

THE MALL-*of*-SAN JUAN



CONSTRUCTION CRITERIA

06/19/2023

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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.

The Mall of San Juan 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 [Taubman Tenant Coordination \(squarespace.com\)](https://www.squarespace.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.



THE MALL-*of*-SAN JUAN

THE MALL OF SAN JUAN GENERAL INFORMATION SHEET

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.

Tenant Coordination

The Mall of San Juan

Randy Tambourine, Sr. Tenant Coordinator

200 East Long Lake Road

P.O. Box 200

Bloomfield Hills, MI 48304-0200

[The Mall of San Juan - San Juan, Puerto Rico — Taubman Tenant Coordination](#)

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Mall Address

The Mall of San Juan

Management Office

1000 Mall of San Juan Blvd.

San Juan, PR 00924

Office: (787) 759-6255

Facilities Director: Eric Guzman Phone: (787) 759-6269

(Tenant addresses will be the same as above with the space number added to the address and labeled as the suite number)

Building Information

Construction Type: 1B Unprotected/Fully Sprinkled

Zoning Classification: Covered Mall Building/Mercantile

Governing Agencies

BUILDING & INSPECTIONS:

Municipality of San Juan Office De Permiso (MSJOP)

La Oficina de Gerencia de Permisos (OGPe)

PERMITS & INSPECTIONS:

San Juan, Puerto Rico has a unique and, often times, challenging permit and inspection process. In order to ensure tenants receive permits and inspections in a timely manner, *Taubman has retained a local Permit & Inspection Specialist for use by all Tenants*. This expediting firm will work directly with each tenant at no cost to the Tenant in order to facilitate submitting

and obtaining the required Construction Permit and Use permit from the local authorities having jurisdiction.

Permit Expeditor & Inspection Specialist
Eng. Miguel A. Bonilla, P.S.C

Please refer to the Permits, Inspections & Licensing portion of the tenant coordination website (<http://tenantcoordination.taubman.com>) for additional information on the Permit & Inspection Specialist.

LOGISTICS:

As you may be aware, Puerto Rico is a unique and, often times, challenging environment for construction and deliveries. Most deliveries are made by way of water on either barges or freighters. It is the Tenant's responsibility to coordinate deliveries to the island.

Once the product or material arrives to the island, all deliveries will be scheduled through the On Site Facilities Director.

Please note, given the limited area of the site, there will be no room on site for staging Tenant materials. All deliveries must be delivered as needed to continue the tenant sequence of construction.

ARCHITECTS AND ENGINEERS, PUERTO RICO

(The following is a list of registered architects in Puerto Rico. This list is for reference only and is not to be construed as a recommendation or endorsement of the contacts below.)

Olga J. Munoz
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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: 125 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
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 water tight 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.
 - a. **Speakers must be located +/- 20ft from store entry.**
 - b. **Speakers located within 20' of the store entry must be 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. Chilled Water Supply Central System

- i. The Leased Premises are served from a Centralized Chilled Water Plant installed by Landlord which will deliver, during regular Shopping Center business hours.
- ii. Variable volume chilled water at a fixed level water temperature setpoint.
- iii. Chilled water system is cooling only.
 - i. *Condenser water system is intended for HVAC usage only and is not to be used for cooling of tenants' equipment.*
- iv. Chilled water loop with valved and capped points of connection in each tenant space, tenant to verify location of tap(s) in field.
- v. Tenant shall design the piping system from Landlord's connection point to not exceed a maximum of 25 feet of head in pressure drop. Include in this calculation and design shall be the pressure drop associated with all tenant piping, valves, fittings, coil pressure drop and flow regulating valves.
- vi. Outside air provided to the space will be unconditioned and must be accounted for in Tenant's load calculations for cooling requirements.
 - i. The Outside Air Duct System is sized for low pressure, roughly between 0.08" and 0.10"/100 feet friction loss and under 1,500 fpm velocity.
 - ii. Tenant is provided with a point of connection in each space, tenant to verify location of ductwork tap in field.

b. Landlord Provided Chilled Water Characteristics

- i. Chilled Water Supply Rate – 2 GPM/TON
 - i. Level 1 Retail Tenants @ 290 SF/TON
 - ii. b. Level 2 Retail Tenants @ 270 SF/TON
 - iii. c. Restaurant Tenants @ 100 SF/TON (levels 1 & 2 Only)
- ii. Chilled Water Temperature Range
 - i. Supply – 44° F
 - ii. Return – 56° F

c. Design Conditions (Based on Governing Energy Code)

- i. Indoor Conditions
 - i. Temperature – 75° FDB ± 2° F DB and 60% RH
- ii. Outdoor Conditions
 - i. Summer – 90° FDB / 73° FWB

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:

