



INTERNATIONAL MARKETPLACE CONSTRUCTION CRITERIA

07/28/23

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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.

International Market Place 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](#), 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.

Tenant Coordination:

International Market Place

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Building Information:

Construction Type: Type 1B, Protected.

Occupancy Classification: Primary Use Group: Group M/Mercantile (309)
Secondary Use Group: Group A-2/Assembly (303.1)
Parking, S-2 (311.3)

Clear Ceiling Heights:

All Levels: +/- 12'-6" (Heights provided require Tenant field verification and confirmation with space layout (LOD) and base building drawings as they may vary).

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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.

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 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.

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. Condenser Water Supply Central System

- i. Constant volume condenser water system with varying cooling tower fan speeds to maintain leaving water temperature setpoint.
- ii. **Condenser water system is cooling only.**
- iii. Condenser water loop with valved and capped points of connection in each tenant space, tenant to verify location of tap(s) in field.
- iv. **Landlord will provide an Outside Air Main for Tenant's connection, see mechanical drawings for specific OA quantity allotted to each space.**
 - i. **Level 3 Tenants and other Food Service/Restaurant Tenants are required to provide their own OA Ventilation Unit and ductwork, similar to those provided by the Landlord for inline Retail Tenants.**
- v. Landlord condenser water system operates 24 hours a day 7 days a week

b. Landlord Provided Condenser Water Characteristics

- i. Condenser Water Supply Rate – 2 GPM/TON
 - i. Level 1 Retail Tenants @ 225 SF/TON
 - ii. Level 2 Retail Tenants @ 200 SF/TON
 - iii. Restaurant Tenants @ 125 SF/TON
- ii. Condenser Water Temperature
 - i. Supply – 88° F
 - ii. Return – 103° F

c. Design Conditions (Based on Governing Energy Code)

- i. Indoor Conditions
 - i. Summer – Minimum 75° FDB
 - ii. Lighting – Watts/SF as allowed per governing codes
 - iii. Occupancy – 1 person / 75 SF
 - iv. Sensible Heat Gain – 250 BTU/HR/person
 - v. Latent Heat Gain – 250 BTU/HR/person
- 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 the state of Hawaii 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 Hawaii 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.
 - l. **Mechanical Load Calculation Check Sheets**
 - i. Shall be certified by engineer of record
 - ii. Submit with construction documents for landlord review process
- 3. Tenant Equipment and Control Requirements**
- a. **Equipment Access:** Proper access shall be provided and maintained for landlord and tenant installed equipment/accessories.
 - b. **Water Source Heat Pumps:**
 - i. Indoor self-contained water source Heat Pump unit(s) provided with the following:
 - i. Thermostat and unit controller for standalone operation
 - ii. Condensate overflow sensor wired to shutdown unit
 - iii. Auxiliary condensate drain pan
 - iv. BACNet Interface
 - c. **OA VAV Terminal Units Only**
 - 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
 - d. **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.
 - e. ***Roof Work/Equipment: ROOF ACCESS WILL BE VERY LIMITED DUE TO THE SPECIAL DISTRICT ORDINANCE FOR THE DEVELOPMENT AND LIMITED ROOF AREA.***
 - i. ***All Tenants' roof equipment must be reviewed and approved by Landlord***

- ii. **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.**
- iii. **Tenant shall submit a roof loading analysis and support details prepared by a structural engineer registered in Hawaii. All equipment shall be mounted on rails or roof curbs and anchored to the supporting structure to withstand 175 mph winds and seismic effects per governing codes. Anchorage requirements shall be provided on mechanical plans.**
- iv. 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.
- v. **All rooftop equipment shall be painted according to landlord's specifications.**
- vi. **Roof Walkway Pads and Grease Pads: Tenant shall provide walkway and grease pads per landlord roofing contractor's specs.**
- vii. **Roof Screening of Tenant's Equipment: Rooftop equipment screening is required by local municipality. See Grand Lanai Criteria for Landlord design intent for screening Tenant's rooftop equipment.**

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. **Engineered design of unit support including design of seismic bracing of mechanical equipment where required by the Building Code for seismic design category C. Submit details prepared by a qualified Hawaii-licensed engineer including information illustrating proposed loads imposed on the base building for all mechanical equipment weighing more than 400 pounds.**

- ii. Hangers and supports shall be supported from structural members only (not secured to the deck above).
- iii. Additional intermediate structural supports for hangers shall be installed as needed upon landlord approval.
- iv. 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. ALL EXPOSED DUCTWORK TO BE INSULATED.**
- ii. Ductwork shall be fabricated of minimum 26 gauge galvanized steel,
- iii. Flexible ductwork is permitted for final connection to air devices (maximum length as specified per governing code).
- iv. 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.
- v. Square and rectangular duct elbows shall have double thickness turning vanes.
- vi. 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. Condenser Water Piping

- i. Tenant shall follow landlord protocol for appropriate flushing and filling of tenant condenser 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 condenser water piping for appropriate fill and drainage.

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.

i. Exhaust Ductwork Path of Travel (Restaurant Spaces R): For 3rd Level Restaurant Tenants below Management Area, ductwork shall be located in special shafts built by the Landlord at Tenant Expense at locations and of construction designated by the Landlord and code.

