



**BUILDING APPLICATION
PLAN REVIEW COMMENTS**

Application #: PB12-09253
Status: APPROVED
Date Submitted: 10/17/2012
Date Issued:

Address: 11477 WOODLAND SPRINGS DR
Parcel ID: T0973401 Zoning: E
Addition: WOODLAND SPRINGS PLAZA Lot / Block: 1 /A
Legal Desc: WOODLAND SPRINGS PLAZA BLOCK A LOT 1A
Description of Work: RETAIL/INTERIOR FINISHOUT/SUITE #130
ADA TDLR#: Energy Code
Compliant:

APPLICANT

TREASURE STAR PROPERTIES
PO BOX 1706 COLLEYVILLE ,TX 76034-1706
817 516 7339

OWNER

WOOD SPRINGS PARTNERS LTD
5916 STERLING DR COLLEYVILLE ,TX 76034-7631

Building Classification

Occ Group/

Division	Occ Load	Type Const
M /	30	
/	0	
/	0	
/	0	
/	0	

Sprinkler Sys Req: N Parking Spaces: 0

Number of 0 hr. rated Exterior Wall Construction 0

Number of 0 hr. rated Fire Barriers 0

Number of 0 hr. rated Fire Walls 0

Minimum Required Setbacks (ft)

North:
East:

South:
West:

Planning & Development Department

Conditions:

Approvals:

Item: 00010 Plan Review - Bldg
10/17/2012 LAWLERT Action: HD
10/19/2012 lawlert Action: AP

Item: 00015 Plan Review - Mech
10/19/2012 lawlert Action: AP

Item: 00020 Plan Review - Elec
10/19/2012 lawlert Action: AP

Item: 00025 Plan Review - Plmb
10/19/2012 lawlert Action: AP

Item: 00040 Zoning
10/17/2012 LAWLERT Action: NR

Item: 00045 Foundation
10/17/2012 LAWLERT Action: NR

Holds/Comments:

MAYORGM 10/17/2012 Customer did not know of occupant at the time of submission.
LAWLERT 10/17/2012 Permit Data confirmed on
-DATE:--10-17-12-By TIM LAWLER 817.392.2608** BUILDING CODE REVIEW COMMENTS**

ADDRESS:11477 WOODLAND SPRINGS DR. PERMIT #PB12-09253
SITUE # 130-----
CONSTRUCTION TYPE:
SPRINKLED:
BUILDING AREA:
"Nonseparated use
NUMBER OF STORIES
OCCUPANCY & USE: 1.)-RETAIL USE--- 1,050 SQ.FT. -M-USE
GROUP
OCCUPANT LOAD:
MIXED USE BREAKDOWN:
TDLR. #

SCOPE OF WORK: FINISHOUT OF EXISTING SPACE---
RESTROOM-MECHANICAL; ELECTRICAL AND PLUMBING WORK---- NEW
DROPPED CEILING
+++
PLANS BY GEORGE H. WANG--- TEXAS P.E. reg. # 45134
===
Breathing Zone Outdoor Airflow -2009 International

Planning & Development Department

Mechanical Code -Section 403.3

The outdoor rate required to supplied in the Breathing zone [V/ bz] of the occupiable space or spaces in a zone shall be determined in accordance with Equation 4-1

$V / bz = R/p \times Pz + R a \times A z$ ----- equals 244 C.F.M

OUTSIDE AIR

MECHANICAL SCHEDULE SHOWS ----- 320 C.F.M PROVIDED

APPROVAL SUBJECT TO FIELD INSPECTORS VERIFICATION

LAWLERT 10/17/2012 City of Fort Worth-2009-BUILDING

CODE-ADOPTED 03-2011-ORD. # 19601

EFFECTIVE DATE - 04-01-11-[International Building Code & amendments }

ORD. # 19603- 2009 IMC INTERNATIONAL MECHANICAL CODE

ORD. # 19604, 2009 IPC -INTERNATIONAL PLUMBING & IFGC, FUEL GAS CODES

ORD.# 19605 , 2009 IECC-INTERNATIONAL ENERGY CONSERVATION CODES---

- [all include city amendments]

ORD.# 18358, 2008 NEC.-NATIONAL ELECTRICAL CODE ,INCLUDED

10-17-12----HOLD --- Plumbing sheet , shows that construction will comply 2003 and 2006 International Plumbing Codes.

Please provide two copies of Plumbing plans showing compliance with 2009 International plumbing codes. - signed by p.e. of record.

10-17-12---HOLD---- Mechanical sheet is Incomplete; does not shown Outside air requirements for Retail use.

VENTALATION -2009 International Mechanical Code

401.2 - Every occupied space shall be ventilated by natural means in accordance with 402 or by mechanical means in accordance with Section 403. City of Fort Worth, Amendment, 102.4-Additions, Alterations, or repairs to any Mechanical system shall conform with the requirements for a new Mechanical system without requiring the existing mechanical system to comply with all of the requirements of this code.

Breathing Zone Outdoor Airflow -2009 International Mechanical Code -Section 403.3

The outdoor rate required to supplied in the Breathing zone [V/ bz] of the occupiable space or spaces in a zone shall be determined in accordance with Equation 4-1

$V / bz = R/p \times Pz + R a \times A z$

Please provide two copies of Mechanical plans showing compliance with outside breathing air.

10-17-12---HOLD--- Lighting report shows 9-florescent

Planning & Development Department

fixtures; but not ceiling lighting plans has been provided.

Please provide two copies of reflected ceiling lighting plans showing location of light fixtures to verify compliance with IECC, Lighting report.

LAWLERT 10/17/2012

revised-----10-17--12-- HOLD COMMENTS
AS FOLLOWS ;

City of Fort Worth-2009-BUILDING CODE-ADOPTED 03-2011-ORD.
19601

EFFECTIVE DATE - 04-01-11-[International Building Code &
amendments }

ORD. # 19603- 2009 IMC INTERNATIONAL MECHANICAL CODE

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Please provide two copies of Plumbing plans showing
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by p.e. of record.

10-19-12---HOLD--- REVISED PLANS SHOW CORRECT CODE DATA

rev-ssed-----10-17-12---HOLD---- Mechanical sheet is
Incomplete; does not shown Outside air requirements for
Retail use.

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APPROVAL SUBJECT TO FIELD INSPECTORS VERIFICATION

Please provide two copies of Mechanical plans showing
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Planning & Development Department

10-19-12---APPROVED

10-17-12---HOLD--- Lighting report shows 9-florescent fixtures; but not ceiling lighting plans has been provided.

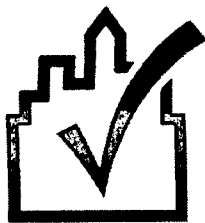
Please provide two copies of reflected ceiling lighting plans showing location of light fixtures to verify compliance with IECC, Lighting report.

10-019-12---APPROVED -- HAND DRAWN LIGHTING PLANS SUBMITTED

SUBJECT TO FIELD INSPECTORS VERIFICATION
++++
NAREZR 10/19/2012 RECVD REVISIONS

Planning & Development Department

The City of Fort worth * 1000 Throckmorton St * Fort worth, Texas 76102
817-392-2222 * Fax 817-392-8105



COMcheck Software Version 3.8.0

Envelope Compliance Certificate

2009 IECC

Section 1: Project Information

Project Type: **New Construction**
Project Title : KELLER RETAIL

Construction Site:
11477 WOODLAND SPRINGS DR.
STE. 130
FORT WOETH, TX 76240

Owner/Agent:
JOHN PIETROBON
11477 WOODLAND SPRINGS DR.
STE. 120
KELLER, TX 76240

Designer/Contractor:
George Wang
Wang Engineering, Inc.
1200 E. Executive Dr.
Ste. 98
Richardson, TX 75081
972-437-2920
george.wang@prodigy.net

Section 2: General Information

Building Location (for weather data): **Fort Worth, Texas**
Climate Zone: **3a**
Vertical Glazing / Wall Area Pct.: **33%**

Activity Type(s) **Floor Area**
Retail 993

Section 3: Requirements Checklist

Envelope PASSES: Design 9% better than code.

Climate-Specific Requirements:

Component Name/Description	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor ^(a)
Roof 1: Insulation Entirely Above Deck	993	---	22.0	0.044	0.048
Exterior Wall 1: Solid Concrete:7" Thickness,Normal Density , Furring: Metal	1056	0.0	19.0	0.047	0.123
Door 2: Insulated Metal, Swinging	42	---	---	0.048	0.700
Exterior Wall 2: Steel-Framed, 16" o.c.	1494	0.0	19.0	0.046	0.084
Window 1: Metal Frame with Thermal Break:Double Pane with Low-E, Tinted, SHGC 0.33, PF 0.40	777	---	---	0.380	0.650
Door 1: Glass (> 50% glazing), Entrance Door, SHGC 0.33, PF 0.88	63	---	---	0.380	0.650
Floor 1: Slab-On-Grade:Unheated	200	---	---	---	---

(a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.

Air Leakage, Component Certification, and Vapor Retarder Requirements:

- 1. All joints and penetrations are caulked, gasketed or covered with a moisture vapor-permeable wrapping material installed in accordance with the manufacturer's installation instructions.
- 2. Windows, doors, and skylights certified as meeting leakage requirements.
- 3. Component R-values & U-factors labeled as certified.
- 4. No roof insulation is installed on a suspended ceiling with removable ceiling panels.
- 5. 'Other' components have supporting documentation for proposed U-Factors.
- 6. Insulation installed according to manufacturer's instructions, in substantial contact with the surface being insulated, and in a manner that achieves the rated R-value without compressing the insulation.

- 7. Stair, elevator shaft vents, and other outdoor air intake and exhaust openings in the building envelope are equipped with motorized dampers.
- 8. Cargo doors and loading dock doors are weather sealed.
- 9. Recessed lighting fixtures installed in the building envelope are Type IC rated as meeting ASTM E283, are sealed with gasket or caulk.
- 10. Building entrance doors have a vestibule equipped with closing devices.
Exceptions:
 - Building entrances with revolving doors.
 - Doors that open directly from a space less than 3000 sq. ft. in area.

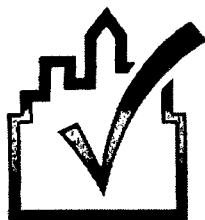
Section 4: Compliance Statement

Compliance Statement: The proposed envelope design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed envelope system has been designed to meet the 2009 IECC requirements in COMcheck Version 3.8.0 and to comply with the mandatory requirements in the Requirements Checklist.

John Pietrobun - Owner		Oct 16, 2012
Name - Title	Signature	Date

Project Notes:

INTERIOR FINISH-OUT OF NEW RETAIL SPACE



COMcheck Software Version 3.8.0
**Interior Lighting Compliance
 Certificate**

2009 IECC

Section 1: Project Information

Project Type: **New Construction**
 Project Title : KELLER RETAIL

Construction Site:
 11477 WOODLAND SPRINGS DR.
 STE. 130
 FORT WORTH, TX 76240

Owner/Agent:
 JOHN PIETROBON
 11477 WOODLAND SPRINGS DR.
 STE. 120
 KELLER, TX 76240

Designer/Contractor:
 George Wang
 Wang Engineering, Inc.
 1200 E. Executive Dr.
 Ste. 98
 Richardson, TX 75081
 972-437-2920
 george.wang@prodigy.net

Section 2: Interior Lighting and Power Calculation

A Area Category	B Floor Area (ft ²)	C Allowed Watts / ft ²	D Allowed Watts (B x C)
Retail	993	1.5	1490
Total Allowed Watts =			1490

Section 3: Interior Lighting Fixture Schedule

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
Retail (993 sq.ft.) Compact Fluorescent 1: 2x4: 2x4 fluorescent / Quad 2-pin 28W / Magnetic	4	9	112	1008
Total Proposed Watts =				1008

Section 4: Requirements Checklist

Lighting Wattage:

1. Total proposed watts must be less than or equal to total allowed watts.

Allowed Watts	Proposed Watts	Complies
1490	1008	YES

Controls, Switching, and Wiring:

2. Daylight zones under skylights more than 15 feet from the perimeter have lighting controls separate from daylight zones adjacent to vertical fenestration.
3. Daylight zones have individual lighting controls independent from that of the general area lighting.

