RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
Joe Frogge Digitally signed by Joe Frogge Reason: release for construction Date: 2020.05.06 14:24:58-05'00' 05/06/2020

Flying Biscuit

Summit Orchard
460 NW Chipman Rd.
Lee's Summit, MO 64086

Landlord's Tenant Improvements

Construction Documents

04-24-20

SLAGGIE ARCHITECTS, INC.

DRAWING INDEX

ARCHITECTURAL

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MECHANICAL AND ELECTRICAL

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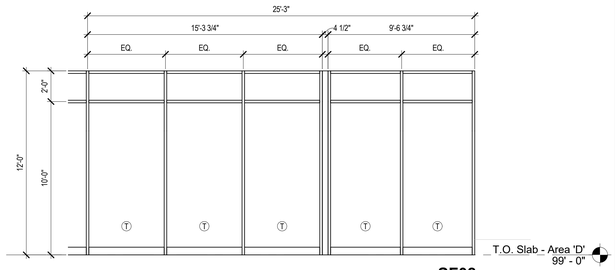
ARCHITECT

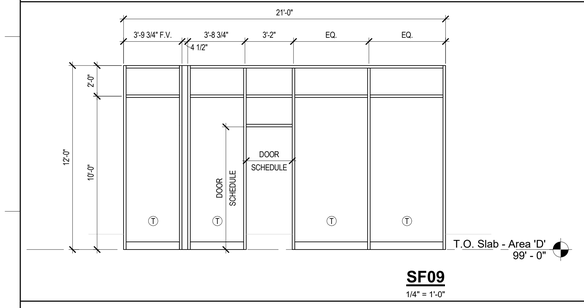
SLAGGIE ARCHITECTS, INC.
4600 MADISON AVENUE, SUITE 350
KANSAS CITY, MO 64112
PHONE: (888) 756-1958

MEP ENGINEER

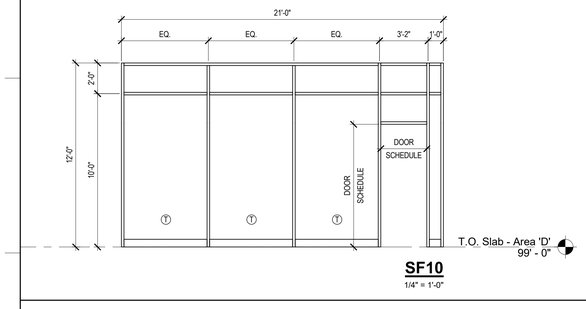
SMITH & BOUCHER ENGINEERS
25501 WEST VALLEY PARKWAY, SUITE 200
OLATHE, KS 66061
PHONE: (913) 345-0617



SF08
1/4" = 1'-0"



SF09
1/4" = 1'-0"



SF10
1/4" = 1'-0"

STOREFRONT GENERAL NOTES:

1. SEE FLOOR PLABS FOR DOOR SWING DIRECTIONS.
2. MANUFACTURER / FABRICATOR TO FIELD VERIFY ALL ALL DIMENSIONS / OPENINGS PRIOR TO GLASS FABRICATION.
3. ALL DOORS TO RECEIVE 1/4" GLASS IN COLOR TO MATCH 0THER GLASS IN RESPECTIVE STOREFRONT UNLESS OTHERWISE NOTED.
4. MANUFACTURER / FABRICATOR TO DETERMINE FINAL LOCATION OF HEAT-STRENGHTENED AND TEMPERED GLASS AS REQUIRED BY LOCAL CODE.
5. PROVIDE HEAD AND SILL FLASHING AS REQUIRED PER STOREFRONT MANUFACTURER'S RECOMMENDATIONS.

FRAME TYPES:

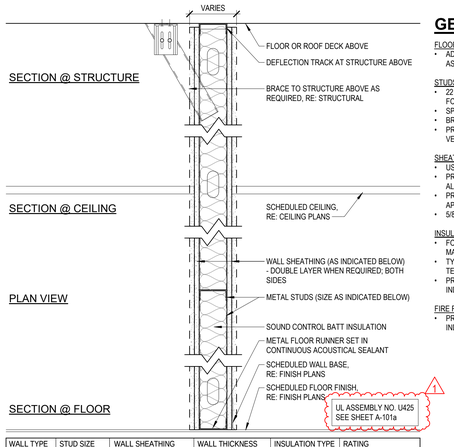
EXTERIOR STOREFRONT (SF):
KAWNEER TRIFAB VERSAGLAZE 451-T
- 2" x 4 1/2" FRAME DIMENSION
- 4 1/2" x 4 1/2" FRAME DIMENSION
- FINISH: CLEAR ANODIZED

GLASS TYPES:

GL-1 — INSULATED LOW-E GLASS
COLOR / FINISH: CLEAR NON-REFLECTIVE GLASS: AGC ENERGY SLECT 40

(T) — PROVIDE TEMPERED GLASS WHERE INDICATED. MANUFACTURER / FABRICATOR TO DETERMINE FINAL LOCATION OF HEAT-STRENGHTENED AND TEMPERED GLASS AS REQUIRED BY LOCAL CODE.

NOTE: ALL STOREFRONT GLASS UNITS TO BE TYPE GL-1 UNLESS NOTED OTHERWISE



WALL TYPE	STUD SIZE	WALL SHEATHING	WALL THICKNESS	INSULATION TYPE	RATING
F1	3 5/8"	1/2" GWB - 1 LAYER	4 5/8"	SOUND BATTS	45 MIN
F2	3 5/8"	5/8" GWB - 1 LAYER	4 7/8"	SOUND BATTS	1 HOUR
F3	3 5/8"	1/2" GWB - 2 LAYERS	5 5/8"	SOUND BATTS	1 1/2 HOUR
F4	3 5/8"	5/8" GWB - 2 LAYERS	6 1/8"	SOUND BATTS	2 HOUR
F5	6"	1/2" GWB - 1 LAYER	7"	SOUND BATTS	45 MIN
F6	6"	5/8" GWB - 1 LAYER	7 1/4"	SOUND BATTS	1 HOUR
F7	6"	1/2" GWB - 2 LAYERS	8"	SOUND BATTS	1 1/2 HOUR
F8	6"	5/8" GWB - 2 LAYERS	8 1/2"	SOUND BATTS	2 HOUR

FIRE BARRIER

Wall Type 'F'
1 1/2" = 1'-0"

GENERAL NOTES:

FLOOR:
- ADJUST BASE HEIGHT FOR THICKNESS OF FLOOR FINISH AS REQUIRED

STUDS:
- 22 GAUGE STEEL (MIN); INCREASE GAUGE AS REQUIRED FOR SPECIFIC HEIGHT REQUIREMENTS, RE: STRUCTURAL
- SPACING AT 16" O.C. TYPICAL, U.N.O.
- BRACE TO STRUCTURE ABOVE AS REQUIRED
- PROVIDE DEEP SLOTTED TRACK TO ALLOW FOR 1" VERTICAL DEFLECTION AT ROOF ONLY

SHEATHING:
- USG TYPE 'X' GYPSUM WALL BOARD (GWB) TYIPCAL, U.N.O.
- PROVIDE MOISTURE RESISTANT GWB (GREENBOARD) AT ALL RESTROOM WALLS
- PROVIDE CEMENT BOARD AT ALL CERAMIC TILE APPLICATIONS, U.N.O
- 5/8" THICK, U.N.O. (AS INDICATED PER WALL TYPE TABLE)

INSULATION:
- FORMALDEHYDE FREE FIBERGLASS EQUAL TO JOHNS MANVILLE OR OWENS CORNING
- TYPICALLY OCCURS IN DEMISING WALLS BETWEEN TENANT SPACES
- PROVIDE THERMAL BATTS AT EXTERIOR WALLS AS INDICATED ON PLAN DETAILS AND WALL SECTIONS

FIRE RATING:
- PROVIDE FIRE RATED CONSTRUCTION ONLY WHERE INDICATED ON PLANS

DRAWING SYMBOL LEGEND

SYMBOL	NAME	DESCRIPTION
XXX	NEW DOOR IN NEW WALL	NEW DOOR (#XXX) AND FRAME IN NEW WALL. SEE DOOR SCHEDULE FOR DOOR INFORMATION.
SF#	STOREFRONT	EXTERIOR ALUMINUM STOREFRONT. SEE FRAME TYPE ELEVATIONS FOR DETAILS. SF# INDICATES FRAME # ON FRAME TYPES SHEET.
DS	DOWNSPOUT	6"x6" PREFINISHED (KYNAR 500) ALUMINUM SHOP-FABRICATED BOX DOWNSPOUT FROM GUTTER OR SCUPPER ABOVE. CONTINUE TO UNDERGROUND STORM DRAIN SYSTEM PER CIVIL DRAWINGS U.N.O. SEE EXTERIOR ELEVATIONS FOR EXTERIOR FINISHES. HIDDEN SEAM – TYPICAL
	ELEVATION	HEIGHT ABOVE FINISH FLOOR ELEVATION.
2-HOUR X 3'-6"	WALL TYPE TAG	WALL TYPE SYMBOL INDICATES TYPE OF WALL CONSTRUCTION WITH FIRE RATING AND HEIGHT WHERE APPLICABLE. REFER TO WALL TYPES (SHEET A-002) FOR DETAILS.
X / XX	ENLARGED PLAN OR DETAIL TAG	ENLARGED DETAIL SYMBOL: INDICATES A PORTION OF THE DRAWING WHICH IS ENLARGED OR DETAILED. REFER TO SHEET AND DRAWING # INDICATED FOR ASSOCIATED DRAWING.
X / XX	WALL SECTION TAG	SECTION SYMBOL: INDICATES LOCATION OF SECTION CUT AND DIRECTION VIEWED. REFER TO SHEET AND DRAWING # INDICATED FOR ASSOCIATED SECTION.
X.X	GRID LINE MARKER	STRUCTURAL GRID MARKER. REFERS TO STRUCTURAL ENGINEERING DRAWINGS' GRID LINE NUMBERING SYSTEM.

GENERAL NOTES

1. ALL NEW CONSTRUCTION SHALL MEET LATEST EDITIONS OF ALL APPLICABLE NATIONAL, STATE, AND LOCAL BUILDING CODES.
2. BUILDING PERMIT WILL BE REQUIRED FOR THE PROJECT. PERMIT SHALL BE OBTAINED AND PAID FOR BY THE GENERAL CONTRACTOR.
3. CONTRACTOR SHALL VISIT THE JOB SITE AND SHALL REVIEW THE CONTRACT DOCUMENTS TO FAMILIARIZE HIMSELF WITH THE REQUIREMENTS AND INTENT OF THE SCOPE OF WORK PRIOR TO BID. ANY DEFICIENCIES OR DISCREPANCIES DISCOVERED SHALL BE REPORTED TO THE PROJECT MANAGER OR THE ARCHITECT FOR REVIEW AND CLARIFICATION PRIOR TO COMMENCING ANY WORK.
4. EACH CONTRACTOR AND SUB-CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF HIS WORK WITH THE WORK OF SUB-CONTRACTORS OR OTHER CONTRACTORS.
5. WORKMANSHIP SHALL BE OF THE HIGHEST QUALITY. QUALITY MATERIALS SHALL BE USED THROUGHOUT. ALL WORK SHALL BE DONE IN A MANNER SO AS TO MATCH ADJACENT WORK AND FINISHES AND AS APPROVED BY OWNER.
6. CONTRACTORS SHALL BE RESPONSIBLE FOR CONTAINING THEIR WORK WITHIN THE WORK AREA AND PROTECTING THE PUBLIC FROM INJURIES AT ALL TIMES. CONTRACTOR SHALL SECURE THE WORK AT THE END OF EACH WORK DAY.
7. KEEP PREMISES BROOMED CLEAN AT ALL TIMES FROM FOREIGN MATERIAL CREATED UNDER THE CONTRACT. PROVIDE TARPAULINS TO PROTECT ALL FINISHES, SURFACES, AND EQUIPMENT.
8. AREAS FOR MATERIAL STORAGE, TRASH DISPOSAL, WORKMEN'S PARKING, ETC., SHALL BE COORDINATED WITH THE OWNER'S REPRESENTATIVE.
9. ALL WOOD BLOCKING AND PLYWOOD BACKING SHALL BE FIRE RETARDANT TREATED.
10. ALL DIMENSIONS SHALL BE VERIFIED BY CONTRACTOR.

CODE REVIEW

ALL WORK UNDER THIS CONTRACT SHALL COMPLY WITH THE PROVISIONS OF THE SPECIFICATIONS AND DRAWINGS, AND SHALL SATISFY ALL APPLICABLE CODES, ORDINANCES AND REGULATIONS OF ALL GOVERNING BODIES INVOLVED.

PROJECT INFORMATION SUMMARY:

BUILDING OCCUPANCY:	GROUP A2
BUILDING CONSTRUCTION CLASS:	TYPE IIB
TENANT SPACE AREA:	3080.06 S.F.
BUILDING PROTECTED BY AUTOMATIC SPRINKLER SYSTEM:	YES
BUILDING IS PROTECTED BY AUTOMATIC FIRE ALARM SYSTEM (NFPA 70 AND NFPA 72):	YES

APPLICABLE CODES:

BUILDING CODE:	INTERNATIONAL BUILDING CODE	2018 EDITION
MECHANICAL CODE:	INTERNATIONAL MECHANICAL CODE	2018 EDITION
PLUMBING CODE:	INTERNATIONAL PLUMBING CODE	2018 EDITION
ELECTRICAL CODE:	NATIONAL ELECTRIC CODE	2017 EDITION
FIRE CODE:	INTERNATIONAL FIRE CODE	2018 EDITION
GAS CODE:	INTERNATIONAL FUEL GAS CODE	2018 EDITION
ANSI A117.1:	ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES	2017 EDITION

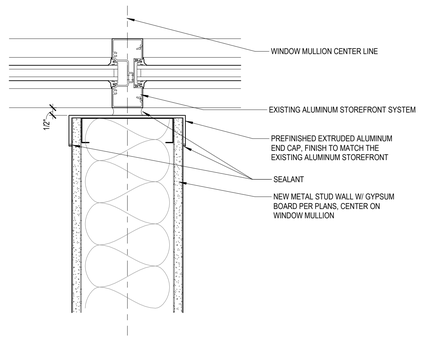
FIRE-RESISTANCE - BUILDING ELEMENTS (TABLE 601):

FOR TYPE IIB CONSTRUCTION:	
PRIMARY STRUCTURAL FRAME:	0 HRS
BEARING WALLS (EXTERIOR AND INTERIOR):	0 HRS
NONBEARING WALLS - EXTERIOR:	PER TABLE 602
NONBEARING WALLS - INTERIOR:	0 HRS
FLOOR CONSTRUCTION:	0 HRS
ROOF CONSTRUCTION:	0 HRS

FIRE-RESISTANCE FOR EXTERIOR WALLS - FIRE SEPARATION DISTANCE (TABLE 602):

OCCUPANCY GROUP B	
X < 5'	1 HR
5' ≤ X < 10'	1 HR
10' ≤ X < 30'	0 HR
X > 30'	0 HRS

NOTE:
OCCUPANCY LOAD AND EXITING WILL BE PROVIDED IN THE TENANT FINISH PLANS SUBMITTED FOR EACH INDIVIDUAL TENANT



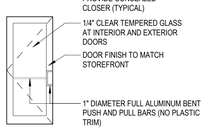
Plan Detail 2
3" = 1'-0"

DOOR #	ROOM #	WIDTH	HEIGHT	TYPE	FRAME TYPE	HEAD DETAIL	JAMB DETAIL	HDWR. GROUP #	COMMENTS
E001	AREA E	3' - 0"	8' - 0"	1GWA	AL			1	
E002	AREA E	3' - 0"	8' - 0"	1GWA	AL			1	

DOOR HARDWARE

Hardware Set No. 1 (Single Storefront Aluminum/ Glass Door)

Qty.				
1	Continuous Hinge	CFM-HD1		Pemko
1	Mortise Deadlock	MS1850SN	628	Adams Rite
1	Thumb Turn	4066-01	130	Adams Rite
1	Cylinder, Mortise	DG1 41 101	US32D	Sargent
	w/ interchangeable construction core (exterior face) (store core provided by tenant)			
1	Status Indicator	4089-00	130	Adams Rite
1	Push Bar & Pull	BF 15847	US32D	Rockwood
1	Concealed Closer	2033 H-Bumper	AL	LC
1	Threshold	253SSFG 36" Aluminum Pan		Pemko
1	Adhesive Header Sign	"This Door to Remain Unlocked During Business Hours"		Adams Rite
1	Set Weatherstrip	By Door Manuf.		
1	Door Sweep	By Door Manuf.		



WIDE STILE ALUMINUM STOREFRONT DOOR

1GWA
1/4" = 1'-0"

DOOR TYPE LEGEND

Door Type:
1 = Single
2 = Double
B = Bifold
O = Overhead
P = Pocket
S = Sliding

Material:
A = Aluminum
F = Fiberglass
P = Plastic
S = Steel
W = Wood

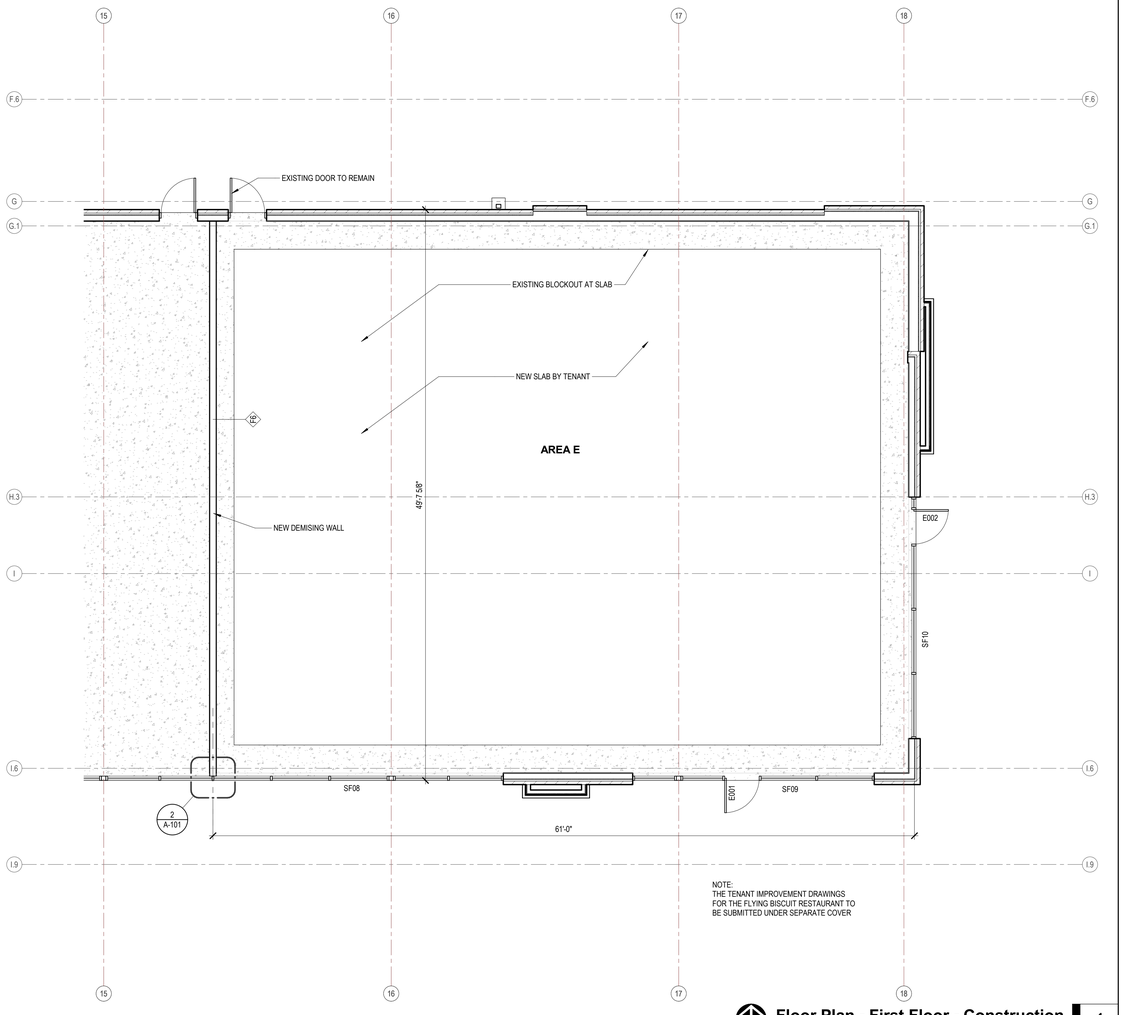
Door Type Code: (Per Door Schedule) — 1 F S W

Defining Feature:
B = Fabric
E = Embossed
F = Flush
G = Glass
L = Louver
N = Narrow Lite
S = Security
T = Traffic
V = View Lite(s)

Construction:
C = Coiling
G = Grille
H = Hollow Core
M = Medium Stile
N = Narrow Stile
P = Panel (Sectional)
R = Shutter
S = Solid Core
W = Wide Stile

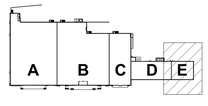
Example Shown = Single Flush Solid Core Wood

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
05/06/2020



NOTE:
THE TENANT IMPROVEMENT DRAWINGS FOR THE FLYING BISCUIT RESTAURANT TO BE SUBMITTED UNDER SEPARATE COVER

Floor Plan - First Floor - Construction 1
3/16" = 1'-0"



KEY PLAN
NOT TO SCALE

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Kansas City, Missouri • Omaha, Nebraska
888-756-1958
slaggie.com

CHARLES W. KELLER
LICENSED
A-6386
MISSOURI
ARCHITECT
4-24-20

Flying Biscuit
Landlord's Tenant Improvements

Summit Orchard
460 NW Chipman Rd.
Lee's Summit, MO 64086

#	Revisions:	
1	Add-01 City Comments	05-01-2020

Project #: 180902-04

Construction Documents
04-24-20

FIRST FLOOR CONSTRUCTION PLAN

A-101

UL Product iQ™

BXUV.U425

Design/System/Construction/Assembly Usage Disclaimer

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

BXUV - Fire Resistance Ratings - ANSI/UL 263 Certified for United States

BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire-resistance Ratings - ANSI/UL 263 Certified for United States
Design Criteria and Allowable Variances

See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada
Design Criteria and Allowable Variances

Design No. U425

March 05, 2020

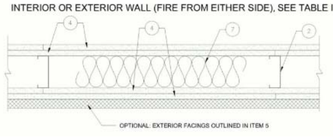
Bearing Wall Rating — 3/4 Hr., 1, 1-1/2 or 2 Hr.

(See Items 2, 4 and 5)

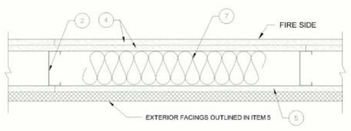
This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7

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

INTERIOR OR EXTERIOR WALL (FIRE FROM EITHER SIDE), SEE TABLE I



EXTERIOR WALL (FIRE FROM INTERIOR SIDE ONLY), SEE TABLE II



1. **Steel Floor and Ceiling Tracks —** (Not Shown) — Top and bottom tracks of wall assemblies shall consist of steel members, min No. 20 MSG (0.0329 in., min bare metal thickness) steel or min No. 20 MSG (0.036 in. thick) galv steel or No. 20 MSG (0.033 in. thick) primed steel, that provide a sound structural connection between steel studs, and to adjacent assemblies such as a floor, ceiling, and/or other walls. Attached to floor and ceiling assemblies with steel fasteners spaced not greater than 24 in. O.C.