- i. Non-grease laden ductwork that passes through service corridor or adjacent Tenant walls or Upper Level floors shall have UL approved fire dampers located in ductwork at wall and floor.***
- ii. Provide approved access doors for service to fire dampers.***
- iii. All grease laden ducts that pass through fire-rated partitions are to be encased in suitable material and fire rating approved for use by the code authorities.***

Plumbing Design

1. **Sacred Ground (as applicable to Level 1 Tenants only):**

- a. ***Certain cultural resources, including human burial remains, have been discovered during construction of this project. Certain locations of these discoveries have been determined to be forever preserved in the place they were found.***
- b. ***These Preserved in Place (PIP) have been surveyed and recorded and been transferred onto Level 1 Tenants Space Layout and will also be marked on the Tenants concrete slab within Tenants space.***
- c. ***DISTURBING SOIL IN THESE PIP LOCATIONS IS PROHIBITED BY LAW. Limited grade level excavation is allowed, outside of PIP locations, however Landlord approval is required.***

2. **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:** Service bins provided by landlord. Tenant to transport and take bins as needed to disposal of oils.
- f. **Gas Manifold:** Provided by utility company meter manifolds located in areas designated by the Landlord.

3. **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 Hawaii 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 1,000 S.F. or less:
 - i. No facilities are required for public or customer use.
 - ii. No drinking fountains are required.
 - ii. Tenants with GLA greater than 1,000 S.F.:
 - i. A single unisex toilet facility is required for employee use only (required by developer).
 - ii. No drinking fountains are required.
 - ii. Retail Tenants NOT complying with the 300' travel distance to central facilities:
 - i. Tenants with GLA 1,000 SF or less:
 - i. No facilities are required for public or customer use.
 - ii. No drinking fountains are required.
 - ii. Tenants with GLA greater than 1,000 SF up to 2,000 SF:
 - i. A single unisex toilet facility is required for public/customer and employee use.
 - ii. No drinking fountains are required.
 - iii. Tenants with GLA greater than 2,000 SF:
 - i. Public/customer and employee toilet facilities is required within the Tenant space as required by code (based on the number of occupants and use of the space).
 - ii. Drinking fountains/water coolers is required for public/customer and employee use as required by code.
 - iv. Restaurant Tenants (regardless of travel distance and size):
 - i. Public/customer and employee facilities is required within the Tenant space as required by code (based on the number of occupants and use of the space).
 - ii. Drinking fountains is required for public/customer and employee use as required by code.

4. 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 Neptune Model T-10 water meter with remote readout capability 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. **Sanitary piping from mop sink to sanitary riser needs to be insulated.**

ii. **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.

5. 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. *ALL ABOVE GROUND DOMESTIC WATER PIPING TO BE INSULATED.*

- ii. Above Grade: Type L drawn-temper copper tubing conforming to ASTM B88 with solder-joint fittings.
- iii. Below Grade: Type K drawn-temper copper tubing conforming to ASTM B88 with solder-joint fittings.
- iv. 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. ALL CONDENSATE PIPING NEEDS TO BE INSULATED.

ii. Rooftop air conditioning unit condensate line routing shall be coordinated with landlord.

i. All condensate piping shall be routed to an indirect waste receptacle 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. All cold water will be insulated.

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.

6. 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. Cold storage room(s) to be coordinated with mall management team.

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. **Sacred Ground (as applicable to Level 1 Tenants only):**
 - a. ***Certain cultural resources, including human burial remains, have been discovered during construction of this project. Certain locations of these discoveries have been determined to be forever preserved in the place they were found.***
 - b. ***These Preserved in Place (PIP) have been surveyed and recorded, and been transferred onto Level 1 Tenants Space Layout and will also be marked on the Tenants concrete slab within Tenants space.***
 - c. ***DISTURBING SOIL IN THESE PIP LOCATIONS IS PROHIBITED BY LAW. Limited grade level excavation is allowed, outside of PIP locations, however Landlord approval is required.***
2. **Landlord Provisions**
 - a. **Electrical Service**
 - i. ***277/480 Volt, 3 Phase, 4 Wire, 60 Hertz***
 - b. **Distribution Switchboard**
 - i. ***All Tenant circuit breakers in the Tenant Distribution Switchboards are to be furnished by Tenant and installed by Landlord contractor at Tenant expense.***
 - 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.
3. **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 Hawaii 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.
- 4. 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 will provide a Shark 200S electronic submeter with WIFI Ethernet capability at tenant expense. Tenant will install the meter in their space. WIFI connectivity shall be inspected and approved by Landlord in the field.***
 - 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.
 - 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.

5. 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. **Tenant shall use landlord approved contractor for any modifications or additions to the landlord's smoke control system.**
- iii. 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.

d. Valves

i. Individual tenant control valves are not allowed in the sprinkler system.

