SHEET INDEX

FRESH GREEN - LEES SUMMIT

STATE OF MISSOURI
STEVEN J. BOWLING, JR
NUMBER
ARCHITECT

05.01.2020

HIVE DESIGN COLLABORATIVE, INC.
1617 WALNUT ST., KANSAS CITY, MO 64108
816.581.6363

GENERAL PROJECT NOTES:

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE GOVERNING LAWS AND CODES, AND IN ACCORDANCE WITH AUTHORITIES HAVING JURISDICTION.

2. GC TO VERIFY ALL DIMENSIONS AND NOTIFY ARCHITECT OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION. CONTRACTOR ACKNOWLEDGES REVIEW OF CONDITIONS AND INTENT OF ALL CONSTRUCTION DOCUMENTS UPON SUBMITTING BID.

3. CALCULATE AND MEASURE REQUIRED DIMENSIONS. DO NOT SCALE DRAWINGS UNLESS OTHERWISE INDICATED. ALL DIMENSIONS TO BE TAKEN FROM DESIGNATED DATUM POINT. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER GRAPHIC REPRESENTATION. DETAIL DIMENSIONS TAKE PRECEDENCE OVER PLAN DIMENSIONS.

4. ALL ITEMS SUPPLIED BY THE OWNER AND INSTALLED BY THE CONTRACTOR WILL BE COORDINATED BY THE CONTRACTOR FROM DELIVERY TO INSTALLATION.

5. DIMENSIONS ON DRAWINGS ARE TO FACE OF STUD AND CENTERLINE OF COLUMNS UNLESS OTHERWISE NOTED.

6. THE GENERAL CONTRACTOR (GC, HEREAFTER) UPON SIGNING THE OWNER/GC AGREEMENT, ACCEPTS THE CD (INCLUDING THESE DRAWINGS W/ THE INCLUDED NOTES & DESCRIPTIVE MATERIAL) & AGREES TO EXECUTE THE NECESSARY WORK IN MANNER DESCRIBED THEREIN.
   A) UPON EXAMINATION / FAMILIARIZATION OF CD & JOB SITE VISIT, ANY DISCREPANCIES, OMISSIONS, AMBIGUITIES AND/OR CONFLICTS NOTED, SHALL BE BROUGHT TO THE ATTENTION OF ARCHITECT IN WRITING, FOR CORRECTION.
   B) ANY ELEMENT, WHATSOEVER, REQUIRED BY BUILDING TO BE INCORPORATED IN CONSTRUCTION BUT NOT SPECIFIED IN CD SHALL BE BROUGHT TO ATTENTION OF ARCHITECT FOR REVIEW/ACTION.
   C) NO MODIFICATIONS / REVISIONS / CHANGES SHALL BE UNDERTAKEN UNLESS SPECIFICALLY SO INSTRUCTED AND APPROVED BY OWNER.
   D) DURING COURSE OF PROJECT, GENERAL CONTRACTOR SHALL MAKE EVERY EFFORT TO FULLY INFORM ALL CONCERNED PARTIES REGARDING DECISIONS/ACTIONS TAKEN WHICH, IN ANY WAY, MIGHT AFFECT ANY SAID CONSTRUCTION CONDITIONS.

7. ALL EXISTING HOLES/CRACKS IN SLAB AND THOSE RESULTING FROM THE CONSTRUCTION PROCESS SHALL BE FILLED/REPAIRED AND THE SURFACE PATCHED SMOOTH AND LEVEL WITH ADJACENT FLOOR SURFACE, IN A MANNER ACCEPTABLE TO OWNER AND ARCHITECT

8. GC SHALL BE RESPONSIBLE FOR FIELD MEASURING OF EXISTING CONDITIONS PRIOR TO START OF WORK AND DURING CONSTRUCTION, AS NECESSARY, TO ASSURE CONSTRUCTION ADHERENCE TO DRAWINGS. BY ENTERING INTO A CONSTRUCTION CONTRACT FOR THIS WORK, GC SHALL INDICATE HIS FAMILIARITY WITH THE SITE/FIELD CONDITIONS.
   A) ALL "HOLD" DIMENSIONS SHALL BE MONITORED TO ASSURE CORRECTNESS.
   B) ANY DIMENSION REVISIONS/MODIFICATIONS ARE TO BE BROUGHT TO ATTENTION OF THE ARCHITECT FOR REVIEW/APPROVAL.

9. ALL VERTICAL DIMENSIONS SHALL BE TAKEN FROM "BENCH MARK" OR OTHER SIMILAR GUIDE ESTABLISHED PRIOR TO START OF CONSTRUCTION. HIGH POINTS, LOW POINTS, IRREGULARITIES IN FLOOR SLAB, PARTICULARLY, WHICH COULD IN ANY WAY AFFECT FABRICATION/INSTALLATION WORK OF OTHER TRADES OR VENDORS (I.E., CABINET CONTRACTORS), SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT.
   A) VARIATIONS IN FLOOR LEVEL IN EXCESS OF 1/2" FOR EVERY 10'-0" IN EVERY DIRECTION WILL REQUIRE LEVELING OF SLAB BY G.C. LEVELING OF SLAB TO BE DONE AS REQUIRED READY TO RECEIVE FLOOR FINISHES, (I,E, VINYL TILE FLOORS, CARPETING, ETC). G.C. TO VERIFY SLAB CONDITION PRIOR TO BID SUBMISSION AND CONTACT LANDLORD.

10. GC, SUBCONTRACTORS, AND ALL VENDORS ARE TO VERIFY ALL CLEARANCES (CORRIDORS, STAIRS, ELEVATORS, ETC.) REQUIRED FOR DELIVERIES AND PASSAGE OF ALL JOB MATERIALS/EQUIPMENT.

11. ALL NECESSARY WOOD BLOCKING / GROUNDS, ETC., ARE TO BE SUPPLIED AS FIREPROOFED ELEMENTS. GC SHALL FULLY COORDINATE SETTING/PLACEMENT OF THESE ELEMENTS AS REQUIRED BY LOCAL CODE/BUILDING OR SURROUNDINGS.
   A) GROUND/BLOCKING MAY NOT BE WHOLLY SHOWN ON DRAWINGS AND GOOD CONSTRUCTION PRACTICE SHALL GOVERN/DETERMINE SAID USE WHERE A QUESTION ARISES.
   B) GC TO PAY PARTICULAR ATTENTION TO ALL LOCATIONS OF DRYWALL PARTITION CONSTRUCTION THAT ABUT OR RECEIVE MILLWORK OR CABINET WORK CONSTRUCTION. INTERNAL WOOD BLOCKING SHALL BE SUPPLIED FOR STURDY ANCHORAGE AT INTERSECTIONS OF WOOD/GLASS BORROWED LIGHT PARTITIONS AND ADJACENT DRYWALL CONSTRUCTION AS REQUIRED.

12. THE CONTRACTOR SHALL INSTALL DUST PROOF CURTAINS BETWEEN THE AREAS TO BE REMODELED AND THE AREAS TO REMAIN UNTIL ALL DUST PRODUCING WORK IS COMPLETED AND ALL DEBRIS IS CLEANED UP.

13. PROTECT THE AREAS OF THE BUILDING NOT BEING REMODELED FROM DAMAGE AT ALL TIMES.

14. KEEP ACCESS TO EMERGENCY EXITS AVAILABLE AT ALL TIMES

15. CONTRACTOR SHALL REMOVE ALL DEBRIS FROM THE PROJECT SITE AND DISPOSE IN A LICENSED LANDFILL

4 GENERAL NOTES

1" = 1'-0"

	Above Finish Floor
A.F.F.	Acoustical
ACOUS.	Acoustical Ceiling
ACT	Tile
ADJ	Adjacent, Adjustable
A/C	Air Conditioning
ALT	Alternate
ALUM	Aluminum
ANG	Angle
APPROX	Approximate
ARCH	Architect(ural)
AD	Area Drain
ASPH	Asphalt
BSMT	Basement
BM	Beam
BYND	Beyond
BITUM.	Bituminous
BLK	Block
BLKG	Blocking
BD	Board
BOT	Bottom
BO	Bottom of
B.C.	Bottom of curb
BOS	Bottom of steel
BLDG	Building
BO	By Others/Owner
CAB	Cabinet
CPT	Carpet
C.I.P.	Cast-In-Place
C.B.	Catch Basin
CLG.	Ceiling
CEM.	Cement
CTR	Center
CL	Center Line
C/C	Center to Center
CER.	Ceramic
CT.	Ceramic Tile
C. OF O.	Certificate of Occupancy
C.	Channel
C.O.	Cleanout
CL.	Clear
CLR	Clear
CLOS.	Closet
CW	Cold Water
COL.	Column
CONC	Concrete
CMU	Concrete Masonry Unit
CONF.	Conference
CONST.	Construction
C.M.	Construction Manager
CONT	Continuous
CONTR	Contractor
C.J.	Control Joint
CONV.	Convector
CG	Corner Guard
CORR.	Dark
DK	Corridor
	Decibel
DB	Degree
DEG.	Department
DEPT.	Dept. Of Building
D.O.B.	Dept. Of Environmental
D.E.P.	Protection
DTL.	Detail
DIA.	Diameter
DIFF.	Diffuser
DIM.	Dimension
DW	Dishwasher
DISP.	Dispenser
DR	Door
D.O.	Door Opening
DBL.	Double
DN	Down
DWG(S)	Drawing, Drawings
D.F.	Drinking Fountain
EA	Each
EW	Each Way
E	East
EPDM	Elastomeric Roof Membrane
ELECT	Electric, Electrical
ELEC.	Electrical
E.P.	Electrical Panelboard
EL.	Elevation
ELEV.	Elevator
EMER.	Emergency
ENCL.	Enclosure
EQ.	Equal
EQ, EQUIP.	Equipment
EXIST.	Existing
EXP	Expansion
E.J.	Expansion Joint
EXT.	Exterior
EIFS	Exterior Insulation Finish System

FOC	Face of Concrete
FOF	Face of Finish
FOS	Face of Studs
FOW	Face of Wall
FV	Field Verify
FIN.	Finish
F.A.	Fire Alarm
F.E.	Fire Extinguisher
F.E.C.	Fire Extinguisher Cabinet
F.R.	Fire Rated, Fire Retardant
F.S.P.	Fire Stand Pipe
F.V.C.	Fire Valve Cabinet
F.P.	Fireproof
FPSC	Fireproof Self Closing
FIX, FIXT	Fixture
FLASH	Flashing
FL, FLR	Floor
F.D.	Floor Drain
FLUOR.	Fluorescent
FT,'	Foot, Feet
FTG.	Footing
FDN.	Foundation
F.A.I.	Fresh Air Intake
F.S.	Full Size
F.B.O.	Furnished by Others
FURR.	Furring
GALV.	Galvanize
G.	Gas
GA.	Gauge
G.C.	General Contractor
GL.	Glass
G.F.R.C.	Glass Fiber Reinforced Concrete
G.F.R.G.	Glass Fiber Reinforced Gypsum
GR.	Grade
GSF	Gross Square Feet
GND	Ground
GYP.	Gypsum
GYP. BD	Gypsum Wallboard
HDWR	Hardware
HDWD	Hardwood
HD	Head
HTR	Heater
HVAC	Heating, Venting, Air Conditioning
HT.	Height
HPC	High Performance Coating
H.P.	High Point
HWY	Highway
H.C.	Hollow Core
H.M.	Hollow Metal
HORIZ.	Horizontal
H.B.	Hose Bibb
HW	Hot Water
HR	Hour
IN, "	Inside
INC.	Include
I.D.	Inside Diameter
INSUL.	Insulation
INT.	Interior
JAN	Janitor
J.C.	Janitor's Closet
JT.	Joint
JST	Joist
KIT.	Kitchen
K.O.	Knock Out
LS	Life Safety
LAM.	Laminate, Laminated
LAV.	Lavatory
L.H.	Left Hand
L.	Length
LT	Light
L.W.	Lightweight
L.P.	Low Point
MH	Manhole
MFR, MANUF	Manufacturer
M.O.	Masonry Opening
MATL	Material
MAX	Maximum
MECH.	Mechanical
MEPFP	Mechanical, Electrical, Plumbing, Fire Protection
M.E.R.	Mechanical Equipment Room
MDF	Medium Density Fireboard
MEMB.	Membrane
MTL	Metal
MEZZ.	Mezzanine
MIN.	Minimum
MIR	Mirror
MISC.	Miscellaneous
MTD.	Mounted
MTG.	Mounting
MULT.	Multiple
N.R.C.	Noise Reduction Coefficient
NOM.	Nominal
N	North
N.A.	Not applicable
NIC	Not in Contact
N.I.C.	Not in Contract
NTS	Not to Sale
N.T.S.	Not to Scale
NO. NUM, #	Number

OFF.	Office
O.C.	On Center
OPNG.	Opening
OPP.	Opposite
O.H.	Opposite Hand
O.D.	Outer Diameter (Dim.)
OFD	Over Flow Drain
O.A.	Overall
O.R.D.	Overflow Roof Drain
PT	Paint
PTD.	Painted
PR.	Pair
PNL	Panel, Panelboard
PERF.	Perforated
PERP	Perpendicular
PLAS	Plaster
P-LAM	Plastic Laminate
PL.	Plate
PLYWD.	Plywood
PT.	Point
PVC	Polyvinyl Chloride
PSF	Pounds per Sq. Foot
PC	Precast Concrete
PREFAB.	Prefabricated
PRT	Pressure Treated
PROJ	Project
PROP	Property
QTY	Quantity
Q.T.	Quarry Tile
R., RAD.	Radius
RE, REF.	Reference
REINF.	Reinforced
R.C.P.	Reinforced Concrete Pipe
R.A.	Relieving Angle
REQ.	Required
R.H.	Right Hand
R.	Riser
RD.	Road
R.D.	Roof Drain
RM..	Room
R.O.	Rough Opening
RB	Rubber Base
SAB	Sound Attenuation Batt
SCHED.	Schedule
SEC.	Second
SECT.	Section
SHT.	Sheet
SIM.	Similar
S.C.	Solid Core
STC	Sound Transmission Coefficient
S	South
SPKR.	Speaker
SPEC.	Specification
S.F.P.	Spray on Fireproofing
SQ.	Square
S.F.	Square Feet
S.S.	Stainless Steel
ST	Stair
STD.	Standard
STA	Station
STL	Steel
STOR.	Storage
ST.	Street
STRUCT.	Structural
SUSP.	Suspended
SYM	Symmetrical
TEL.	Telephone
T.V.	Television
TEMP.	Temporary
THK	Thick, Thickness
T.&G.	Tongue and Groove
T.O.	Top Of
T.O.B.	Top Of Beam
T.O.C.	Top Of Curb
T.O.S.	Top Of Sidewalk
T.O.W.	Top Of Wall
T	Tread
TYP.	Typical
TW	Through wall
UNFIN.	Unfinished
U.N.O.	Unless Noted Otherwise
V.I.F.	Verify in Field
VERT.	Vertical
VEST.	Vestibule
V.C.P.	Vetrified Clay Pipe
VCT	Vinyl Composition Tile
VWC	Vinyl Wallcovering
W	Water
W.C.	Water Closet
WR.	Water Resistant
WP.	Waterproofing
WT	Weight
WWF	Welded Wire Fabric
W	West
W.F	Wide flange
W	Width
WIN	Window
W, W/O	With, Without
WD.	Wood
YD	Yard

3 ABBREVIATIONS

1/4" = 1'-0"

DIVISION 01: GENERAL
- DETAIL/ SECTION
- DETAIL REFERENCE
- BUILDING SECTION
- BUILDING ELEVATION REFERENCE
- INTERIOR ELEVATION
- ELEVATION DESIGNATION
- DOOR TAG
- INTERIOR PARTITION TYPE
- ROOM NUMBER DESIGNATION
- GENERAL NOTES
- CONSTRUCTION NOTE
- CENTER LINES OF COLUMN GRIDS
- 1 HR - FIRE RATED ASSEMBLY
- 2 HR - FIRE RATED ASSEMBLY
- 2 HOUR SMOKE - FIRE RATED ASSEMBLY
- 4 HOUR - FIRE RATED ASSEMBLY
- SMOKE - FIRE RATED ASSEMBLY
- NEW WALL
- EXISTING WALL

DIVISION 03: CONCRETE
- CAST-IN-PLACE CONCRETE
- PRECAST CONCRETE
- PRECAST CONCRETE WALL
- PRECAST CONCRETE COLUMN
- CAST-IN-PLACE CONCRETE WALL & CAST-IN-PLACE COLUMN

DIVISION 04: MASONRY
- BRICK
- CONCRETE MASONRY UNIT
- CUT STONE
- CAST STONE
- BRICK PAVER
- LIMESTONE
- QUARRY TILE
- GROUT

DIVISION 05: METALS
- STEEL/ IRON (LARGE SCALE)
- ALUMINUM
- OTHER METALS

DIVISION 06: WOOD AND PLASTICS
- WOOD (DIMENSION) (THROUGH MEMBER)
- WOOD (DIMENSION) (INTERRUPTED MEMBER)
- PLYWOOD
- WOOD (FINISH)
- HARDBOARD
- PARTICLE BOARD
- SOLID SURFACE MATERIAL

DIVISION 07: THERMAL & MOISTURE PROTECTION
- RIGID INSULATION
- FIRE SAFING INSULATION
- BLANKET INSULATION
- LOOSE FILL INSULATION
- SEALANT W/ BACKER ROD
- MEMBRANE WATERPROOFING & DRAINAGE COMPOSITE
- SPRAY-ON FIREPROOFING

DIVISION 08: DOORS & WINDOWS
- GLASS INSULATING
- GLASS ELEVATION
- PLASTIC GLAZING
- NEW DOUBLE DOOR
- NEW SINGLE DOOR
- NEW SWINGING DOOR
- NEW DOUBLE ACTING DOOR
- EXISTING DOUBLE DOORS
- EXISTING SINGLE DOOR

DIVISION 09: FINISHES
- LATH AND PLASTER
- GYPSUM BOARD
- CERAMIC TILE
- CEILING PANEL
- CARPET

2 SYMBOLS

12" = 1'-0"

FRESH GREEN - LEES SUMMIT

1041 NE Sam Walton Dr.
Lees Summit, MO 64086

HIVE DESIGN COLLABORATIVE, INC.
1617 WALNUT STREET, KANSAS CITY, MO 64108
816.581.6363

seal/signature

05.01.2020

project number	2020-017
date	05.01.2020
issued for	PERMIT

rev | date | description

GENERAL INFORMATION

sheet number

G01

APPLICABLE CODES JURISDICTION : THE CITY OF LEES SUMMIT, MO.
2018 INTERNATIONAL BUILDING CODE
2018 INTERNATIONAL MECHANICAL CODE
2017 NATIONAL ELECTRICAL CODE
2018 INTERNATIONAL PLUMBING CODE

PROJECT DESCRIPTION
FRESH GREEN - LEES SUMMIT IS LOCATED AT 1041 NE SAM WALTON DR. SUITE B IN LEES SUMMIT, MO. THE EXISTING PROPERTY CONSISTS OF A SINGLE STORY COMMERCIAL BUILDING. THE CONSTRUCTION TYPE OF THE EXISTING BUILDING IS *V-B*.

THE SCOPE OF THE PROJECT INCLUDES DEMOLITION OF EXISTING NON LOAD-BEARING INTERIOR WALLS AND PATCHING, REMOVAL OF INTERIOR FINISHES AND FIXTURES.

THE SCOPE OF THE PROJECT INCLUDES TENANT INTERIOR FINISH OF AN EXISTING 1 STORY RETAIL BUILDING.

LEGAL DESCRIPTION
RITTER PLAZA LOT 2 (EX PT IN ROW)

GENERAL BUILDING HEIGHTS AND AREAS
EXISTING BUILDING IS SINGLE STORY BUILDING - 3,039 GSF

GENERAL BUILDING CODE INFORMATION

CHAPTER 3 - USE AND OCCUPANCY
OCCUPANCY CLASSIFICATION:
M (MERCANTILE) OCCUPANCY (SECTION 309)
B (BUSINESS) OCCUPANCY (SECTION 304)

CHAPTER 5 - GENERAL BUILDING HEIGHTS AND AREAS
ALLOWABLE BUILDING HEIGHT AND AREAS (SECTION 503)
2 STORIES, *12,500* SF PER STORY

BUILDING HEIGHT MODIFICATIONS (SECTION 504)
NONE

BUILDING AREA MODIFICATIONS (SECTION 506)
NONE

CHAPTER 6 - TYPES OF CONSTRUCTION
FIRE RESISTANT REQUIREMENTS FOR BUILDING ELEMENTS (SECTION 601)

STRUCTURAL FRAME:	*0* HOUR
BEARING WALLS, EXTERIOR:	*0* HOUR
NON BEARING WALLS:	*0* HOUR
FLOOR CONSTRUCTION:	*0* HOUR
ROOF CONSTRUCTION:	*0* HOUR

CONSTRUCTION TYPE (SECTION 602)
TYPE *V-B*

CHAPTER 7 - FIRE AND SMOKE PROTECTION FEATURES
FIRE RESISTANT REQUIREMENTS FOR BUILDING ELEMENTS

FIRE WALLS (SECTION 706):	*2* HOUR
FIRE BARRIERS (SECTION 707):	*2* HOUR
FIRE PARTITIONS (SECTION 708):	*N/A*
SMOKE BARRIERS (SECTION 709):	*N/A*
HORIZONTAL ASSEMBLIES (SECTION 711):	*N/A*
SHAFT ENCLOSURES (SECTION 713):	*2* HOUR
CONCEALED SPACES (SECTION 718):	*N/A*

CHAPTER 9 - FIRE PROTECTION SYSTEM

AUTOMATIC SPRINKLER SYSTEM (903.2.11.3) -	NONE
FIRE ALARM SYSTEM (907.2.2) -	EXISTING
FIRE EXTINGUISHERS (906) -	*REQUIRED*

CHAPTER 10 - MEANS OF EGRESS
TENANT ALLOWABLE OCCUPANCY (SECTION 1004):
A-3 (ASSEMBLY) — *417* / 15 = *35* OCCUPANTS
27 < 49 = 1 EXIT REQUIRED

TENANT ALLOWABLE OCCUPANCY (SECTION 1004):
B (BUSINESS) — *778* / 100 = *7* OCCUPANTS
7 < 49 = 1 EXIT REQUIRED

TENANT ALLOWABLE OCCUPANCY (SECTION 1004):
M (MERCANTILE) — *1,126* / 60 = *22* OCCUPANTS
18 < 49 = 1 EXIT REQUIRED

SPACES WITH ONE MEANS OF EGRESS (SECTION 1021.2):
B (BUSINESS) — *49* OCC. MAXIMUM

COMMON PATH OF EGRESS TRAVEL DISTANCE (SECTION 1014.3):

OCCUPANCY	W/O SPRINKLER	W/ SPRINKLER
B	*75 FEET*	*100 FEET*

EXIT ACCESS TRAVEL DISTANCE (SECTION 1016):

OCCUPANCY	W/O SPRINKLER	W/ SPRINKLER
B	*200 FEET*	*300 FEET*

CORRIDOR RATING REQUIRED (SECTION 1018.1)

OCCUPANCY	W/O SPRINKLER	W/ SPRINKLER
B	*1 HOUR*	*0 HOURS*

DEAD ENDS (SECTION 1018.4)

OCCUPANCY	W/O SPRINKLER	W/ SPRINKLER
B	*20 FEET*	*50 FEET*

CHAPTER 29 - MINIMUM PLUMBING FACILITIES
WATER CLOSET REQUIREMENTS:
1 PER 500

SEPARATE FACILITIES NOT REQUIRED FOR OCCUPANCY *M (MERCANTILE)* FOR LOADS LESS THAN 100.

BUILDING OCCUPANT LOAD = 56
1 RESTROOM REQUIRED
PROVIDED = 1 CONFORMING RESTROOM, 1 EXISTING NON-CONFORMING RESTROOM

LAVATORY REQUIREMENTS:
1 PER 750

BUILDING OCCUPANT LOAD = 56
1 RESTROOM REQUIRED
PROVIDED = 1 CONFORMING RESTROOM, 1 EXISTING NON-CONFORMING RESTROOM

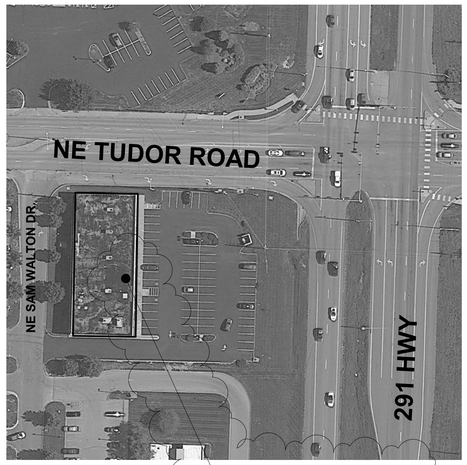
CODE PLAN LEGEND

ROOM OCCUPANT LOAD
101 ← ROOM NAME & NUMBER
ROOM NAME
150 SF ← SQUARE FEET OF SPACE OR ROOM

EXITING OCCUPANT LOAD
XXX ← ALLOWABLE NUMBER OF OCCUPANTS
X.X ← EXIT WIDTH IN DECIMAL FEET

EXIT WIDTH FACTORS:
STAIRS: 0.2" PER OCCUPANT SERVED
DOORS: 0.3" PER OCCUPANT SERVED

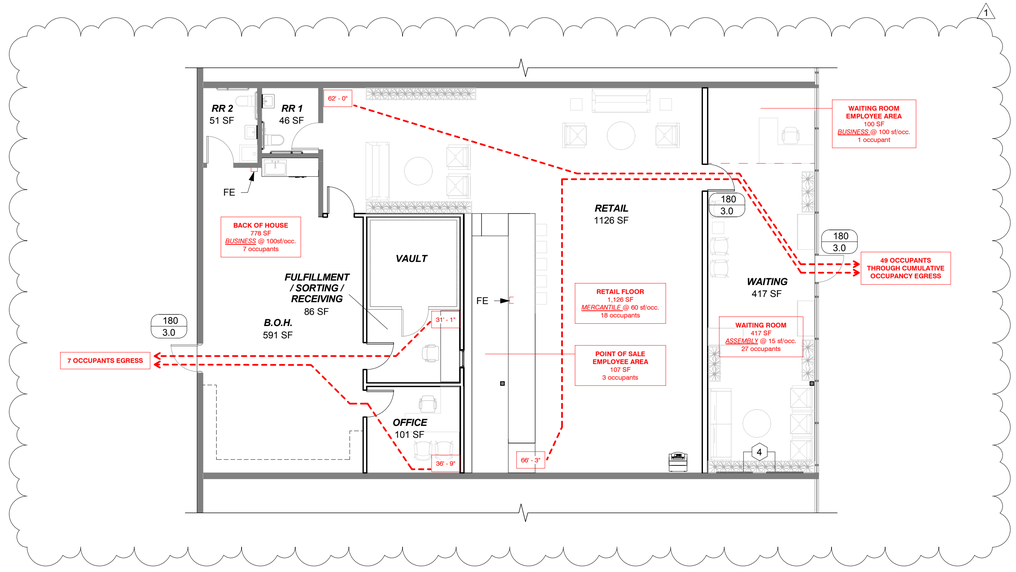
FE ← 2A10BC FIRE EXTINGUISHER
← TRAVEL PATH / DISTANCE
← 2-HR RATED WALL
← 1-HR RATED WALL



1041 NE SAM WALTON DR.
SUITE B

03 VICINITY MAP

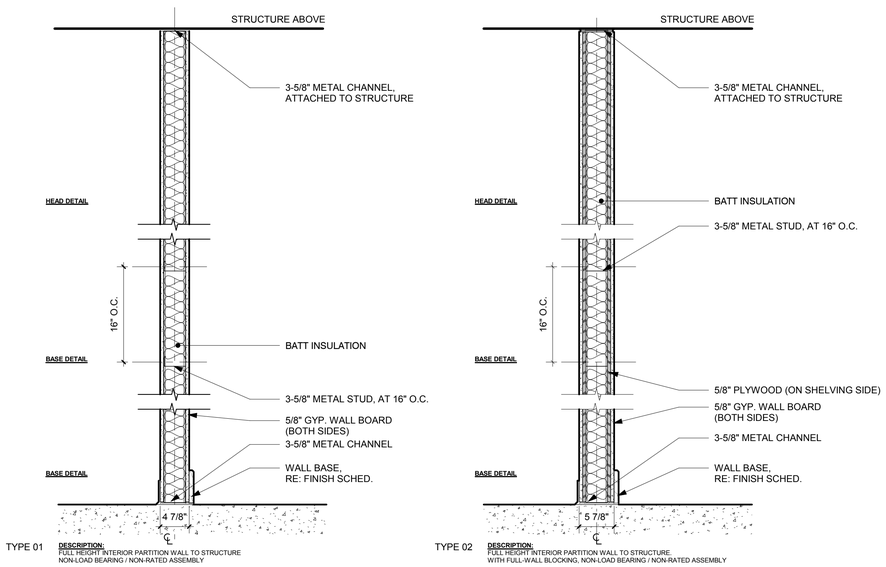
/ N.T.S.



02 CODE PLAN

1/8" = 1'-0"

CODE INFORMATION



TYPE 01 **DESCRIPTION:**
FULL HEIGHT INTERIOR PARTITION WALL TO STRUCTURE
NON-LOAD BEARING / NON-RATED ASSEMBLY

TYPE 02 **DESCRIPTION:**
FULL HEIGHT INTERIOR PARTITION WALL TO STRUCTURE.
WITH FULL-WALL BLOCKING, NON-LOAD BEARING / NON-RATED ASSEMBLY

01 INTERIOR WALL ASSEMBLIES

1" = 1'-0"

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
05/14/2020

HIVE

FRESH GREEN - LEES SUMMIT

1041 NE Sam Walton Dr. Ste. B
Lees Summit, MO 64086

HIVE DESIGN COLLABORATIVE, INC.
1617 WALNUT STREET, KANSAS CITY, MO 64108
816.581.6363

seal/signature

STATE OF MISSOURI
STEVEN J. BOWLING, JR
NUMBER A-2007004981
ARCHITECT
05.01.2020

project number	2020-017
date	05.01.2020
issued for	PERMIT

rev	date	description
1	05.08.2020	CITY COMMENTS

CODE PLAN & INFORMATION

sheet number

G02

SECTION 01 10 00 - SUMMARY
1. Project Name: FRESH GREEN - LEES SUMMIT
2. Owner's Name: FRESH GREEN
3. Architect's Name: HIVE Design Collaborative, Inc.
4. The Project consists of typical interior Tenant Finish Retail
5. Coordinate with Owner / Tenant on all items to be supplied and installed by Owner.
6. Coordinate with Owner / Tenant on occupancy requirements during the construction period.
7. Coordinate with Owner / Tenant to minimize conflict and to facilitate building operations.
8. Coordinate with Owner / Tenant on Utility Outages and Shutdowns.
9. Provide access to and from spaces as required by law and by Owner.
10. Keep all exits required by code open during construction period; provide temporary exit signs if exit routes are temporarily altered.
11. Do not obstruct roadways, sidewalks, or other public ways without permit.

SECTION 01 20 00 - PRICE AND PAYMENT PROCEDURES
1. Coordinate requirements with Owner / Tenant on all pricing and payment procedures.

SECTION 01 30 00 - ADMINISTRATIVE REQUIREMENTS
1. Coordinate requirements with Owner / Tenant for progress meetings, construction schedules, shop drawings and submittals.

SECTION 01 40 00 - QUALITY REQUIREMENTS
1. For products and workmanship specified by reference to a document or documents not included in these specifications, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
2. Conform to reference standard of date of issue current on date of Contract Documents, except where a specific date is established by applicable code.
3. Should specified reference standards conflict with Contract Documents, request clarification from Architect before proceeding.
4. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of Architect shall be altered from the Contract Documents by mention or inference otherwise in any reference document.
5. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.
6. Comply with manufacturers' instructions, including each step in sequence.
7. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect before proceeding.
8. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
9. Have Work performed by persons qualified to produce required and specified quality.
10. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.
11. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.
12. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.
13. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from Architect before proceeding.
14. Adjust products to appropriate dimensions; position before securing products in place.
15. Replace Work or portions of the Work not conforming to specified requirements.
16. If, in the opinion of the Owner or Architect, it is not practical to remove and replace the Work, the Owner or Architect will direct an appropriate remedy or adjust payment.

SECTION 01 50 00 - TEMPORARY FACILITIES AND CONTROLS
1. Coordinate requirements and restrictions with Owner / Tenant on all temporary utilities, facilities, barriers and enclosures as well as security, vehicle access, parking, waste removal and project signs.

SECTION 01 60 00 - PRODUCT REQUIREMENTS
1. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
2. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
3. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
4. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.
5. Provide new products unless specifically required or permitted by the Contract Documents.
6. Where all other criteria are met, Contractor shall give preference to products that are extracted, harvested, and/or manufactured closest to the location of the project, have longer documented life span under normal use, result in less construction waste, and are made of vegetable materials that are rapidly renewable.
7. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.
8. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.
9. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification sections.
10. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.
11. Transport and handle products in accordance with manufacturer's instructions.
12. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.
13. Arrange for the return of packing materials, such as wood pallets, where economically feasible.
14. Store and protect products in accordance with manufacturers' instructions.

SECTION 01 70 00 - EXECUTION AND CLOSEOUT REQUIREMENTS
1. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.
2. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.
3. Examine and verify specific conditions described in individual specification sections.
4. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or misfabrication.
5. Verify that utility services are available, of the correct characteristics, and in the correct locations.
6. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

PREPARATION
1. Clean substrate surfaces prior to applying next material or substance.
2. Seal cracks or openings of substrate prior to applying next material or substance.
3. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

GENERAL INSTALLATION REQUIREMENTS
1. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.
2. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.
3. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.
4. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.
5. Make neat transitions between different surfaces, maintaining texture and appearance.

ALTERATIONS
1. Adapt existing work to fit new work: Make as neat and smooth transition as possible.
2. Patching: Where the existing surface is not indicated to be refinished, patch to match the surface finish that existed prior to cutting. Where the surface is indicated to be refinished, patch so that the substrate is ready for the new finish.
3. Where rooms or spaces are indicated to be refinished, refinish all visible existing surfaces to remain to the specified condition for each material, with a neat transition to adjacent finishes.
4. Clean existing systems and equipment.
5. Do not begin new construction in alterations areas before demolition is complete.

CUTTING AND PATCHING
1. Whenever possible, execute the work by methods that avoid cutting or patching.
2. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to specified condition.
3. Employ skilled and experienced installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.
4. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.
5. Restore work with new products in accordance with requirements of Contract Documents.
6. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
7. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material in accordance with Section 07 84 00, to full thickness of the penetrated element.
8. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit. Match color, texture, and appearance.
9. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.

PROGRESS CLEANING
1. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
2. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.
3. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.
4. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.

PROTECTION OF INSTALLED WORK
1. Protect installed work from damage by construction operations.
2. Provide special protection where specified in individual specification sections.
3. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.
4. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
5. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
6. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
7. Remove protective coverings when no longer needed; reuse or recycle plastic coverings if possible.

ADJUSTING
1. Adjust operating products and equipment to ensure smooth and unhindered operation.

FINAL CLEANING AND CLOSEOUT PROCEDURES
1. Use cleaning materials that are nonhazardous.
2. Clean glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.
3. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.
4. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.
5. Clean filters of operating equipment.
6. Remove waste, surplus materials, and trash/rubbish; dispose of in legal manner.
7. Coordinate with Owner / Tenant on project closeout procedures.

SECTION 01 78 00 - CLOSEOUT SUBMITTALS

PROJECT RECORD DOCUMENTS
1. Maintain on site one set of the following record documents; record actual revisions to the Work: Drawings. Addenda. Change Orders and other modifications to the Contract.
2. Ensure entries are complete and accurate, enabling future reference by Owner.
3. Store record documents separate from documents used for construction.
4. Record information concurrent with construction progress.
5. Record Drawings : Legibly mark each item to record actual construction including: Field changes of dimension and detail. Details not on original Contract drawings.

OPERATION AND MAINTENANCE DATA
1. For Each Product or System: List names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.
2. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.
3. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.
4. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES
1. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.

OPERATION AND MAINTENANCE MANUALS
1. Prepare instructions and data by personnel experienced in maintenance and operation of described products.
2. Prepare data in the form of an instructional manual.

WARRANTIES AND BONDS
1. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until the Date of Substantial completion is determined.
2. Verify that documents are in proper form, contain full information, and are notarized.
3. Co-execute submittals when required.
4. Retain warranties and bonds until time specified for submittal.

SECTION 02 41 19 - SELECTIVE STRUCTURE DEMOLITION
1. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
2. Obtain required permits.
3. Comply with applicable requirements of NFPA 241.
4. Provide, erect, and maintain temporary barriers and security devices.
5. Conduct operations to minimize effects on and interference with adjacent spaces, structures and occupants.
6. Do not close or obstruct roadways or sidewalks without permit.
7. Conduct operations to minimize obstruction of public and private entrances and exits; do not obstruct required exits at any time; protect persons using entrances and exits from removal operations.
8. Do not begin removal until receipt of notification to proceed from Owner.
9. Protect existing structures and other elements that are not to be removed.
10. Provide bracing and shoring.
11. Prevent movement or settlement of adjacent structures.
12. Stop work immediately if adjacent structures appear to be in danger.
13. If hazardous materials are discovered during removal operations, stop work and notify Architect and Owner.
14. Perform demolition in a manner that maximizes salvage and recycling of materials.
15. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only. Verify that construction and utility arrangements are as shown. Report discrepancies to Architect before disturbing existing installation.
16. Beginning of demolition work constitutes acceptance of existing conditions that would be apparent upon examination prior to starting demolition.
17. Maintain weatherproof exterior building enclosure except for interruptions required for replacement or modifications; take care to prevent water and humidity damage.
18. Remove existing work as indicated and as required to accomplish new work.
19. Remove existing systems and equipment as indicated.
20. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components.
21. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
22. Verify that abandoned services serve only abandoned facilities before removal.
23. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification.
24. Protect existing work to remain.
25. Prevent movement of structure; provide shoring and bracing if necessary.
26. Perform cutting to accomplish removals neatly and as specified for cutting new work.
27. Repair adjacent construction and finishes damaged during removal work.
28. Patch as specified for patching new work.
29. Remove debris, junk, and trash from site.
30. Leave site in clean condition, ready for subsequent work.

