



THE **M A L L** AT

UNIVERSITY TOWN CENTER



CONSTRUCTION CRITERIA

Updated- January 2023

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Introduction

Information contained in this section has been assembled to assist the architect and the architect's consultants in preparation of Construction Documents and Specifications. The architect is responsible for adhering to the requirements outlined in the **Lease Criteria** as well as the following criteria.

University Town Center will provide an opportunity for Tenant's to express their individual identity & branding through the use of high end, sophisticated and sustainable materials. We encourage the use of sustainable design and construction practices for all aspects of Tenant improvements.

The following Construction Document Criteria and the Design Criteria, which are available on our website at <http://tenantcoordination.taubman.com>, were created to help define the Design Philosophy.

Landlord's Criteria is intended to assist with the Tenant's design with respect to the limitations of the Base Building systems; to ensure that the interfaces between the tenant systems and the Base Building systems conform to the respective limitations. Landlord's Criteria does not ensure satisfactory performance of tenant systems, nor compliance with any Code regulations and ordinances. It is the Tenant's sole responsibility to ensure that tenant systems will perform to the Tenant's satisfaction.

Project Information

Landlord's Tenant Coordinator: The role of the Tenant Coordinator is to serve as liaison between Landlord and the Tenant, Tenant's architect, and Tenant's contractor. All plans and correspondence concerning Tenant's construction are to be submitted to the Landlord's Tenant coordination Department. See Submission Procedures on our website listed below.

Tenant Coordination

The University Town Center

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The University Town Center

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Building Information:

Construction Type: 2B Unprotected/Fully Sprinkled

Zoning Classification: Covered Mall Building/Mercantile

Structural

Modifications and Alterations: Modifications and alterations to Landlord's framing structure and floors will not be permitted without Landlord's prior written approval. In the event that Landlord approves Tenant's request, Tenant shall leave Landlord's structure as strong as or stronger than original design with finishes unimpaired. Conditions vary by location. Refer to Base Building Structural drawings for more information and Field verify all structural conditions:

1. **Floors on Grade: Tenant** shall provide a 4" concrete slab with a minimum strength of 3,000 PSI on a reinforced with 6" x 6" – W1.4 x W1.4 WWF on a vapor barrier (10 mil minimum). **Tenant shall provide additional compacted sand fill and remove excess as required.**

a. **Termite Protection:** Treat soil for termite protection prior to pouring the slabs as needed per code. Provide products by one of the following manufactures:

i. Control Solutions Inc., Dominion 2L Termiticide/Insecticide (Basis-of-Design), BASF Corporation, Agricultural Products, Bayer Environmental Science, FMC Corporation, Agricultural Products Group, Syngenta

b. **Structural Design Loads:** First Level: 100 psf – subject to Landlord review and approval.

2. **Upper-Level Floors:** Landlord provided concrete slab on composite metal deck. Approximate 2" depression may occur within concrete slab in designated areas adjacent to the Tenant's storefront lease line (V.I.F) to allow for tenant's floor finish thickness.

a. **Structural Design Loads:** Second Level: 100 psf – subject to Landlord review and approval.

3. **Mezzanines:** Upper-level floor framing has not been designed to support mezzanines. In the event an upper-level Tenant is approved for a mezzanine, all structural enhancements of the floor framing and associated structure is the sole responsibility of the Tenant. Tenant shall submit structural mezzanine framing drawings and structural calculations verifying capacity of the base building structure, prepared by a structural engineer registered in the State of Florida for Landlord's review and approval.

4. **Roof:** Structural design loads subject to Landlord review and approval. Tenant shall submit loading, roof framing analysis and support details - prepared by a structural engineer registered in the State of Florida for Landlord's review and approval.

5. **Concrete Floor Penetrations and Floor Trenching:** Required by Tenant shall be coordinated with Landlord's Field Representative and shall be reviewed and approved by landlord's structural consultant.

a. All floor penetrations in food service/preparation areas and toilet rooms shall have watertight sleeves extending a minimum of 4" above finish floor.

b. Concrete Floor Trenching on upper level floor framing is not permitted

i. Cores Only – maximum 4" diameter

i. Spacing and quantity of cores to be reviewed and approved by landlord structural consultant.

6. **Vibration Isolation and Sound Attenuation:** Vibration isolation requirements must be provided for all equipment (floor mounted and suspended).

a. Speaker systems must provide sound attenuation materials and installation methods so as not to infringe on adjacent tenant's quiet enjoyment.

b. Speakers must be located 20ft +/- from store entry and equipped with a separate volume control.

Floor - General Requirements

- 1. Transitions: All floor finishes at the storefront lease line shall be the same finish floor elevation (flush) as the Landlord's mall floor and provide recessed Schluter Type or equivalent transition strips***
 - a. All toilet rooms are to have an ADA compliant marble threshold (or equivalent) to contain water in the event of a leak.
- 2. Expansion Joints:** Expansion joints in sales areas must be detailed and illustrated in the Construction Documents. Expansion joint material must be compatible with the floor finish materials.
- 3. Anti-Fracture Membrane - Floor Isolation:** It is recommended to install an Anti-Fracture Membrane at the column lines, transitions between the structural slab and any shrinkage cracks that are evident.

Mechanical Design

1. Landlord Provisions

a. **Multiple-Zone Variable-Air Volume (VAV) Central HVAC System (Cooling Only)**

- i. Packaged rooftop units (RTU) provide supply air at a constant temperature and varying flow rate to each tenant to satisfy a specified temperature setpoint.
- ii. High velocity duct mains with point of connection(s) for tenant within leased premises, tenant to verify duct tap(s) locations in field.
- iii. The landlord provided system is cooling only, if needed tenant shall be responsible for providing supplemental heating as specified by landlord.
- iv. Outside air provided in accordance with ASHRAE 62.1.
- v. Landlord system will not operate during shopping center off-hours as determined by landlord.

b. **Landlord Provided Supply Air Characteristics**

- i. ***Lower-Level Tenants – Maximum Allowed 0.9 CFM/SF.***
- ii. ***Tenants with Roof Above – Maximum Allowed 0.95 CFM/SF.***
- iii. Supply Air Temperature Setpoint – 56° F

c. **Design Conditions (Based on Governing Energy Code)**

- i. Indoor Conditions
 - i. Summer – Minimum 76° FDB
 - ii. Winter – Maximum 70° FDB
 - iii. Lighting – 5.0 Watts/SF as allowed per governing codes
 - iv. Occupancy – 1 person / 77 SF
- ii. Outdoor Conditions
 - i. Summer – 93° FDB / 73° FWB
 - ii. Winter – 77° FDB

d. **Toilet Exhaust System**

- i. Point of connection within leased premises, tenant to verify size and location in field.

e. **Building Automation System Communication Loop**

- i. Point of connection within leased premises, tenant to verify location of communication loop junction box in field.

2. Tenant General Requirements

a. **Tenants designated to install Individual Heating, Ventilating and Air Conditioning Systems: (Spaces 101,103,105,107,173,174 ONLY)**

- i. Depending on Lease Requirement and location, some tenants may provide their own individual system, subject to landlord review and approval (i.e., heating, ventilation and air-conditioning equipment and controls, ducts, insulation, water supply, venting and drainage, fresh air supply and return, exhaust and make-up air, dehumidification and

humidification equipment, water saving equipment and all structural, plumbing, and electrical work related thereto).