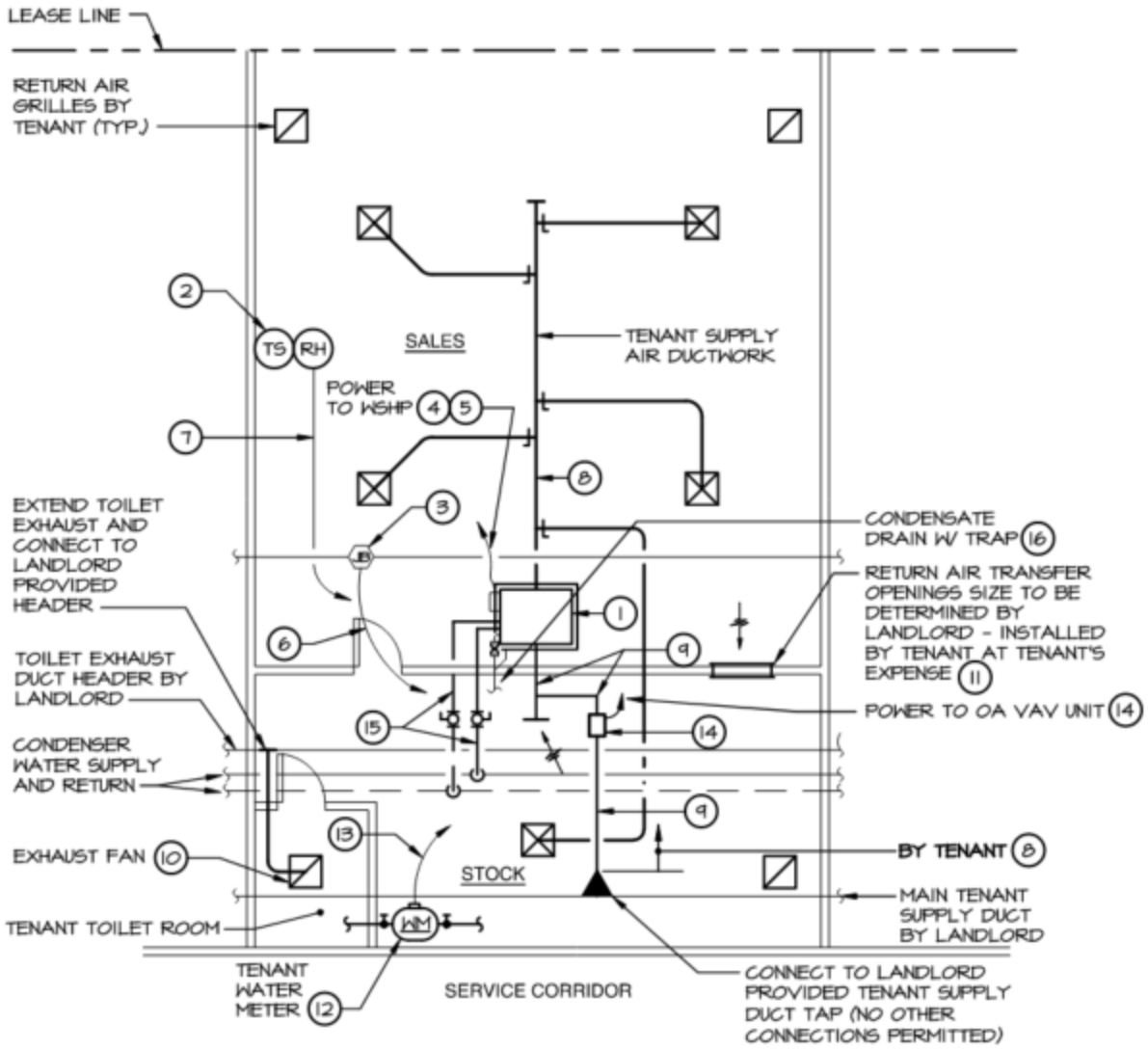
ii. Permanent system isolation valves are not permitted in the system.

iii. Valve operation and alarm system are accomplished at source by landlord.



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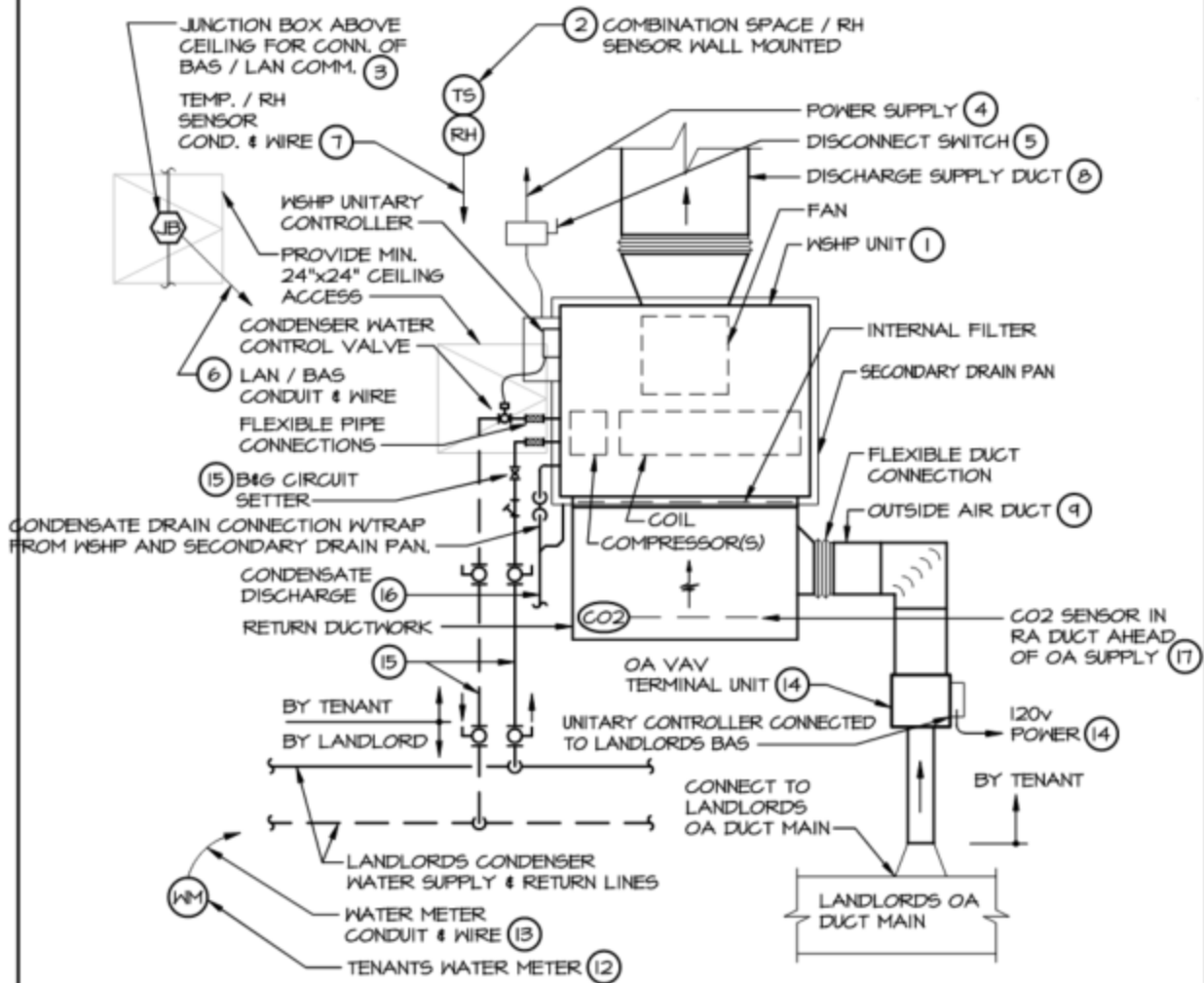