SECTION 06 10 00 - ROUGH CARPENTRY
1. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies. If no species is specified, provide any species graded by any grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee and who provides grading service for the species and grade.
2. Dimension Lumber for Concealed Applications: Nominal sizes as indicated on Drawings, S4S. Moisture Content: S-dry or MC19.
3. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring: S4S, No. 2 or Standard Grade Lumber. Standard or No. 3 Boards.
4. Communications and Electrical Room Mounting Boards: PS 1 A-D plywood, or medium density fiberboard; 3/4 inch thick; flame spread index of 25 or less, smoke developed index of 450 or less, when tested in accordance with ASTM E84.
5. Treated Lumber and Plywood: Comply with requirements of AWPA U1 - Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications.
6. Fire-Retardant Treated Wood: Mark each piece of wood with producer's stamp indicating compliance with specified requirements. Kiln dry wood after treatment to a maximum moisture content of 19 percent for lumber and 15 percent for plywood. Treat rough carpentry items as indicated.
7. Fire Retardant Treatment: Interior Type A: AWPA U1, Use Category UCFA, Commodity Specification H, low temperature (low hygroscopic) type, chemically treated and pressure impregnated; capable of providing a maximum flame spread rating of 25 when tested in accordance with ASTM E84, with no evidence of significant combustion when test is extended for an additional 20 minutes.
8. Prevent exposure to precipitation during shipping, storage, or installation.
9. Provide lumber stamped with grade mark unless otherwise indicated.
10. Lumber fabricated from old growth timber is not permitted.
11. Select material sizes to minimize waste.
12. Reuse scrap to the greatest extent possible.
13. Provide temporary ventilation during and immediately after installation of treated wood sufficient to remove indoor air contaminants.
14. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.
15. In walls, provide blocking attached to studs as backing and support for wall-mounted items, unless item can be securely fastened to two or more studs or other method of support is explicitly indicated.
16. Where ceiling-mounting is indicated, provide blocking and supplementary supports above ceiling, unless other method of support is explicitly indicated.
17. Communications and Electrical Room Mounting Boards: Secure with screws to studs with edges over firm bearing; space fasteners at maximum 24 inches on center on all edges and into studs in field of board. At fire-rated walls, install board over wall board indicated as part of the fire-rated assembly. Where boards are indicated as full floor-to-ceiling height, install with long edge of board parallel to studs. Install adjacent boards without gaps.
18. Framing Member Tolerances: 1/4 inch from true position, maximum.
19. Variation from Plane (Other than Floors): 1/4 inch in 10 feet maximum, and 1/4 inch in 30 feet maximum.

SECTION 06 20 00 - FINISH CARPENTRY
1. Softwood Lumber: As indicated on Drawings, maximum moisture content of 6 percent; with vertical grain, of quality suitable for transparent finish.
2. Hardwood Lumber: As indicated on Drawings, maximum moisture content of 6 percent ; with vertical grain, of quality suitable for transparent finish.
3. Softwood Plywood Not Exposed to View: Any face species, veneer core; PS 1 Grade A-B; glue type as recommended for application.
4. Softwood Plywood Exposed to View: Face species as indicated, plain sawn, medium density fiberboard core; glue type as recommended for application.
5. Hardwood Plywood: Face species as indicated, plain sawn, book matched, medium density fiberboard core; glue type as recommended for application.
6. Particleboard: ANSI A208.1; composed of wood chips, sawdust, or flakes of medium density, made with waterproof resin binders; of grade to suit application; sanded faces.
7. Hardboard: AHA A135.4; Pressed wood fiber with resin binder, Class 1 - Tempered, 1/4 inch thick, smooth one side (S1S).
8. Protect work from moisture damage.
9. Quality Grade: Unless otherwise indicated provide products of quality specified by AWI//AWMAC/WI Architectural Woodwork Standards for Premium Grade.
10. Surface Burning Characteristics: Provide materials having fire and smoke properties as required by authority having jurisdiction.
11. Wood fabricated from old growth timber is not permitted.
12. Shop assemble work for delivery to site, permitting passage through building openings.
13. When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide trim for scribing and site cutting.
14. Apply plastic laminate finish in full uninterrupted sheets consistent with manufactured sizes. Fit corners and joints hairline; secure with concealed fasteners. Slightly bevel arises. Locate counter butt joints minimum 2 feet from sink cut-outs.
15. Install work in accordance with AWI/AWMAC/WI Architectural Woodwork Standards requirements for grade indicated.
16. Set and secure materials and components in place, plumb and level.
17. Carefully scribe work abutting other components, with maximum gaps of 1/32 inch. Do not use additional overlay trim to conceal larger gaps.
18. Maximum Variation from True Position: 1/16 inch.
19. Maximum Offset from True Alignment with Abutting Materials: 1/32 inch.

SECTION 06 41 00 - ARCHITECTURAL WOOD CASEWORK
1. Quality Grade: Unless otherwise indicated provide products of quality specified by AWI//AWMAC/WI Architectural Woodwork Standards for Premium Grade.
2. Wood Veneer Faced Cabinets: Premium grade.
3. Plastic Laminate Faced Cabinets: Custom grade.
4. Protect units from moisture damage.
5. During and after installation of custom cabinets, maintain temperature and humidity conditions in building spaces at same levels planned for occupancy.
6. Wood fabricated from old growth timber is not permitted.
7. Adhesive: Type recommended by fabricator to suit application.
8. Grommets: Standard plastic grommets for cut-outs, in color as indicated.
9. Hardware: BHMA A156.9, types as indicated for quality grade specified.
10. Adjustable Shelf Supports: Standard side-mounted system using recessed metal shelf standards or multiple holes for pin supports and coordinated self rests, polished chrome finish, for nominal 1 inch spacing adjustments.
11. Drawer and Door Pulls: "U" shaped wire pull, steel with chrome finish, 4 inch centers, unless otherwise indicated on Drawings.
12. Cabinet Locks: Keyed cylinder, two keys per lock, master keyed, steel with chrome finish, unless otherwise indicated on Drawings.
13. Catches: Magnetic.
14. Drawer Slides: Full extension, Static load capacity as required by drawer size, side mounted, steel with polished finish.
15. Hinges: European style concealed self-closing type, steel with polished finish, unless otherwise indicated on Drawings.
16. Assembly: Shop assemble cabinets for delivery to site in units easily handled and to permit passage through building openings.
17. Edging: Fit shelves, doors, and exposed edges with specified edging. Do not use more than one piece for any single length.
18. Fitting: When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide matching trim for scribing and site cutting.

SECTION 07 84 00 - FIRESTOPPING
1. Comply with firestopping manufacturer's recommendations for temperature and conditions during and after installation.
2. Firestopping: Any material meeting requirements
3. Fire Ratings: See Drawings for required systems and ratings.
4. Clean substrate surfaces of dirt, dust, grease, oil, loose material, or other matter that could adversely affect bond of firestopping material.
5. Remove incompatible materials that could adversely affect bond.
6. Install materials in manner described in fire test report and in accordance with manufacturer's instructions, completely closing openings.
7. Do not cover installed firestopping until inspected by authority having jurisdiction.
8. Install labeling required by code.
9. Clean adjacent surfaces of firestopping materials.
10. Protect adjacent surfaces from damage by material installation.

SECTION 07 90 05 - JOINT SEALERS
1. General Purpose Interior Sealant for interior wall and ceiling control joints, joints between door and window frames and wall surfaces, and other interior joints for which no other type or sealant is indicated: Acrylic emulsion latex; ASTM C834, Type OP, Grade NF single component, paintable.
2. Bathtub/Tile Sealant for joints between plumbing fixtures and floor and wall surfaces and joints between kitchen and bath countertops and wall surfaces.: White silicone; ASTM C920, Uses I, M and A; single component, mildew resistant.
3. Acoustical Sealant bead between top stud runner and structure and between bottom stud track and floor: Permanently tacky non-hardening butyl sealant.
4. Interior Floor Joint Sealant for use at expansion joints in floors: Polyurethane, self-leveling; ASTM C920, Grade P, Class 25, Uses T, M and A; single component.
5. Sealants and Primers - General: Provide only products having lower volatile organic compound (VOC) content than required by South Coast Air Quality Management District Rule No.1168.
6. Sealant colors to be selected by Architect from manufacturer's standard range.
7. Maintain temperature and humidity recommended by the sealant manufacturer during and after installation.
8. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.
9. Perform installation in accordance with ASTM C1193.
10. Perform acoustical sealant application work in accordance with ASTM C919.
11. Measure joint dimensions and size joint backers to achieve width-to-depth ratio, neck dimension, and surface bond area as recommended by manufacturer.
12. Install bond breaker where joint backing is not used.
13. Install sealant free of air pockets, foreign embedded matter, ridges, and sags.
14. Apply sealant within recommended application temperature ranges. Consult manufacturer when sealant cannot be applied within these temperature ranges.
15. Tool joints concave.
16. Protect sealants until cured.

SECTION 08 11 13 - HOLLOW METAL DOORS AND FRAMES
1. Steel Door and Frame Manufacturers: Assa Abloy, Steelcraft or equal, unless otherwise indicated on Drawings.
2. Requirements for All Doors and Frames: Comply with ANSI/ICC A117.1, door top closures flush with top of faces and edges, beveled on both edges, smooth texture, factory primed for field finishing.
3. Glazed Lights: Non-removable stops on non-secure side; sizes and configurations as indicated on drawings.
4. Hardware Preparation: In accordance with BHMA A156.115, with reinforcement welded in place, in addition to other requirements specified in door grade standard.
5. Galvanizing for Units in Wet Areas: All components hot-dipped zinc-iron alloy-coated (galvannealed), manufacturer's standard coating thickness.
6. Combined Requirements: If a particular door and frame unit is indicated to comply with more than one type of requirement, comply with all the specified requirements for each type; where two requirements conflict, comply with the most stringent.
7. Exterior Steel Doors: ANSI A250.8 Level 3, physical performance Level A, Model 2, seamless. All components hot-dipped zinc-iron alloy-coated (galvannealed) in accordance with ASTM A653/A653M, with manufacturer's standard coating thickness.
8. Interior Steel Doors, Non-Fire-Rated: ANSI A250.8 Level 1, physical performance Level C, Model 2, seamless, 1-3/4 inches thick.
9. Interior Steel Doors, Fire-Rated: ANSI A250.8 Level 2, physical performance Level B, Model 2, seamless. Fire Rating as indicated on Door and Frame Schedule, tested in accordance with applicable code. Provide units listed and labeled by UL. Attach fire rating label to each fire rated unit.
10. Interior Steel Doors, Sound-Rated: ANSI A250.8 Level 2, physical performance Level B, Model 2, seamless. STC Rating of Entire Door, Frame, and Hardware Assembly as indicated on Drawings, calculated in accordance with ASTM E413, tested in accordance with ASTM E90 or ASTM E1408.
11. Interior Door Frames: Fully welded type complying with the requirements of grade specified for corresponding door.
12. Frames for Wood Doors: Fully welded type complying with frame requirements specified in ANSI A250.8 for Level 1, 18 gage
13. Frames for Sound-Rated Wood Doors: Fully welded type complying with frame requirements specified in ANSI A250.8 for Level 1, 16 gage
14. Exterior Door Frames: Face welded, seamless with joints filled. All components hot-dipped zinc-iron alloy-coated (galvannealed) in accordance with ASTM A653/A653M, with manufacturer's standard coating thickness.
15. Interior Door Frames, Fire-Rated: Fully welded type, fire rating same as door, labeled.
16. Frames for Interior Glazing or Borrowed Lights: Construction and face dimensions to match door frames, unless otherwise indicated on Drawings.
17. Removable Stops: Formed sheet steel, mitered corners.
18. Silencers: Resilient rubber, fitted into drilled hole; 3 on strike side of single door, 3 on center mullion of pairs, nd 2 on head of pairs without center mullions.
19. Temporary Frame Spreaders: Provide for all factory- or shop-assembled frames.
20. Primer: Rust-inhibiting, complying with ANSI A250.10, door manufacturer's standard.
21. Store in accordance with NAAMM HMMA 840.
22. Protect with resilient packaging; avoid humidity build-up under coverings; prevent corrosion.
23. Install in accordance with the requirements of the specified door grade standard and NAAMM HMMA 840.
24. In addition, install fire rated units in accordance with all applicable codes.
25. Maximum Diagonal Distortion: 1/16 in measured with straight edge, corner to corner.
26. Adjust for smooth and balanced door movement.
27. Adjust sound control doors so that seals are fully engaged when door is closed.Test sound control doors for force to close, latch, and unlatch in accordance with ASTM E1408; adjust as required to comply.

SECTION 08 14 16 - FLUSH WOOD DOORS
1. Wood Veneer Faced Door Manufacturers: Graham Wood Doors, Eggers Industries or equal, unless otherwise indicated on Drawings.
2. All Doors: Premium Grade Quality Level, in accordance with AWI/AWMAC/WI Architectural Woodwork Standards. 5-ply or 7-ply Wood Veneer Faced Doors, unless otherwise indicated on Drawings.
3. Interior Doors: 1-3/4 inches thick unless otherwise indicated; flush construction. Provide solid core doors at all locations .
4. Fire Rated Doors: Tested to ratings indicated on drawings in accordance with jurisdiction having authority; UL or WH (ITS) labeled without any visible seals when door is open.
5. Sound Retardant Doors: Minimum STC as indicated on drawings, calculated in accordance with ASTM E413, tested in accordance with ASTM E1408.
6. Non-Rated Solid Core and 20 Minute Rated Doors: Particleboard core, Type PC, plies and faces as indicated on Drawings.
7. Fire Rated Doors: Mineral core, Type FD, plies and faces as indicated on Drawings; with core blocking as required to provide adequate anchorage of hardware without through-bolting.
8. Sound Retardant Doors: Equivalent to Type PC construction with core as required to achieve rating specified; plies and faces as indicated on Drawings.
9. Wood Veneer Facing for Transparent Finish: As indicated on Drawings.
10. Hardboard Facing for Opaque Finish: AHA A135.4, Class 1 - Tempered, S2S (smooth two sides) hardboard, composition face, 1/8 inch thick.
11. Package, deliver and store doors in accordance with specified quality standard.
12. Protect doors with resilient packaging sealed with heat shrunk plastic. Do not store in damp or wet areas; or in areas where sunlight might bleach veneer. Seal top and bottom edges with tinted sealer if stored more than one week. Break seal on site to permit ventilation.
13. Provide manufacturer's warranty for the life of the installation.
14. Include coverage for delamination of veneer, warping beyond specified installation tolerances, defective materials, and telegraphing core construction.
15. Fabricate doors in accordance with door quality standard specified.
16. Factory machine doors for hardware other than surface-mounted hardware, in accordance with hardware requirements and dimensions.
17. Provide edge clearances in accordance with the quality standard specified.
18. Install doors in accordance with manufacturer's instructions and specified quality standard. Install fire-rated doors in accordance with NFPA 80 requirements.
19. Use machine tools to cut or drill for hardware.
20. Coordinate installation of doors with installation of frames and hardware.

SECTION 08 31 00 - ACCESS DOORS AND PANELS
1. Manufacturers: Acudor Products Inc, Milcor, or equal.
2. Door and Frame Units: Steel factory fabricated, fully assembled units with corner joints welded, filled, and ground flush; square and without rack or warp; coordinate requirements with assemblies units are to be installed in.
3. Verify that rough openings are correctly sized and located.
4. Install units in accordance with manufacturer's instructions.
5. Install frames plumb and level in openings. Secure rigidly in place.
6. Position units to provide convenient access to the concealed work requiring access.

SECTION 08 71 00 - DOOR HARDWARE
1. Coordinate the manufacture, fabrication, and installation of products onto which door hardware will be installed.
2. Furnish templates for door and frame preparation to manufacturers and fabricators of products requiring internal reinforcement for door hardware.
3. Convey Owner's keying requirements to manufacturers.
4. Provide all hardware specified or required to make doors fully functional, compliant with applicable codes, and secure to the extent indicated.
5. Provide all items of a single type of the same model by the same manufacturer.
6. Provide products that comply with the following:
   Applicable provisions of federal, state, and local codes.
   ANSI/ICC A117.1, American National Standard for Accessible and Usable Buildings and Facilities.
   Applicable provisions of NFPA 101, Life Safety Code.
   Fire-Rated Doors: NFPA 80.
   All Hardware on Fire-Rated Doors : Listed and classified by UL as suitable for the purpose specified and indicated.
   Hardware for Smoke and Draft Control Doors: Provide hardware that enables door assembly to comply with air leakage requirements of the applicable code.
   Products Requiring Electrical Connection: Listed and classified by UL as suitable for the purpose specified and indicated.
7. Electrically Operated and/or Controlled Hardware: Provide all power supplies, power transfer hinges, relays, and interfaces required for proper operation; provide wiring between hardware and control components and to building power connection.
8. Verify that doors and frames are ready to receive work; labeled, fire-rated doors and frames are present and properly installed, and dimensions are as instructed by the manufacturer.
9. Verify that electric power is available to power operated devices and of the correct characteristics.
10. Install hardware in accordance with manufacturer's instructions and applicable codes.
11. Use templates provided by hardware item manufacturer.
12. Do not install surface mounted items until finishes applied to substrate are complete.
13. Install hardware on fire-rated doors and frames in accordance with code and NFPA 80.
14. Mounting heights for hardware from finished floor to center line of hardware item:
   For steel doors and frames: Comply with DHI "Recommended Locations for Architectural Hardware for Steel Doors and Frames."
   For wood doors: Comply with DHI "Recommended Locations for Architectural Hardware for Wood Flush Doors."
15. Adjust work under provisions of Section 01 70 00.
16. Adjust hardware for smooth operation.
17. Adjust gasketing for complete, continuous seal; replace if unable to make complete seal.

SECTION 08 80 00 - GLAZING
1. Single Vision Glazing: Fully tempered float glass, clear tint, ¼ inch thickness.
   Applications: All interior glazing unless otherwise indicated.
2. Fire-Rated Safety Glazing: Glass-ceramic safety glazing, ¼ inch thickness, fire rating as indicated on Drawings.
   Applications: Provide this type of glazing in the following locations: NONE
3. Single Safety Glazing: Non-fire-rated, fully tempered float glass, clear tint, ¼ inch thickness.
   Applications: Provide this type of glazing in the following locations: FULFILLMENT ROOM
   Glazed lights in doors, except fire doors.
   Glazed sidelights to doors, except in fire-rated walls and partitions.
   Other locations required by applicable federal, state, and local codes and regulations.
   Other locations indicated on the drawings.
4. Float Glass: All glazing is to be float glass unless otherwise indicated.
   Annealed Type: ASTM C1036, Type I, transparent flat, Class 1 clear, Quality Q3 (glazing select).
   Heat-Strengthened and Fully Tempered Types: ASTM C1048.
5. Glass-Ceramic Safety Glazing: UL- or WH-listed as fire-protection-rated glazing and complying with 16 CFR 1201 test requirements for Category II without the use of a surface-applied film.
6. Silicone Sealant : Single component; neutral curing; capable of water immersion without loss of properties; non-bleeding, non-staining; ASTM C920, Type S, Grade NS, Class 25, Uses M, A, and G; cured Shore A hardness of 15 to 25; color as selected.
7. Setting Blocks: Neoprene, 80 to 90 Shore A durometer hardness, ASTM C864 Option I. Length of 0.1 inch for each square foot of glazing or minimum 4 inch x width of glazing rabbet space minus 1/16 inch x height to suit glazing method and pane weight and area.
8. Spacer Shims: Neoprene, 50 to 60 Shore A durometer hardness, ASTM C864 Option I. Minimum 3 inch long x one half the height of the glazing stop x thickness to suit application, self adhesive on one face.
9. Glazing Tape: Preformed butyl compound with integral resilient tube spacing device; 10 to 15 Shore A durometer hardness; coiled on release paper; black color.
10. Glazing Clips: Manufacturer's standard type.
11. Verify that openings for glazing are correctly sized and within tolerance.
12. Verify that surfaces of glazing channels or recesses are clean, free of obstructions that may impede moisture movement, weeps are clear, and ready to receive glazing.
13. Prime surfaces scheduled to receive sealant.
14. Install sealants in accordance with ASTM C1193 and FGMA Sealant Manual.
15. Install sealant in accordance with manufacturer's instructions.

INSTALLATION - INTERIOR DRY METHOD (TAPE AND TAPE)
1. Cut glazing tape to length and set against permanent stops, projecting 1/16 inch (1.6 mm) above sight line.
2. Place setting blocks at 1/4 points with edge block no more than 6 inches from corners.
3. Rest glazing on setting blocks and push against tape for full contact at perimeter of pane or unit.
4. Place glazing tape on free perimeter of glazing in same manner described above.
5. Install removable stop without displacement of tape. Exert pressure on tape for full continuous contact.
6. Knife trim protruding tape.

INSTALLATION - INTERIOR WET METHOD (COMPOUND AND COMPOUND)
1. Install glazing resting on setting blocks. Install applied stop and center pane by use of spacer shims at 24 inch centers, kept 1/4 inch below sight line.
2. Locate and secure glazing pane using glazers' clips.
3. Fill gaps between glazing and stops with glazing compound until flush with sight line. Tool surface to straight line.

INSTALLATION - PLASTIC FILM
1. Install plastic film with adhesive, applied in accordance with film manufacturer's instructions.
2. Place without air bubbles, creases or visible distortion.
3. Fit tight to glass perimeter with razor cut edge.

CLEANING AND PROTECTION
1. Remove glazing materials from finish surfaces.
2. Remove labels after Work is complete.
3. Clean glass and adjacent surfaces.
4. After installation, mark pane with an 'X' by using removable plastic tape or paste; do not mark heat absorbing or reflective glass units.

SECTION 08 83 00 - MIRRORS
1. Mirror Glass - General: Select materials and/or provide supports as required to limit mirrored glass deflection to 1/200 or flexure limit of glass with full recovery of glazing materials, whichever is less.
2. Mirror Glass: ASTM C1036, Type 1 transparent flat, Class 1 clear, Quality Q1 (mirror select); silvering, protective coating and physical characteristics complying with ASTM C1503.
3. Install mirrors in accordance with GANA recommendations.
4. Set mirrors plumb and level, free of optical distortion.
5. Set mirrors with edge clearance free of surrounding construction including countertops or backsplashes.
6. Remove wet glazing materials from finish surfaces.
7. Remove labels after work is complete.
8. Clean mirrors and adjacent surfaces.
9. After installation, mark pane with an 'X' by using removable plastic tape or paste.

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
05/14/2020

HIVE

FRESH GREEN - LEES SUMMIT
1041 NE Sam Walton Dr.
Lees Summit, MO 64086

HIVE DESIGN COLLABORATIVE, INC.
1617 WALNUT STREET, KANSAS CITY, MO 64108
816.581.6363

seal/signature

STATE OF MISSOURI
STEVEN J. BOWLING, JR
NUMBER
ARCHITECT
05.01.2020

project number	2020-017
date	05.01.2020
issued for	PERMIT

rev	date	description

SPECIFICATIONS

sheet number

G03

SECTION 09 21 16 - GYPSUM BOARD ASSEMBLIES
1. Provide completed assemblies complying with ASTM C840 and GA-216.
2. Interior Partitions Indicated as Sound-Rated: STC as indicated calculated in accordance with ASTM E413, based on tests conducted in accordance with ASTM E90.
3. Fire Rated Assemblies: Comply with applicable requirements of ICC IBC or GA-600 for the particular assembly. Provide construction equivalent to that listed for the particular assembly in the current UL Fire Resistance Directory.
4. Manufacturers - Metal Framing, Connectors, and Accessories: ClarkDietrich, Scafco, or equal.
5. Non-Loadbearing Framing System Components: ASTM C645; galvanized sheet steel, of size and properties necessary to comply with ASTM C754 for the spacing indicated, with maximum deflection of wall framing of L/240 at 5 psf.
6. Studs: "C" shaped with flat or formed webs .
7. Runners: U shaped, sized to match studs.
8. Ceiling Channels: C shaped.
9. Ceiling Hangers: Type and size as specified in ASTM C754 for spacing required.
10. Partition Head to Structure Connections: Provide mechanical anchorage devices that accommodate deflection using slotted holes, screws and anti-friction bushings, preventing rotation of studs while maintaining structural performance of partition. Maintain lateral load resistance and vertical movement capacity required by applicable code, when evaluated in accordance with AISI North American Specification for the Design of Cold-Formed Steel Structural Members.
   Material: ASTM A653/A653M steel sheet, SS Grade 50/340, with G60/Z180 hot dipped galvanized coating. Provide components UL-listed for use in UL-listed fire-rated head of partition joint systems indicated on drawings. Deflection and Firestop Track: Provide mechanical anchorage devices as described above that accommodate deflection while maintaining the fire-rating of the wall assembly.
11. Manufacturers - Gypsum-Based Board: National Gypsum Company, USG Corporation or equal.
12. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut. Application: Use for vertical surfaces and ceilings, unless otherwise indicated. At Assemblies Indicated with Fire-Rating: Use type required by indicated tested assembly; if no tested assembly is indicated, use Type X board, UL or WH listed.
   - Thickness:
   - Vertical Surfaces: 5/8 inch.
   - Ceilings: 1/2 inch.
   - Multi-Layer Assemblies: Thicknesses as indicated on drawings.
13. Impact-Rated Wallboard: Tested to Level 3 soft-body and hard-body impact in accordance with ASTM C1629. Application: High-traffic areas indicated. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
   - Type: Fire-resistance rated Type X, UL or WH listed.
   - Thickness: 5/8 inch.
   - Edges: Tapered.
14. Backing Board For Wet Areas: Application: Surfaces behind tile in wet areas including tub and shower surrounds and shower ceilings. Glass-Mat-Faced Board: Coated glass mat water-resistant gypsum backing panel as defined in ASTM C1178.
15. Backing Board For Non-Wet Areas: Water-resistant gypsum backing board as defined in ASTM C1396/C1396M; sizes to minimum joints in place; ends square cut.
   - Application: Vertical surfaces behind thinset tile, except in wet areas.
   - Type: Regular and Type X, in locations indicated.
   - Type X Thickness: 5/8 inch.
   - Regular Board Thickness: 5/8 inch. Edges: Tapered.
16. Ceiling Board: Special sag-resistant gypsum ceiling board as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
   - Application: Ceilings, unless otherwise indicated.
   - Thickness: 1/2 inch.
   - Edges: Tapered.
17. Acoustical Sound Dampening Wall and Ceiling Board: Two layers of heavy paper faced, high density gypsum board separated by a viscoelastic polymer layer and capable of achieving STC rating of 50 or more in typical stud wall assemblies as calculated in accordance with ASTM E413 and when tested in accordance with ASTM E90.
   - Thickness: 1/2 inch.
   - Long Edges: Tapered.
   - Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
18. Acoustic Insulation: ASTM C665; preformed glass fiber, friction fit type, unfaced.
   - Thickness: As shown in Drawings
19. Acoustic Sealant: Non-hardening, non-skinning, for use in conjunction with gypsum board.
20. Joint Materials: ASTM C475 and as recommended by gypsum board manufacturer for project conditions.
21. High Build Drywall Surfacer: Vinyl acrylic latex-based coating for spray application, designed to take the place of skim coating and separate paint primer in achieving Level 5 finish.
22. Screws for Attachment to Steel Members Less Than 0.03 inch In Thickness, to Wood Members, and to Gypsum Board: ASTM C1002; self-piercing tapping type.
23. Screws for Attachment to Steel Members From 0.033 to 0.112 inch in Thickness: ASTM C954; steel drill screws for application of gypsum board to loadbearing steel studs.
24. Metal Framing: Install in accordance with ASTM C754 and manufacturer's instructions.
25. Suspended Ceilings and Soffits: Space framing and furring members as indicated.
26. Studs: Space studs as indicated. Extend partition framing to structure where indicated and to ceiling in other locations.
27. Partitions Terminating at Ceiling: Attach ceiling runner securely to ceiling track in accordance with manufacturer's instructions.
28. Partitions Terminating at Structure: Attach top runner to structure, maintain clearance between top of studs and structure, and connect studs to track using specified mechanical devices in accordance with manufacturer's instructions; verify free movement of top of stud connections; do not leave studs unattached to track.
29. Openings: Reinforce openings as required for weight of doors or operable panels, using not less than double studs at jambs.
30. Acoustic Insulation: Place tightly within spaces, around cut openings, behind and around electrical and mechanical items within partitions, and tight to items passing through partitions.
31. Acoustic Sealant: Install in accordance with manufacturer's instructions. Place one bead continuously on substrate before installation of perimeter framing members. Place continuous bead at perimeter of each layer of gypsum board. In non-fire-rated construction, seal around all penetrations by conduit, pipe, ducts, and rough-in boxes.
32. Board Installation: Comply with ASTM C840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations. Install gypsum board parallel to framing, with ends and edges occurring over firm bearing.
33. Fire-Rated Construction: Install gypsum board in strict compliance with requirements of assembly listing.
34. Installation on Metal Framing: Use screws for attachment of all gypsum board .
35. Curved Surfaces: Apply gypsum board to curved substrates in accordance with GA-226.
36. Moisture Protection: Treat cut edges and holes in moisture resistant gypsum board with sealant.
37. Control Joints: Place control joints not more than 30 feet apart on walls and ceilings over 50 feet long, unless otherwise indicated on Drawings:
38. Corner Beads: Install at external corners, using longest practical lengths.
39. Finish gypsum board in accordance with levels defined in ASTM C840.
40. Level 4: Walls and ceilings to receive paint finish or wall coverings, unless otherwise indicated.
41. Level 5: Walls and ceilings to receive semi-gloss or gloss paint finish and other areas specifically indicated.
42. Level 2: In utility areas, behind cabinetry, and on backing board to receive tile finish.
43. Level 1: Fire rated wall areas above finished ceilings, whether or not accessible in the completed construction.
44. Level 0: Temporary partitions and surfaces indicated to be finished in later stage of project.
45. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes. Feather coats of joint compound so that camber is maximum 1/32 inch.
46. Where Level 5 finish is indicated, spray apply high build drywall surface over entire surface after joints have been properly treated; achieve a flat and tool mark-free finish.
47. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet in any direction.

RESILIENT BASE
1. Fit joints tightly and make vertical. Maintain minimum dimension of 18 inches between joints.
2. Install base on solid backing. Bond tightly to wall and floor surfaces.
3. Scribe and fit to door frames and other interruptions.

SECTION 09 72 00 - WALL COVERINGS
1. Extra Materials: Deliver to Owner full-width rolls of wall covering equal to 5 percent of amount of each type installed, packaged with protective covering for storage.
2. Adhesive: Type recommended by wall covering manufacturer to suit application to substrate.
3. Substrate Filler, Primer and Sealer: As recommended by adhesive and wall covering manufacturers; compatible with substrate.
4. Verify that substrate surfaces are prime painted and ready to receive work, and conform to requirements of the wall covering manufacturer.
5. Measure moisture content of surfaces using an electronic moisture meter. Do not apply wall coverings if moisture content of substrate exceeds level recommended by wall covering manufacturer.
6. Treat areas as necessary to ensure no pigment bleeding through wall covering.
7. Apply adhesive and wall covering in accordance with manufacturer's instructions.
8. Apply wall covering smooth, without wrinkles, gaps or overlaps. Eliminate air pockets and ensure full bond to substrate surface. Butt edges tightly.
9. Install seams vertical and plumb. Horizontal seams are not acceptable.
10. Do not seam within 2 inches of internal corners or within 6 inches of external corners.
11. Where wall covering tucks into reveals, or metal wallboard or plaster stops, apply with contact adhesive within 6 inches of wall covering termination. Ensure full contact bond.
12. Remove excess adhesive at finished seams, perimeter edges, and adjacent surfaces using cleaning methods recommended by wall covering manufacturer.
13. Clean wall coverings of excess adhesive, dust, dirt, and other contaminants.

SECTION 09 90 00 - PAINTING AND COATING
1. Scope: Finish all interior and exterior surfaces exposed to view, unless fully factory-finished and unless otherwise indicated.
2. Mechanical and Electrical: In finished areas, paint all insulated and exposed pipes, conduit, boxes, insulated and exposed ducts, hangers, brackets, collars and supports, mechanical equipment, and electrical equipment, unless otherwise indicated on Drawings.
3. Do Not Paint or Finish the Following Items: Items fully factory-finished unless specifically so indicated; materials and products having factory-applied primers are not considered factory finished. Items indicated to receive other finishes. Items indicated to remain unfinished. Fire rating labels, equipment serial number and capacity labels, and operating parts of equipment. Floors, unless specifically so indicated. Ceramic and other tiles. Glass. Acoustical materials, unless specifically so indicated. Concealed pipes, ducts, and conduits.
4. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
5. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.
6. Paint Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.
7. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.
8. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.
9. Provide lighting level of 80 ft candles measured mid-height at substrate surface.
10. Provide all paint and coating products used in any individual system from the same manufacturer; no exceptions.
11. Provide all paint and coating products from the same manufacturer to the greatest extent possible.
12. Paints and Coatings: Ready mixed, unless intended to be a field-catalyzed coating.
13. Provide paints and coatings of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
14. Supply each coating material in quantity required to complete entire project's work from a single production run.
15. Do not reduce, thin, or dilute coatings or add materials to coatings unless such procedure is specifically described in manufacturer's product instructions.
16. Primers: Where the manufacturer offers options on primers for a particular substrate, use primer categorized as "best" by the manufacturer.
17. Volatile Organic Compound (VOC) Content:
18. Provide coatings that comply with the most stringent requirements specified in the following: 40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings. Architectural coatings VOC limits of State in which the project is located.
19. Colors: As indicated on Drawings. In finished areas, finish pipes, ducts, conduit, and equipment the same color as the wall/ceiling they are mounted on/under.
20. Paint for Wood, Opaque: One coat of latex primer sealer. Two coats of latex enamel.
21. Paint for Wood, Transparent, Varnish, No Stain: One coat sealer.
22. Paint for Wood, Transparent, Varnish, Stain: Filler coat (for open grained wood only). One coat of stain. One coat sealer. One coat of varnish.
23. Paint for Concrete/Masonry, Opaque: One coat of block filler. Two coats of alkyd enamel.
24. Paint for Ferrous Metals, Unprimed: One coat of latex primer. Two coats of latex enamel.
25. Paint for Ferrous Metals, Primed: Touch-up with latex primer. Two coats of latex enamel.
26. Paint for Gypsum Board/Plaster: One coat of latex primer. Two coats of latex enamel.
27. Accessory Materials: Provide all primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials required to achieve the finishes specified whether specifically indicated or not; commercial quality.
28. Patching Material: Latex filler.
29. Fastener Head Cover Material: Latex filler.
30. Clean surfaces thoroughly and correct defects prior to coating application.
31. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
32. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.
33. Seal surfaces that might cause bleed through or staining of topcoat.
34. Remove mildew from impervious surfaces by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.
35. Concrete and Unit Masonry Surfaces to be Painted: Remove dirt, loose mortar, scale, salt or alkali powder, and other foreign matter. Remove oil and grease with a solution of tri-sodium phosphate; rinse well and allow to dry. Remove stains caused by weathering of corroding metals with a solution of sodium metasilicate after thoroughly wetting with water. Allow to dry.
36. Gypsum Board Surfaces to be Painted: Fill minor defects with filler compound. Spot prime defects after repair.
37. Galvanized Surfaces to be Painted: Remove surface contamination and oils and wash with solvent. Apply coat of etching primer.
38. Corroded Steel and Iron Surfaces to be Painted: Prepare using at least SSPC-PC 2 (hand tool cleaning) or SSPC-SP 3 (power tool cleaning) followed by SSPC-SP 1 (solvent cleaning).
39. Uncorroded Uncoated Steel and Iron Surfaces to be Painted: Remove grease, mill scale, weld splatter, dirt, and rust. Where heavy coatings of scale are evident, remove by hand or power tool wire brushing or sandblasting; clean by washing with solvent. Apply a treatment of phosphoric acid solution, ensuring weld joints, bolts, and nuts are similarly cleaned. Prime paint entire surface; spot prime after repairs.
40. Shop-Primed Steel Surfaces to be Finish Painted: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces. Re-prime entire shop-primed item.
41. Interior Wood Surfaces to Receive Opaque Finish: Wipe off dust and grit prior to priming. Seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after primer has dried; sand between coats. Back prime concealed surfaces before installation.
42. Interior Wood Surfaces to Receive Transparent Finish: Wipe off dust and grit prior to sealing, seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after sealer has dried; sand lightly between coats. Prime concealed surfaces with gloss varnish reduced 25 percent with thinner.
43. Wood Doors to be Field-Finished: Seal wood door top and bottom edge surfaces with clear sealer.
44. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.
45. Apply products in accordance with manufacturer's instructions.
46. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.
47. Apply each coat to uniform appearance.
48. Sand wood and metal surfaces lightly between coats to achieve required finish.
49. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.
50. Wood to Receive Transparent Finishes: Tint fillers to match wood. Work fillers into the grain before set. Wipe excess from surface.
51. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

SECTION 10 44 00 - FIRE PROTECTION SPECIALTIES
1. Fire Extinguishers, Fire Extinguisher Cabinets and Accessories: Ansul, Inc, Pyro-Chem, or equal.
2. Fire Extinguishers - General: Comply with product requirements of NFPA 10 and applicable codes, whichever is more stringent. Provide extinguishers labeled by UL for the purpose specified and indicated.
3. Extinguisher Brackets: Formed steel, galvanized and enamel finished.
4. Install in accordance with manufacturer's instructions.
5. Install cabinets plumb and level in wall openings, 54 inches from finished floor to inside bottom of cabinet.
6. Secure rigidly in place.
7. Place extinguishers and accessories in cabinets and on wall brackets.