2. **Steel Studs —** Min 3-1/2 in. wide, No. 20 MSG (0.0329 in., min bare metal thickness) corrosion protected cold formed steel studs designed in accordance with the current edition of the Specification for the Design of Cold-Formed Steel Structural Members by the American Iron and Steel Institute. All design details enhancing the structural integrity of the wall assembly, including the axial design load of the studs, shall be as specified by the steel stud designer and/or producer, and shall meet the requirements of all applicable local code agencies. The max stud spacing of wall assemblies shall not exceed 24 in. OC (or 16 in. OC when Item 5b is used). Studs attached to floor and ceiling tracks with 1/2 in. long Type S-12 steel screws on both sides of studs or by welded or bolted connections designed in accordance with the AISI specifications.

2A. **Steel Studs — Framing Members* —** In lieu of Item 2 — Min 3-1/2 in. wide, No. 20 MSG (0.0329 in., min bare metal thickness) corrosion protected cold formed steel studs designed in accordance with the current edition of the Specification for the Design of Cold-Formed Steel Structural Members by the American Iron and Steel Institute. All design details enhancing the structural integrity of the wall assembly, including the axial design load of the studs, shall be as specified by the steel stud designer and/or producer, and shall meet the requirements of all applicable local code agencies. The max stud spacing of wall assemblies shall not exceed 24 in. OC (or 16 in. OC when Item 5b is used). Studs attached to floor and ceiling tracks with 1/2 in. long Type S-12 steel screws on both sides of studs or by welded or bolted connections designed in accordance with the AISI specifications.
EB METAL INC — NITROSTUD

2B. **Steel Studs — Framing Members* —** In lieu of Item 2 — Min 3-5/8 in. wide, No. 20 MSG (0.036 in. min. thickness) corrosion protected cold formed steel studs designed in accordance with the current edition of the Specification for the Design of Cold-Formed Steel Structural Members by the American Iron and Steel Institute. All design details enhancing the structural integrity of the wall assembly, including the axial design load of the studs, shall be as specified by the steel stud designer and/or producer, and shall meet the requirements of all applicable local code agencies. The max stud spacing of wall assemblies shall not exceed 24 in. OC (or 16 in. OC when Item 5b is used). Studs attached to floor and ceiling tracks with 1/2 in. long Type S-12 steel screws on both sides of studs or by welded or bolted connections designed in accordance with the AISI specifications.
BAILEY METAL PRODUCTS LTD

3. **Lateral Support Members —** (Not Shown) — Where required for lateral support of studs, support may be provided by means of steel straps, channels or other similar means as specified in the design of a particular steel stud wall system.

4. **Gypsum Board* — Any 1/2 in. thick UL Classified Gypsum Board that is eligible for use in Design No. X515. Any 5/8 in. thick UL Classified Gypsum Board that is eligible for use in Design Nos. U501, GS12 or U305.** Gypsum board bearing the UL Classification Marking as to Fire Resistance. Applied vertically with joints between layers staggered. Outer layer of 3 layer construction may be applied horizontally unless specified below. The thickness and number of layers and percent of design load for the 45 min, 1 hr, 1-1/2 hr and 2 hr ratings are as follows:

TABLE I

Interior or Exterior Walls (Fire From Either Side)

Rating	Wallboard Protection Both Sides of Wall - No. of Layers & Thkns of Board In. Each Layers	% of Design Load
45 min	1 layer, 1/2 in. thick	100
1 hr	1 layer, 5/8 in. thick	100
1-1/2 hr	2 layers, 1/2 in. thick	100
2 hr	2 layers, 5/8 in. thick or	80
2 hr	3 layers, 1/2 in. thick	100
2 hr	2 layers, 3/4 in. thick	100

Note: Exterior facings allowed for use with Item 5 are also allowed to be installed on one side of the above walls.

TABLE II

Exterior Walls (Fire from Interior Side Only)

Rating	Wallboard Protection on Interior Side of Wall - No. of Layers & Thkns of Board In. Each Layers	% of Design Load
45 min	1 layer, 5/8 in. thick	100
1 hr	2 layers, 1/2 in. thick	100
1-1/2 hr	2 layers, 5/8 in. thick	100
2 hr	3 layers, 1/2 in. thick	100
2 hr	2 layers, 3/4 in. thick	100

AMERICAN GYPSUM CO (View Classification) — CKNX.R14196

BEIJING NEW BUILDING MATERIALS PUBLIC LTD CO (View Classification) — CKNX.R19374

CABOT MANUFACTURING ULC (View Classification) — CKNX.R25370

CERTAINTEED GYPSUM INC (View Classification) — CKNX.R3660

CGC INC (View Classification) — CKNX.R19751

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C (View Classification) — CKNX.R18482

GEORGIA-PACIFIC GYPSUM L L C (View Classification) — CKNX.R2717

LOADMASTER SYSTEMS INC (View Classification) — CKNX.R11809

NATIONAL GYPSUM CO (View Classification) — Riyadh, Saudi Arabia — CKNX.15208

NATIONAL GYPSUM CO (View Classification) — CKNX.R3501

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM (View Classification) — CKNX.R7094

PANEL REY S A (View Classification) — CKNX.R21796

SIAM GYPSUM INDUSTRY (SARABURI) CO LTD (View Classification) — CKNX.R19262

THAI GYPSUM PRODUCTS PCL (View Classification) — CKNX.R27517

UNITED STATES GYPSUM CO (View Classification) — CKNX.R1319

USG BORAL DRYWALL SFZ LLC (View Classification) — CKNX.R38438

USG MEXICO S A DE C V (View Classification) — CKNX.R16089

4A. **Gypsum Board —** Nom. 3/4 in. gypsum board applied vertically with joints between layers staggered. The thickness and number of layers and percent of design load for the 2 hr ratings are shown in the table above.
CGC INC — Types AR, IP-AR, IP-X3, or ULTRACODE

UNITED STATES GYPSUM CO — Types AR, IP-AR, IP-X3, or ULTRACODE

USG BORAL DRYWALL SFZ LLC — Type ULTRACODE

USG MEXICO S A DE C V — Types AR, IP-AR, IP-X3, or ULTRACODE

4B. **Gypsum Board* —** (As an alternate to Item 4) — Nom. 5/8 in. thick gypsum panels, with square edges, applied horizontally. Gypsum panels fastened to framing with 1 in. long bugle head steel screws spaced a max 8 in. OC, with last 2 screws 3/4 in. and 4 in. from each edge of board. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs on interior walls need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers on interior walls (multilayer systems) staggered a min of 12 in.
GEORGIA-PACIFIC GYPSUM L L C — GreenGlass Type X, Type DGG

NATIONAL GYPSUM CO — Type FSW-6.

CERTAINTEED GYPSUM INC — GlasRoc

4C. **Gypsum Board* —** (As an alternate to Item 4) — 5/8 in. thick, 4 ft. wide, paper surfaced applied vertically and secured as described in Item 6.
GEORGIA-PACIFIC GYPSUM L L C — Type X ComfortGuard Sound Deadening Gypsum Board.

NATIONAL GYPSUM CO — Type SBWB

4D. **Wall and Partition Facings and Accessories* —** (As an alternate to Item 4) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically and secured as described in Item 4.
PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock E5.

4E. **Wall and Partition Facings and Accessories* —** (As an alternate to Item 4) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically and secured as described in Item 4.
PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock 527.

4F. **Gypsum Board* —** (As an alternate to 5/8 in. Type FSW in Item 4) — Nom. 5/16 in. thick gypsum panels applied vertically. Two layers of 5/16 in. for every single layer of 5/8 in. gypsum board described in Item 4. Horizontal joints on the same side need not be staggered. Inner layer of each double 5/16 in. layer attached with fasteners, as described in Item 4, spaced 24 in. OC. Outer layer of each double 5/16 in. layer attached per Item 4.
NATIONAL GYPSUM CO — Type FSW.

4G. **Wall and Partition Facings and Accessories* —** (As an alternate to 5/8 in. thick board as outlined in Item 4) — Nominal 1-3/8 in. thick, 4 ft wide panels, applied vertically or horizontally. Fastened to studs as described in Item 6
PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock 545

5. **Gypsum Boards —** For exterior walls, Rating from Interior Side Only - 1/2 or 5/8 in. thick Classified or unclassified gypsum boards applied vertically and attached to studs and runner tracks with 1 in. long Type S-12 bugle head screws spaced 12 in. OC, along studs and tracks. One of the following exterior facings are to be applied over the gypsum board.

a. **Siding, Brick, or Stucco —** Aluminum siding, steel siding, brick veneer, or stucco attached to studs over gypsum sheathing and meeting the requirements of local code agencies. When a min 3-3/4 in. thick brick veneer facing is used, the Exterior Wall Rating is applicable with exposure on either face. Brick veneer wall attached to studs with corrugated metal wall ties attached to each stud with steel screws, not more than each sixth course of brick. When a min 3-3/4 in. thick brick veneer facing is used, Foamed Plastic (Item 10) may be used.

b. **Cementitious Backer Units* —** 1/2 or 5/8 in. thick, attached vertically or horizontally to steel studs over gypsum sheathing with 1-5/8 in. long, Type S-12, corrosion resistant, wafer head steel screws, spaced 8 in. OC. Studs spaced a max of 16 in. OC. Joints covered with glass fiber mesh tape.
UNITED STATES GYPSUM CO — Type DCB

NATIONAL GYPSUM CO — Type PermBase, or DuraBacker

c. **Fiber-Cement Siding —** Fiber-cement exterior sidings including smooth and patterned panel or lap siding.

d. **Molded Plastic* —** Solid vinyl siding mechanically secured to framing members in accordance with manufacturer's recommended installation details.
ALSIDE, DIV OF ASSOCIATED MATERIALS INC

e. **Wood Structural Panel or Lap Siding —** APA Rated Siding, Exterior, plywood, OSB or composite panels with veneer faces and structural wood core, per PS 1 or APA Standard PRP-108, including textured, rough sawn, medium density overlay, brushed, grooved and lap siding.

f. **Building Units* —** (Not Shown) — 3 in. thick 18 x 24 in. cellular glass blocks, applied to the gypsum board (Item 5) with PC 88 adhesive or fastened with F anchors spaced a maximum 24 in. OC. F anchors fastened to framing members with 1-1/4 in. long #6 drywall screws.
PITTSBURGH CORNING CORP — Type FoamGlas

6. **Fasteners —** (Not Shown) — Screws used to attach wallboard to studs: self-tapping bugle head sheet steel type, spaced 12 in. O.C. First layer Type S-12 by 1 in. long for 1/2 and 5/8 in. thick wallboards and 1-1/4 in. long for 3/4 in. thick wallboard. Second layer Type S-12 by 1-5/8 in. long for 1/2 and 5/8 in. thick wallboards and 2-1/4 in. long for 3/4 in. thick wallboard. Third layer Type S-12 by 1-7/8 in. long. Fasteners when Item 4G is used: First layer #6 x 2 in. long drywall screw spaced 8 in. OC along the perimeter and 12 in. OC in the field. Second layer #6 x 4 in. long drywall screw spaced 8 in. OC along the perimeter and 12 in. OC in the field. Horizontal joints to be staggered 12 in. between layers.

7. **Batts and Blankets* —** Placed in stud cavities of all exterior walls. May or may not be used in interior walls. Any glass fiber or mineral wool batt material bearing the UL Classification Marking as to Fire Resistance, of a thickness to completely fill stud cavity.
See **Batts and Blankets*** (BZJZ) Category for names of Classified companies.

7A. **Fiber, Sprayed* —** As an alternate to Batts and Blankets (Item 7) — (100% Borate Formulation) — Spray applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product with a nominal dry density of 2.7 lb/ft^3. Alternate Application Method: The fiber is applied without water or adhesive at a nominal dry density of 3.5 lb/ft^3, in accordance with the application instructions supplied with the product.
U S GREENFIBER L L C — INS735, INS745, INS750LD for use with wet or dry application. INS765LD and INS773LD are to be used for dry application only.

7B. **Fiber, Sprayed* —** As an alternate to Item 7 — Spray applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. Nominal dry density of 4.58 lb/ft^3.
NU-WOOL CO INC — Cellulose Insulation

7C. **Fiber, Sprayed* —** As an alternate to Batts and Blankets (Item 7) — Spray applied cellulose fiber. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. The minimum dry density shall be 4.30 lbs/ft^3.
INTERNATIONAL CELLULOSE CORP — Cellbar-RL

7D. **Fiber, Sprayed* —** (Optional) — As an alternate to Batts and Blankets (Item 7) — Spray applied mineral wool insulation. The fiber is applied with adhesive, at a minimum density of 4.0 pcf, to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. See Fiber, Sprayed (CCAZ).
AMERICAN ROCKWOOL MANUFACTURING, LLC — Type Rockwool Premium Plus

8. **Joint Tape and Compound —** (Not Shown) — Vinyl or casein, dry or premixed joint compound applied in two coats to joints and screw heads of outer layer. Perforated paper tape, 2 in. wide, embedded in first layer of compound over all joints of outer layer.

9. **Furring Channels —** (Optional, Not Shown, for single or double layer systems) — Resilient furring channels fabricated from min 25 MSG corrosion-protected steel, spaced vertically a max of 24 in. OC. Flange portion attached to each intersecting stud with 1/2 in. long Type S-12 steel screws.

10. **Foamed Plastic* —** (Optional, Not Shown) For use with brick veneer as outlined in Item 5a - Maximum 2 in. thick rigid polystyrene insulation attached to studs with fasteners of sufficient length to penetrate the foam and

3/16 in. into the stud. A minimum 1 in. air space is to be maintained between the outer surface of the foamed plastic and the inner surface of the brick veneer.
ATLAS MOLDED PRODUCTS, A DIVISION OF ATLAS ROOFING CORPORATION — Type ThermalStar

OWENS CORNING SCIENCE AND TECHNOLOGY, LLC

10A. **Foamed Plastic* —** (Optional, Not shown) — For use with brick veneer as outlined in Item 5a - Mortar drop protection - Foamed plastic with mortar control device attached, continuous, by drainage holes at bottom of air space behind brick veneer.
OWENS CORNING SCIENCE AND TECHNOLOGY, LLC — WeepGuard

10B. **Foamed Plastic* —** Polyisocyanurate foamed plastic insulation boards, any thickness, Classified in accordance with BRYX and / or CCVW. May be used with any exterior facing shown under items 5a, 5c, 5d and 5e.
ATLAS ROOFING CORP — "EnergyShield Pro Wall Insulation", "EnergyShield Pro 2 Wall Insulation", EnergyShield CGF Pro and EnergyShield Ply Pro

CARLISLE COATINGS & WATERPROOFING INC — Type R2+ SHEATHE

DUPONT DE NEMOURS, INC. — Type Thermax Sheathing, Thermax Light Duty Insulation, Thermax Heavy Duty Insulation, Thermax Metal Building Board, Thermax White Finish Insulation, Thermax ci Exterior Insulation, Thermax XARMOR ci Exterior Insulation, Thermax IH Insulation, Thermax Plus Liner Panel, Thermax Heavy Duty Plus (HDP), TUFF-R™ ci Insulation, Thermax Butler Styliwall Insulation Board and Thermax Morton Heavy Duty Insulation Board

FIRESTONE BUILDING PRODUCTS CO L L C — "Enverge™ CI Foil Exterior Wall Insulation" and "Enverge™ CI Glass Exterior Wall Insulation"

HUNTER PANELS, A DIVISION OF CARLISLE CONSTRUCTION MATERIALS, LLC — Type "Xci-Class A", "Xci 286", "Xci Foil (Class A)", "Xci CG", "Xci Foil", "Xci CG NH", "Xci Foil NH"

RMAX OPERATING L L C — Types "TSX-8500", "ECOMAXci FR", "TSX-8510", "ECOMAX xi FR White", "ECOMAXci", "ECOMAXci FR Air Barrier", "Thermasheath-XP", "Thermasheath", "Durasheath", "Thermasheath-3", "Durasheath-3".

10C. **Building Unit* —** Polyisocyanurate foamed plastic composite insulation boards, any thickness, Classified in accordance with BZXX. May be used with any exterior facing shown under items 5a, 5c, 5d and 5e.
HUNTER PANELS, A DIVISION OF CARLISLE CONSTRUCTION MATERIALS, LLC — Type "Xci NB" and "Xci Ply"

LAMINATORS INC — Type "Omega ci"

RMAX OPERATING L L C — Types Thermasheath-SI, ECOBASEci, ECOMAXci FR Ply, ThermaBase-CI, "ECOMAXci Ply", attached to studs with Type S screws long enough to penetrate the studs a minimum of three threads.

10D. **Foamed Plastic* —** (As an alternate to Item 10 - Not Shown) — Expanded polystyrene insulation installed to a maximum nominal density of 2.0 lb/ft^3.

BASF CORP STYRENIC FOAMS DIV — — Type Neopor "F" Series

11. **Cementitious Backer Units* —** (Optional, Not Shown - For Use as an additional layer over required gypsum board(s) - 7/16 in., 1/2 in., 5/8 in., 3/4 in. or 1 in. thick, min. 32 in. wide. - Applied vertically or horizontally with vertical joints centered over studs. Fastened to studs and runners with cement board screws of adequate length to penetrate stud by a minimum of 3/8 in. spaced a max of 8 in. OC. When 4 ft. wide boards are used, horizontal joints need not be backed by framing.
NATIONAL GYPSUM CO — Type DuraBacker, PermaBase, DuraBacker Plus, or PermaBase Plus

12. **Wall and Partition Facings and Accessories* —** (Optional, Not Shown) — For use with Item 1, Items 2 and 2A, Item 3, Item 4 to 4B, Item 6, Item 7, Item 8 and Item 9. For maximum fire rating of 1 hour. On one side of the wall, over the first layer of Gypsum Board (Item 4 to 4B), install ReflexXor membrane with the gold side facing outwards. Membrane installed with T50 staples spaced 12 inches on center in both directions as per manufacturer's instructions, seams in membrane to be overlapped by 2 inches. When ReflexXor membrane is used an additional layer of Gypsum Board that is identical to the one used in the first layer and as specified in Item 4 to 4B shall be installed over the membrane. The additional layer of Gypsum Board to be installed through the membrane to the stud as specified in Item 4 to 4B except the fastener length shall be increased by a minimum of 5/8 inch. Install Batts and Blankets in the stud cavity as per Item 7. On the other side of the wall prior to the installation of the Gypsum Board install Resilient Channels , 25 MSG galv steel, spaced vertically 24 in. OC, flange portion screw attached to one side of studs with 1-1/4 in. long diamond shaped point, double lead Phillips head steel screws. Over the Resilient Channels install 3/4 inch thick SONOpan panel secured to the Resilient Channels with drywall screws and washers spaced at 16 in. OC on the perimeter of the panel and 8 in. OC in the field of the panel. Over the SONOpan panel install the same Gypsum Board as specified in Item 4 (and 4 alternates) with the fastener length increased by minimum 3/4 inch. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.
MSL — ReflexXor membrane, SONOpan panel

13. **Wall and Partition Facings and Accessories* —** (Optional, Not Shown) - **When the Wall Assembly is used as an External Wall, on the External side of the wall one of the following Wall and Partition and Facing Accessories may be used, refer to items (A) to (C) below.**

A. **Non Insulated System with Metal Channels —** Install moisture barrier over the Gypsum Board Item 4 and Install Acry Metal Channels vertically at a horizontal spacing not greater than 24 inches OC over the moisture barrier. Acry Metal Channels attached through the moisture barrier and the Gypsum Board to the Steel Studs Item 2 using fasteners specified by the manufacturer and fasteners spaced max., 24 in. OC. Install Acrytec Panels on Acry Metal Channels using 1-1/4" long corrosion coated stainless steel screws spaced at a max spacing of 24 inches OC, along with manufacturer's approved adhesive (3M 540 or Tremco Vulcum 116). Adhesive to be applied in a zigzag pattern along every channel. Joint treatment in between panels shall be Tremco illmod 600 pre compressed polyurethane foam sealant.

B. **Insulated System with Metal Channels —** Install moisture barrier over the Gypsum Board Item 4. Install galvanized Z girt channels specified by the manufacturer over the moisture barrier and the Gypsum Board Item 4. Z girt channels to be installed horizontally at a max. spacing of 24" OC. Z girt channels attached through the Gypsum Board and the moisture barrier to the Steel Studs Item 2, with screws provided by the manufacturer at a max spacing of 24 inches OC. Install mineral wool insulation between the Z girts. Maximum thickness of mineral wool insulation not to exceed 6 in. As per manufacturer's instructions install Acry Metal Channels vertically over the Z girts at a max horizontal spacing of 24 in. OC. Acrytec Panels installed on Acry channel with 1-1/4" long corrosion coated stainless steel screws at a max spacing of 24 in. OC, along with manufacturers approved adhesive (3M 540 or Tremco Vulcum 116). Adhesive to be applied in a zigzag pattern along every channel. Joint treatment in between panels to be Tremco illmod 600 pre compressed polyurethane foam sealant.

C. **Non Insulated Wood Strapping System —** Install moisture barrier over the Gypsum Board Item 4 and Install 1" x 3" wood strapping vertically at a horizontal spacing not greater than 24 inches OC., over the moisture barrier. 1" x 3" wood strapping attached through the moisture barrier and the Gypsum Board to the Steel Studs Item 2, using fasteners specified by the manufacturer and fasteners spaced max., 24 in. OC. Acrytec Panels to be installed on the 1" x 3" wood strapping using manufacturers approved stainless steel fasteners spaced at maximum 24 inches OC along with Tremco Vulcum 116 adhesive applied in a zigzag pattern along every wood strap. Joint treatment in between panels to be Tremco illmod 600 pre compressed polyurethane foam sealant.

D. **Insulated Wood Strapping System —** Install moisture barrier over the Gypsum Board Item 4. Install Extruded Polystyrene Insulation over moisture barrier, max thickness of insulation not to exceed 4 inches. Install 1" x 3" wood strapping vertically at a horizontal spacing not greater than 24 inches OC. Wood strapping attached through the Insulation, the Gypsum Board and moisture barrier to the Steel Studs Item 2 using fasteners specified by the manufacturer and fasteners spaced max. 24 in. OC. Acrytec Panels to be installed over the wood strapping using manufacturers approved stainless steel fasteners at a max spacing of 24 in. OC and Tremco Vulcum 116 adhesive applied in a zigzag pattern along every wood strap. Joint treatment in between panels to be Tremco illmod 600 pre compressed polyurethane foam sealant.
ACRYTEC PANEL INDUSTRIES — Nominal 5/8 inch thick Acrytec Panel.