1 SCHEMATIC FLOOR PLAN
TI-1 NO SCALE



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

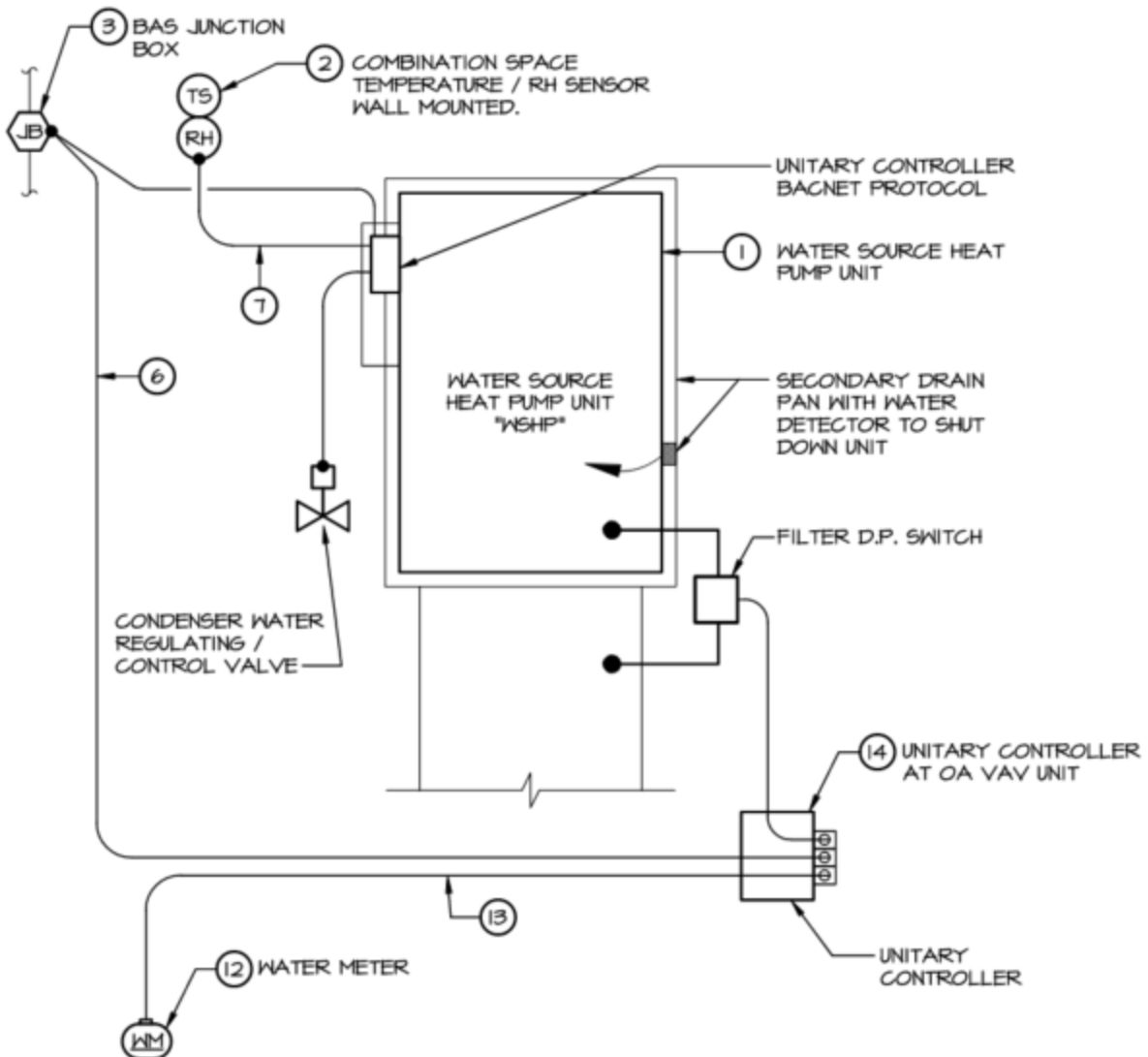
2
TI-1
NO SCALE

SCHEMATIC DIAGRAM TENANT WATER SOURCE HEAT PUMP UNIT & WATER METER CONNECTION



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NOTE:
WATER SOURCE HEAT PUMP TO INCLUDE A SENSOR FOR
DETECTING HIGH CONDENSER WATER CONDITION AND UPON
ALARM SHALL SHUT DOWN UNIT AND INITIATE AN ALARM.