SECTION 11 31 00 - RESIDENTIAL APPLIANCES
1. Verify utility rough-ins are present and correctly located.
2. Install in accordance with manufacturer's instructions.
3. Anchor built-in equipment in place.
4. Adjust operating equipment to efficient operation.
5. Remove packing materials from equipment.
6. Wash and clean equipment.

SECTION 12 36 00 - COUNTERTOPS
1. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.
2. Quality Standard: Premium Grade, in accordance with AWI/AWMAC/WI Architectural Woodwork Standards.
3. Medium Density Fiberboard for Supporting Substrate: ANSI A208.2.
4. Adhesives: Chemical resistant waterproof adhesive as recommended by manufacturer of materials being joined.
5. Fabricate tops and splashes in the largest sections practicable, with top surface of joints flush.
6. Join lengths of tops using best method recommended by manufacturer.
7. Prepare all cutouts accurately to size; replace tops having improperly dimensioned or unnecessary cutouts or fixture holes.
8. Solid Surfacing: Fabricate tops up to 144 inches long in one piece; join pieces with adhesive sealant in accordance with manufacturer's recommendations and instructions.
9. Wall-Mounted Counters: Provide skirts, aprons, brackets, and braces as indicated on drawings.
10. Do not begin installation until substrates have been properly prepared.
11. Verify that wall surfaces have been finished and mechanical and electrical services and outlets are installed in proper locations.
12. Clean surfaces thoroughly prior to installation.
13. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
14. Securely attach countertops to cabinets using concealed fasteners. Make flat surfaces level; shim where required.
15. Attach plastic laminate countertops using screws with minimum penetration into substrate board of 5/8 inch.
16. Seal joint between back/end splashes and vertical surfaces.
17. Variation From Horizontal: 1/8 inch in 10 feet, maximum.
18. Offset From Wall, Countertops: 1/8 inch maximum; 1/16 inch minimum.
19. Field Joints: 1/8 inch wide, maximum.
20. Clean countertops surfaces thoroughly.
21. Protect installed products until completion of project.
22. Touch-up, repair or replace damaged products before Substantial Completion.

SECTION 10 28 00 - TOILET, BATH, AND LAUNDRY ACCESSORIES
1. Coordinate the work with the placement of internal wall reinforcement, concealed ceiling supports, and reinforcement of toilet partitions to receive anchor attachments.
2. Grab Bars: Stainless steel, 1-1/4 inches outside diameter, minimum 0.05 inch wall thickness, nonslip grasping surface finish, concealed flange mounting; 1-1/2 inches clearance between wall and inside of grab bar.
3. Install accessories in accordance with manufacturers' instructions.
4. Install plumb and level, securely and rigidly anchored to substrate.
5. Mounting Heights and Locations: As required by accessibility regulations and as indicated on drawings.

SECTION 12 21 13 - HORIZONTAL LOUVER BLINDS
1. Install blinds in accordance with manufacturer's instructions.
2. Maximum Variation of Gap at Window Opening Perimeter: 1/4 inch.
3. Maximum Offset From Level: 1/8 inch.
4. Adjust blinds for smooth operation.
5. Clean blind surfaces just prior to occupancy

HIVE

FRESH GREEN - LEES SUMMIT
1041 NE Sam Walton Dr.
Lees Summit, MO 64086

HIVE DESIGN COLLABORATIVE, INC.
1617 WALNUT STREET, KANSAS CITY, MO 64108
816.581.6363

seal/signature

STATE OF MISSOURI
STEVEN J. BOWLING, JR
NUMBER A-2007004691
ARCHITECT
05.01.2020

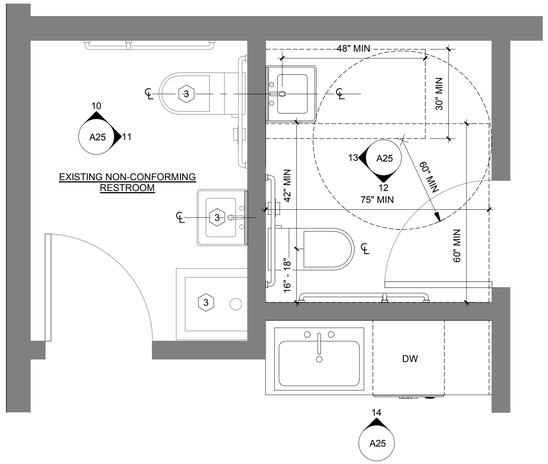
project number	2020-017
date	05.01.2020
issued for	PERMIT

rev	date	description

SPECIFICATIONS

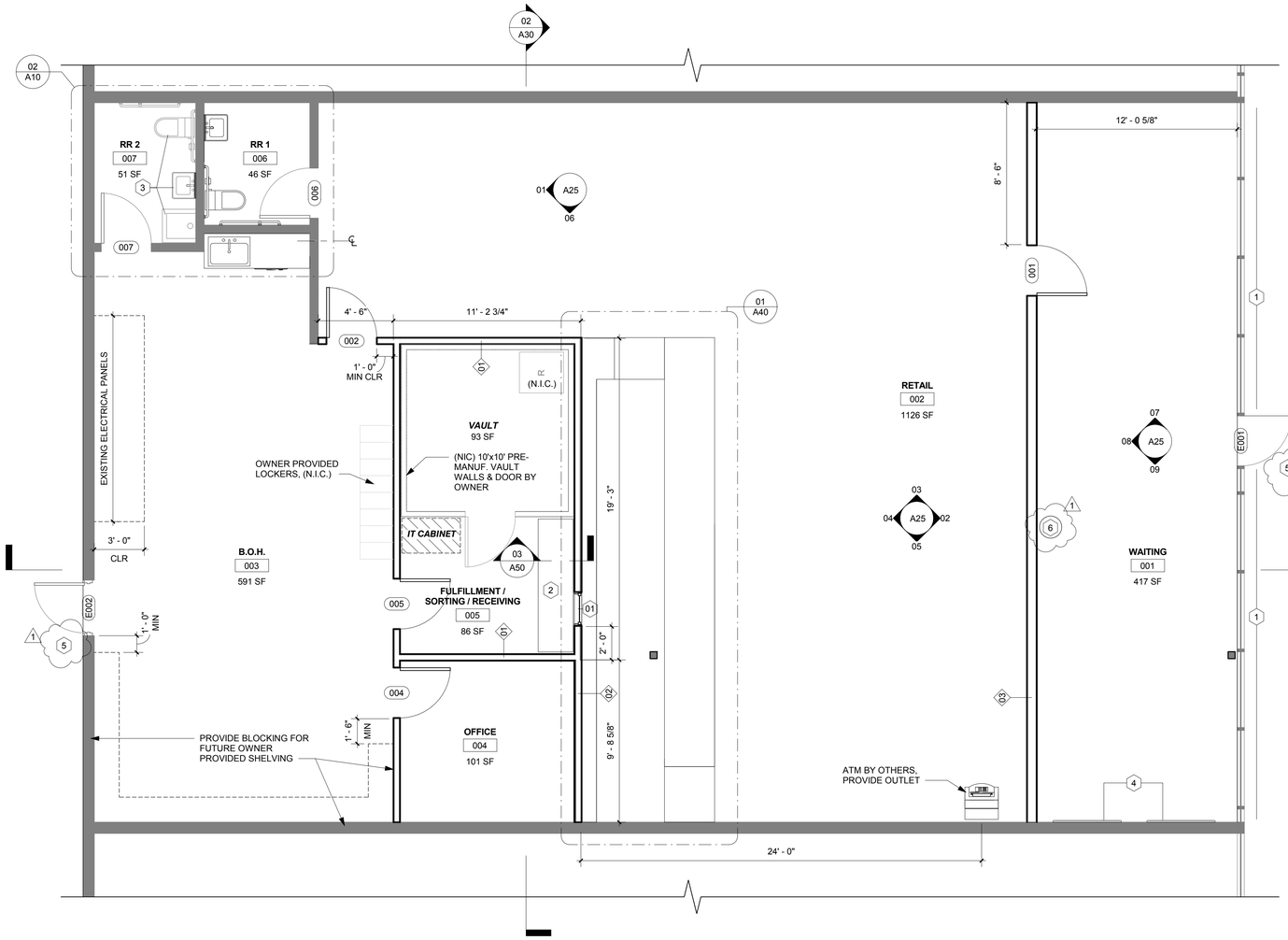
sheet number

G04



02 ENLARGED FLOOR PLAN - RESTROOM

1/2" = 1'-0"



01 FLOOR PLAN

1/4" = 1'-0"

FLOOR PLAN GENERAL NOTES:

a. **U.N.O.** ALL WALL DIMENSIONS TO FACE OF STUD.
b. ALL FURNITURE AND WALL HUNG SHELVING SHOWN FOR REFERENCE ONLY.
c. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS.
d. REFER TO MEP DRAWINGS FOR ALL PLUMBING/HVAC/ELECTRICAL REQUIREMENTS/INFORMATION/LOCATIONS.
e. **ALL** INTERIOR WALLS TO BE TYPE 1 UNLESS OTHERWISE NOTED. SEE SHEET G01 FOR WALL TYPES.
f. **U.N.O.** CONTRACTOR TO INSPECT EXISTING SLAB, MACHINE GRIND TO RECEIVE POLISHED FINISHES LEVEL & SMOOTH PRIOR TO CONSTRUCTION OF NEW WALLS..
g. GYP. BD WALLS NOT TO EXCEED 30 FEET WITHOUT A CONTROL JOINT, UNDIVIDED GYP. BD SURFACES NOT TO EXCEED 900 S.F. OR AS OTHERWISE INDICATED
h. **ALL** MISCELLANEOUS CARPENTRY AND WOOD BLOCKING TO BE FIRE TREATED.
i. PATCH AND REPAIR EXISTING GYP. BD WALLS FOR PAINT READY FINISH.
j. CONTRACTOR TO REPAIR ANY EXISTING FIRE RATED ASSEMBLY THAT IS DISTURBED DURING CONSTRUCTION TO ITS ORIGINAL FIRE RATING.
k. PATCH ALL EXISTING WALLS WHERE ADJACENT WALLS AND/OR CASEWORK, EQUIPMENT, ETC. WERE REMOVED. PREPARE FOR PAINT FINISH.
l. **U.N.O.** ALL NEW WALLS TO ALIGN WITH ADJACENT, EXISTING WALLS TO PROVIDE SEAMLESS TRANSITION.
m. CLEAN ALL EXISTING STOREFRONT & DOOR HEAD, JAMB, & SILLS. PROTECT FROM DAMAGE DURING CONSTRUCTION.
n. **ALL** TOILET ROOMS/BATHROOMS TO PROVIDE BLOCKING FOR GRAB BARS. REFER TO RESTROOM ADA STANDARD ELEVATIONS FOR HEIGHT AND LOCATIONS.
o. **ALL** PENETRATIONS INTO FIRE-RATED ASSEMBLIES ARE TO BE FIRESTOPPED WITH UL APPROVED FIRESTOPPING ASSEMBLIES. UL INFORMATION SHALL BE PROVIDED BY TRADE RESPONSIBLE FOR PENETRATION.
p. PROVIDE FIREBLOCKING AND DRAFTSTOPPING AS REQUIRED AND IN ACCORDANCE WITH 2012 IBC, SECTION 717.0.
q. AT ALL DOORS TO REMAIN, CONTRACTOR TO REPLACE EXISTING HARDWARE WITH HARDWARE SET NOTED IN SPECIFICATIONS.
r. **U.N.O.** ALL EXTERIOR GLAZING TO RECEIVE TRANSLUCENT APPLIED FILM. RE: SPECIFICATIONS.
s. MAXIMUM OCCUPANCY MUST BE POSTED IN VISIBLE LOCATION IN THE WAITING ROOM. COORDINATE WITH OWNER FOR FINAL LOCATION.

FLOOR PLAN KEY NOTES:

1. GLAZING TO RECEIVE SELF ADHERING TRANSLUCENT FILM APPLIED TO INTERIOR FACE OF GLASS. WINDOW COVERING TO COVER FULL EXTENT OF GLASS OBSCURING ANY VIEWS INTO THE BUILDING.
2. BUILT-IN WORK-SURFACE.
3. EXISTING PLUMBING FIXTURES TO REMAIN.
4. OWNER PROVIDED, CONTRACTOR INSTALLED TV AND BRACKET, BOTTOM OF TV TO BE MOUNTED RE: ELEVATIONS CONTRACTOR TO PROVIDE BLOCKING IN WALL.
5. ADDRESS TO BE LOCATED AND PLAINLY VISIBLE PER 2018 IFC 505.1. COORDINATE WITH OWNER FOR FINAL LOCATION
6. WATER DISPENSER, COORDINATE FINAL LOCATION WITH OWNER

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
05/14/2020

HIVE

FRESH GREEN - LEES SUMMIT

1041 NE Sam Walton Dr. Ste. B
Lees Summit, MO 64086

HIVE DESIGN COLLABORATIVE, INC.
1617 WALNUT STREET, KANSAS CITY, MO 64108
816.581.6363

seal/signature

STATE OF MISSOURI
STEVEN J. BOWLING, JR
NUMBER A-2007004981
ARCHITECT
05.01.2020

project number	2020-017
date	05.01.2020
issued for	PERMIT

rev	date	description
1	05.08.2020	CITY COMMENTS

FLOOR PLAN

sheet number

A10

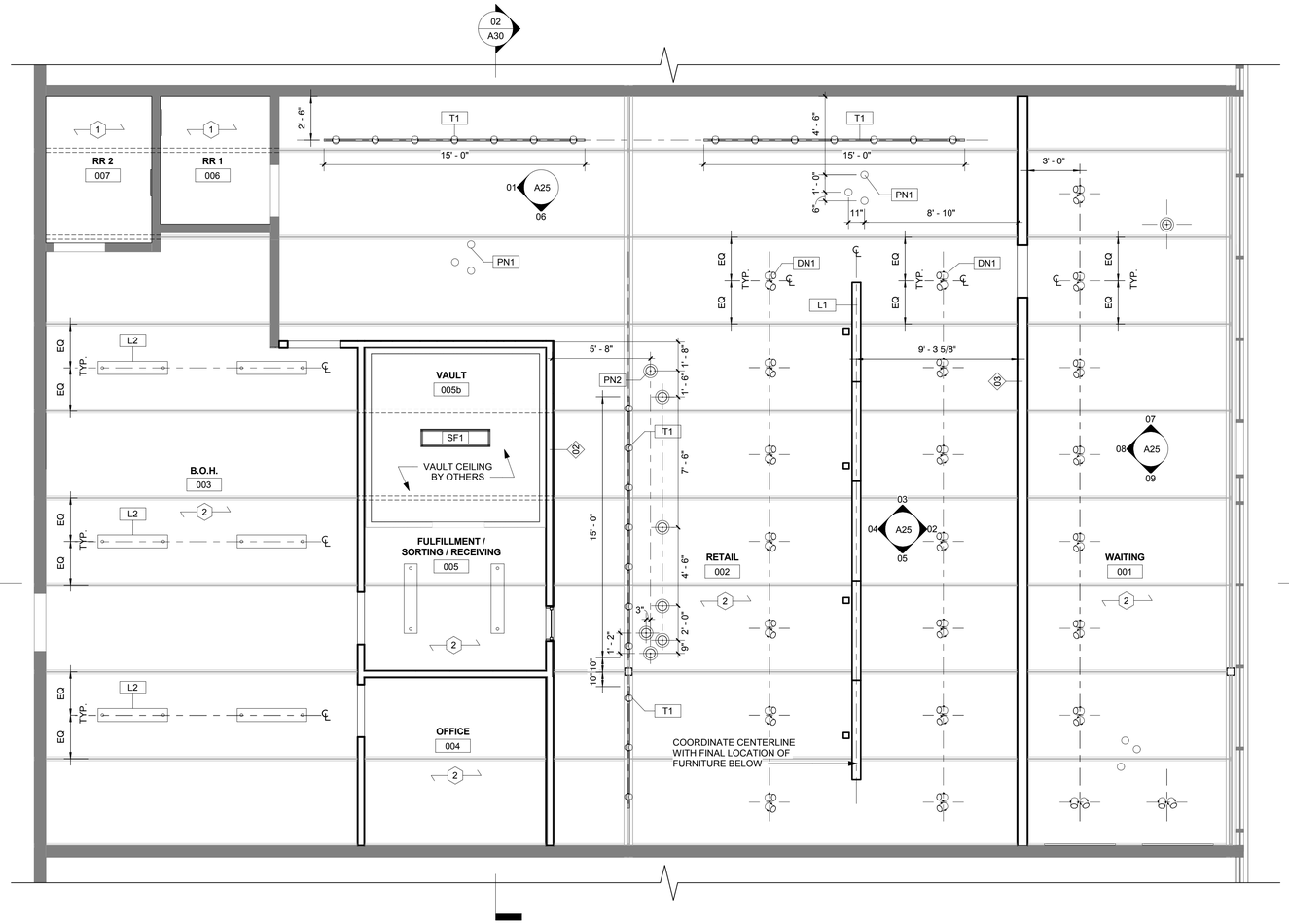
REFLECTED CEILING PLAN GENERAL NOTES:

a. REFER TO THE FINISH SCHEDULE FOR CEILING MATERIAL AND FINISH.
b. NOTIFY ARCHITECT OF ANY DISCREPANCIES BETWEEN ELECTRICAL LIGHTING PLAN LAYOUT AND REFLECTED CEILING PLAN LAYOUT.
c. REFER TO ELECTRICAL DRAWINGS FOR LIGHTING, CIRCUITING, AND SPECIFICATIONS. ARCHITECTURAL DRAWINGS GOVERN LIGHTING LOCATIONS.
d. REFER TO MECHANICAL FOR DUCTWORK, DIFFUSERS, ETC.
e. GC TO VERIFY ANY & ALL LIGHTING, FIRE SPRINKLER AND HVAC CONFLICTS PRIOR TO ANY BIDDING AND GRID MODIFICATIONS. NOTIFY ARCHITECT OF ISSUES.

CEILING PLAN KEY NOTES:

1 EXISTING GYP. BD. CEILING AND LIGHT FIXTURES TO REMAIN, PROTECT AS REQUIRED.

2 EXPOSED CEILING & STRUCTURE PAINTED, RE: FINISH SCHED.



01 REFLECTED CEILING PLAN

1/4" = 1'-0"

HIVE

FRESH GREEN - LEES SUMMIT

1041 NE Sam Walton Dr.
Lees Summit, MO 64086

HIVE DESIGN COLLABORATIVE, INC.
1617 WALNUT STREET, KANSAS CITY, MO 64108
816.581.6363

seal/signature

STATE OF MISSOURI
STEVEN J. BOWLING, JR
PROJECT MANAGER
ARCHITECT

05.01.2020

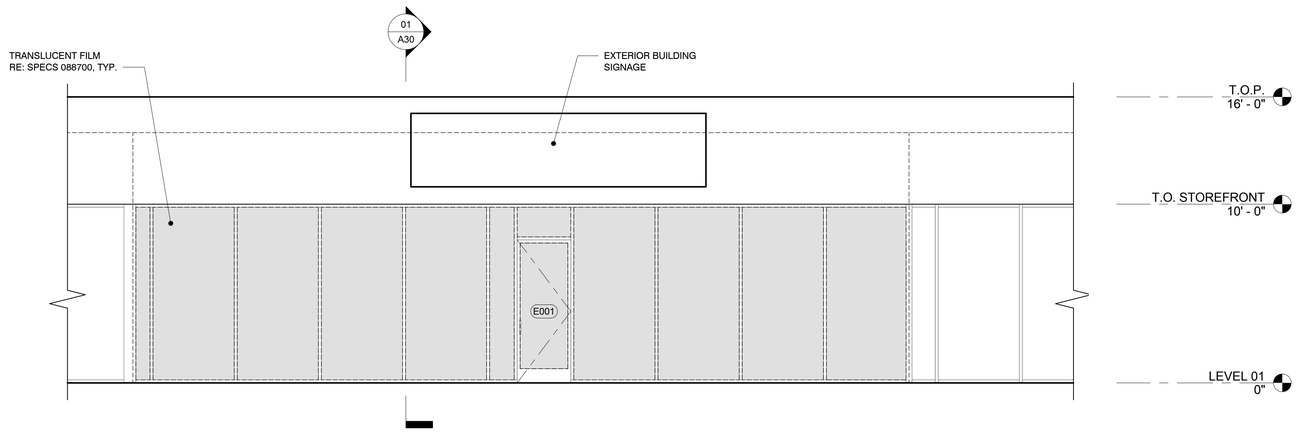
project number	2020-017
date	05.01.2020
issued for	PERMIT

rev	date	description

REFLECTED CEILING PLAN

sheet number

A15



01 EXTERIOR ELEVATION

1/4" = 1'-0"

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI

05/14/2020

FRESH GREEN - LEES SUMMIT

1041 NE Sam Walton Dr.
Lees Summit, MO 64086

HIVE DESIGN COLLABORATIVE, INC.
1617 WALNUT STREET, KANSAS CITY, MO 64108
816.581.6363

seal/signature

STATE OF MISSOURI
STEVEN J. BOWLING, JR
NUMBER A-2007004981
ARCHITECT

05.01.2020

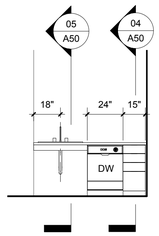
project number	2020-017
date	05.01.2020
issued for	PERMIT

rev	date	description

ELEVATIONS

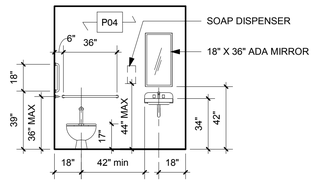
sheet number

A20



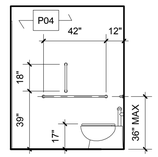
14 INTERIOR ELEVATION

1/4" = 1'-0"



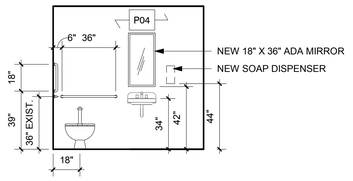
13 INTERIOR ELEVATION

1/4" = 1'-0"



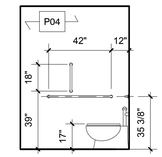
12 INTERIOR ELEVATION

1/4" = 1'-0"



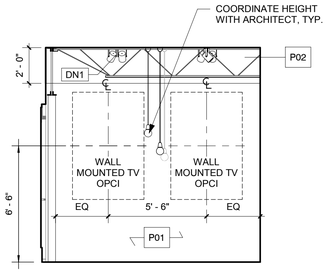
11 INTERIOR ELEVATION

1/4" = 1'-0"



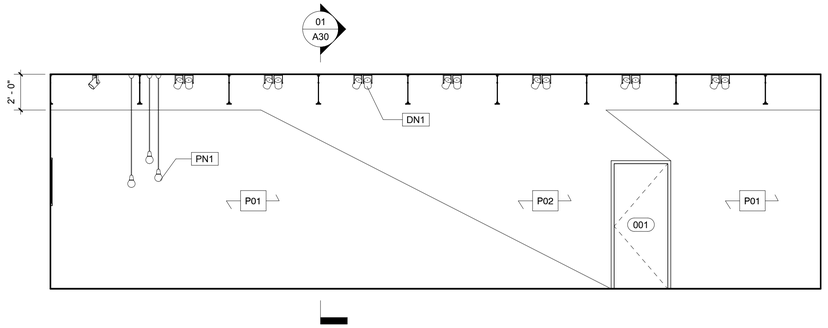
10 INTERIOR ELEVATION

1/4" = 1'-0"



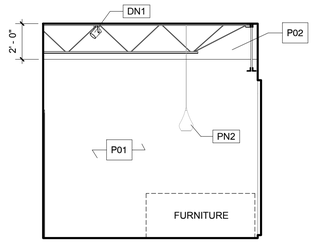
09 INTERIOR ELEVATION

1/4" = 1'-0"



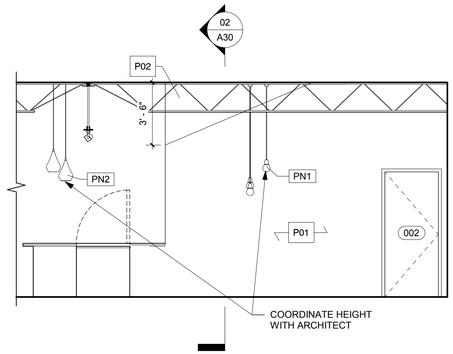
08 INTERIOR ELEVATION

1/4" = 1'-0"



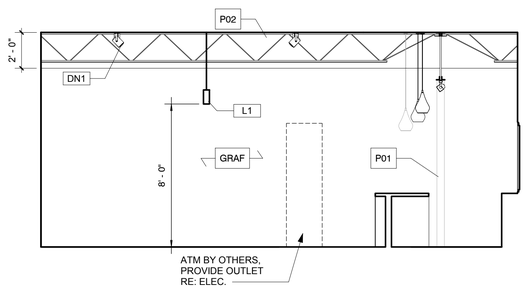
07 INTERIOR ELEVATION

1/4" = 1'-0"



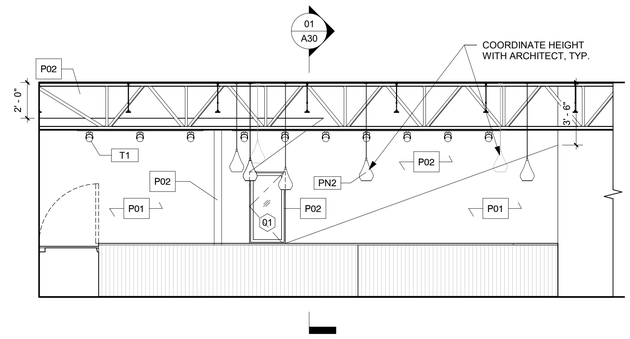
06 INTERIOR ELEVATION

1/4" = 1'-0"



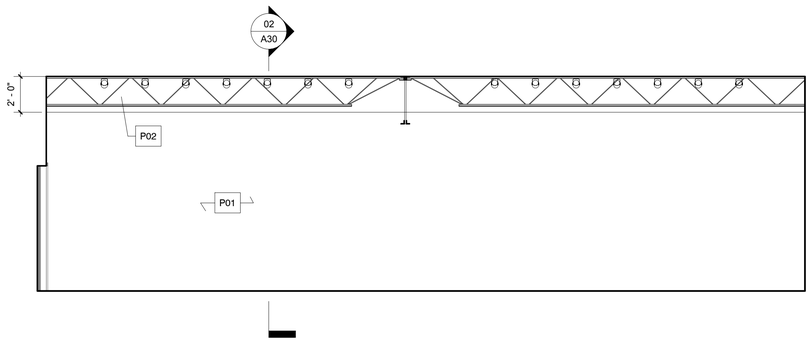
05 INTERIOR ELEVATION

1/4" = 1'-0"



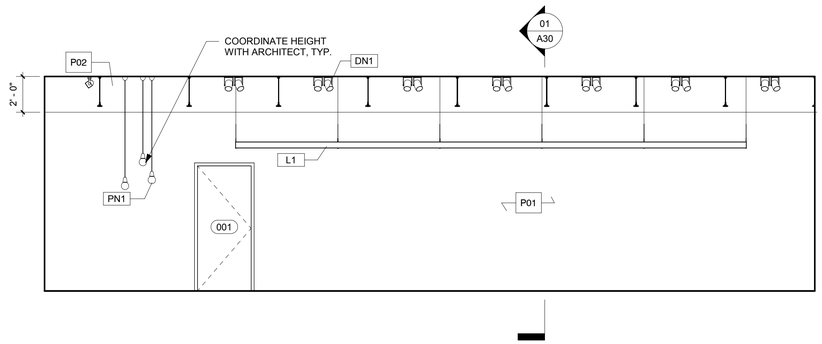
04 INTERIOR ELEVATION

1/4" = 1'-0"



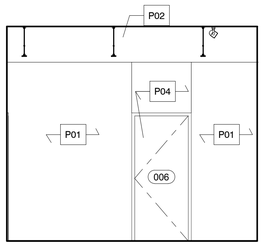
03 INTERIOR ELEVATION

1/4" = 1'-0"



02 INTERIOR ELEVATION

1/4" = 1'-0"



01 INTERIOR ELEVATION

1/4" = 1'-0"

HIVE

FRESH GREEN - LEES SUMMIT

1041 NE Sam Walton Dr.
Lees Summit, MO 64086

HIVE DESIGN COLLABORATIVE, INC.
1617 WALNUT STREET, KANSAS CITY, MO 64108
816.581.6363

seal/signature

STATE OF MISSOURI
STEVEN A. BOWLING, JR.
ARCHITECT
A-2007004981

05.01.2020

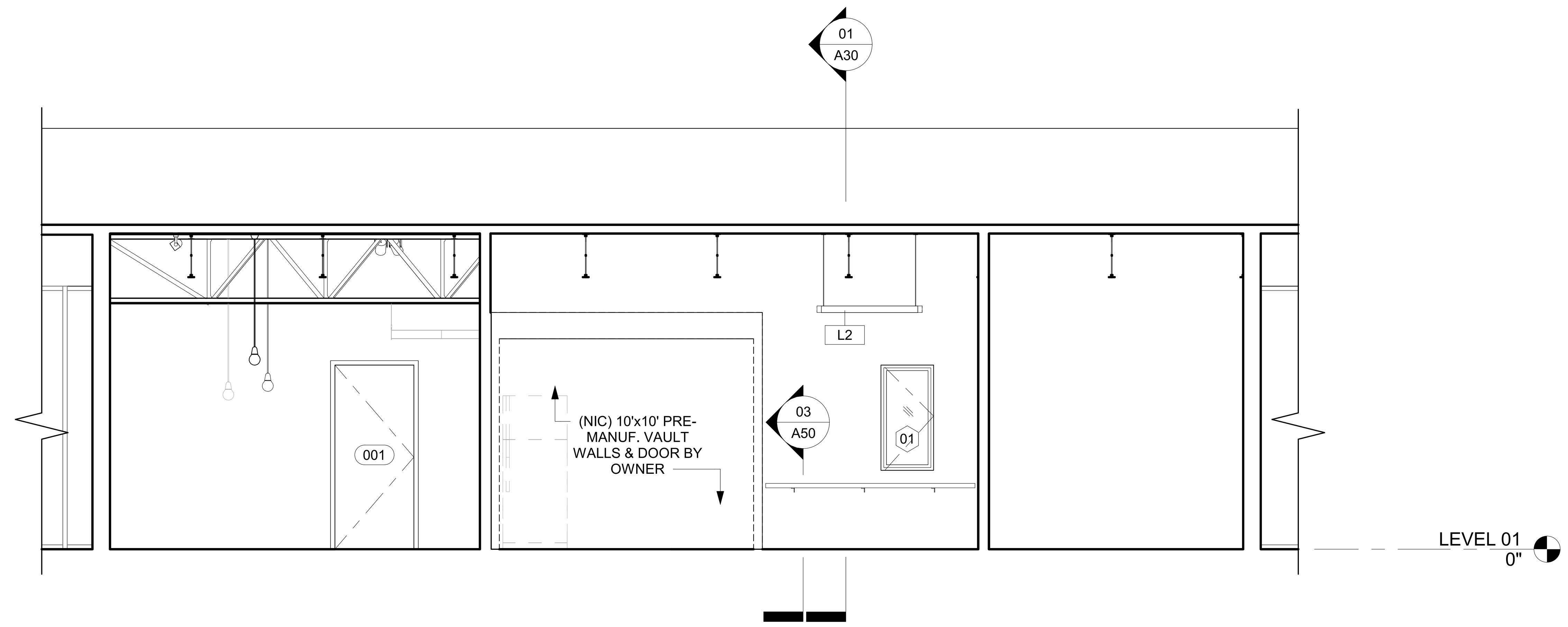
project number	2020-017
date	05.01.2020
issued for	PERMIT

rev date description

INTERIOR ELEVATIONS

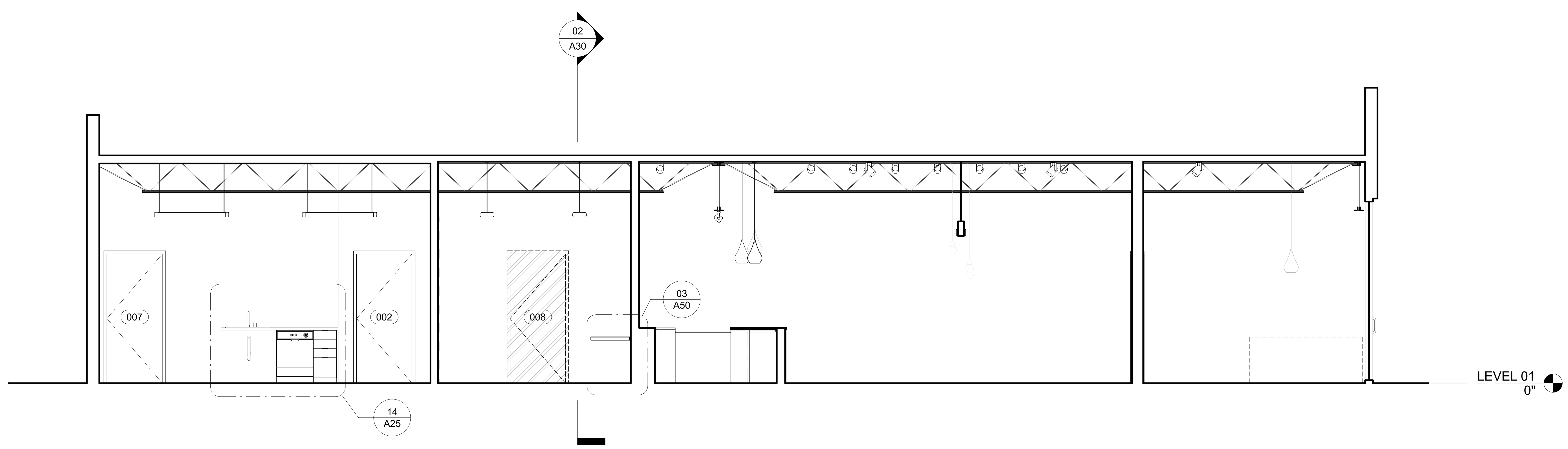
sheet number

A25



02 BUILDING SECTION

1/4" = 1'-0"



01 BUILDING SECTION

1/4" = 1'-0"

HIVE

FRESH GREEN - LEES SUMMIT

1041 NE Sam Walton Dr.
Lees Summit, MO 64086

HIVE DESIGN COLLABORATIVE, INC.
1617 WALNUT STREET, KANSAS CITY, MO 64108
816.581.6363

seal/signature

STATE OF MISSOURI
STEVEN J. BOWLING, JR
ARCHITECT
05.01.2020

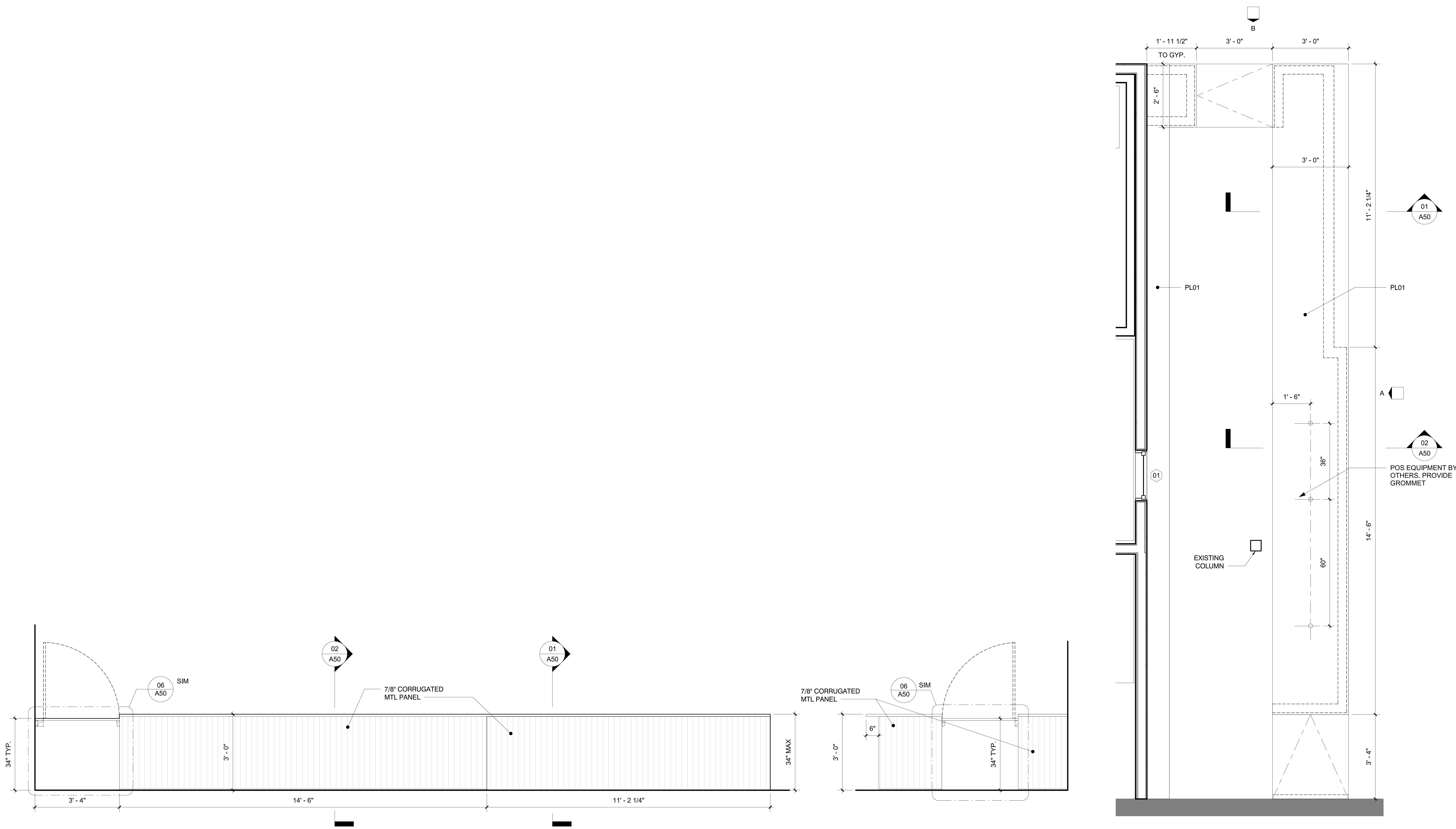
project number	2020-017
date	05.01.2020
issued for	PERMIT

rev	date	description

SECTIONS

sheet number

A30



A.