- ii. All equipment shall be designed in accordance with governing codes and adhere to the criteria below where applicable.

b. Base Building Systems

- i. Tenant shall not make modifications to landlord's base building systems without prior approval from landlord.
- ii. Any damage done to the landlord's base building or systems by tenant during construction shall be repaired by the landlord at the tenant's expense.

c. Professional Engineer: Tenant shall engage a professional engineer licensed in the state of Florida to prepare mechanical construction drawings and specifications.

d. Load Calculations:

- i. Tenant shall include space load calculations on the construction drawings.
- ii. Calculations shall conform to Florida Building Code – Energy Conservation, ASHRAE standards, and the landlord provided design conditions.

e. Construction Standards: All mechanical work shall be installed per governing codes and the landlord's tenant criteria.

f. As-Builts: Upon completion of tenant build out, the tenant shall provide one (1) set of pdf as-built plans for all mechanical work to the landlord.

g. Testing and Balancing

- i. The tenant shall use an AABC or NEBB certified HVAC balancing contractor to adjust and balance the tenant's HVAC systems.
- ii. Balance shall be done per the design air quantities indicated on the tenant's design drawings, but not in excess of airflow capacity designated by the Landlord.
- iii. Balancing of terminal units must be coordinated with the landlord's BAS contractor.
- iv. A certified balancing report must be submitted to the landlord for review and approval at least two weeks prior to opening of the leased premises or as directed by landlord.
- v. If balancing is not performed by tenant, the landlord shall balance the tenant's HVAC system at the tenant's expense.

h. Space Odors: Tenants that produce odors must make provisions for maintaining acceptable negative air pressures within their space with respect to adjacent tenants and the mall concourse.

i. Existing Work: Existing systems from previous tenant cannot be abandoned in place and must be demolished entirely if not being re-used.

- j. **Roof Openings:** Cutting and patching of roof openings shall be performed by the landlord's contractor at tenant's expense.
 - k. **Return Air Openings:** Tenant's with ceilings will require return air openings in adjacent demising walls for passage of return air. Sizes of return air openings and approximate locations shall be determined by Landlord and provided to the Tenant for coordination with adjacent Tenants.
 - l. **Labeling:** Equipment shall be labeled as required by landlord tenant construction rules and regulations manual.
- 3. Tenant Equipment and Control Requirements**
- a. **Equipment Access:** Proper access shall be provided and maintained for landlord and tenant installed equipment/accessories.
 - b. **Outside Air VAV Terminal Units**
 - i. Tenant to provide at least one (1) Single Duct terminal unit
 - ii. Compatible with direct digital controls
 - iii. 110v, single phase dedicated electrical circuit required.
 - c. **VAV Terminal Unit Controls**
 - i. ***Tenant shall use landlord approved BAS contractor to furnish and install VAV box controllers, thermostats, zone sensors, and all associated control wiring at tenant's expense.***
 - ii. All control wiring shall be installed in conduit.
 - iii. Prior to the start of demolition, the tenant shall have the landlord approved contractor safe off existing VAV controls that will not be re-used at tenant's expense.
 - d. **Roof Mounted Equipment**
 - i. Tenant rooftop equipment shall be located in areas designated by landlord at specified heights and shall submit a roof plan showing all existing and new equipment within the vicinity of the tenant space.
 - i. Should the weight or location of tenant rooftop equipment require additional supports, screens, catwalks, roof hatches, etc. they shall be provided by the tenant according to the landlord's specifications.
 - ii. Tenant shall submit a roof loading analysis and support details prepared by a structural engineer registered in Florida. All equipment shall be mounted on rails or roof curbs and anchored to the supporting structure to withstand wind and seismic effects per governing codes. Anchorage requirements shall be provided on mechanical plans.
 - iii. Roof equipment placement shall be done by crane or helicopter, equipment shall not be rolled across or improperly rested upon the roof. An equipment pick plan shall be submitted to the landlord for approval before commencement of rooftop equipment placement work.

- iv. All rooftop equipment shall be painted according to landlord's specifications.

e. Restroom Exhaust Fans

- i. Inline or ceiling mounted.
- ii. Provide with backdraft damper.
- iii. Connect to landlord provided toilet exhaust duct main.

f. Supplemental Heat System

- i. Those Tenants affected by external heat losses (exterior walls, doors, windows, floors, etc.) may install independent electric heat from Tenant's power source upon Landlord approval and consisting of the following:
 - i. Roof: By self-contained, thermostatically controlled electric unit heaters installed in the space between ceiling and roof. Unit heaters shall be designed to maintain a minimum inside dry bulb temperature of 55°F in this plenum. Thermostat shall be set and locked at 55°F.
 - ii. Exterior Wall, Doors, Windows: By self-contained, thermostatically controlled electric heaters or electric baseboard type radiant heaters. Heaters shall be designed to maintain a minimum inside dry bulb temperature of 70°F in affected spaces.

g. Fire Dampers

- i. Shall be UL listed.
- ii. Provide at locations where ductwork penetrates a fire rated assembly.

4. Tenant Material and Installation Requirements

a. Tenant Interface Drawings: Refer to HVAC & BAS – Schematic Diagrams for more information on tenant fit out guidelines and connections to landlord systems.

b. Hangers and Supports

- i. Hangers and supports shall be supported from structural members only (not secured to the deck above).
- ii. Additional intermediate structural supports for hangers shall be installed as needed upon landlord approval.
- iii. All duct hangers exposed to public view shall be wire or rod type, shall be evenly spaced, and shall be grouped as much as possible with other trades for uniformity.

c. Main and Branch Ductwork

- i. Ductwork shall be fabricated of minimum 26-gauge galvanized steel,
- ii. Flexible ductwork is permitted for final connection to air devices (maximum length as specified per governing code).
- iii. Main duct branch connections shall be via 45-degree entry, bellmouth, or conical type and shall be provided with a locking quadrant type volume damper.

- iv. Square and rectangular duct elbows shall have double thickness turning vanes.
- v. Supply and outside air ductwork shall be insulated as required by governing codes.

5. Tenant Food Service Requirements

a. Kitchen Hoods

- i. Type I hoods shall be installed where cooking appliances produce grease or smoke as a result of the cooking process.
 - i. Shall include UV light system for grease mitigation in ductwork.
 - ii. Shall be provided with an approved automatic fire suppression system complying with governing codes.
 - iii. *The kitchen hood fire suppression system shall be connected to the base building fire alarm system for monitoring, at the tenant's expense.***
- ii. Type II hoods shall be installed above dishwashers and appliances that produce heat or moisture and do not produce grease or smoke as a result of the cooking process.
- iii. Kitchen hoods shall be constructed and installed as required by governing codes.

b. Grease Ductwork

- i. Grease ductwork shall be constructed, installed, and tested as required by governing codes.
- ii. Grease ductwork shall be encompassed by an approved rated enclosure where required by governing codes.
- iii. Routing of grease ductwork and placement of access doors beyond the tenant's space shall be approved by landlord.

c. Kitchen Exhaust Fans

- i. Shall be up-blast discharge type bearing evidence of UL & NSF approval for kitchen exhaust service.
- ii. Locate a minimum of 30 feet horizontally away from outside air intakes or openings to the building.
- iii. Grease drain and trap.
- iv. Cleanout port.
- v. G2 grease guard rooftop defense system
- vi. Minimum 40" discharge above the roof.

d. Pollution Control Units (PCU)

- i. A PCU shall be provided as required by governing codes.
- ii. Landlord reserves the right to require tenant to provide a pollution control unit if kitchen exhaust fans do not meet the minimum landlord required distance from outside air intakes or openings into building.