3 SCHEMATIC WIRING / CONTROL DIAGRAM
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① WATER SOURCE HEAT PUMP "WSHP"

TENANT WSHP UNITS SHALL INCLUDE SUPPLY FAN, EVAPORATOR COIL, COMPRESSOR(S), HEAT EXCHANGER, HOT GAS REHEAT COIL, BACNET UNITARY CONTROLLER, SPACE SENSOR FOR TEMPERATURE & HUMIDITY CONTROL, HIGH CONDENSATE SENSOR WITH AUTO SHUT-DOWN, FILTERS AND ALL NECESSARY SAFTIES. PROVIDE ADEQUATE CLEARANCE FOR SERVICING OF EQUIPMENT WHICH SHALL INCLUDE AS A MINIMUM 3 FEET CLEARANCE ON BOTH SIDES. ACCESS TO WSHP UNIT MUST BE PROVIDED AND MAINTAINED. DRY RETAIL TENANT WSHP UNITS SHALL BE PREPURCHASED BY THE LANDLORD AT TENANTS EXPENSE AND INSTALLED BY TENANT'S CONTRACTOR. RESTAURANT TENANTS SHALL FURNISH AND INSTALL THEIR OWN WATER SOURCE HEAT PUMP UNITS. TENANT'S CONTRACTOR SHALL PROVIDE A SECONDARY DRAIN PAN UNDER ALL WSHP UNITS. UPON DETECTION OF HIGH CONDENSATE THE UNIT SHALL BE DISABLED.

② COMBINATION TEMPERATURE AND HUMIDITY SENSOR.

SENSOR SHALL BE WALL MOUNTED. LOCATE SENSOR IN AN AREA UNOBSTRUCTED FROM ROOM AIR CIRCULATION. THE SENSOR SHALL BE PREPURCHASED AND INSTALLED BY THE LANDLORD AT TENANTS EXPENSE.

③ JUNCTION BOX (LANDLORDS BAS CONNECTION POINT)

JUNCTION BOX PAINTED ORANGE LOCATED ABOVE TENANT'S CEILING FOR TERMINATION POINT OF TENANTS EQUIPMENT. ALL WIRING MUST BE IN ¾" CONDUIT. REFER TO WIRING DETAIL ON PAGE 3 FOR CONNECTION OF OA VAV & WSHP UNITS. FINAL CONNECTIONS TO THE TERMINAL STRIP WITHIN THE JUNCTION BOX SHALL BE MADE BY THE LANDLORDS BAS CONTRACTOR AT TENANTS EXPENSE. ACCESS TO JUNCTION BOX MUST BE PROVIDED AND MAINTAINED.

④ POWER TO WATER SOURCE HEAT PUMP "WSHP"

TENANT TO PROVIDE POWER TO WSHP UNITS. THE POWER FEED SHALL BE DEDICATED TO THE WSHP UNIT(S) ONLY AND SHALL INCLUDE A LOCKING MECHANISM ON CIRCUIT BREAKER TO ELIMINATE UNINTENDED SHUT DOWN OF THE EQUIPMENT. COORDINATE POWER REQUIREMENTS WITH EQUIPMENT PREPURCHASED BY LANDLORD.

⑤ DISCONNECT SWITCH AT WSHP UNIT

PROVIDE A SERVICE DISCONNECT SWITCH ADJACENT TO THE WSHP 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 ¾" CONDUIT. WIRING AND CONNECTION AT THE JUNCTION BOX, THE UNITARY CONTROLLER AT THE WSHP AND OA VAV UNIT SHALL BE MADE BY THE LANDLORDS BAS CONTRACTOR AT TENANT'S EXPENSE.



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- ⑦ WIRING FOR SENSOR WHICH CONTROLS WSHP UNITS (TEMPERATURE & HUMIDITY)
 SENSOR WIRING SHALL BE INSTALLED IN 3/4" CONDUIT. TEMPERATURE SENSOR CONDUIT AND SENSOR ELECTRICAL BOX MOUNTED RECESSED WITHIN WALL SHALL BE FURNISHED AND INSTALLED BY TENANT'S CONTRACTOR. SENSOR WIRING AND TERMINATIONS SHALL BE FURNISHED AND INSTALLED BY LANDLORD'S BAS CONTRACTOR AT TENANT'S EXPENSE.
- 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. PROVIDE FLEXIBLE DUCT CONNECTION AT WSHP.
- 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 MUST BE 3 TO 5 FEET OF STRAIGHT DUCT AT INLET AND SHALL BE FULL SIZE OF UNIT CONNECTION. PROVIDE FLEXIBLE DUCT CONNECTIONS AT EQUIPMENT CONNECTIONS.
- 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 LANDLORDS 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 WSHP UNITS USING THE CRITERIA OF A MAXIMUM PRESSURE DROP OF 0.05" WG.
- ⑫ TENANTS DOMESTIC WATER METER
 TENANT'S DOMESTIC WATER METER SHALL BE CONNECTED TO THE OA VAV UNIT CONTROLLER FOR REMOTE READING THROUGH THE LANDLORDS 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
 THE WIRING SHALL BE 2 CONDUCTOR 22 GAUGE WIRE. USE 20 GAUGE WIRE OVER 300 FOOT LENGTH. ALL WIRING SHALL BE IN 3/4" CONDUIT. WIRE, CONDUIT AND TERMINATIONS SHALL BE FURNISHED AND INSTALLED BY LANDLORD'S BAS CONTRACTOR AT TENANT'S EXPENSE.



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⑭ OUTSIDE AIR VAV TERMINAL UNIT

TENANT SHALL INSTALL A SINGLE DUCT VAV UNIT WITH UNITARY CONTROLLER FOR REGULATION OF OUTSIDE AIR QUANTITIES. THE OA VAV TERMINAL UNIT SHALL BE PREPURCHASED BY THE LANDLORD AT THE TENANT'S EXPENSE AND INSTALLED BY THE TENANT'S CONTRACTOR. THE TENANT CONTRACTOR SHALL PROVIDE A 120V POWER SOURCE WITH DISCONNECT SWITCH AT THE UNIT. CIRCUIT BREAKER SHALL HAVE A LOCKING MECHANISM TO PREVENT UNINTENDED SHUTDOWN OF EQUIPMENT. SEE DETAIL 9/TI-1 FOR TENANTS WHICH USE MULTIPLE WHSP UNITS.