B.

01 POS COUNTER PLAN / ELEVATIONS

1/2" = 1'-0"

HIVE

FRESH GREEN - LEES SUMMIT

1041 NE Sam Walton Dr.
Lees Summit, MO 64086

HIVE DESIGN COLLABORATIVE, INC.
1617 WALNUT STREET, KANSAS CITY, MO 64108
816.581.6363

seal/signature

STATE OF MISSOURI
STEVEN J. BOWLING, JR
NUMBER
ARCHITECT

05.01.2020

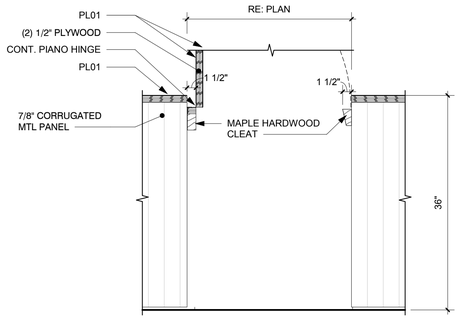
project number	2020-017
date	05.01.2020
issued for	PERMIT

rev	date	description

ENLARGED PLANS

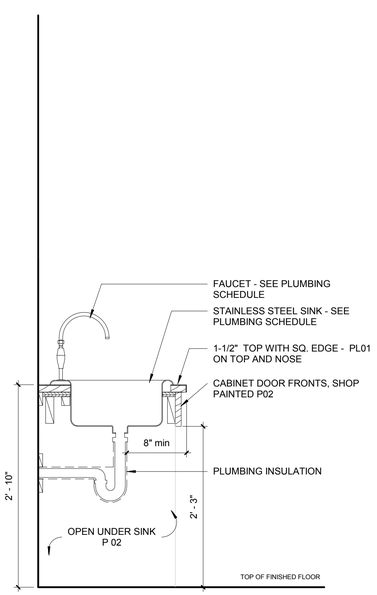
sheet number

A40



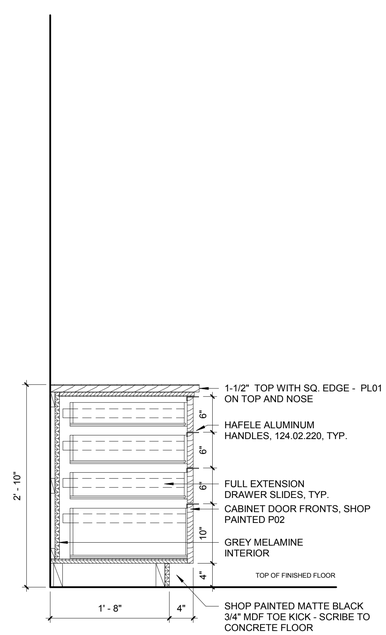
06 SECTION DETAIL

1" = 1'-0"



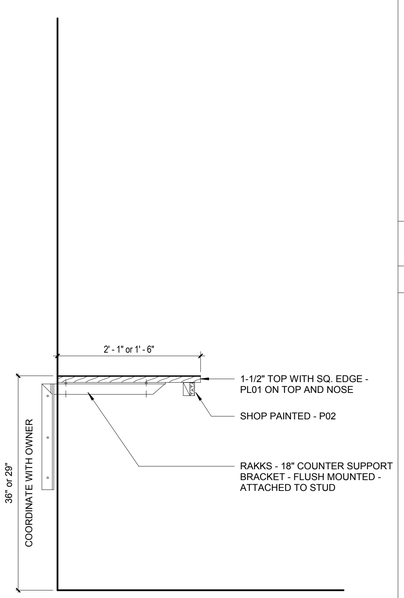
05 SECTION DETAIL

1" = 1'-0"



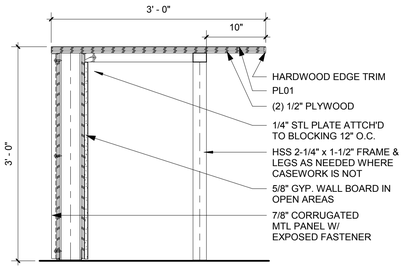
04 SECTION DETAIL

1" = 1'-0"



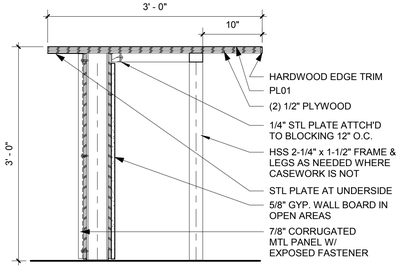
03 SECTION DETAIL

1" = 1'-0"



02 SECTION DETAIL

1" = 1'-0"



01 SECTION DETAIL

1" = 1'-0"

HIVE

FRESH GREEN - LEES SUMMIT

1041 NE Sam Walton Dr.
Lees Summit, MO 64086

HIVE DESIGN COLLABORATIVE, INC.
1617 WALNUT STREET, KANSAS CITY, MO 64108
816.581.6363

seal/signature

05.01.2020

project number	2020-017
date	05.01.2020
issued for	PERMIT

rev	date	description

PLAN & SECTION DETAILS

sheet number

A50

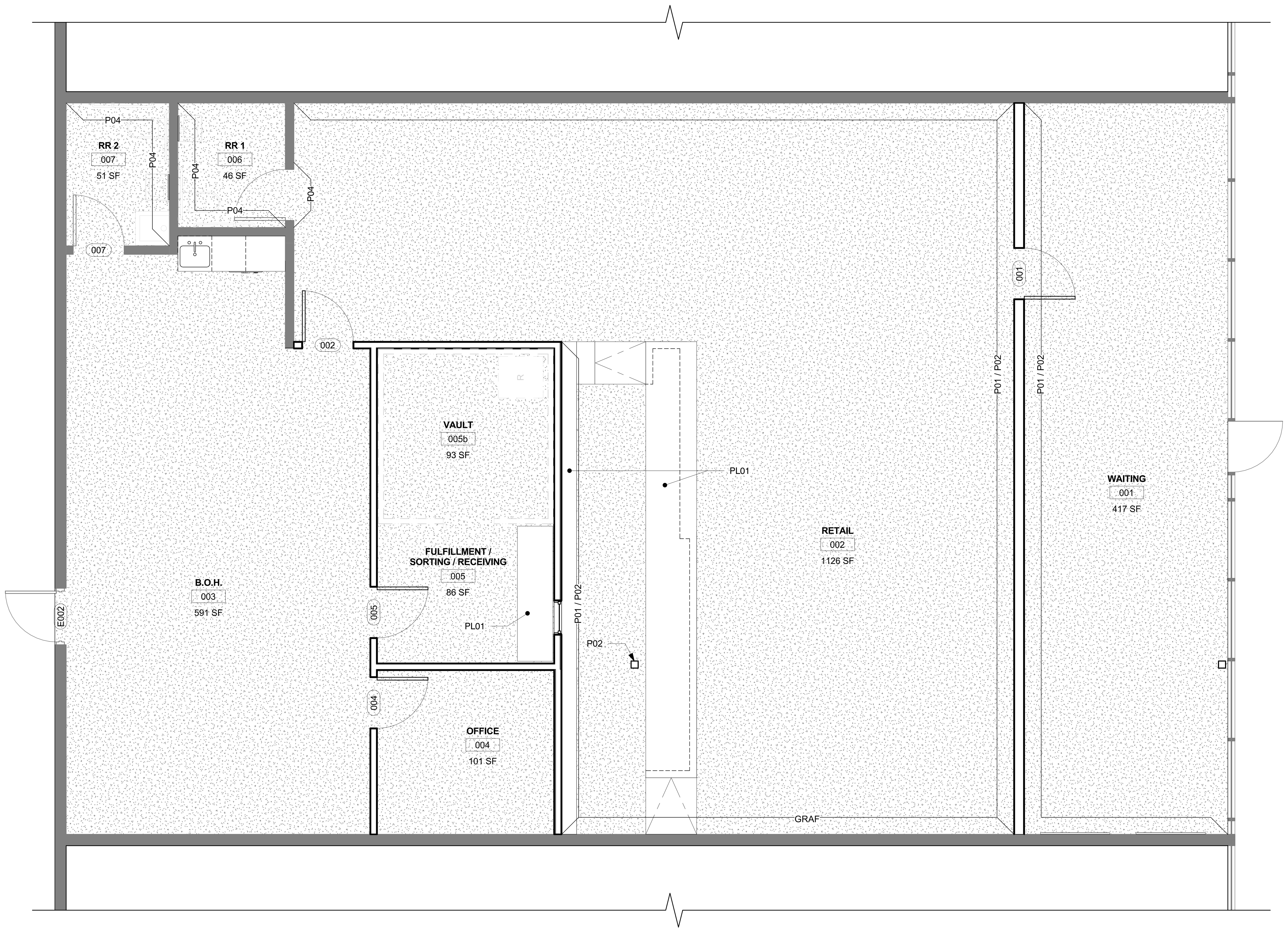
FINISH SCHEDULE									
ROOM #	ROOM NAME	FLOOR FINISH	BASE FINISH	WALL FINISH NORTH	WALL FINISH EAST	WALL FINISH SOUTH	WALL FINISH WEST	CEILING FINISH	NOTES
001	WAITING	CONC	RB 01	P01 / P02	STOREFRONT	P01 / P02	P01 / P02	P02 - OPEN	
002	RETAIL	CONC	WD 01	P01 - COORD. ART	P01 - COORD. ART	P01 - COORD. ART	P01 - COORD. ART	P02 - OPEN	
003	B.O.H.	CONC	RB 01	P01	P01	P01	P01	P02 - OPEN	
004	OFFICE	CONC	RB 01	P01	P01	P01	P01	P02 - OPEN	
005	FULFILLMENT / SORTING / RECEIVING	CONC	RB 01	P02	P02	P02	P01 - COORD. ART	P02 - OPEN	
005b	VAULT	CONC	RB 01	BY OTHERS	BY OTHERS	BY OTHERS	BY OTHERS	BY OTHERS	
006	RR 1	CONC	RB 01	P01	P01	P04	P04	P01	
007	RR 2	CONC	RB 01	P04	P04	P01	P01	P01	

FINISH LEGEND				
CODE	MATERIAL	MANUFACTURER	STYLE, COLOR, SIZE	NOTES
CONC	CONCRETE		TRANSPARENT FINISH	GRIND SMOOTH AND FINISH EXISTING FLOORS
RB01	RUBBER WALL BASE	ROPPE	4" COVE BASE, 177 STEEL BLUE	ROLL GOODS ONLY
WD01	WOOD WALL BASE		PAINT TO MATCH WALL	1X4 RE: WALL ASSEMBLIES
WD02	PLYWOOD		BALTIC BIRCH PLYWOOD	
WD03	MAPLE HARDWOOD		TRANSPARENT FINISH	
P01	PAINT	BENJAMIN MOORE	OC-57 - WHITE HERON	EGGSHELL, TYP. / SEMI-GLOSS EPOXY BASED PAINT IN RESTROOMS
P02	PAINT	BENJAMIN MOORE	2140-30 - DARK OLIVE	EGGSHELL, TYP.
P03	PAINT	BENJAMIN MOORE	2703-40 - PURPLE HYACINTH	EGGSHELL, TYP.
P04	PAINT	BENJAMIN MOORE	2102-70 - FIRST LIGHT	EGGSHELL, TYP. / SEMI-GLOSS EPOXY BASED PAINT IN RESTROOMS
CMP01	CORRUGATED MTL PANEL	MORIN	C-29 7/8" PANEL, PRE-WEATHERED & CLEAR FINISH	EXPOSED FASTENER
PL01	LAMINATE	NAVAMAR	S6054T - WROUGHT IRON, TEXTURED	SATIN FINISH
GRAF	GRAFFITI ART WALL	PER OWNER	PER SELECTED ARTIST	COORDINATE WITH OWNER & SELECTED ARTIST ON HOW TO PREPARE SURFACE
WF01	VINYL WINDOW FILM	3M	FASARA SH2MLCRX, MILKY CRYSTAL (60" WIDTH - CONFIRM WIDTH)	APPLY TO INTERIOR FACE OF GLASS

1

NOTES

1. REFERENCE ELEVATIONS ON SHEET A20 FOR ADDT'L INFORMATION
2. REFERENCE PLAN & ELEVATIONS ON SHEET A40 FOR POS COUNTER FINISHES
3. PAINT FREESTANDING COLUMNS P03



01 FINISH FLOOR PLAN

1/4" = 1'-0"

GENERAL FINISH NOTES:

a. ALL FINISHES SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURERS LATEST WRITTEN SPECIFICATIONS AND INITIAL MAINTENANCE INSTRUCTIONS.
b. NEW DRYWALL SURFACES SHALL RECEIVE (1) COAT OF PRIMER AND (2) FINISH COATS.
c. INSTALLATION OF NEW FINISHES BY THE CONTRACTOR SHALL INDICATE ACCEPTANCE OF WALL AND FLOOR PREPARATION, AND FULL RESPONSIBILITY FOR COMPLETED WORK.
d. CONTRACTOR SHALL SUBMIT TO TENANT, FOR REVIEW AND APPROVAL, SAMPLES OR DRAW DOWNS OF FINISHES AND MATERIALS SPECIFIED IN "FINISH SCHEDULE".
e. EXISTING SUB FLOOR SHALL BE FLASH-PATCHED AT ALL AREAS WHERE FLOOR IS NOT LEVEL OR TRUE.
f. GENERAL CONTRACTOR SHALL VERIFY WITH TENANT THE PLACEMENT OF ALL ATTIC STOCK OF NEW FINISH MATERIALS, I.E.: CARPET, VINYL COMPOSITION TILE, VINYL BASE, ETC. FOR TENANT STORAGE.
g. ALL HOLLOW METAL DOOR AND INTERIOR WINDOW FRAMES TO BE PAINTED TO MATCH ADJACENT WALL, U.N.O.
h. ALL EXISTING WOOD DOORS & FRAMES TO BE STRIPPED PAINTED
i. ALL EXISTING WOOD SILL TRIM TO BE PREPPED AND PAINTED TO MATCH COLOR OF ADJACENT WALL
j. NOT ALL FINISHES INDICATED ON FINISH PLAN. REFERENCE FINISH SCHEDULE.
k. FURNITURE SHOWN FOR REFERENCE ONLY. NOT IN CONTRACTORS SCOPE.

HIVE

FRESH GREEN - LEES SUMMIT
1041 NE Sam Walton Dr.Ste. B
Lees Summit, MO 64086

HIVE DESIGN COLLABORATIVE, INC.
1617 WALNUT STREET, KANSAS CITY, MO 64108
816.581.6363

seal/signature

STATE OF MISSOURI
STEVEN J. BOWLING, JR
ARCHITECT

05.01.2020

project number	2020-017
date	05.01.2020
issued for	PERMIT

rev	date	description
1	05.08.2020	CITY COMMENTS

FINISH PLAN & SCHEDULE

sheet number

A60

HARDWARE BASIS OF DESIGN:

1. MK - McKinney
2. PE - Pemko
3. SA - SARGENT
4. HS - HESv
5. RO - Rockwood
6. RF - Rixson
7. OT - Other
8. SU - Securitron

Set: 1.0
Doors: E001
Description: Exterior Single, Waiting - CR, Remote Release (Existing)

4	Hinge (stainless heavy weight)	T4A3386 NRP (size as required)	US26D	MK	087100	
1	Rim Exit Device, Exit Only	AD8510 EO	US32D	SA	087100	
1	Electric Strike	9400-LBSM	630	HS	087100	□
1	SMART Pac Bridge Rectifier	2005M3		HS	087100	□
1	Pull	RM3101-24 Mtg-Type 12HD	US32D	RO	087100	
1	Surface Closer	1431 CPS	EN	SA	087100	
1	Kit	581-1/581-2 (as required)	EN	SA	087100	
1	Threshold (thermal)	253x3AFG		PE	087100	
1	Rain Guard	346C		PE	087100	
1	Sweep	3151CN		PE	087100	
1	ElectroLynx Harness (frame)	QC-C_ (size as required)		MK	087100	□
1	Request to Exit	By Security		OT		
1	Card Reader	By Security		OT		
1	Position Switch	DPS-M-BK		SU	087100	□
1	Power Supply	AQD Series		SU	087100	□
1	Remote Release	By Security		OT		
1	Wiring Diagram	Point to Point Wiring Diagram		OT		

Notes: Field verify products specified will fit existing door/frame preps.
Operation:
1. Door normally closed, latched and locked. Access is obtained from the secure side by valid credential or remote release from front desk. In the event of power failure door mechanically locks.
2. Free egress from the interior by depressing inside push pad.
3. Contact switch in electric strike sends positive strike and latch status to access control.
4. Request to exit signals authorized egress to the access control system.
5. Door position switch signals door/open closed to access control system.

Set: 2.0
Doors: E002
Description: Exterior Single, BOH - Exit, CR, Remote Release

3	Hinge (stainless heavy weight)	T4A3386 NRP (size as required)	US26D	MK	087100	
1	Rim Exit Device, Exit Only	8810 EO	US32D	SA	087100	
1	Electric Strike	9400-LBSM	630	HS	087100	□
1	SMART Pac Bridge Rectifier	2005M3		HS	087100	□
1	Pull	RM3101-24 Mtg-Type	12HD	US32D	RO	087100
1	Surface Closer	1431 CPS	EN	SA	087100	
1	Armor Plate	K1050 34" high CSK BEV		US32D	RO	087100
1	Threshold (thermal)	253x3AFG		PE	087100	
1	Rain Guard	346C		PE	087100	
1	Sweep	3151CN		PE	087100	
1	Request to Exit	By Security		OT		
1	Card Reader	By Security		OT		
1	Position Switch	DPS-M-BK		SU	087100	□
1	Power Supply	AQD Series		SU	087100	□
1	Remote Release	By Security		OT		
1	Wiring Diagram	Point to Point Wiring Diagram		OT		

Notes: Field verify products specified will fit existing door/frame preps.
Operation:
1. Door normally closed, latched and locked. Access is obtained from the secure side by valid credential or remote release from front desk. In the event of power failure door mechanically locks.
2. Free egress from the interior by depressing inside push pad.
3. Contact switch in electric strike sends positive strike and latch status to access control.
4. Request to exit signals authorized egress to the access control system.
5. Door position switch signals door/open closed to access control system.

Set: 3.0
Doors: 002, 004
Description: Interior Single, B.O.H. - CR

2	Hinge, Full Mortise	TA2714 NRP (size as required)	US26D	MK	087100	
1	Hinge, Full Mortise	TA2714 QC12 (size as required)	US26D	MK	087100	□
1	Fail Secure Lock	LX RX 8271 LNF	US26D	SA	087100	□
1	Surface Closer	1431 O/P10 (as required)	EN	SA	087100	
1	Armor Plate	K1050 34" high CSK BEV	US32D	RO	087100	
1	Wall Stop	406/409 (as required)	US26D	RO	087100	
1	Gasketing	S88BL		PE	087100	
1	ElectroLynx Harness (frame)	QC-C_ (size as required)		MK	087100	□
1	ElectroLynx Harness (door)	QC-C_ (size as required)		MK	087100	□
1	Card Reader	By Security		OT		
1	Position Switch	DPS-M-BK		SU	087100	□
1	Power Supply	AQD Series		SU	087100	□
1	Wiring Diagram	Point to Point Wiring Diagram		OT		

Notes: Operation:
1. Door normally closed and locked. Access is obtained by valid credential. Locksets mechanically lock during power failure.
2. Free egress from inside by depressing inside lever.
3. Request to exit switch in lever to signal authorized egress to the access control system.
4. Door position switch to signal door open/closed to the access control system.

Set: 4.0
Doors: 005
Description: Interior Single, Fulfillment - CR, OH Stop

2	Hinge, Full Mortise	TA2714 NRP (size as required)	US26D	MK	087100	
1	Hinge, Full Mortise	TA2714 QC12 (size as required)	US26D	MK	087100	□
1	Fail Secure Lock	LX RX 8271 LNF	US26D	SA	087100	□
1	Conc Overhead Stop	6ADJ-X36	630	RF	087100	
1	Surface Closer	1431 O/P10 (as required)	EN	SA	087100	
1	Kick Plate	K1050 10" high CSK BEV		US32D	RO	087100
1	Gasketing	S88BL		PE	087100	
1	ElectroLynx Harness (frame)	QC-C_ (size as required)		MK	087100	□
1	ElectroLynx Harness (door)	QC-C_ (size as required)		MK	087100	□
1	Card Reader	By Security		OT		
1	Position Switch	DPS-M-BK		SU	087100	□
1	Power Supply	AQD Series		SU	087100	□
1	Wiring Diagram	Point to Point Wiring Diagram		OT		

Notes: Operation:
1. Door normally closed and locked. Access is obtained by valid credential. Locksets mechanically lock during power failure.
2. Free egress from inside by depressing inside lever.
3. Request to exit switch in lever to signal authorized egress to the access control system.
4. Door position switch to signal door open/closed to the access control system.

Set: 5.0
Doors: 001
Description: Interior Single, Retail - CR

2	Hinge, Full Mortise	TA2714 NRP (size as required)	US26D	MK	087100	
1	Hinge, Full Mortise	TA2714 QC12 (size as required)	US26D	MK	087100	□
1	Fail Secure Lock	LX RX 8271 LNF	US26D	SA	087100	□
1	Surface Closer	1431 CPS	EN	SA	087100	
1	Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100	
1	Gasketing	S88BL		PE	087100	
1	Door Bottom	411APKL		PE	087100	
1	ElectroLynx Harness (frame)	QC-C_ (size as required)		MK	087100	□
1	ElectroLynx Harness (door)	QC-C_ (size as required)		MK	087100	□
1	Card Reader	By Security		OT		
1	Position Switch	DPS-M-BK		SU	087100	□
1	Power Supply	AQD Series		SU	087100	□
1	Wiring Diagram	Point to Point Wiring Diagram		OT		

Notes: Operation:
1. Door normally closed and locked. Access is obtained by valid credential. Locksets mechanically lock during power failure.
2. Free egress from inside by depressing inside lever.
3. Request to exit switch in lever to signal authorized egress to the access control system.
4. Door position switch to signal door open/closed to the access control system.

Set: 6.0
Doors: 007
Description: Interior Single, B.O.H Restroom - Privacy, Indicator

3	Hinge (stainless)	TA2314 (size as required)	US26D	MK	087100	
1	Privacy Lock	V21 EMC 8265 LNF	US26D	SA	087100	
1	Surface Closer	1431 O/P10 (as required)	EN	SA	087100	
1	Mop Plate	K1050 6" high CSK BEV	US32D	RO		
1	Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100	
1	Wall Stop	406/409 (as required)	US26D	RO	087100	
1	Gasketing	S88BL		PE	087100	

Set: 7.0
Doors: 006
Description: Interior Single, Public Restroom - Keyed Privacy, Indicator

3	Hinge (stainless)	TA2314 NRP (size as required)	US26D	MK	087100	
1	Institutional Privacy	Lock DG1 V21 EMC 8257 LNF	US26D	SA	087100	
1	Surface Closer	1431 O/P10 (as required)	EN	SA	087100	
1	Mop Plate	K1050 6" high CSK BEV	US32D	RO		
1	Kick Plate	K1050 10" high CSK BEV	US32D	RO	087100	
1	Wall Stop	406/409 (as required)	US26D	RO	087100	
1	Gasketing	S88BL		PE	087100	

Set: 8.0
Doors: 008
Description: Vault Door

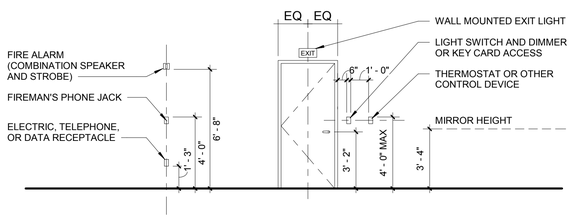
1	Hardware	By Door/Frame Provider		OT

HARDWARE SCHEDULE

1/4" = 1'-0"

DOOR SCHEDULE										
	DOOR				FRAME		DETAILS			
DOOR NO.	DOOR TYPE	WIDTH	HEIGHT	FINISH	TYPE	FINISH	HEAD	JAMB	HDWR SET	NOTES
001	B	3' - 0"	7' - 0"	PAINT	F1	PAINT TO MATCH	3/A65	2/A65	05	CONTROLLED BY CARD ONLY
002	B	3' - 0"	7' - 0"	PAINT	F1	PAINT TO MATCH	3/A65	2/A65	03	CONTROLLED BY CARD ONLY
004	B	3' - 0"	7' - 0"	PAINT	F1	PAINT TO MATCH	3/A65	2/A65	03	CONTROLLED BY CARD ONLY
005	B	3' - 0"	7' - 0"	PAINT	F1	PAINT TO MATCH	3/A65	2/A65	04	CONTROLLED BY CARD ONLY
006	EXIST.	3' - 0"	7' - 0"	PAINT	EXIST	PAINT TO MATCH	EXIST.	EXIST.	07	BATHROOM LOCK
007	EXIST.	3' - 0"	7' - 0"	PAINT	EXIST	PAINT TO MATCH	EXIST.	EXIST.	06	BATHROOM LOCK
008	C	3' - 0"	7' - 0"	N/A	N/A	N/A	BY OWNER	BY OWNER	08	COORDINATE WIRING LOCATION FOR SECURITY DEVICES WITH VAULT MANUFACTURER
E001	EXIST.	3' - 0"	8' - 0"	N/A	N/A	N/A	STRFNT	STRFRNT	01	CARD ACCESS & VIDEO INTERCOM DOOR RELEASE FROM FRONT DESK
E002	EXIST.	3' - 0"	7' - 0"	P02	EXIST.	PAINT TO MATCH	EXIST.	EXIST.	02	CARD ACCESS & VIDEO INTERCOM DOOR RELEASE FROM FRONT DESK

DOOR GENERAL NOTES:
a. ALL NEW WOOD DOORS TO BE PLAIN SLICED RED OAK & PRIMED FOR PAINT.
b. ALL EXISTING DOORS NOT INDICATED IN DOOR SCHEDULE BUT SHOWN ON PLANS TO REMAIN ARE TO BE STRIPPED, FILLED AS NECESSARY, AND FINISHED PER SCHEDULE
c. CONTRACTOR TO COORDINATE KEYING WITH THE BUILDING MANAGER.

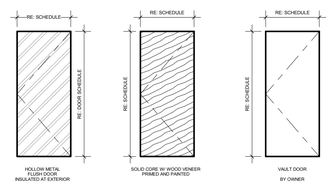


NOTE:
ALIGN CENTER OF ALL FIXTURE COVERS AS OCCUR

01 TYPICAL MOUNTING HEIGHTS AND DOOR ELEVATIONS

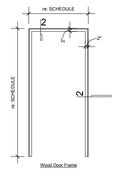
1/4" = 1'-0"

DOOR TYPE:



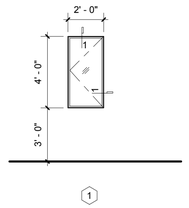
A SINGLE B SINGLE C SINGLE

FRAME TYPE:



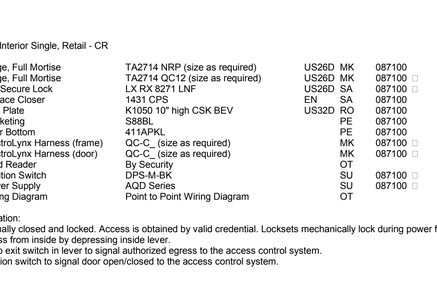
F1

WINDOW TYPE:

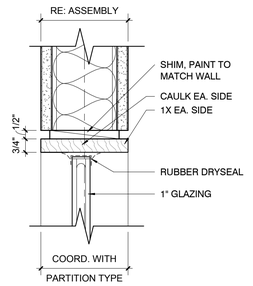


JAMB AND HEAD DETAILS

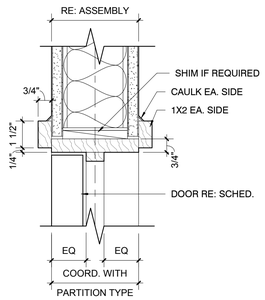
3" = 1'-0"



1 - JAMB



1 - HEAD



2

FRESH GREEN - LEES SUMMIT
1041 NE Sam Walton Dr.
Lees Summit, MO 64086

HIVE DESIGN COLLABORATIVE, INC.
1617 WALNUT STREET, KANSAS CITY, MO 64108
816.581.6363

seal/signature

05.01.2020

project number	2020-017
date	05.01.2020
issued for	PERMIT

rev	date	description

SCHEDULES & DETAILS

sheet number

A65

DIVISION 22, 23 AND 26

GENERAL PROVISIONS

1.0 DESCRIPTION:

A. Divisions 21, 22, 23 and 26 shall be governed by all applicable provisions of the Contract Document.

B. The Contractor shall furnish, install and connect all materials, equipment, apparatuses, and incidentals required for a complete and working installation. For all systems shown and required, the Contractor shall supply all necessary labor, equipment, tools, insurance, and tax services, and shall assume full responsibility for all obligations associated with completion of work as provided by the Contract Documents.

2.0 STANDARDS, REGULATIONS AND CODES:

A. Work shall comply with the edition of the applicable standards, regulations and codes currently in force of all Federal, State and local authorities having jurisdiction. Where quantities, sizes, or other requirements indicated on the drawings or herein specified are in excess of the standard or code requirements, the specifications and/or drawings shall govern. In the absence of other applicable local codes, acceptable to the Architect/Engineer, the International Set of Codes and Uniform Plumbing and the National Electrical Code shall apply to this work.

B. The Contractor shall comply with rules and regulations of public utilities and municipal departments affected by connections of services. The Contractor shall pay all fees associated there with.

C. The Contractor shall be licensed to perform associated work in the municipality in which the project is located.

D. All products and types of construction shall meet or exceed the latest edition of applicable standards of manufacturer, testing, performance and installation.

E. Where indicated or required, comply with all provisions of the ADA and/or the ABA Accessibility Guidelines.

F. Where indicated or required, comply with all applicable provisions of energy and ventilation codes in force at the local jurisdiction.

3.0 GRAPHIC REPRESENTATION AND JOB CONDITIONS:

A. The Contract Documents shall serve as working drawings for the general layout of the various items of equipment; are diagrammatic unless specifically dimensioned, and do not necessarily indicate every required item. The contractor shall include all necessary components and accessories as required for a complete working system whether so specifically indicated or not.

B. Architectural and Structural drawings take precedence over all other drawings in the representation of the general construction work; any conflicts shall be resolved prior to commencing work. Failure to do so shall not be considered a basis for the granting of additional compensation.

C. Arrange work in a neat, well organized manner. Coordinate work with other trades involved, prior to commencing work. Sub-contractors shall work together to resolve any conflicts of space or routing.

4.0 GUARANTEES/WARRANTY:

A. The Contractor shall guarantee/warranty all work performed, including labor, materials and equipment furnished under this contract, against defects in materials and workmanship for a minimum period of one year from the date of the Owner's Representative Final Acceptance of the work. Provide extended warranties as noted in each section or specified for specific products.

5.0 WORKMANSHIP:

A. All work performed under this Contract shall provide a neat and "workmanlike" appearance when completed, to the satisfaction of the Owner's Representative. The complete installation shall function as designed and intended with respect to efficiency, capacity, and noise level, etc.

6.0 LOCAL CONDITIONS:

A. The Contractor shall carefully examine and become thoroughly familiar with local conditions, existing installations and all other conditions which may affect associated work. The Contractor shall locate all existing utilities and protect them during the execution of the work

B. The Contractor shall carefully examine all contract documents including project drawings and specifications to become familiar with the type of construction, materials, and equipment to be used for all work and how it will affect the installation of this contract.

C. By the act of submitting a bid, the Contractor will be deemed to have made such examination, to have accepted such conditions, to have made allowance therefore, and included all costs in his proposal. Failure to determine existing conditions will not be considered a basis for the granting of additional compensation.

7.0 OPERATION DURING CONSTRUCTION:

A. The Contractor is responsible for the installation and operation, service and maintenance of all new equipment during construction and prior to acceptance by the Owner of the completed project. Warranty periods shall not commence until final acceptance by the Owner or Owner Representative.

B. The Contractor shall provide, at his own expense, all temporary utilities required to provide for and protect the work and as necessary to maintain an adequate work force unless use of existing facilities is specifically permitted.

8.0 SAFETY REGULATIONS:

A. All work shall be performed in compliance with all applicable governing safety regulations, including OSHA regulations. Provide safety lights, guards and signs required.

9.0 HOUSEKEEPING:

A. The Contractor shall be responsible for keeping stocks of material and equipment stored on the premises in a neat and orderly manner.

B. The Contactor shall clean and maintain their specific portions of the work on a daily basis or as specified in the General Conditions.

C. The Contractor shall remove from the premises all waste material present as a result of his work.

10.0 CONNECTION AND ALTERATION TO EXISTING SYSTEMS:

A. Connection to the existing building systems must be accomplished under this contract. System "downtime" due to connection shall be kept to an absolute minimum. The Owner's Representative shall judge if at what time, and for what length of time a shut-down can be tolerated.

B. Provide all temporary piping and wiring systems required during construction in order to keep all existing systems functioning.

C. Demolition, cutting and patching to restore surfaces to original condition as necessitated for access to work performed by the Contractor or his subcontractors shall be the responsibility of the Contractor.

11.0 SUBSTITUTIONS:

A. Materials, products and equipment described in the Bidding Documents established a standard of quality to be met by any proposed substitution.

B. Contractor's bids shall be based on the material identified or specified in the contract documents. Any proposals for substitution shall be made in writing to the Architect/Engineer with all supporting documentation, allowing adequate time for appropriate action. The products of other manufacturers may be accepted, if in the opinion of the Architect/Engineer, the substitute material is of quality as good or better than the material specified, and will serve with equal efficiency and dependability the purpose for which the items specified were intended. The burden of proof of equality is entirely upon the proposer.

C. Refer to Division 1 requirements for additional substitution procedures.

D. Wherever substitutions alter the design or space requirements, the Contractor shall be responsible for and include all associated cost items of the revised design and or construction work required by his or other trades affected by the proposed substitution.

12.0 SHOP DRAWINGS AND PRODUCT DATA:

A. The checking of shop drawings is a gratuitous assistance and in no way relieves the Contractor of responsibility for deviations from the Contract Documents.

B. Shop drawings and catalog data on all major items of equipment and apparatus, and such other illustrative materials as may be considered necessary by the Owner's Representative shall be submitted by the Contractor in adequate time to prevent delay and changes during construction.

C. Refer to Architectural Documents for additional shop drawing submission procedures.

13.0 OPERATING AND MAINTENANCE BROCHURE:

A. On completion of the project, the Contractor shall provide manuals electronically (PDF format unless otherwise instructed) containing operating, service and lubrication instructions, and parts lists for all major equipment and manufacturer's guaranties or warranties.

14.0 RECORD DRAWINGS:

A. On completion of the project, the Contractor shall provide record drawings electronically in PDF or AutoCAD.dwg format (unless otherwise instructed) with all field changes neatly noted. The original routing and layout shall be clearly marked out.

B. Refer to Architectural Documents for additional record drawing submission procedures.

15.0 FOUNDATIONS AND SUPPORTS:

A. The Contractor shall provide concrete bases, hangers and foundations for all machinery and equipment specified or shown in this contract, including fans, air conditioning units, water heaters, pumps, motors, electrical gear, etc., unless specifically noted otherwise.

B. All hangers, brackets, clamps, etc., shall be of standard weight steel. Perforated strap hangers shall not be used in any work. When two (2) or more pipes or conduits are run parallel, or where ducts interfere with the proper location of hangers, they may be supported on trapeze hangers. Other hangers shall be hinged ring malleable iron, by Grinnell or Fee and Mason or approved equal with rods and hanger adjusters for adequate size to carry the loads imposed. All piping, ductwork and conduit systems shall each be independently supported from other systems and from equipment so that no weight is born by equipment.