- 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 Puerto Rico 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 Puerto Rico 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. 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. Tenants shall provide a minimum of one (1) VAV terminal unit as follows:
 - i. Single Duct terminal unit(s)
 - ii. Compatible with direct digital controls
 - iii. 120V to 24V transformer with a 75 VA rating, flow ring sensor with tubing extended to control cabinet, control cabinet and damper with shaft. The VAV box shall be internally insulated.
- 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. **Chilled Water Fan Coil Units**
 - i. The Landlord shall furnish the Fan Coil Unit at tenant's expense.
 - ii. Tenant shall install the Fan Coil Unit within its Leased Premises, Chilled Water Fan Coil Units that can be interfaced with the Landlord's Centralized BAS System. Tenant shall design and install the air distribution system for its Leased Premises in accordance with BAS Interface Diagrams. The chilled water fan coil unit shall include the cabinet / casing, supply fan, fan contactor, condensate drain pan, filter rack & filters, terminal block for power and disconnect switch.
 - a. The Landlord shall furnish the temperature / humidity / CO2 sensor (at tenants expense) for installation by tenant which shall also include an over-ride button for afterhours cooling operation. The programming features and requirements are to be coordinated with the Landlord.
 - b. The tenant shall provide shut-off valves, strainer, B&G circuit setter for flow regulation and chilled water control valve and each chilled water fan coil unit.
 - iii. **The tenant shall provide a modulating chilled water valve to regulate the proper amount of chilled water delivered to each chilled water fan coil unit. The chilled water valve shall be 24 VAC driven and shall accept a 0-10 V DC control signal.**
- e. **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 Puerto Rico. **All equipment shall be mounted on rails or roof**

curbs and anchored to the supporting structure to withstand the effects of 175 mph winds (based on ultimate loads using ASCE7-10) and seismic effects per governing codes. Anchorage requirements shall be included on the Tenant's 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.
- v. **Roof Walkway Pads and Grease Pads: tenant shall provide walkway and grease pads per landlord roofing contractor's specs.**

f. Restroom Exhaust Fans

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

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.

d. SMACNA Ductwork Construction Standards

- i. Duct Class – 2 in. water gauge
- ii. Seal Class – A
- iii. Rectangular Metal Leakage Class – 6
- iv. Round Metal Leakage Class – 3

e. Chilled Water Piping

- i. Tenant shall follow landlord protocol for appropriate flushing and filling of tenant chilled water distribution piping.
- ii. Piping materials shall comply with governing codes, be compatible with landlord's piping system, and suitable for return air plenum installation.
- iii. Provide high point air vents and low point drains as required on chilled water piping for appropriate fill and drainage.
- iv. All chilled water piping to be insulated. Contact mall facility for required insulation type at center.

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.
- 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. **Cooking Oil:** Landlord has installed a cooking oil disposal system extended to designated Restaurant Tenant spaces. Landlord will provide a 18" x 20" x 42" (approximate) cooking oil disposal basin with strainer(s) at tenant expense. Tenant to incorporate basin into their kitchen design. Tenant to attach cooking oil disposal drain line from the disposal basin to the mall provided main grease line and make final connections.
- f. **Gas Manifold:** Provided by utility company located in exterior service court, 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.

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 Puerto Rico 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:**
 - i. Retail Tenants complying with the 300' travel distance to central facilities:

- i. Tenants with GLA of 1,000 S.F. or less will not need any facilities for customer or employee use. Drinking fountain(s) will not be required.
 - ii. Tenants with GLA greater than 1,000 S.F. will need a single unisex toilet facility will be provided for employee use only with no drinking fountain.
- ii. Retail Tenants NOT complying with the 300' travel distance to central facilities:
 - i. Tenants with GLA of 1,000 S.F. or less will not need any facilities for customer or employee use. Drinking fountain(s) will not be required.
 - ii. Tenants with GLA greater than 1,000 SF up to 2,000 SF need a single unisex toilet facility will be provided for public/customer and employee use with no drinking fountain.
 - iii. Tenants with GLA greater than 2,000 SF need to provide public/customer and employee toilet facilities as required by code (based on the number of occupants and use of the space). Drinking fountains/water coolers will be provided for public/customer and employee use as required by code.
- iii. Restaurant Tenants Regardless of Travel Distanced
 - i. Need to provide public/customer and employee toilet facilities including drinking fountains/water coolers as required by local governing code.
- k. Public Facilities Signage: The Tenant spaces which provide public facilities will indicate such on their storefront window to ensure that occupants in the mall concourse are aware of the nearest facility (see the LOD for public facilities decal). Also, within the Tenant spaces which provide facilities, signage will be provided indicating that the facilities are available within the space for public use.

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 a 10G output with remote readout capability to landlord BAS.***
 - 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. Tenant design engineer/architect should verify if local codes require hot water heater.
 - ii. Tenants can provide instantaneous type water heater(s) as required.
- 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. Rooftop air conditioning unit condensate line routing shall be coordinated with landlord on the roof.
- ii. All interior condensate piping shall be routed to an indirect waste receptacle or mop sink as required by governing code.
- iii. 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. Cooking Oil

- i. Landlord will provide a 18" x 20" x 42" (approximate) cooking oil disposal basin with strainer(s) at tenant expense. Tenant to incorporate basin into their kitchen design. Tenant to attach cooking oil disposal drain line from the disposal basin to the mall provided main grease line and make final connections.

c. 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. Distribution section circuit breaker compartment.