- iii. PCUs shall be factory assembled and capable of significantly reducing smoke, grease, and odor from the exhaust air stream
 - iv. PCUs shall be provided with an approved fire-extinguishing system and an internal detection system capable of activating fire-extinguishing system protecting the unit.
- e. Make-Up Air Units**
- i. Make-up air units shall be required to deliver fresh air to tenant kitchen/hood(s).
 - ii. Make-up air units shall be installed a minimum of 36" above the roof surface.
 - iii. Make-up air units shall be interlocked to start with the associated exhaust air system.
- f. Kitchen Systems**
- i. Systems shall be designed and constructed such that the space is maintained at a negative pressure relative to the mall common area.
 - ii. Tenant make-up air systems shall replace the minimum amount of exhaust air as required by governing codes.
- g. General Maintenance**
- i. Food service tenants shall clean their filters, hoods, duct systems, and grease collecting devices on a regular basis as determined by landlord.
 - ii. Tenants shall take the appropriate steps necessary to prevent the depositing and accumulation of grease on the roof, damage to the roof resulting from tenant neglect shall be repaired by the landlord at tenant's expense.
 - iii. The Landlord reserves the right to maintain the tenant's hoods, duct systems, and grease collecting devices at Tenant's expense.
- h. Duct Lining:** Food service tenants shall not use internally lined ductwork.

Plumbing Design

1. Landlord Provisions

- a. **Domestic Water:** Point of connection on main line within leased premises, tenant to verify size and location in field.
- b. **Sanitary Waste:** Point of connection on main line below leased premises, tenant to verify size and location in field.
- c. **Sanitary Vent:** Point of connection on main line within leased premises, tenant to verify size and location in field.
- d. **Grease Waste:** Point of connection may be existing on main line for food and beverage service tenants, tenant to verify existence and location in field.
- e. **Gas Manifold:** Provided by utility company located in exterior service courts, tenant to verify location and capacity in field. Gas piping to leased premises may be existing from previous tenant and can be reused if deemed to be in acceptable condition upon inspection and test. Note that Gas is only available to food and beverage service tenants.

2. Tenant General Requirements

- a. **Base Building Systems**
 - i. Tenant shall not make modifications to landlord's base building systems without prior approval from landlord.
 - ii. Any damage done to the landlord's base building or systems by tenant during construction shall be repaired by the landlord at the tenant's expense.
- b. **Professional Engineer:** Tenant shall engage a professional engineer licensed in the state of Florida to prepare plumbing construction drawings and specifications.
- c. **Construction Standards:** All plumbing work shall be installed per governing codes and the landlord's tenant criteria.
- d. **As-Builts:** Upon completion of tenant build out, the tenant shall provide one (1) set of pdf as-built plans for all plumbing work to the landlord.
- e. **Plumbing Calculations:** Plumbing tabulations shall be provided on drawings to include water supply fixture units (WSFU), drainage fixture units (DFU), and grease interceptor sizing calculations (if applicable).
- f. **Tenant Criteria Sections:** Refer to Architectural and Structural sections of tenant criteria for information on floor and wall construction requirements.
- g. **Existing Work:** Existing systems from previous tenant cannot be abandoned in place and must be demolished entirely if not being re-used.
- h. **Roof Openings:** Cutting and patching of roof openings shall be performed by the landlord's contractor at tenant's expense.
- i. **Labeling:** Equipment and piping shall be labeled as required by landlord tenant construction rules and regulations manual.

- j. **Plumbing Facilities:** Please see Tenant Fixturing Map for any requirements. Also see the **Architectural Design Section** for further information.

3. **Tenant Equipment and Fixture Requirements**

- a. **Equipment Access:** Proper access shall be provided and maintained for landlord and tenant installed equipment/accessories.

- b. **Water Meter**

- i. **Provide Seametrics MJNR meter with 10G output with remote readout capability to connect to Landlord BAS (Tricon S Register or equivalent, setup for 10 gallons per pulse output).**
- ii. Water meter shall be installed in an accessible location a maximum of 5 feet above finished floor (preferably in tenant restroom).
- iii. **Control wiring from water meter to controller for monitoring shall be done by landlord approved BAS contractor at tenant's expense.**

- c. **Water Heaters**

- i. Tenants shall provide instantaneous, or storage type water heater(s) as required.
- ii. Storage type water heaters shall be floor mounted and provided with the following:
 - i. Vacuum relief valve
 - ii. Temperature and pressure relief valve with discharge piping to an indirect waste receptor
 - iii. 3/4" drain valve with male garden hose threads
 - iv. Heat trap nipples
 - v. Expansion tank
 - vi. Minimum 24 gage galvanized steel drain pan with discharge piping to an indirect waste receptor

- d. **Plumbing fixtures**

- i. Shall be commercial grade.
- ii. Shall Comply with ADA guidelines.
- iii. Shall not exceed code specified maximum flow rates.
- iv. Dry retail water closets shall be tank type (flushometer valves are not acceptable).
- v. A minimum of one (1) mop sink shall be provided within tenant space.
 - i. **Mop sink for kiosks shall be concealed from public view and requirements shall be verified with local municipality.**
- vi. Restrooms, janitor closets, etc. shall include at least one (1) floor drain, minimum size 3" (all floor drains shall be provided with trap primers).

- e. **Hair interceptors**

- i. Shall be installed on all sinks, basins, special sanitary units, etc. which in any way receive human or animal hair.
- ii. All hair interceptors must be made accessible and maintained.

4. Tenant Material and Installation Requirements

a. Tenant Interface Drawings: Refer to HVAC & BAS – Schematic Diagrams for more information on tenant fit out guidelines and connections to landlord systems.

b. Hangers and Supports

- i. Hangers and supports shall be supported from structural members only (not secured to the deck above).
- ii. Additional intermediate structural supports for hangers shall be installed as needed upon landlord approval.
- iii. Cast iron pipe must be supported at least every five feet and at every joint/fitting.
- iv. All hangers exposed to public view shall be evenly spaced and grouped as much as possible with other trades for uniformity.
- v. Supports are required for all piping routed across the roof.

c. Domestic Water Piping

- i. Above Grade: Type L drawn-temper copper tubing conforming to ASTM B88 with solder-joint fittings.
- ii. Below Grade: Type K drawn-temper copper tubing conforming to ASTM B88 with solder-joint fittings.
- iii. All valves for domestic water shall have a minimum CWP rating of 125 psi.

d. Sanitary Waste and Vent Piping

- i. Above Grade: Service weight hubless cast-iron pipe conforming to ASTM A 888 with stainless steel shield and clamps no-hub coupling.
- ii. Below Grade: Solid-wall schedule 40 PVC conforming to ASTM D 2665 with PVC socket fittings.

e. Gas Piping

- i. Black steel schedule 40 pipe conforming to ASTM A 53 with steel press-connect fittings conforming to CSA LC-4 or as may be required by governing codes and landlord's insurance provider.
- ii. All valves for natural gas piping shall be bronze plug valves with a minimum pressure rating of 125 psi.
- iii. Tenants requiring natural gas shall arrange for gas service directly with gas utility.
- iv. Tenant shall install all gas piping to and within their space.
- v. Routing of gas piping to tenant space shall be approved by landlord.
- vi. All exterior gas piping shall be painted per landlord's specification.
- vii. Gas piping on roof shall be installed on landlord specified roller supports.
- viii. Gas piping shall be labeled per governing codes along with the tenant's name and space number.