C. The Contractor shall take all precautions against excessive noise or vibration by isolating the various items of equipment from the building structure. Provide flexible connectors where indicated and at all rotating equipment and for equipment mounted on vibration isolators.

16.0 CUTTING AND PATCHING:

A. All necessary cutting, drilling and patching shall be provided by this Contractor. Structural members shall not be disturbed without prior approval of the Structural Engineer and/or the Owner's Representative. All areas and surfaces disturbed by work performed under this Contract shall be neatly repaired and refinished to the condition of adjoining surfaces in a manner suitable to the Owner's Representative.

17.0 SLEEVES AND ESCUTCHEONS:

A. Penetrations thru walls and floors shall be as detailed.

B. Where not otherwise shown, penetrations shall conform to the following:

1. Where pipes or conduits pass through interior partitions, galvanized steel pipe sleeves or galvanized steel sheet sleeves shall be used.

2. Where pipes or conduits pass thru concrete floors and walls, walls below grade or exterior walls and slabs on grade, cast iron or steel pipe sleeves shall be used.

C. Sleeves through interior non-rated walls, including walls indicated as sound partitions, shall be packed with fiberglass or mineral wool and caulked.

D. Sleeves below grade, in exterior walls or thru slabs on grade shall have lead and oakum or mechanical link seals, Thunder line or acceptable equivalent.

E. Penetrations of fire rated construction shall be made with a UL listed fire penetration assembly suitable for the rating at each location. Where required, sleeves through fire rated structure shall be fire barrier caulked with putty strip or sheet by 3M, Hilti or acceptable equal.

F. Provide steel (dry locations) or brass (damp locations) escutcheons to completely cover pipe penetration holes in floors, walls, or ceilings. Provide pipe escutcheons with nickel or chrome finish for occupied areas, prime paint finish for unoccupied areas, brass for exterior.

18.0 MOTORS, CONTROLS AND FIRE ALARM INTERFACE:

A. All motors furnished under this specification shall be recognized manufacturer and of adequate capacity for the loads involved. All motors shall conform to the standards of manufacturer and performance of the National Electrical Manufacturers Association as shown in their latest publications.

B. Disconnects and motor starters for equipment shall be by the Electrical Contractor unless furnished integral with the equipment or as otherwise indicated. Installation shall be by the Electrical Contractor except for devices factory installed and shipped with equipment. Provide manual or magnetic starters with necessary auxiliary contacts to accomplish the specified or required sequence of operation.

C. All temperature controls unless noted otherwise shall be the responsibility of the Mechanical Contractor.

D. If no sequence of operation is included, submit a proposed sequence to the Engineer for approval.

E. All fire alarm devices including duct smoke detector and shut down/interlock wiring shall be the responsibility of the Electrical or Fire Alarm Contractor otherwise noted.

END OF SECTION

230 100

HEATING, VENTILATION AND AIR CONDITIONING

1.0 SCOPE:

A. The work included under this contract consists of providing all labor, materials, tools, transportation, services, etc., necessary to complete the installation of the heating, ventilating, and air conditioning systems and other items herein listed and as described in these specifications, as illustrated in the accompanying drawings or as directed by the Architect/Engineer.

2.0 SHEET METAL:

A. Ductwork shall be new prime grade galvanized steel sheets constructed per ASHRAE and SMACNA Standards. Duct system(s) installation shall be in accordance with SMACNA Duct Construction Standards Manual and industry standards. Provide round or rectangular duct as indicated.

1. Provide Duct System(s), including all necessary components such as dampers, turning vanes, offsets and takeoffs, etc. required by the project (whether shown or not), which shall be fabricated and installed for maximum efficiency and to minimize pressure drops and objectionable sound and to provide for complete system balancing.

2. All duct sizes shown are free area size and do not include liner.

B. Fabricate for the pressure and SMACNA seal class required by the application.

Leakage class minimum requirements are:

1. Up thru 2" WG pressure - rectangular - Class 24, round - Class 12.

Seal class minimum requirements are:

1. Up thru 2" WG pressure - class A for all duct joints.

C. Duct Sealants

1. Duct sealant shall have 25/50 flame and smoke rating with a static pressure class of 10" WG, mold and mildew resistant. Sealant shall be installed per manufacturer instructions.

2. Sealant for concealed ductwork shall be an externally applied solvent or water based joint and seam sealant with or without tape.

3. Ductwork exposed to view shall be sealed with clear silicone or have gasketed joints. Exposed rectangular flanged duct joints shall have gasketed joints. Exposed round ducts shall have joints with EPDM gaskets in groove, O-ring seals or flanged with neoprene gaskets. Where sealant beads are used, they shall be minimized or concealed, smooth and uniform with any excess sealant trimmed flush with duct and removed.

4. Spiral lock seams and gasketed duct joints are exempted from other sealant requirements.

D. Duct Finishes

1. Concealed ductwork shall be manufacturer's standard mill finished.

2. Ductwork that is indicated or required to be field painted shall have paint grip finish.

3. Ductwork that will remain exposed to view shall be furnished without marks, markers, shipping, identification or other tags located on exterior duct surfaces, no exceptions. Any ductwork so installed shall be removed at contractor expense. Protect exposed ductwork from dents, scratches or other damage during construction. Wipe down and thoroughly clean all exposed duct, fittings and accessories.

E. Round or oval duct shall be factory built of galvanized steel, suitable for pressure class required or indicated. Snap lock duct and fittings shall be used for low pressure/velocity applications only. Fittings shall have 1.5 times diameter centerline radius. Spiral duct may be used for any pressure/velocity class. Spiral duct shall be Semco or acceptable equal by McGill Airflow or Lindab.

1. Single wall, 2.0" WG minimum.

2. Round or oval duct joints shall be Ductmate quick sleeve, slip joint, welded or flanged.

3.0 DUCTWORK ACCESSORIES:

A. Provide single thickness turning vanes in all supply duct turns.

B. Provide duct access doors for all internal mounted equipment. Access doors shall be insulated double wall, constructed airtight in accordance with SMACNA standards for the appropriate pressure class where they are installed. They shall have butt or piano hinged with cam latches. Minimum size shall be 12"x12" or 12"x duct depth unless noted otherwise.

C. Branch take-offs to air terminal units shall be high efficiency type.

D. All take-offs to diffusers and grilles shall be made with high efficiency take-offs, 45º take-offs or conical fittings unless specifically indicated otherwise on drawings. Provide locking quadrant volume damper at take-offs in accessible ceilings, unless shown otherwise. Extractors and scoops are not permitted

E. Duct splits, elbows and reducing fittings shall be fabricated per SMACNA standards. "Ductmate" or acceptable equal flanged and gasketed joint systems are approved.

F. Provide dampers where shown and required. Dampers shall be by Greenheck or acceptable equal by Ruskin, American Warming & Ventilating, Air Balance, Inc., Carnes, Krueger, Nailor, United Enertech.

1. Balance and control dampers shall be rated in accordance with AMCA 500D. They shall be opposed blade except air mixing dampers shall be parallel blade.

a. Manual dampers shall have standoff and locking quadrant.

2. Damper Schedule:

a. Manual Damper Rectangular:
Greenheck MBD-15, Galv. Steel formed blade, manual locking quadrant actuator, 4" WG, 2000 fpm.

b. Manual Damper Round:
Greenheck MBDR-50, Galv. Steel formed blade, manual locking quadrant actuator, 1" WG, 2000 fpm.

c. Manual Damper Round:
Greenheck VCDR-53, Galv. Steel single formed blade, blade seals, 4" WG, 3000 fpm, 4 CFM/SF leakage at 1" WG.

4.0 DUCT SUPPORTS AND ROUTING

A. Hangers and Supports

1. Ductwork shall be supported in accordance with all SMACNA standards including support methods, sizes and spacing.

2. All hanger and support parts shall be galvanized steel for non-corrosive environments or stainless steel for corrosive or damp environments.

3. Provide sheetmetal straps, adjustable hangers, clamps, channels, rods, flexible connectors, supplementary steel, etc as required for proper support of all ductwork. Trapeze may be used for support of single or multiple ducts. Provide accompanying attachments including bolts and nuts, sheetmetal screws or rivets compatible with duct materials.

4. Upper attachments shall be manufactured items specific to the applicable structure. Include concrete inserts, wedge type drilled in inserts, steel beam and joist clamps, plates, rods, clips, straps and brackets as required by the application.

5. Cable systems may be used at contractor option. They shall be a complete assembly including cables, adjustable locking fasteners or clips and all upper and lower attachments by Gripple or acceptable equal.

B. Routing

1. Ductwork shall be routed as shown on drawings, parallel to building lines unless otherwise shown, coordinated with building structure and other trades. Adjust ductwork routing and elevations with necessary offsets to accommodate beams and other obstructions.

5.0 GRILLES, REGISTERS, INLETS AND OUTLETS:

A. All supply, return and exhaust grilles, registers and diffusers shall be as scheduled on the drawings. Commercial quality - E.H. Price or acceptable equal by Titus, Carnes, Krueger or Nailor.

1. All air distribution devices shall be selected for throw and low noise (25 NC or less) performance characteristics unless otherwise indicated.

2. Unless otherwise indicated, louvered supply grilles shall be double deflection devices with front blades parallel to the long dimension.

3. A balancing damper shall be provided for each and every diffuser, register and grille where airflow control is required. Unless otherwise indicated, provide integral volume damper where a duct mounted damper would not be accessible.

4. Ceiling supply diffuser connection shall be made with hard elbow or flex duct with Thermaflex flex flow elbow support.

6.0 HEATING AND AIR CONDITIONING UNITS:

A. Ductless Split System Units:

1. Provide wall mounted, indoor units with integral cabinet, fan, grille, washable filter, cooling coil and wireless thermostat coupled with remote DC invertor condensing units with low ambient wind baffle. Provide heat pump configuration where shown. Provide all mounting hardware, refrigerant line set.

2. Ductless split systems shall be by Mitsubishi or acceptable equal by LG, Hitachi, Toshiba, or Sanyo.

B. Provide units with manufacturer's standard control package. Controls to include factory wired terminals with overload devices and transformers as required. Unit safety control to include high-low pressure switches, fan relays, short cycle safety and internal pressure relief, gas controls with hi limit and anti- cycle protection.

C. Provide unit accessories as noted on drawings and as required for a complete operating system.

D. Mount units to provide the required service, access and airflow space.

7.0 FANS:

A. Fans shall be as scheduled with all required accessories including vibration isolators, hangers, rate of rise thermostats, etc. Commercial quality fans shall be AMCA rated by Greenheck or acceptable equal by Cook, Acme, Carnes, Penn Barry.

8.0 FILTERS:

A. Provide filters in air intake to each units A/C system with size and number of filters standard with air unit manufacturer. Provide 1" and/or 2" thick to suit equipment requirements, hi-velocity, throw-a-way MERV 8 filters, Farr 30/30 or acceptable equal by American Air Filter, Airguard, Air Filters, Inc, Purolator. Filters shall be new and clean at time of Owner's acceptance. Supply extra set of filters for each unit.

9.0 CONTROLS AND LOW VOLTAGE SYSTEMS:

A. All temperature controls unless otherwise noted shall be the responsibility of the Mechanical Contractor.

B. Controls system shall be electric/electronic with stand alone programmable digital thermostats by Johnson Controls, Automated Logic, Trane or acceptable equal.

C. Provide control installation to accomplish the indicated or required sequence of operation including thermostats/ sensors, controllers, actuators, wiring, piping and tubing, software, graphics and other components as required for a complete operating system. Where no sequence is indicated, contractor shall submit a proposed sequence for approval.

D. Devices exposed to view and mounted in finished spaces shall be white in color unless otherwise noted or directed.

E. All occupant adjustable devices shall be mounted in accordance with ADA and ADAAG requirements.

10.0 PIPE, FITTINGS AND VALVES:

A. Provide service valves for each item of equipment, at branch piping and elsewhere as indicated or required. Provide control valves, balance valves, strainers, check valves and other valves as indicated or required by the application.

B. Provide a union or flanged connection between each item of equipment and its service valve. Copper to ferrous pipe connections shall have isolation coupling, flange or union.

C. Refrigerant:

1. Piping - ASTM B280 type ACR pre-charged copper tube, wrought copper or brass fittings, flared compression or brazed joints. Piping and fittings shall be rated for 700 PSIG at 170F.

2. Brazing material shall be hi silver content AWS A5.8 BAg-35 alloy or acceptable equal.

3. Valves -- Shutoff, check, filters/dryers, sight glasses, expansion and solenoid valves rated for refrigerant service.

4. All refrigerant piping work and accessories shall be in strict accordance with manufacturer's requirements, including but not limited to compliance with piping slopes, traps and risers, maximum permitted lengths and cleaning and purging.

5. All refrigerant piping systems shall be eddy current tested, nitrogen purged during brazing and ends capped. They shall be cleaned and triple evacuated in accordance with manufacturer and industry standards.

6. All systems shall be leak tested prior to insulation installation and prior to refrigerant charging and shall be certified leak free with report provided to the engineer. Contractor is responsible for repair of any system leaks including system evacuation and recharging.

D. Condensate drain piping:

1. PVC Pipe - Schedule 40 with solvent cement joints. PVC not permitted in plenums used for supply or return air.

2. Provide with plugged tee cleanouts unless otherwise accessible for cleaning. Trap all air unit condensate drains with deep traps.

3. Where indicated or where required for positive drainage, provide mechanical units with condensate pump.

4. Condensate drain piping:

a. Indoor units shall discharge indirectly to floor drains or to daylight or as otherwise indicated on drawings and shall be in accordance with local codes.

b. Outdoor units shall discharge indirectly to grade or to primary roof drains or gutters or as otherwise indicated on drawings and shall be in accordance with local codes. Condensate shall not drain to overflow roof drains.

5. Condensate pipe sizing:

a. Minimum condensate pipe size shall be 3/4".

b. Piping for individual units shall be as specified by manufacturer or a minimum of the unit connection size.

c. Install manufacturer supplied condensate lift pumps and pipe discharge adaptors where indicated or required.

d. Common or manifold condensate system shall be minimum size as follows:

Equipment Capacity, Tons	Min. Pipe Size, In.
Up to 3	3/4"
3-1/2 to 20	1"
21-90	1-1/4"
91-125	1-1/2"
126-250	2"

6. Valves.

a. Service -

1) 2" - 2", Nibco 585-70 full port ball, bronze with chrome plated ball'.

7. Provide dielectric fittings at joints of dissimilar metals.

8. Provide valve with stem extensions on all insulated piping systems to accommodate insulation thickness.

11.0 PIPE SUPPORTS AND ROUTING:

A. Hangers and Supports

1. Piping shall be supported in accordance with industry standards including support methods, sizes and spacing. All supports shall conform to MSS SP58 and Fed Spec WW-H-171E and A-A-1192A.

2. Pipe Slopes: Install hangers and supports to provide indicated or required pipe slopes to provide for drainage and venting

3. Deflection: Maximum pipe deflections and stresses as allowed by ANSI B31 are not exceeded.

4. Each piping system shall be independently supported with no piping bearing on another and installed such that no weight of piping is borne by the equipment.

5. Space hangers and supports within maximum piping span length indicated in MSS SP-58. Install building attachments at required locations for proper piping support.

6. Provide adjustable hangers, inserts, brackets, rolls, clamps, channels, rods, guides, anchors, flexible connectors, supplementary steel, etc., as required for proper support of all pipe lines. Trapeze may be used for support of multiple pipes. Provide accompanying attachments including bolts and nuts, sheetmetal screws or rivets suitable for application.

7. Provide copper plated, plastic coated or felt lined hangers where required to prevent electrolysis or abrasion on copper or plastic piping systems.

8. Upper attachments shall be manufactured items specific to the applicable structure. Include concrete inserts, wedge type drilled in inserts, steel beam and joist clamps, plates, rods, clips, straps and brackets as required by the application.

9. Hangers shall be designed to allow for expansion and contraction of pipe lines and shall be of adequate size to permit covering when required. Provide protective saddles and blocking where supporting insulated piping to prevent crushing insulation.

10. All hanger and support parts shall be galvanized steel for non-corrosive environments or stainless steel for corrosive or damp environments.

11. Cable systems may be used at contractor option. They shall be a complete assembly including cables, adjustable locking fasteners or clips and all upper and lower attachments by Gripple or acceptable equal.

B. Routing

1. Piping shall be routed as shown on drawings, parallel to building lines unless otherwise shown, coordinated with building structure and other trades. Adjust pipe routing and drop locations with necessary pipe offsets or changes in elevation to accommodate beams and other obstructions.

12.0 FOUNDATIONS AND VIBRATION ISOLATION:

A. Foundations: Provide fabricated supports for all equipment. Mount on 4" concrete housekeeping pads where indicated.

B. Provide flexible connections at all motor driven equipment, where shown and where required to hold transmitted noise and vibration to an acceptable minimum at piping and duct connections.

C. Duct flexible connection shall be Durodyne non-combustible, 22 ounce (minimum) polymer coated woven fabric or acceptable equal.

D. Equipment Vibration Isolation: All motor driven equipment shall be furnished with isolating mountings. Motors shall be mounted on resilient bases, spring or rubber supports as recommended by the manufacturer. Isolators shall be Amber Booth or acceptable equal by Kinetics, Mason Industries, Vibration Eliminator Co.

13.0 SLEEVES AND SEALS, FLASHINGS, ROOF PIPE SUPPORTS AND UV PROTECTION:

A. Flash all pipes and vents extending through roof. Flashing details shall be in accordance with roof manufacturer's requirements.

B. Continuous roof piping penetrations shall be thru a pipe portal assembly with roof curb, cap and pipe

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
05/14/2020

HIVE

Lankford Fendler + associates
1730 Walnut Street Kansas City, Missouri 64108
1915 Frederick Avenue, St. Joseph, Missouri 64501
Phone: 816.221.1411 | Fax: 816.221.1429
LANKFORD | FENDLER + ASSOCIATES, CONSULTING ENGINEERS, INC.

FRESH GREEN - Lees Summit

1041 NE Sam Walton Dr.
Lees Summit, MO 64086

HIVE DESIGN COLLABORATIVE, INC.
1617 WALNUT STREET, KANSAS CITY, MO 64108
816.581.6363

seal/signature

STATE OF MISSOURI
GREGORY J. FENDLER
NUMBER PE-2006037230
PROFESSIONAL ENGINEER
05/01/2020

project number 2020-017

date 05.01.2020

issued for PERMIT

rev	date	description

SPECIFICATIONS

sheet number

MEP10

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
05/14/2020

230 100

HEATING, VENTILATION AND AIR CONDITIONING CONTINUED

B. Continuous roof piping penetrations shall be thru a pipe portal assembly with roof curb, cap and pipe penetration boot(s), Pate PCA/PCC series or acceptable equal.

C. Provide sleeves where piping penetrations are required thru partitions, concrete floors, concrete slabs on or below grade or foundation walls. Where penetrations are through fire rated assemblies, sleeves shall be in accordance with UL listing requirements. Sleeves shall be galvanized steel pipe, sheet steel or cast iron. Sleeves are not required for core drilled penetrations of existing concrete slabs above grade. Penetrations of below grade structures and slabs on grade shall be water proofed with mechanical link seal system, Thunder Line or acceptable equivalent.

D. Provide escutcheons at all penetrations of exposed walls and ceilings. Escutcheons shall be chrome plated brass in occupied areas, prime paint finish for unoccupied areas unless otherwise noted. Escutcheons for exterior or moist areas shall be brass.

E. Plastic piping without UV inhibiters which is exposed to UV radiation from sunlight shall be protected by coating with a UV resistant paint.

14.0 EQUIPMENT AND PIPE LABELS:

A. Equipment labels shall be provided for all mechanical equipment and shall be self adhesive engraved plastic, blue with white lettering, sized, minimum 1-1/2" high, and located for viewing from ground or floor level. Label shall indicate drawing designation or unique equipment number.

B. Pipe labels for chilled, heating hot water, refrigerant, condenser and condensate piping shall be preprinted, color-coded, with 1-1/2" lettering indicating service, and showing flow direction. Locate pipe labels where piping is exposed or above accessible ceilings in finished spaces; machine rooms; accessible maintenance spaces such as shafts, tunnels, and plenums; and locations as follows:

1. Near each valve and control device.
2. Near each branch connection, excluding short takeoffs for fixtures and terminal units. Where flow pattern is not obvious, mark each pipe at branch.
3. Near penetrations through walls, floors, ceilings, and inaccessible enclosures.
4. At access doors, and similar access points that permit view of concealed piping.
5. Near major equipment items and other points of origination and termination.
6. Spaced at maximum intervals of 50 feet along each run. Reduced intervals to 25 feet in areas of congested piping and equipment.

C. Warning labels shall be self-adhesive engraved plastic or preprinted plastic as required by application with white lettering on red background provided at locations as required by code or where hazards to personnel exist.

15.0 VALVE TAGS

A. Valve Tags: Stamped or engraved with 1/4-inch letters for piping system abbreviation and 1/2-inch numbers.

1. Tag Material: Brass 0.032-inch minimum thickness, and having predrilled or stamped holes for attachment hardware.
2. Fasteners: Brass wire-link or beaded chain.

B. Valve Schedules: For each piping system, on 8-1/2 x 11 inch bond paper. Tabulate valve number, piping system, system abbreviation (as shown on valve tag), location of valve (room or space), normal-operating position (open, closed, or modulating), and variations for identification. Mark valves for emergency shutoff and similar special uses.

1. Valve-tag schedule shall be included in operation and maintenance data.

16.0 MISCELLANEOUS

A. Provide escutcheons at all piping penetrations of finished wall, floor or ceiling construction. Escutcheons shall be chrome plated brass in occupied areas, prime paint finish for unoccupied areas unless otherwise noted. Escutcheons for exterior or moist areas shall be brass.

B. All cable ties for controls and other cable systems located in plenums utilized for air movement that are not installed in conduit shall be 25/50 flame and smoke rated, Hellermann Tyton T50R2C2UL or equal.

17.0 CLEANING:

A. New Work

1. Clean air system by operating at least three hours prior to final acceptance with temporary filters. Remove all filters and replace with clean.
2. Use pre-cleaned, pre-charged refrigerant tube or clean per manufacturer's recommendations.

18.0 TESTING AND ADJUSTING:

A. Contractor shall operate and test the air conditioning and ventilation systems and instruct the Owner in its operation. Perform a series of general capacity and operating tests. The tests shall demonstrate the specified capacities of various pieces of equipment.

B. The entire temperature controls systems shall be adjusted and balanced and put in operating condition to cause the equipment to maintain the temperatures in accordance with the intent of these specifications. Operate and test equipment during summer and winter seasonal startup under this contract.

C. The test and balance contractor shall perform an initial test and balance noting any mechanical system deficiencies. The mechanical contractor shall review the preliminary report prior to final issue of the test and balance report and work with the test and balance contractor and the engineer as needed to make all system repairs and modifications necessary to achieve the design performance established by the contract document prior to the final reporting. The final test and balance report shall incorporate results of all mechanical system modifications.

D. Test pressure piping system to 1-1/2 times the operating pressure but not less than 50 PSIG for a period of 2 hours with no observable pressure drop.

E. Test condensate drain piping by filling with water to the drain pan connection(s) for a period of 2 hours with no observable leaks.

F. Submit the complete test and balance report for review to the Architect/Engineer in triplicate. Test procedure and report shall conform to NEBB standards. The report shall be signed by the responsible individual.

END OF SECTION

220 100

PLUMBING

1.0 SCOPE:

A. The work included under this contract consists of providing all labor, materials, tools, transportation, services, etc., necessary to complete the installation and to provide complete working systems of the Plumbing Systems, including hot and cold water, waste and vent, storm drainage, fixtures, equipment and other items described in these specifications, as illustrated in the accompanying drawings or as directed by the Architect/Engineer.

B. Extend piping systems as indicated on contract documents or to point of connection as follows:

1. Points of connection within the existing building.

2.0 PIPING, FITTINGS AND VALVES:

A. Provide service valves for each item of equipment, at branch piping and elsewhere as indicated or required. Provide balance valves, strainers, check valves and other valves as indicated or required by the application.

B. Provide a union or flanged connection between each item of equipment and its service valve. Copper to ferrous pipe connections shall have isolation coupling, flange or union.

C. Domestic water, interior, above ground -

1. Pipe, copper tube -
   a. 2-1/2" and Smaller -Type "L" hard temper, wrought or cast copper fittings, Lead free 95/5 or Eagle Hard Silvabrite or "CB" solder joints, or roll grooved mechanical joints or pressure seal joint fittings with EPDM O-ring seals.
2. Valves -
   a. 1/4 turn Service -
      1) 1/2" thru 2" - Nibco 585-66-LF bronze lead free, 600 PSIG, full port, stainless steel ball and stem.
   b. Balance - Bell & Gossett lead free Circuit Setter "RF-S-LF" or "CB-S-LF".
3. Provide valves where indicated on the drawings, where required by code or required for service.
4. Securely anchor and support piping, valves and fittings, with adequate provisions for expansion and contraction. Grade lines, free of traps, to low point at cut-off and drain valve.
5. Hot and cold supply lines to have manufactured pre-charged piston type water hammer arrestors at each and every fixture or group or battery of fixtures to prevent water hammer, sized as shown or per manufacturers recommendation. An arrestor shall also be required at each solenoid actuated quick closing valve. Sioux Chief, JR Smith or equal. Provide access panel where required.

D. Sanitary sewer, vent, interior --

1. Pipe - Standard weight cast iron hubless with no-hub shielded mechanical joints; solid wall schedule 40 PVC, ABS with solvent cement joints; vents may be galvanized malleable iron.
2. Plastic piping shall not be allowed in return air plenums.
3. Hub drains, where shown, shall be of material compatible with piping system, 2" minimum connection size, top flared out to accept indirect wastes required at each location. Hub drains shall be fitted with trap guards. Floor mounted hub drains shall extend 2" above finish floor.
4. All gravity drainage shall be graded per code but not less than 1/8" per foot unless noted otherwise. 3" and 4" piping shall be sloped at 1/4" per foot where possible and where required by local codes..

E. Sanitary sewer, vent, below grade --

1. Pipe - Standard weight cast iron hubless with no-hub mechanical joint fittings; solid wall schedule 40 PVC, ABS with solvent cement joints.
2. All gravity drainage shall be graded per code but not less than 1/8" per foot unless noted otherwise. 3" and 4" piping shall be sloped at 1/4" per foot where possible and where required by local codes.

3.0 CLEANOUTS, TEST TEES, TRAPS AND TRAP SEALS:

A. Provide cleanout at the base of each stack or riser, at ends of runs greater than 10', each 135° aggregate change of direction in horizontal piping, where indicated on the drawings or as required by code. Plugs, extra heavy cast brass, screwed. Scoriated tops in unfinished areas, carpet markets in carpet floors, tile top in tile floors, stainless steel cover in finished walls. Cleanouts same size as pipe up to 4" diameter, 4" cleanouts for larger pipe unless otherwise noted.

B. Provide test tees at base of risers and elsewhere as required by code.

C. All traps shall be deep seal type with liquid seal not less than specified by code.

D. Where trap primers are not specified provide all floor and hub drains with trap seal with EPDM diaphragm, Provent Proset Series SG22 or TG22, Rectorseal SS series or acceptable equal.

4.0 SLEEVES AND SEALS, FLASHINGS, ROOF PIPE SUPPORTS AND UV PROTECTION:

A. Provide sleeves where piping penetrations are required thru partitions, concrete floors, concrete slabs on or below grade or foundation walls. Where penetrations are through fire rated assemblies, sleeves shall be in accordance with UL listing requirements. Sleeves shall be galvanized steel pipe, sheet steel or cast iron. Sleeves are not required for core drilled penetrations of existing concrete slabs above grade. Penetrations of below grade structures and slabs on grade shall be water proofed with mechanical link seal system, Thunder Line or acceptable equivalent.

B. Plastic piping without UV inhibiters which is exposed to UV radiation from sunlight shall be protected by coating with a UV resistant paint.

5.0 CROSS- CONNECTIONS AND INTERCONNECTIONS:

A. No plumbing device or piping shall be installed which will provide cross-connection or interconnection between a distributing supply or waste so as to make possible the backflow or back-siphonage of polluted water into the potable water supply system. Where the possibility of back-siphonage exists, water supply to the fixture shall be introduced through a suitable backflow preventer device suitable for the hazard protected. Installed backflow preventers must be approved through the University of Southern California Foundation for Cross-Connection Control and Hydraulic Research.

1. They may be an air gap, anti-syphon valve, atmospheric vacuum breaker, pressure vacuum breaker, double check, reduced pressure backflow preventer or as otherwise required by the authority having jurisdiction.
2. Where not otherwise indicated, miscellaneous equipment items with direct water connections, shall have backflow devices in accordance with authority having jurisdiction. Where not otherwise indicated, equipment such as coffee and tea makers, shall be equipped with dual check valves, ASSE 1024. Drink or carbonated water systems shall be equipped with stainless steel backpressure or backsiphonage devices, ASSE 1022.

6.0 INSULATION:

A. Pipe insulation shall conform to the International Energy Conservation Code.

B. Insulate all cold water, hot water and hot water recirculating piping,, Owens Corning or acceptable equal.

1. Cold water piping insulation: 1" fiber glass sectional pipe covering with universal vapor barrier jacket.
2. Hot Water and hot water recirculating piping insulation: 1" fiber glass sectional pipe covering with universal all service jacket.
3. Hot water recirculating pump body shall be insulated with 3/4" flexible elastomeric sheet or 1" fiberglass semi-rigid board with FSK jacket. All seams and joints shall be taped or mastic sealed.

C. At Contractor's option, Armacell AP Armaflex unicellular insulation or acceptable equal with 25/50 flame and smoke rating with equal thermal performance may be substituted for fiberglass products.

D. Seal all joints on cold water insulation to maintain vapor barrier.

E. Insulation shall run continuously thru hangers and supports without interruption.

F. Refer to plumbing fixture schedule for insulation of fixture drains and water piping for compliance with ADA requirements for People with Disabilities.

7.0 PIPE SUPPORTS AND ROUTING:

A. Hangers and Supports

1. Piping shall be supported in accordance with industry standards including support methods, sizes and spacing. All supports and installation shall conform to MSS SP58 and 69 and Fed Spec WW-H-171E and A-A-1192A.
2. Pipe Slopes: Install hangers and supports to provide indicated or required pipe slopes to provide for drainage and venting
3. Deflection: Maximum pipe deflections and stresses as allowed by ANSI B31 are not exceeded.
4. Each piping system shall be independently supported with no piping bearing on another and installed such that no weight of piping is borne by the equipment.
5. Space hangers and supports within maximum piping span length indicated in MSS SP-58. Install building attachments at required locations for proper piping support.
6. Provide adjustable hangers, inserts, brackets, rolls, clamps, channels, rods, guides, anchors, flexible connectors, supplementary steel, etc., as required for proper support of all pipe lines. Trapeze may be used for support of multiple pipes. Provide accompanying attachments including bolts and nuts, sheetmetal screws or rivets suitable for application.
7. Provide copper plated, plastic coated or felt lined hangers where required to prevent electrolysis or abrasion on copper or plastic piping systems.
8. Upper attachments shall be manufactured items specific to the applicable structure. Include concrete inserts, wedge type drilled in inserts, steel beam and joist clamps, plates, rods, clips, straps and brackets as required by the application.
9. Hangers shall be designed to allow for expansion and contraction of pipe lines and shall be of adequate size to permit covering when required. Provide protective saddles and blocking where supporting insulated piping to prevent crushing insulation.
10. All hanger and support parts shall be galvanized steel for non-corrosive environments or stainless steel for corrosive or damp environments.
11. Cable systems may be used at contractor option. They shall be a complete assembly including cables, adjustable locking fasteners or clips and all upper and lower attachments by Gripple or acceptable equal.

B. Routing

1. Piping shall be routed as shown on drawings, parallel to building lines unless otherwise shown, coordinated with building structure and other trades. Adjust pipe routing and drop locations with necessary pipe offsets or changes in elevation to accommodate beams and other obstructions.

8.0 PIPE LABELS:

A. Equipment labels shall be provided for all plumbing equipment and shall be self-adhesive engraved plastic, blue with white lettering, sized, minimum 1-1/2" high, and located for viewing from ground or floor level. Label shall indicate drawing designation or unique equipment number.

B. Pipe labels for domestic water, waste, vent and gas piping shall be preprinted, color-coded, with 1-1/2" lettering indicating service, and showing flow direction, locate pipe labels where piping is exposed or above accessible ceilings in finished spaces; machine rooms; accessible maintenance spaces such as shafts, tunnels, and plenums; and locations as follows:

1. Near each valve and control device.
2. Near each branch connection, excluding short takeoffs for fixtures and terminal units. Where flow pattern is not obvious, mark each pipe at branch.
3. Near penetrations through walls, floors, ceilings, and inaccessible enclosures.
4. At access doors, and similar access points that permit view of concealed piping.
5. Near major equipment items and other points of origination and termination.
6. Spaced at maximum intervals of 50 feet along each run. Reduced intervals to 25 feet in areas of congested piping and equipment.
7. On piping above removable acoustical ceilings, omit intermediately spaced labels.

C. Warning labels shall be self-adhesive engraved plastic or preprinted plastic as required by application with white lettering on red background provided at locations as required by code or where hazards to personnel exist.

9.0 MISCELLANEOUS

A. Indirect wastes shall discharge full size thru an air gap to a floor, equipment drain or sanitary floor sink. The floor or equipment drain grate shall be fitted with a funnel, the sanitary floor sink shall have a partial grate or the grate shall be omitted. Drains shall be located so they are accessible and not a tripping hazard.

B. Provide escutcheons at all penetrations of exposed walls and ceilings. Escutcheons shall be chrome plated brass in occupied areas, prime paint finish for unoccupied areas unless otherwise noted. Escutcheons for exterior or moist areas shall be brass.

C. All cable ties for controls and other cable systems located in plenums utilized for air movement that are not installed in conduit shall be 25/50 flame and smoke rated, Hellermann Tyton T50R2C2UL or equal.

10.0 PROTECTION OF WORK

A. Protection

1. Protect and cover piping and fixture waste and water openings to prevent entry of dirt and debris.
2. Cover and protect fixtures and plumbing equipment to prevent damage.

11.0 TEST, ADJUSTMENTS AND CLEANING:

A. Soil, waste and vent piping testing:

1. Fill with water to the top of the highest point of the system extending through roof, but not less than 10 feet water column, and allow to remain for a period of two hours.
2. Where applicable, isolate new portions of the system(s) piping with test tee and Oatey Clean Seal inflatable plug prior to testing.

B. Water and gas line testing:

1. Water piping shall be purged and tested with compressed air or water at 50 PSIG above the operating pressure but not to exceed the pressure rating of piping system materials for a period of 2 hours with no measurable pressure drop.
2. Where applicable, isolate new portions of pressure piping from existing piping with valves prior to testing.
3. For renovation projects, isolate and protect fixtures, valves and equipment from over pressurization during testing.

C. After successful testing, sterilize water system with an approved solution in accordance with local health officials.

D. Contractor to submit all test data and other documentation for record.

12.0 FIXTURE BRANCH PIPING:

A. Fixture branch and connection sizes shall be as shown in the plumbing fixture schedule on the drawings and not less than required by code.

B. Minimum waste or vent size below slab on grade shall be 2".

13.0 PLUMBING FIXTURES:

A. Refer to plumbing fixture schedule for plumbing fixtures and accessories. Include all fittings and accessories as required for a complete working system.

B. At contractor option, flexible stainless steel braided hose, 125 PSIG rated, with non-toxic liner and compression fittings may be used in lieu of chrome plated brass riser tube.

14.0 FIXTURE AND ACCESSORY MANUFACTURERS:

A. Fixtures, equipment and accessories are specified by manufacturer's numbers as to the type and quality required.

B. Specified manufacturers and approved equal manufacturers are as follows:

FIXTURE, ITEM OR EQUIPMENT	APPROVED EQUAL MANUFACTURERS
Vitreous China Fixtures	American Standard, Toto, Kohler, Zurn
Stainless Steel Sinks	Elkay, Just, Kohler, Advance Tabco
Supply Faucets & Trim	Chicago Faucets, Delta, Elkay, Kohler, Sloan, T & S Brass, Watts, Zurn
Stops & Supplies	BrassCraft, McGuire, ProFlo, Watts, Jones Stephens
Waste Fittings	Dearborn Brass, McGuire, ProFlo, Jones Stephens, Watts
ADA Under Lavatory Pipe Covers	Trubro, ProFlo, Plumberex
Water Closet Seats	Church, Bemis, Beneke, Olsonite, Toto
Carriers	J R Smith, Josam, Wade, Watts, Zurn
Drains and Drainage Products	J R Smith, Wade, Watts, Zurn, Josam

END OF SECTION

260 100

ELECTRICAL

1.0 SCOPE:

A. The work included under this contract consists of the furnishing of all labor, materials, tools, transportation, services, etc., necessary to complete the installation of the electrical systems and other items herein listed, all as directed by the Architect or Engineer, which work is comprised of, but not limited to the following principal items:

1. Electrical system for light and power:
   a. Electrical service and distribution system revisions.
   b. Switches and panel boards.
   c. Systems of conduit, conductors, and boxes.
   d. Receptacles and wiring devices.
   e. Lighting fixtures and lamps.
   f. Power service to the various motors.
   g. Complete lighting and power systems.
   h. All systems, wiring and conduit as required.
2. Control wiring and electrical installation and connections for items in other contracts as may be listed in the drawings.
3. Empty conduit and boxes for future installation of telephone wiring and miscellaneous systems.
4. Rough-in and final connection to equipment furnished by others.
5. All cable ties for low voltage cable systems located in plenums utilized for air movement that are not installed in conduit shall be 25/50 flame and smoke rated, Hellermann Tyton T50R2C2UL or equivalent.