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

Last Updated on 2020-03-05

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

05/06/2020

SAL
SLAGGIE ARCHITECTS, INC. © 2020
Kansas City, Missouri • Omaha, Nebraska
888-756-1958
slaggie.com

CHARLES W. KELLER
LICENSED
A-6386
MISSOURI
ARCHITECT
7-31-20

Flying Biscuit
Landlord's Tenant Improvements

Summit Orchard
460 NW Chipman Rd.
Lee's Summit, MO 64086

Revisions:

#		
1	Add-01 City Comments	05-01-2020

Project #: 180902-04

Construction Documents

04-24-20

UL ASSEMBLY U425

A-101a

CONDUIT AND WIRE

- ARROWS INDICATE CONDUIT AND WIRE HOME RUN(S) TO PANEL WITH 2-#12 AWG CONDUCTORS UNLESS NOTED OR OTHERWISE REQUIRED.
- CONDUIT RUN CONCEALED IN WALL OR ABOVE CEILING.
- CONDUIT RUN UNDERGROUND OR CONCEALED IN FLOOR SLAB.
- — T — TELEPHONE CONDUIT
- — LV — LOW VOLTAGE CONDUIT AND WIRING

LIGHTING

- BATTERY OPERATED EMERGENCY LIGHT (WALL MOUNTED)
- BATTERY OPERATED EMERGENCY LIGHT (CEILING MOUNTED)
- SURFACE/RECESSED LIGHT FIXTURE
- FLUORESCENT LIGHT FIXTURE
- FLUORESCENT STRIP FIXTURE
- SHADING DENOTES EMERGENCY FIXTURE
- POLE MOUNTED LIGHT FIXTURE
- EXIT LIGHT - DOUBLE FACE - ARROWS AS SHOWN
- EXIT LIGHT - SINGLE FACE - ARROWS AS SHOWN
- $ $3 $4 $K $LV $P — LIGHTING SWITCHES-SINGLE POLE, 3-WAY, 4-WAY, KEY, LOW VOLTAGE, PILOT LIGHT
- $D — DIMMER WITH SINGLE POLE SWITCH
- $D3 — DIMMER WITH THREE WAY SWITCH (WATTAGE NOTED)
- $M — WALL MOUNTED MOTION SENSOR
- (A) — CEILING MOUNTED MOTION SENSOR (LETTER DENOTES TYPE)
- SWITCH AND DUPLEX RECEPTACLE
- DENOTES A WALL MOUNTED FIXTURE

WIRING DEVICES

- DUPLEX RECEPTACLE.
- LINE THRU DEVICE INDICATES ABOVE COUNTER
- DUPLEX RECEPTACLE WITH ISOLATED GROUND (SINGLE AND FOURPLEX SIMILAR)
- DUPLEX RECEPTACLE - TOP HALF SWITCHED - BOTTOM HALF TO HAVE POWER AT ALL TIMES
- EM — DUPLEX RECEPTACLE ON EMERGENCY POWER (SINGLE AND FOURPLEX SIMILAR)
- FOURPLEX RECEPTACLE
- SINGLE RECEPTACLE
- CEILING MOUNTED RECEPTACLE
- MULTI-SERVICE FLOOR BOX
- DIVIDED POWER POLE
- FLOOR BOX W/DUPLEX RECEPTACLE
- SPECIAL RECEPTACLE W/NEMA CONFIGURATION AS NOTED
- CLOCK RECEPTACLE
- MULTI-OUTLET ASSEMBLY

COMMUNICATIONS

- TELEPHONE OUTLET
- LINE THRU DEVICE INDICATES ABOVE COUNTER
- DATA OUTLET
- TELEPHONE/DATA OUTLET
- FLOOR BOX WITH COMMUNICATIONS OUTLET
- TELEVISION ANTENNA OUTLET
- TELEPHONE CABINET OR PLYWOOD BOARD

SECURITY

- CLOSED CIRCUIT TV CAMERA
- CR — CARD READER
- DL — DOOR LOCK
- M — SECURITY MONITOR
- WT — WATCH TOUR
- EDL — ELECTRIC DOOR LOCK
- S — MOTION SENSOR - SECURITY
- S — MOTION SENSOR (WALL MOUNTED) - SECURITY

PUBLIC ADDRESS

- M — MICROPHONE OUTLET
- SPEAKER. ('H' DENOTES HORN TYPE)
- V — SPEAKER VOLUME CONTROL
- SPEAKER CONDUIT AND WIRING
- PA — PUBLIC ADDRESS AMPLIFIER AND CABINET
- BUZZER
- BELL
- I — INTERCOM OUTLET
- IM — INTERCOM OUTLET - MASTER
- D — CLOCK SYSTEM RECEPTACLE WITH SINGLE FACE ('D' DENOTES DOUBLE FACE)

POWER DEVICE AND CONTROLS

- T — THERMOSTAT
- DISCONNECT SWITCH. 30A-3P, NON-FUSED EXCEPT AS NOTED
- MANUAL MOTOR STARTER
- MAGNETIC MOTOR STARTER
- COMBINATION MOTOR STARTER AND DISCONNECT SWITCH
- MOTOR
- PANELBOARD (SEE ONE-LINE)
- DISTRIBUTION PANELBOARD
- CONTACTOR
- AUTOMATIC TRANSFER SWITCH
- PC — PHOTOCELL
- J — JUNCTION BOX
- PUSHBUTTON
- T — TRANSFORMER

FIRE ALARM

- F — MANUAL PULL STATION
- PE D — PHOTOELECTRIC DETECTOR ('D' DENOTES IN DUCT) ('B' DENOTES BEAM-TYPE) ('R' DENOTES IN RETURN AIR PLENUM)
- ION D — IONIZATION DETECTOR ('D' DENOTES IN DUCT) ('P' DENOTES PLENUM-TYPE)
- INF D — INFRARED DETECTOR ('D' DENOTES IN DUCT)
- 190 D — THERMODETECTOR ('D' DENOTES IN DUCT) FIXED TEMPERATURE AS NOTED
- DH — DOOR HOLDER
- C — CHIME
- BELL
- FIRE ALARM STROBE LIGHT
- F L — FIRE ALARM SPEAKER - ARROWS DENOTE PROJECTORS IF ANY. ('L' DENOTES COMBINATION SPEAKER AND VISUAL FIRE LIGHT)
- L — FIRE HORN. ('L' DENOTES COMBINATION HORN AND VISUAL FIRE LIGHT)
- RL — REMOTE ALARM LAMP
- PI — POST INDICATOR SWITCH
- FS — FLOW SWITCH
- GS — GATE SWITCH
- F — FIREMAN'S PHONE JACK

FIRE PROTECTION

- — FP — FIRE PROTECTION PIPING
- FHC — FIRE HOSE CABINET
- FDV — FIRE DEPARTMENT VALVE
- UPRIGHT SPRINKLER HEAD
- PENDENT SPRINKLER
- RECESSED SPRINKLER
- RECESSED SPRINKLER WITH CLOSURE PLATE
- SIDEWALL SPRINKLER.
- DOUBLE CHECK DETECTOR BACKFLOW PREVENTER
- FIRE PROTECTION SIAMESE CONNECTION
- FIRE PROTECTION SIDEWALK SIAMESE CONNECTION
- POST INDICATOR VALVE

MEDICAL GAS

- — VAC — MEDICAL VACUUM
- — OX — OXYGEN
- — NO — NITROUS OXIDE
- — MA — MEDICAL COMPRESSED AIR
- — N — NITROGEN
- (X) OXYGEN OUTLET
- (V) VACUUM OUTLET
- (A) MEDICAL AIR OUTLET
- (NO) NITROUS OXIDE OUTLET
- (N) NITROGEN OUTLET

HVAC

- — CWS — CHILLED WATER SUPPLY
- — CWR — CHILLED WATER RETURN
- — CHWS — CHILLED/HOT WATER SUPPLY
- — CHWR — CHILLED/HOT WATER RETURN
- — HWS — HEATING HOT WATER SUPPLY
- — HWR — HEATING HOT WATER RETURN
- — CTS — COOLING TOWER SUPPLY
- — CTR — COOLING TOWER RETURN
- — STM — LOW PRESSURE STEAM
- — RTN — LOW PRESSURE CONDENSATE RETURN
- — STM-50 — HIGH PRESSURE STEAM - NO'S GIVE GAUGE PRESSURE IN P.S.I.
- — RTN-50 — HIGH PRESSURE RETURN - NO'S GIVE GAUGE PRESSURE IN P.S.I.
- — RD — REFRIGERANT DISCHARGE
- — RL — REFRIGERANT LIQUID
- — RS — REFRIGERANT SUCTION
- — FOS — FUEL OIL SUPPLY
- — FOR — FUEL OIL RETURN
- — A — COMPRESSED AIR
- — D — DRAIN (CONDENSATE)
- T S — THERMOSTAT - ('S' DENOTES SENSOR)
- H S — HUMIDISTAT - ('S' DENOTES SENSOR)
- TH — THERMOSTAT/HUMIDITY SENSOR
- CO2 — CARBON DIOXIDE SENSOR
- THC — THERMOSTAT/HUMIDITY SENSOR/CO2 SENSOR
- HUMIDIFIER
- SUPPLY AIR FLOW INDICATOR
- RETURN AND EXHAUST AIR FLOW INDICATOR
- SUPPLY DIFFUSER
- SUPPLY STRIP DIFFUSER
- RETURN GRILLE OR EXHAUST REGISTER

HOSPITAL

- — N — NURSE CALL CONDUIT AND WIRING
- — M — MONITOR CONDUIT AND WIRING
- NMS — NURSE CALL MASTER STATION
- N — NURSE CALL BEDSIDE STATION - SINGLE PATIENT
- N2 — NURSE CALL BEDSIDE STATION - DOUBLE PATIENT
- E P — EMERGENCY PUSHBUTTON STATION ('P' DENOTES PULL CORD)
- DS — DUTY STATION
- SS — STAFF STATION
- B — DOME LIGHT - CEILING MOUNTED ('B' DENOTES WITH BUZZER)
- B — DOME LIGHT - WALL MOUNTED ('B' DENOTES WITH BUZZER)
- Z — ZONE DOME LIGHT
- B — CODE BLUE PUSHBUTTON

PLUMBING

- DOMESTIC COLD WATER
- DOMESTIC HOT WATER
- RECIRCULATING DOMESTIC HOT WATER
- — TW — DOMESTIC TEMPERED WATER
- — + — SOFT DOMESTIC COLD WATER
- — ++ — SOFT DOMESTIC HOT WATER
- — +++ — SOFT RECIRCULATING HOT WATER
- — SAN — SOIL OR WASTE ABOVE GRADE OR FLOOR
- — SAN — SOIL OR WASTE BELOW GRADE OR FLOOR
- — ST — STORM ABOVE GRADE OR FLOOR
- — ST — STORM BELOW GRADE OR FLOOR
- — ST/O — STORM OVERFLOW ABOVE GRADE OR FLOOR
- — ST/O — STORM OVERFLOW BELOW GRADE OR FLOOR
- — V — PLUMBING VENT
- — G — GAS (NATURAL)
- — LP — LIQUIFIED PETROLEUM
- — PD — PUMP DISCHARGE
- HB — HOSE BIBB
- WH — WALL HYDRANT
- WCO — WALL CLEAN OUT
- CO — CLEAN OUT
- FCO — FLOOR CLEAN OUT
- FLOOR DRAIN, AREA DRAIN, FLOOR SINK
- RD ORD — ROOF DRAIN, OVERFLOW ROOF DRAIN
- SHOWER HEAD.
- REDUCED PRESSURE BACKFLOW PREVENTER
- P # — PLUMBING VENT RISER CALL-OUT NUMBER

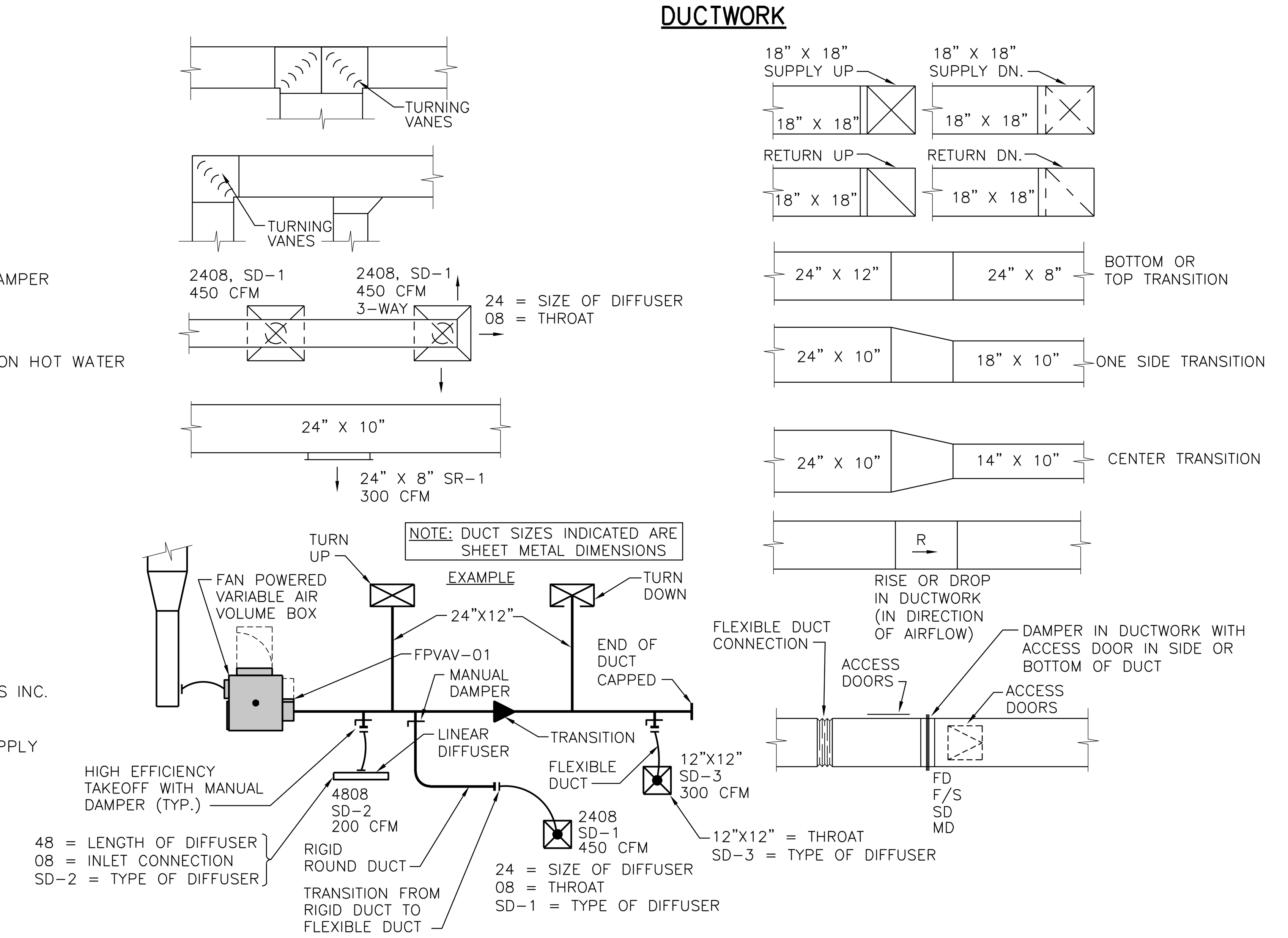
GENERAL

- 1 — MECHANICAL NOTE REFERENCE
- 2 — ELECTRICAL NOTE REFERENCE
- 3 — DEMOLITION NOTE REFERENCE
- 4 — REVISION NOTE REFERENCE
- CONNECT TO EXISTING WORK
- 1 / M1 — DETAIL REFERENCE - NO./SHEET NO.
- A / M1 — SECTION CUT - SECTION/SHEET NO.

PIPING

- ELBOW DOWN
- ELBOW UP
- TEE UP
- TEE DOWN
- CAP
- UNION
- REDUCER (OR INCREASER)
- PIPE FLEX
- STRAINER
- R — RISE IN PIPING
- D — DROP IN PIPING
- GUIDE
- ANCHOR
- PRESSURE GAUGE WITH GAUGE COCK
- TEMPERATURE GAUGE
- FLOW INDICATOR
- THERMOMETER.
- SITE GLASS
- EXPANSION JOINT
- FD — FILTER-DRIER
- DRIP ASSEMBLY
- BASKET STRAINER
- SHUTOFF VALVE
- SHUTOFF VALVE IN RISER
- BALANCING VALVE
- CALIBRATED BALANCING VALVE
- RELIEF VALVE
- TEST PLUG
- TRIPLE DUTY VALVE
- CHECK VALVE.
- AUTOMATIC CONTROL VALVE (2-WAY)
- AUTOMATIC CONTROL VALVE (3-WAY)
- AUTO FLOW CONTROL VALVE
- S — SOLENOID VALVE
- P — PRESSURE REDUCING VALVE

DUCTWORK



ABBREVIATIONS

A	AMPS, AIR (COMPRESSED)	DX	DIRECT EXPANSION	HTG	HEATING	MUAF	MAKE UP AIR FAN	SD	SUPPLY DIFFUSER, SMOKE DAMPER
A/C	AIR CONDITIONING	EA	EXHAUST AIR	HTR	HEATER	MV	MIXING VALVE	SDCW	SOFT DOMESTIC COLD WATER
AD	AREA DRAIN, ACCESS DOOR	EAT	ENTERING AIR TEMPERATURE	HVU	HEATING AND VENTILATING UNIT	N	NITROGEN	SDHW	SOFT DOMESTIC HOT WATER
AFC	ABOVE FINISH CEILING	EC	ELECTRICAL CONTRACTOR, EMPTY CONDUIT	HW	DOMESTIC HOT WATER	N/A	NOT APPLICABLE	SDRHW	SOFT DOMESTIC RECIRCULATION HOT WATER
AFG	ABOVE FINISH GRADE	EF	EXHAUST FAN	HWR	HOT WATER RETURN	N/C	NORMALLY CLOSED	SF	SQUARE FEET
AHU	AIR HANDLING UNIT	EM	INDICATES EMERGENCY CIRCUIT	HWS	HOT WATER SUPPLY	N/O	NORMALLY OPEN	SP	STATIC PRESSURE
AFF	ABOVE FINISHED FLOOR	EPO	EMERGENCY POWER OFF	IE	INVERT ELEVATION	NF	INDICATES NON-FUSED DEVICE	SR	SUPPLY REGISTER
BD	BACKDRAFT DAMPER, BLOWDOWN	ER	EXHAUST REGISTER	IG	ISOLATED GROUND	NIC	NOT IN CONTRACT	ST	STORM
BFP	BACKFLOW PREVENTER	ETR	EXISTING TO REMAIN	KCMIL	1000 CIRCULAR MILS	NL	NIGHT LIGHT	ST/O	STORM OVERFLOW
BKR	BREAKER	EWB	ENTERING WET BULB	KV	KILOVOLT	NO	NITROUS OXIDE	STM	LOW PRESSURE STEAM
BOD	BOTTOM OF DUCT	EWC	ELECTRIC WATER COOLER	KVA	KILOVOLT AMPS	OA	OUTSIDE AIR	SWBD	SWITCHBOARD
BOP	BOTTOM OF PIPE	EWH	ELECTRIC WATER HEATER, ELEC. WALL HTR.	KW	KILOWATT	ORD	OVERFLOW ROOF DRAIN	TSTAT	THERMOSTAT
BOS	BOTTOM OF STRUCTURE	EXH	EXHAUST	KWH	KILOWATT HOUR	OX	OXYGEN	TU	TERMINAL UNIT
BTU	BRITISH THERMAL UNIT	F/S	COMBINATION FIRE AND SMOKE DAMPER	LAT	LEAVING AIR TEMPERATURE	PD	PUMP DISCHARGE	TW	TEMPERED WATER
C	CONDUIT	FACP	FIRE ALARM CONTROL PANEL	LDB	LEAVING DRY BULB	PH	PHASE	UH	UNIT HEATER
CATV	CABLE TELEVISION SYSTEM	FAACP	FIRE ALARM ANNUNCIATOR CONTROL PANEL	LP	LIQUIFIED PETROLEUM	PIV	POST INDICATOR VALVE	UL	UNDERWRITERS LABORATORIES INC.
CB	CIRCUIT BREAKER	FCO	FLOOR CLEANOUT	LRA	LOCKED ROTOR AMPS	PNL	PANEL	UNO	UNLESS NOTED OTHERWISE
CCTV	CLOSED CIRCUIT TELEVISION	FCU	FAN COIL UNIT	LV	LOW VOLTAGE	PRV	PRESSURE REDUCING VALVE	UPS	UNINTERRUPTIBLE POWER SUPPLY
CFM	CUBIC FEET PER MINUTE	FD	FIRE DAMPER, FLOOR DRAIN	LWB	LEAVING WET BULB	QTY	QUANTITY	V	VENT PIPE
CHWR	CHILLED/HOT WATER RETURN	FLA	FULL LOAD AMPS	LWT	LEAVING WATER TEMPERATURE	RA	RETURN AIR	VAC	MEDICAL VACUUM
CHWS	CHILLED/HOT WATER SUPPLY	FLR	FLOOR	MA	MEDICAL AIR	RD	ROOF DRAIN	VAV	VARIABLE AIR VOLUME
CKT	CIRCUIT	FOR	FUEL OIL RETURN	MAU	MAKE UP AIR UNIT	REV	REVISION	VD	VOLUME DAMPER
CO	CLEANOUT, CARBON MONOXIDE	FOS	FUEL OIL SUPPLY	MBH	1000 BTU PER HOUR	RG	RETURN GRILLE	VTR	VENT THROUGH ROOF
CO2	CARBON DIOXIDE	FP	FIRE PROTECTION	MC	MECHANICAL CONTRACTOR	RH	RELATIVE HUMIDITY	W	WIRE, WATT(S)
CTR	COOLING TOWER RETURN	FPB	FAN POWERED TERMINAL UNIT	MCA	MINIMUM CIRCUIT AMPACITY	RHW	DOMESTIC RECIRCULATION HOT WATER	W/	WITH
CTS	COOLING TOWER SUPPLY	FPVAV	FAN POWERED TERMINAL UNIT	MCC	MOTOR CONTROL CENTER	RL	REFRIGERANT LIQUID	W/O	WITHOUT
CU	COPPER, CONDENSING UNIT	FS	FLOOR SINK	MD	MOTORIZED DAMPER	RLA	RUNNING LOAD AMPS	WB	WET BULB
CUH	CABINET UNIT HEATER	G	GAS (NATURAL), GROUND	MDP	MAIN DISTRIBUTION PANEL	RPM	REVOLUTIONS PER MINUTE	WCO	WALL CLEANOUT
CW	DOMESTIC COLD WATER	GCO	GRADE CLEANOUT	MFR	MANUFACTURER	RS	REFRIGERANT SUCTION	WH	WALL HYDRANT
CWR	CHILLED WATER RETURN	GFI/GFCI	GROUND FAULT CIRCUIT INTERRUPTER	MH	MANHOLE	RTN	LOW PRESSURE CONDENSATE RETURN	WP	WEATHERPROOF
CWS	CHILLED WATER SUPPLY	GND	GROUND	MLO	MAIN LUGS ONLY	RTU	ROOF TOP UNIT	XFMR	TRANSFORMER
DDC	DIRECT DIGITAL CONTROL	GPM	GALLONS PER MINUTE	MTD	MOUNTED	SA	SUPPLY AIR	XP	EXPLOSION PROOF
DD	DECK DRAIN	HB	HOSE BIBB	MU	MAKE UP	SAN	SANITARY		
DN	DOWN	HOA	HAND OFF AUTOMATIC						

MECHANICAL AND ELECTRICAL SYMBOLS AND ABBREVIATIONS

"SOME SYMBOLS AND ABBREVIATIONS ON THIS LEGEND MAY NOT BE USED. REFER TO FLOOR PLANS FOR ALL SYMBOLS AND ABBREVIATIONS."