- f. **Condensate Piping**
 - i. Condensate piping material shall be copper type DWV
 - g. **Pipe Sleeves:** Shall be installed for penetrations through floor slabs.
 - h. **Escutcheons:** Shall be provided at pipe penetrations through walls and partitions within finished areas.
 - i. **Insulation:** All hot water and condensate piping shall be insulated as required by governing codes and be rated for use in a return air plenum.
 - j. **Drain Pans:** An auxiliary drain pan with leak detection shall be provided below plumbing piping that is routed through base building mechanical/electrical rooms and under air handling units with evaporator coils located indoors.
5. **Tenant Food Service Requirements**
- a. **Grease Waste**
 - i. Tenant shall provide a grease waste disposal system in accordance with governing codes.
 - ii. Certain tenant spaces as designated by landlord have been provided with a grease waste system point of connection routed to an external grease interceptor.
 - iii. ***A floor mounted grease interceptor shall be provided for each three (3) compartment sink.***
 - iv. Tenant furnished grease interceptors shall be in accordance with governing codes.
 - i. Provide grease waste sampling port as required by governing code.
 - b. **Floor Drains**
 - i. Kitchens, walk in coolers, and other wet areas shall include at least one (1) floor drain, minimum size 3" (all floor drains shall be provided with trap primers).

Electrical Design

1. Landlord Provisions

a. Electrical Service

- i. 277/480 Volt, 3 Phase, 4 Wire, 60 Hertz

b. Distribution Switchboard

- i. In-line meter compartment
 - i. Tenant shall coordinate with utility company for installation of meter or use of existing meter

c. Telecommunications

- i. Telecommunications service backbone from minimum point of entry (MPOE) to intermediate distribution frames (IDF) throughout the center.
- ii. Point of connection to IDF located within tenant space for connection by tenant, tenant to verify location in field.

2. Tenant General Requirements

a. Base Building Systems

- i. Tenant shall not make modifications to landlord's base building systems without prior approval from landlord.
- ii. Any damage done to the landlord's base building or systems by tenant during construction shall be repaired by the landlord at the tenant's expense.

b. Professional Engineer: Tenant shall engage a professional engineer licensed in the state of Florida to prepare electrical construction drawings and specifications.

c. Constructions Standards: All electrical work shall be installed per governing codes and the landlord's tenant criteria.

d. As-Builts: Upon completion of tenant build out, the tenant shall provide one (1) set of pdf as-built plans for all electrical work to the landlord.

e. Existing Work: Existing systems from previous tenant cannot be abandoned in place and must be demolished entirely if not being re-used.

f. Roof Openings: Cutting and patching of roof openings shall be performed by the landlord's contractor at tenant's expense.

g. Compliance Forms: Tenant shall complete energy compliance forms as required per governing codes.

h. Electrical Data Tabulation Sheets

- i. Shall be certified by engineer of record
- ii. Submit with construction documents for landlord review process

i. Labeling: Equipment shall be labeled as required by landlord tenant construction rules and regulations manual.

3. Tenant Equipment and Fixture Requirements

- a. **Required Access:** Proper access shall be provided and maintained for landlord and tenant installed equipment, junction boxes, and accessories.
- b. **Electrical Meter**
 - i. Tenant shall coordinate with utility company for installation of meter.
- c. **Circuit Breakers**
 - i. Tenant shall use landlord approved contractor to furnish and install circuit breaker as required for electrical service in landlord provided metering switchboard.
- d. **Panelboards**
 - i. Provide panelboard(s) designed for 20% minimum spare ampacity (based on connected load) and 20% spare breaker space.
 - ii. Loads shall be balanced across all phases.
 - iii. ***Electrical Panels for kiosks shall be concealed from public view and requirements shall be verified with local municipality.***
 - iv. ***Ensure sufficient space in front of electrical equipment is provided to meet electrical code requirements. Consider marking the floor areas in front of electrical equipment to ensure items are not placed or stored in these areas.***
- e. **Transformers**
 - i. Provide three phase dry type transformer located within the leased premises.
 - ii. Transformers shall be mounted on the floor or structural wall, not from the building structure or demising walls.
- f. **Lighting Fixtures (Refer to Architectural Design Section)**
- g. **Exit/Emergency Lighting System**
 - i. Tenant shall provide exit and emergency lighting system as required by governing codes.
 - ii. Emergency lighting shall be battery-operated with recessed or twin-head configuration.
 - iii. In areas visible to customers, battery assembly for exit and emergency lights shall be concealed and remote type light fixtures used.
 - iv. **Exit signs must be green on edge lit or white background per governing codes.**
- h. **Signage**
 - i. Circuits serving sign(s) shall be connected by a time switch.
- i. **Telecommunications**
 - i. ***Tenant shall coordinate with landlord's telecommunications service provider (Granite) for account set up and scheduling service activation.***

- j. **Roof Mounted Antennas or Equipment**
 - i. The addition of any roof mounted antennas or equipment must be approved by landlord and installed by landlord approved contractor.
 - ii. All equipment shall be mounted on rails and anchored to the supporting structure to withstand wind and seismic effects per governing codes.
 - iii. ***The use of sled, ballast, or platform mounts are not permitted***
 - k. **Service Call System**
 - i. Tenant shall provide and install a buzzer call system located at the back of house service corridor entrance.
 - ii. Buzzer call system shall not be audible in sales floor area.
4. **Tenant Material and Installation Requirements**
- a. ***Tenant Interface Drawings: Refer to HVAC & BAS – Schematic Diagrams for more information on tenant fit out guidelines and connections to landlord systems.***
 - b. **Hangers and Supports**
 - i. Hangers and supports shall be supported from structural members only (not secured to the deck above).
 - ii. Additional intermediate structural supports for hangers shall be installed as needed upon landlord approval.
 - iii. All hangers exposed to public view shall be evenly spaced and grouped as much as possible with other trades for uniformity.
 - iv. Supports are required for all piping routed across the roof.
 - c. **Electrical Wiring**
 - i. All conductors shall be insulated soft-drawn annealed copper type THHN/THWN building wire and color coded (aluminum conductors are not allowed).
 - ii. Tenant shall provide electrical service feeders in conduit from landlord’s metering switchboard to tenant’s premises.
 - i. Electrical feeders shall be sized for no more than a three percent (3%) voltage drop.
 - d. **Conduit**
 - i. ***All interior electrical wiring shall be in electric metal tubing (EMT), metal-clad cable is not permitted.***
 - ii. ***All exterior electrical wiring shall be in rigid metal conduit (RMC).***
 - iii. Speaker, security, or other low voltage wiring within the tenant’s leased premises shall be installed in conduit.

e. Neutral Conductor

- i. The neutral conductor shall not be bonded to ground at the tenant's electrical distribution equipment. The ground fault protection in the landlord's distribution system will not function properly if the neutral is bonded to ground anywhere.

Fire Alarm Design

1. Landlord Provisions

- a. **Addressable Fire Alarm Panel:** Located in base building Fire Command Center.
- b. **Tenant Interface Junction Box (TIB)**
 - a. Signaling and notification circuits from base building fire alarm panel routed to terminal strip within TIB for future connection by tenant.
 - b. Tenant to verify location of TIB in field.

2. Tenant General Requirements

a. **Base Building Systems**

- i. Tenant shall not make modifications to landlord's base building systems without prior approval from landlord.
- ii. Any damage done to the landlord's base building or systems by tenant during construction shall be repaired by the landlord at the tenant's expense.

b. *Approved Contractor: Tenant shall engage landlord approved contractor to prepare fire alarm construction drawings/specifications and install the fire alarm system within the tenant's space.*

c. **Construction Standards:** All fire alarm work shall be installed per governing codes and the landlord's tenant criteria.

d. **As-Builts:** Upon completion of tenant build out, the tenant shall provide one (1) set of pdf as-built plans for all fire alarm work to the landlord.

e. **Existing Work**

- i. Existing systems from previous tenant cannot be abandoned in place and must be demolished entirely if not being re-used.
- ii. Tenant shall use landlord approved contractor to safe-off fire alarm system before any demolition work occurs.

f. **Labeling:** Equipment shall be labeled as required by landlord tenant construction rules and regulations manual.