B. Raceway wiring systems shall be concealed in all finished parts of the building, where possible. Where the raceways are exposed, they shall be run parallel with the building walls in a neat and workmanlike manner. Should it appear necessary to expose any conduit or wiring in finished spaces, it shall be brought to the Architect's attention immediately and this Contractor shall rearrange associated work as directed to facilitate an approved installation. Contractor to coordinate with mechanical trades to avoid ductwork and piping.

2.0 RACEWAYS:

A. All electrical conductors are to be installed in metal raceways, unless specifically specified or noted otherwise. Galvanized steel or intermediate steel conduit as permitted by code. No conduit smaller than 3/4" to be used. Use set screw or compression type fittings. Provide flexible conduit connection for final connection to each motor not to exceed 3' in length and recessed lighting fixtures not to exceed 6' in length. Provide pull wires in all empty conduit systems. Identify terminus of each pull wire. All exposed raceways shall be installed with runs parallel and/or perpendicular with building walls. Fasten all rigid/non-flexible conduit every 8' and 2' from each box. Conduit shall be EMT where not subject to mechanical damage as permitted by National Electric Code (N.E.C.). EMT connectors and couplings 4" and smaller shall be compression type. Type MC Cable is not permitted, excluding final connections to motors and lighting fixtures.

B. Conduit bushings shall be provided and installed inside all disconnects, pull boxes, panelboards, switchboard or similar type equipment and where permitted by National Electric Code (N.E.C.).

3.0 WIRES AND CABLES:

A. Electrical conductors, soft annealed copper with conductivity 98% of that of pure, stranded copper, 90 degree - 600V insulation and equal to General Cable Company. Wire and cable for all feeders, subfeeders, motor circuits and high ambient location type shall be THHN. All other branch circuit wiring shall be type XHHN or THHN. Minimum wire size shall be #12 gauge AWG. Control wiring may be #14 gauge.

B. For conductors #4 or small use the following color-code:

- 208Y/120V, 3-phase: black, red, blue, white.
- Green shall be used for ground wire conductor.
- Contractor shall use the following color designations and be consistent throughout the project. Color designation for switch legs and or travelers: Violet, Pink or Purple may be used.

C. Conductor Material Applications:
   a. Branch Circuits: Copper. Solid for No. 12 AWG and smaller; stranded for No. 10 AWG and larger.

D. Conductor insulation and multi-conductor cable application and wiring methods:
   b. Exposed Branch Circuits, Including in Crawlspaces: Type THHN, single conductors in raceway.
   c. Branch Circuits Concealed in Ceilings, Walls, and Partitions: Type THHN, single conductors in raceway.
   d. Branch Circuits Concealed in Concrete, below Slabs-on-Grade, and Underground: Type THWN-2, single conductors in raceway.

4.0 GROUNDING:

A. Ground all electrical apparatus in accordance with N.E.C. and as specified herein. Provide a separate grounding conductor for all lighting, receptacle and equipment circuits. All cabinets, switchboards, equipment cases, motor frames, interior metal cold water piping systems, and system neutral conductors shall be effectively grounded. Use solderless pressure type connectors, no perforated strap connectors will be allowed. Ensure continuous bond where flexible conduit is used. Provide bonding jumper inside all flexible conduit. Grounding per N.E.C. 250, and any local requirements.

5.0 SPLICE AND TAPS:

A. Make splices at junction boxes, pull boxes, or outlet boxes only.

6.0 CABINETS, JUNCTION AND PULL BOXES:

A. Flush or surface mounted as indicated on drawings. Provide where shown on drawings and where required by code. Construct of cold gauge steel for flush surface mounting.

7.0 OUTLET BOXES:

A. General Electric, Appleton, Steel City or Raco hot dipped galvanized steel boxes, or equal. Install at terminal of each conduit run, each outlet, or device. Provide size, type and design to suit structural conditions. Adequate to accommodate size and number of raceways, conductors, device or fixture served. Provide plaster rings or covers on boxes where required on exposed work, use approved cast ferrous alloy outlet, junction boxes and fittings. Fixture or device cover shall completely conceal the size outlet box used. Install 3/8" fixture stud for lighting fixtures where required. Locate ceiling outlets to work with architectural features as directed. Switches installed 48" above floor on strike side of door as finally hung. Receptacles and telephone outlets, 18" above finished floor unless otherwise noted. Verify all outlet locations on job with Architect.

8.0 DISCONNECT SWITCHES:

A. Heavy duty NEMA type 'HD' - same manufacturer as panelboards. Plastic nameplate properly engraved with name of equipment served, secured to switch cover. Fuses shall be Bussmann of sizes and types scheduled.

9.0 MOTOR AND CONTROL WIRING AND CONNECTIONS:

A. This Contractor to provide all necessary conduit, boxes and supports to equipment furnished by Owner and as indicated on drawings. Provide a disconnect switch and starter if required.

10.0 LABELING:

A. Contractor shall label each and every j-box above ceiling with a permanent marker with panel and circuit number.

B. Outlets, adhesive film label, machine printed clear background with black letters, by thermal transfer or equivalent process. Minimum letter height shall be 1/4 inch. Face plate shall be labeled with panel and circuit number.

C. Interior equipment self-adhesive, engraved, laminated acrylic or melamine label: adhesive backed, with white letters on a dark-gray background. Minimum letter height shall be 3/8 inch (10 mm).

D. Exterior equipment: Stenciled or engraved, laminated acrylic or melamine label: punched or drilled for screw mounting. White letters on a black background. Minimum letter height shall be 1 inch (25 mm).

11.0 WIRING DEVICES:

A. Duplex receptacles shall be Hubbell #5352-X grounding type, 20A., 125V.; G.F.C.I. shall be Hubbell GF-5352-X, 20A., 125V.; duplex, G.F.C.I. TYPE. Isolated ground receptacles shall be orange in color, Hubbell IG-5352, 20A, 125V, duplex. Isolated ground receptacles shall be equipped with a Hubbell IGP-8 plate, orange in color inscribed "Isolated Ground". Wall toggle switches shall be Hubbell Number 1221-X and Number 1223-X for single pole and three way types respectively. Other switch, receptacle, and outlet device variations shall be by Hubbell of "Spec. Grade" quality. Equivalent devices of P & S or Leviton will be acceptable in lieu of the above listed devices. Contractor to verify color of devices with Architect before purchase. Provide smooth plastic cover plates to mate and match device for each outlet.

B. Motion sensor: contactor shall verify with owner for proper time delay settings.

12.0 LIGHTING FIXTURES:

A. This Contractor shall furnish and install complete, unless otherwise specified, a lighting fixture on each and every lighting outlet shown on the drawings of each type scheduled by letter and description. All fixtures shall be equipped with lamps as scheduled or specified herein. All fixtures installed in suspended ceilings must be securely fastened to framing members per NEC 410-36b and local seismic code requirements.

END OF SECTION

Lankford Fendler + associates
1730 Walnut Street Kansas City, Missouri 64108
1915 Frederick Avenue, St. Joseph, Missouri 64501
Phone: 816.221.1411 | Fax: 816.221.1429
LANKFORD | FENDLER + ASSOCIATES, CONSULTING ENGINEERS, INC.

COA No. 2006001168

FRESH GREEN - Lees Summit

1041 NE Sam Walton Dr.
Lees Summit, MO 64086

HIVE DESIGN COLLABORATIVE, INC.
1617 WALNUT STREET, KANSAS CITY, MO 64108
816.581.6363

seal/signature

STATE OF MISSOURI
GREGORY J. FENDLER
NUMBER PE-2006037230
PROFESSIONAL ENGINEER
05/01/2020

project number	2020-017
date	05.01.2020
issued for	PERMIT

rev	date	description

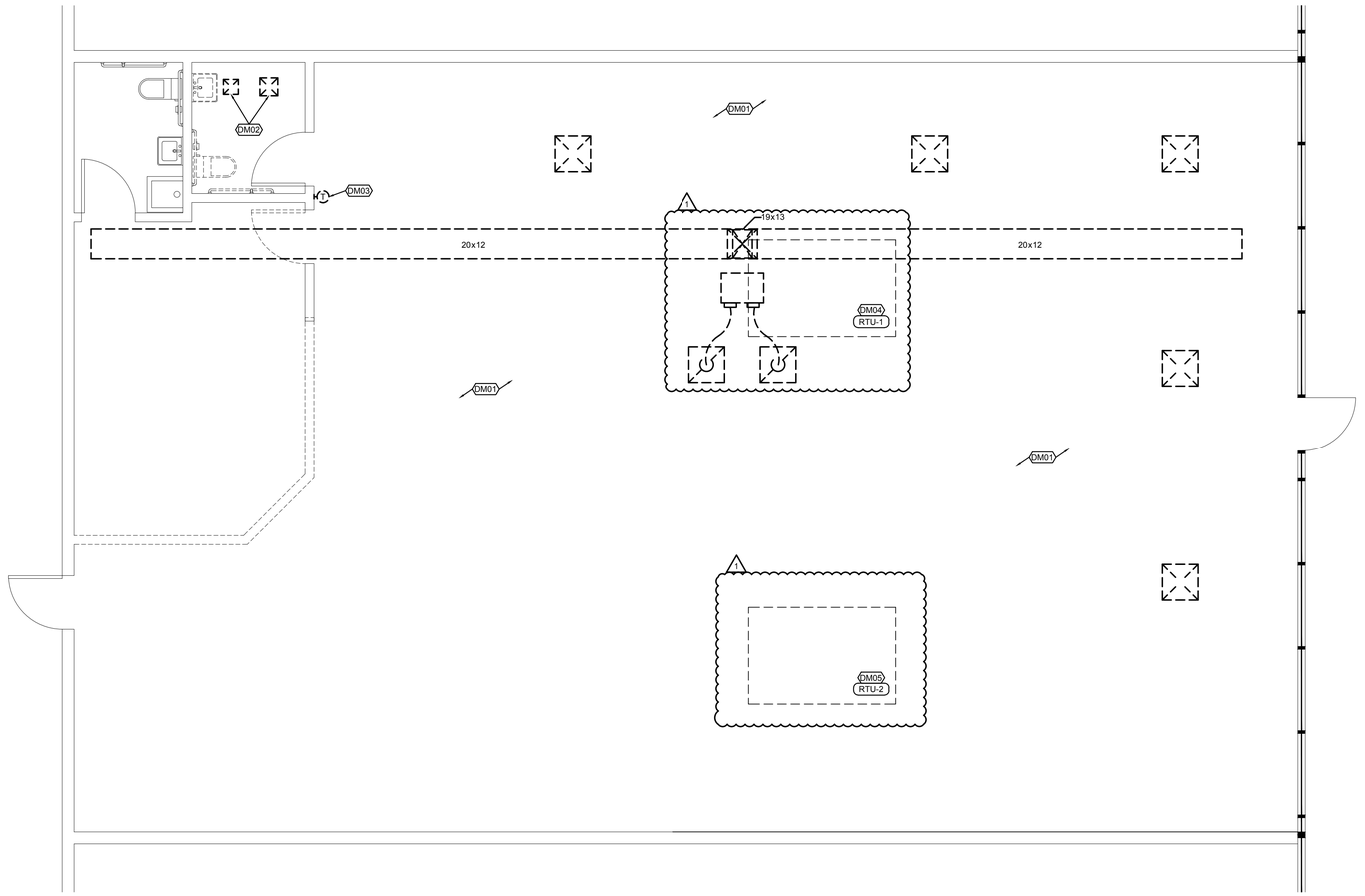
SPECIFICATIONS

sheet number

MEP11

DM## FLOOR PLAN NOTES

1. DISCONNECT AND REMOVE ALL DUCTWORK, DIFFUSERS, GRILLES, HANGERS, ETC. IN THEIR ENTIRETY THROUGHOUT PROJECT EXTENTS.
2. REMOVE EXHAUST DIFFUSERS, DUCTWORK, ASSOCIATED EQUIPMENT AND CONTROLS.
3. DISCONNECT AND REMOVE THERMOSTATS AND ASSOCIATED CONTROL WIRING. THERMOSTATS TO BE PROVIDED NEW UNDER NEW WORK PLAN.
4. RTU-1 ON ROOF EXISTING TO REMAIN.
5. RTU-2 ON ROOF EXISTING TO REMAIN.



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

Lankford + Fendler + associates
1730 Walnut Street Kansas City, Missouri 64108
1915 Frederick Avenue, St. Joseph, Missouri 64501
Phone: 816.221.1411 | Fax: 816.221.1429
LANKFORD | FENDLER + ASSOCIATES, CONSULTING ENGINEERS, INC.

COA No. 2006001168

FRESH GREEN - Lees Summit

1041 NE Sam Walton Dr.
Lees Summit, MO 64086

HIVE DESIGN COLLABORATIVE, INC.
1617 WALNUT STREET, KANSAS CITY, MO 64108
816.581.6363

seal/signature

STATE OF MISSOURI
GREGORY J. FENDLER
NUMBER PE-2006037230
PROFESSIONAL ENGINEER
05/01/2020

project number 2020-017

date 05.01.2020

issued for PERMIT

rev	date	description
1	05.08.2020	CITY COMMENTS

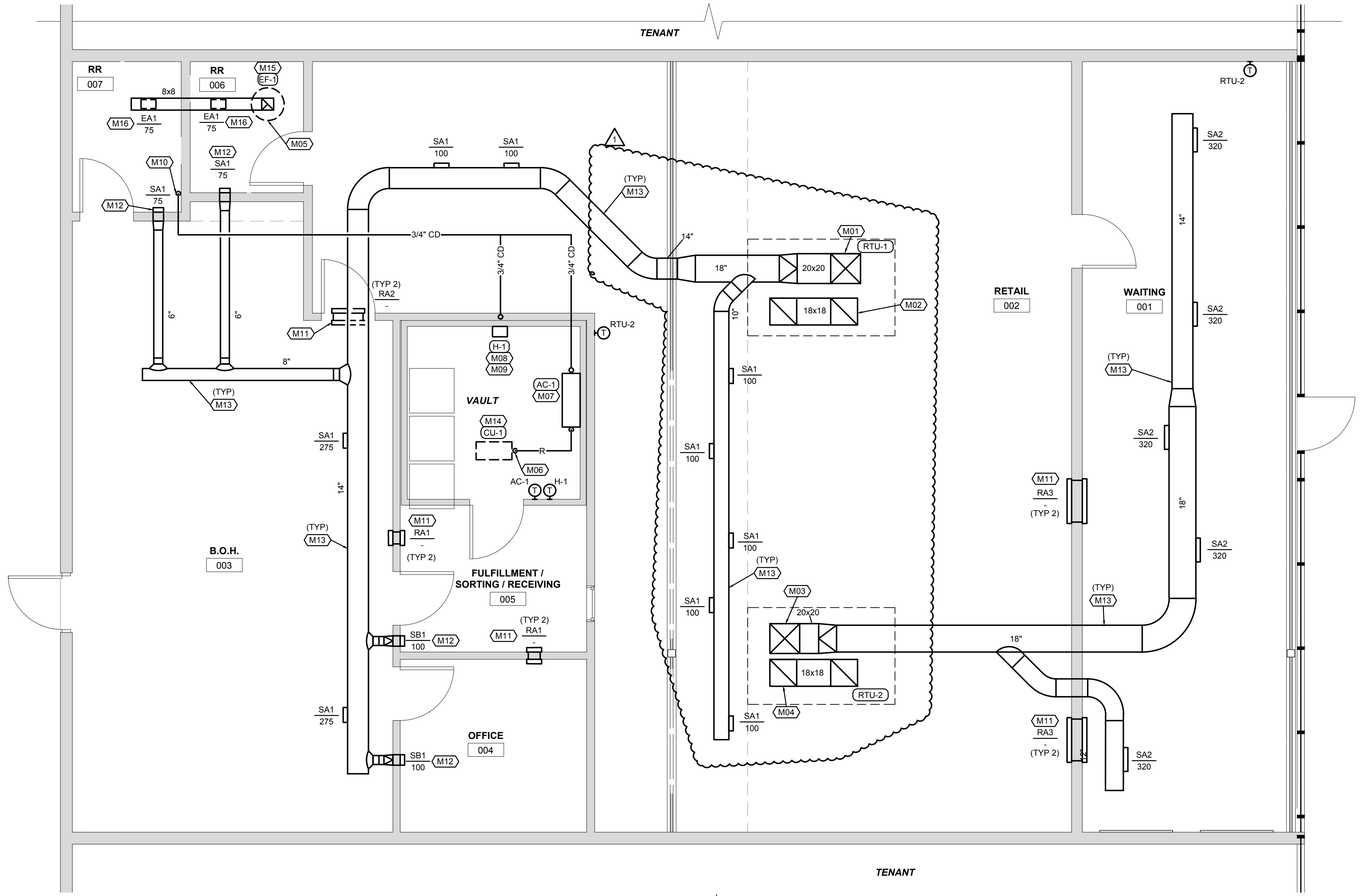
FLOOR PLAN MECHANICAL DEMOLITION

sheet number

M01

M## FLOOR PLAN NOTES

1. MAIN DUCT UP TO EXISTING RTU-1 ON ROOF. FIELD VERIFY RTU AND DUCT RISE LOCATION.
2. RETURN DUCT UP TO EXISTING RTU-1 ON ROOF. FIELD VERIFY RTU AND DUCT RISE LOCATION.
3. MAIN DUCT UP TO EXISTING RTU-2 ON ROOF. FIELD VERIFY RTU AND DUCT RISE LOCATION.
4. RETURN DUCT UP TO EXISTING RTU-2 ON ROOF. FIELD VERIFY RTU AND DUCT RISE LOCATION.
5. EXHAUST DUCT UP TO NEW EF-1 ON ROOF.
6. REFRIGERANT PIPING DOWN FROM CU-1 ON ROOF TO AC-1.
7. WALL MOUNTED SPLIT SYSTEM INDOOR UNIT. MOUNT 12" BELOW VAULT CEILING. ROUTE LINESET TO ASSOCIATED OUTDOOR UNIT AND CONNECT PER MANUFACTURERS RECOMMENDATIONS. ROUTE 3/4" CONDENSATE TO ADJACENT MECHANICAL ROOM FLOOR DRAIN AND INDIRECT WASTE.
8. WALL MOUNTED HUMIDIFIER. INSTALL PER MANUFACTURERS RECOMMENDATIONS. ROUTE DISPERSION TUBE TO FAN PACK IN VAULT ROOM.
9. WALL MOUNTED FAN PACK PROVIDED WITH HUMIDIFIER. INSTALL 12" BELOW VAULT CEILING.
10. CONDENSATE DRAINAGE DOWN TO JANITOR'S SINK.
11. INSTALL RETURN GRILLE IN ROOM TIGHT TO STRUCTURE. INSTALL OPPOSITE RETURN GRILLE AT SAME HEIGHT. PROVIDE IN WALL SHEETMETAL SLEEVE.
12. MOUNT DIFFUSER TIGHT TO STRUCTURE.
13. MOUNT SUPPLY DUCTWORK TIGHT TO STRUCTURE.
14. INSTALL ROOF MOUNTED CONDENSING UNIT ON 4X4 PRESSURE TREATED LUMBER. ROUTE LINESET THROUGH ROOF PER SPECIFICATIONS. COORDINATE ANY ROOF WARRANTY WITH BUILDING OWNER.
15. COORDINATE WITH ELECTRICAL CONTRACTOR TO INTERLOCK FAN WITH RESTROOM MOTION SENSOR.
16. MOUNT EXHAUST DIFFUSERS ON BOTTOM OF DUCT.



FLOOR PLAN-MECHANICAL NEW WORK

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

Lankford Fendler + associates
1730 Walnut Street Kansas City, Missouri 64108
1915 Frederick Avenue, St. Joseph, Missouri 64501
Phone: 816.221.1411 | Fax: 816.221.1429
LANKFORD | FENDLER + ASSOCIATES, CONSULTING ENGINEERS, INC.

COA No. 2006001168

FRESH GREEN - Lees Summit
1041 NE Sam Walton Dr.
Lees Summit, MO 64086

HIVE DESIGN COLLABORATIVE, INC.
1617 WALNUT STREET, KANSAS CITY, MO 64108
816.581.6363

seal/signature

STATE OF MISSOURI
GREGORY J. FENDLER
NUMBER PE-2009037230
PROFESSIONAL ENGINEER
05/01/2020

project number	2020-017
date	05.01.2020
issued for	PERMIT

rev	date	description
1	05.08.2020	CITY COMMENTS

FLOOR PLAN MECHANICAL NEW WORK

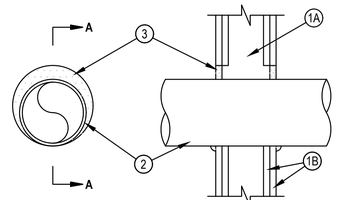
sheet number

M10

CLASSIFIED C UL US
Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

System No. W-L-1054

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings —1 and 2 Hr (See Items 1 and 3)	F Ratings — 1 and 2 Hr (See Items 1 and 3)
T Rating — 0 Hr	FT Rating — 0 Hr
L Rating at Ambient — Less Than 1 CFM/sq ft	FH Ratings —1 and 2 Hr (See Items 1 and 3)
L Rating at 400 F — Less Than 1 CFM/sq ft	FTH Rating — 0 Hr
	L Rating at Ambient — Less Than 1 CFM/sq ft
	L Rating at 400 F — Less Than 1 CFM/sq ft



SECTION A-A

October 14, 2015
Hilti Firestop Systems

1. Wall Assembly — The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC. When steel studs are used and the diam of opening exceeds the width of stud cavity, the opening shall be framed on all sides using lengths of steel stud installed between the vertical studs and screw-attached to the steel studs at each end. The framed opening in the wall shall be 4 to 6 in. (102 to 152 mm) wider and 4 to 6 in. (102 to 152 mm) higher than the diam of the penetrating item such that, when the penetrating item is installed in the opening, a 2 to 3 in. (51 to 76 mm) clearance is present between the penetrating item and the framing on all four sides.
   B. Gypsum Board* — 5/8 in. (16 mm) thick, 4 ft (122 cm) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 32-1/4 in. (819 mm) for steel stud walls. Max diam of opening is 14-1/2 in. (368 mm) for wood stud walls.

   The F and FH Ratings of the firestop system are equal to the fire rating of the wall assembly.
2. Through-Penetrants — One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. The annular space shall be min 0 in. to max 2-1/4 in. (57 mm). Pipe may be installed with continuous point contact. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. Steel Pipe — Nom 30 in. (762 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe — Nom 30 in. (762 mm) diam (or smaller) cast or ductile iron pipe.
   C. Conduit — Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing or 6 in. (152 mm) . diam steel conduit.
   D. Copper Tubing — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing.
   E. Copper Pipe — Nom 6 in. (152 mm) diam (or smaller) regular (or heavier) copper pipe.
3. Fill, Void or Cavity Material* — Sealant — Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. At the point or continuous contact locations between pipe and wall, a min 1/2 in. (13 mm) diam bead of fill material shall be applied at the pipe wall interface on both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-One Sealant or FS-ONE MAX Intumescent Sealant

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

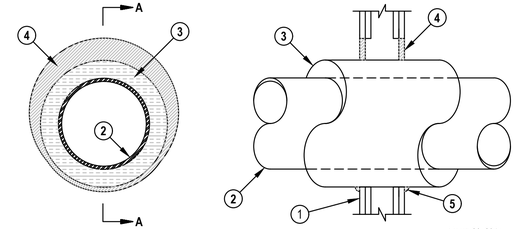
GYPSUM/STUD WALL FIRE STOPPING DETAIL

NO SCALE NON-INSULATED METALLIC PIPES

CLASSIFIED C UL US
Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

System No. W-L-5029

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings — 1, 2 and 3 Hr (See Items 1, 3 and 4)	F Ratings — 1, 2 and 3 Hr (See Items 1, 3 and 4)
T Ratings — 0, 1/2, 1 and 1-1/4 Hr (See Item 3)	FT Ratings — 0, 1/2, 1 and 1-1/4 Hr (See Item 3)
L Rating At Ambient — 4 CFM/Sq Ft	FH Ratings — 1, 2 and 3 Hr (See Items 1, 2 and 4)
L Rating At 400 F — Less Than 1 CFM/Sq Ft	FTH Ratings — 0, 1/2, 1 and 1-1/4 Hr (See Item 3)
	L Rating At Ambient — 4 CFM/Sq Ft
	L Rating At 400 F — Less Than 1 CFM/Sq Ft



SECTION A-A

March 30, 2015
Hilti Firestop Systems

1. Wall Assembly — The 1, 2 or 3 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400, V400 or W400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide for 1 and 2 hr F and FH rating and 3-1/2 in. (89 mm) wide for 3 hr F and FH rating and spaced max 24 in. (610 mm) OC.
   B. Gypsum Board* — Min 5/8 in. (16 mm) thick with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual Wall and Partition Design. Max diam of opening is 18-5/8 in. (473 mm).
   The hourly F and FH Ratings of the firestop system are equal to the hourly fire rating of the wall assembly in which it is installed.
2. Through Penetrants — One metallic pipe or tubing to be installed within the firestop system. Pipe or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes or tubing may be used:
   A. Steel Pipe — Nom 12 in. (305 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe — Nom 12 in. (305 mm) diam (or smaller) cast or ductile iron pipe.
   C. Copper Tubing — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing. When the hourly F or FH Rating of the firestop system is 3 hr, the nom diam of copper tube shall not exceed 4 in. (102 mm).
   D. Copper Pipe — Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe. When the hourly F or FH Rating of the firestop system is 3 hr, the nom diam of copper pipe shall not exceed 4 in. (102 mm).
3. Pipe Covering* — Nom 1, 1-1/2 or 2 in. (25, 38 or 51 mm) thick hollow cylindrical heavy density (min 3.5 pcf or 56 kg/m3) glass fiber units jacketed on the outside with an all service jacket. Longitudinal joints sealed with metal fasteners or factory-applied self-sealing lap tape. Transverse joints secured with metal fasteners or with butt tape supplied with the product. For 1 and 2 hr F and FH Ratings, the annular space between insulated penetrant and periphery of opening shall be min 0 in. (point contact) to max 1-7/8 in. (48 mm). For 3 hr F and FH Ratings, the annular space shall be min 0 in. (point contact) to max 1-1/4 in. (32 mm).
   See Pipe and Equipment Covering — Materials (BRGU) category in the Building Material Directory for the names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.
   The hourly T, FT, FTH Ratings of the firestop system are 1/2 hr for 1 hr rated walls and 1 hr for 2 hr rated walls. For 3 hr rated walls, the hourly T, FT and FTH Ratings when steel and iron pipes are used are 1 hr. For 3 hr rated walls, the hourly T, FT and FTH Ratings when copper penetrants are used are 1-1/4 hr for 2 in. (51 mm) thick pipe covering and 0 hr for pipe covering thickness less than 2 in. (51 mm).
3A. Pipe Covering* — (Not Shown) — As an alternate to Item 3, max 2 in. (51 mm) thick cylindrical calcium silicate (min 14 pcf) units sized to the outside diam of the pipe or tube may be used. Pipe insulation secured with stainless steel bands or min 18 AWG stainless steel wire spaced max 12 in. (305 mm) OC. When the alternate pipe covering is used, the T and FT Rating shall be as specified in item 3 above.
   See Pipe and Equipment Covering — Materials (BRGU) category in the Building Materials Directory for names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.
4. Fill, Void or Cavity Material* — Sealant — For 1 and 2 hr F and FH Rating, min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. For 3 hr F and FH Rating, min 1 in. (25 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. At the point contact location between pipe covering and gypsum board, a min 1/2 in. (13 mm) diam bead of fill material shall be applied at the pipe covering/gypsum board interface on both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-One Sealant or FS-ONE MAX Intumescent Sealant

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

GYPSUM/STUD WALL FIRE STOPPING DETAIL

NO SCALE INSULATED METALLIC PIPES

HIVE

Lankford Fendler + associates
1730 Walnut Street Kansas City, Missouri 64108
1915 Frederick Avenue, St. Joseph, Missouri 64501
Phone: 816.221.1411 | Fax: 816.221.1429
LANKFORD | FENDLER + ASSOCIATES, CONSULTING ENGINEERS, INC.

FRESH GREEN - Lees Summit

1041 NE Sam Walton Dr.
Lees Summit, MO 64086

HIVE DESIGN COLLABORATIVE, INC.
1617 WALNUT STREET, KANSAS CITY, MO 64108
816.581.6363

seal/signature

project number	2020-017
date	05.01.2020
issued for	PERMIT

rev	date	description

MECHANICAL DETAILS

sheet number

M20

DUCTLESS SPLIT SYSTEM SCHEDULE (ELECTRIC HEAT)

BLOWER COIL							COOLING				HEATING-HEAT PUMP		OUTDOOR UNIT		ELECTRICAL			SYSTEM EFFICIENCY		
MARK NO.	MANUFACTURER	MODEL	CONFIGURATION	AIRFLOW CFM	EXT. S.P. (IN W.G.)	FAN DRIVE TYPE	E.D.B. (°F)	E.W.B. (°F)	TOTAL MBH	SENS. MBH	E.D.B. (°F)	SENS. MBH	MARK NO.	MODEL	VOLT	ø	HZ	COOLING EER OR SEER	HEATING COP OR HSPF	NOTES
AC-1	LENNOX	MWNA009S4	HORIZONTAL	195-370	-	DIRECT	75	63	10.26	8.72	70	6.35	HP-1	MLA009S4S	208-230	1	60	24	10.5	ALL

NOTES:
1. PROVIDE WITH WALL MOUNTED 24/7 PROGRAMMABLE THERMOSTAT, CONDENSATE DRAIN TRAP, AND DRAIN PAN OVERFLOW SWITCH TO SHUT DOWN UNIT IF DRAIN BECOMES CLOGGED.
2. PROVIDE OUTDOOR UNIT WITH COMPRESSOR CRANKCASE HEATER, 0° F LOW AMBIENT KIT, COMPRESSOR TIME-OFF CONTROL, AND HAIL GUARDS.

*HEATING KW IS NET CAPACITY AT VOLTAGE AND PHASE INDICATED.

FAN SCHEDULE

MARK NO.	MANUFACTURER	MODEL	TYPE	AIRFLOW (CFM)	S.P. (IN W.G.)	FAN TYPE	RPM	DRIVE	ELECTRICAL VOLT	ø	HZ	HP/ WATTS	NOTES
EF-1	GREENHECK	G-095-VG	ROOF	150	0.05	DIRECT	456	DIRECT	120	60	60	1/6	1,2

NOTES:
1. PROVIDE WITH ROOF CURB, DISCONNECT SWITCH, SPEED CONTROLLER, HINGED CURB CAP, HINGED BASE, CURB SEAL, CURB EXTENSION, BIRD SCREEN, AND DAMPER.
2. INTERLOCK WITH LIGHTING CONTROLS.

HUMIDIFIER SCHEDULE

MARK NO.	MANUFACTURER	MODEL	HUMIDITY LOAD (GAL./DAY)	ELECTRICAL VOLT	ø	HZ	NOTES
H-1	APRILAIRE	865	11.5	120	1	60	1

NOTES:
1. FURNISH AND INSTALL WITH HIGH LIMIT HUMIDISTAT, WALL FAN PACK UNIT. DUCT PRESSURE SWITCH, TEMP-R-DRAIN AND WALL MOUNTED HUMIDISTAT.

DIFFUSER SCHEDULE

MARK	MANUFACTURER	MODEL	FACE SIZE (IN.)	NECK SIZE (IN.)	FRAME TYPE*	FINISH	NOTES
SA1	PRICE	SDGE	12x8	10x6	DUCT MOUNTED	WHITE	1,2
SA2	PRICE	SDGE	18x8	16x6	DUCT MOUNTED	WHITE	1,2
SB1	PRICE	530	8x7	6x5	SIDEWALL	WHITE	1,2
RA1	PRICE	530	12x8	10x6	SIDEWALL	WHITE	1,2
RA2	PRICE	530	24x14	22x12	SIDEWALL	WHITE	1,2
RA3	PRICE	530	32x16	30x16	SIDEWALL	WHITE	1,2
EA1	PRICE	530	10	10x6	DUCT MOUNTED	WHITE	1,2

NOTES:
1. PROVIDE OBD AND LOUVER RUNNING WITH LONG SIDE OF GRILLE.
2. APPROVE ALL DIFFUSER FINISHES WITH ARCHITECT.

*CONTRACTOR SHALL VERIFY CEILING TYPE PRIOR TO ORDERING DIFFUSERS.

GENERAL NOTES (TYPICAL ALL SHEETS)

A. MECHANICAL CONTRACTOR IS RESPONSIBLE TO SEE THAT WORK MEETS AND IS IN ACCORDANCE WITH ALL REQUIREMENTS OF FEDERAL, STATE, AND LOCAL LAWS AND CODES AND/OR REQUIREMENTS, INCLUDING HEALTH CODES AND BUILDING OWNER.

B. ALL EXISTING DUCTWORK SHOWN ON DRAWINGS IS SCHEMATIC AND IS BASED ON EXISTING RECORD DRAWINGS PROVIDED BY THE OWNER AND DO NOT REFLECT EXACT EXISTING CONDITIONS. CONTRACTOR TO FIELD VERIFY EXACT DEPTH AND/OR LOCATIONS ON JOB SITE. CONTRACTOR SHALL REROUTE NEW WORK TO ACCOMMODATE EXACT LOCATIONS OF EXISTING UTILITIES, STUBOUTS AND/OR CONNECTIONS.

C. CUTTING AND PATCHING OF FLOORS, WALLS, CEILING, ETC., REQUIRED IN STRICT ACCORDANCE WITH THE RULES AND REGULATIONS OF THE ARCHITECT'S AND/OR BUILDING OWNER REQUIREMENTS.

D. COORDINATE ALL WORK WITH OTHER TRADES PRIOR TO INSTALLATION TO AVOID ROUTING CONFLICTS.

E. ANY MATERIAL REMOVED THAT OWNER DOES NOT WISH TO RETAIN SHALL BE REMOVED FROM PROJECT SITE AND DISPOSED OF BY CONTRACTOR.

F. MECHANICAL CONTRACTOR SHALL REMOVE, PATCH AIR TIGHT AND REINSULATE ALL DUCTWORK TAPS NOT REUSED WITH SAME MATERIAL AS EXISTING DUCTWORK.

G. MECHANICAL CONTRACTOR SHALL AIR BALANCE ALL GRILLES TO CFM'S SHOWN ON PLANS.

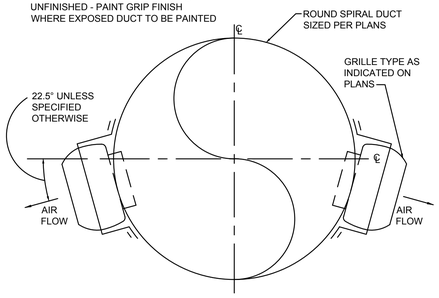
H. ALL THERMOSTATS SHALL BE MOUNTED TO MATCH BUILDING STANDARDS UNLESS OTHERWISE NOTED.

I. INSTALL ELASTOMERIC JOINT SEALER AROUND ALL DUCTS, PIPES, ETC. PASSING THRU INTERIOR NON-RATED CONCRETE AND MASONRY WALLS, GYPSUM-BOARD PARTITIONS, AND CONCRETE FLOOR/ROOF SLABS. FOR FIRE RATED INTERIOR CONCRETE AND MASONRY WALLS, GYPSUM-BOARD PARTITIONS, AND CONCRETE FLOOR/ROOF SLABS SEAL ALL DUCTS, PIPES, ETC. INSTALL FIRESTOP MATERIALS IN ALL GAPS PRIOR TO SEALANT APPLICATION. INSTALL SEALER ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.

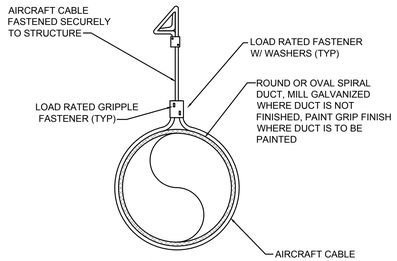
MECHANICAL SYMBOLS

- OR — EXISTING DUCTWORK TO BE REMOVED
- OR — EXISTING DUCTWORK TO REMAIN
- OR — NEW DUCTWORK
- SUPPLY DUCT
- RETURN DUCT
- EXHAUST DUCT
- SUPPLY DIFFUSER
- RETURN GRILLE
- EXHAUST GRILLE
- R/D — RISE OR DROP IN DUCT
- T — THERMOSTAT, MOUNT TOP AT 48" AFF.
- H — HUMIDISTAT
- MANUAL VOLUME DAMPER
- SUPPLY DUCT DOWN
- SUPPLY DUCT UP
- RETURN DUCT DOWN
- RETURN DUCT UP
- EXHAUST DUCT DOWN
- EXHAUST DUCT UP
- WALL MOUNTED DIFFUSER/GRILLE
- FLEXIBLE DUCT CONNECTION
- AHU-1 — EQUIPMENT TYPE AND DESIGNATION
- SA / 200 — MARK NO. SUPPLY (S_), RETURN (R_), EXHAUST (E_) / CFM
- CONNECT TO EXISTING

NOTE: CONTRACTOR SHALL PROVIDE FABRICATION DETAIL OF GRILLE W/SHOP DRAWINGS. FAILURE TO DO SO WILL NOT BE CONSIDERED A BASIS FOR THE GRANTING OF ADDITIONAL COMPENSATION TO RELOCATE GRILLES AND PROVIDE NEW MAIN DUCTWORK IF ACCEPTABLE TO ARCHITECT/ENGINEER.