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 Puerto Rico 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. Landlord shall provide electronic submeter with WiFi capability at tenant's expense for installation by tenant within the leased premises. Submeter connectivity shall be inspected and approved by landlord.

c. Circuit Breakers

- i. Tenant shall furnish circuit breaker as required for electrical service and landlord approved contractor to install at tenant's expense.

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

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.
 - i. 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

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.

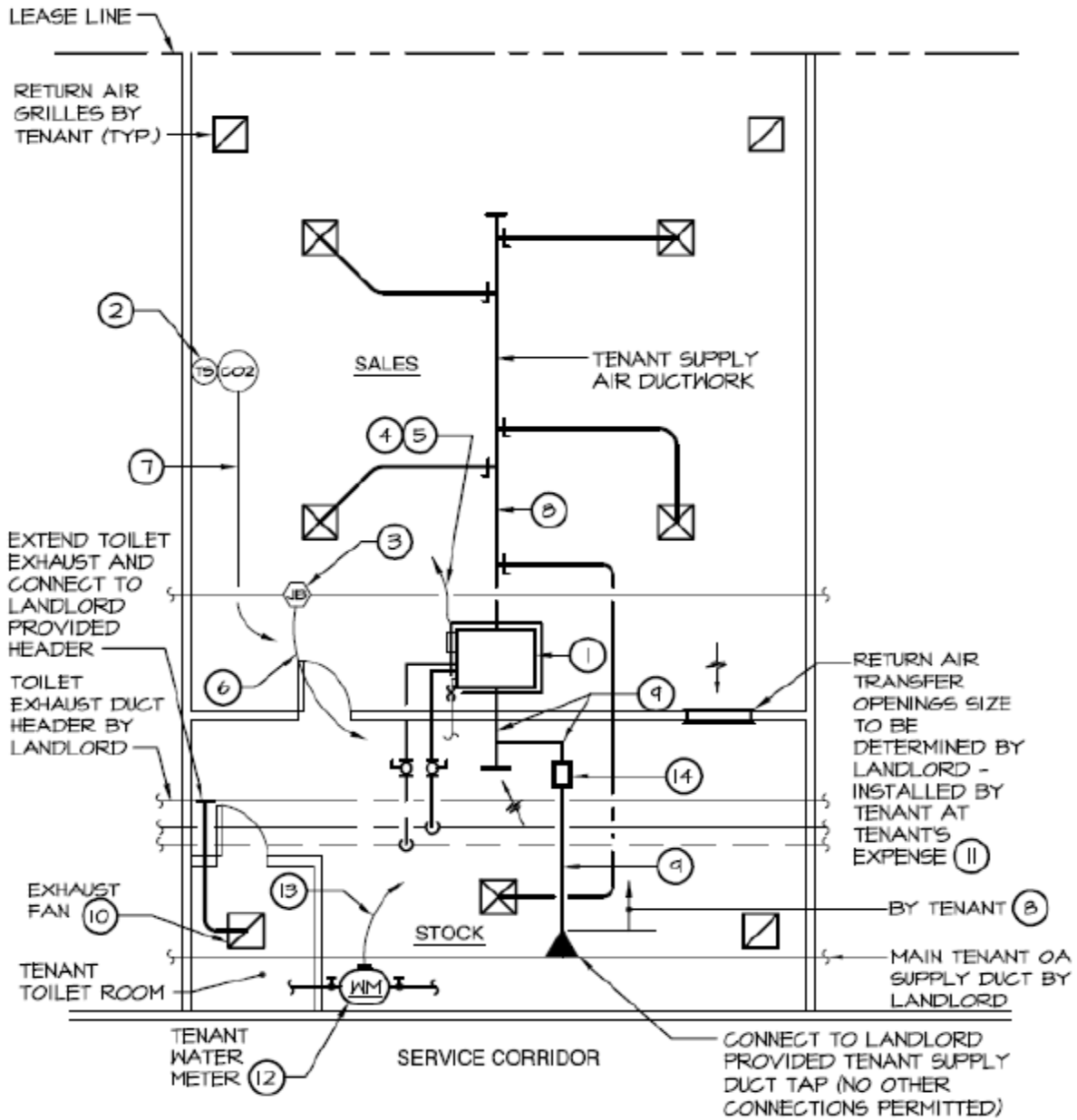
i. Mobile Storage Shelving:

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.