Exceptions:

- Contiguous daylight zones spanning no more than two orientations are allowed to be controlled by a single controlling device.
- Daylight spaces enclosed by walls or ceiling height partitions and containing two or fewer light fixtures are not required to have a separate switch for general area lighting.

4. Independent controls for each space (switch/occupancy sensor).

Exceptions:

- Areas designated as security or emergency areas that must be continuously illuminated.
- Lighting in stairways or corridors that are elements of the means of egress.
- 5. Master switch at entry to hotel/motel guest room.
- 6. Individual dwelling units separately metered.
- 7. Medical task lighting or art/history display lighting claimed to be exempt from compliance has a control device independent of the control of the nonexempt lighting.
- 8. Each space required to have a manual control also allows for reducing the connected lighting load by at least 50 percent by either controlling all luminaires, dual switching of alternate rows of luminaires, alternate luminaires, or alternate lamps, switching the middle lamp luminaires independently of other lamps, or switching each luminaire or each lamp.

Exceptions:

- Only one luminaire in space.
- An occupant-sensing device controls the area.
- The area is a corridor, storeroom, restroom, public lobby or sleeping unit.
- Areas that use less than 0.6 Watts/sq.ft.
- 9. Automatic lighting shutoff control in buildings larger than 5,000 sq.ft.

Exceptions:

- Sleeping units, patient care areas; and spaces where automatic shutoff would endanger safety or security.
- 10. Photocell/astronomical time switch on exterior lights.

Exceptions:

- Lighting intended for 24 hour use.
- 11. Tandem wired one-lamp and three-lamp ballasted luminaires (No single-lamp ballasts).

Exceptions:


- Electronic high-frequency ballasts; Luminaires on emergency circuits or with no available pair.

Interior Lighting PASSES: Design 32% better than code.

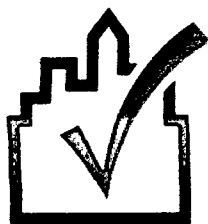
Section 5: Compliance Statement

Compliance Statement: The proposed lighting design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed lighting system has been designed to meet the 2009 IECC requirements in COMcheck Version 3.8.0 and to comply with the mandatory requirements in the Requirements Checklist.

John Pietrobbon - Owner
Name - Title


Signature

Oct. 16, 2012
Date



COMcheck Software Version 3.8.0
Exterior Lighting Compliance Certificate

2009 IECC

Section 1: Project Information

Project Type: **New Construction**
 Project Title : **KELLER RETAIL**
 Exterior Lighting Zone: **2 (Neighborhood business district)**

Construction Site: 11477 WOODLAND SPRINGS DR. STE. 130 FORT WOETH, TX 76240	Owner/Agent: JOHN PIETROBON 11477 WOODLAND SPRINGS DR. STE. 120 KELLER, TX 76240	Designer/Contractor: George Wang Wang Engineering, Inc. 1200 E. Executive Dr. Ste. 98 Richardson, TX 75081 972-437-2920 george.wang@prodigy.net
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Section 2: Exterior Lighting Area/Surface Power Calculation

A Exterior Area/Surface	B Quantity	C Allowed Watts / Unit	D Tradable Wattage	E Allowed Watts (B x C)	F Proposed Watts
Illuminated area of facade wall or surface	300 ft2	0.1	No	30	150
Main entry	3 ft of door width	20	Yes	60	150
Total Tradable Watts* =				60	150
Total Allowed Watts =				90	
Total Allowed Supplemental Watts** =				600	

* Wattage tradeoffs are only allowed between tradable areas/surfaces.
 ** A supplemental allowance equal to 600 watts may be applied toward compliance of both non-tradable and tradable areas/surfaces.

Section 3: Exterior Lighting Fixture Schedule

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
Illuminated area of facade wall or surface (300 ft2): Non-tradable Wattage				
HID 1: wall sconce: wall pack lights / Metal Halide 50W / Standard	1	3	50	150
Main entry (3 ft of door width): Tradable Wattage				
Incandescent 1: 9" recess: soffit downlight / Incandescent 150W	1	1	150	150
Total Tradable Proposed Watts =				150

Section 4: Requirements Checklist

Lighting Wattage:

- 1. Within each non-tradable area/surface, total proposed watts must be less than or equal to total allowed watts. Across all tradable areas/surfaces, total proposed watts must be less than or equal to total allowed watts.

Compliance: Passes using supplemental allowance watts.

Controls, Switching, and Wiring:

- 2. All exemption claims are associated with fixtures that have a control device independent of the control of the nonexempt lighting.
- 3. Lighting not designated for dusk-to-dawn operation is controlled by either a a photosensor (with time switch), or an astronomical time switch.

- 4. Lighting designated for dusk-to-dawn operation is controlled by an astronomical time switch or photosensor.
- 5. All time switches are capable of retaining programming and the time setting during loss of power for a period of at least 10 hours.

Exterior Lighting Efficacy:

- 6. All exterior building grounds luminaires that operate at greater than 100W have minimum efficacy of 60 lumen/watt.

Exceptions:

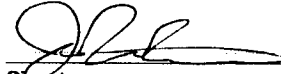
- Lighting that has been claimed as exempt and is identified as such in Section 3 table above.
- Lighting that is specifically designated as required by a health or life safety statute, ordinance, or regulation.
- Emergency lighting that is automatically off during normal building operation.
- Lighting that is controlled by motion sensor.

Exterior Lighting PASSES: Design 0.0% better than code.

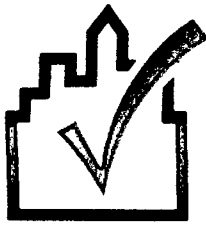
Section 5: Compliance Statement

Compliance Statement: The proposed exterior lighting design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed lighting system has been designed to meet the 2009 IECC requirements in COMcheck Version 3.8.0 and to comply with the mandatory requirements in the Requirements Checklist.

John Pietroniro - Owner
Name - Title


Signature

10-16-2012
Date



COMcheck Software Version 3.8.0
Mechanical Compliance Certificate

2009 IECC

Section 1: Project Information

Project Type: **New Construction**
Project Title : **KELLER RETAIL**

Construction Site:
11477 WOODLAND SPRINGS DR.
STE. 130
FORT WOETH, TX 76240

Owner/Agent:
JOHN PIETROBON
11477 WOODLAND SPRINGS DR.
STE. 120
KELLER, TX 76240

Designer/Contractor:
George Wang
Wang Engineering, Inc.
1200 E. Executive Dr.
Sta. 98
Richardson, TX 75081
972-437-2920
george.wang@prodigy.net

Section 2: General Information

Building Location (for weather data): **Fort Worth, Texas**
Climate Zone: **3a**

Section 3: Mechanical Systems List

Quantity System Type & Description

- 1 HVAC System 1: Heating: Heating equipment (Duct Furnace), Gas, Capacity 120 kBtu/h, Efficiency: 88.00% Ec / Cooling: Cooling equipment (Rooftop Package Unit), Capacity 100 kBtu/h, Efficiency: 14.00 EER, Evaporatively Cooled Condenser / Single Zone
- 1 Water Heater 1: Electric Storage Water Heater, Capacity: 50 gallons w/ Circulation Pump and Heat Trace Tape Installed, Efficiency: 0.88 EF

Section 4: Requirements Checklist

Requirements Specific To: HVAC System 1 :

- 1. Equipment minimum efficiency: Duct Furnace (Gas): 80.0 % Ec
- 2. Equipment minimum efficiency: Rooftop Package Unit: 11.3 EER
- 3. Cooling system provides a means to relieve excess outdoor air during economizer operation.
- 4. Integrated air economizer required

Requirements Specific To: Water Heater 1 :

- 1. Electric Water Heater efficiency: 0.9 EF (267 SL, Btu/h (if > 12 kW))
- 2. All piping in circulating system insulated
- 3. All heat traced or externally heated piping insulated
- 4. Hot water storage temperature adjustable down to 120°F or lower
- 5. Automatic time control of heat tapes and recirculating systems present
- 6. Controls will shut off operation of circulating pump between water heater/boiler and storage tanks within 5 minutes after end of heating cycle

Generic Requirements: Must be met by all systems to which the requirement is applicable:

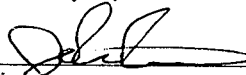
- 1. Plant equipment and system capacity no greater than needed to meet loads
 - Exception: Standby equipment automatically off when primary system is operating
 - Exception: Multiple units controlled to sequence operation as a function of load
- 2. Minimum one temperature control device per system

- 3. Minimum one humidity control device per installed humidification/dehumidification system
- 4. Load calculations per ASHRAE/ACCA Standard 183
- 5. Automatic Controls: Setback to 55°F (heat) and 85°F (cool); 7-day clock, 2-hour occupant override, 10-hour backup
 - Exception: Continuously operating zones
 - Exception: 2 kW demand or less, submit calculations
- 6. Outside-air source for ventilation; system capable of reducing OSA to required minimum
- 7. R-5 supply and return air duct insulation in unconditioned spaces
R-8 supply and return air duct insulation outside the building
R-8 insulation between ducts and the building exterior when ducts are part of a building assembly
 - Exception: Ducts located within equipment
 - Exception: Ducts with interior and exterior temperature difference not exceeding 15°F.
- 8. Mechanical fasteners and sealants used to connect ducts and air distribution equipment
- 9. Ducts sealed - longitudinal seams on rigid ducts; transverse seams on all ducts; UL 181A or 181B tapes and mastics
- 10. Hot water pipe insulation: 1 in. for pipes ≤1.5 in. and 2 in. for pipes >1.5 in.
Chilled water/refrigerant/brine pipe insulation: 1 in. for pipes ≤1.5 in. and 1.5 in. for pipes >1.5 in.
Steam pipe insulation: 1.5 in. for pipes ≤1.5 in. and 3 in. for pipes >1.5 in.
 - Exception: Piping within HVAC equipment.
 - Exception: Fluid temperatures between 55 and 105°F.
 - Exception: Fluid not heated or cooled with renewable energy.
 - Exception: Piping within room fan-coil (with AHRI440 rating) and unit ventilators (with AHRI840 rating).
 - Exception: Runouts <4 ft in length.
- 11. Operation and maintenance manual provided to building owner
- 12. Piping, insulated to 1/2 in. if nominal diameter of pipe is <1.5 in.;
Larger pipe insulated to 1 in. thickness
- 13. Lavatory faucet outlet temperatures in public restrooms limited to 110°F (43°C)
- 14. Thermostatic controls have 5°F deadband
 - Exception: Thermostats requiring manual changeover between heating and cooling
 - Exception: Special occupancy or special applications where wide temperature ranges are not acceptable and are approved by the authority having jurisdiction.
- 15. Balancing devices provided in accordance with IMC (2006) 603.17
- 16. Demand control ventilation (DCV) present for high design occupancy areas (>40 person/1000 ft² in spaces >500 ft²) and served by systems with any one of 1) an air-side economizer, 2) automatic modulating control of the outdoor air damper, or 3) a design outdoor airflow greater than 3000 cfm.
 - Exception: Systems with heat recovery.
 - Exception: Multiple-zone systems without DDC of individual zones communicating with a central control panel.
 - Exception: Systems with a design outdoor airflow less than 1200 cfm.
 - Exception: Spaces where the supply airflow rate minus any makeup or outgoing transfer air requirement is less than 1200 cfm.
- 17. Motorized, automatic shutoff dampers required on exhaust and outdoor air supply openings
 - Exception: Gravity dampers acceptable in buildings <3 stories
 - Exception: Gravity dampers acceptable in systems with outside or exhaust air flow rates less than 300 cfm where dampers are interlocked with fan
- 18. Automatic controls for freeze protection systems present
- 19. Exhaust air heat recovery included for systems 5,000 cfm or greater with more than 70% outside air fraction or specifically exempted
 - Exception: Hazardous exhaust systems, commercial kitchen and clothes dryer exhaust systems that the International Mechanical Code prohibits the use of energy recovery systems.
 - Exception: Systems serving spaces that are heated and not cooled to less than 60°F.
 - Exception: Where more than 60 percent of the outdoor heating energy is provided from site-recovered or site solar energy.
 - Exception: Heating systems in climates with less than 3600 HDD.
 - Exception: Cooling systems in climates with a 1 percent cooling design wet-bulb temperature less than 64°F.
 - Exception: Systems requiring dehumidification that employ energy recovery in series with the cooling coil.
 - Exception: Laboratory fume hood exhaust systems that have either a variable air volume system capable of reducing exhaust and makeup air volume to 50 percent or less of design values or, a separate make up air supply meeting the following makeup air requirements: a) at least 75 percent of exhaust flow rate, b) heated to no more than 2°F below room setpoint temperature, c) cooled to no lower than 3°F above room setpoint temperature, d) no humidification added, e) no simultaneous heating and cooling.