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
05/06/2020

STATE OF MISSOURI
RYAN JEROD DECKER
NUMBER PE-2015006971
REGISTERED PROFESSIONAL ENGINEER
4/24/20

SLAGGIE ARCHITECTS

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888-756-1958
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Flying Biscuit
Tenant Improvments

Client Name
Summit Orchard
460 NW Chipman Rd.
Lee's Summit, MO 64086

Revisions:

Project #: #####

Construction Documents
04-24-20

SYMBOLS AND ABBREVIATIONS - MECH. AND ELEC.

ME101

smith&boucher ENGINEERS
25501 west valley parkway, suite 200 olathe, ks 66061
phone 913.345.2127 fax 913.345.0617
project number 1923001

PROJECT NAME: Summit Orchards Flying Biscuit Landlord Scope or Work
AUTOCAD FILE LOCATION \ NAME: X:\19\19230\1923001\Drawings\01-1923001_ME101.dwg
LAST CORRECTION BY • DATE • TIME: Lkelley Monday, April 20, 2020 3:50:43 PM
PLOTTED BY • DATE • TIME: Charles Booty Friday, April 24, 2020 1:31:23 PM

PART 1 - GENERAL REQUIREMENTS - HVAC AND PLUMBING

1.1 SUMMARY OF WORK

A. THE CONTRACT DOCUMENTS REQUIRE THE FURNISHING AND INSTALLING OF COMPLETE FUNCTIONING MECHANICAL SYSTEMS, AND EACH ELEMENT THEREOF, AS SPECIFIED OR INDICATED IN THE CONTRACT DOCUMENTS OR REASONABLY INFERRED, TO COMPLETELY CONSTRUCT AND LEAVE READY FOR OPERATION THE SYSTEMS AS SHOWN ON THE DRAWINGS AND HEREIN DESCRIBED, INCLUDING EVERY ARTICLE, DEVICE OR ACCESSORY, WHETHER OR NOT SPECIFICALLY CALLED FOR BY ITEM. ELEMENTS OF THE WORK INCLUDE MATERIALS, LABOR, SUPERVISION, SUPPLIES, EQUIPMENT, TRANSPORTATION, AND UTILITIES.

B. SPECIFICATIONS AND DRAWINGS ARE COMPLEMENTARY AND WHAT IS CALLED FOR IN ONE SHALL BE AS BINDING AS IF CALLED FOR BY BOTH.

C. ALL WORK PERFORMED UNDER THIS SECTION SHALL BE DONE IN A NEAT AND WORKMANLIKE MANNER BY EXPERIENCED MECHANICS OR THE PROPER TRADE.

1.2 COORDINATION, MEASUREMENTS AND LAYOUTS

A. THE CONTRACTOR SHALL INSPECT THE SITE WHERE THIS WORK IS TO BE PERFORMED AND FULLY FAMILIARIZE HIMSELF WITH ALL CONDITIONS RELATED TO THIS PROJECT.

B. THE CONTRACTOR SHALL EMPLOY A COMPETENT FOREMAN ON THE JOB TO SEE THAT WORK IS DONE IN ACCORDANCE WITH THE BEST PRACTICES AND IN A SATISFACTORY AND WORKMANLIKE MANNER. THE FOREMAN SHALL KEEP INFORMED AS TO THE WORK OF OTHER TRADES ENGAGED IN THE CONSTRUCTION OF THE PROJECT, AND SHALL EXECUTE HIS WORK IN SUCH A MANNER AS NOT TO INTERFERE WITH OR DELAY THE WORK OF OTHER TRADES.

C. DRAWINGS SHOW THE GENERAL ARRANGEMENT OF ALL SYSTEMS AND COMPONENTS COVERED UNDER THIS SECTION. WHERE LOCAL CONDITIONS NECESSITATE A REARRANGEMENT, THE CONTRACTOR SHALL PREPARE, AND SUBMIT FOR APPROVAL, DRAWINGS OF THE PROPOSED REARRANGEMENT. BECAUSE OF THE SMALL SCALE OF THE DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS, AND ACCESSORIES THAT MAY BE REQUIRED. THE CONTRACTOR SHALL CAREFULLY INVESTIGATE THE STRUCTURAL AND FINISH CONDITIONS AFFECTING ALL OF HIS WORK AND SHALL ARRANGE SUCH WORK ACCORDINGLY, FURNISHING SUCH OFFSETS, FITTINGS AND ACCESSORIES AS MAY BE REQUIRED TO MEET SUCH CONDITIONS AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS. DRAWINGS SHALL NOT BE SCALED TO DETERMINE DIMENSION.

1.3 PERMITS AND FEES

A. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS AND LICENSES AND SHALL MAKE ALL DEPOSITS AND PAY ALL FEES REQUIRED FOR THE PERFORMANCE OF WORK UNDER THIS SECTION, OTHER THAN THOSE DEPOSITS OR FEES WHICH ARE FULLY REFUNDABLE TO THE OWNER.

1.4 SUBMITTALS, MATERIALS AND EQUIPMENT

A. ALL ITEMS OF MATERIALS AND EQUIPMENT SHALL BE NEW UNLESS OTHERWISE SPECIFIED HEREIN, FREE FROM DEFECTS AND OF THE BEST QUALITY NORMALLY USED FOR THE PURPOSE IN GOOD COMMERCIAL PRACTICE.

B. AS SOON AS POSSIBLE AFTER THE AWARD OF THE CONTRACT, THE CONTRACTOR SHALL SUBMIT FOR REVIEW SIX COPIES OF SHOP DRAWINGS FOR ALL EQUIPMENT TO BE FURNISHED FOR THIS PROJECT. SUBMITTALS SHALL INCLUDE MANUFACTURER'S NAME, MODEL NUMBER, DESCRIPTIVE ENGINEERING DATA AND ALL NECESSARY INFORMATION AS TO FINISH, MATERIAL GAUGES AND ACCESSORIES. AFTER SUCH SHOP DRAWINGS ARE PROCESSED, THREE COPIES WILL BE RETURNED TO THE CONTRACTOR. THE CONTRACTOR SHALL, UPON RECEIPT OF REVIEWED SHOP DRAWINGS PROCEED WITH THE PROCUREMENT AND INSTALLATION OF SUCH EQUIPMENT.

1.5 CODES, LAWS, AND STANDARDS

A. ALL WORK SHALL BE INSTALLED IN COMPLIANCE WITH ALL GOVERNING CODES, APPLICABLE LOCAL LAWS, REGULATIONS, ORDINANCES OR STATUTES OF REGULATORY BODIES HAVING JURISDICTION. THE WORK SHALL BE EXECUTED IN ACCORDANCE WITH SAID LAWS, REGULATIONS, ORDINANCES, STATUES OR CODES, WITHOUT INCREASED COST TO THE OWNER. ANY POINT IN QUESTION SHALL BE REFERRED TO THE ENGINEER FOR APPROVAL. WORK INDICATED ON THE DOCUMENTS THAT IS IN EXCESS OF CODE REQUIREMKNTS SHALL NOT BE REDUCED IN QUALITY AND/OR QUANTITY.

B. COMPLY WITH RULES AND REGULATIONS OF PUBLIC UTILITIES AND MUNICIPAL DEPARTMENTS AFFECTED BY CONNECTIONS OF SERVICES.

1.6 RECORD DOCUMENTS

A. THIS CONTRACTOR SHALL PREPARE A COMPLETE “AS-BUILT” SET OF DRAWINGS INCORPORATING ALL CHANGES MADE DURING CONSTRUCTION. LOCATION OF UNDERGROUND PIPING SHALL BE LOCATED BY DIMENSION FROM COLUMN LINES.

B. THIS CONTRACTOR SHALL PREPARE AND SUBMIT TO THE OWNER'S REPRESENTATIVE FIVE BOUND SETS OF OPERATING AND MAINTENANCE MANUALS INCLUDING FINAL COPIES OF EQUIPMENT SHOP DRAWINGS, MANUFACTURER'S LITERATURE FOR ALL EQUIPMENT INSTALLED ON THE PROJECT SHOWING ALL DETAILS OF EQUIPMENT, REPLACEMENT PART DATA AND MAINTENANCE AND OPERATING INSTRUCTIONS. MANUALS SHALL INCLUDE COPIES OF ALL EQUIPMENT WARRANTIES.

1.7 GUARANTEES AND WARRANTIES

A. THE CONTRACTOR SHALL GUARANTEE COMPLETE SYSTEM OPERATION AND THAT THE MATERIAL AND EQUIPMENT FURNISHED AND INSTALLED WILL BE FREE FROM DEFECTS IN WORKMANSHIP AND MATERIALS AND WILL GIVE SATISFACTORY SERVICE UNDER THE SPECIFIED OPERATING CONDITIONS. THE CONTRACTOR AGREES TO REPLACE, WITHOUT EXPENSE TO THE OWNER, ANY PART OF THE APPARATUS WHICH PROVES OR BECOMES DEFECTIVE WITHIN ONE YEAR AFTER THE SYSTEM IS ACCEPTED. NO EQUIPMENT WARRANTY OR GUARANTEE SHALL START UNTIL THE TIME OF BUILDING ACCEPTANCE.

B. ALL WARRANTIES ISSUED BY EQUIPMENT MANUFACTURERS SHALL BE FILLED OUT IN THE OWNER'S NAME AND GIVEN TO THE OWNER PRIOR TO FINAL ACCEPTANCE OF WORK PERFORMED UNDER THIS SECTION.

1.8 FINAL INSPECTION

A. AFTER COMPLETION OF THE ENTIRE PROJECT THE CONTRACTOR SHALL REQUEST FINAL INSPECTION OF THIS PROJECT IN WRITTEN FORM ADDRESSED TO THE ARCHITECT ALONG WITH A STATEMENT TO THE EFFECT THAT ALL INSTALLATIONS HAVE BEEN COMPLETED, CHECKED, ADJUSTED AND BALANCED IN ACCORDANCE WITH REQUIREMENTS OF THIS PROJECT. UPON RECEIPT OF WRITTEN NOTIFICATION OF COMPLETION AND REQUEST FOR FINAL INSPECTION THE ENGINEER WILL PERFORM A FINAL INSPECTION OF THIS WORK AND, IF ALL INSTALLATIONS ARE AS REPRESENTED BY THE CONTRACTOR, THE ENGINEER WILL SUBMIT WRITTEN RECOMMENDATION OF ACCEPTANCE.

1.9 CLEANING

A. DIRT AND REFUSE RESULTING FROM THE PERFORMANCE OF THE WORK SHALL BE REMOVED TO KEEP THE PREMISES REASONABLE CLEAN AT ALL TIMES.

B. AFTER COMPLETION OF THE WORK DESCRIBED IN THIS SPECIFICATION AND SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL THOROUGHLY CLEAN ALL EXPOSED SURFACES AND EQUIPMENT, REMOVE ALL DIRT, DEBRIS, CRATING, CARTONS, ETC., AND LEAVE ALL INSTALLATIONS FINISHED AND READY FOR OPERATION.

1.10 OPENINGS AND SLEEVES

A. ALL PIPING THROUGH EXTERIOR OR FOUNDATION WALLS SHALL PASS THROUGH SCHEDULE 40 GALVANIZED STEEL SLEEVES WHICH SHALL BE LARGE ENOUGH TO ALLOW FOR PIPE SEAL MATERIAL. SLEEVES IN NEW CONSTRUCTION SHALL HAVE A MINIMUM 2 INCH WATERSTOP IN THE CENTER OF THE SLEEVE. NO SLEEVES ARE PERMITTED THROUGH CONCRETE STRUCTURAL MEMBERS.

1. SPACE BETWEEN PIPE AND SLEEVE IN EXTERIOR UNDERGROOUND WALLS SHALL BE SEALED WITH LINK-SEAL, FLEXICRAFT OR METRAFLEX LINK STYLE PIPE SEALS.
2. IN ABOVE GRADE EXTERIOR WALLS PACK THE SPACE BETWEEN PIPE AND SLEEVE WITH MINERAL WOOL AND THEN COMPLETE SEAL WITH APPROVED CAULKING COMPOUND FLUSH WITH FINISHED SURFACE. PROVIDE PIPE COLLAR ON INTERIOR SIDE OF WALL.

B. ALL PIPING THROUGH FLOORS SHALL BE PROVIDED WITH SCHEDULE 40 GALVANIZED STEEL PIPE SLEEVES, EXTENDING 1 INCH ABOVE THE FLOOR.

C. IN FIRE RATED WALLS: CAULKING SHALL BE A PURE CERAMIC FIBER MADE OF ALUMINA-SILICA, "CERAFIBER-FS" BY JOHNS-MANVILLE. SEALANT SHALL BE GUN GRADE. AN ACRYLIC 2-PART GUN APPLIED, FIRE RETARDANT ELASTIC SEALANT, "DYMERIC" BY TREMCO OR EQUAL BY PERMATITE NO. 1113FR.

1. LIMIT THE SIZE OF THE SPACE BETWEEN THE WALL OR FLOOR AND THE OUTSIDE OF THE PIPE OR DUCT TO 1 INCH MAXIMUM. THIS SPACE IS SUFFICIENT TO ALLOW SOME MOVEMENT OF THE PIPES OR DUCT WITHOUT CRACKING THE CAULKING OR SEALANT.
2. FOR OPENINGS IN WALLS, THE CAULKING SHALL BE APPLIED TO A MINIMUM OF 3 INCH TOTAL DEPTH. SEALANT SHALL THEN BE APPLIED ON BOTH SIDES OF THE WALL OPENING A MINIMUM OF 1/2 INCH IN DEPTH, FINISHED FLUSH WITH THE WALL. D.

D. FOR OPENINGS IN FLOORS, THE CAULKING SHALL BE APPLIED FROM THE UPPER SIDE TO A MINIMUM OF 3 INCH TOTAL DEPTH RECESSED 1/2 INCH BELOW THE FINISHED FLOOR. THIS 1/2 INCH RECESS SHALL THEN BE FILLED WITH SEALANT TO FLUSH WITH FINISHED FLOOR.

1.11 CUTTING AND PATCHING

A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY CUTTING OF WALLS, FLOORS, CEILINGS AND ROOFS REQUIRED FOR PERFORMANCE OF HIS WORK.

B. NO STRUCTURAL MEMBER SHALL BE CUT WITHOUT PERMISSION FROM THE ARCHITECT.

C. PATCH ALL OPENINGS TO MATCH ADJACENT CONSTRUCTION IN BOTH MATERIAL AND FINISH.

D. ALL CUTTING OF EXISTING CONCRETE FLOORS/SLABS ON GRADE IN THE INTERIOR OF THE BUILDING SHALL BE PERFORMED BY "SAW CUTTING" AND SHALL BE PERFORMED BY THIS CONTRACTOR.

1.12 EXCAVATION AND BACKFILL

A. ALL EXCAVATION AND BACKFILL REQUIRED FOR THE INSTALLATION OF THE WORK SHALL BE THE COMPLETE RESPONSIBILITY OF THE CONTRACTOR.

B. NO EXCAVATION AND BACKFILL SHALL BE DONE WITHIN DRIP LINE OF TREES TO REMAIN. NO TREE SHALL BE REMOVED WITHOUT PRIOR APPROVAL OF THE OWNER'S REPRESENTATIVE.

C. CONTRACTOR SHALL PROVIDE PROTECTION FOR TREES WITHIN 15 FEET OF UTILITY EXCAVATION.

D. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL TRENCH AREAS AND MAINTAINING A DRY EXCAVATION. ANY DEWATERING OF TRENCHES/EXCAVATION SHALL BE PROVIDED PRIOR TO INSTALLING ANY MATERIAL.

E. THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE ALL NECESSARY BARRICADES, FENCING, BRACING, SHEET PILING, SHORING, WARNING SIGNS, PUMPS, ETC., FOR THE PROTECTION OF WORKERS, GENERAL PUBLIC, AND PROPERTIES. EXCAVATION WORK SHALL COMPLY WITH ASA STANDARD A10.2 "SAFETY CODE FOR BUILDING CONSTRUCTION" AND AGC STANDARD "MANUAL OF ACCIDENT PREVENTION IN CONSTRUCTION" AND THE DEPARTMENT OF LABOR OCCUPATIONAL SAFETY AND HEALTH (OSHA) STANDARDS.

F. LOCATE EXISTING UNDERGROUND UTILITIES IN AREAS OF EXCAVATION WORK. SHOULD UNCHARTED, OR INCORRECTLY CHARTED, PIPING OR OTHER UTILITIES BE ENCOUNTERED DURING EXCAVATION, CONSULT UTILITY OWNER IMMEDIATELY FOR DIRECTIONS.

G. ALL TRENCHES SHALL BE UNIFORMLY GRADED AND BE FREE OF SOFT SPOTS AND STONE. PROVIDE A 4 INCH SAND BED.

H. BACKFILL SHALL NOT BEGIN UNTIL INSTALLATION HAS BEEN TESTED AND INSPECTED. CONTRACTOR SHALL CONSULT WITH THE AUTHORITY HAVING JURISDICTION AND THE ARCHITECT/ENGINEER PRIOR TO BACKFILLING.

1. INITIAL BACKFILL SHALL BE SAND TO A POINT 6 INCHES ABOVE TOP OF INSTALLED WORK.
2. FINAL BACKFILL SHALL BE INSTALLED IN LAYERS NOT EXCEEDING 12 INCHES. FILL SHALL BE WELL TAMPED BEFORE ADDITIONAL BACKFILL MATERIAL IS PLACED. BACKFILL SHALL CONSIST OF EARTH OR SAND FREE OF STONE, BRICKS, OR FOREIGN MATTER.

I. ALL EXCESS EARTH AND OTHER MATERIAL RESULTING FROM THE EXCAVATION SHALL BE REMOVED FROM SITE BY THE CONTRACTOR OR MAY BE PILED AT A LOCATION DESIGNATED AND APPROVED BY THE OWNER. ALL DEBRIS, ROCK AND TRASH SHALL NOT BE ALLOWED TO ACCUMULATE AND SHALL BE REMOVED FROM THE SITE. STREETS, ROADWAYS AND PRIVATE PROPERTY SHALL BE KEPT IN A CLEAN CONDITION.

J. WHEN THE EXCAVATION IS WITHIN THE AREA WHERE FINISHED SITE WORK IS TO BE DONE UNDER THE GENERAL CONTRACT WORK, BACKFILL TO THE HEIGHT OF ROUGH GRADE. FINAL SURFACING WILL BE UNDER GENERAL CONTRACT WORK.

K. WHEN THE EXCAVATION IS BEYOND THE AREA OF GENERAL CONSTRUCTION WORK, FINAL SURFACE AND ADJACENT DISTURBED AREAS SHALL BE RESTORED TO MATCH THE ORIGINAL CONDITION BY SODDING, SEEDING, ASPHALT PAVING, CONCRETE, ETC., AS REQUIRED. WORK SHALL CONFORM TO APPLICABLE SECTIONS OF THESE SPECIFICATIONS.

L. WHEN THE EXCAVATION IS ON PUBLIC PROPERTY, RESTORATION OF SURFACE CONDITIONS SHALL MEET THE REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.

M. WHEN SERVICES ARE TO BE RUN SIDE-BY-SIDE, A COMMON TRENCH MAY BE USED PROVIDING THE REQUIRED VERTICAL AND HORIZONTAL SEPARATION BETWEEN THE VARIOUS SERVICES ARE MAINTAINED AND PROVIDING THE METHODS OF BEDDING AND BACKFILL MEET THE APPROVAL OF THE ENGINEER. CONTRACTORS INVOLVED SHALL MAKE THEIR OWN AGREEMENT AS TO THE SHARING OF THE COST OF THE COMMON TRENCHING AND BACKFILL WORK.

1.13 TEMPORARY HEAT

A. THE CONTRACTOR SHALL COOPERATE WITH THE GENERAL CONTRACTOR TO PROVIDE TEMPORARY HEAT AS SOON AS POSSIBLE FOR USE DURING CONSTRUCTION IF TEMPORARY HEAT IS REQUIRED. AIR HANDLING EQUIPMENT SHALL NOT BE OPERATED AT ANY TIME WITHOUT FILTERS IN PLACE AND ALL EQUIPMENT SHALL BE PROTECTED FROM DAMAGE. OPERATING THE EQUIPMENT FOR TEMPORARY HEAT SHALL NOT START THE WARRANTY PERIOD OF THE EQUIPMENT USED.

1.14 INTERRUPTION OF SERVICES

A. THE CONTRACTOR SHALL SCHEDULE ANY SERVICE INTERRUPTIONS TO THE EXISTING BUILDING WITH THE OWNER'S REPRESENTATIVE. SUCH INTERRUPTIONS SHALL BE PLANNED SO AS TO BE AT TIMES TO CAUSE THE LEAST INCONVENIENCE AND INTERRUPTION TO THE FACILITY'S SCHEDULE.

1.15 EXISTING CONDITIONS

ALL EXISTING CONDITIONS SHOWN ON THE DRAWINGS AND DESCRIBED IN THE SPECIFICATIONS FOR THIS PROJECT HAVE BEEN DETERMINED FROM AVAILABLE DRAWINGS AND FIELD INVESTIGATIONS. CONTRACTORS MAKING PROPOSALS FOR THIS WORK SHALL INVESTIGATE ALL EXISTING CONDITIONS AND BASE THEIR PROPOSALS ON THEIR OBSERVATIONS TO PROVIDE COMPLETE AND FUNCTIONING INSTALLATIONS IN ACCORDANCE WITH THE INTENT OF THE DRAWING AND SPECIFICATIONS FOR THIS PROJECT AND ALL APPLICABLE GOVERNING CODES, RULES, REGULATIONS AND ORDINANCES. FAILURE TO DETERMINE EXISTING CONDITIONS WHICH CAUSE ADDITIONAL WORK WILL NOT CONSTITUTE GROUNDS FOR ADDITIONAL COMPENSATION.

PART 2 - HEATING, VENTILATING AND AIR CONDITIONING

2.1 GENERAL REQUIREMENTS

A. SEE PART 1 FOR GENERAL REQUIREMENTS.

2.2 BELT DRIVES AND GUARDS

A. ALL BELT DRIVES SHALL BE OF THE MULTIPLE "V" TYPE, DAYTON, GATES OR EQUAL. STANDARD SLIDE RAILS OR OTHER MEANS OF BELT ADJUSTMENT SHALL BE PROVIDED FOR EACH MOTOR USED WITH A BELT DRIVE.

B. REMOVABLE STEEL GUARDS WITH EXPANDED METAL SCREENS OF ACCEPTABLE DESIGN SHALL BE PROVIDED OVER ALL EXPOSED BELT DRIVES AND COUPLINGS.

2.3 FILTERS

A. THE CONTRACTOR SHALL ONLY RUN ALL AIR HANDLING UNITS IN THE BUILDING DURING THE TESTING PERIOD PRIOR TO COMPLETION OF THE WORK. UNITS SHALL NOT BE RUN WITHOUT FILTERS IN PLACE.