3. Tenant Material and Installation Requirements

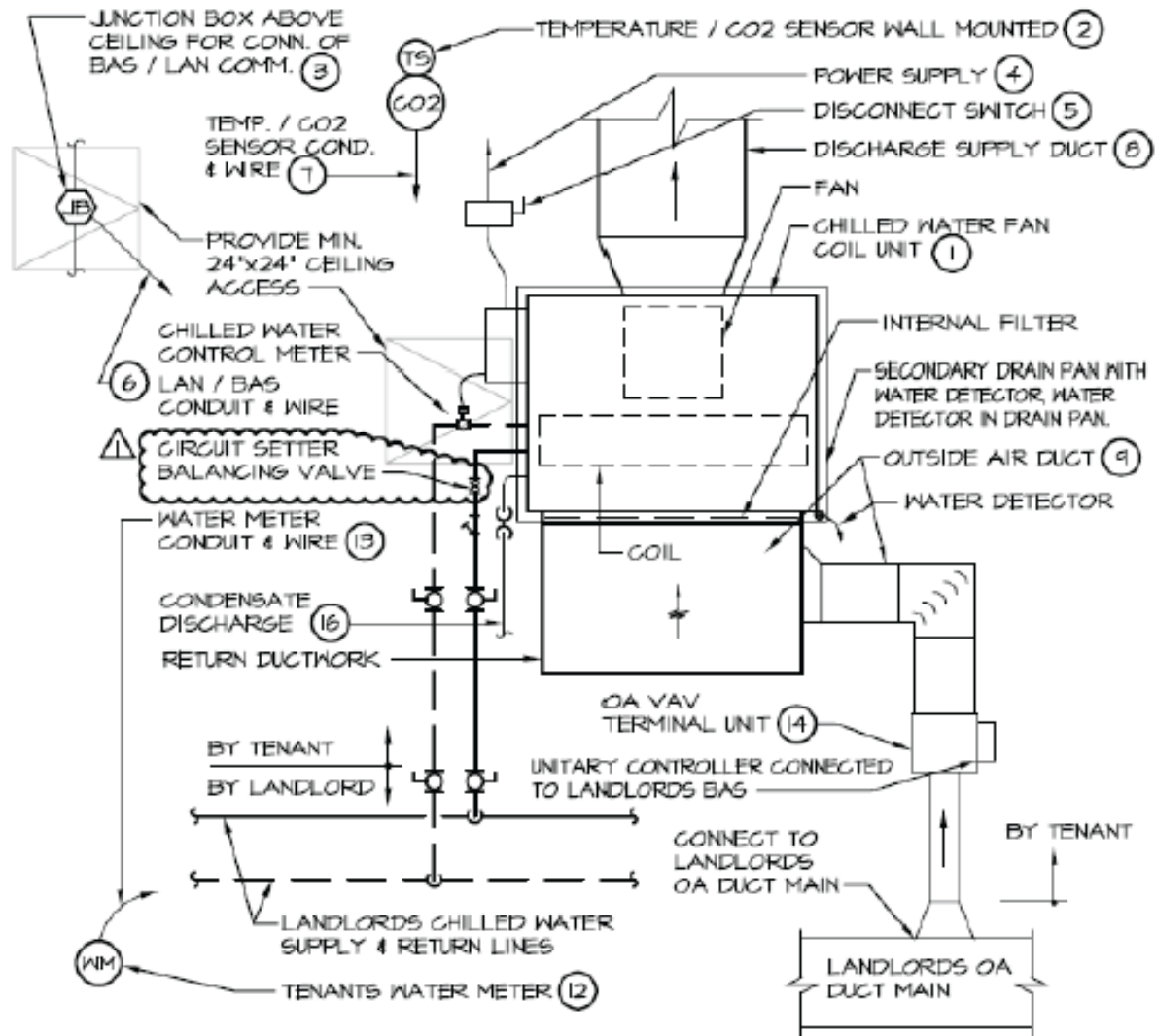
- a. **System Components:** All fire protection sprinkler system components shall be UL listed and landlord insurance provider approved.
- b. **Pipe Material**
 - i. Minimum schedule 40 steel pipe conforming to ASTM A53 is required.
- c. **Sprinkler Heads**
 - i. Sprinkler heads at the storefront, in 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/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.

HVAC & BAS – Schematic Diagrams



1 SCHEMATIC FLOOR PLAN
 TI-1 NO SCALE

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NOTE:
 ACCESS MUST BE PROVIDED AND MAINTAINED TO SERVICE THE TENANT VAV BOX & BAS/ LAN COMMUNICATION JUNCTION BOX ABOVE CEILINGS. PROVIDE ACCESS DOOR IN CEILING IF OTHER THAN LAY-IN TYPE CEILING. MINIMUM SIZE ACCESS DOOR SHALL BE 24" x 24"