Section 5: Compliance Statement

Compliance Statement: The proposed mechanical design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 2009 IECC requirements in COMcheck Version 3.8.0 and to comply with the mandatory requirements in the Requirements Checklist.

John Petrobon - Owner
Name - Title


Signature

Oct. 16, 2012
Date



COMcheck Software Version 3.8.0

Mechanical Requirements Description

2009 IECC

The following list provides more detailed descriptions of the requirements in Section 4 of the Mechanical Compliance Certificate.

Requirements Specific To: HVAC System 1 :

1. The specified heating and/or cooling equipment is covered by the ASHRAE 90.1 Code and must meet the following minimum efficiency:
Duct Furnace (Gas): 80.0 % Ec
2. The specified heating and/or cooling equipment is covered by the ASHRAE 90.1 Code and must meet the following minimum efficiency:
Rooftop Package Unit: 11.3 EER Rooftop Package Unit: 11.3 EER
3. Cooling system provides a means to relieve excess outdoor air during economizer operation to prevent overpressurizing the building.
4. An integrated air economizer is required for individual cooling systems over 54 kBtu/h in the selected project location and allows simultaneous operation of outdoor-air and mechanical cooling.

Requirements Specific To: Water Heater 1 :

1. Service water heating equipment used solely for heating potable water, pool heaters, and hot water storage tanks must meet the following minimum efficiency: Electric Water Heater efficiency: 0.9 EF (267 SL, Btu/h (if > 12 kW))
2. Insulation must be provided for recirculating system piping, including the supply and return piping of a circulating tank type water heater.
3. Insulation must be provided for pipes that are externally heated (such as heat trace or impedance heating).
4. Temperature controls must be provided that allow for storage temperature adjustment from 120°F or lower to a maximum temperature compatible with the intended use except when the manufacturer's installation instructions specify a higher minimum thermostat setting to minimize condensation and resulting corrosion. Documentation of the installation instructions must be provided to be exempted from this requirement.
5. Systems designed to maintain usage temperatures in hot water pipes, such as recirculating hot water systems or heat trace, must be equipped with automatic time switches or other controls that can be set to switch off the temperature maintenance system during extended periods when hot water is not required.
6. When used to maintain storage tank water temperature, recirculating pumps must be equipped with controls limiting operation to the start of the heating cycle to a maximum of 5 minutes after the end of the heating cycle.

Generic Requirements: Must be met by all systems to which the requirement is applicable:

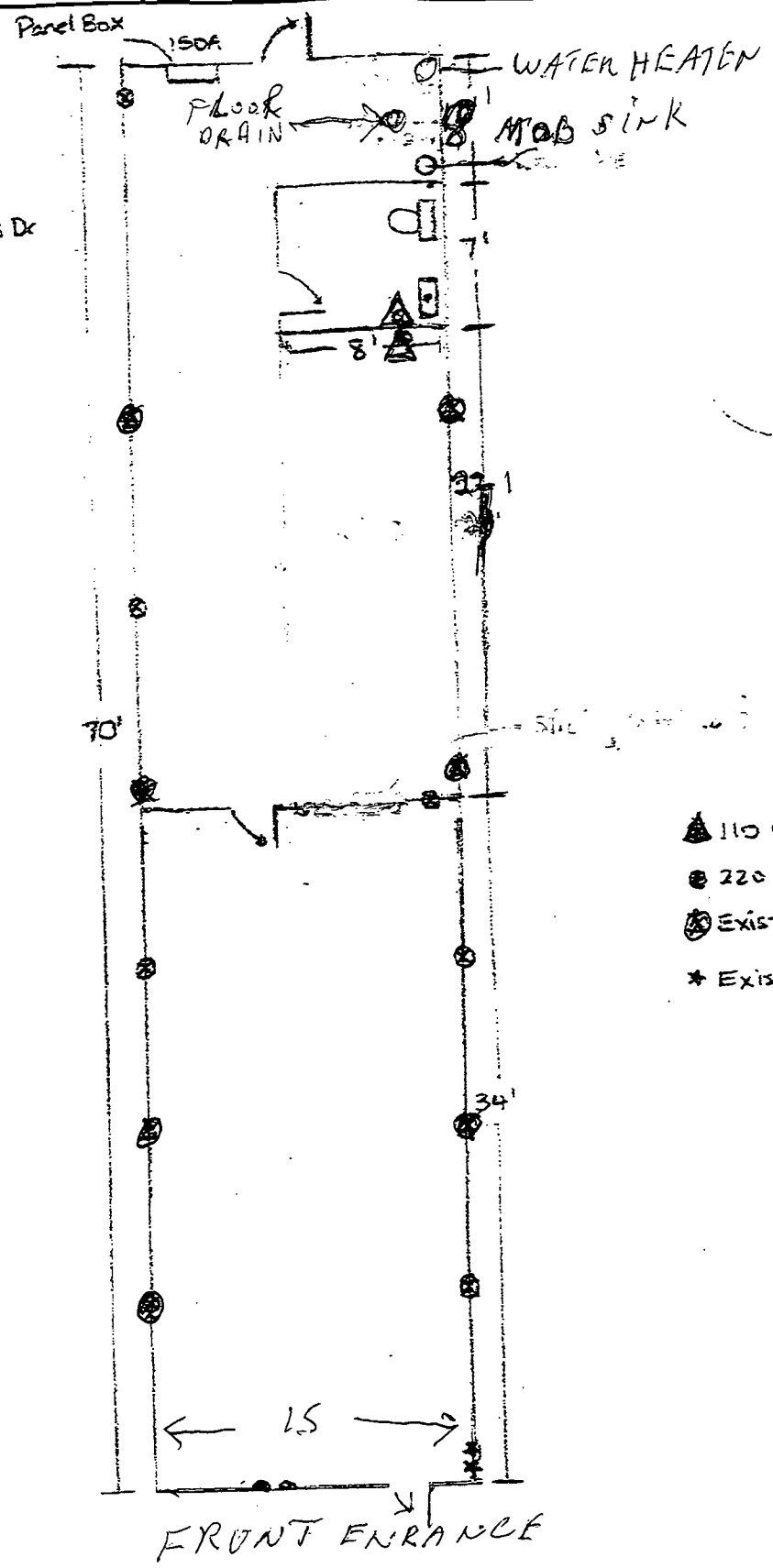
1. All equipment and systems must be sized to be no greater than needed to meet calculated loads. A single piece of equipment providing both heating and cooling must satisfy this provision for one function with the capacity for the other function as small as possible, within available equipment options.
 - Exception: The equipment and/or system capacity may be greater than calculated loads for standby purposes. Standby equipment must be automatically controlled to be off when the primary equipment and/or system is operating.
 - Exception: Multiple units of the same equipment type whose combined capacities exceed the calculated load are allowed if they are provided with controls to sequence operation of the units as the load increases or decreases.
2. Each heating or cooling system serving a single zone must have its own temperature control device.
3. Each humidification system must have its own humidity control device.
4. Design heating and cooling loads for the building must be determined using procedures in the ASHRAE Handbook of Fundamentals or an approved equivalent calculation procedure.
5. The system or zone control must be a programmable thermostat or other automatic control meeting the following criteria:
 - a) capable of setting back temperature to 55°F during heating and setting up to 85°F during cooling,
 - b) capable of automatically setting back or shutting down systems during unoccupied hours using 7 different day schedules,
 - c) have an accessible 2-hour occupant override,
 - d) have a battery back-up capable of maintaining programmed settings for at least 10 hours without power.
 - Exception: A setback or shutoff control is not required on thermostats that control systems serving areas that operate continuously.
 - Exception: A setback or shutoff control is not required on systems with total energy demand of 2 kW (6,826 Btu/h) or less.
6. The system must supply outside ventilation air as required by Chapter 4 of the International Mechanical Code. If the ventilation system is designed to supply outdoor-air quantities exceeding minimum required levels, the system must be capable of reducing outdoor-air flow to the minimum required levels.
7. Air ducts must be insulated to the following levels:
 - a) Supply and return air ducts for conditioned air located in unconditioned spaces (spaces neither heated nor cooled) must be insulated with a minimum of R-5. Unconditioned spaces include attics, crawl spaces, unheated basements, and unheated garages.
 - b) Supply and return air ducts and plenums must be insulated to a minimum of R-8 when located outside the building.

- c) When ducts are located within exterior components (e.g., floors or roofs), minimum R-8 insulation is required only between the duct and the building exterior.
- Exception: Duct insulation is not required on ducts located within equipment.
 - Exception: Duct insulation is not required when the design temperature difference between the interior and exterior of the duct or plenum does not exceed 15°F.
8. Mechanical fasteners and seals, mastics, or gaskets must be used when connecting ducts to fans and other air distribution equipment, including multiple-zone terminal units.
9. All joints, longitudinal and transverse seams, and connections in ductwork must be securely sealed using weldments; mechanical fasteners with seals, gaskets, or mastics; mesh and mastic sealing systems; or tapes. Tapes and mastics must be listed and labeled in accordance with UL 181A and shall be marked '181A-P' for pressure sensitive tape, '181A-M' for mastic or '181A-H' for heat-sensitive tape. Tapes and mastics used to seal flexible air ducts and flexible air connectors shall comply with UL 181B and shall be marked '181B-FX' for pressure-sensitive tape or '181B-M' for mastic. Unlisted duct tape is not permitted as a sealant on any metal ducts.
10. All pipes serving space-conditioning systems must be insulated as follows:
- Hot water piping for heating systems:
- 1 1/2 in. for pipes \leq 1 1/2-in. nominal diameter,
 - 2 in. for pipes $>$ 1 1/2-in. nominal diameter.
- Chilled water, refrigerant, and brine piping systems:
- 1 1/2 in. insulation for pipes \leq 1 1/2-in. nominal diameter,
 - 1 1/2 in. insulation for pipes $>$ 1 1/2-in. nominal diameter.
- Steam piping:
- 1 1/2 in. insulation for pipes \leq 1 1/2-in. nominal diameter,
 - 3 in. insulation for pipes $>$ 1 1/2-in. nominal diameter.
- Exception: Pipe insulation is not required for factory-installed piping within HVAC equipment.
 - Exception: Pipe insulation is not required for piping that conveys fluids having a design operating temperature range between 55°F and 105°F.
 - Exception: Pipe insulation is not required for piping that conveys fluids that have not been heated or cooled through the use of fossil fuels or electric power.
 - Exception: Piping within room fan-coil (with AHRI440 rating) and unit ventilators (with AHRI840 rating).
 - Exception: Pipe insulation is not required for runout piping not exceeding 4 ft in length and 1 in. in diameter between the control valve and HVAC coil.
11. Operation and maintenance documentation must be provided to the owner that includes at least the following information:
- a) equipment capacity (input and output) and required maintenance actions
 - b) equipment operation and maintenance manuals
 - c) HVAC system control maintenance and calibration information, including wiring diagrams, schematics, and control sequence descriptions; desired or field-determined set points must be permanently recorded on control drawings, at control devices, or, for digital control systems, in programming comments
 - d) complete narrative of how each system is intended to operate.
12. Service hot water piping, where required, must be insulated to 1/2 in. if pipe less than 1.5 in. nominal diameter. Larger pipe must be insulated to 1 in.. Pipe insulation will have a conductivity of less than 0.28 Btu.in/(h-ft²-°F).
13. Temperature controlling means must be provided to limit the maximum temperature of water delivered from lavatory faucets in public facility restrooms to 110°F.
14. Thermostats controlling both heating and cooling must be capable of maintaining a 5°F deadband (a range of temperature where no heating or cooling is provided).
- Exception: Deadband capability is not required if the thermostat does not have automatic changeover capability between heating and cooling.
 - Exception: Special occupancy or special applications where wide temperature ranges are not acceptable and are approved by the authority having jurisdiction.
15. Balancing devices provided in accordance with IMC (2006) 603.17.
16. Demand control ventilation (DCV) required for high design occupancy areas ($>$ 40 person/1000 ft² in spaces $>$ 500 ft²) and served by systems with any one of 1) an air-side economizer, 2) automatic modulating control of the outdoor air damper, or 3) a design outdoor airflow greater than 3000 cfm.
- Exception: Systems with heat recovery.
 - Exception: Multiple-zone systems without DDC of individual zones communicating with a central control panel.
 - Exception: Systems with a design outdoor airflow less than 1200 cfm.
 - Exception: Spaces where the supply airflow rate minus any makeup or outgoing transfer air requirement is less than 1200 cfm.
17. Outdoor air supply and exhaust systems must have motorized dampers that automatically shut when the systems or spaces served are not in use. Dampers must be capable of automatically shutting off during preoccupancy building warm-up, cool-down, and setback, except when ventilation reduces energy costs (e.g., night purge) or when ventilation must be supplied to meet code requirements.