3. Tenant Equipment and Control Requirements

a. **Code Compliance:** Tenant is required to provide a code compliant fire alarm system within their leased premises as required by governing codes and in accordance with NFPA 72.

b. **Fire Alarm System Devices:** Tenant shall provide and install all initiating devices, notification appliances, addressable modules, auxiliary power supplies, junction boxes, etc. as required by governing codes and landlord specifications.

c. **Junction Box:** Tenant is required to connect fire alarm system serving the leased premises to the landlord provided tenant interface junction box (TIB).

d. HVAC Systems

- i. Tenants providing independent packaged rooftop HVAC systems shall provide unit or duct mounted smoke detectors per landlord tenant construction rules and regulations manual, addressable through the center's fire alarm system.
- ii. All tenant provided supplemental ducted HVAC equipment, including kitchen hood fire suppression systems, shall interface with the center's fire alarm system for appropriate sequencing during a fire alarm emergency.

e. Final Acceptance: Testing of the tenant fire alarm system shall be performed by the landlord approved contractor concurrent with the base building fire alarm system at the tenant's expense.

Fire Protection Design

1. Landlord Provisions

a. Tenant Fire Service Main (TFSM)

- i. Ordinary hazard pipe scheduled fire protection sprinkler system main routed to tenant space with a point of connection for tenant use.
 - i. Tenant is only allowed one (1) point of connection on fire protection sprinkler system main.**
 - ii. Tenant to verify location in field.
- ii. Fire protection sprinkler system is provided with a supervised alarm system, the system is monitored by the local fire department, center security, and various alarm companies.

2. Tenant General Requirements

a. Base Building Systems

- i. Tenant shall not make modifications to landlord's base building systems without prior approval from landlord.
- ii. Any damage done to the landlord's base building or systems by tenant during construction shall be repaired by the landlord at the tenant's expense.

b. Approved Contractor

- i. Tenant shall use landlord approved contractor to prepare fire sprinkler shop drawings and perform scope of work.**
- ii. Fire sprinkler drawings and calculations must be submitted to landlord's insurance provider for approval before commencement of work.

c. Construction Standards: All fire protection work shall be installed per governing codes, the landlord's tenant criteria, and the landlord's insurance provider.

d. As-Builts: Upon completion of tenant build out, the tenant shall provide one (1) set of pdf as-built plans for all fire protection work to the landlord.

e. Existing Work

- i. Existing systems from previous tenant cannot be abandoned in place and must be demolished entirely if not being re-used.
- ii. Tenant shall use landlord approved contractor to safe-off fire sprinkler system before any demolition work occurs.

f. Service Interruptions: All fire protection work must be accomplished without interrupting fire protection service to the remainder of the center during operating hours.

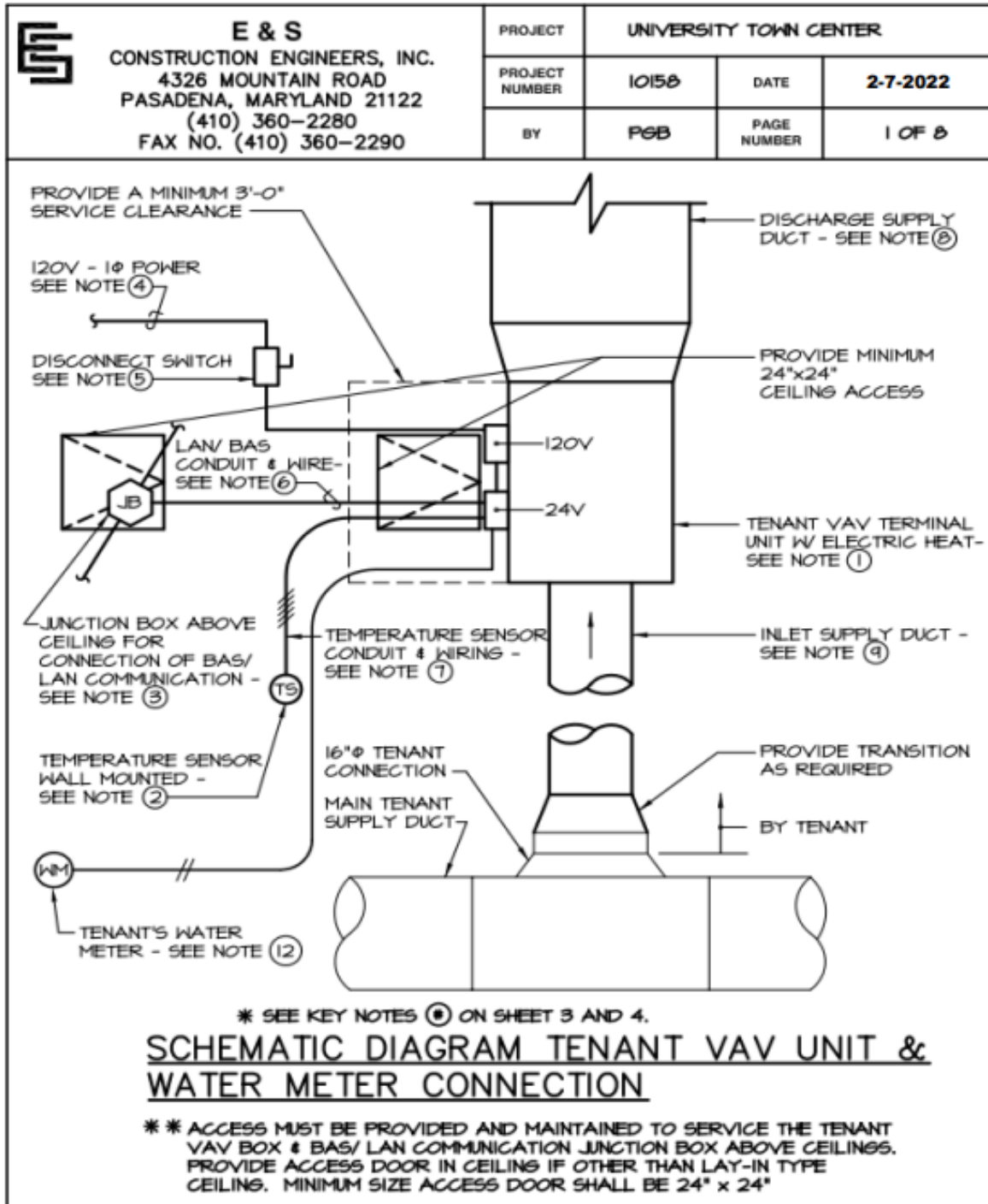
g. Tenant Responsibility: Tenant shall be solely responsible for the fire protection system within the leased premises.

h. High Piled Storage: Where storage/merchandise is high piled or hazard commodities are stored, coordinate design criteria with NFPA and landlord insurance provider.