SCHEMATIC DIAGRAM TENANT CHILLED WATER FAN UNIT & WATER METER CONNECTION

2
 TI-1

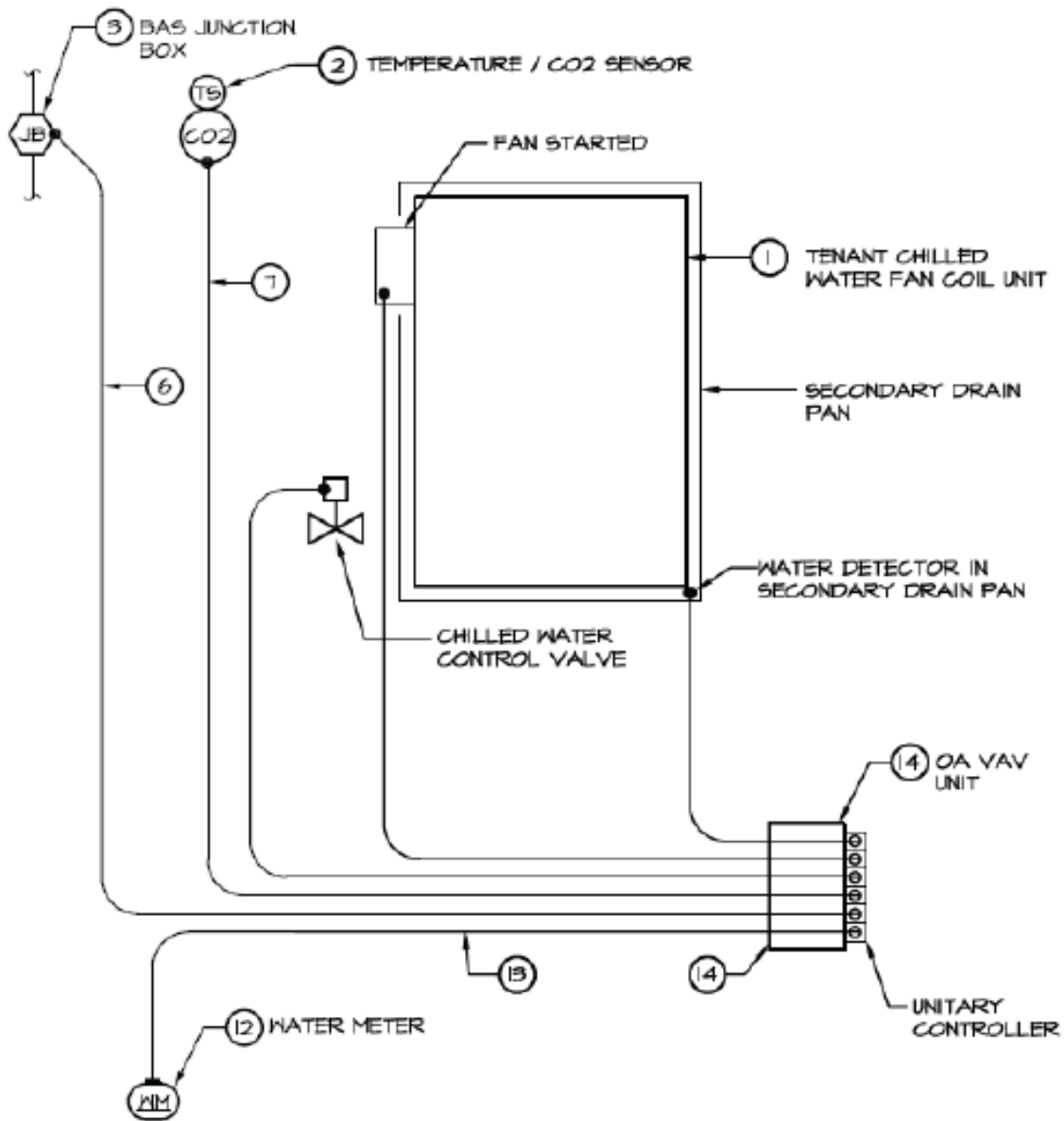
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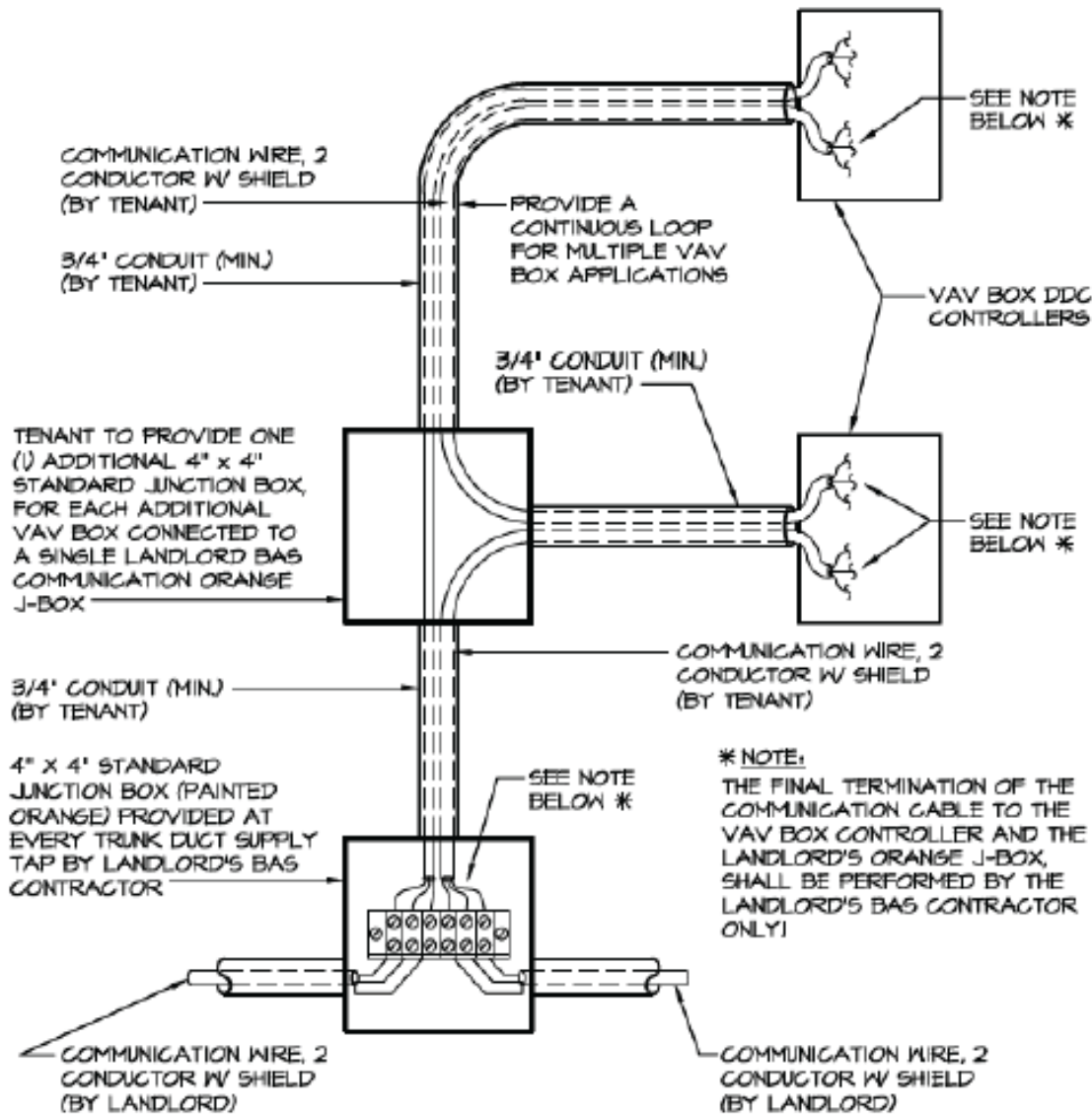