Both outdoor air supply and exhaust air dampers must have a maximum leakage rate of 3 cfm/ft² at 1.0 in w.g. when tested in accordance with AMCA Standard 500.

- Exception: Gravity (non-motorized) dampers are acceptable in buildings less than three stories in height.
 - Exception: Systems with a design outside air intake or exhaust capacity of 300 cfm (140 L/s) or less that are equipped with motor operated dampers that open and close when the unit is energized and de-energized, respectively.
18. All freeze protection systems, including self-regulating heat tracing, must include automatic controls capable of shutting off the systems when outside air temperatures are above 40°F or when the conditions of the protected fluid will prevent freezing. Snow- and ice-melting systems must include automatic controls capable of shutting off the systems when the pavement temperature is above 50°F and no precipitation is falling, and an automatic or manual control that will allow shutoff when the outdoor temperature is above 40°F.
19. Individual fan systems with a design supply air capacity of 5000 cfm or greater and minimum outside air supply of 70 percent or greater of the supply air capacity must have an energy recovery system with at least a 50 percent effectiveness. Where cooling with outdoor air is required there is a means to bypass or control the energy recovery system to permit cooling with outdoor air.
- Exception: Hazardous exhaust systems, commercial kitchen and clothes dryer exhaust systems that the International Mechanical Code prohibits the use of energy recovery systems.
 - Exception: Systems serving spaces that are heated and not cooled to less than 60°F.
 - Exception: Where more than 60 percent of the outdoor heating energy is provided from site-recovered or site solar energy.
 - Exception: Heating systems in climates with less than 3600 HDD.
 - Exception: Cooling systems in climates with a 1 percent cooling design wet-bulb temperature less than 64°F.
 - Exception: Systems requiring dehumidification that employ energy recovery in series with the cooling coil.
 - Exception: Laboratory fume hood exhaust systems that have either a variable air volume system capable of reducing exhaust and makeup air volume to 50 percent or less of design values or, a separate make up air supply meeting the following makeup air requirements: a) at least 75 percent of exhaust flow rate, b) heated to no more than 2°F below room setpoint temperature, c) cooled to no lower than 3°F above room setpoint temperature, d) no humidification added, e) no simultaneous heating and cooling.

11477 Woodland Springs Dr
 Suite #130
 Fort Worth, TX 76244



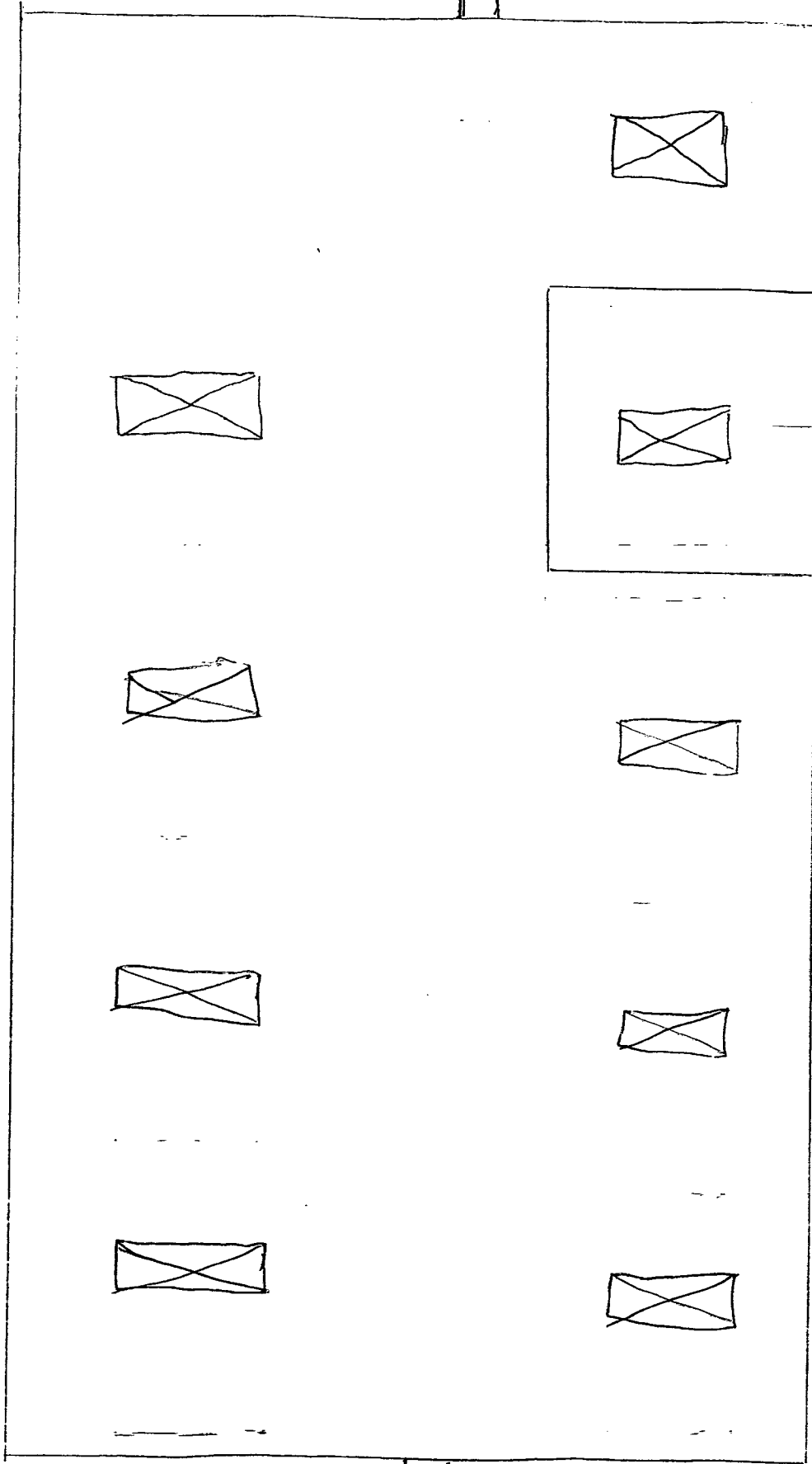
- ▲ 110 outlet to be add.
- 220 outlet to be add
- ⊗ Existing 110 outlet
- * Existing light switch

Scale
 1/8" = 1'

11477 WOODLAND SPRING DR. #130
 FT WORTH. TX

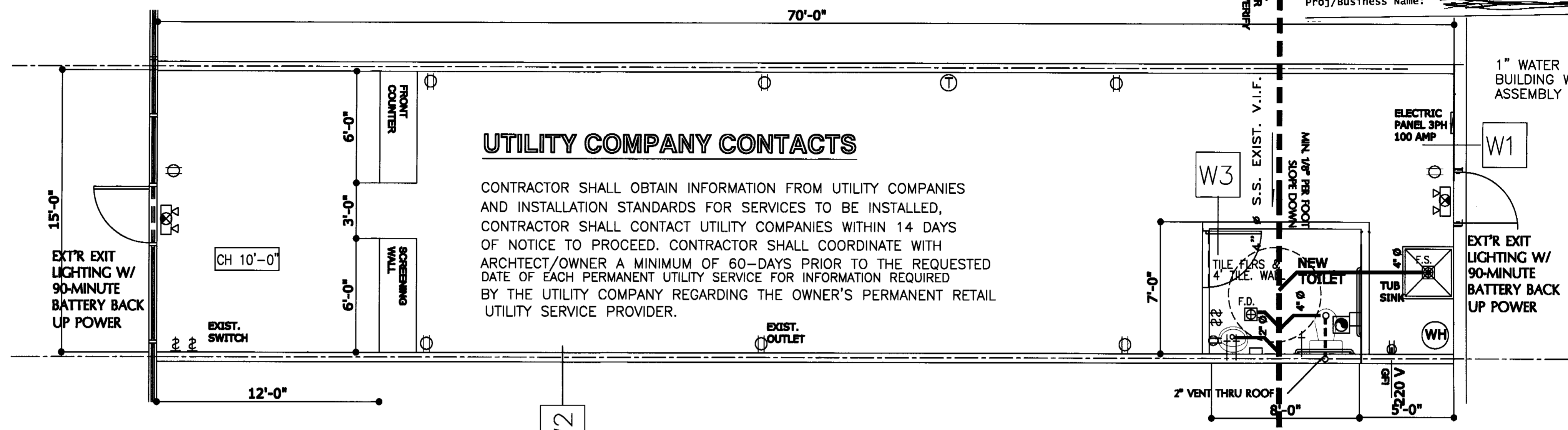
APPROVAL SUBJECT TO
 SITE INSPECTION BY
 BUILDING INSPECTOR

Back



Front

PLUMBING FIXTURE SCHEDULE	
FIXTURE	DESCRIPTION
WATER CLOSET - "WC"	AMERICAN STANDARD 2216 I48 17" HIGH FOR HANDICAPPED WITH TANK LINER AND CHURCH #800 OPEN FRONT ELONGATED WHITE SEAT LESS LID. FLUSHING MECHANISM SHALL BE LOCATED ON THE "WIDE SIDE" OF EACH WATER CLOSET.
LAVATORY - "L"	AMERICAN STANDARD #4800 17" "LEDSEVERE" 1/4" WALL CARRIER AND HERMITAGE FAUCET, AND POP-UP DRAIN, MOUNT AT HANDICAP HEIGHT.
BACKFLOW PREVENTER	EQUAL TO MATTS NO. 909GT; CONFIRM MODEL # IS APPROVED BY LOCAL AUTHORITY PRIOR TO INSTALLATION. ASSE 1018 VERTICAL INSTALLATION APPROVED REDUCED PRESSURE ZONE BACKFLOW PREVENTER.
FLOOR DRAIN - "FD"	2" ZURN # 2N-415. FD 2" FLOOR DRAIN, CAST IRON BODY WITH BOTTOM OUTLET AND ADJUSTABLE STRAINER AND TRAP PRIMER, ZURN MODEL.
TRAP PRIMER - "T.P."	EQUAL TO A PRECISION PRODUCT MODEL "PRIMRITE", ALL BRASS CONSTRUCTION TRAP PRIMER TO BE FULLY AUTOMATIC ACTIVATED BY A DROP IN BUILDING WATER PRESSURE. TO BE PLACED IN A CONCEALED LOCATION.