3. Tenant Material and Installation Requirements

- a. System Components:** All fire protection sprinkler system components shall be UL listed and landlord insurance provider approved.
- b. Pipe Material**
 - i. Minimum schedule 40 steel pipe conforming to ASTM A53 is required.
- c. Sprinkler Heads**
 - i. Sprinkler heads at the storefront, in show windows, and in all hard-surface ceilings must be fully concealed type.
 - ii. Semi-recessed (or concealed) type heads may be used in lay-in or other approved type ceiling systems (where accessible to the public).
 - iii. Fully pendant type sprinkler heads are permitted only in stock/storage or open ceiling areas.
 - iv. No stock or merchandise shall be within 18" of sprinkler heads.
 - v. All walk-in coolers and freezers shall be provided with a minimum of one dry sprinkler head as required by governing codes and/or landlord insurance provider.**
 - vi. Ductwork greater than 4 ft. or a combination of requires sprinkler protection to be extended below the ductwork as required by governing codes and/or landlord insurance provider.**
- d. Valves**
 - i. Individual tenant control valves are not allowed in the sprinkler system.
 - ii. Permanent system isolation valves are not permitted in the system.
 - iii. Valve operation and alarm system are accomplished at source by landlord.
- e. Mobile Storage Shelving:**
 - i. The solid shelving on mobile storage systems should be wire mesh shelves to allow for adequate flue spaces on the mobile (compact) storage systems. Manufacturers typically offer two options for "wire grid" shelf decking, one with 2 in. by 4 in. openings and the other with 1 in. by 4 in. openings. A less desirable alternative would be to install minimum 3 in. bumper extenders every 4 ft. to 5 ft. throughout the mobile storage system.**
- f. Return Air Openings**
 - i. Ceiling plenums are used throughout the tenant areas for conveyance of return air. Tenants who elect not to install a ceiling shall coordinate with the landlord for approval. The tenant space shall be evaluated by the landlord's engineer to determine what modifications are required to the existing smoke evacuation system to accommodate and open ceiling design.
 - ii. The tenant provided return air grilles will be used for return air back to Landlord RTU(s).

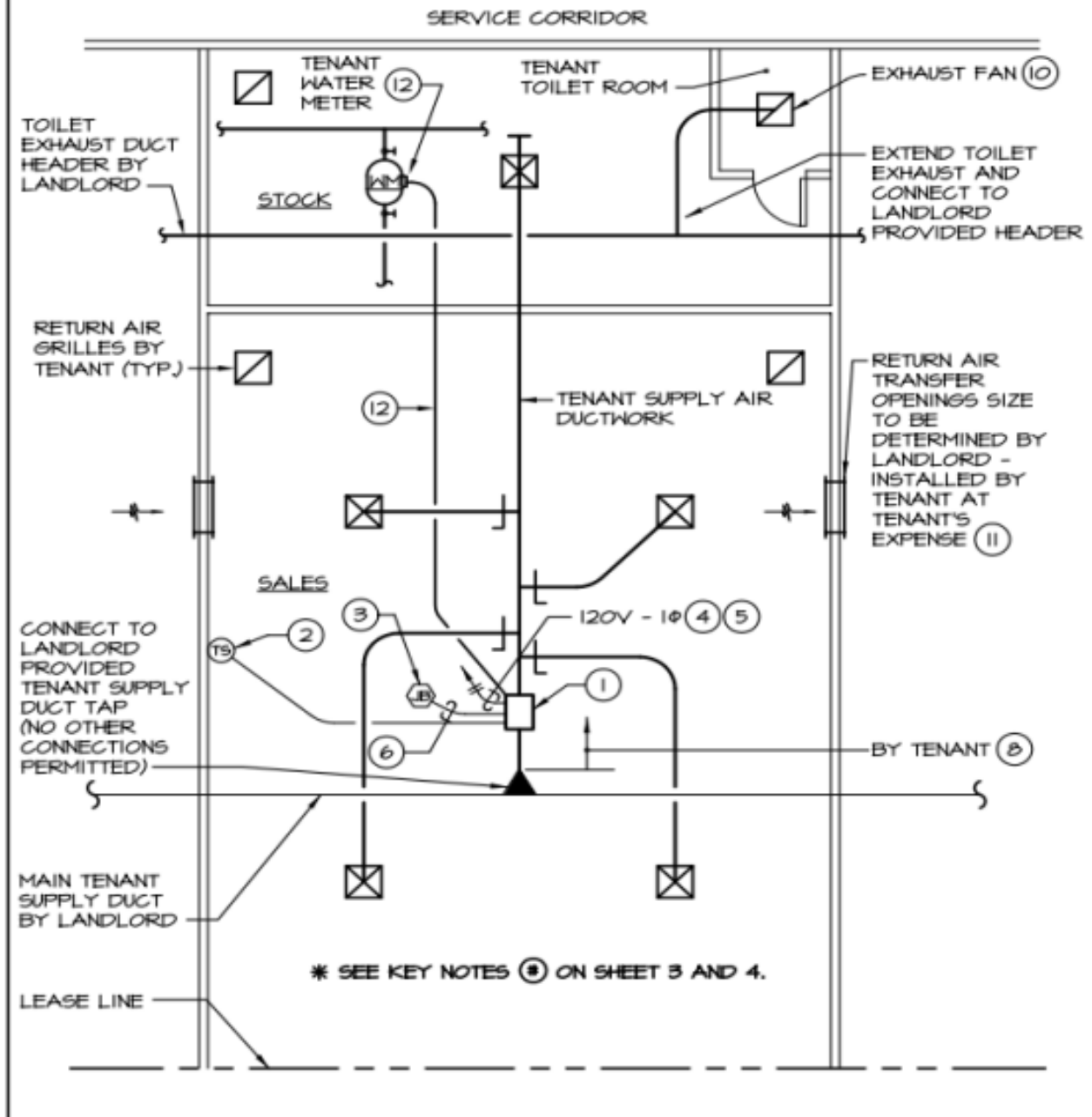
Points of Utility Coordination Diagrams





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NOTES

① TENANT VAV TERMINAL UNIT:

VAV UNITS ARE SINGLE DUCT VARIABLE AIR VOLUME UNITS. PROVIDE ADEQUATE CLEARANCE FOR SERVICING. PROVIDE A MINIMUM OF 3'-0" CLEARANCE ON SIDE OF VAV UNITS. TENANT SHALL USE LANDLORD APPROVED BAS CONTRACTOR TO FURNISH AND INSTALL VAV BOX CONTROLLERS, THERMOSTATS, ZONE SENSORS, AND ALL ASSOCIATED CONTROL WIRING AT TENANT'S EXPENSE.

② TEMPERATURE SENSOR:

TEMPERATURE SENSOR TO BE WALL MOUNTED.
LOCATE TEMPERATURE SENSOR IN AN AREA NOT OBSTRUCTED FROM AIR CIRCULATION.
TENANT SHALL USE LANDLORD APPROVED BAS CONTRACTOR TO FURNISH AND INSTALL, THERMOSTATS, ZONE SENSORS, AND ALL ASSOCIATED CONTROL WIRING AT TENANT'S EXPENSE.

③ JUNCTION BOX:

JUNCTION BOX PAINTED ORANGE LOCATED ABOVE THE CEILING FOR TERMINATION OF TENANTS LAN/ BAS COMMUNICATION WIRING.
ALL WIRING MUST BE INSTALLED IN 3/4" CONDUIT. REFER TO WIRING DETAIL ON PAGE 5 OF 7 FOR THE CONNECTION OF MULTIPLE VAV BOXES TO A SINGLE LANDLORD ORANGE JUNCTION BOX.
FINAL CONNECTIONS TO LANDLORDS LAN/ BAS SYSTEM SHALL BE PERFORMED BY THE LANDLORDS BAS CONTRACTOR AT THE TENANTS EXPENSE.
TENANTS CONTRACTOR SHALL INSTALL 3/4" CONDUIT AND WIRE BETWEEN VAV UNIT AND JUNCTION BOX.
ACCESS TO JUNCTION BOX THROUGH CEILING MUST BE PROVIDED AND MAINTAINED.