⑮ CONDENSER WATER PIPING & REQUIREMENTS

THE TENANT'S CONTRACTOR SHALL PROVIDE CONDENSER WATER PIPING FROM THE LANDLORD CONNECTIONS TO THE WHSP UNITS.

THE ACCESSORIES SHALL INCLUDE SHUT OFF VALVES ADJACENT TO THE UNIT, FLEXIBLE PIPE CONNECTIONS OR HOSES, STRAINER AND A B&G CIRCUIT SETTER FOR BALANCING CONDENSER WATER FLOW RATES. THE CONDENSER WATER REGULATING / CONTROL VALVE SHALL BE INCLUDED WITH THE WHSP AS A PREPURCHASED ITEM BY THE LANDLORD.

THE TENANTS PIPING AND EQUIPMENT SHALL BE DESIGNED TO NOT EXCEED A MAXIMUM PRESSURE DROP OF 25 FEET OF HEAD.

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. A DRAIN CONNECTION FROM THE SECONDARY DRAIN PAN SHALL BE PROVIDED. IN THE EVENT THE CONDENSATE CAN NOT BE DRAINED BY GRAVITY PROVIDE A CONDENSATE PUMPING SYSTEM COMPLETE WITH PUMP FAILURE / HIGH WATER ALARM.

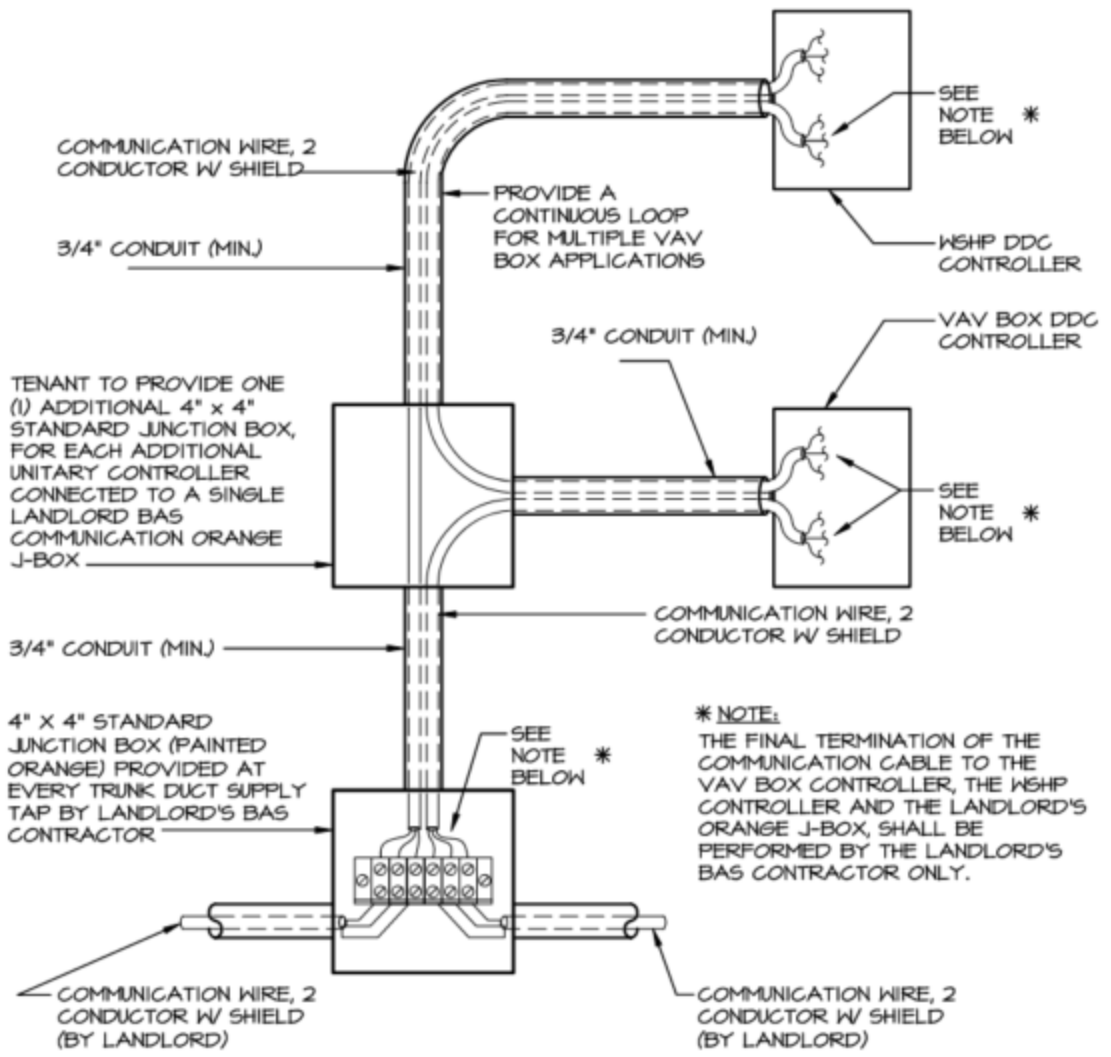
⑰ RETURN AIR CO₂ SENSOR

CO₂ SENSOR FURNISHED AND INSTALLED BY LANDLORDS BAS CONTRACTOR AT TENANT'S EXPENSE IN RETURN AIR DUCT FOR APPLICATION OF DEMAND CONTROL VENTILATION TO REGULATE THE DAMPER IN THE OA VAV TERMINAL UNITS.