B. FILTERS SHALL BE AS MANUFACTURED BY AMERICAN AIR FILTER, CAMFIL FARR OR CAMBRIDGE.

2.4 FLEXIBLE CONNECTORS

A. THE CONTRACTOR SHALL INSTALL FLEXIBLE DUCT CONNECTIONS BETWEEN EACH PIECE OF EQUIPMENT HAVING A FAN, AND ITS SHEET METAL SUPPLY AND RETURN DUCTWORK CONNECTIONS, WHICH, WHEN COMPLETED SHALL BE AIRTIGHT.

B. CONNECTORS SHALL PROVIDE A MINIMUM OF 2 INCHES BETWEEN METAL TO INSURE AGAINST TRANSMISSION OF VIBRATION FROM THE FAN UNIT TO THE DUCTWORK.

2.5 MOTORS AND STARTERS

A. ALL ELECTRIC MOTORS SHALL BE FURNISHED FOR OPERATION ON ELECTRICAL SERVICES AS DESIGNATED AND SHALL HAVE STARTING TORQUE CHARACTERISTICS SUITABLE FOR THE EQUIPMENT SERVED. ANY CHANGES TO THE ELECTRICAL WIRING DUE TO EQUIPMENT BEING FURNISHED, OTHER THAN THAT SPECIFIED, IS THE RESPONSIBILITY OF THE CONTRACTOR.

B. THE MECHANICAL CONTRACTOR SHALL FURNISH TO THE ELECTRICAL CONTRACTOR ALL STARTERS AND STARTER OVERLOADS, ALL NECESSARY WIRING DIAGRAMS AND INSTRUCTIONS TO FACILITATE THE INSTALLATION OF POWER AND CONTROL WIRING TO ALL EQUIPMENT.

2.6 SHEET METAL DUCTWORK

A. SHEET METAL DUCTS AND CONNECTIONS SHALL BE CONSTRUCTED OF G90 GALVANIZED SHEETS OF MILD STEEL. THE DUCTS SHALL BE CONSTRUCTED TO THE SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION (SMACNA) 2” W.G. PRESSURE CLASS STANDARDS. NO DUCT SHALL BE CONSTRUCTED WITH LESS THAN 24 GUAGE METAL. LOCAL CODES REQUIRING HEAVIER GAUGES SHALL GOVERN. ALL DUCTS SHALL BE SEALED TO SMACNA “B” CLASSIFICATION.

B. DUCT SECTIONS SHALL BE JOINED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION AND REQUIREMENTS OF THE BUILDING CODE HAVING JURISDICTION.

C. DUCT DIMENSIONS SHOWN ARE SHEET METAL DIMENSIONS AND DO NOT NEED TO BE ADJUSTED FOR INSULATION/LINING.

D. CURVED ELBOWS SHALL BE CONSTRUCTED WITH INSIDE RADIUS NOT LESS THAN THE DUCT WIDTH IN THE SAME PLANE. SQUARE ELBOWS SHALL HAVE TURNING VANES. TURNING VANES SHALL BE DESIGNED IN ACCORDANCE WITH ASHRAE RECOMMENDATIONS. MANUFACTURED VANES SHALL BE BY TITUS OR APPROVED EQUAL.

E. CROSSBREAK ALL DUCTWORK SURFACES OVER 18 INCHES IN WIDTH.

F. FULL AREAS SHALL BE MAINTAINED IN TRANSITIONS WHERE A CHANGE IN THE CONFIGURATION OF THE DUCT OCCURS. ALL TAPERING JOINTS SHALL BE REDUCED GRADUALLY.

G. JOINTS IN DUCTS SHALL BE MADE PRACTICALLY AIRTIGHT AND ANY OPEN CORNER SHALL BE NEATLY PATCHED AND SOLDERED TIGHT. DUCT TAPE WILL NOT BE ACCEPTED AS A JOINT PATCH. LOW PRESSURE SYSTEM DUCT LEAKAGE SHALL NOT EXCEED 2%.

H. CONCEALED ROUND DUCTS SHALL BE CONSTRUCTED TO SMACNA 2” W.G. STANDARDS WITH GROOVED LONGITUDINAL SEAMS AND SLEEVED TYPE TRANSVERSE JOINTS.

2.7 FLEXIBLE DUCT

A. FLEXIBLE DUCTS SHALL BE UL181 CLASS THERMAFLEX M-KE, OR APPROVED EQUAL. HARD PIPE STIFFENERS SHALL BE PROVIDED AT LENGTHS OVER 8 FEET AND SHALL NOT HAVE ANY AIR FLOW OBSTRUCTION.

2.8 DUCTWORK SUPPORTS

A. ALL HORIZONTAL DUCTS SHALL BE SUPPORTED WITH HANGERS SPACED NOT MORE THAN 8'-0" APART. HANGERS FOR DUCTS SMALLER THAN 31 INCHES SHALL CONSIST OF 22 GUAGE GALVANIZED STEEL STRAPS SECURELY FASTENED TO THE DUCT AND THE BUILDING CONSTRUCTION. DUCTS OVER 31 INCHES IN WIDTH SHALL BE HUNG WITH 1/4 INCH STEEL ANGLE ON THE BOTTOM OF THE DUCT SUPPORTED WITH STEEL RODS OF APPROPRIATE SIZE SECURELY FASTENED TO THE BUILDING STRUCTURE. ALL SUPPORTS TO MEET SMACNA STANDARDS.

2.9 DUCTWORK INSULATION/LINER

A. INSULATION AND LINER AS SCHEDULED ON THE DRAWINGS.

B. INSULATION/LINER SHALL BE BY CERTAIN-TEED, JOHNS MANVILLE, KNAUF INSULATION, OR OWENS CORNING UNLESS NOTED OTHERWISE ON THE DRAWINGS. INSULATION SHALL BE APPLIED IN STRICT COMPLIANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

C. ALL INSULATION/LINER SHALL BE UL LISTED; FLAME SPREAD/FUEL CONTRIBUTED/SMOKE DEVELOPED RATING OF 25/50/50 OR LESS IN ACCORDANCE WITH ASTM E84, NFPA 255 AND UL 723.

2.10 OPERATING AND MAINTENANCE MANUALS

A. THE EQUIPMENT MANUFACTURER SHALL FURNISH THE OWNER TWO BOUND SETS OF OPERATING AND MAINTENANCE INSTRUCTIONS FOR ALL SYSTEMS.

2.11 START-UP/TESTING, ADJUSTING, BALANCING

A. THE CONTRACTOR SHALL COMPLETE ALL EQUIPMENT INSTALLATIONS, CHECK ALL CONTROL WIRING, START UP AND ADJUST ALL EQUIPMENT AND PLACE ALL SYSTEMS IN OPERATION.

B. AFTER COMPLETION AND START-UP OF ALL SYSTEMS THE CONTRACTOR SHALL ARRANGE FOR TESTING, ADJUSTING AND BALANCING OF ALL AIR SYSTEMS.

C. TESTING, ADJUSTING AND BALANCING OF ALL AIR SYSTEMS SHALL BE PERFORMED BY A NEBB OR AABC CERTIFIED TEST AND BALANCE CONTRACTOR.

D. UPON COMPLETION OF TESTING, ADJUSTING AND BALANCING, A COMPLETE REPORT OF ALL FINDINGS SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO FINAL ACCEPTANCE OF THIS PROJECT.

2.12 CURBS

A. CURBS FOR ROOF MOUNTED HEATING, VENTILATING AND AIR CONDITIONING UNITS SHALL BE PROVIDED BY THE EQUIPMENT MANUFACTURER AND SHALL BE DESIGNED TO COMPENSATE FOR SLOPES OF STRUCTURAL STEEL TO PROVIDE LEVEL SUPPORT OF EQUIPMENT. CURBS SHALL BE INSULATED TYPE WITH 1-1/2 INCH THICK INSULATION AND A MINIMUM DENSITY OF 3 POUNDS.

2.13 PACKAGE ROOFTOP HVAC UNITS: 25 TON AND SMALLER

A. UNITS SHALL BE DEDICATED DOWNFLOW OR HORIZONTAL AIRFLOW. OPERATING RANGE SHALL BE BETWEEN 115 DEGREES F AND 0 DEGREES F. COOLING AS STANDARD FROM THE FACTORY FOR ALL UNITS. COOLING PERFORMANCE SHALL BE RATED IN ACCORDANCE WITH DOE AND/OR ARI TESTING PROCEDURES. ALL UNITS SHALL BE FACTORY ASSEMBLED, INTERNALLY WIRED, FULLY CHARGED WITH R-410A OR R-407C, AND 100% RUN-TESTED BEFORE LEAVING THE FACTORY. WIRING INTERNAL TO THE UNIT SHALL BE COLORED AND NUMBERED FOR SIMPLIFIED IDENTIFICATION. UNITS SHALL BE UL LISTED AND LABELED, CLASSIFIED IN ACCORDANCE TO THE LATEST ANSI AND UL STANDARDS FOR GAS-FIRED CENTRAL FURNACES AND CENTRAL COOLING AIR CONDITIONERS. UNITS SHALL BE TRANE, YORK, MCQUAY, LENNOX OR CARRIER.

B. UNIT CASING SHALL BE CONSTRUCTED OF ZINC COATED, HEAVY GAUGE, GALVANIZED STEEL. EXTERIOR SURFACES SHALL BE CLEANED, PHOSPHATIZED AND FINISHED WITH A WEATHER-RESISTANT BAKED ENAMEL OR ACRYLIC POLYURETHANE FINISH. UNIT'S SURFACE SHALL BE TESTED 500 HOURS IN A SALT SPRAY TEST IN COMPLIANCE WITH ASTM B117. CABINET CONSTRUCTION SHALL ALLOW FOR ALL MAINTENANCE. SERVICE PANELS SHALL PROVIDE A WATER AND AIR TIGHT SEAL.

C. THE TOP COVER SHALL BE ONE PIECE OR WHERE SEAMS EXIST, IT SHALL BE DOUBLE HEMMED AND GASKET SEALED TO PREVENT WATER LEAKAGE.

D. ALL UNITS SHALL BE DIRECT-DRIVE SCROLL TYPE COMPRESSOR(S) WITH CENTRIFUGAL OIL PUMP PROVIDING POSITIVE LUBRICATION TO MOVING PARTS. MOTOR SHALL BE SUCTION GAS-COOLED AND SHALL HAVE A VOLTAGE UTILIZATION RANGE OF PLUS OR MINUS 10% OF UNIT NAMEPLATE VOLTAGE. CRANKCASE HEATER, INTERNAL TEMPERATURE AND CURRENT-SENSITIVE MOTOR OVERLOADS SHALL BE INCLUDED FOR MAXIMUM PROTECTION. THE COMPRESSORS HALL HAVE INTERNAL SPRING ISOLATION AND SOUND MUFFLING TO MINIMIZE VIBRATION TRANSMISSION AND NOISE. EXTERNAL HIGH PRESSURE CUTOUT SHALL BE PROVIDED. LOW PRESSURE SWITCHES SHALL BE STANDARD. INTERNAL TEMPERATURE AND CURRENT SENSITIVE MOTOR OVERLOADS SHALL BE INCLUDED FOR MAXIMUM PROTECTION. EXTERNAL DISCHARGE TEMPERATURE LIMIT, WINDING TEMPERATURE LIMIT AND COMPRESSOR OVERLOAD SHALL BE PROVIDED.

E. EACH REFRIGERANT CIRCUIT SHALL HAVE INDEPENDENT FIXED ORIFICE EXPANSION DEVICES, SERVICE PRESSURE PORTS AND REFRIGERANT LINE FILTER DRYERS FACTORY INSTALLED AS STANDARD. AN AREA SHALL BE PROVIDED FOR REPLACEMENT SUCTION LINE DRIERS.

F. INTERNALLY FINNED MINIMUM 3/8 INCH COPPER TUBES MECHANICALLY BONDED TO CONFIGURED ALUMINUM PLATE FIN SHALL BE STANDARD. COILS SHALL BE LEAK TESTED AT THE FACTORY TO ENSURE PRESSURE INTEGRITY.

G. GAS HEAT SHALL BE AGA OR U.L. APPROVED AS APPLICABLE AND ALL SAFETY FEATURES SHALL COMPLY WITH THE REQUIREMENTS OF ALL AGENCIES HAVING JURISDICTION. BURNERS SHALL BE INDUCED OR FORCED DRAFT COMBUSTION TYPE BLOWER WITH DIRECT SPARK IGNITION SYSTEM AND REDUNDANT MAIN GAS VALVE. THE HEAT EXCHANGER SHALL BE CONSTRUCTED OF CORROSION-RESISTANT STEEL SIMILAR TO ALUMINIZED OR STAINLESS STEEL.

H. THE OUTDOOR FANS SHALL BE DIRECT-DRIVE, STATICALLY AND DYNAMICALLY BALANCED, DRAW THROUGH IN THE VERTICAL DISCHARGE POSITION. THE FAN MOTOR(S) SHALL BE PERMANENTLY LUBRICATED AND HAVE BUILT-IN THERMAL OVERLOAD PROTECTION.

I. UNITS SHALL HAVE BELT-DRIVEN, FC CENTRIFUGAL FANS WITH ADJUSTABLE MOTOR SHEAVES. UNITS SHALL HAVE AN ADJUSTABLE IDLER-ARM ASSEMBLY FOR QUICK-ADJUSTMENT TO FAN BELTS AND MOTOR SHEAVES. ALL MOTORS SHALL BE INTERNALLY PROTECTED. OVERSIZED MOTORS SHALL BE AVAILABLE FOR HIGH STATIC OPERATIONS. UNITS SHALL BE CAPABLE OF PROVIDING A MINIMUM OF 1 INCH EXTERNAL STATIC PRESSURE AT SCHEDULED UNIT CFM. SEE SCHEDULE FOR REQUIRED E.S.P.

J. UNIT(S) SHALL BE COMPLETELY FACTORY WIRED WITH NECESSARY CONTROLS AND CONTACTOR PRESSURE LUGS OR TERMINAL BLOCK FOR POWER WIRING. UNIT SHALL BE PROVIDED WITH A FACTORY MOUNTED FUSED DISCONNECT SWITCH OR CIRCUIT BREAKER FOR SINGLE POINT WIRING.

K. ACCESSORIES:

1. MOTORIZED OUTSIDE AIR DAMPER: FIELD INSTALLED RAIN HOOD AND SCREEN SHALL PROVIDE UP TO SCHEDULED QUANTITY OF OUTSIDE AIR.
2. OVERSIZED MOTORS: FIELD INSTALLED OVERSIZED MOTORS SHALL BE AVAILABLE IF NECESSARY TO ACHIEVE THE SCHEDULED STATIC PRESSURE.
3. 120 VOLT RECEPTACLE WIRED AHEAD OF UNIT DISCONNECT. PROVIDE DISCONNECT SWITCH AND TRANSFORMER, IF REQUIRED, FOR THE SERVICE RECEPTACLE.
4. COIL GUARDS: COIL GUARDS SHALL BE FIELD-INSTALLED FOR CONDENSER COIL PROTECTION ON ALL UNITS.
5. INSULATION KIT: PROVIDE A COMPLETE KIT FOR ALL UNITS TO PREVENT HIGH HUMIDITY CONDENSATION FORMING ON BOTTOM OF UNIT WHEN MOUNTED ON A DOWNFLOW CURB.
6. DIFFERENTIAL PRESSURE SWITCHES: THIS FIELD-INSTALLED OPTION ALERTS ON INDIVIDUAL FAN FAILURE. THE FAN FAILURE SWITCH WILL DISABLE ALL UNIT FUNCTIONS AND "FLASH" THE SERVICE LED ON THE ZONE SENSOR.
7. A COUNTER BALANCED BAROMETRIC RELIEF DAMPER SHALL BE PROVIDED FOR SPACE PRESSURE CONTROL.
8. 7-DAY PROGRAMMABLE SPACE THERMOSTAT SHALL BE PROVIDED FOR TEMPERATURE CONTROL DURING OCCUPIED AND UNOCCUPIED TIMES. THERMOSTAT SHALL HAVE AUTOMATIC CHANGEOVER.
9. ECONOMIZER CONTROL PACKAGE WITH OUTDOOR/RETURN/RELIEF DAMPER PACKAGE, AUTOMATIC DAMPER OPERATOR, MIXED AIR CONTROLLER AND CHANGEOVER THERMOSTAT.

2.14 PAINTING: (SEE ARCHITECTURAL SECTION "PAINTING")

A. PAINTING, EXCEPT AS SPECIFIED HEREIN, SHALL BE DONE BY OTHERS.

B. EQUIPMENT WHICH HAS DAMAGED FINISH SHALL BE REPAINTED TO MATCH THE ORIGINAL FACTORY FINISH.

C. ALL EXPOSED FERROUS METAL FURNISHED UNDER THIS CONTRACT, SUCH AS HANGERS, STRUTS, STRUCTURAL STEEL, ETC., SHALL BE GIVEN ONE COAT OF TNEMEC GRAY PRIMER.

PART 3 - PLUMBING

3.1 GENERAL REQUIREMENTS

A. SEE PART 1 FOR GENERAL REQUIREMENTS.

3.2 CROSS CONNECTIONS AND INTERCONNECTIONS

A. NO INSTALLATION SHALL BE MADE OF PLUMBING FIXTURE, DEVICE OR PIPING THAT WILL PROVIDE A CROSS CONNECTION OR INTERCONNECTION BETWEEN A DISTRIBUTING WATER SUPPLY FOR DRINKING OR DOMESTIC PURPOSES AND A POLLUTED SUPPLY SUCH AS A DRAINAGE SYSTEM OR A SOIL OR WASTE PIPE THAT WILL PERMIT OR MAKE POSSIBLE A BACKFLOW OF SEWAGE, POLLUTED WATER OR WASTE INTO THE WATER SUPPLY SYSTEM.

3.3 SOIL, WASTE, DRAIN AND VENT PIPING

A. UNDERGROUND SOIL, WASTE, DRAIN AND VENT PIPE AND FITTINGS, THROUGHOUT THE BUILDING BELOW THE BASE SLAB TO THE LOCATIONS NOTED OUTSIDE OF THE BUILDING, SHALL BE COATED HUB-AND- SPIGOT SERVICE WEIGHT CAST IRON. SCHEDULE 40 PVC SOLID PLASTIC PIPE MAY BE USED WHERE PERMITTED BY GOVERNING CODES. NO-HUB PIPE WILL NOT BE PERMITTED UNDERGROUND.

B. SOIL, WASTE, DRAIN, VENT PIPE, AND FITTINGS ABOVE GROUND INSIDE OF THE BUILDING SHALL BE SERVICE WEIGHT HUB-AND- SPIGOT OR NO-HUB CAST IRON PIPE. SCHEDULE 40 PVC SOLID PLASTIC PIPE MAY BE USED WHERE PERMITTED BY GOVERNING CODES. PVC PIPING RUN IN RETURN AIR PLENUM SPACE SHALL BE INSTALLED WITH A 1 HOUR RATED COVERING OVER ALL PIPE, FITTINGS AND VALVES.

C. CHANGES IN PIPE SIZE ON SOIL, WASTE, AND DRAIN LINES SHALL BE MADE WITH REDUCING FITTINGS. CHANGES IN DIRECTION IN DRAINAGE PIPING SHALL BE MADE BY THE APPROPRIATE USE OF 45 DEGREE Y'S, LONG OR SHORT SWEEP QUARTER BENDS, SIXTH, EIGHTH, OR SIXTEENTH BENDS, OR BY A COMBINATION OF THESE OR EQUIVALENT FITTINGS. SINGLE AND DOUBLE SANITARY TEES AND SHORT QUARTER BENDS MAY BE USED IN DRAINAGE LINES ONLY WHERE THE DIRECTION OF FLOW IS FROM THE HORIZONTAL TO THE VERTICAL. QUARTER BENDS MAY BE USED IN SOIL AND WASTE LINES ON THE DISCHARGE FROM WATER CLOSETS IN SLAB ON GRADE AREAS.

D. SEWER LINES SHALL BE LOCATED IN GENERAL AS SHOWN ON THE DRAWINGS. THE EXACT LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR IN SUCH A MANNER AS TO MAINTAIN PROPER CLEARANCES AND SUFFICIENT SLOPE TO INSURE DRAINAGE.

E. HORIZONTAL SOIL, WASTE, AND DRAIN PIPES SHALL BE GIVEN A GRADE OF NOT LESS THAN 1/4" PER FOOT FOR SIZES UP TO 3” UNLESS OTHERWISE SHOWN ON THE DRAWINGS OR APPROVED IN WRITING BY THE ENGINEER. HORIZONTAL SOIL, WASTE, AND DRAIN PIPES SHALL BE GIVEN A GRADE OF NOT LESS THAN 1/8” PER FOOT FOR SIZES 4” AND LARGER. HORIZONTAL SOIL, WASTE, AND DRAIN PIPE MAIN EXITING BUILDING SHALL BE GIVEN A GRADE OF NOT LESS THAN 1-1/2” PER FOOT AS SHOWN ON DRAWINGS.

F. VENT STACKS SHALL BE EXTENDED FULL SIZE THROUGH THE ROOF AND FLASHED WITH 4 POUND LEAD SHEETS TURNED DOWN INTO THE STACK AT LEAST 2” AND EXTENDED 12” IN ALL DIRECTIONS FROM THE PIPE AT THE ROOF LINE. VENTS THROUGH ROOF SHALL NOT BE LESS THAN 3”. PVC PIPING SHALL NOT BE USED FOR VENT PIPING THROUGH THE ROOF.

G. WHERE APPLICABLE FOR THE ROOFING SYSTEM USED, PROVIDE FLASHING VIA PLEATED EPDM CONE IN LIEU OF LEAD.

H. VENTS SHALL BE AIR AND WATER TIGHT.

I. VENT CONNECTIONS SHALL BE INSTALLED ON ALL FIXTURES AND EQUIPMENT CONNECTED TO SOIL AND WASTE SYSTEMS AND ALL FLOOR DRAINS SHALL BE VENTED OR CONNECTED TO A VENTED LINE AS SHOWN ON THE DRAWINGS AND AS REQUIRED BY CODE.

J. ALL VENT STACKS IN OR AT OUTSIDE WALLS SHALL BE OFFSET 1'-6" MINIMUM FROM OUTSIDE WALLS BEFORE GOING THROUGH THE ROOF, TO FACILITATE FLASHING.

K. RISERS SHALL BE INSTALLED ABSOLUTELY PLUMB AND STRAIGHT. BRANCHES SHALL BE RUN IN STRAIGHT LINES AND PITCH UNIFORMLY TO MAINS.

L. RISERS, BRANCHES AND MAINS SHALL BE CONCEALED IN THE CONSTRUCTION EXCEPT WHERE SHOWN OTHERWISE. BRANCHES FOR CLOSETS SHALL BE FINISHED AT THE WALL LINE WITH PROPER FLANGE TO RECEIVE THE FIXTURE WHEN SET, AND THEY SHALL BE TRUE AND LEVEL SO THAT CLOSET BASE WILL HAVE FULL BEARING ON THE WALL.

M. ALL SOIL AND VENT STACKS SHALL OFFSET WHERE REQUIRED TO MISS OBSTRUCTIONS AND AS REQUIRED TO CLEAR FLOOR BEAMS AND SPANDREL BEAMS AT FLOOR LINES AND HUG WALL CONSTRUCTION ABOVE FLOOR.

