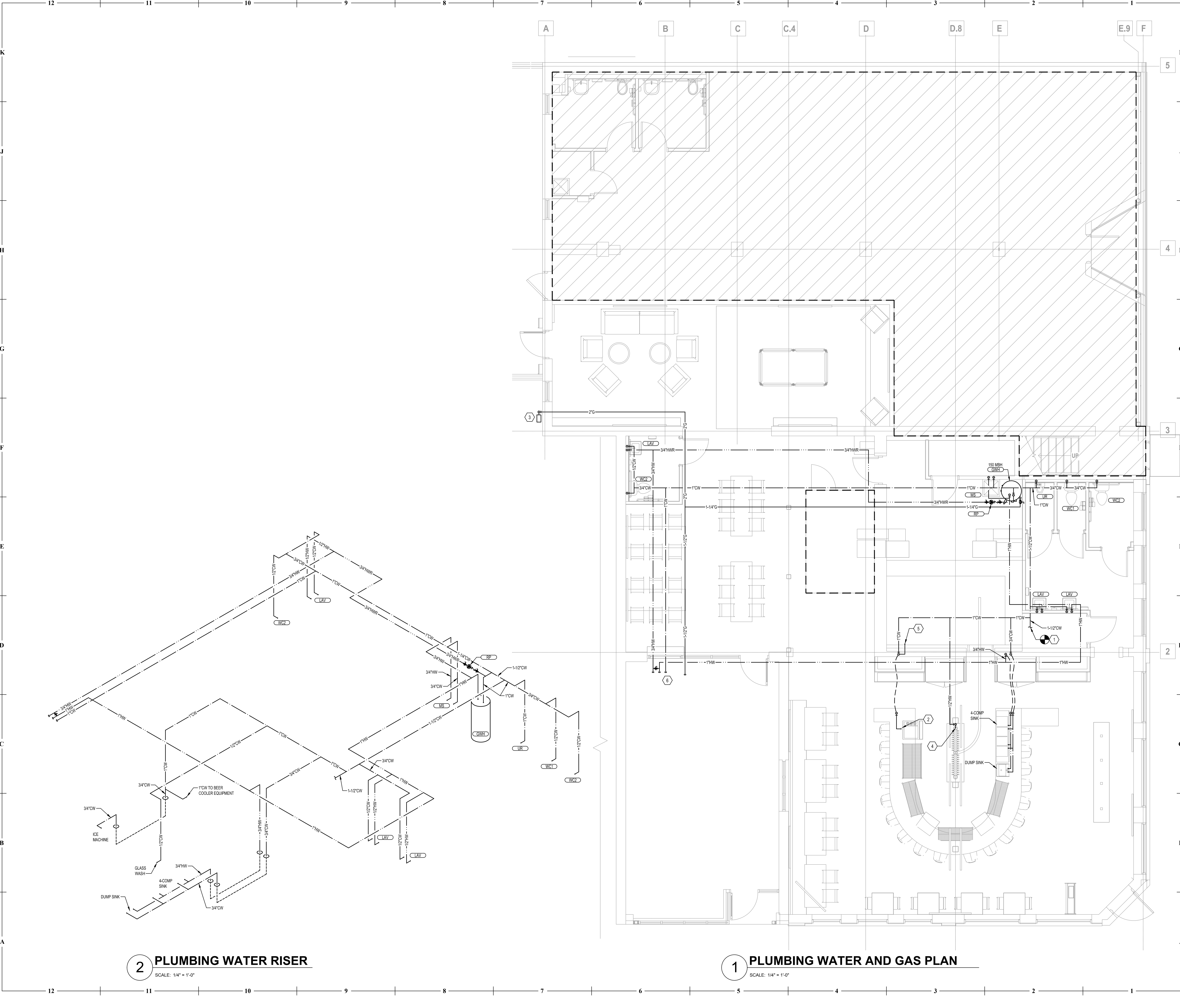


STATE OF MISSOURI  
RYAN BREWER  
NUMBER  
PE-2020010759  
02/27/2023

**PROFESSIONAL SEAL**

**P201**  
ISSUE DATE: 27 FEB 2023  
COLLINS WEBB #: 22066

**PLUMBING WASTE AND VENT PLAN**



**2 PLUMBING WATER RISER**  
SCALE: 1/4" = 1'-0"

**1 PLUMBING WATER AND GAS PLAN**  
SCALE: 1/4" = 1'-0"

**GENERAL NOTES**

(NOT ALL NOTES APPLY)