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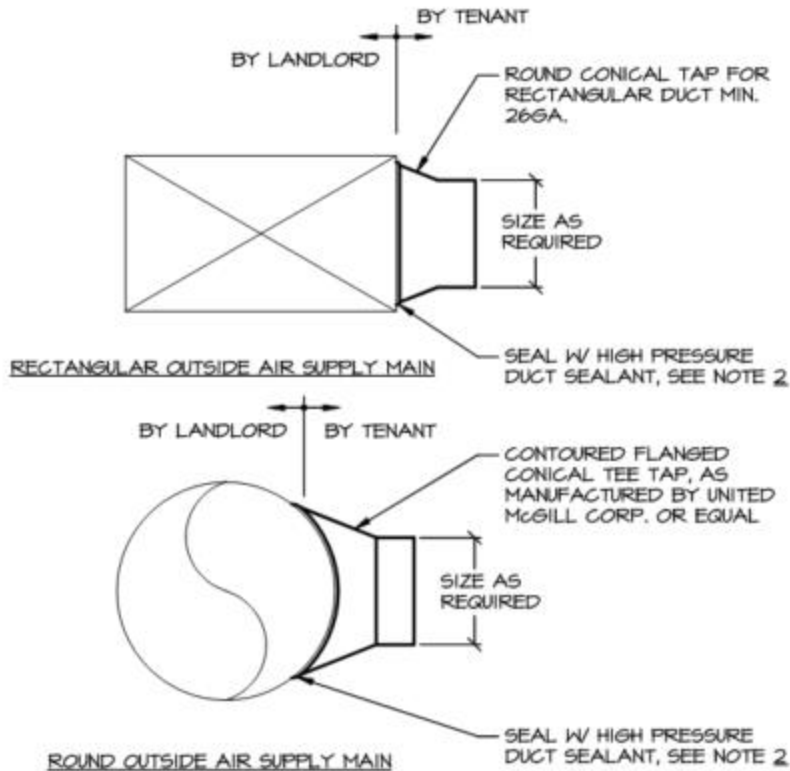
*** NOTE:**
 THE FINAL TERMINATION OF THE COMMUNICATION CABLE TO THE VAV BOX CONTROLLER, THE WSHP CONTROLLER AND THE LANDLORD'S ORANGE J-BOX, SHALL BE PERFORMED BY THE LANDLORD'S BAS CONTRACTOR ONLY.

4 COMMUNICATION CABLE WIRE INSTALLATION DETAIL
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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.