N. PROHIBITED FITTINGS. THE DRILLING AND TAPPING OF BUILDING DRAINS, SOIL, WASTE OR VENT PIPE AND THE USE OF SADDLE HUBS OR BANDS IS PROHIBITED. ANY FITTING OR CONNECTION WHICH HAS AN ENLARGEMENT CHAMBER OR RECESS WITH A LEDGE, SHOULDER OR REDUCTION OF THE PIPE AREA THAT OFFERS AN OBSTRUCTION TO THE FLOW IS PROHIBITED.

O. PROHIBITED CONNECTIONS. NO FIXTURES, DEVICES OR CONSTRUCTION SHALL BE INSTALLED WHICH WOULD ALLOW A BACKFLOW CONNECTION BETWEEN A DISTRIBUTION SYSTEM OF WATER FOR DRINKING AND DOMESTIC PURPOSES TO THE DRAINAGE SYSTEM, SOIL OR WASTE PIPING SO AS TO PERMIT OR MAKE POSSIBLE THE BACKFLOW OF SEWAGE OR WASTE INTO THE WATER SYSTEM.

3.4 TESTING

A. ALL PLUMBING SYSTEMS INSTALLED UNDER THIS SECTION OF THESE SPECIFICATIONS SHALL BE TESTED AND APPROVED AS HEREIN DESCRIBED AND AS REQUIRED BY THE LOCAL INSPECTION AUTHORITY HAVING JURISDICTION.

B. THE NEW DRAINAGE AND VENT SYSTEM SHALL BE TESTED BY FORCING AIR INTO THE SYSTEM UNTIL THERE IS A UNIFORM GAUGE PRESSURE OF 5 PSI OR SUFFICIENT TO BALANCE A 10-INCH COLUMN OF MERCURY. THIS PRESSURE SHALL BE HELD FOR A TEST PERIOD OF AT LEAST 15 MINUTES. IF LEAKS DEVELOP, THEY SHALL BE REMEDIED AND THE TEST REPEATED AFTER THE SYSTEM IS MADE TIGHT.

C. THE INSPECTION AUTHORITY HAVING JURISDICTION AND THE ARCHITECT SHALL BE NOTIFIED AT LEAST 24 HOURS PRIOR TO PERFORMANCE OF ALL TESTS SO THAT THE TESTS MAY BE WITNESSED IF DEEMED NECESSARY.

D. ALL PLUMBING FIXTURES AND ACCESSORIES SHALL BE TESTED, ADJUSTED AND MADE FREE OF LEAKS.

3.5 PLUMBING FIXTURES

A. ALL FIXTURES SHOWN OR SCHEDULED ON THE DRAWINGS SHALL BE FURNISHED AND INSTALLED, SET FIRM AND TRUE, CONNECTED TO ALL REQUIRED PIPING SERVICES, THOROUGHLY CLEANED, AND LEFT READY FOR USE.

3.6 PAINTING (SEE ARCHITECTURAL SECTION "PAINTING")

A. PAINTING, EXCEPT AS SPECIFIED HEREIN, SHALL BE DONE BY OTHERS.

B. EQUIPMENT WHICH HAS DAMAGED FINISH SHALL BE REPAINTED TO MATCH THE ORIGINAL FACTORY FINISH.

C. ALL EXPOSED FERROUS METAL FURNISHED UNDER THIS CONTRACT, SUCH AS HANGERS, STRUTS, STRUCTURAL STEEL, ETC. SHALL BE GIVEN ONE COAT OF TNEMEC GRAY PRIMER.

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RYAN JEROD DIEDIKER
NUMBER PE-2015006511
4/24/20

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
05/06/2020

Flying Biscuit
Tenant Improvments

Client Name
Summit Orchard
460 NW Chipman Rd.
Lee's Summit, MO 64086

#	Revisions:

Project #: #####

Construction Documents
04-24-20

SPECIFICATIONS - MECHANICAL AND ELECTRICAL

ME201

PROJECT NAME: Summit Orchards Flying Biscuit Landlord Scope of Work
AUTOCAD FILE LOCATION \ NAME: X:\19\19230\1923001\Drawings\01-1923001_ME201.dwg
LAST CORRECTION BY ● DATE ● TIME: Sclapsaddle Friday, April 24, 2020 11:13:10 AM
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PART 1 - GENERAL REQUIREMENTS - ELECTRICAL

1.1 SUMMARY OF WORK

A. THE CONTRACT DOCUMENTS REQUIRE THE FURNISHING AND INSTALLING OF COMPLETE FUNCTIONING ELECTRICAL SYSTEMS, AND EACH ELEMENT THEREOF, AS SPECIFIED OR INDICATED IN THE CONTRACT DOCUMENTS OR REASONABLY INFERRED, TO COMPLETELY CONSTRUCT AND LEAVE READY FOR OPERATION THE SYSTEMS AS SHOWN ON THE DRAWINGS AND HEREIN DESCRIBED, INCLUDING EVERY ARTICLE, DEVICE OR ACCESSORY, WHETHER OR NOT SPECIFICALLY CALLED FOR BY ITEM. ELEMENTS OF THE WORK INCLUDE MATERIALS, LABOR, SUPERVISION, SUPPLIES, EQUIPMENT, TRANSPORTATION, AND UTILITIES.

B. SPECIFICATIONS AND DRAWINGS ARE COMPLEMENTARY AND WHAT IS CALLED FOR IN ONE SHALL BE AS BINDING AS IF CALLED FOR BY BOTH.

C. ALL WORK PERFORMED UNDER THIS SECTION SHALL BE DONE IN A NEAT AND WORKMANLIKE MANNER BY EXPERIENCED MECHANICS OF THE PROPER TRADE.

1.2 COORDINATION, MEASUREMENTS AND LAYOUTS

A. THE CONTRACTOR SHALL INSPECT THE SITE WHERE THIS WORK IS TO BE PERFORMED AND FULLY FAMILIARIZE HIMSELF WITH ALL CONDITIONS RELATED TO THIS PROJECT.

B. THE CONTRACTOR SHALL EMPLOY A COMPETENT FOREMAN ON THE JOB TO SEE THAT WORK IS DONE IN ACCORDANCE WITH THE BEST PRACTICES AND IN A SATISFACTORY AND WORKMANLIKE MANNER. THE FOREMAN SHALL KEEP INFORMED AS TO THE WORK OF OTHER TRADES ENGAGED IN THE CONSTRUCTION OF THE PROJECT, AND SHALL EXECUTE HIS WORK IN SUCH A MANNER AS NOT TO INTERFERE WITH OR DELAY THE WORK OF OTHER TRADES.

C. DRAWINGS SHOW THE GENERAL ARRANGEMENT OF ALL SYSTEMS AND COMPONENTS COVERED UNDER THIS SECTION. WHERE LOCAL CONDITIONS NECESSITATE A REARRANGEMENT, THE CONTRACTOR SHALL PREPARE, AND SUBMIT FOR APPROVAL, DRAWINGS OF THE PROPOSED REARRANGEMENT. BECAUSE OF THE SMALL SCALE OF THE DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS, AND ACCESSORIES THAT MAY BE REQUIRED. THE CONTRACTOR SHALL CAREFULLY INVESTIGATE THE STRUCTURAL AND FINISH CONDITIONS AFFECTING ALL OF HIS WORK AND SHALL ARRANGE SUCH WORK ACCORDINGLY, FURNISHING SUCH OFFSETS, FITTINGS AND ACCESSORIES AS MAY BE REQUIRED TO MEET SUCH CONDITIONS AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS. DRAWINGS SHALL NOT BE SCALED TO DETERMINE DIMENSION.

1.3 PERMITS AND FEES

A. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS AND LICENSES AND SHALL MAKE ALL DEPOSITS AND PAY ALL FEES REQUIRED FOR THE PERFORMANCE OF WORK UNDER THIS SECTION, OTHER THAN THOSE DEPOSITS OR FEES WHICH ARE FULLY REFUNDABLE TO THE OWNER.

1.4 SUBMITTALS, MATERIALS AND EQUIPMENT

A. ALL ITEMS OF MATERIALS AND EQUIPMENT SHALL BE NEW UNLESS OTHERWISE SPECIFIED HEREIN, FREE FROM DEFECTS AND OF THE BEST QUALITY NORMALLY USED FOR THE PURPOSE IN GOOD COMMERCIAL PRACTICE.

B. AS SOON AS POSSIBLE AFTER THE AWARD OF THE CONTRACT, THE CONTRACTOR SHALL SUBMIT FOR REVIEW SIX COPIES OF SHOP DRAWINGS FOR ALL EQUIPMENT TO BE FURNISHED FOR THIS PROJECT. SUBMITTALS SHALL INCLUDE MANUFACTURER'S NAME, MODEL NUMBER, DESCRIPTIVE ENGINEERING DATA AND ALL NECESSARY INFORMATION AS TO FINISH, MATERIAL GAUGES AND ACCESSORIES. AFTER SUCH SHOP DRAWINGS ARE PROCESSED, THREE COPIES WILL BE RETURNED TO THE CONTRACTOR. THE CONTRACTOR SHALL, UPON RECEIPT OF REVIEWED SHOP DRAWINGS PROCEED WITH THE PROCUREMENT AND INSTALLATION OF SUCH EQUIPMENT.

1.5 CODES, LAWS, AND STANDARDS

A. ALL WORK SHALL BE INSTALLED IN COMPLIANCE WITH THE NATIONAL ELECTRICAL CODE, THE NATIONAL BOARD OF FIRE UNDERWRITERS, THE NATIONAL ELECTRICAL SAFETY CODE, AND ALL GOVERNING CODES, APPLICABLE LOCAL LAWS, REGULATIONS, ORDINANCES OR STATUTES OF REGULATORY BODIES HAVING JURISDICTION. THE WORK SHALL BE EXECUTED IN ACCORDANCE WITH SAID LAWS, REGULATIONS, ORDINANCES, STATUES OR CODES, WITHOUT INCREASED COST TO THE OWNER. ANY POINT IN QUESTION SHALL BE REFERRED TO THE ENGINEER FOR APPROVAL. WORK INDICATED ON THE DOCUMENTS THAT IS IN EXCESS OF CODE REQUIREMKNTS SHALL NOT BE REDUCED IN QUALITY AND/OR QUANTITY.

B. COMPLY WITH RULES AND REGULATIONS OF PUBLIC UTILITIES AND MUNICIPAL DEPARTMETNS AFFECTED BY CONNECTIONS OF SERVICES.

1.6 RECORD DOCUMENTS

A. THIS CONTRACTOR SHALL PREPARE A COMPLETE “AS-BUILT” SET OF DRAWINGS INCORPORATING ALL CHANGES MADE DURING CONSTRUCTION. LOCATION OF UNDERGROUND CONDUIT SHALL BE LOCATED BY DIMENSION FROM COLUMN LINES.

B. THIS CONTRACTOR SHALL PREPARE AND SUBMIT TO THE OWNER'S REPRESENTATIVE FIVE BOUND SETS OF OPERATING AND MAINTENANCE MANUALS INCLUDING FINAL COPIES OF EQUIPMENT SHOP DRAWINGS, MANUFACTURER'S LITERATURE FOR ALL EQUIPMENT INSTALLED ON THE PROJECT SHOWING ALL DETAILS OF EQUIPMENT, REPLACEMENT PART DATA AND MAINTENANCE AND OPERATING INSTRUCTIONS. MANUALS SHALL INCLUDE COPIES OF ALL EQUIPMENT WARRANTIES.

1.7 GUARANTEES AND WARRANTIES

A. THE CONTRACTOR SHALL GUARANTEE COMPLETE SYSTEM OPERATION AND THAT THE MATERIAL AND EQUIPMENT FURNISHED AND INSTALLED WILL BE FREE FROM DEFECTS IN WORKMANSHIP AND MATERIALS AND WILL GIVE SATISFACTORY SERVICE UNDER THE SPECIFIED OPERATING CONDITIONS. THE CONTRACTOR AGREES TO REPLACE, WITHOUT EXPENSE TO THE OWNER, ANY PART OF THE APPARATUS WHICH PROVES OR BECOMES DEFECTIVE WITHIN ONE YEAR AFTER THE SYSTEM IS ACCEPTED. NO EQUIPMENT WARRANTY OR GUARANTEE SHALL START UNTIL THE TIME OF BUILDING ACCEPTANCE.

B. ALL WARRANTIES ISSUED BY EQUIPMENT MANUFACTURERS SHALL BE FILLED OUT IN THE OWNER'S NAME AND GIVEN TO THE OWNER PRIOR TO FINAL ACCEPTANCE OF WORK PERFORMED UNDER THIS SECTION.

1.8 FINAL INSPECTION

A. AFTER COMPLETION OF THE ENTIRE PROJECT THE CONTRACTOR SHALL REQUEST FINAL INSPECTION OF THIS PROJECT IN WRITTEN FORM ADDRESSED TO THE ARCHITECT ALONG WITH A STATEMENT TO THE EFFECT THAT ALL INSTALLATIONS HAVE BEEN COMPLETED, CHECKED, ADJUSTED AND BALANCED IN ACCORDANCE WITH REQUIREMENTS OF THIS PROJECT. UPON RECEIPT OF WRITTEN NOTIFICATION OF COMPLETION AND REQUEST FOR FINAL INSPECTION THE ENGINEER WILL PERFORM A FINAL INSPECTION OF THIS WORK AND, IF ALL INSTALLATIONS ARE AS REPRESENTED BY THE CONTRACTOR, THE ENGINEER WILL SUBMIT WRITTEN RECOMMENDATION OF ACCEPTANCE.

1.9 CLEANING

A. DIRT AND REFUSE RESULTING FROM THE PERFORMANCE OF THE WORK SHALL BE REMOVED TO KEEP THE PREMISES REASONABLE CLEAN AT ALL TIMES.

B. AFTER COMPLETION OF THE WORK DESCRIBED IN THIS SPECIFICATION AND SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL THOROUGHLY CLEAN ALL EXPOSED SURFACES AND EQUIPMENT, REMOVE ALL DIRT, DEBRIS, CRATING, CARTONS, ETC., AND LEAVE ALL INSTALLATIONS FINISHED AND READY FOR OPERATION.

1.10 OPENINGS AND SLEEVES

A. ALL PIPING THROUGH EXTERIOR OR FOUNDATION WALLS SHALL PASS THROUGH SCHEDULE 40 GALVANIZED STEEL SLEEVES WHICH SHALL BE LARGE ENOUGH TO ALLOW FOR PIPE SEAL MATERIAL. SLEEVES IN NEW CONSTRUCTION SHALL HAVE A MINIMUM 2 INCH WATERSTOP IN THE CENTER OF THE SLEEVE. NO SLEEVES ARE PERMITTED THROUGH CONCRETE STRUCTURAL MEMBERS.

1. SPACE BETWEEN PIPE AND SLEEVE IN EXTERIOR UNDERGROOUND WALLS SHALL BE SEALED WITH LINK-SEAL, FLEXICRAFT OR METRAFLEX LINK STYLE PIPE SEALS.

2. IN ABOVE GRADE EXTERIOR WALLS PACK THE SPACE BETWEEN PIPE AND SLEEVE WITH MINERAL WOOL AND THEN COMPLETE SEAL WITH APPROVED CAULKING COMPOUND FLUSH WITH FINISHED SURFACE. PROVIDE PIPE COLLAR ON INTERIOR SIDE OF WALL.

B. ALL PIPING THROUGH FLOORS SHALL BE PROVIDED WITH SCHEDULE 40 GALVANIZED STEEL PIPE SLEEVES, EXTENDING 1 INCH ABOVE THE FLOOR.

C. IN FIRE RATED WALLS: CAULKING SHALL BE A PURE CERAMIC FIBER MADE OF ALUMINA-SILICA, "CERAFIBER-FS" BY JOHNS-MANVILLE. SEALANT SHALL BE GUN GRADE. AN ACRYLIC 2-PART GUN APPLIED, FIRE RETARDANT ELASTIC SEALANT, "DYMERIC" BY TREMCO OR EQUAL BY PERMATITE NO. 1113FR.

1. LIMIT THE SIZE OF THE SPACE BETWEEN THE WALL OR FLOOR AND THE OUTSIDE OF THE PIPE OR DUCT TO 1 INCH MAXIMUM. THIS SPACE IS SUFFICIENT TO ALLOW SOME MOVEMENT OF THE PIPES OR DUCT WITHOUT CRACKING THE CAULKING OR SEALANT.

2. FOR OPENINGS IN WALLS, THE CAULKING SHALL BE APPLIED TO A MINIMUM OF 3 INCH TOTAL DEPTH. SEALANT SHALL THEN BE APPLIED ON BOTH SIDES OF THE WALL OPENING A MINIMUM OF 1/2 INCH IN DEPTH, FINISHED FLUSH WITH THE WALL. D.

D. FOR OPENINGS IN FLOORS, THE CAULKING SHALL BE APPLIED FROM THE UPPER SIDE TO A MINIMUM OF 3 INCH TOTAL DEPTH RECESSED 1/2 INCH BELOW THE FINISHED FLOOR. THIS 1/2 INCH RECESS SHALL THEN BE FILLED WITH SEALANT TO FLUSH WITH FINISHED FLOOR.

1.11 CUTTING AND PATCHING

A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY CUTTING OF WALLS, FLOORS, CEILINGS AND ROOFS REQUIRED FOR PERFORMANCE OF HIS WORK.

B. NO STRUCTURAL MEMBER SHALL BE CUT WITHOUT PERMISSION FROM THE ARCHITECT.

C. PATCH ALL OPENINGS TO MATCH ADJACENT CONSTRUCTION IN BOTH MATERIAL AND FINISH.

D. ALL CUTTING OF EXISTING CONCRETE FLOORS/SLABS ON GRADE IN THE INTERIOR OF THE BUILDING SHALL BE PERFORMED BY "SAW CUTTING" AND SHALL BE PERFORMED BY THIS CONTRACTOR.

1.12 TEMPORARY HEAT

A. THE CONTRACTOR SHALL COOPERATE WITH THE GENERAL CONTRACTOR TO PROVIDE TEMPORARY HEAT AS SOON AS POSSIBLE FOR USE DURING CONSTRUCTION IF TEMPORARY HEAT IS REQUIRED. AIR HANDLING EQUIPMENT SHALL NOT BE OPERATED AT ANY TIME WITHOUT FILTERS IN PLACE AND ALL EQUIPMENT SHALL BE PROTECTED FROM DAMAGE. OPERATING THE EQUIPMENT FOR TEMPORARY HEAT SHALL NOT START THE WARRANTY PERIOD OF THE EQUIPMENT USED.

1.13 INTERRUPTION OF SERVICES

A. THE CONTRACTOR SHALL SCHEDULE ANY SERVICE INTERRUPTIONS TO THE EXISTING BUILDING WITH THE OWNER'S REPRESENTATIVE. SUCH INTERRUPTIONS SHALL BE PLANNED SO AS TO BE AT TIMES TO CAUSE THE LEAST INCONVENIENCE AND INTERRUPTION TO THE FACILITY'S SCHEDULE.

1.14 EXISTING CONDITIONS

ALL EXISTING CONDITIONS SHOWN ON THE DRAWINGS AND DESCRIBED IN THE SPECIFICATIONS FOR THIS PROJECT HAVE BEEN DETERMINED FROM AVAILABLE DRAWINGS AND FIELD INVESTIGATIONS. CONTRACTORS MAKING PROPOSALS FOR THIS WORK SHALL INVESTIGATE ALL EXISTING CONDITIONS AND BASE THEIR PROPOSALS ON THEIR OBSERVATIONS TO PROVIDE COMPLETE AND FUNCTIONING INSTALLATIONS IN ACCORDANCE WITH THE INTENT OF THE DRAWING AND SPECIFICATIONS FOR THIS PROJECT AND ALL APPLICABLE GOVERNING CODES, RULES, REGULATIONS AND ORDINANCES. FAILURE TO DETERMINE EXISTING CONDITIONS WHICH CAUSE ADDITIONAL WORK WILL NOT CONSTITUTE GROUNDS FOR ADDITIONAL COMPENSATION.

PART 2 - ELECTRICAL

2.1 GENERAL REQUIREMENTS

A. SEE PART 1 FOR GENERAL REQUIREMENTS.

2.2 IDENTIFICATION OF SWITCHES AND APPARATUS

A. ALL CABINETS, SAFETY SWITCHES, AND OTHER APPARATUS USED FOR OPERATION AND CONTROL OF CIRCUITS, APPLIANCES, AND EQUIPMENT UNDER THIS CONTRACT SHALL BE PROPERLY IDENTIFIED BY MEANS OF ENGRAVED PLASTIC PLATES EITHER BLACK WITH WHITE LETTERS OR WHITE WITH BLACK LETTERS.

2.3 GROUNDING

A. ALL CONDUCTORS, MOTOR FRAMES, RACEWAYS, CABINETS, ETC., THAT REQUIRE GROUNDING SHALL BE GROUNDED IN ACCORDANCE WITH THE REQUIREMENTS OF ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE, THOSE OF THE SERVING UTILITY AND LOCAL AUTHORITIES HAVING JURISDICTION.

2.4 SAFETY SWITCHES

A. SAFETY SWITCHES, AS MANUFACTURED BY GENERAL ELECTRIC, CROUSE-HINDS, CUTLER-HAMMER, SQUARE D, SIEMENS, OR APPROVED EQUAL, SHALL BE FURNISHED AND INSTALLED (WHERE NOT FURNISHED BY OTHERS) WHEREVER SHOWN ON THE DRAWINGS SPECIFIED, OR REQUIRED BY THE NATIONAL ELECTRICAL CODE.

B. SAFETY SWITCHES SHALL BE HEAVY DUTY TYPE, UNDERWRITERS' LABORATORIES SHORT CIRCUIT LABELED FOR AT LEAST 100,000 AMPERES WITH CLASS R REJECTION FUSEHOLDERS SO AS TO COMPLY WITH NEC 100-9. SWITCHES INSIDE OF BUILDING SHALL BE FURNISHED IN NEMA 1 GENERAL PURPOSE ENCLOSURES. SWITCHES OUTSIDE OF BUILDING SHALL BE FURNISHED IN NEMA 3R ENCLOSURES UNLESS OTHERWISE SPECIFIED.

C. EACH MOTOR SHALL BE PROVIDED WITH A DISCONNECTING MEANS IN ACCORDANCE WITH REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE.

2.5 CONDUIT

A. ALL ELECTRICAL WIRING, INCLUDING LOW VOLTAGE WIRING, SHALL BE INSTALLED IN CONDUIT AS HEREIN SPECIFIED. NO CONDUIT OR TUBING OF LESS THAN 3/4 INCH NOMINAL SIZE SHALL BE USED BELOW GRADE; NO LESS THAN 1/2 INCH NOMINAL SIZE SHALL BE USED ABOVE GRADE.

B. UNDERGROUND CONDUIT SHALL BE SCHEDULE 40 EPC-40-PVC. ALL CONDUITS SHALL BE INSTALLED WITH MINIMUM 24 INCH COVER.

C. CONDUIT INSTALLED IN CONCRETE SLABS OR ABOVE GROUND SHALL BE GALVANIZED RIGID STEEL OR EPC-40-PVC.

D. WHEN PVC CONDUITS PENETRATE CONCRETE FLOOR CONSTRUCTION, CONTRACTOR SHALL USE RIGID STEEL OR IMC ELBOWS AND EXTENSION. PVC CONDUIT/FITTINGS SHALL NOT BE PERMITTED TO BE EXPOSED ABOVE THE FLOOR.