1" WATER SERVICE ENTRANCE FROM BUILDING WATER LINE, PROVIDE METER ASSEMBLY AS REQUIRED, FIELD VERIFY.

EXTR EXIT LIGHTING W/ 90-MINUTE BATTERY BACK UP POWER

APPROVED #19601

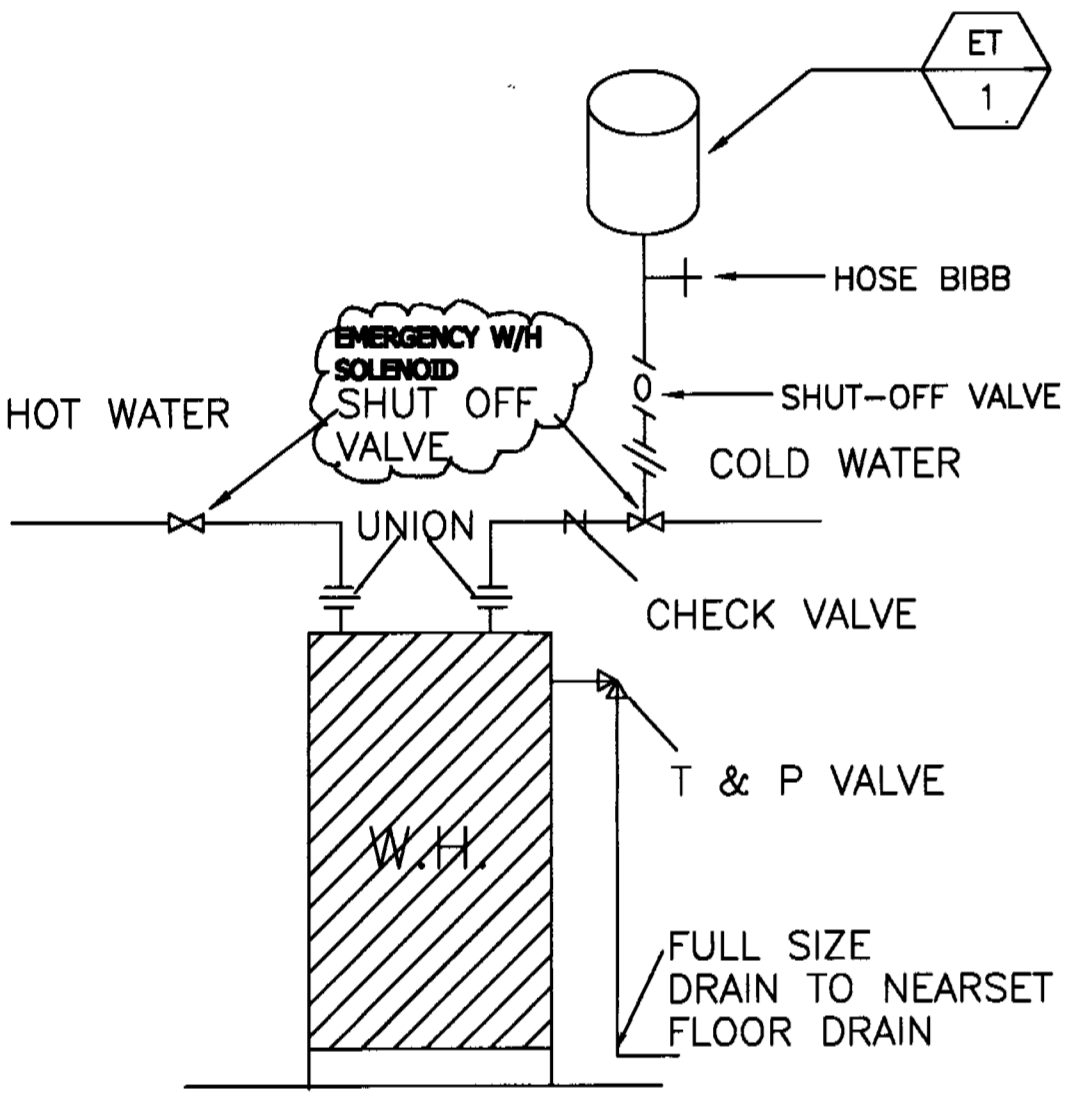
DATE: OCT 19 2012

PLUMBING FLR PLAN

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

FLOOR PLAN W/POWER PLAN

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



PLUMBING DESIGN BASED UPON INTERNATIONAL PLUMBING CODE 2009.

KEYED NOTES:

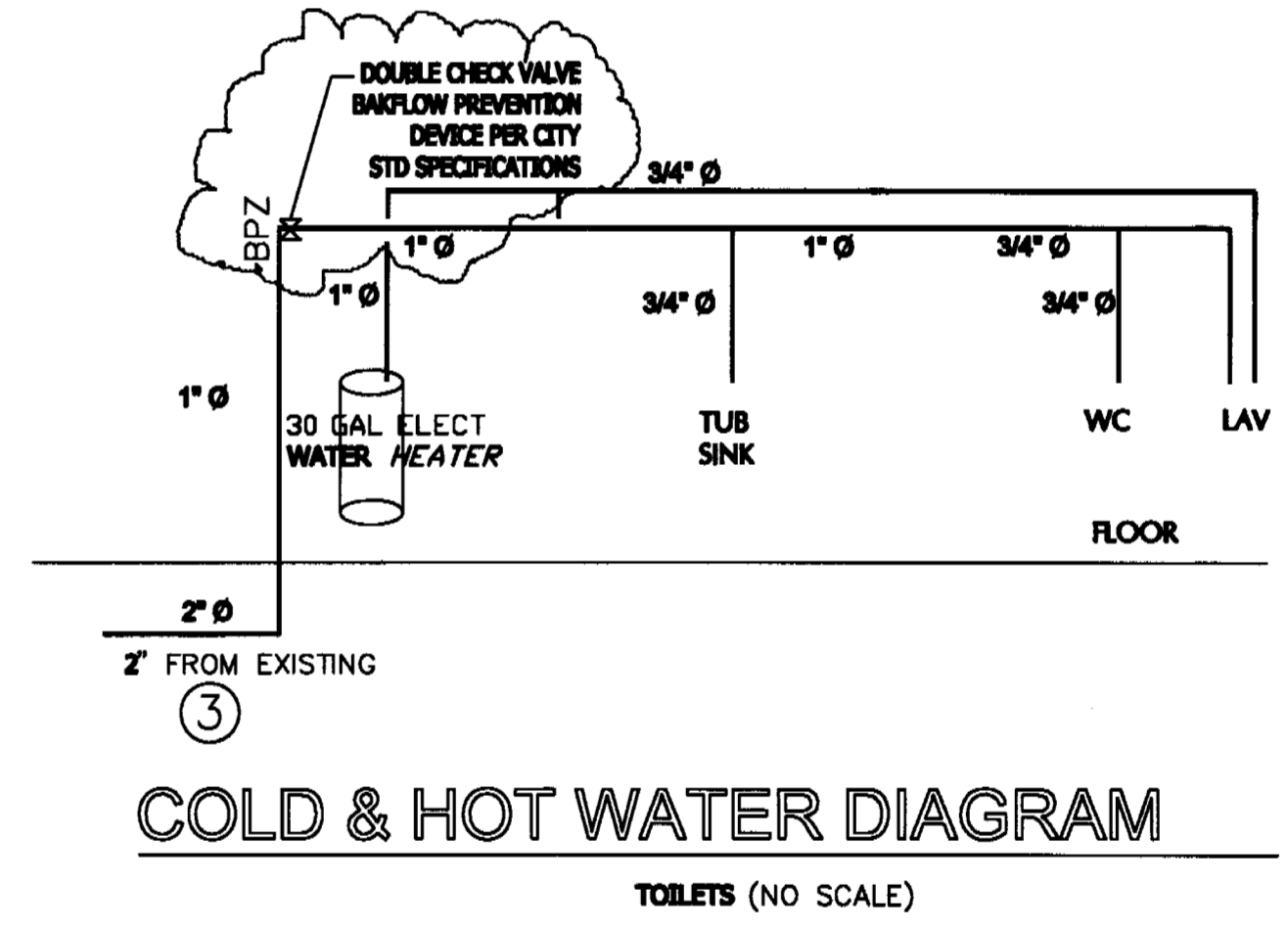
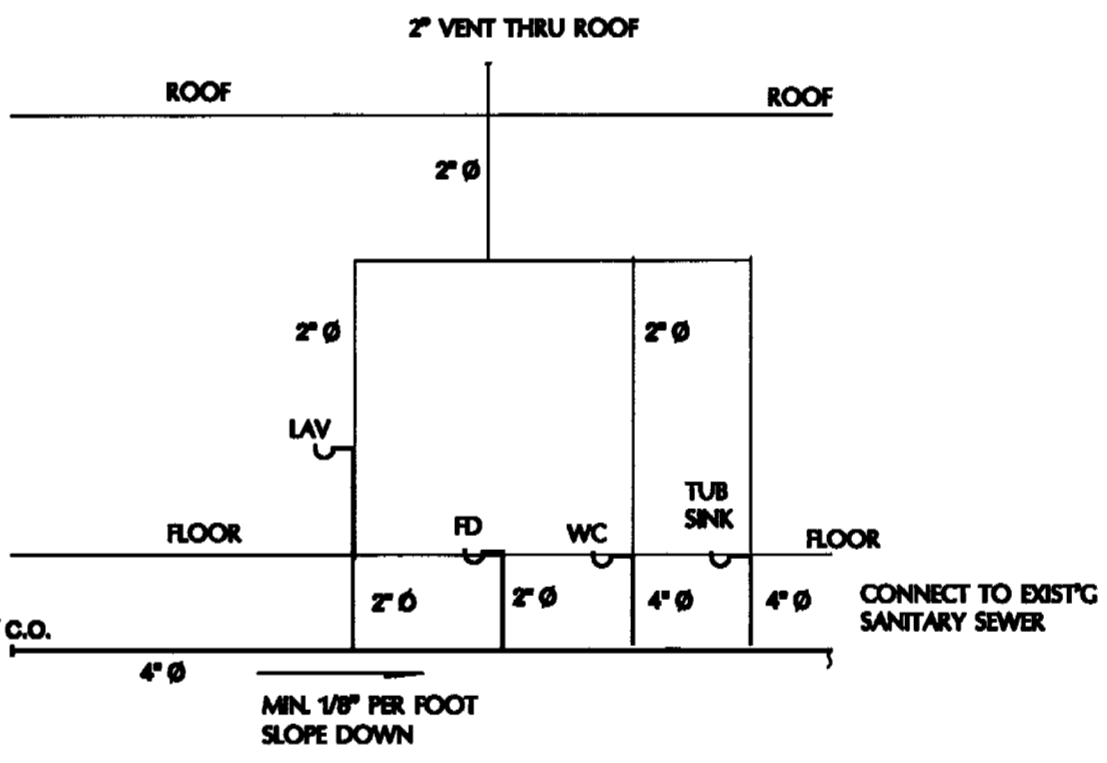
- 4" SANITARY SEWER CONNECT TO 4" STUB, FIELD VERIFY.
- 1" CONDENSATE DRAIN DOWN TO FLOOR DRAIN.
- 1" WATER SERVICE ENTRANCE FROM BUILDING WATER LINE, PROVIDE METER ASSEMBLY AS REQUIRED, FIELD VERIFY.

VENT REQ'D FOR EA PLUMBING TRAP PER 2009 IPC CODE

ARCHITECTURAL DESIGN BASED UPON INTERNATIONAL BUILDING CODE 2009.