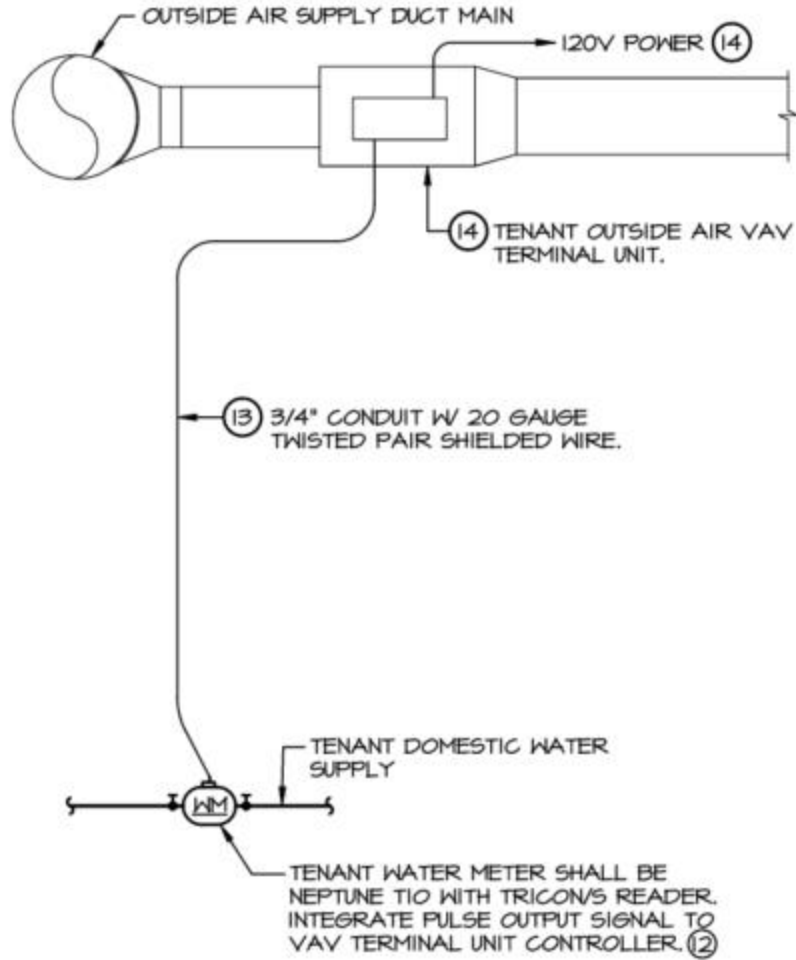
OUTSIDE AIR DUCT CONNECTION DETAIL

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TI-1

TENANT WATER METER DETAIL

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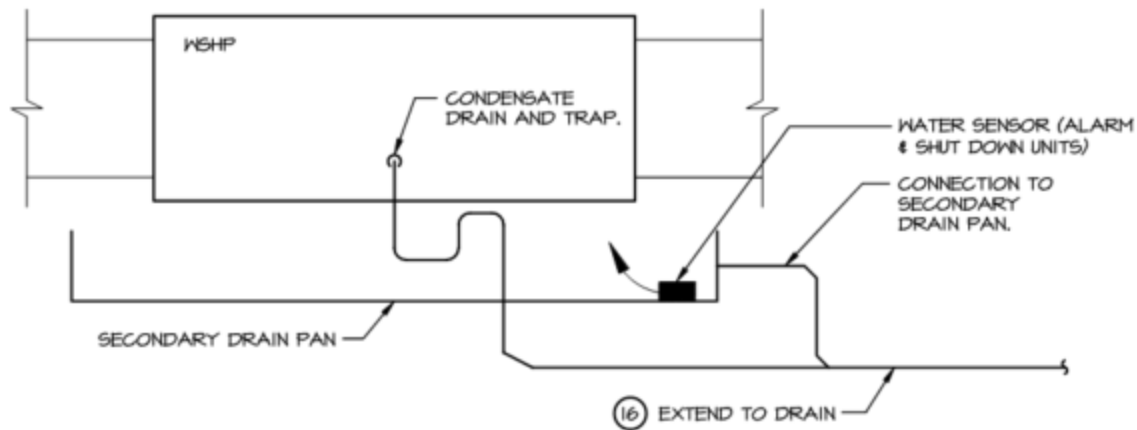
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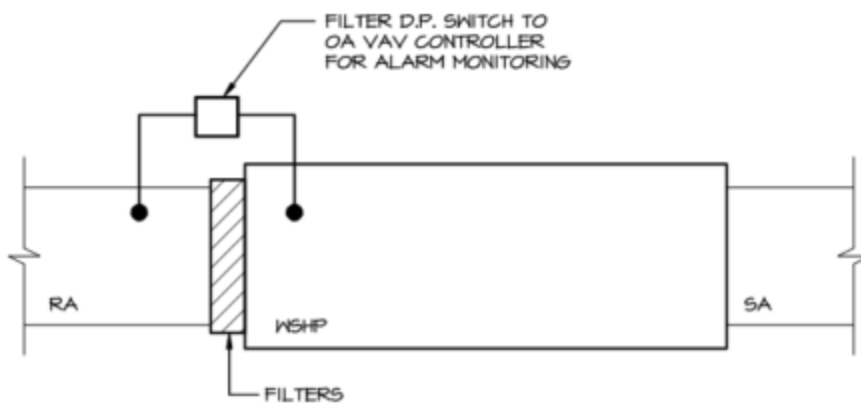
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7 CONDENSATE DRAIN CONNECTION DETAIL
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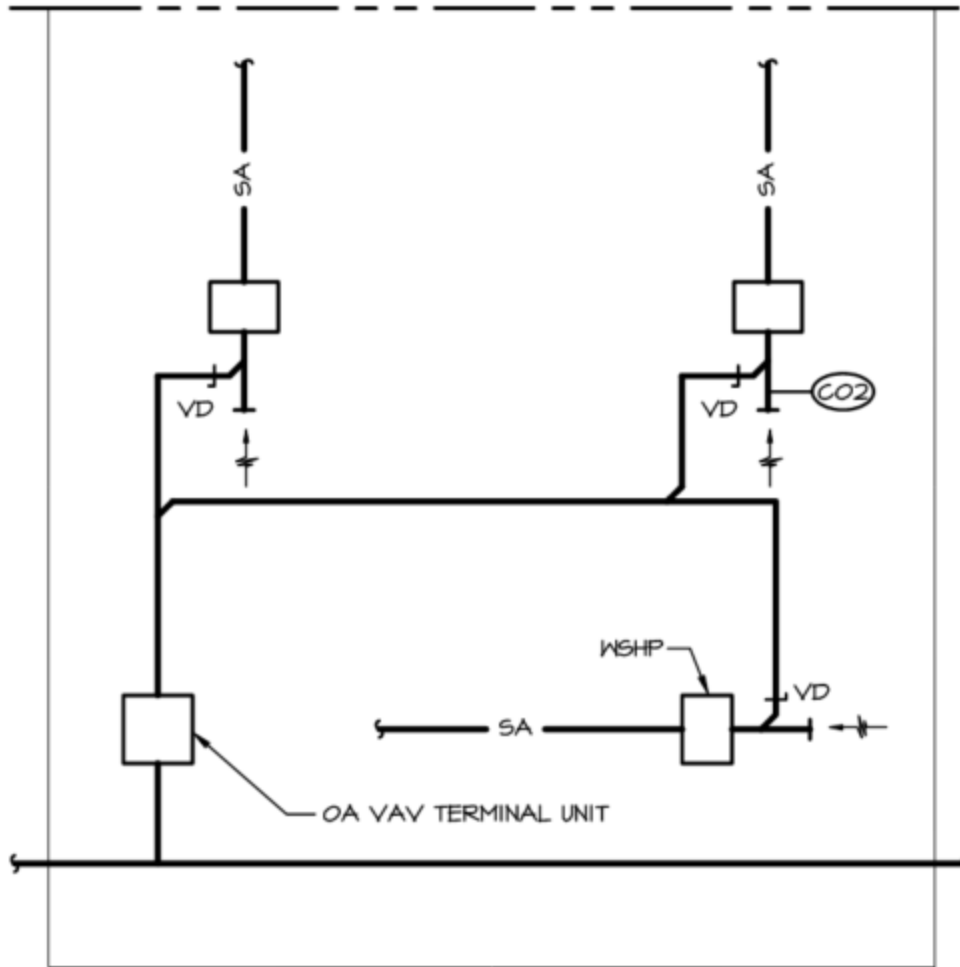


8 FILTER DIFFERENTIAL PRESSURE DETAIL
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NOTE:
THE PURPOSE OF THIS DETAIL IS TO CLARIFY THAT
WHEN MULTIPLE WSHP UNITS ARE BEING USED THAT
A SINGLE OA VAV UNIT IS TO BE USED FOR
REGULATING OUTSIDE AIR QUANTITY.



TENANT WITH MULTIPLE WSHP UNITS

NO SCALE