E. THINWALL TUBING SHALL BE E.M.T.

F. ALL FITTINGS SHALL BE OF THE COMPRESSION TYPE AND WATERTIGHT FOR UNDERGROUND AND IN SLAB LOCATIONS. COMPRESSION OR SCREWED FITTINGS FOR INDOOR.

G. CONDUIT FOR INTERIOR WIRING, IN GENERAL, SHALL BE THINWALL TUBING UNLESS OTHERWISE NOTED.

H. RACEWAYS SHALL BE CONTINUOUS FROM OUTLET TO OUTLET AND FITTING TO FITTING. A RUN OF CONDUIT BETWEEN OUTLETS OR FITTINGS SHALL NOT CONTAIN MORE THAN THE EQUIVALENT OF FOUR QUARTER-BENDS INCLUDING THOSE BENDS LOCATED IMMEDIATELY AT THE OUTLET OR FITTING. THE RADIUS OF BENDS SHALL NEVER BE SHORTER THAN THAT OF THE CORRESPONDING TRADE ELBOW. THE SYSTEM SHALL BE COMPLETE WITH OUTLETS, DISTRIBUTION BOXES, ETC., SMOOTH INSIDE AND MECHANICALLY SECURE IN PLACE. APPROVED STRAPS, HANGERS, OR SUPPORTS SHALL BE USED TO SECURE CONDUITS IN PLACE. CONDUITS SHALL, IN GENERAL, BE SUPPORTED AT INTERVALS NOT EXCEEDING 10'-0" AND WITHIN 3'-0" OF EACH OUTLET BOX, JUNCTION BOX, CABINET OR FITTING.

I. CONDUITS SHALL BE PROTECTED DURING CONSTRUCTION; PLUG AND KEEP CLEAN AND DRY. CONDUIT ENDS SHALL BE BUTTED IN CENTERS OF COUPLINGS. NO CRACKS OR FLATTENED SECTIONS WILL BE PERMITTED AT BENDS OR ELSEWHERE. ALL ENDS OF CONDUIT SHALL BE REAMED TO REMOVE ROUGH EDGES. RUNNING THREADS WILL NOT BE PERMITTED.

J. CONDUITS SHALL BE CONCEALED WITHIN THE WALLS, CEILINGS, AND FLOORS WHERE POSSIBLE AND UNLESS OTHERWISE NOTED. EXPOSED CONDUIT SHALL BE RUN PARALLEL TO OR AT RIGHT ANGLES WITH THE BUILDING LINES.

2.6 WIRE AND CABLE

A. WIRE AND CABLE SHALL BE COPPER.

B. ALL CONDUCTORS SHALL BE COPPER.

C. NO. 10 AWG AND SMALLER CONDUCTORS SHALL BE SOLID WITH TYPE THHN INSULATION AND NO. 8 AWG AND LARGER CONDUCTORS SHALL BE STRANDED WITH TYPE THHN INSULATION EXCEPT THAT CONDUCTORS WITHIN 3 INCHES OF LIGHT FIXTURE BALLASTS SHALL HAVE RHH, THHN, OR EQUAL INSULATION RATED FOR 90 DEGREES C. APPLICATION.

2.7 IDENTIFICATION OF EQUIPMENT

A. ALL SERVICE ENTRANCE EQUIPMENT, DISCONNECT SWITCHES, PANELBOARDS, RELAYS, MOTOR STARTERS, CONTACTORS, TELEPHONE TERMINAL CABINETS, TV EQUIPMENT AND RISER JUNCTION BOXES, AND OTHER ELECTRICAL EQUIPMENT UNDER THIS CONTRACT, SHALL BE PROVIDED WITH PROPER IDENTIFICATION. IDENTIFICATION SHALL BE BY THE USE OF ENGRAVED COLOR CODED PLASTIC NAMEPLATES WITH WHITE LETTERING SCREWED TO THE COVER OF THE EQUIPMENT. USE OF EMBOSSED PLASTIC "TAPE" LABELS AS PREPARED BY "TYPEWRITER" TYPE EQUIPMENT SHALL NOT BE USED. COLOR CODING SHALL BE AS FOLLOWS:

1. EQUIPMENT CONNECTED TO A NORMAL POWER SOURCE SHALL BE BLACK WITH WHITE LETTERS.

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STATE OF MISSOURI
RYAN JEROD DIEDIKER
NUMBER PE-2015006511
REGISTERED PROFESSIONAL ENGINEER
4/24/20

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
05/06/2020

Flying Biscuit
Tenant Improvments

Client Name
Summit Orchard
460 NW Chipman Rd.
Lee's Summit, MO 64086

Revisions:

Project #: #####

Construction Documents
04-24-20

SPECIFICATIONS - MECHANICAL AND ELECTRICAL

ME202

smith&boucher ENGINEERS
25501 west valley parkway, suite 200 olathe, ks 66061
phone 913.345.2127 fax 913.345.0617
project number 1923001

PROJECT NAME: Summit Orchards Flying Biscuit Landlord Scope or Work
AUTOCAD FILE LOCATION \ NAME: X:\19\19230\1923001\Drawings\01-1923001_ME202.dwg
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PLOTTED BY ◆ DATE ◆ TIME: Charles Booty Friday, April 24, 2020 1:32:03 PM

ROOFTOP UNIT SCHEDULE - GAS HEAT

		RTU-1	RTU-2	RTU-3	RTU-4
DESIGNATION		RTU-1	RTU-2	RTU-3	RTU-4
MANUFACTURER		YORK	YORK	YORK	YORK
MODEL NO.		ZJ078	ZJ078	ZJ078	ZJ078
NOMINAL TONNAGE		6.5	6.5	6.5	6.5
CAPACITY	CFM	2600	2600	2600	2600
	TOTAL COOLING CAPACITY (MBH)	80.4	80.4	80.4	80.4
	SENSIBLE COOLING CAPACITY (MBH)	58.8	58.8	58.8	58.8
	ENT. AIR (DB/WB)	80/67	80/67	80/67	80/67
	LVG. AIR (DB/WB)	59.1/57.2	59.1/57.2	59.1/57.2	59.1/57.2
	MINIMUM E.E.R.	11.8	11.8	11.8	11.8
	HEATING INPUT (MBH)	120	120	120	120
	HEATING OUTPUT (MBH)	96	96	96	96
	STAGES OF HEATING	2	2	2	2
	EFFICIENCY	80%	80%	80%	80%
UNIT DATA	OUTSIDE AIR CFM	SET BY TENANT	SET BY TENANT	SET BY TENANT	SET BY TENANT
	TOTAL S.P. (IN. W.C.)	1.0	1.0	1.0	1.0
	FAN BRAKE HP	1.97	1.97	1.97	1.97
	FAN MOTOR HP	2.0	2.0	2.0	2.0
	NO. OF COMPRESSORS	2	2	2	2
	STAGES OF COOLING	2	2	2	2
	SMOKE DETECTORS	YES, NOTE 3	YES, NOTE 3	YES, NOTE 3	YES, NOTE 3
	RECEPTACLE	NOTE 4	NOTE 4	NOTE 4	NOTE 4
	RELIEF	BAROMETRIC	BAROMETRIC	BAROMETRIC	BAROMETRIC
	ECONOMIZER	DIFF. ENTHALPY	DIFF. ENTHALPY	DIFF. ENTHALPY	DIFF. ENTHALPY
FILTER	TYPE	2"	2"	2"	2"
	EFFICIENCY	MERV 8	MERV 8	MERV 8	MERV 8
ELECT./CONT.	VOLTAGE/PHASE	208/3	208/3	208/3	208/3
	MINIMUM CIRCUIT AMPACITY	36.2	36.2	36.2	36.2
	MAXIMUM OVERCURRENT PROTECTION	45	45	45	45
	PANEL & CIRCUIT	EL-2,4,6	EL-8,10,12	EL-14,16,18	EL-20,22,24
	WIRE & CONDUIT	(3)#8,#10G.,3/4"C.	(3)#8,#10G.,3/4"C.	(3)#8,#10G.,3/4"C.	(3)#8,#10G.,3/4"C.
	OVERCURRENT DEVICE	45A/3P CB	45A/3P CB	45A/3P CB	45A/3P CB
	DISCONNECT	60A-3P NF NEMA 3R	60A-3P NF NEMA 3R	60A-3P NF NEMA 3R	60A-3P NF NEMA 3R
	CONTROL SEQUENCE	NOTE 5	NOTE 5	NOTE 5	NOTE 5
REFERENCE DRAWING/DETAIL		ME401	ME401	ME401	ME401
REMARKS		NOTE 1, 2	NOTE 1, 2	NOTE 1, 2	NOTE 1, 2

NOTES:
1: FURNISH WITH ALUMINIZED FURNACE, INTELLISPEED FAN, STANDARD DRAIN PAN, ROOF CURB, AND HAIL GUARD KIT. PROVIDE MODULATING OUTDOOR AIR DAMPER CAPABLE OF DEMAND CONTROL VENTILATION WITH CO2 SENSOR LOCATED IN UNIT OR DUCTWORK.

2: ROUTE DUCTWORK DOWN FROM UNIT TO THE BOTTOM OF STRUCTURE. REFER TO DETAIL AND INSULATION/LINER REQUIREMENTS.

3: FURNISH WITH FACTORY INSTALLED SMOKE DETECTOR IN RETURN AIR DUCT SECTION. FIRE ALARM CONTRACTOR TO CONNECT TO FIRE ALARM CONTROL PANEL AS REQUIRED.

4: FACTORY PROVIDED GFI / WP RECEPTACLE, UNPOWERED. CONTRACTOR TO FIELD WIRE PER PLANS.

5: PROVIDE FACTORY CONTROLLER FOR STAND-ALONE OPERATION. PROVIDE 7-DAY PROGRAMMABLE THERMOSTAT IN LOCKBOX. TEMPORARILY MOUNT IN SPACE, TENANT TO RELOCATE TO ITS FINAL LOCATION.

DUCTWORK SCHEDULE

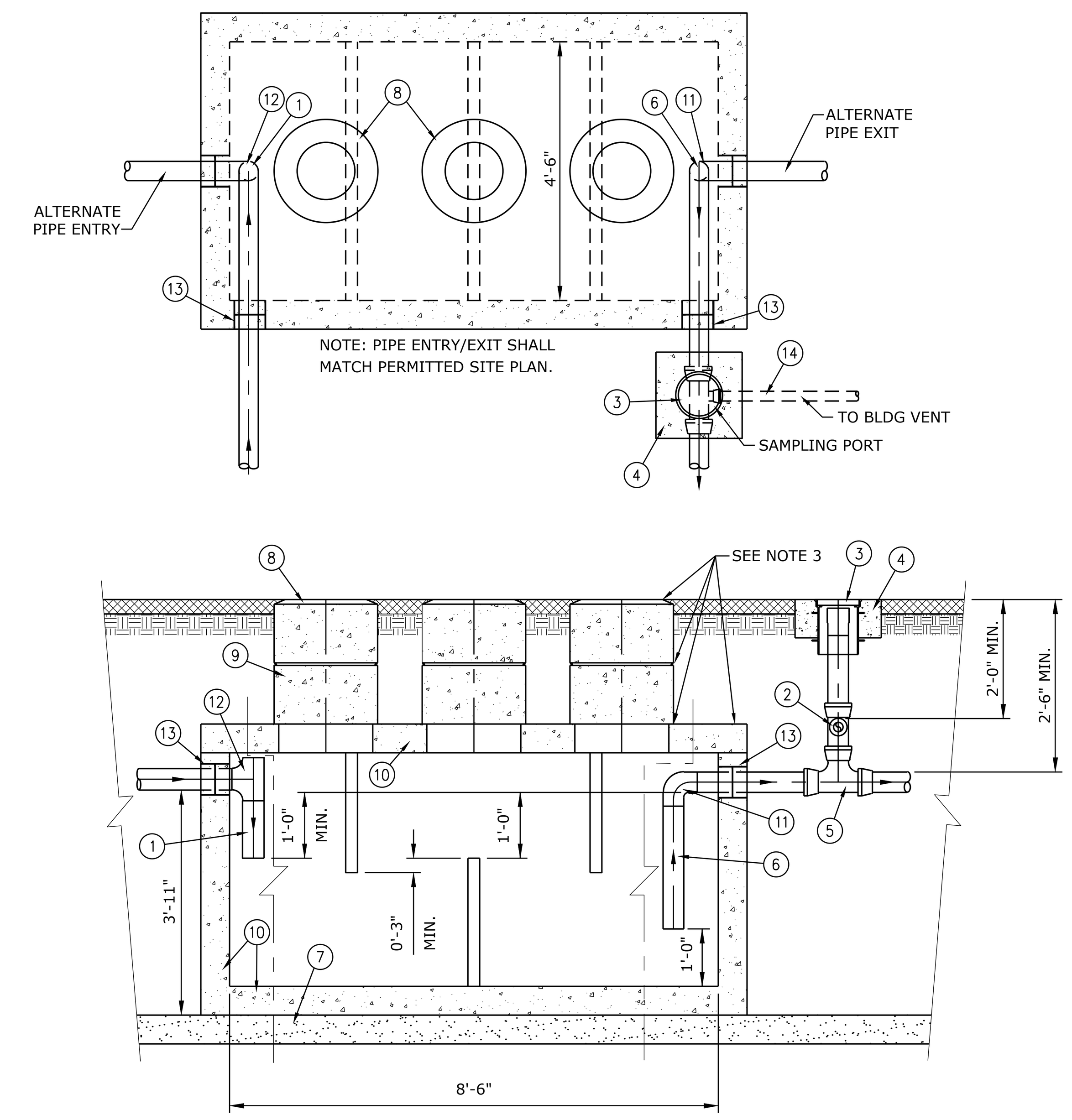
SERVICE	DUCT MATERIAL	DUCT SHAPE	SMACNA REQUIREMENTS CLASSIFICATION	SEAL CLASS	LEAKAGE CLASS	OTHER REQUIREMENTS
SUPPLY AIR DUCTS CONNECTED TO RTU	GALVANIZED STEEL	RECTANGULAR	2" WG POSITIVE	B	12	1", 3LB DENSITY LINER PAINTABLE WHERE EXPOSED
	GALVANIZED STEEL	ROUND/FLAT OVAL (EXPOSED)	4" WG POSITIVE SPIRAL SEAM/FLAT OVAL	B	3	PAINTABLE WHERE EXPOSED
RETURN AIR AND TRANSFER AIR DUCTWORK	GALVANIZED STEEL	RECTANGULAR	2" WG NEGATIVE	B	12	1", 3LB DENSITY LINER PAINTABLE WHERE EXPOSED
GENERAL EXHAUST DUCTS TO THE INLET OF THE FAN	GALVANIZED STEEL	RECTANGULAR OR ROUND	2" WG NEGATIVE	B - RECTANGULAR A - ROUND	12 - RECTANGULAR 3 - ROUND	PAINTABLE WHERE EXPOSED

NOTES:
1: SEE DUCTWORK INSULATION SCHEDULE FOR REQUIREMENTS ON DUCT INSULATION

DUCTWORK INSULATION SCHEDULE

SERVICE	INSULATION
CASINGS, HOUSINGS AND PLENUMS	2", 6 LB. FIBERGLASS BOARD, GCVB
CONCEALED DUCTWORK AS FOLLOWS: ALL ROUND SUPPLY AIR AND UNLINED BRANCH TAKE-OFFS FOR ROUND DUCTS AND IN-LINE TRANSITIONS. EXHAUST AIR BETWEEN ISOLATION DAMPER AND PENTRATION OF BUILDING EXTERIOR RELIEF AIR	1-1/2", 1.5 LB. RIGID FIBERGLASS BLANKET, VAPOR BARRIER FACED, WITH HEAVY DUTY FOIL-SCRIM-KRAFT FACING.

NOTES:
1: SEE DUCTWORK SCHEDULE FOR ITEMS THAT ARE TO BE LINED.
2: EXPOSED, LOW PRESSURE, ROUND AND FLAT OVAL SUPPLY AIR DUCTWORK IS NOT INSULATED.



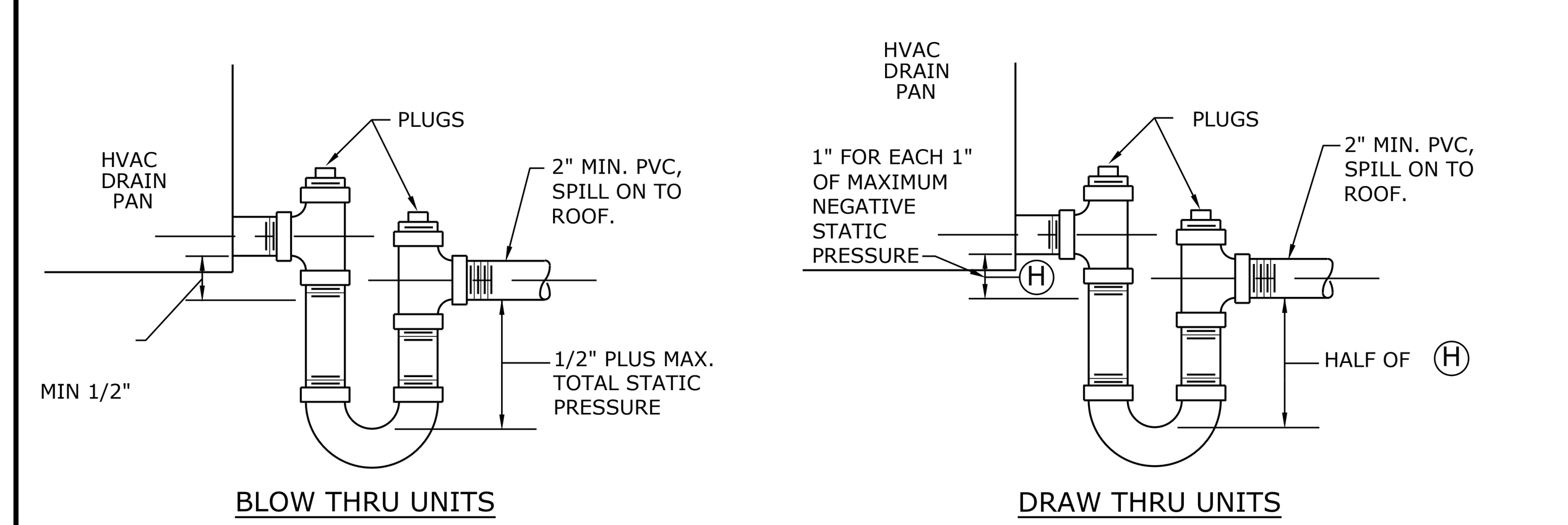
PLAN NOTES:

1. 4" ABS INLET PIPE*
2. 4"x4"x2" TEE WITH 2" PIPE TO BUILDING VENT*
3. THREADED C/O CAP JOSAM 58860 OR APP EQUAL**
4. CONCRETE PAD
5. 4"x4"x4" TWO-WAY CLEANOUT TEE*
6. 4" ABS OUTLET*
7. 4" - 6" GRAVEL BEDDING
8. HEAVY-DUTY CAST IRON FRAME AND COVER ***
9. CONCRETE ADJUSTMENT RINGS
10. REINFORCE AS REQUIRED FOR SERVICE CONDITIONS
11. 4" ABS 90° ELBOW*
12. 4" ABS TEE*
13. A-LOK OR PRESS SEAL PSX PIPE/WALL CONNECTOR
14. 2" VENT PIPE

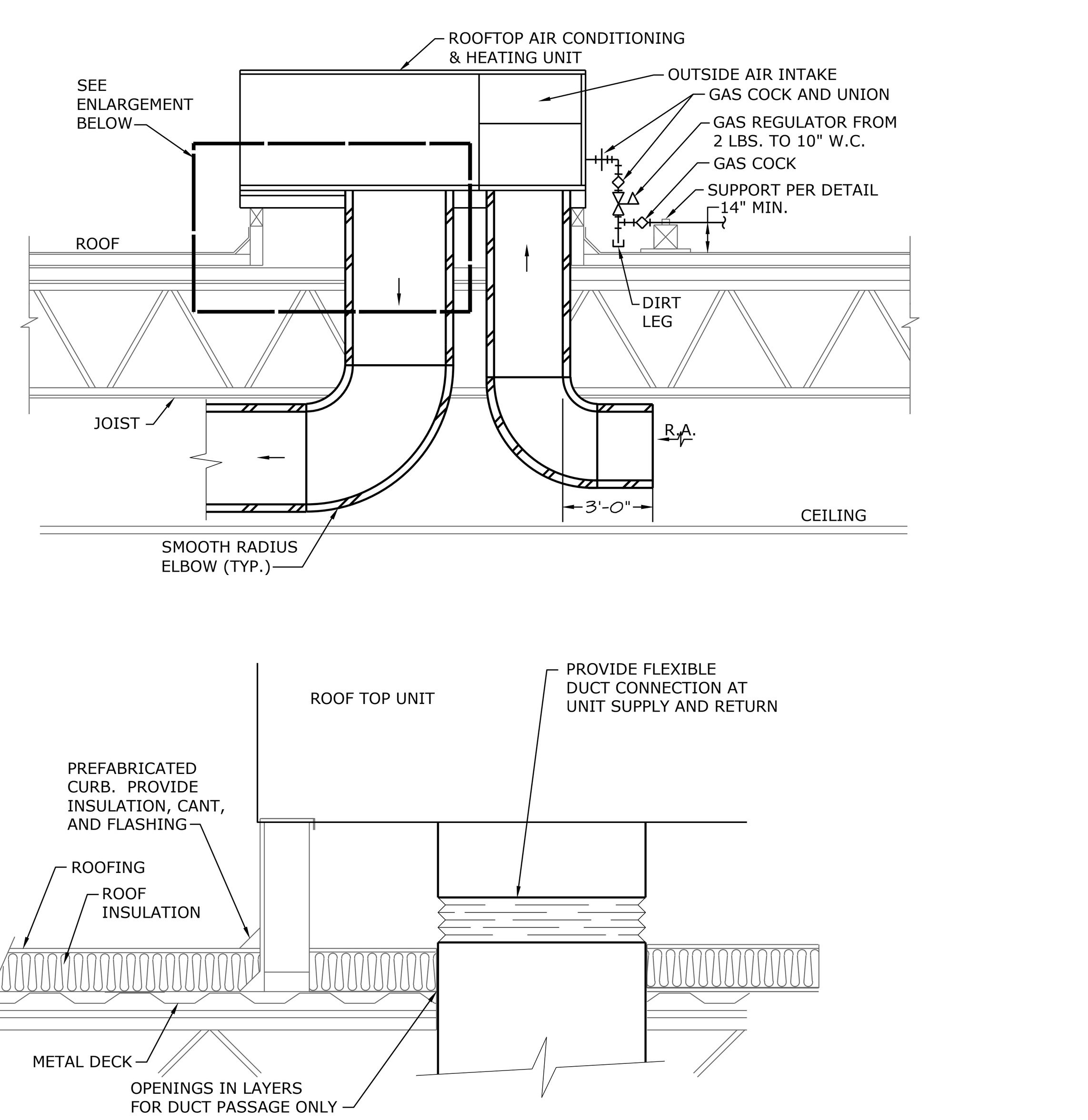
* 6" PIPE MAY BE SUBSTITUDED TO MATCH UPSTREAM PIPE DIAMETER.
** REFER TO CLEAN OUT DETAIL(S) ON STANDARD DETAIL SHEET.
*** CLAY & BAILEY 2008 BV OR EQUAL (FROST PROOF COVERS OPTIONAL)