TENANT BAS INTERFACE DETAILS



3 SCHEMATIC WIRING / CONTROL DIAGRAM
 TI-1 NO SCALE

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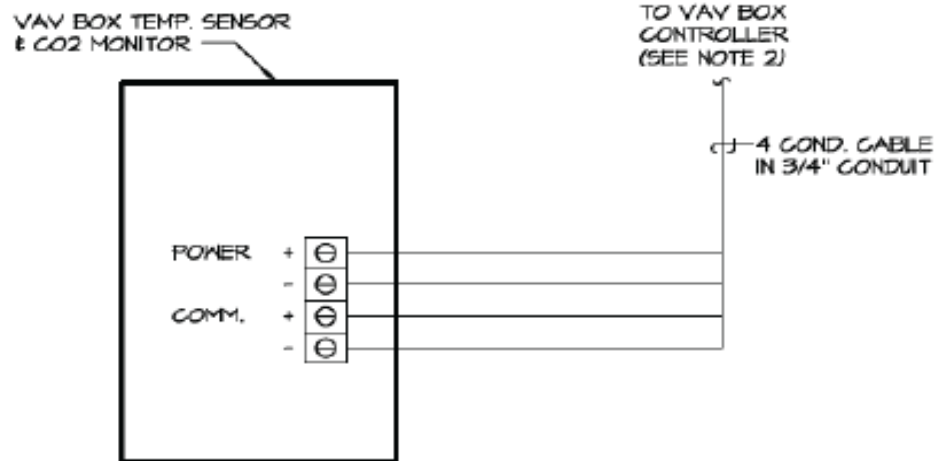