④ 120V-1Φ, POWER:

A 120V-1Φ, POWER CIRCUIT SHALL BE PROVIDED TO THE VAV TERMINAL UNIT BY THE TENANTS CONTRACTOR. PROVIDE A DEDICATED CIRCUIT WITH LOCKING MECHANISM ON CIRCUIT BREAKER - COORDINATE WITH ELECTRICAL.

⑤ DISCONNECT SWITCH:

PROVIDE A DISCONNECT SWITCH ADJACENT TO VAV TERMINAL UNIT FOR SERVICING EQUIPMENT - COORDINATE WITH ELECTRICAL.

⑥ LAN/ BAS CONDUIT & WIRING:

LAN/ BAS COMMUNICATION WIRING SHALL BE INSTALLED IN 3/4" CONDUIT.
THE FINAL CONNECTIONS AT THE JUNCTION BOX AND THE VAV BOX CONTROLLER SHALL BE MADE BY THE LANDLORDS BAS CONTRACTOR AT THE TENANTS EXPENSE. LAN/ BAS WIRING MUST BE PURCHASED FROM LANDLORD IN TENANT FIELD OFFICE.

⑦ TEMPERATURE SENSOR CONDUIT & WIRING:

TEMPERATURE SENSOR WIRING SHALL BE INSTALLED IN 3/4" CONDUIT.
TEMPERATURE SENSOR REQUIRES A STANDARD 2" x 4" ELECTRIC BOX MOUNTED VERTICALLY.
WIRING MUST BE COMPATIBLE WITH TEMPERATURE SENSOR & VAV TERMINAL UNITS.
REFER TO THE ATTACHED DRAWINGS FOR MAKING PROPER WIRING TERMINATIONS TO THE TEMPERATURE SENSOR.
TEMPERATURE SENSOR WIRING MUST BE PURCHASED FROM LANDLORD IN TENANT FIELD OFFICE.

⑧ DISCHARGE SUPPLY DUCTWORK:

DISCHARGE SUPPLY DUCT TO BE RIGID GALVANIZED SHEET METAL DUCTWORK. DISCHARGE SUPPLY DUCTWORK SHALL BE INSULATED, OR LINED.



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NOTES (CONTINUED)

⑨ INLET SUPPLY DUCT:

INLET SUPPLY DUCT TO BE ROUND RIGID GALVANIZED SHEET METAL DUCTWORK; FLEXIBLE DUCTWORK IS NOT ALLOWED.

INLET DUCT SHALL BE APPROXIMATELY 3' TO 5' STRAIGHT INTO BOX AND MUST BE THE SAME SIZE AS INLET DIAMETER CONNECTION TO VAV UNIT.

INLET SUPPLY AIR DUCT SHALL BE EXTERNALLY INSULATED.

TENANT CONTRACTOR SHALL UTILIZE THE 16"Ø TAPS PROVIDED WITHIN EACH TENANT SPACE. NO ADDITIONAL CONNECTIONS TO MAIN TENANT SUPPLY DUCT ARE ALLOWED. IF ADDITIONAL TAP(S) ARE REQUIRED, TENANT MUST ENGAGE THE LANDLORD'S APPROVED CONTRACTOR FOR THIS WORK.

⑩ TOILET EXHAUST FAN OR FAN/ LIGHT COMBINATION WITH ASSOCIATED TOILET EXHAUST VENT PIPING SHALL BE FURNISHED AND INSTALLED BY THE TENANT'S CONTRACTOR. CONNECT TO LANDLORDS TOILET EXHAUST DUCT HEADER SYSTEM.

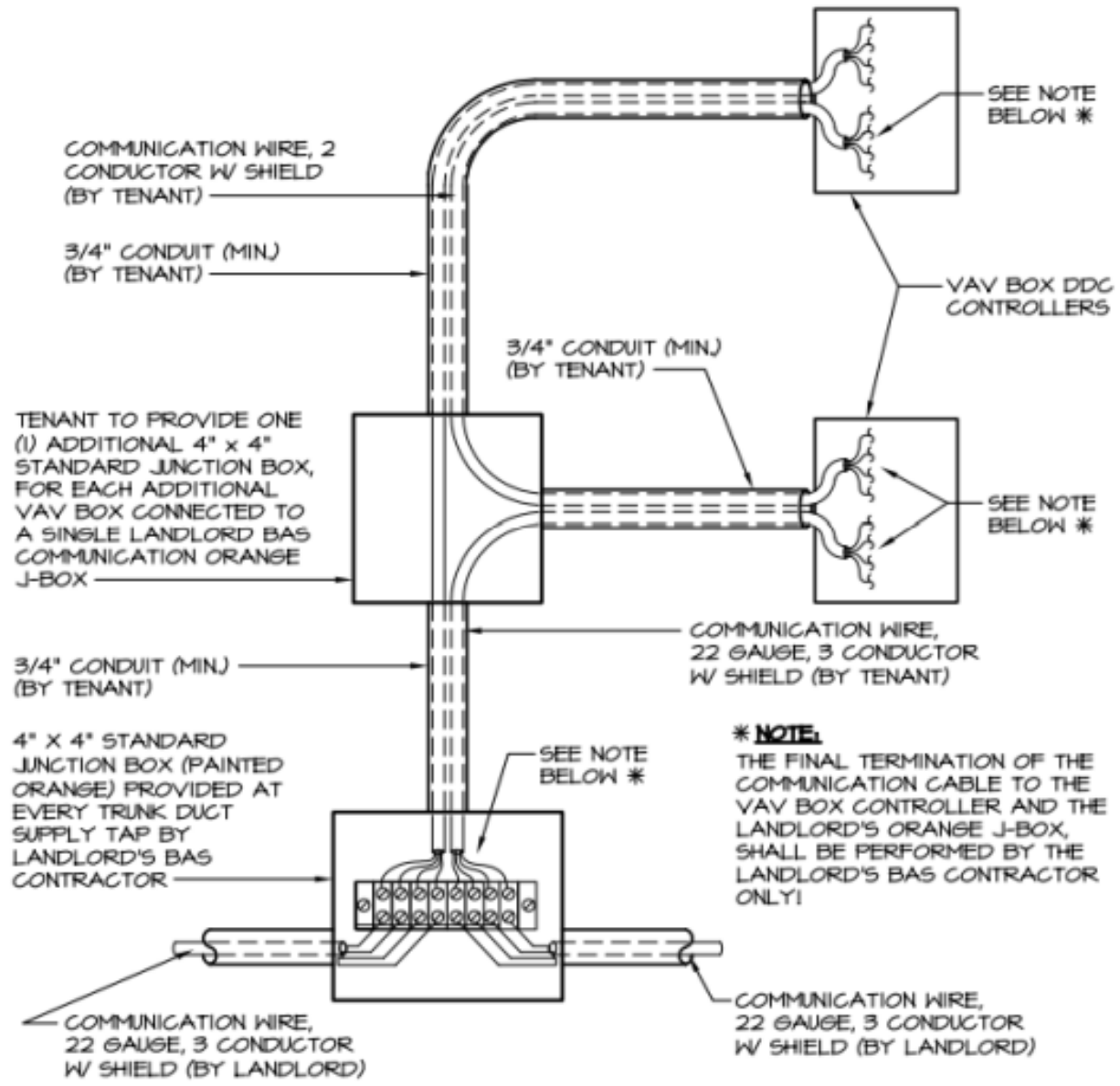
⑪ RETURN AIR TRANSFER OPENINGS IN TENANT DEMISING WALLS SHALL BE FURNISHED BY THE TENANT, AT THE TENANT'S EXPENSE. SIZE AND QUANTITY OF EACH OPENING, AND LOCATIONS TO BE DETERMINED OR APPROVED BY THE LANDLORD. TENANTS WITHOUT CEILINGS WILL BE REQUIRED TO INSTALL FIRE DAMPERS AND TRANSFER DUCTS TO MAINTAIN INTEGRITY OF RA PLENUM.