PLUMBING KEY NOTES

- HANG TO FIXTURE AND CONNECT. REFERENCE WATER RISER DIAGRAM FOR PIPE SIZES. (TYPICAL). (IPC 607.1)
- 1" WATER LINE OUT TO EXISTING AND CONNECT.
- NEW MAIN COLD WATER SHUT-OFF VALVE AND BACKFLOW PREVENTER.
- T & P RELIEF VALVE AND DRAIN LINE. EXTEND DRAIN LINE TO FLOOR DRAIN AND SPILL. (IPC 607.3.2)
- EACH FIXTURE TRAP SHALL HAVE A LIQUID SEAL OF NOT LESS THAN 2" AND NOT MORE THAN 4", OR DEEPER FOR SPECIAL DESIGNS RELATE TO ACCESSIBLE FIXTURE. WHERE A SEAL IS SUBJECT TO LOSS BY EVAPORATION, A TRAP SEAL PRIMER VALVE SHALL BE INSTALLED. TRAP SEAL PRIMER VALVES SHALL CONFORM TO A TRAP AT A POINT ABOVE THE LEVEL OF THE TRAP SEAL. A TRAP SEAL PRIMER VALVE SHALL CONFORM TO ASSE 1018 OR ASSE 1044. (IPC 1002.4 TRAP SEALS)
- BACKFLOW PREVENTORS CAN NOT BE INSTALLED MORE THAN 48" OFF FINISH FLOOR WITHOUT A STAND OR LADDER BEING INSTALLED TO SERVICE OR MAINTAIN THE UNIT.
- REFERENCE RISER DIAGRAMS FOR WATER AND WASTE PIPE SIZES.



ROOM NAME	FLOOR	BASE	WALLS								CEILING	
			NORTH (1)		EAST (2)		SOUTH (3)		WEST (4)			
	MAT'L	MAT'L	MAT'L	FIN.	MAT'L	FIN.	MAT'L	FIN.	MAT'L	FIN.	MAT'L	HT.
SALES AREA	C.T.	C.T.	GYP. BD.	P	GYP. BD.	P	GYP. BD.	P	GYP. BD.	P	S.A.C.	10'-0"
SERVICE/BACK ROOM	C.T.	C.T.	FRP G.B.	P	FRP G.B.	P	FRP G.B.	P	FRP G.B.	P	V.A.C.	8'-0"
REST ROOM	C.T.	C.T.	GYP.BD./C.T.	P	GYP.BD./C.T.	P	GYP.BD./C.T.	P	GYP.BD./C.T.	P	D.W.C.	8'-0"
			REST ROOM C.T. @ 4' AFF		C.T. @ 4' AFF		C.T. @ 4' AFF		C.T. @ 4' AFF			

GENERAL NOTES:

- WALLS DESIGNATED TO RECEIVE CERAMIC TILE FINISHES SHALL USE CEMENT BD. REF. INT. ELEV. FOR C.T. HEIGHT
- MATERIALS THAT DO NOT HAVE FINISHES INDICATED ON THE SCHEDULE ARE TO HAVE FACTORY FINISHES.
- COORDINATED WITH AND SELECTED BY THE OWNER.
- SERVICE AREA USE VINYL WALL COVERING

ROOM FINISH SCHEDULE

SCALE: N.T.S.

DR. NO.	SIZE	THK.	TYPE	MAT'L	FIN.	C	HDW. SET	FRAME				HARDWARE					
								MAT'L	FIN.	C	LOCKSET	CLOSER	PRIVACY	FLY	DEVICE	RECESSED	PIPE BOLTS
DR-1	3'-0"x7'-0" (NEW)	1 3/4"	B	ALUM.	S		EXISTING	-									
DR-2	3'-0"x6'-8" (NEW)	1 3/4"	A	S.C.W.D.	S		H.M.	-									
DR-3	3'-0"x7'-0" (EXIST.)	1 3/4"	A	METAL	S		H.M.	-									

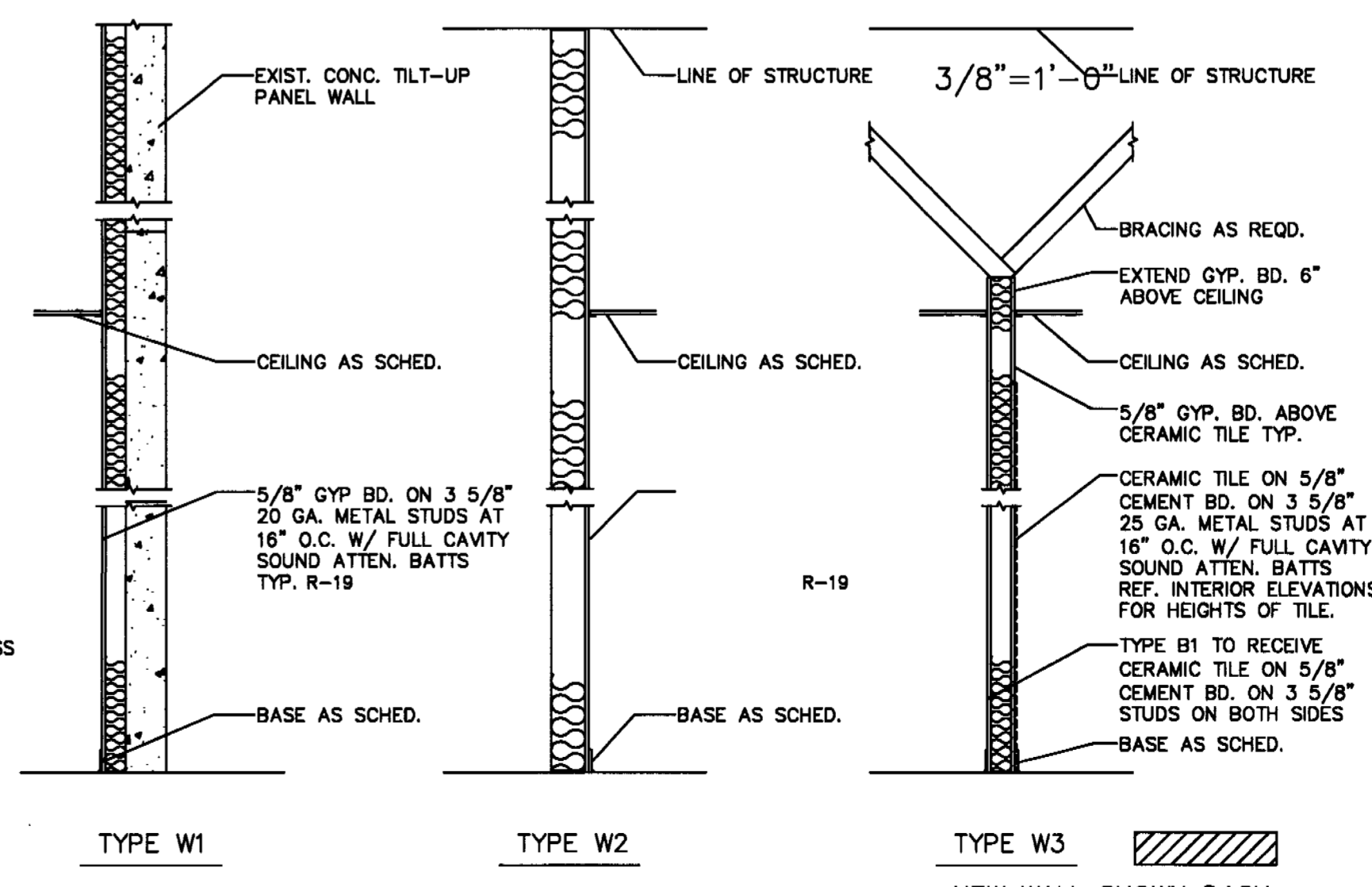
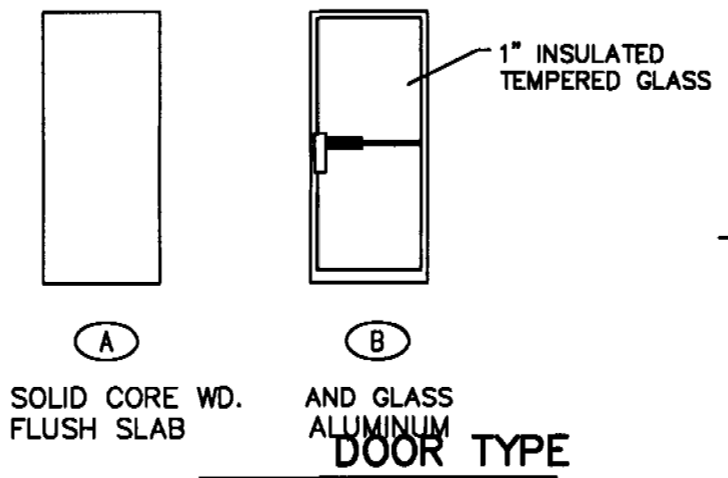
GENERAL NOTES:

- MATERIALS THAT DO NOT HAVE FINISHES INDICATED ON THE SCHEDULE ARE TO HAVE FACTORY FINISHES
- EGRESS DOORS LOCKS AND LATCHES SHALL COMPLY WITH 2009 IFC SECTION 1008.1.8

DOOR SCHEDULE

SCALE: N.T.S.

NOTES:
 LEVER HT. FOR ALL HOLLOW MET. AND WD. DOORS SHALL BE 42" A.F.F.



1/4" = 1'-0"

DATE 8/28/12

REV 10/18/12

SCALE	1/4" = 1'-0"
DATE	8/28/12
REV	10/18/12
SQUARE FOOTAGE	993 SF
BY	GW

PLUMBING RISER DIAGRAM

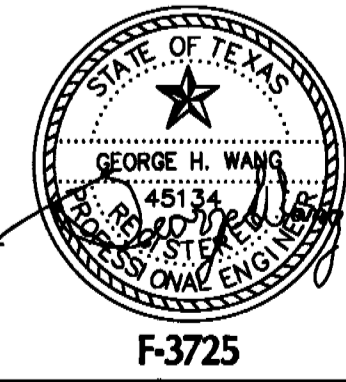
PLUMBING FIXTURE FLOOR PLAN

FLOOR PLAN & POWER PLAN

REMODELING NEW 1050 SF RETAIL SPACE

KELLER RETAIL

11477 WOODLAND SPRINGS DR., SUITE 130, FORT WORTH, TX



WANG
 ENGINEERING, INC.
 1200 B EXECUTIVE DR
 Suite 98
 Richardson, Texas 75081
 (972) 437-2920
 FAX: (972) 437-2928

OCT 19 2012

12-09253

HVAC SYSTEM NOTES

ALL SUPPLY & RETURN AIR DUCTS LOCATED IN UNCONDITIONED ATTICS, OR OUTSIDE
 ALL SUPPLY & RETURN AIR DUCTS LOCATED IN CONDITIONED SPACES, OR INSIDE
 THE BUILDING SHALL BE INSULATED USING R-8 INSULATION PER SECTION 803.2.8 OF 2009 CODE.
 THE BUILDING SHALL BE INSULATED USING R-6 INSULATION PER SECTION 803.2.8 OF 2009 CODE.

- ① ALL THERMOSTATS ARE PROGRAMMABLE TEMPERATURE CONTROLS SHALL COMPLY WITH IECC SECTION 803.2.3.1
- ② SMOKE DETECTORS FOR FAN SHUTDOWN WHERE REQUIRED BY MECHANICAL CODE SHALL BE PROVIDED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. REFER TO ELECTRICAL DRAWINGS.

MECHANICAL DESIGN BASED UPON INTERNATIONAL MECHANICAL CODE 2009.