**COMMUNICATION CABLE WIRE INSTALLATION DETAIL
FOR MULTIPLE VAV BOXES CONNECTED TO LANDLORD'S
BAS JUNCTION BOX**

4
TI-1

NO SCALE

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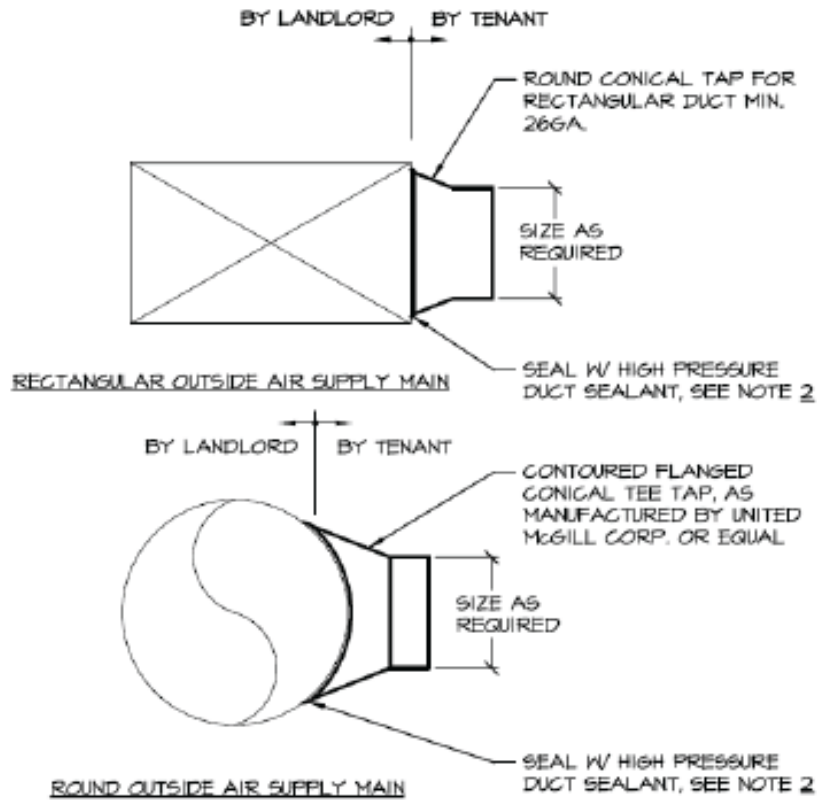


NOTES:

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!

5 TEMPERATURE / CO2 SENSOR WIRING DIAGRAM
 TI-1 NO SCALE

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NOTES:

1. PROVIDE DUCT CONNECTIONS TO OUTSIDE AIR SUPPLY DUCT MAIN IN ACCORDANCE WITH THIS DETAIL.
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.

6
TI-1

OUTSIDE AIR DUCT CONNECTION DETAIL

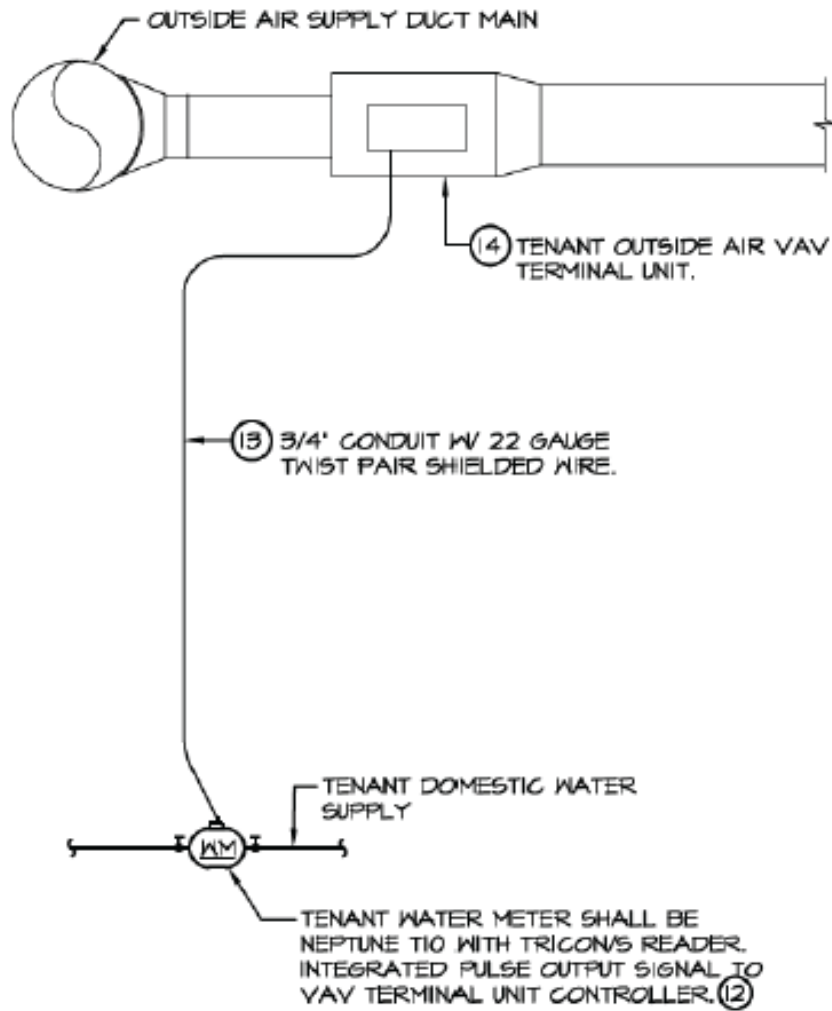
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7 TENANT WATER METER DETAIL
 TH-1 NO SCALE