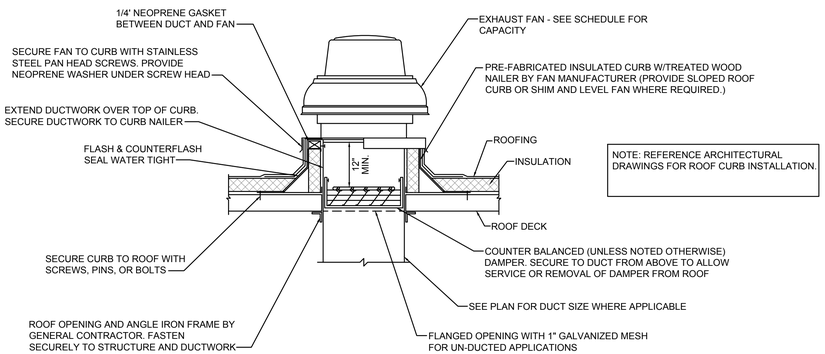


SPIRAL DUCT SUPPLY DIFFUSER DETAIL
NO SCALE



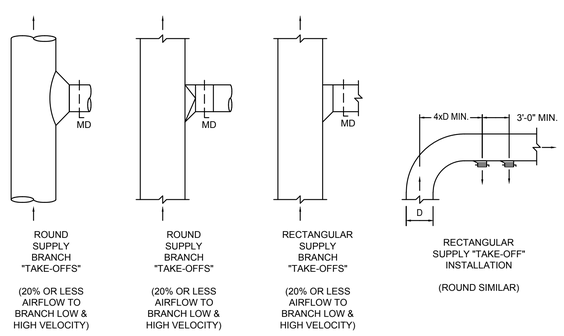
NOTE: KEEP EXPOSED DUCT HIGH AS POSSIBLE TIGHT TO STRUCTURE OR AS OTHERWISE NOTED

SPIRAL DUCT SUPPORT DETAIL
NO SCALE



NOTE: REFERENCE ARCHITECTURAL DRAWINGS FOR ROOF CURB INSTALLATION.

ROOF MOUNTED EXHAUST FAN DETAIL
NO SCALE



ROUND SUPPLY BRANCH "TAKE-OFFS" (20% OR LESS AIRFLOW TO BRANCH LOW & HIGH VELOCITY)

ROUND SUPPLY BRANCH "TAKE-OFFS" (20% OR LESS AIRFLOW TO BRANCH LOW & HIGH VELOCITY)

RECTANGULAR SUPPLY BRANCH "TAKE-OFFS" (20% OR LESS AIRFLOW TO BRANCH LOW & HIGH VELOCITY)

RECTANGULAR SUPPLY "TAKE-OFF" INSTALLATION (ROUND SIMILAR)

DUCT STANDARDS
NO SCALE

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
05/14/2020

HIVE

Lankford Fendler + associates
1730 Walnut Street Kansas City, Missouri 64108
1915 Frederick Avenue, St. Joseph, Missouri 64501
Phone: 816.221.1411 | Fax: 816.221.1429
LANKFORD | FENDLER + ASSOCIATES, CONSULTING ENGINEERS, INC.

FRESH GREEN - Lees Summit

1041 NE Sam Walton Dr.
Lees Summit, MO 64086

HIVE DESIGN COLLABORATIVE, INC.
1617 WALNUT STREET, KANSAS CITY, MO 64108
816.581.6363

seal/signature

STATE OF MISSOURI
GREGORY J. FENDLER
NUMBER PE-2006037230
PROFESSIONAL ENGINEER
05/01/2020

project number	2020-017
date	05.01.2020
issued for	PERMIT

rev	date	description

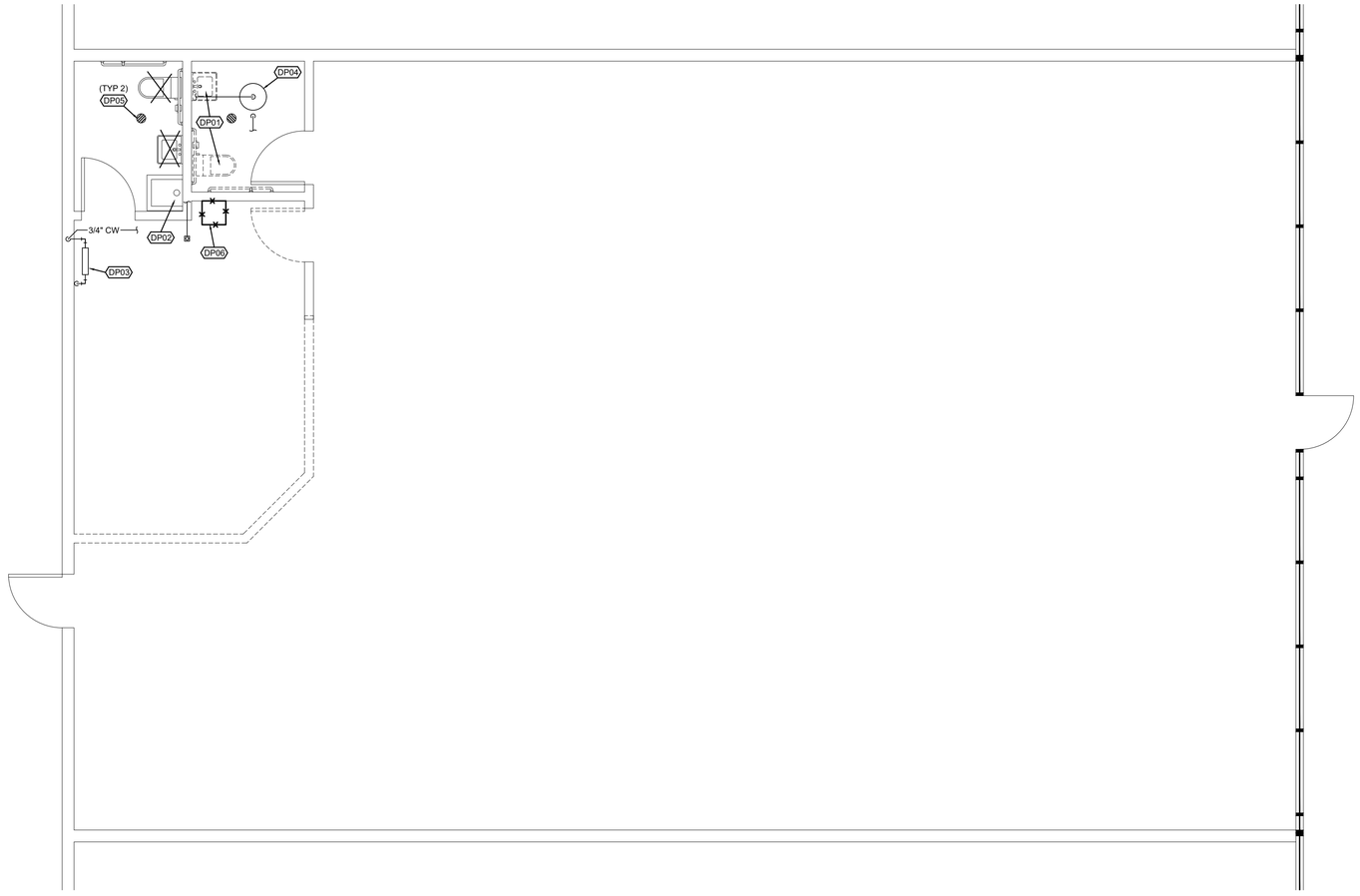
MECHANICAL DETAILS AND SCHEDULES

sheet number

M21

⟨DP##⟩ FLOOR PLAN NOTES

1. REMOVE EXISTING PLUMBING FIXTURES AND TRIM. CLEAN AND PREPARE REMAINING PIPING FOR RECONNECTION, RE: NEW WORK.
2. EXISTING JANITOR'S SINK, TRIM, AND ASSOCIATED PIPING TO REMAIN.
3. EXISTING 3/4" COLD WATER SERVICE AND BACKFLOW PREVENTER TO REMAIN.
4. EXISTING WATER HEATER, ACCESSORIES, AND ASSOCIATED PIPING TO REMAIN.
5. EXISTING FLOOR DRAINS AND ASSOCIATED PIPING TO REMAIN.
6. REMOVE EXISTING DRINKING FOUNTAIN AND TRIM. CLEAN AND PREPARE REMAINING PIPING FOR RECONNECTION, RE: NEW WORK.



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

N

Lankford Fendler + associates
1730 Walnut Street Kansas City, Missouri 64108
1915 Frederick Avenue, St. Joseph, Missouri 64501
Phone: 816.221.1411 | Fax: 816.221.1429
LANKFORD | FENDLER + ASSOCIATES, CONSULTING ENGINEERS, INC.

FRESH GREEN - Lees Summit

1041 NE Sam Walton Dr.
Lees Summit, MO 64086

HIVE DESIGN COLLABORATIVE, INC.
1617 WALNUT STREET, KANSAS CITY, MO 64108
816.581.6363

seal/signature

STATE OF MISSOURI
GREGORY J. FENDLER
NUMBER PE-2006037230
PROFESSIONAL ENGINEER
05/01/2020

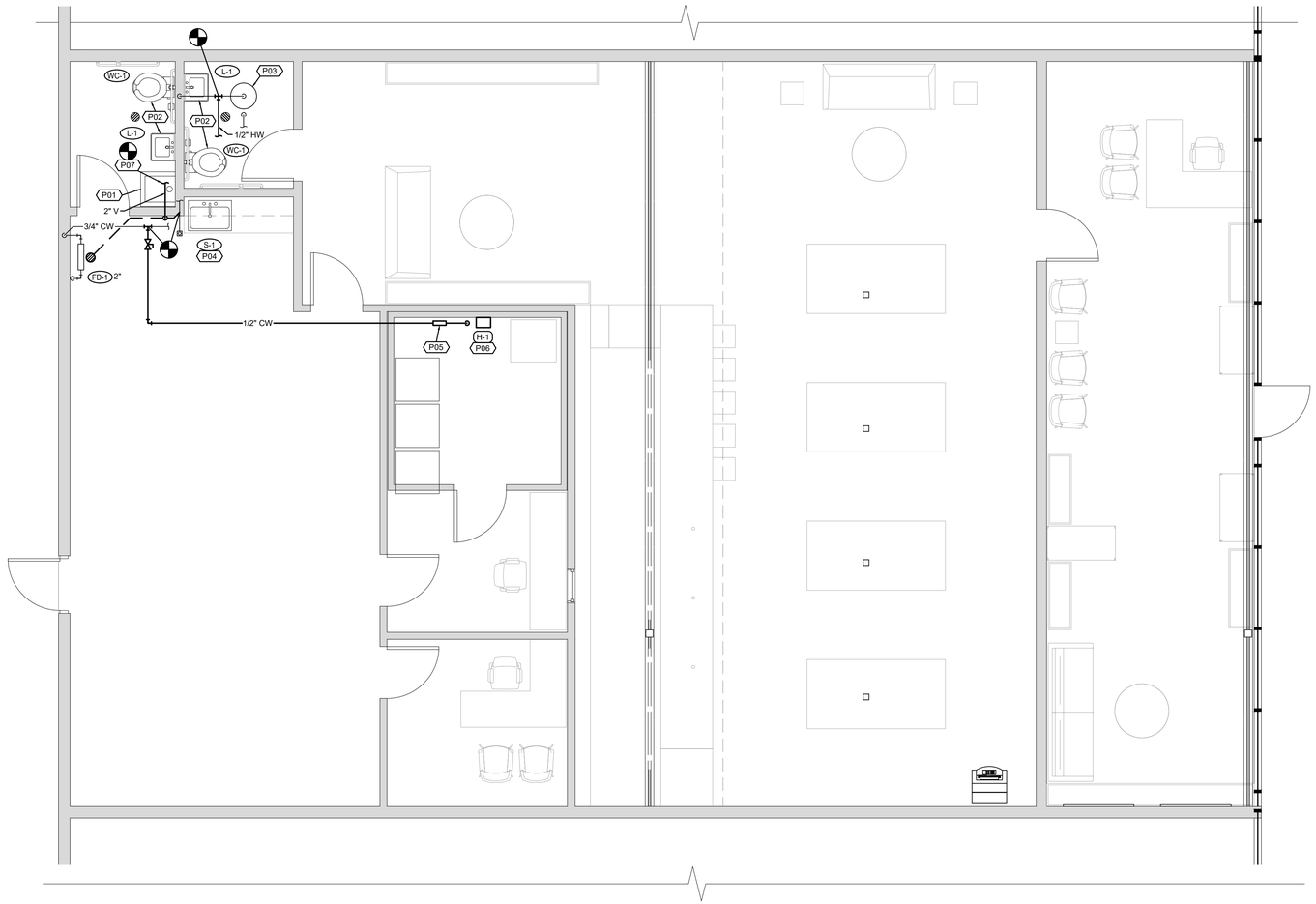
project number	2020-017
date	05.01.2020
issued for	PERMIT

rev	date	description

FLOOR PLAN PLUMBING DEMOLITION

sheet number

P01



FLOOR PLAN-PLUMBING NEW WORK

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

P## FLOOR PLAN NOTES

1. EXISTING JANITOR'S SINK, TRIM, AND ASSOCIATED PIPING TO REMAIN.
2. INSTALL NEW FIXTURES AT EXISTING STUB-OUT LOCATIONS. RECONFIGURE EXISTING WATER, WASTE, AND VENT PIPING TO ACCOMMODATE NEW FIXTURES.
3. EXISTING WATER HEATER AND ASSOCIATED PIPING TO REMAIN.
4. RECONFIGURE EXISTING WASTE, VENT, AND COLD WATER PIPING TO ACCOMMODATE NEW SINK. ROUTE NEW 1/2" HOT WATER FROM NEAREST EXISTING HOT WATER PIPING DOWN IN WALL.
5. PROVIDE DOUBLE CHECK BFP IN SUPPLY LINE TO HUMIDIFIER.
6. CONNECT 1/2" COLD WATER TO HUMIDIFIER PER MANUFACTURER'S RECOMMENDATIONS.
7. CONNECT TO NEAREST EXISTING VENT PIPING OF EQUAL OR GREATER SIZE. CONTRACTOR TO FIELD VERIFY EXACT SIZE, ELEVATION, AND LOCATION OF EXISTING PIPING.

GENERAL NOTES (TYPICAL ALL SHEETS)

A. PLUMBING CONTRACTOR IS RESPONSIBLE TO SEE THAT WORK MEETS AND IS IN ACCORDANCE WITH ALL REQUIREMENTS OF FEDERAL, STATE, AND LOCAL LAWS AND CODES AND/OR REQUIREMENTS, INCLUDING HEALTH CODES AND BUILDING OWNER.

B. ALL EXISTING PIPING SHOWN ON DRAWINGS IS SCHEMATIC AND IS BASED ON EXISTING RECORD DRAWINGS PROVIDED BY THE OWNER AND DO NOT REFLECT EXACT EXISTING CONDITIONS. CONTRACTOR TO FIELD VERIFY EXACT DEPTH AND/OR LOCATIONS ON JOB SITE. CONTRACTOR SHALL REROUTE NEW WORK TO ACCOMMODATE EXACT LOCATIONS OF EXISTING UTILITIES, STUBOUTS AND/OR CONNECTIONS.

C. CUTTING AND PATCHING OF FLOORS, WALLS, CEILING, ETC., REQUIRED IN STRICT ACCORDANCE WITH THE RULES AND REGULATIONS OF THE ARCHITECT'S AND/OR BUILDING OWNER REQUIREMENTS.

D. COORDINATE ALL WORK WITH OTHER TRADES PRIOR TO INSTALLATION TO AVOID ROUTING CONFLICTS.

E. ANY MATERIAL REMOVED THAT OWNER DOES NOT WISH TO RETAIN SHALL BE REMOVED FROM PROJECT SITE AND DISPOSED OF BY CONTRACTOR.

F. INSTALL ELASTOMERIC JOINT SEALER AROUND ALL PIPES PASSING THRU INTERIOR NON-RATED CONCRETE AND MASONRY WALLS, GYPSUM-BOARD PARTITIONS, AND CONCRETE FLOOR/ROOF SLABS. FOR FIRE RATED INTERIOR CONCRETE AND MASONRY WALLS, GYPSUM-BOARD PARTITIONS, AND CONCRETE FLOOR/ROOF SLABS SEAL ALL PIPES. INSTALL FIRESTOP MATERIALS IN ALL GAPS PRIOR TO SEALANT APPLICATION. INSTALL SEALER ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.

G. PLUMBING CONTRACTOR SHALL MAKE FINAL CONNECTION TO ALL EQUIPMENT BY OTHERS. VERIFY CONNECTIONS SIZES AND REQUIREMENTS.

H. PIPING ROUTED BELOW COUNTER IN CABINETS SHALL BE ROUTED AS NOTED. NOT TO INTERFERE WITH DRAWERS, SHELVES, EQUIPMENT, ETC., AND SUPPORT FROM BACK WALL OF CABINET.

I. PLUMBING CONTRACTOR SHALL SCAN FLOOR UTILIZING GROUND PENETRATING RADAR PRIOR TO ANY CORE DRILLING OR SAW CUTTING OF SLAB AND SHALL VERIFY PLACEMENT WITH BUILDING OWNER'S REPRESENTATIVE PRIOR TO DRILLING.

J. PLUMBING CONTRACTOR SHALL PROVIDE PRO-SET SYSTEMS 'TRAP GUARD' IN ALL FLOOR DRAIN TRAPS WITHIN PROJECT SCOPE OF WORK.

K. UPON REQUEST FOR ELECTRONIC FILES, CONTRACTOR SHALL FILL OUT, SIGN AND RETURN ELECTRONIC MEDIA RELEASE FORM FROM ENGINEER AND PROVIDE PAYMENT FOR FEES STIPULATED ON ELECTRONIC MEDIA RELEASE FORM. UPON RECEIPT OF COMPLETED RELEASE FORM AND PAYMENT, ELECTRONIC FILES WILL BE RELEASED.

L. ALL CABLE TIES FOR LOW VOLTAGE SYSTEMS LOCATED IN PLENUMS UTILIZED FOR AIR MOVEMENT THAT ARE NOT INSTALLED IN CONDUIT SHALL BE 25/50 FLAME AND SMOKE RATED, HELLERMANN TYTON T50 RC2UL OR EQUIVALENT.

PLUMBING SYMBOLS

- EXISTING TO REMAIN
- EXISTING TO BE REMOVED
- NEW PIPING
- FLOW ARROW
- CW — COLD WATER
- HW — HOT WATER
- V — SANITARY VENT ABOVE GROUND/FLOOR
- W — SANITARY WASTE BELOW GROUND/FLOOR
- SHUT OFF VALVE
- OR — FLOOR DRAIN OR EQMT FLOOR DRAIN
- PIPE DROP/PIPE RISE
- BOTTOM OUTLET TEE
- TOP OUTLET TEE
- FFCO — FINISHED FLOOR CLEANOUT
- PLUMBING FIXTURE DESIGNATION
- ETR — EXISTING TO REMAIN
- CONNECT TO EXISTING

Lankford Fendler + associates
1730 Walnut Street Kansas City, Missouri 64108
1915 Frederick Avenue, St. Joseph, Missouri 64501
Phone: 816.221.1411 | Fax: 816.221.1429
LANKFORD | FENDLER + ASSOCIATES, CONSULTING ENGINEERS, INC.

FRESH GREEN - Lees Summit

1041 NE Sam Walton Dr.
Lees Summit, MO 64086

HIVE DESIGN COLLABORATIVE, INC.
1617 WALNUT STREET, KANSAS CITY, MO 64108
816.581.6363

seal/signature

STATE OF MISSOURI
GREGORY J. FENDLER
NUMBER PE-2006037230
PROFESSIONAL ENGINEER
05/01/2020

project number	2020-017
date	05.01.2020
issued for	PERMIT

rev	date	description

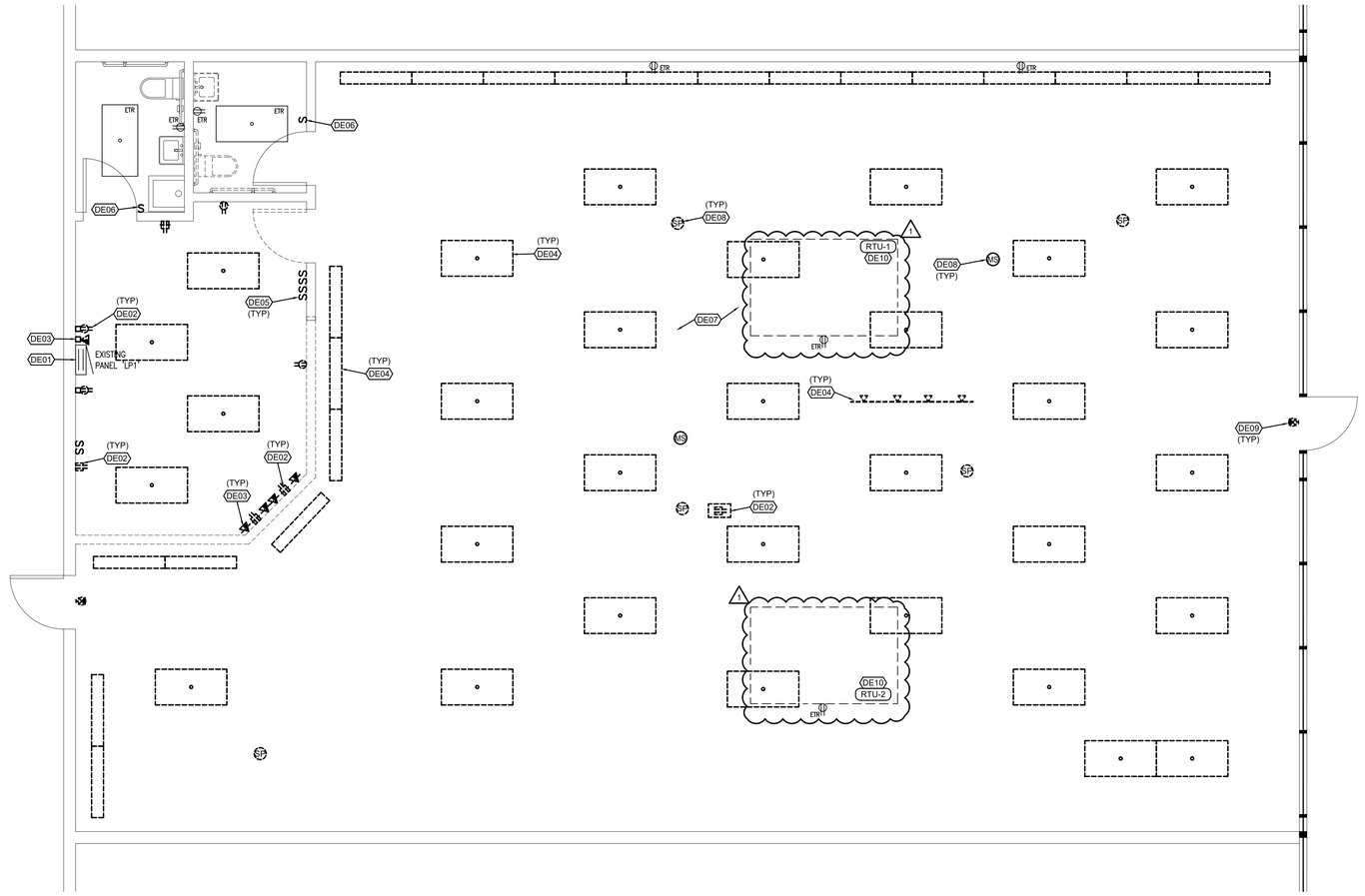
FLOOR PLAN
PLUMBING
NEW WORK

sheet number

P10

DE## FLOOR PLAN NOTES

1. EXISTING PANELBOARDS TO REMAIN.
2. EXISTING RECEPTACLE TO BE REMOVED. REMOVE ALL ASSOCIATED WIRING AND CONDUIT BACK TO NEAREST DEVICE TO REMAIN.
3. EXISTING DATA DEVICE TO BE REMOVED. REMOVE ALL ASSOCIATED WIRING AND CONDUIT BACK TO NEAREST DEVICE TO REMAIN.
4. EXISTING LIGHT FIXTURE TO BE REMOVED. REMOVE ALL ASSOCIATED WIRING AND CONDUIT BACK TO NEAREST DEVICE TO REMAIN.
5. EXISTING LIGHT SWITCH TO BE REMOVED. REMOVE ALL ASSOCIATED WIRING AND CONDUIT BACK TO NEAREST DEVICE TO REMAIN.
6. EXISTING LIGHT SWITCH TO BE REPLACED. REMOVE DEVICE AND PREP FOR NEW DEVICE AND CONNECTION TO NEW LIGHTING AS INDICATED ON NEW WORK PLAN.
7. REMOVE ALL ABANDONED WIRING, INCLUDING LOW VOLTAGE AND LINE VOLTAGE WIRING, IN AREAS WITH OPEN-TO-STRUCTURE CEILING SCHEME - RE: ARCHITECTURAL PLAN FOR THESE AREAS.
8. EXISTING CEILING DEVICE TO BE REMOVED. REMOVE ALL ASSOCIATED WIRING AND CONDUIT BACK TO NEAREST DEVICE TO REMAIN.
9. EXISTING EMERGENCY EXIT SIGN TO BE REMOVED. REMOVE ALL ASSOCIATED WIRING AND CONDUIT BACK TO NEAREST DEVICE TO REMAIN.
10. EXISTING RTU AND ASSOCIATED SERVICE RECEPTACLES TO REMAIN



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

HIVE

Lankford Fendler + associates
1730 Walnut Street Kansas City, Missouri 64108
1915 Frederick Avenue, St. Joseph, Missouri 64501
Phone: 816.221.1411 | Fax: 816.221.1429
LANKFORD | FENDLER + ASSOCIATES, CONSULTING ENGINEERS, INC.

FRESH GREEN - Lees Summit

1041 NE Sam Walton Dr.
Lees Summit, MO 64086

HIVE DESIGN COLLABORATIVE, INC.
1617 WALNUT STREET, KANSAS CITY, MO 64108
816.581.6363

seal/signature

STATE OF MISSOURI
GREGORY J. FENDLER
NUMBER PE-2006037230
PROFESSIONAL ENGINEER
05/01/2020

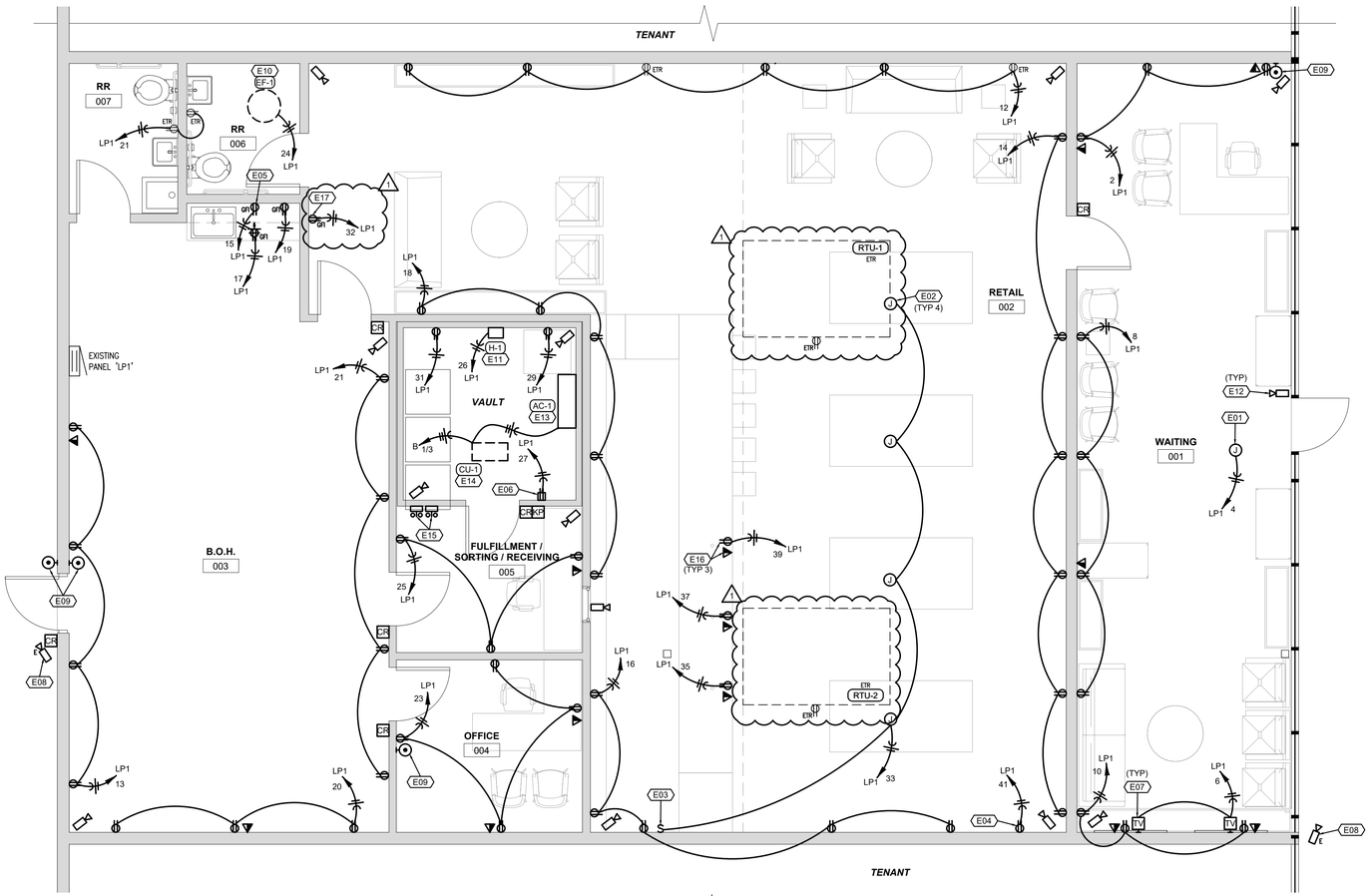
project number	2020-017
date	05.01.2020
issued for	PERMIT

rev	date	description
1	05.08.2020	CITY COMMENTS

FLOOR PLAN ELECTRICAL DEMOLITION

sheet number

E01



FLOOR PLAN-POWER/SYSTEMS

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

N

E## FLOOR PLAN NOTES

1. POWER CONNECTION TO ILLUMINATED SIGNAGE. CONFIRM LOCATION AND CONNECTION REQUIREMENTS WITH ARCHITECT.
2. JUNCTION BOX MOUNTED AT STRUCTURE ABOVE DISPLAY TABLES FOR FUTURE USE. ROUTE WIRING TO EACH BOX AND CAP FOR FUTURE USE, PROVIDE BLANK COVERPLATE.
3. INTERCONNECT JUNCTION BOXES WITH SWITCH. MOUNT SWITCH NEXT TO LIGHT SWITCHES, RE: LIGHTING PLAN.
4. RECEPTACLE FOR ATM. CONFIRM LOCATION OF DEVICE WITH ARCHITECT PRIOR TO ROUGH-IN.
5. RECEPTACLE FOR DISHWASHER. COORDINATE LOCATION AND CONNECTION REQUIREMENTS WITH GC PRIOR TO ROUGH-IN.
6. RECEPTACLE FOR IT RACK. CONFIRM LOCATION WITH TENANT PRIOR TO ROUGH-IN.
7. TV MEDIA BOX. RE: DETAIL FOR ADDITIONAL INFORMATION.
8. EXTERIOR CAMERA LOCATION. E.C. TO PROVIDE CONDUIT PATHWAY BACK TO IT CABINET AND WET-RATED J-BOX FOR CAMERA. COORDINATE WITH SECURITY CONSULTANT.
9. PROVIDE ROUGH-IN FOR "A-I PHONE" STYLE INTERCOM. COORDINATE WITH SECURITY CONSULTANT.
10. MAKE POWER CONNECTION TO EXHAUST FAN WITH INTEGRAL DISCONNECT. INTERLOCK FAN WITH LIGHTING CONTROLS IN RESTROOM - ACTIVATION OF MOTION SENSOR IN EITHER RESTROOM SHALL TRIGGER EXHAUST FAN. RE: LIGHTING PLANS.
11. PROVIDE 120V/30A/1P DISCONNECT AT UNIT AND MAKE POWER CONNECTION TO HUMIDIFIER. SYSTEM IS SHIPPED AS MULTI-VOLT; CONNECT TO PROPER TERMINAL BLOCK FOR 120V OPERATION.
12. INTERIOR CAMERA LOCATION. E.C. TO PROVIDE CONDUIT PATHWAY BACK TO IT CABINET AND J-BOX FOR CAMERA.
13. PROVIDE 250V/20A/2P DISCONNECT AT UNIT AND MAKE POWER CONNECTION TO INDOOR SPLIT SYSTEM. WIRE TO INDOOR UNIT FROM OUTDOOR UNIT.
14. PROVIDE 250V/20A/2P/3R DISCONNECT AND MOUNT AT UNIT AND MAKE POWER CONNECTION TO OUTDOOR SPLIT SYSTEM MOUNTED TO ROOF. CONNECT TO INDOOR UNIT.
15. PROVIDE AUDIBLE ALARM AND REMOTE TEST SWITCH FOR DUCT DETECTORS MOUNTED IN (2) EXISTING RTU'S. COORDINATE EXACT MAKE/MODEL WITH LANDLORD. MOUNTING HEIGHT PER ARCHITECT.
16. PROVIDE (1) ALUMINUM DUAL-SERVICE POLE FOR POWER AND DATA DROPS TO P.O.S. RECEPTACLES. WIREMOLD SERIES 25DTP OR EQUAL. ROUTE WIRING FOR ALL THREE LOCATIONS UP WITHIN THE SAME POLE. POLE LOCATION AND FINISH PER ARCHITECT. EXTEND POLE FROM OVERHEAD STRUCTURE DOWN THROUGH CASEWORK AND ANCHOR AT FLOOR. AT OVERHEAD TERMINATION POINT OF POLE, PROVIDE 1" LOW VOLTAGE CONDUIT BACK TO I.T. RACK.
17. RECEPTACLE FOR DRINKING FOUNTAIN; COORDINATE REQUIREMENTS WITH PLUMBING CONTRACTOR.

HIVE

Lankford Fendler + associates
1730 Walnut Street Kansas City, Missouri 64108
1915 Frederick Avenue, St. Joseph, Missouri 64501
Phone: 816.221.1411 | Fax: 816.221.1429
LANKFORD | FENDLER + ASSOCIATES, CONSULTING ENGINEERS, INC.