RETURN/SUPPLY AIR DIFFUSER SCHEDULE

ITEM	MFR	TYPE	MODEL	SIZE	NECK SIZE
①	TITUS	SUPPLY	BOORL	10' X 6"	REF. DRAWING
②	TITUS	SUPPLY	TMS	24" X 24"	8"
③	TITUS	SUPPLY	TMS	24" X 24"	10"
④	TITUS	SUPPLY	TMS	24" X 24"	12"
⑤	TITUS	SUPPLY	PAS	24" X 24"	14"
⑥	TITUS	SUPPLY	250	16" X 12"	REF. DRAWING
⑦	TITUS	SUPPLY	PC6	24" X 24"	REF. DRAWING
⑧	TITUS	RETURN	26 RL 6	12" X 12"	-
⑨	TITUS	RETURN	26 RL 6	24" X 24"	-
⑩	TITUS	RETURN	26 RL 6	24" X 36"	-
⑪	TITUS	RETURN	26 RL 6	24" X 48"	-

NOTE:
 1. DIFFUSERS SHALL HAVE OPPOSED BLADE DAMPERS.
 2. DIFFUSERS SHALL FIT 24" X 24" LAY - IN CEILING GRID.
 3. DIFFUSERS SHALL BE LOWER FACE TYPE WITH BAKED ENAMEL FINISH EXCEPT FOR PERFORATED DIFFUSERS IN KITCHEN AREA.
 4. DIFFUSERS SHALL BE EQUAL TO AIRFLOW, CARBON METALLAIRE, TITUS
 5. RA GRILLES TO BE ALUMINUM, ESP-GRADE TYPE, 1/2" X 1/2" SPACING WITH WHITE FINISH.

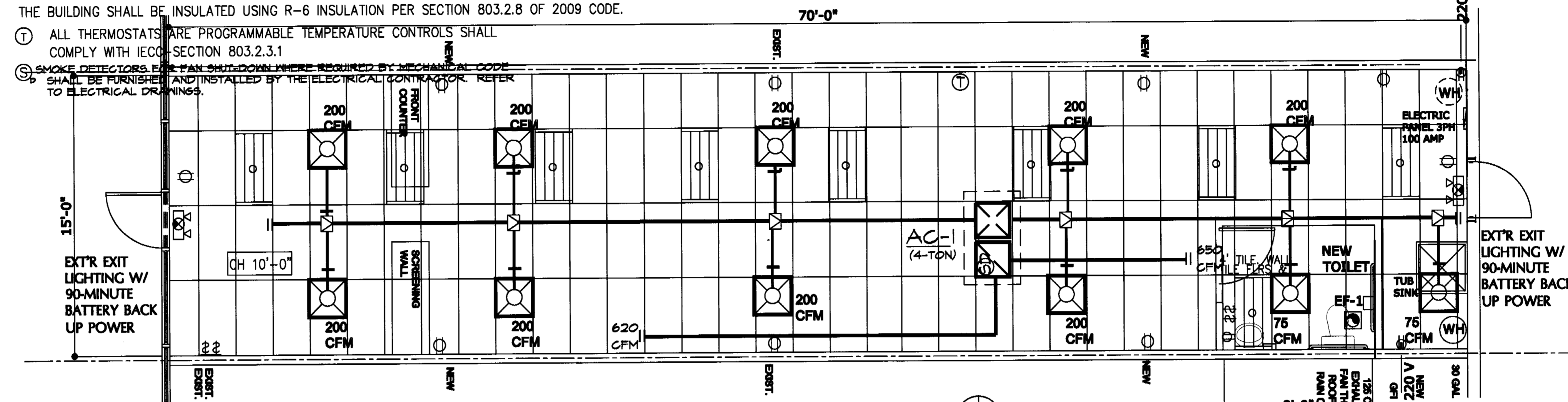
ROOFTOP H.V.A.C. UNIT SCHEDULE

MANUFACTURER	RTU#	SHEER, 12 (MIN) ELECT. HEAT
LENOX	125,000	RTU# (4-TON)
BTUH INPUT(HEAT)	100,000	ALL ELECT
BTUH OUTPUT(HEAT)	85,000	
TOTAL COOLING CAPACITY	66,000	
SENSIBLE COOLING CAPACITY	208/59/40	
LINE VOLTAGE	1600	
SUPPLY AIR CFM (S.A.)	1280	
RETURN AIR CFM (R.A.)	320	
OUTSIDE AIR CFM (O.A.)	5	

Breathing Zone Outdoor Airflow -2009 International Mechanical Code -Section 403.3
 The outdoor rate required to be supplied in the Breathing zone [V/ bz] of the occupiable space or spaces in a zone shall be determined in accordance with Equation 4-1

$V/ bz = R/p \times Pz + Ra \times Az$ ----- equals 244 C.F.M. OUTSIDE AIR Required
 MECHANICAL SCHEDULE SHOWS ----- 320 C.F.M. PROVIDED

NOTE:
 1. REFERENCE ELECTRICAL DRAWINGS FOR DUCT MOUNTED SMOKE DETECT LOCATIONS.



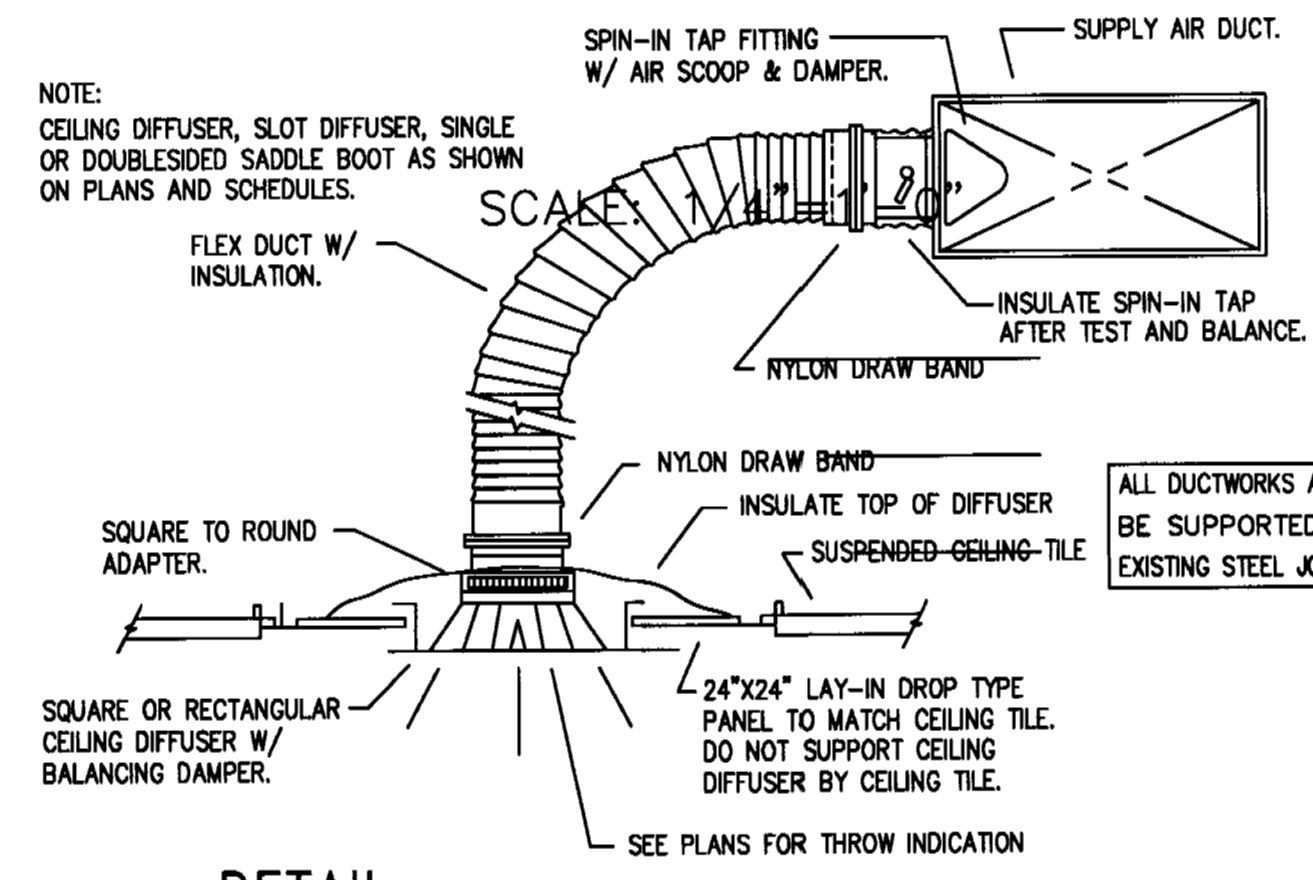
H.V.A.C. FLOOR PLAN

ELECTRIC POWER & LIGHTING PLAN
 SCALE: 1/4" = 1'-0"

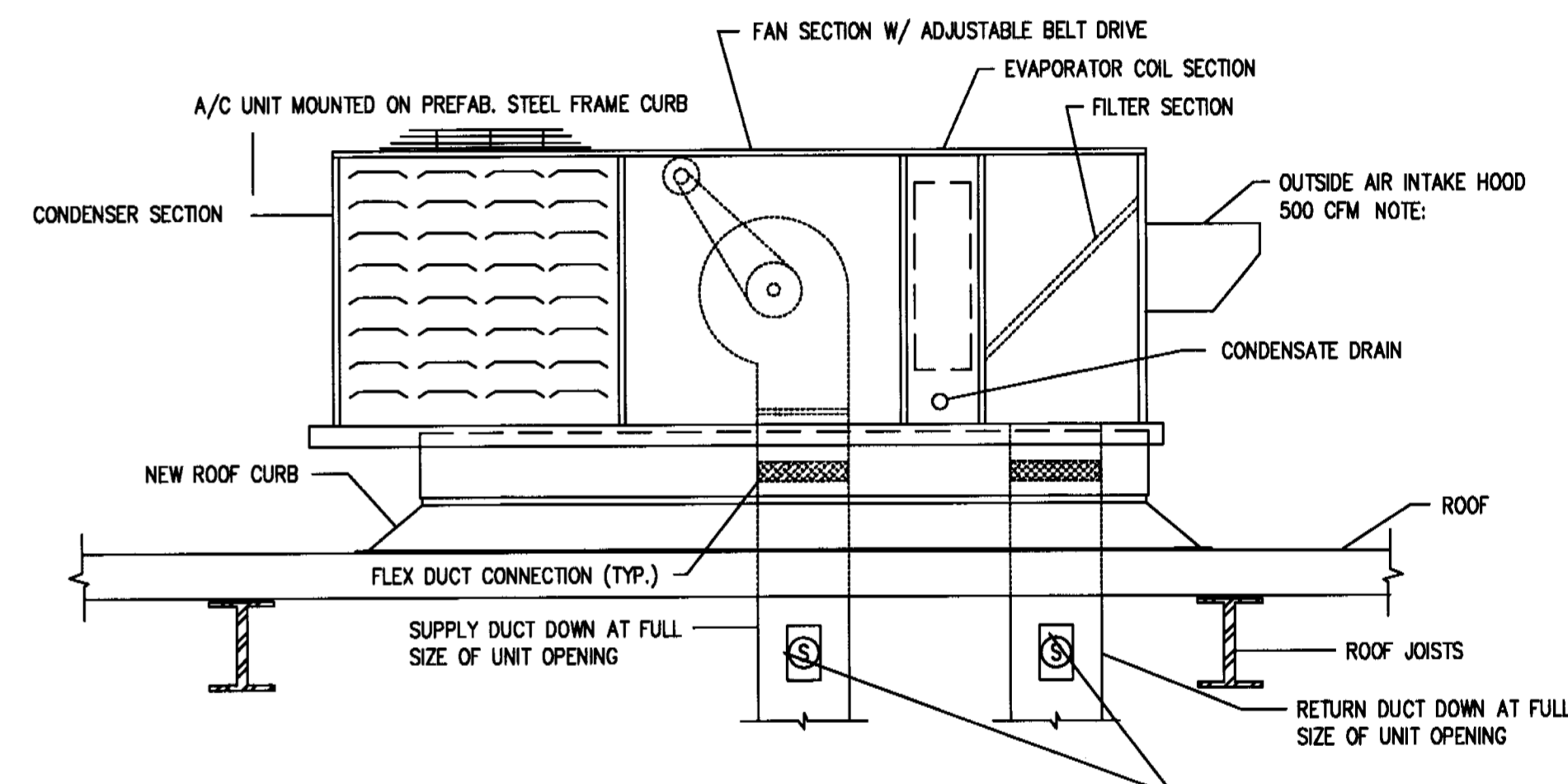
CALCULATIONS ASHRAE 62-1989 OUTSIDE AIR ALLOCATION

SOURCE	AREA	PEOPLE	CFM
AC-1 RETAIL	900	630	18
AC-1 TOILETS	-	-	1
			270
			15
			20
** PER ASHRAE 62-1989, TABLE 2		TOTAL	285
			320

ELECTRICAL DESIGN BASED UPON NATIONAL ELECTRIC CODE 2008.