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- 1) **Tenant Fan Coil Unit** - Tenants shall provide fan coil units. The recommended models for these units are Trane VCCF or McQuay FCHH. Tenant fan coil units shall include supply fan, chilled water cooling coil, filters, and motor starter for supply fan. Provide adequate clearance for servicing of equipment which shall include as a minimum 3 feet clearance on both sides. Access to fan coil must be provided and maintained. Tenant's contractor shall provide a secondary drain pan under all chilled water fan coil units complete with a water sensor. Upon detection of water, the unit shall be disabled. The water sensor shall be wired to unitary controller on OA VAV unit. Connections of control wiring shall be made by the landlord's BAS contractor, at the tenant's expense.
- 2) **Combination Temperature and CO2 Sensor** (or separate devices) - Sensor shall be wall mounted. Locate sensor in an area unobstructed from room air circulation. The sensor shall be furnished by the landlord, at tenant's expense and installed by the tenant's contractor. Refer to Detail #5, Sensor Wiring Diagram, for proper wiring terminations at the sensor, which shall be performed by the tenant's contractor.
- 3) **Junction Box** (landlord's BAS connection point) - Junction box painted orange located above tenant's ceiling for termination point of tenant's equipment. All wiring must be in 3/4" conduit. Refer to wiring Detail #4 for connection of multiple units. Final connections to the terminal strip within the junction box shall be made by the landlord's BAS contractor, at tenant's expense. Access to the junction box must be provided and maintained.
- 4) **Power to Fan Coil Unit** - Provide 120 or 208 volt power, depending on unit capacity, to chilled water fan coil unit by tenant's contractor. The power feed shall be dedicated to the fan coil unit(s) only and shall include a locking mechanism on circuit breaker to prevent unintended shut down of the equipment.
- 5) **Disconnect Switch at the Fan Coil Unit** - Provide a service disconnect switch adjacent to the fan coil unit for servicing of equipment. Provide and maintain access to the disconnect switch.
- 6) **LAN / BAS Conduit and Wiring** - LAN / BAS communication wiring shall be installed in 3/4" conduit. Final connections at the junction box and at the unitary controller at the VAV unit shall be made by the landlord's BAS contractor, at the tenant's expense. LAN / BAS wiring shall be purchased by the tenant's contractor from the landlord in the mall office.
- 7) **Wiring for Sensor** - Sensor wiring shall be installed in 3/4" conduit. Temperature sensor requires a 2x4 electrical box mounted vertically. Refer to Detail #4 for proper wiring terminations. Sensor wiring shall be purchased by the tenant's contractor from the landlord in the mall office.
- 8) **Discharge Supply Ductwork** - Discharge supply ductwork shall be rigid galvanized sheet metal. All supply ductwork shall be externally insulated with a continuous vapor barrier.
- 9) **Outside Air & Mixed Air Duct** - Outside and mixed air ductwork shall be rigid galvanized sheet metal. All outside air ductwork shall be externally insulated with a continuous vapor barrier. Inlet duct to OA VAV unit master must be 3 to 5 feet of straight duct at inlet and shall be full size of unit connection.
- 10) **Tenant Toilet Exhaust** - Toilet exhaust fan or combination fan/light with exhaust ductwork shall be provided by the tenant's contractor. Exhaust ductwork shall be rigid sheet metal and extended and connected to the landlord's provided header duct system.
- 11) **Return Air Transfer Openings** - Return air transfer openings in tenant walls shall be provided by the tenant at tenant's expense. Openings shall be sized to allow the conveyance of return air to the chilled water fan coil units using the criteria of a maximum pressure drop of 0.05" WG.
- 12) **Tenant's Domestic Water Meter** - Tenant's domestic water meter shall be connected to the OA VAV unitary controller for remote reading through the landlord's BAS. Tenant water meters shall be furnished by the landlord, at tenant's expense and installed by the tenant's contractor. All wiring shall be in 3/4" conduit.
- 13) **Wiring for Tenant Water Meter** - Wiring shall be 2 conductor 22 gauge wire. Use 20 gauge wire over 300 foot length. All wiring shall be in 3/4" conduit. Refer to Detail #7 for additional information.
- 14) **Outside Air VAV Terminal Unit** - Tenant shall provide a single duct VAV unit for regulation of outside air quantities. The unitary controller for the VAV unit shall be furnished by the landlord, at the tenant's expense and installed by the tenant's contractor. The OA VAV terminal unit shall be Trane HCCA or Price SDV5. The tenant contractor shall provide a 120v power source with disconnect switch at the unit.
- 15) **Chilled Water Piping & Requirements** - The tenant's contractor shall provide chilled water piping from the landlord connections to the chilled water fan coil unit(s). The accessories shall include shut off valves adjacent to the unit, a strainer and two-way modulating control valve. All chilled water piping and accessories shall be insulated. Provide removable insulation sections at devices requiring service. Shut off valves shall have extended stems to allow for installation of insulation. All piping shall be Schedule 40 steel pipe or type "L" copper. Provide dielectric unions when connecting pipe of dissimilar materials.
- 16) **Condensate Drainage** - The tenant's contractor shall provide condensate trap and condensate drain piping. Piping shall be extended for discharge into an indirect waste connection as part of the sanitary drainage system. Condensate drain piping shall be type "L" copper.

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