1. REFERENCE SHEET P101 FOR GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.
2. ALL SHUT-OFF OR BALANCING VALVES TO PLUMBING ROUTED IN PIPE CHASES SHALL BE ACCESSIBLE FROM CEILING AREA OR ACCESS DOORS PROVIDED IN WALL.
3. ALL EXPOSED PIPES PENETRATING FINISHED WALLS SHALL BE EQUIPPED WITH WALL ESCUTCHEONS.
4. PROVIDE FINAL CONNECTIONS FOR ALL EQUIPMENT SPECIFIED IN PLUMBING FIXTURES AND EQUIPMENT SCHEDULES ON THESE CONSTRUCTION DOCUMENTS IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS. PROVIDE ALL REQUIRED SHUT-OFFS, BACKFLOW PREVENTERS, PRESSURE REGULATORS, AND CONDENSATE DRAINS INDICATED ON PLUMBING SCHEDULES AND AS REQUIRED BY LOCAL CODES FOR COMPLETE EQUIPMENT INSTALLATION. CONSULT EQUIPMENT SUPPLIER OR OWNER FOR ADDITIONAL FINAL CONNECTION REQUIREMENTS NOT SHOWN ON THESE DRAWINGS.

**KEYED NOTES:**

1. ROUTE NEW 1-1/2" COLD WATER LINE TO EXISTING COLD WATER LINE IN THIS AREA. FIELD COORDINATE EXACT CONNECTION POINT, LINE SIZE, AND MATERIAL.
2. 3/4" CW UP THROUGH FLOOR TO ICE MACHINE. INSTALL ALL BACKFLOW PREVENTION, VALVING AND FILTERS AS PER MANUFACTURER'S RECOMMENDATIONS AND LOCAL CODES.
3. ROUTE NEW 2" G LINE BACK TO EXISTING GAS METER. FIELD VERIFY EXACT ROUTING WITH LANDLORD AND EXISTING CONDITIONS. ENSURE EXISTING METER IS LARGE ENOUGH FOR NEW TOTAL GAS LOAD. IF EXISTING METER IS FOUND TO NOT BE LARGE ENOUGH COORDINATE WITH UTILITY FOR INSTALLATION OF NEW. NEW PIPING LOAD OF 402 MBH SIZED FOR A DEVELOPED LENGTH OF 150' AT A PRESSURE OF 7" WATER COLUMN.
4. ROUTE 1/2" COLD WATER LINE DOWN TO GLASS WASH COORDINATE WITH OWNER FOR EXACT LOCATION AND REQUIREMENTS.
5. ROUTE 1" CW DOWN IN WALL. STUB 1" CW INTO BEER COOLER FOR CONNECTION TO EQUIPMENT. TERMINATE WITH ALL VALVING AND BACKFLOW PROTECTION AS PER MANUFACTURER'S RECOMMENDATIONS. CONTINUE 3/4" CW BELOW GRADE TO BAR EQUIPMENT.
6. CAP LINES FOR CONTINUATION BY FUTURE TENANT.

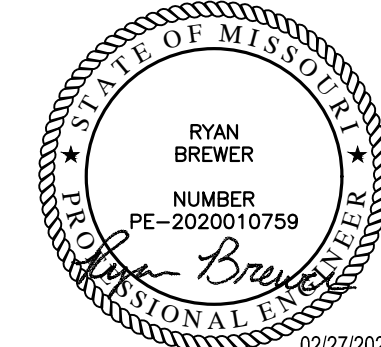


PERMIT DOCUMENTS

**ITAP - LEE'S SUMMIT**

COPYRIGHT © BY  
COLLINS WEBB  
ARCHITECTURE, LLC

REVISION DATES:



PROFESSIONAL SEAL

**P202**

ISSUE DATE: 27 FEB 2023  
COLLINS WEBB #: 22066

PLUMBING WATER  
AND GAS PLAN