FRESH GREEN - Lees Summit

1041 NE Sam Walton Dr.
Lees Summit, MO 64086

HIVE DESIGN COLLABORATIVE, INC.
1617 WALNUT STREET, KANSAS CITY, MO 64108
816.581.6363

seal/signature

STATE OF MISSOURI
GREGORY J. FENDLER
NUMBER PE-2006037230
PROFESSIONAL ENGINEER
05/01/2020

project number	2020-017
date	05.01.2020
issued for	PERMIT

rev	date	description
1	05.08.2020	CITY COMMENTS

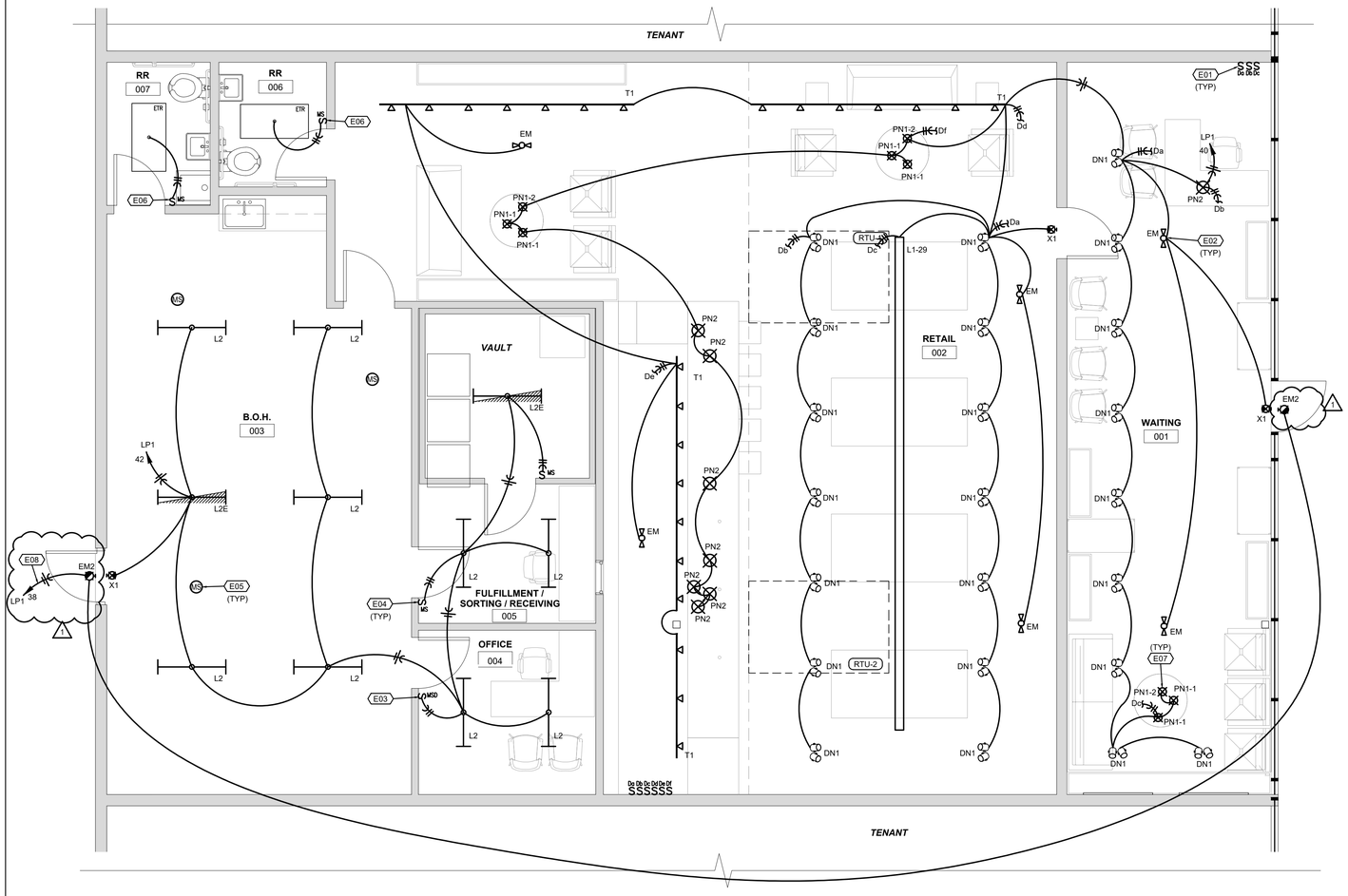
FLOOR PLAN POWER & SYSTEMS

sheet number

E10

E## FLOOR PLAN NOTES

1. DIMMER, LOWER CASE LETTER REPRESENTS ZONE CONTROLLED. RE: LIGHT FIXTURE SCHEDULE FOR DIMMER MAKE/MODEL FOR EACH FIXTURE TYPE CONTROLLED.
2. EMERGENCY BUGEYE UNIT MOUNTED UP IN STRUCTURE.
3. DUAL TECH WALLBOX OCCUPANCY SENSOR WITH INTEGRAL 0-10V DIMMER. WATTSTOPPER DW-311 OR EQUAL BY ACUITY, LUTRON, LEVITON.
4. DUAL TECH WALLBOX OCCUPANCY SENSOR WITH INTEGRAL ON/OFF SWITCH. WATTSTOPPER DW-100 OR EQUAL BY ACUITY, LUTRON, LEVITON.
5. RE: LIGHTING CONTROLS DETAILS FOR ADDITIONAL INFORMATION.
6. REPLACE EXISTING SWITCH WITH NEW AND RECONNECT TO EXISTING LIGHTING.
7. COORDINATE FINAL LOCATION OF PN1-1 (FINISH 1) VS PN1-2 (FINISH 2) FIXTURES AT EACH GROUPING OF THREE WITH ARCHITECT.
8. ROUTE EXTERIOR LIGHTING CIRCUIT THROUGH PHOTOCELL MOUNTED TO ROOF. POINT PHOTOCELL NORTH. MAKE/MODEL TO BE WATTSTOPPER EM-24 WITH BZ-150 POWERPACK.



FLOOR PLAN-LIGHTING

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

HIVE

Lankford Fendler + associates
1730 Walnut Street Kansas City, Missouri 64108
1915 Frederick Avenue, St. Joseph, Missouri 64501
Phone: 816.221.1411 | Fax: 816.221.1429
LANKFORD | FENDLER + ASSOCIATES, CONSULTING ENGINEERS, INC.
COPYRIGHT © 2020 Project No. 20.6481.00
COA No. 2006001168

FRESH GREEN - Lees Summit

1041 NE Sam Walton Dr.
Lees Summit, MO 64086

HIVE DESIGN COLLABORATIVE, INC.
1617 WALNUT STREET, KANSAS CITY, MO 64108
816.581.6363

seal/signature

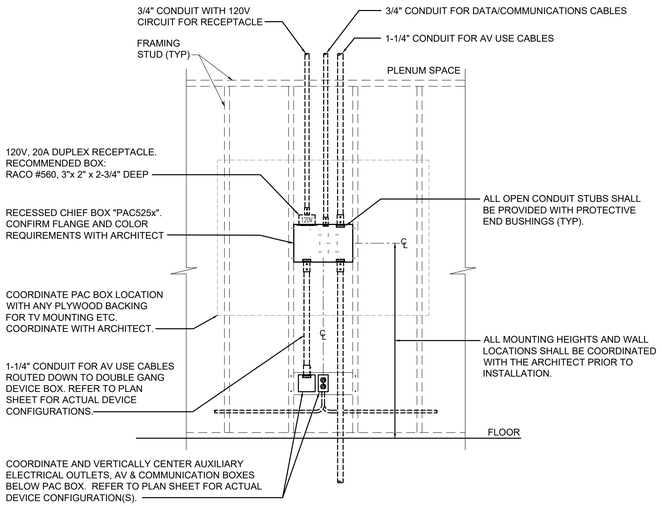
STATE OF MISSOURI
GREGORY J. FENDLER
NUMBER PE-2009037230
PROFESSIONAL ENGINEER
05/01/2020

project number	2020-017
date	05.01.2020
issued for	PERMIT

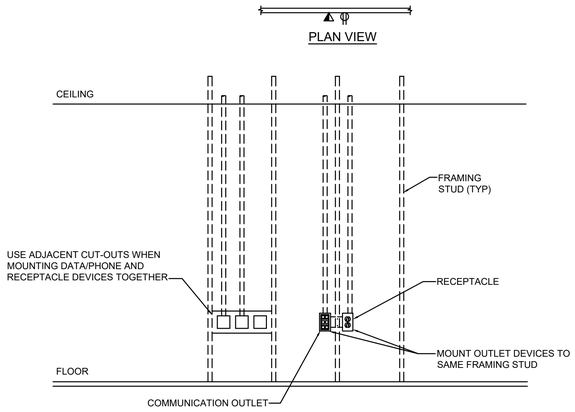
rev	date	description
1	05.08.2020	CITY COMMENTS

sheet number

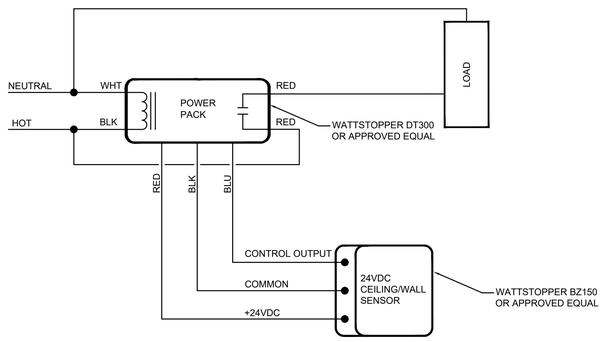
E20



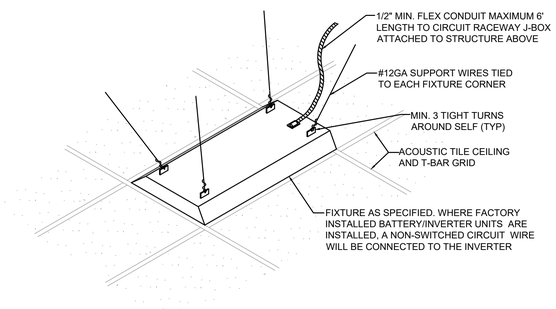
TYPICAL SELF-CONTAINED TV MOUNTING DETAIL
NO SCALE



MOUNTING OUTLET DETAIL
NO SCALE



OCCUPANCY SENSOR MS1 DETAIL
NO SCALE

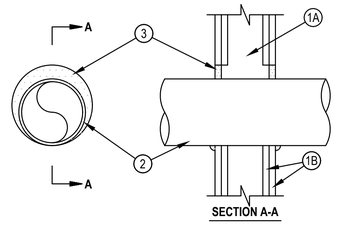


LIGHT FIXTURE MOUNTING AND BRACING DETAIL
NO SCALE

Classified by Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

System No. W-L-1054

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings — 1 and 2 Hr (See Items 1 and 3)	F Ratings — 1 and 2 Hr (See Items 1 and 3)
T Rating — 0 Hr	FT Rating — 0 Hr
L Rating at Ambient — Less Than 1 CFM/sq ft	FH Ratings —1 and 2 Hr (See Items 1 and 3)
L Rating at 400 F — Less Than 1 CFM/sq ft	FTH Rating — 0 Hr
	L Rating at Ambient — Less Than 1 CFM/sq ft
	L Rating at 400 F — Less Than 1 CFM/sq ft



SECTION A-A

October 14, 2015

1. Wall Assembly — The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC. When steel studs are used and the diam of opening exceeds the width of stud cavity, the opening shall be framed on all sides using lengths of steel stud installed between the vertical studs and screw-attached to the steel studs at each end. The framed opening in the wall shall be 4 to 6 in. (102 to 152 mm) wider and 4 to 6 in. (102 to 152 mm) higher than the diam of the penetrating item such that, when the penetrating item is installed in the opening, a 2 to 3 in. (51 to 76 mm) clearance is present between the penetrating item and the framing on all four sides.
   B. Gypsum Board* — 5/8 in. (16 mm) thick, 4 ft (122 cm) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 32-1/4 in. (819 mm) for steel stud walls. Max diam of opening is 14-1/2 in. (368 mm) for wood stud walls.
   The F and FH Ratings of the firestop system are equal to the fire rating of the wall assembly.
2. Through-Penetrants — One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. The annular space shall be min 0 in. to max 2-1/4 in. (57 mm). Pipe may be installed with continuous point contact. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. Steel Pipe — Nom 30 in. (762 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe — Nom 30 in. (762 mm) diam (or smaller) cast or ductile iron pipe.
   C. Conduit — Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing or 6 in. (152 mm) . diam steel conduit.
   D. Copper Tubing — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing.
   E. Copper Pipe — Nom 6 in. (152 mm) diam (or smaller) regular (or heavier) copper pipe.
3. Fill, Void or Cavity Material* — Sealant — Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. At the point or continuous contact locations between pipe and wall, a min 1/2 in. (13 mm) diam bead of fill material shall be applied at the pipe wall interface on both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-One Sealant or FS-ONE MAX Intumescent Sealant

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

GYPSUM/STUD WALL FIRE STOPPING DETAIL
NO SCALE NON-INSULATED METALLIC PIPES

BRANCH CIRCUIT COPPER CONDUCTOR AND CONDUIT SIZING CHART*

OVERCURRENT PROTECTION DEVICE RATING (AMPS)	REQUIRED CONDUCTOR SIZE	EQUIPMENT GROUNDING CONDUCTOR SIZE	SINGLE PHASE 2 WIRE + GND. CONDUIT SIZE	SINGLE PHASE 3 WIRE + GND. CONDUIT SIZE	THREE PHASE 3 WIRE + GND. CONDUIT SIZE	THREE PHASE 4 WIRE + GND. CONDUIT SIZE
15	12 AWG	12 AWG	3/4"	3/4"	3/4"	3/4"
20	12 AWG	12 AWG	3/4"	3/4"	3/4"	3/4"
25	10 AWG	10 AWG	3/4"	3/4"	3/4"	3/4"
30	10 AWG	10 AWG	3/4"	3/4"	3/4"	3/4"
35	8 AWG	10 AWG	3/4"	3/4"	3/4"	3/4"
40	8 AWG	10 AWG	3/4"	3/4"	3/4"	3/4"
45	6 AWG	10 AWG	3/4"	3/4"	3/4"	1"
50	6 AWG	10 AWG	3/4"	3/4"	3/4"	1"
60	4 AWG	10 AWG	1"	1"	1"	1-1/4"
70	4 AWG	8 AWG	1"	1"	1"	1-1/4"
80	3 AWG	8 AWG	1"	1-1/4"	1-1/4"	1-1/4"
90	2 AWG	8 AWG	1"	1-1/4"	1-1/4"	1-1/4"
100	1 AWG	8 AWG	1-1/4"	1-1/2"	1-1/2"	1-1/2"

* = UNLESS OTHERWISE NOTED ON THE DRAWINGS.

* = UNLESS OTHERWISE NOTED ON THE DRAWINGS, ALL BRANCH CIRCUITS AND FEEDERS TO BE PROVIDED WITH A NEUTRAL WIRE.

* = ALL CONDUCTORS SIZED ON THE POWER RISER DIAGRAM OR IN BRANCH CIRCUIT CONDUCTOR TABLE ARE BASED ON 3 CURRENT CARRYING CONDUCTORS IN A RACEWAY OR CABLE. CONDUCTORS SHALL BE DERATED IN ACCORDANCE WITH THE NEC IF 4 OR MORE CONDUCTORS ARE PLACED IN A RACEWAY OR CABLE.

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
05/14/2020

Lankford Fendler + associates
1730 Walnut Street Kansas City, Missouri 64108
1915 Frederick Avenue, St. Joseph, Missouri 64501
Phone: 816.221.1411 | Fax: 816.221.1429
LANKFORD | FENDLER + ASSOCIATES, CONSULTING ENGINEERS, INC.

FRESH GREEN - Lees Summit
1041 NE Sam Walton Dr.
Lees Summit, MO 64086

HIVE DESIGN COLLABORATIVE, INC.
1617 WALNUT STREET, KANSAS CITY, MO 64108
816.581.6363

seal/signature

STATE OF MISSOURI
GREGORY J. FENDLER
NUMBER PE-2006037230
PROFESSIONAL ENGINEER
05/01/2020

project number 2020-017

date 05.01.2020

issued for PERMIT

rev	date	description

ELECTRICAL DETAILS

sheet number

E30

EXISTING PANELBOARD LP1 SCHEDULE

SERVICE: 208/120 VOLT , 3 - PHASE , 4 - WIRE
AMP FRAME: 200 AMP
MAINS: MCB / 200 AMP MAIN BREAKER
RATING: EXISTING A.I.C.
LOCATION: B.O.H.
MOUNTING: SURFACE

REV NO.	NOTE NO.	LOAD CRT#	LOAD DESCRIPTION	BRKR P	BRKR AMP	LOAD KVA A	LOAD KVA B	LOAD KVA C	LOAD KVA 3PH	LOAD CRT#	LOAD DESCRIPTION	BRKR P	BRKR AMP	LOAD KVA A	LOAD KVA B	LOAD KVA C	LOAD KVA 3PH	NOTE NO.	REV NO.
		1								2	REC; WAITING 001 NORTH	1	20	0.54				1	
	E	3	RTU-A	3	30				9.3	4	REC; BUILDING SIGNAGE	1	20		1			1	
		5								6	REC; WAITING 001 TV'S	1	20			0.36		1	
		7								8	REC; WAITING 001 WEST	1	20	0.72				1	
	E	9	RTU-B	3	30				9.3	10	REC; WAITING 001 SOUTH	1	20		0.54			1	
		11								12	REC; RETAIL 002 NORTH	1	20			1.08		1	
	1	13	REC; B.O.H. GENERAL	1	20	0.72				14	REC; RETAIL 002 EAST	1	20	1.08				1	
	1	15	REC; BREAK RM DISHWASHER	1	20		1			16	REC; RETAIL 002 SOUTH/SOUTHWEST	1	20		0.9			1	
	1	17	REC; BREAK RM COUNTERTOP	1	20			0.18		18	REC; RETAIL 002 WEST	1	20			0.9		1	
	1	19	REC; BREAK RM FRIDGE	1	20	0.8				20	REC; B.O.H. GENERAL	1	20	0.54				1	
	1	21	REC; RR 006, 007	1	20		0.36			22	REC; B.O.H. GENERAL	1	20		0.72			1	
	1	23	REC; OFFICE 004	1	20			0.54		24	EXHAUST FAN EF-1	1	20			0.53		1	
	1	25	REC; FULFILLMENT 005	1	20	0.54				26	HUMIDIFIER HU-1	1	25	1.38				1	
	1	27	REC; VAULT I.T. RACK	1	20		0.36			28	CU-1/AC-1	2	15		1			1	
	1	29	REC; VAULT FRIDGE	1	20			0.8		30									
	1	31	REC; VAULT GENERAL	1	20	0.18				32	REC; DRINKING FOUNTAIN	1	20	0.18					
	1	33	DISPLAY TABLE CEILING J-BOXES	1	20		1			34									
	1	35	REC; RETAIL 002 P.O.S.	1	20			0.18		36									
	1	37	REC; RETAIL 002 P.O.S.	1	20	0.18				38	LTG; EXTERIOR	1	20	0.05					
	1	39	REC; RETAIL 002 P.O.S.	1	20		0.18			40	LTG; DROP CEILINGS	1	20		0.36				
	1	41	REC; RETAIL 002 ATM	1	20			0.18		42	LTG; BACK OF HOUSE	1	20			0.37			
					TOTAL:	2.42	2.9	1.88	18.6				TOTAL:	4.49	5.12	4.24	0.0		
														2.42	2.9	1.88	18.6		
													KVA / PHASE TOTAL:	6.91	8.02	6.12	18.6		
													AMP / PHASE TOTAL:	109.2	118.5	102.6			

NOTES:
1 PROVIDE NEW BREAKER WITHIN EXISTING PROVISION.

E = EXISTING BREAKER/INDEX/LOAD (ESTIMATED)
REV:

GENERAL NOTE:
CONDUCTOR & CONDUIT SIZING CHART FOR SIZING OF BRANCH CIRCUITS AND OR FEEDERS AT OR BELOW 100 AMPS

TOTAL CONNECTED LOAD:		39.65 KVA
TOTAL CONNECTED CURRENT:		110.06 AMPS
LIGHTS @	125%:	1.73 KVA
RECEPTACLES @	100%:	10.00 KVA
RECEPTACLES @	50%	1.88 KVA
LARGEST MOTOR LOAD @	125%:	0.00 KVA
CONTINUOUS LOAD @	125%:	1.25 KVA
OTHER AND NON-CONTINUOUS LOADS @	100%:	23.51 KVA
TOTAL DEMAND LOAD:		38.37 KVA
POWER FACTOR:		0.95 % PF
TOTAL DEMAND CURRENT:		112.10 AMPS

LIGHT FIXTURE SCHEDULE

TYPE	MANUFACTURER	LAMPS	WATTS / VOLTS	DIMMING / PROTOCOL	DESCRIPTION	NOTES
DN1	SPECTRUM SDT3XT-10L-30HK-MD-DS2W1-1-CP13-CC-HL34	LED 98CRI, 3000K 1,000 LUMENS	18.2 120	1% ELV	DUAL-HEAD AIMABLE FIXTURE WITH MONOPOINT MOUNTING AND INTEGRAL DRIVER. CUSTOM COLOR FINISH, RAL COLOR PER ARCHITECT. PROVIDE WITH HEX LOUVER. *USE LUTRON DIVA REVERSE PHASE DIMMER. CONFIRM MAKE/MODEL WITH FACTORY.	
L1-#	PINNACLE EX2D-A-N-930-xx-ACST-U-OL2-1-0-W	LED 90CRI, 3000K 500 LUMENS/FT	5.9/FT 120	1% 0-10V	2-3/4" WIDE X 5-1/2" TALL CONTINUOUS LINEAR PENDANT WITH DIRECT LIGHT ONLY, INTEGRAL DRIVER, WHITE FINISH WITH STAINLESS STEEL AIRCRAFT CABLE HANGERS, CANOPY COLOR TBD. # INDICATES LENGTH OF FIXTURE. *USE LUTRON DIVA 0-10V DIMMER.	3
L2	LITHONIA ZL1N-L48-5000LM-FST-MVOLT-35K-80CRI-WH	LED 80CRI, 3500K 5,000 LUMENS	34 120	10% 0-10V	4FT LONG STRIPLIGHT WITH DIFFUSE LENS, INTEGRAL DRIVER. PROVIDE WITH SUSPENSION KIT AS REQUIRED.	1
EM1	DUALITE EV-2-B	LED	2 120	N/A N/A	EMERGENCY BUG-EYE UNIT WITH INTEGRAL BATTERY BACKUP, BLACK FINISH.	2
EM2	DUALITE PGN-xx	LED 75CRI, 4000K	17 120	N/A N/A	EXTERIOR RATED WALL SCONCE WITH "NORMAL ON" OPERATION AND INTEGRAL COLD-WEATHER BATTERY BACKUP, FINISH TBD.	1,4
PN1	ACUITY BRAND AO FIXTURE: LF-013-309-719 LAMP: 776886 BASIC LED BULB	LED SCREW-IN 3000K	10 120	- ELV	SUSPENDED DECORATIVE PENDANT WITH MEDIUM BASE SOCKET, FINISHED CANOPY PLATE. SUSPENSION LENGTH PER ARCHITECT. OLIVE AND BRASS FINISH. *USE LUTRON DIVA LED+ DIMMER. CONFIRM MAKE/MODEL WITH FACTORY.	3
PN1-2	COLOR CORD CO FIXTURE: LF-013-681-227 LAMP: 776886 BASIC LED BULB	LED SCREW-IN 3000K	8.5 120	- ELV	SUSPENDED DECORATIVE PENDANT WITH MEDIUM BASE SOCKET, FINISHED CANOPY PLATE. SUSPENSION LENGTH PER ARCHITECT. QUARTZ AND POLISHED COPPER FINISH. *USE LUTRON DIVA LED+ DIMMER. CONFIRM MAKE/MODEL WITH FACTORY.	3
PN2	COLOR CORD CO CANOPY: BLACK CORD: SVT 3-CONDUCTOR CLOTH - QUARTZ SOCKET: AIO SOCKET COVER KIT, MATTE WHITE LAMP: 776611 LED GLOBE - MILK SHADE: GEOMETRIC BULB CAGE - QUARTZ	LED SCREW-IN 2700K 800 LUMENS	7 120	- ELV	SUSPENDED DECORATIVE PENDANT FROM COLOR CORD CO KIT OF PARTS WITH CEILING CANOPY, CLOTH CORD, AND MEDIUM BASE SOCKET. FINAL SUSPENSION LENGTH PER ARCHITECT. *USE LUTRON DIVA LED+ DIMMER. CONFIRM MAKE/MODEL WITH FACTORY.	3
T1	SPECTRUM ST73PC-10L-30HK-WD-DS2W1-GES66-CC-HL34	LED 92CRI, 3000K 1,000 LUMENS	8 120	1% ELV	TRACK-MOUNTED AIMABLE FLOODLIGHT WITH INTEGRAL DRIVER. CUSTOM COLOR FINISH FOR TRACK HEAD AND TRACK, RAL COLOR PER ARCHITECT. PROVIDE WITH HEX LOUVER. *USE LUTRON DIVA REVERSE PHASE DIMMER. CONFIRM MAKE/MODEL WITH FACTORY.	
X1	LITHONIA LQM-S-W-3-R-120/277-ELN	LED	1 120	N/A N/A	THERMOPLASTIC EXIT SIGN WITH INTEGRAL BATTERY BACKUP, RED LETTERS.	2

SPECIFIC NOTES:
1 FIXTURE WITH 'E' AT END OF TAG = EMERGENCY FIXTURE. PROVIDE WITH INTEGRAL EMERGENCY BATTERY AND CONNECT TO SWITCHED AND UNSWITCHED CONDUCTOR.
2 EMERGENCY/EXIT LIGHT. CONNECT TO UNSWITCHED CONDUCTOR.
3 SUSPENDED FIXTURE. CONFIRM MOUNTING HEIGHT WITH ARCHITECT.
4 WALL-MOUNTED FIXTURE, CONFIRM MOUNTING HEIGHT WITH ARCHITECT PRIOR TO ROUGH-IN

SUBSTITUTION NOTES:
THE LIGHTING DESIGN FOR THIS PROJECT IS BASED UPON THE MANUFACTURERS SPECIFIED. IF AN ADDITIONAL SUBSTITUTION IS DESIRED BY THE CONTRACTOR, A SUBSTITUTION REQUEST SUBMITTAL MUST BE PROVIDED AS FOLLOWS:
S1. SUBSTITUTION REQUEST MUST BE RECEIVED BY THE ENGINEER IN WRITING 10 DAYS PRIOR TO BID. FAILURE TO SUBMIT CONSTITUTES A GUARANTEE TO SUPPLY THE SPECIFIED FIXTURES.
S2. INFORMATION IS TO BE SUPPLIED COMPARING PHOTOMETRY, (WITH FLOOR PLANS INDICATING POINT BY POINT CALCULATIONS) DIMENSIONS, MATERIAL COMPOSITION, FINISH, VISUAL APPEARANCE AS WELL AS THE "CONTRACTOR NET" PRICING. SAMPLES ARE TO BE PROVIDED UPON REQUEST.
S3. GREAT CARE, TIME AND EXPENSE HAVE BEEN USED TO PROVIDE OUR CLIENT WITH THE LIGHTING AND CONTROLS SYSTEM. THEREFORE, FOR EACH AND EVERY TYPE OF FIXTURE OFFERED AS AN UNSOLICITED ALTERNATE, A $500.00 FEE WILL BE CHARGED TO THE CONTRACTOR FOR REVIEW OF THE ALTERNATE FIXTURE. THIS CHARGE IS IN NO WAY A GUARANTEE OF APPROVAL, BUT IS SOLELY TO COMPENSATE THE ENGINEER FOR TIME SPENT VALIDATING EQUALITY AND COMPATIBILITY WITH THE PROJECT REQUIREMENTS. THIS REIMBURSEMENT MUST BE RECEIVED BY THE ENGINEER PRIOR TO ANY REVIEW COMMENCING.
S4. PACKAGING OF LIGHT FIXTURES WILL NOT BE CONSIDERED OR APPROVED.
S5. MANUFACTURER'S REPRESENTATIVE AGENTS SHALL BE ALLOWED TO OFFER MINI-LOT PRICING FOR SPECIFIED LIGHTING FIXTURES.
S6. LIGHTING CONTROLS PRICING SHALL BE COMPLETELY SEPARATE OF ANY LIGHT FIXTURE PRICING. ANY LIGHTING CONTROLS PRICING THAT IS SUBMITTED WITH LIGHT FIXTURE PRICING (UNIT OR MINI-LOT) WILL BE IMMEDIATELY REJECTED IN ITS ENTIRETY.

GENERAL NOTE:
G1. ELECTRICAL CONTRACTOR SHALL VERIFY CEILING TYPE PRIOR TO ORDERING ANY LIGHT FIXTURES.
G2. ELECTRICAL CONTRACTOR SHALL COORDINATE DIMMING DRIVERS/BALLASTS WITH DIMMING SWITCHES/SYSTEMS AND SHALL INCLUDE ALL REQUIRED CONTROL WIRING.

GENERAL NOTES (TYPICAL ALL SHEETS)

A. REFER TO ARCHITECTS REFLECTED CEILING PLANS FOR EXACT PLACEMENT OF LIGHT FIXTURES, SPEAKER AND F.A. DEVICES IN THE CEILING SYSTEM.

B. REFER TO ARCHITECTURAL DETAILS AND ELEVATIONS FOR COORDINATION OF LOCATION OF ALL WIRING DEVICES BEFORE ROUGH-IN OF J-BOXES.

C. INSTALL BLANK COVERPLATE ON ALL OPEN OR ABANDONED DEVICE BOXES. VERIFY COLOR WITH ARCHITECT.

D. ANY MATERIAL REMOVED THAT OWNER DOES NOT WISH TO RETAIN SHALL BE REMOVED FROM PROJECT SITE AND DISPOSED OF BY THE CONTRACTOR.

E. NEW CIRCUITRY SHOWN FOR NEW/EXISTING POWER AND LIGHTING IS DIAGRAMMATIC AND IS INTENDED TO SHOW WHICH DEVICES ARE TO BE GROUPED ON INDIVIDUAL CIRCUITS. EXISTING WIRING THAT CONFORMS TO THE INTENT OF THE DRAWINGS MAY BE USED.

F. PROVIDE UPDATED, TYPEWRITTEN PANELBOARD DIRECTORY FOR EACH PANELBOARD WHICH CIRCUITS HAVE BEEN ADDED TO OR MODIFIED.

G. CONTRACTOR TO REFERENCE BRANCH CIRCUIT COPPER CONDUCTOR AND CONDUIT SIZING CHART FOR SIZING OF BRANCH CIRCUITS AND OR FEEDERS AT OR BELOW 100AMPS.

H. SUPPORT ALL LIGHT FIXTURES WITH A MINIMUM OF (4) 12 GA. HANGER WIRES TO STRUCTURE ABOVE.

I. ALIGN ALL WIRING DEVICES IN VERTICAL ALIGNMENT. IF ANY DEVICE(S) ARE FOUND NOT TO BE INSTALLED PER DETAIL CONTRACTOR SHALL RELOCATE AND PAY ALL ASSOCIATED COSTS ASSOCIATED WITH THE RELOCATION(S).

J. CONDUIT SHALL BE USED FOR CONDUCTORS WHERE REQUIRED BY N.E.C.

K. OUTLETS INSTALLED IN FIRE RATED ASSEMBLES SHALL BE SEPARATED BY A HORIZONTAL DISTANCE OF NOT LESS THAN 24".

L. CONTRACTOR SHALL CALCULATE VOLTAGE DROP AND SIZE WIRE ACCORDINGLY. PER N.E.C.

M. CONTRACTOR SHALL PROVIDE FIRE RATED ENCLOSURES AROUND ALL ROUGH-IN BOXES, PANELS ETC. THAT ARE LOCATED IN FIRE RATED WALLS AND SHALL FIRE CAULK ALL OPENING IN RATED ASSEMBLES PER MANUFACTURERS RECOMMENDATIONS PER FIRE RATED ASSEMBLES.

N. WHERE MORE THAN ONE SWITCH IS INDICATED ON DRAWINGS SIDE BY SIDE, CONTRACTOR SHALL INSTALL SWITCHES UNDER ONE COMMON FACE PLATE.

O. UPON REQUEST FOR ELECTRONIC FILES, CONTRACTOR SHALL FILL OUT, SIGN AND RETURN ELECTRONIC MEDIA RELEASE FORM FROM ENGINEER AND PROVIDE PAYMENT FOR FEES STIPULATED ON ELECTRONIC MEDIA RELEASE FORM. UPON RECEIPT OF COMPLETED RELEASE FORM AND PAYMENT, ELECTRONIC FILES WILL BE RELEASED.

P. CONTRACTOR SHALL PROVIDE HIS/HER OWN SUPPORTING OF CABLING FROM STRUCTURE ABOVE, I.E. TEMPERATURE CONTROL WIRING, SECURITY CONTROL WIRING, FIRE ALARM CONTROL WIRING, OR ANY OTHER WIRING CONTAINING VOLTAGE. CONTRACTOR SHALL NOT RUN PARALLEL WITH OR BE SUPPORTED BY ANY UTP, COAX OR VIDEO CABLING (CABLES INDICATED ON TECHNOLOGY DRAWINGS). IF CABLES ARE FOUND TO BE SUPPORTED WITH THESE CABLES, CONTRACTOR SHALL REMOVE CABLES, REROUTE AND RE-SUPPORT AT THEIR OWN EXPENSE. IF UTP CABLES ARE DAMAGED WHILE EITHER INSTALLING OR REMOVING SUCH CABLES, THE CONTRACTOR(S) THAT DID SUCH DAMAGE SHALL COVER COST TO REPLACE CABLES AT THEIR OWN EXPENSE.

ELECTRICAL SYMBOLS

- BRANCH CIRCUIT CONCEALED IN CEILING OR WALL. ARROWS INDICATE HOMERUNS TO PANEL. ALL CONDUCTORS ARE MINIMUM NO.12 UNLESS NOTED OTHERWISE.
- PHASE CONDUCTORS
- NEUTRAL CONDUCTOR
- SWITCH-LEG AND OR TRAVELER
- GROUND CONDUCTOR
- LP1-10 — PANEL - BREAKER NUMBER (IDENTIFICATION)
- 1/3, 1/3/5 — INDICATES X/X= 2-POLE C.B., X/X/X = 3-POLE C.B.
- 3 / 5 / 1 — HOMERUN INDICATED LIKE THIS INDICATED THREE SEPARATE CIRCUITS
- CONDUIT CONCEALED IN CEILING OR WALL WITH THREE CONDUCTORS: 1-PHASE; 1-NEUTRAL; 1-GROUND WIRE. MINIMUM NO.12 WIRE UNLESS OTHERWISE SPECIFIED ON DRAWINGS.
- CONDUIT RUN UNDERGROUND OR CONCEALED IN FLOOR SLAB.
- GROUNDING CONDUCTOR NO.12 WIRE EXCEPT AS NOTED
- OR — EXIT SIGN - SINGLE FACED - ARROWS AS SHOWN ON DRAWING. SHADED SIDE(S) INDICATES FACE SIDE(S) OF EXIT.
- EXIT SIGN - DOUBLE FACED - ARROWS AS SHOWN ON DRAWING. SHADED SIDE(S) INDICATES FACE SIDE(S) OF EXIT.
- OR — CEILING OR WALL MOUNTED EMERGENCY LIGHTING UNIT WITH INTEGRAL BATTERY AND UNIT MOUNTED HEADS.
- A OR A — 2x4 / 2x2 LIGHT FIXTURE, LETTER DENOTES FIXTURE TYPE, REFER TO SCHEDULE
- OR — 2x4 / 2x2 LIGHT FIXTURE ON EMERGENCY POWER OR WITH INTEGRAL EMERGENCY BALLAST, LETTER DENOTES FIXTURES TYPE, REFER TO FIXTURE SCHEDULE FOR TYPE
- STRIP FIXTURE, LETTER DENOTES FIXTURE TYPE, REFER TO SCHEDULE
- OR — WALL WASH OR RECESSED CEILING LIGHT FIXTURE
- PENDANT MOUNTED LIGHT FIXTURE, SIZE AND TYPE AS NOTED
- TRACK LIGHTING, SIZE AND TYPE AS NOTED
- INDIRECT/DIRECT LIGHT FIXTURE, SIZE AND TYPE AS NOTED
- 208Y/120V OR 120/240V PANELBOARD (SURFACE) TOP MOUNTED 6'-0" AFF
- DISCONNECT SWITCH, SIZE AND TYPE AS NOTED TOP MOUNTED 5'-0" AFF
- S — SINGLE POLE SWITCH. TOP OF DEVICE BOX AT +4'-0" AFF
- S^D — DIMMER SWITCH. TOP OF DEVICE BOX AT +4'-0" AFF
- S^MS — WALL MOUNTED MOTION SENSOR, TOP OF DEVICE BOX AT +4'-0" AFF, TYPE AS INDICATED
- a,b,c,d — SWITCH DESIGNATION
- PUSH BUTTON +4'-0" AFF.
- DUPLEX RECEPTACLE. +1'-6" AFF OR AS NOTED
- DUPLEX RECEPTACLE INSTALLED ABOVE COUNTERTOP
- GFI — DUPLEX RECEPTACLE W/GROUND FAULT PROTECTION. +1'-6" AFF OR AS NOTED
- DOUBLE DUPLEX RECEPTACLE. +1'-6" AFF OR AS NOTED
- DOUBLE DUPLEX RECEPTACLE INSTALLED ABOVE COUNTERTOP.
- MS — CEILING MOUNTED MOTION DETECTOR TYPE AS INDICATED
- J OR J — WALL MOUNTED OR CEILING MOUNTED JUNCTION BOX.
- B — WALL MOUNTED JUNCTION BOX WITH BLANK COVERPLATE.
- TV — CATV JUNCTION BOX WITH 1-1/4" CONDUIT STUBBED UP OUT OF BOX TO ABOVE ACCESSIBLE CEILING. +1'-6" AFF OR AS NOTED.
- LOW VOLTAGE OUTLET, DOUBLE GANG BOX WITH SINGLE GANG PLASTER RING. INSTALL 1" CONDUIT STUBBED UP OUT OF TOP OF BOX TO ABOVE AN ACCESSIBLE CEILING. +1'-6" AFF OR AS NOTED.
- CR — CARD READER; PROVIDE DOUBLE-GANG J-BOX WITH SINGLE GANG PLASTER RING WITH 3/4"C STUBBED UP INSIDE WALL AND OUT TO ACCESSIBLE CEILING WITH BUSHING ON THE END,+3'-10" AFF OR AS NOTED.
- FIXED CAMERA
- INDICATES WIRING DEVICE ABOVE RE: DRAWING
- X — MECHANICAL EQUIPMENT CALL OUT BUBBLE
- +4'-0" — HEIGHT TO CENTERLINE OF OUTLET BOX ABOVE FINISHED FLOOR
- AFF — ABOVE FINISH FLOOR
- ETR — EXISTING TO REMAIN

HIVE

Lankford Fendler + associates
1730 Walnut Street Kansas City, Missouri 64108
1915 Frederick Avenue, St. Joseph, Missouri 64501
Phone: 816.221.1411 | Fax: 816.221.1429
LANKFORD | FENDLER + ASSOCIATES, CONSULTING ENGINEERS, INC.

FRESH GREEN - Lees Summit
1041 NE Sam Walton Dr.
Lees Summit, MO 64086

HIVE DESIGN COLLABORATIVE, INC.
1617 WALNUT STREET, KANSAS CITY, MO 64108
816.561.6363

seal/signature

STATE OF MISSOURI
GREGORY J. FENDLER
NUMBER PE-2006037230
PROFESSIONAL ENGINEER
05/01/2020

project number 2020-017

date 05.01.2020

issued for PERMIT

rev	date	description
1	05.08.2020	CITY COMMENTS

ELECTRICAL SCHEDULES, GEN NOTES & SYMBOLS

sheet number

E40