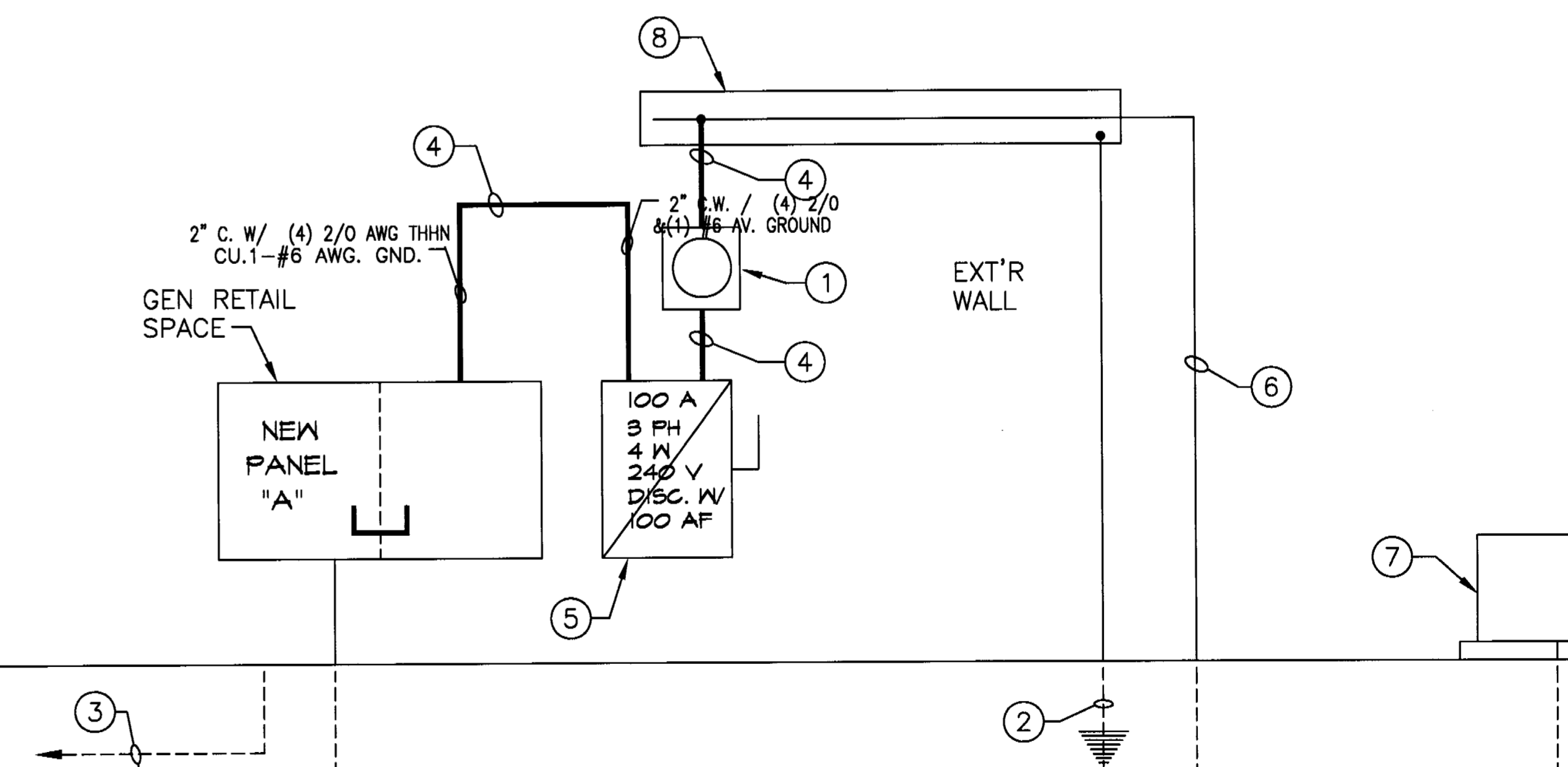
03
M1
SCALE: NTS



02
M1
SCALE: NTS

ELECTRICAL SERVICE RISER NOTES:

- NEW THREE PHASE METER BASE SERVING GENERAL RETAIL TENANT SPACE.
- EXISTING BUILDING SERVICE GROUNDING ELECTRODE BONDED TO WATER SERVICE, GROUND ROD, AND BUILDING STEEL PER SECTION 250 OF N.E.C. BY OWNER.
- (2) #10, #10 GRND IN 1" C. TO COLD WATER SERVICE PER NEC.
- GEN RETAIL NEW SPACE FEEDER - (4) #2/0 THWN AND ONE (1) #6 AWG GROUND, IN 2" C. ELECTRICAL CONTRACTOR SHALL FIELD VERIFY EXACT DISTANCE BETWEEN SERVICE TAP DISCONNECT SWITCH AND TENANT PANEL LOCATION.
- NEW 3P, 125 AMP, 120/208V, NEMA 3R TENANT SERVICE DISCONNECT SWITCH (AT RETAIL SERVICE AND METER BANK), FUSE AT 125 AMPS, FOR CONNECTION TO TENANT SPACE. ELECTRICAL CONTRACTOR SHALL FIELD VERIFY EXACT ELECTRICAL CHARACTERISTICS AND LOCATION WITH ALL REPRESENTATIVE AND LOCAL UTILITY COMPANY, AND MAKE ALL NECESSARY MODIFICATIONS AS REQUIRED.
- EXISTING ELECTRICAL SERVICE FEEDER SERVING STRIP RETAIL BUILDING.
- EXISTING SERVICE TRANSFORMER SERVING STRIP RETAIL BUILDING.
- EXISTING ELECTRICAL SERVICE WIREWAY TO SERVE TENANT SPACES. ELECTRICAL CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION OF BUILDING SERVICE WITH OWNER PRIOR TO ANY NECESSARY MODIFICATIONS TO TENANT TAP.



TYP. SERVICE RISER DIAGRAM
NO SCALE

NOTE: AIC RATING FOR PANEL AND ALL BRANCH CIRCUIT BREAKERS. CONTRACTOR SHALL OBTAIN THE AVAILABLE FAULT CURRENT AT THE SERVICE POINT FROM THE LOCAL UTILITY. UPGRADE THE AIC RATING OF THE PANEL AS NECESSARY.

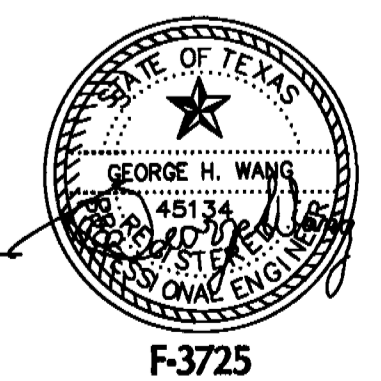
GENERAL CONTRACTOR NOTE:
 ELECTRICAL CONTRACTOR SHALL COORDINATE ELECTRICAL SERVICE FOR NEW STORE WITH LOCAL UTILITY COMPANY.

CCCT. NO.	ITEM FED	DIST. WATTS	WIRE SZ	POLE	FRAME	CIRCUIT BREAKER	NEUTRAL	ITEM FED	DIST. WATTS	WIRE SZ	POLE	FRAME	CCCT. NO.	
1	LIGHTING (FRONT)	1120	12	20	1	GOB	A	GOB	1	20	12	260	CASH REGISTER	2
2	LIGHTING (FRONT)	1080	12	20	1	GOB	B	GOB	1	20	12	260	CONV	4
3	LIGHTING (REAR)	1800	12	20	1	GOB	C	GOB	1	20	12	260	REFS GOLD TABLE	6
4	RTU#	4200	9	10	B		A	REFS GOLD TABLE	6	20	12	1440	RECEPTACLES(CONV)	8
5		4200	9	10	B		B	ICE MAKER	10	20	12	120		10
6		4200	9	10	B		C	COLD TABLE	12	20	12	900		12
7		4200	9	10	B		A	MICRO OVEN	14	20	12	1800		14
8		4200	9	10	B		B	SLICER TABLE	16	20	12	1800		16
9		4200	9	10	B		C	ROOF RECEPTACLES	18	20	12	260		18
10		4200	9	10	B		A	EXIT LIGHTS	22	20	12	1080		22
11		4200	9	10	B		B	TELEPHONE SYSTEM	30	20	12	1440		30
12		4200	9	10	B		C	COMPUTER RECEPT.	32	20	12	1720		32
13		4200	9	10	B		A	MENU BOARD	34	20	12	1600		34
14		4200	9	10	B		B	DRINK COUNTER	36	20	12	1600		36
15		4200	9	10	B		C	WATER HEATER	38	20	12	1800		38
16		4200	9	10	B		A		40	20	12	1800		40
17		4200	9	10	B		B		42	20	12	1800		42
18		4200	9	10	B		C		44	20	12	1800		44
19		4200	9	10	B		A		46	20	12	1800		46
20		4200	9	10	B		B		48	20	12	1800		48
21		4200	9	10	B		C		50	20	12	1800		50
22		4200	9	10	B		A		52	20	12	1800		52
23		4200	9	10	B		B		54	20	12	1800		54
24		4200	9	10	B		C		56	20	12	1800		56
25		4200	9	10	B		A		58	20	12	1800		58
26		4200	9	10	B		B		60	20	12	1800		60
27		4200	9	10	B		C		62	20	12	1800		62
28		4200	9	10	B		A		64	20	12	1800		64
29		4200	9	10	B		B		66	20	12	1800		66
30		4200	9	10	B		C		68	20	12	1800		68
31		4200	9	10	B		A		70	20	12	1800		70
32		4200	9	10	B		B		72	20	12	1800		72
33		4200	9	10	B		C		74	20	12	1800		74
34		4200	9	10	B		A		76	20	12	1800		76
35		4200	9	10	B		B		78	20	12	1800		78
36		4200	9	10	B		C		80	20	12	1800		80
37		4200	9	10	B		A		82	20	12	1800		82
38		4200	9	10	B		B		84	20	12	1800		84
39		4200	9	10	B		C		86	20	12	1800		86
40		4200	9	10	B		A		88	20	12	1800		88
41		4200	9	10	B		B		90	20	12	1800		90
42		4200	9	10	B		C		92	20	12	1800		92
43		4200	9	10	B		A		94	20	12	1800		94
44		4200	9	10	B		B		96	20	12	1800		96
45		4200	9	10	B		C		98	20	12	1800		98
46		4200	9	10	B		A		100	20	12	1800		100

* ELECTRICAL CONTRACTOR TO PROVIDE BREAKER W/ "LOCK-ON" DEVICE.
 ** CONTROL CIRCUIT THROUGH PHOTOCELL AND 1-DAY TIMECLOCK. TIMECLOCK TO BE MOUNTED ABOVE PANELBOARD.

NOTE: ELECTRICAL SERVICE AND SYSTEM DETAILED IS DESIGNED BASED ON 120 / 208 VOLT THREE PHASE SERVICE. ELECTRICAL CONTRACTOR TO VERIFY AVAILABLE SERVICE. MAKE NECESSARY MODIFICATIONS AS REQUIRED.

FLOOR PLAN & POWER PLAN
 REMODELING NEW 1050 SF RETAIL SPACE
 KELLER RETAIL
 11477 WOODLAND SPRINGS DR., SUITE 130, FORT WORTH, TX



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