NOTES:
1. THREE COVERS AND RISERS SHOWN. TWO COVERS AND RISERS CENTERED OVER UPPER TWO BAFFLES ARE OPTIONAL.
2. INTERCEPTOR SIZE - 1000 GAL MIN/2000 GAL MAX (REVISE THE SIZE DIMENSIONS, AS NEEDED, FOR LARGER CAPACITY INTERCEPTORS)
3. ALL JOINTS AT THE FRAME & COVER, CONCRETE ADJUSTMENT RINGS AND THE LID OF THE INTERCEPTOR SHALL BE SEALED WITH A MINIMUM OF TWO (2) ROWS OF 3/4 TO 1 INCH PREFORMED BITUMASTIC JOINT SEALER AND A 6" BUTYL JOINT WRAP AROUND SLEEVE (EZ WRAP). THE ENDS OF THE 6" EZ WRAP SHALL OVERLAP BY 12". BASIN SHALL BE WATER TIGHT.
4. PIPING ON THE INTERIOR OF THE INTERCEPTOR SHALL BE ABS WITH SOLVENT-WELDED JOINTS

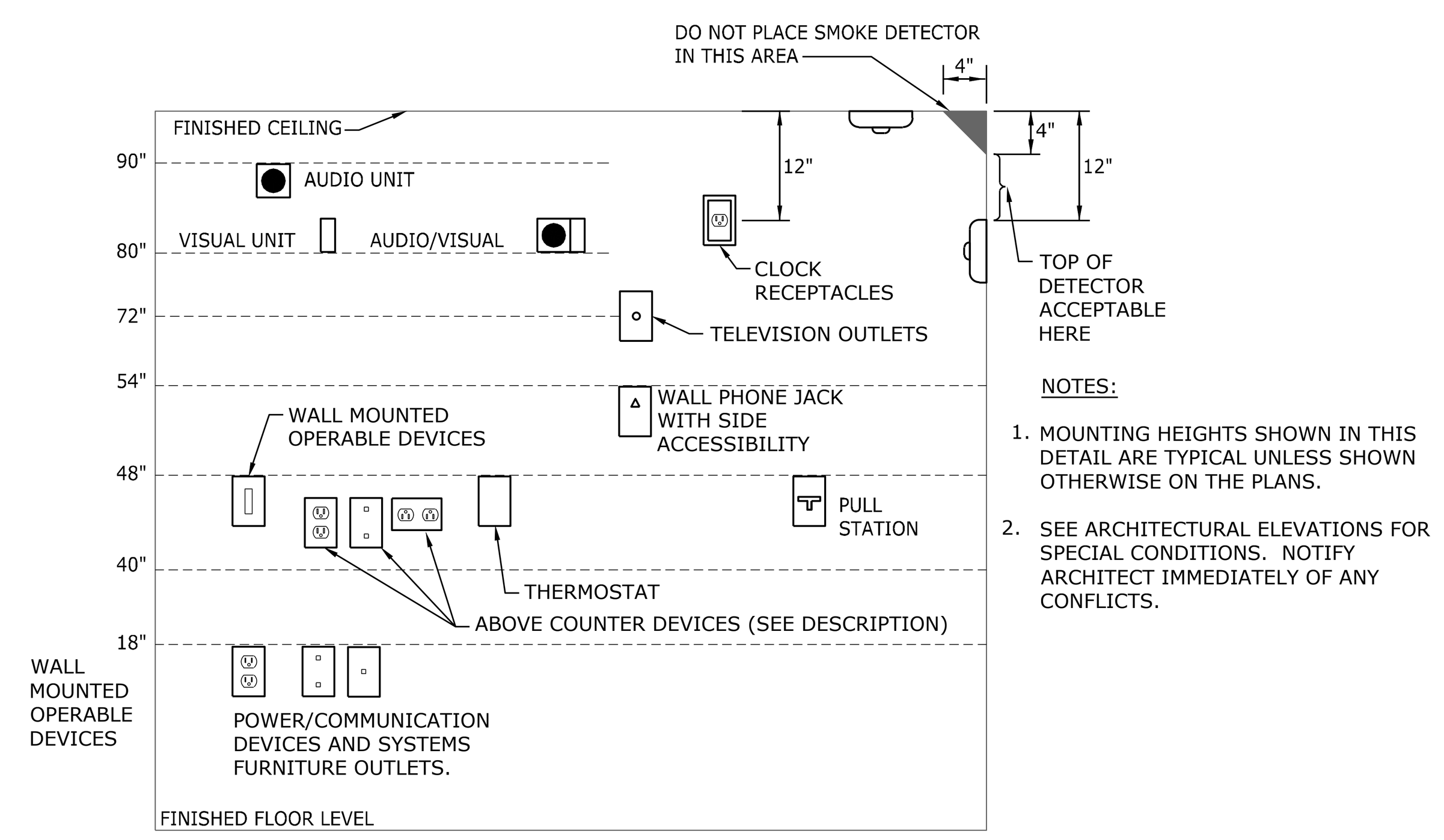
GREASE INTERCEPTOR
NOT TO SCALE



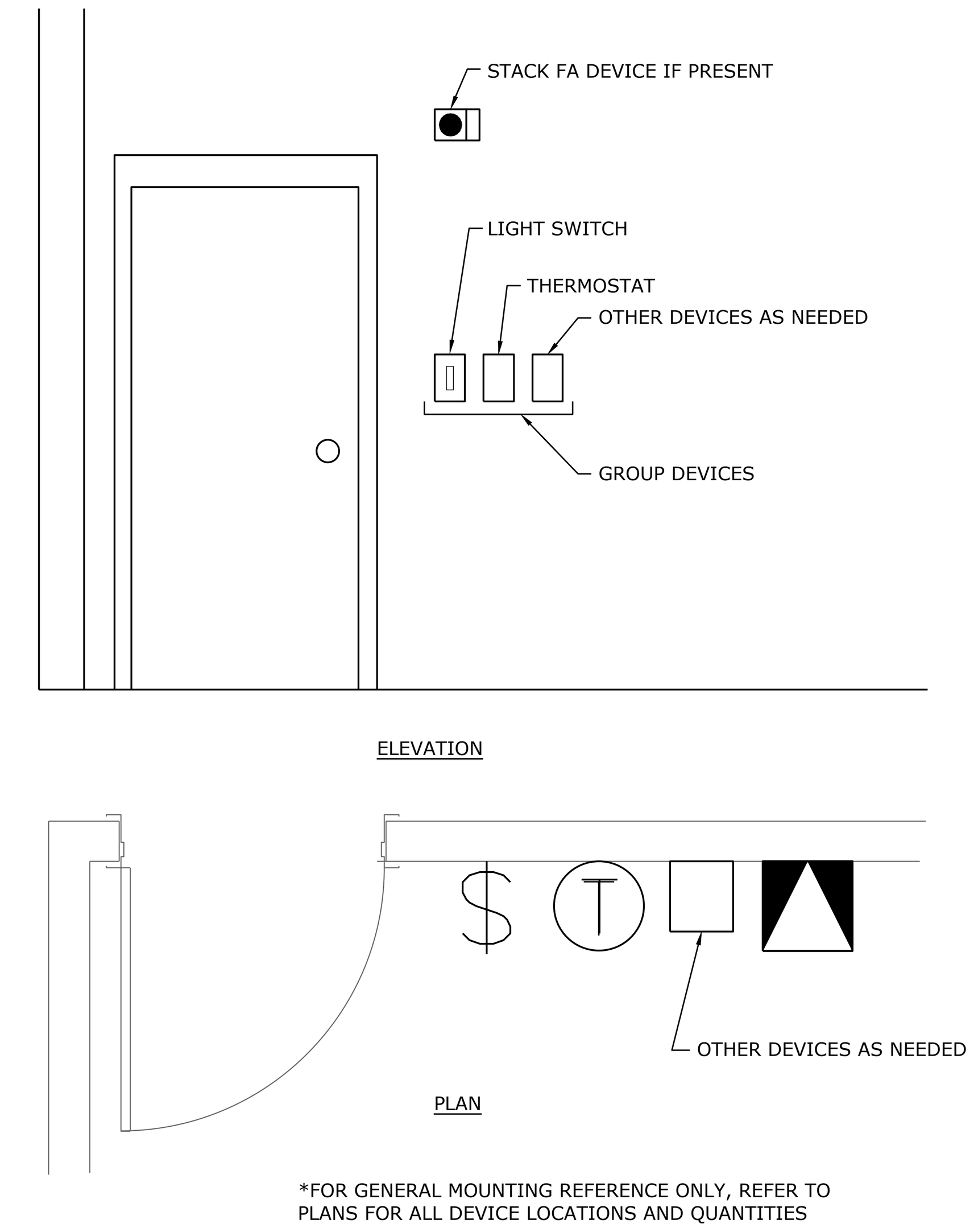
CONDENSATE DRAIN TRAP DETAIL
NOT TO SCALE



ROOFTOP UNIT AND CURB DETAIL
NOT TO SCALE



NOTES:
1. MOUNTING HEIGHTS SHOWN IN THIS DETAIL ARE TYPICAL UNLESS SHOWN OTHERWISE ON THE PLANS.
2. SEE ARCHITECTURAL ELEVATIONS FOR SPECIAL CONDITIONS. NOTIFY ARCHITECT IMMEDIATELY OF ANY CONFLICTS.



*FOR GENERAL MOUNTING REFERENCE ONLY, REFER TO PLANS FOR ALL DEVICE LOCATIONS AND QUANTITIES

VISUAL UNIT (FIRE ALARM NOTIFICATION DEVICES) DEVICE 80" ABOVE HIGHEST FLOOR LEVEL OR 6" BELOW CEILING WHICH EVER IS LOWER (ADA 2010). BOTTOM OF DEVICE 80" AFF (NFPA).

AUDIO UNIT (FIRE ALARM NOTIFICATION DEVICE) TOP OF UNIT AT LEAST 90" AFF OR 6" BELOW CEILING WHICH EVER IS LOWER (NFPA).

AUDIO/VISUAL UNIT (FIRE ALARM NOTIFICATION DEVICE) LOCATION DETERMINED BY VISUAL UNIT REQUIREMENTS (NFPA).

PULL STATION (FIRE ALARM ACTIVATION DEVICE) HIGHEST OPERABLE PART SHALL NOT BE MORE THAN 48" ABOVE THE FLOOR (FRONT APPROACH) ADA 2010. OPERABLE PART (T-HANDLE) SHALL BE NOT LESS THAN 42" AFF (NFPA).

WALL MOUNTED OPERABLE DEVICES

OPERABLE DEVICES SHALL BE LOCATED 48" AFF. TO THE TOP OF OPERABLE PORTION OF DEVICE. WALL MOUNTED TELEPHONES WITH SIDE ACCESSIBILITY MAY BE MOUNTED UP TO 54" AFF. WALL MOUNTED OPERABLE DEVICES INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:
- ADJUSTABLE THERMOSTATS OR C02 SENSORS
- LIGHTING SWITCHES/DIMMERS/CONTROLS
- PUSH BUTTONS
- OTHER CONTROL OR "CALL" DEVICES

POWER/COMMUNICATION DEVICES:

OUTLETS SHALL BE LOCATED 18" AFF TO THE TOP OF THE BOX.
*ABOVE COUNTER DEVICES (PLAN DESIGNATION) SHALL BE LOCATED AT 48" TO THE TOP OF THE BOX, MOUNTED VERTICALLY UNLESS ABOVE CASEWORK. WHEN ABOVE CASEWORK LOCATE THESE DEVICES AT 2" ABOVE BACKSPLASH OF COUNTER TOP MEASURED TO THE BOTTOM OF DEVICE. VERIFY W/ ARCHITECTURAL DETAILS.

WALL MOUNTED DEVICES: MOUNTING HEIGHTS
NO SCALE

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STATE OF MISSOURI
RYAN JEROD DIEDIKER
NUMBER PE-2015006511
REGISTERED PROFESSIONAL ENGINEER
4/24/20

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
05/06/2020

Flying Biscuit
Tenant Improvments
Client Name
Summit Orchard
460 NW Chipman Rd.
Lee's Summit, MO 64086

Revisions:

Project #: #####

Construction Documents
04-24-20

SCHEDULES AND DETAILS - MECHANICAL AND ELECTRICAL

ME301

smith&boucher ENGINEERS
25501 west valley parkway, suite 200 olathe, ks 66061
phone 913.345.2127 fax 913.345.0617
project number 1923001

PROJECT NAME: Summit Orchards Flying Biscuit Landlord Scope or Work
AUTOCAD FILE LOCATION \ NAME: X:\19\19230\1923001\Drawings\01-1923001_ME301.dwg
LAST CORRECTION BY ◆ DATE ◆ TIME: Sclapsaddle Friday, April 24, 2020 11:34:27 AM
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PANEL EXISTING EL

MAIN BUS AMPS:	400 A	**AIC:**	22,000 A	
MAIN BREAKER:	400 A	**SECTIONS:**	2 - 42 SPACE	EQUIPMENT GROUND BUS
VOLTAGE:	208Y/120 V	**MOUNTING:**	SURFACE	
PHASES/WIRES:	3 PH / 4 W	**LOCATION:**		SERVICE ENTRANCE

CIRCUIT DESCRIPTION	POLES	AMPS	CKT NO	CKT NO	AMPS	POLES	CIRCUIT DESCRIPTION
EXISTING LTG - EMERGENCY	*1*	*20*	1	2	**45**	**3**	**RTU-1**
PREPARED SPACE			3	4			
PREPARED SPACE			5	6			
PREPARED SPACE			7	8	**45**	**3**	**RTU-2**
PREPARED SPACE			9	10			
PREPARED SPACE			11	12			
PREPARED SPACE			13	14	**45**	**3**	**RTU-3**
PREPARED SPACE			15	16			
PREPARED SPACE			17	18			
PREPARED SPACE			19	20	**45**	**3**	**RTU-4**
PREPARED SPACE			21	22			
PREPARED SPACE			23	24			
PREPARED SPACE			25	26	**20**	**1**	**RTU-RECEPTACLES ROOF**
PREPARED SPACE			27	28		1	PREPARED SPACE
PREPARED SPACE			29	30		1	PREPARED SPACE
PREPARED SPACE			31	32		1	PREPARED SPACE
PREPARED SPACE			33	34		1	PREPARED SPACE
PREPARED SPACE			35	36		1	PREPARED SPACE
PREPARED SPACE			37	38		1	PREPARED SPACE
PREPARED SPACE			39	40		1	PREPARED SPACE
PREPARED SPACE			41	42		1	PREPARED SPACE
PREPARED SPACE	1		43	44		1	PREPARED SPACE
PREPARED SPACE	1		45	46		1	PREPARED SPACE
PREPARED SPACE	1		47	48		1	PREPARED SPACE
PREPARED SPACE	1		49	50		1	PREPARED SPACE
PREPARED SPACE	1		51	52		1	PREPARED SPACE
PREPARED SPACE	1		53	54		1	PREPARED SPACE
PREPARED SPACE	1		55	56		1	PREPARED SPACE
PREPARED SPACE	1		57	58		1	PREPARED SPACE
PREPARED SPACE	1		59	60		1	PREPARED SPACE
PREPARED SPACE	1		61	62		1	PREPARED SPACE
PREPARED SPACE	1		63	64		1	PREPARED SPACE
PREPARED SPACE	1		65	66		1	PREPARED SPACE
PREPARED SPACE	1		67	68		1	PREPARED SPACE
PREPARED SPACE	1		69	70		1	PREPARED SPACE
PREPARED SPACE	1		71	72		1	PREPARED SPACE
PREPARED SPACE	1		73	74		1	PREPARED SPACE
PREPARED SPACE	1		75	76		1	PREPARED SPACE
PREPARED SPACE	1		77	78		1	PREPARED SPACE
PREPARED SPACE	1		79	80		1	PREPARED SPACE
PREPARED SPACE	1		81	82		1	PREPARED SPACE
PREPARED SPACE	1		83	84		1	PREPARED SPACE

ITALIC - EXISTING
BOLD - NEW

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STATE OF MISSOURI
RYAN JEROD DIEDIKER
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DEVELOPMENT SERVICES
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SCHEDULES AND DETAILS - MECHANICAL AND ELECTRICAL

ME302

smith&boucher ENGINEERS
25501 west valley parkway, suite 200 olathe, ks 66061
phone 913.345.2127 fax 913.345.0617
project number 1923001

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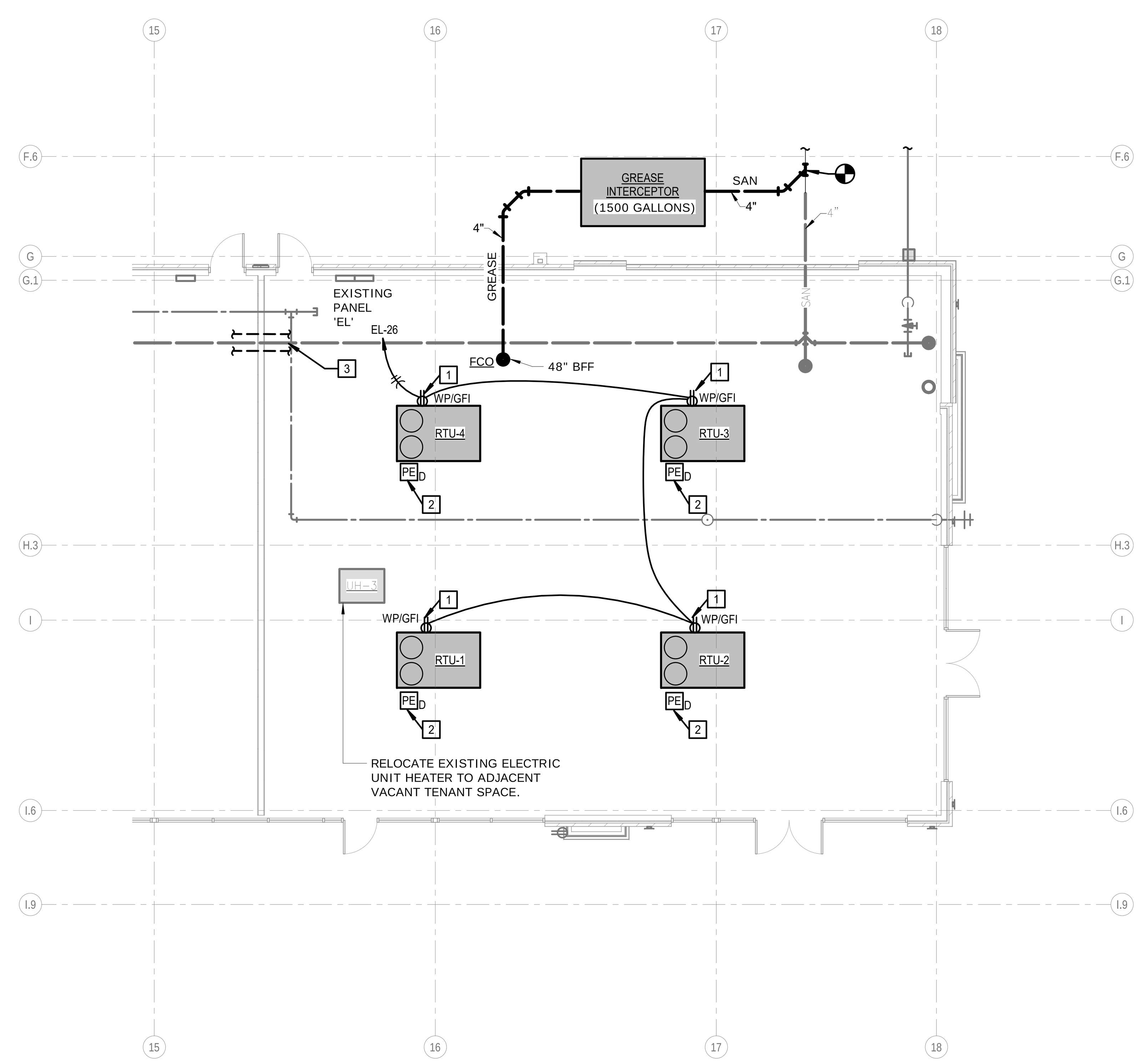

ELECTRICAL GENERAL NOTES:

1. REFER TO M/E SCHEDULES AND DETAILS FOR MECHANICAL EQUIPMENT CIRCUITING INFORMATION.
2. FIRESTOP ALL CONDUIT PENETRATIONS THROUGH FIRE ROUTED WALLS AND FLOORS AFTER INSTALLATION IS COMPLETE.
3. 120V BRANCH CIRCUITING SHALL BE AS FOLLOWS: (UNLESS NOTED OTHERWISE).

   0'-100'=12 AWG.
   101'-150'=10AWG.
   151'-250'=8AWG.

ELECTRICAL PLAN NOTES

1 WEATHER PROOF GFI RECEPTACLE FACTORY PROVIDED WITH EQUIPMENT. PROVIDE ELECTRIC CONNECTION AS NEEDED PER MANUFACTURER RECOMMENDATIONS. REFER TO MECHANICAL SCHEDULE FOR ADDITIONAL DETAIL.

2 FACTORY PROVIDED AND INSTALLED DUCT MOUNT SMOKE DETECTOR FOR SHUTDOWN OF OUTSIDE AIR UNIT, LOCATED IN SUPPLY AND RETURN DUCT. MAKE CONNECTIONS TO UNIT AS REQUIRED FOR CORRECT OPERATION AS NOTED IN THE SPECIFICATIONS AND TO THE FIRE ALARM PANEL. UNIT TO ALSO SHUTDOWN UPON DETECTION OF SMOKE AT ANY OF THE FIRE/SMOKE DAMPERS ASSOCIATED WITH THIS EQUIPMENT. DEMONSTRATION WILL BE THE RESPONSIBILITY OF THE FIRE ALARM OR MECHANICAL CONTRACTOR, INCLUDING FIRE MARSHAL ACCEPTANCE TESTS.

2 (2)1" CONDUIT SLEEVES, ONE FOR PHONE AND ONE FOR DATA. COORDINATE EXACT REQUIREMENT WITH ARCHITECT/OWNER PRIOR TO ROUGH-IN.

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888-756-1958
slaggie.com

STATE OF MISSOURI
RYAN JEROD DIEDIKER
NUMBER PE-2015006511
REGISTERED PROFESSIONAL ENGINEER
4/24/20

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
05/06/2020

Floor Plan - First Floor - Mechanical 1
1/8" = 1'-0"

smith&boucher ENGINEERS
25501 west valley parkway, suite 200 olathe, ks 66061
phone 913.345.2127 fax 913.345.0617
project number 1923001

Flying Biscuit
Tenant Improvments

Client Name
Summit Orchard
460 NW Chipman Rd.
Lee's Summit, MO 64086

Revisions:

Project #: ######

Construction Documents

04-24-20

FIRST FLOOR PLAN - MECHANICAL AND ELECTRICAL

ME401

4/24/2020 1:30:00 PM C:\Users\cbooty\Documents\180902-04_Flying Biscuit_SBI-MEP_2020_CENTRAL_charlesbooty9028.rvt