⑫ TENANT'S DOMESTIC WATER METER SHALL BE CONNECTED TO THE VAV TERMINAL UNIT CONTROLLER FOR METER READING PURPOSES THROUGH LANDLORD BAS SYSTEM. TENANT SHALL PROVIDE NEPTUNE T-10 WATER METER WITH REMOTE READOUT CAPABILITY (TRICON S REGISTER OR EQUIVALENT, SETUP FOR 10 GALLONSPER PULSE OUTPUT). WATER METER SHALL BE INSTALLED IN AN ACCESSIBLE LOCATION A MAXIMUM OF 5FT ABOVE FINISHED FLOOR (PREFERABLY IN TENANT RESTROOM). CONTROL WIRING MUST BE INSTALLED IN A 3/4" CONDUIT. REFER TO WIRING DETAILS SHEET FOR CONNECTION REQUIREMENTS. FINAL CONNECTIONS AT VAV UNIT SHALL BE PREFORMED BY THE LANDLORD BAS CONTRACTOR AT THE TENANT'S EXPENSE.



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COMMUNICATION CABLE WIRE INSTALLATION DETAIL FOR MUTIPLE VAV BOXES CONNECTED TO LANDLORD'S BAS JUNCTION BOX

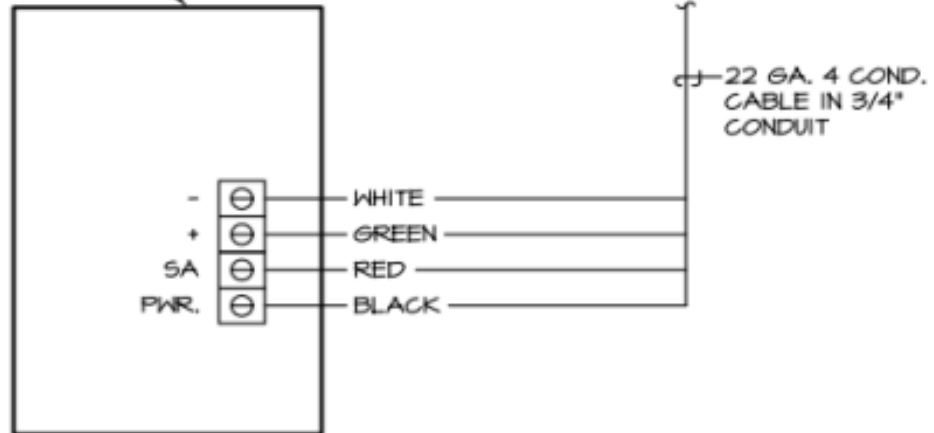


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VAV BOX TEMP. SENSOR

TO VAV BOX CONTROLLER
(SEE NOTE 4)



NOTES:

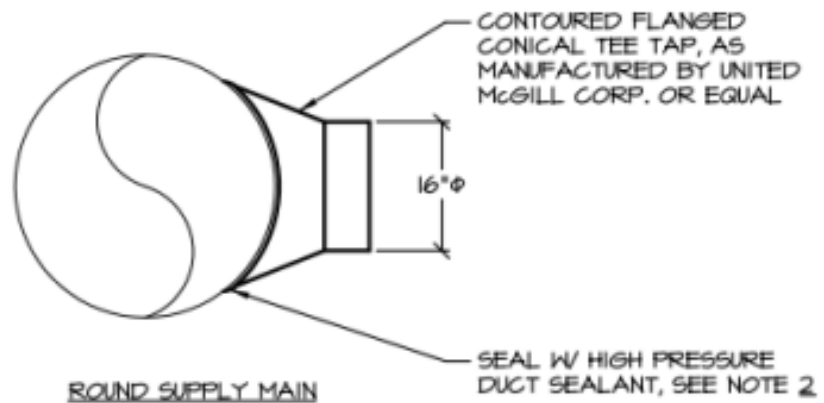
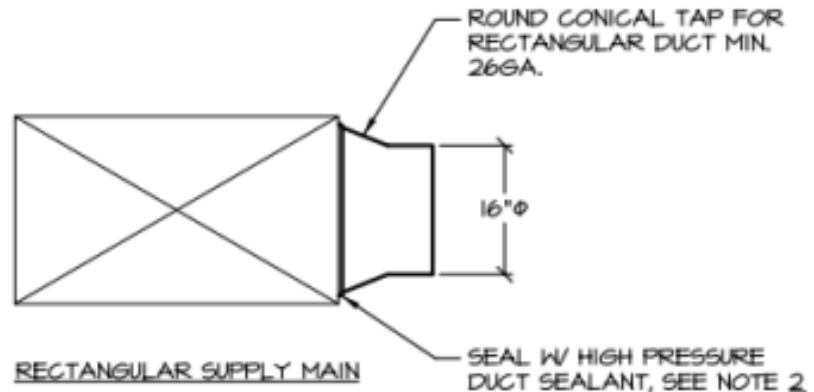
1. SENSOR TO MOUNT 5'-0" AFF.
2. ALL CABLE MUST BE IN 3/4" CONDUIT.
3. CORRECT CABLE IS AVAILABLE IN TENANT FIELD COORDINATION OFFICE AND MUST BE PURCHASED FROM THE LANDLORD.
4. FINAL SENSOR WIRE TERMINATION AT THE VAV BOX CONTROLLER SHALL BE PERFORMED BY THE LANDLORD'S BAS CONTRACTOR ONLY!



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* ALL VAV DUCT TAPS SHALL BE 16"Ø SIZE, REGARDLESS OF VAV BOX SIZE.



TENANT VAV DUCT DETAIL

NOTES:

1. TENANTS REQUIRING ADDITIONAL VAV TAPS MUST BE INSTALLED PER THIS DETAIL, AND MUST BE INSPECTED BY THE LANDLORDS MECHANICAL CONTRACTOR AFTER INSTALLATION, AND PRIOR TO PATCHING DUCT INSULATION.
2. DUCT SEALANT SHALL BE UNITED MCGILL SEALER, UNI-WEATHER HARD CAST IRON ALL WEATHER SEALER, OR EQUAL. SEALANT SHALL BE UL LISTED AND HAVE FIRE HAZARD CLASSIFICATION RATING NOT EXCEED 25 FLAME SPREAD AND 50 SMOKE DEVELOPED.



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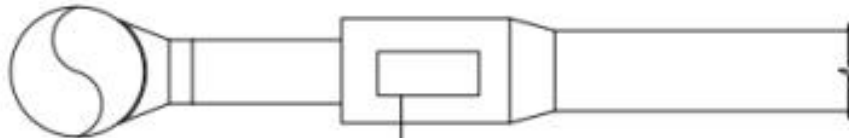
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TENANT VAV TERMINAL UNIT.
FINAL TERMINATION OF
WIRING BY LANDLORD'S
BAS CONTRACTOR AT
TENANTS EXPENSE. ⑫

← 3/4" CONDUIT W 2
CONDUCTOR 22 GAUGE WIRE ⑫
USE 20 GAUGE OVER 300
FEET..



TENANT WATER METER SHALL BE
NEPTUNE T10 WITH TRICON'S READER,
INTEGRATED PULSE OUTPUT SIGNAL TO
VAV TERMINAL UNIT CONTROLLER. ⑫

TENANT WATER METER DETAIL

