KING COUNTY HOUSING AUTHORITY
REQUEST FOR BIDS
MARINA CLUB MECHANICAL AND ELECTRICAL

ADDENDUM #2

Effective 5/8/2024, this Addendum #2 shall be considered part of the Request for Proposal Documents.

Included within this Addendum:

Marina Club Bid Walk Questions

Marina Club Bid Walk Questions

Contractor responsible for moving washer dryer to get to laundry fan.

3-bedroom units, Mini Split power to come through the fire box from cadet heaters. Power for ERVs is coming off outlet on the wall instead of the switch.

1-bedroom units install the Fresh box to kitchen wall with the switch for the exterior light.

2 Bedroom units, the fresh box to be installed on same side as switch for the exterior light, DHP head to be installed on the opposite side of the glass door.

The outdoor unit for the pool heater should have 3’ clearance from the gas meter.

Power for the heat pump water heater will run outside the building to the laundry area. The fresh air for the heat pump water heat should be ducted out the wall and use the existing exhaust through old exhaust for heat pump water heater

OBJ

Jesse Bennett

From: Jeffrey Ludwig <jmludwig@transystems.com>
Sent: Wednesday, April 3, 2024 4:18 PM
To: Jesse Bennett
Cc: Brian Maloney; Janita Clairmont
Subject: RE: Marina Club

Good afternoon Jesse,

You can use the mini split unit in place of the base model AIO heat pump with auxiliary heat in the living rooms.

Thank you,

Jeffrey Ludwig | **BCE - A Division of TranSystems**
d: 253.344.5556 | o: 253.922.0446

From: Jesse Bennett <JesseB@kcha.org>
Sent: Wednesday, April 3, 2024 9:02 AM
To: Jeffrey Ludwig <jmludwig@transystems.com>
Cc: Brian Maloney <bmmaloney@transystems.com>; Janita Clairmont <JanitaC@kcha.org>
Subject: Re: Marina Club

Just one head for the living room, our normal practice is to displace the living room heat.

Sent from my iPad

> On Apr 3, 2024, at 8:59 AM, Jeffrey Ludwig <jmludwig@transystems.com> wrote:
>
>
>
> Jesse,
>
> If each bedroom got a mini split heat pump I'd be concerned about overloading the 100A feeder to the units, especially the 3-bedroom units.
>
> Thank you,
>
> **Jeffrey Ludwig** | **BCE - A Division of TranSystems**
> d: 253.344.5556 | o: 253.922.0446

A Division of TranSystems

February 16, 2024

King County Housing Authority
700 Andover Park West
Tukwila, WA 98188
Phone: (206) 214-1300

Attention: Jesse Bennett

KCHA The Marina Club Weatherization

BCE Project #: 515240092

Mr. Bennett,

In Winter of 2024, BCE contracted with King County Housing Authority (KCHA) to perform a feasibility study for The Marina Club located at 2445 S 222nd St, Des Moines, WA 98198. KCHA has indicated that they would like to upgrade the HVAC in the residential units and would like BCE to evaluate the existing power infrastructure for the upgrades.

Picture #1: Exterior View

The main objectives of this assessment and feasibility study are as follows:

1.) Assess the existing electrical panel in each residential unit that would supply power to the new equipment and suggest an approximate route of new branch circuits to following equipment:
   - Through wall or ceiling mounted heat pump with controls in each residential unit.
   - Exhaust fans with controls in bathrooms.
   - Exhaust fans with controls in laundry rooms.
   - Electric fireplaces in residential unit living rooms.
   - Heat pump water heater for pool.
   - Heat pump water heater in community building for domestic water.

Assumptions

- The panel identified in report and all upstream electrical distribution equipment appears to be capable of supporting the additional load of the new HVAC equipment. More detailed demand calculations and 30-day demand metering per the National Electrical Code will be required to verify available capacity.
- The new equipment to be installed is from specific product information provided by KCHA.
- It is our understanding, from direction provided by KCHA, that the existing electric wall heater in the living room will be removed as a part of this project. However, if the existing electric wall heater is to remain for a supplementary source of heat, a controls solution which is coordinated with the new heat pump is being provided by KCHA, as applicable.

Existing residential unit panels:

Some existing 100-amp residential unit panels do not have any spare breakers or spaces for the heat pumps or fireplaces; see Picture #2 below. It is our understanding that KCHA would like to add heat pumps in each living room and the existing electric wall heaters in the living rooms will be removed as a part of this project. The fireplace has a published load of 1500-watts so it will require a new dedicated circuit unless the heating capability is permanently disabled. The bath fan and associated controls can utilize the existing fan circuit in the bathroom. The laundry room fan and associated controls can utilize the existing fan circuit in the laundry room.

Heat pump water heaters:

There is a house panel in the pool pump room that has a few spares that may be able to support the heat pump water heaters; see Pictures #3 below. The new heat pump water heater in the community building can utilize the abandoned 2-pole, 20-amp circuit currently labeled “Jacuzzi Blower”. The heat pump water heater for the pool can utilize the abandoned 2-pole, 60-amp “Sauna Heat” circuit breaker. Any new circuiting or raceway may be surface mounted since it is in an unfinished space.

Picture #2: Typical residential unit panel

Picture #3: House panel in pool pump room

Recommendations:

All devices on new and modified 15-amp or 20-amp, 120V circuits in residential units are required to have AFCI protection for the entire circuit. This can be achieved either through an AFCI circuit breaker or with an in-line AFCI device; see Picture #4 below.

For space conditioning and ventilation there appears to be three options described as follows:

Option 1: It is our recommendation to remove the existing electric wall heater in the living room and provide a new 240V heat pump with built in ERV and 900W electric heat. A new 2-Pole tandem breaker would be required to match the ampacity of the electric wall heater circuit in the bedroom(s). The other half of the tandem circuit breaker can be used to extend a new circuit to the new heat pump in the living room. The advantage of this solution is that new AFCI protection would not be required, and it would simplify the controls for heating and cooling. The disadvantage of this solution is that a tandem breaker would need to be sourced and a new circuit run to the heat pump would be required, presumably necessitating the need for wall cutting and patching.

Option 2: Another option is to remove the living room wall heater and replace the existing wall heaters in the bedrooms with 220V, 500W ENVI wall heaters. A 2P-15A branch circuit can support (2) 500W wall heaters and (1) base model AIO wall mount heat pump with built in ERV and 900W electric heat. The 2P-20A branch circuits can support (3) 500W wall heaters and (1) base model AIO wall mount heat pump with built in ERV and 900W electric heat. The advantage of this solution is that new AFCI protection would not be required, and it would simplify the controls for heating and cooling. The disadvantage of this solution is that the existing circuit would need to be extended to the heat pump, presumably necessitating the need for wall cutting and patching.

Picture #4: AFCI Devices

Option 3: It may also be possible to retain all electric wall heaters and install a new heat pump with built in ERV only. There is a heat pump unit that will operate on a 1P-15A circuit and can be connected to the existing patio lighting circuit; however, the patio light switch will need to be removed and patio light will need to be replaced with a light that contains an internal photocell for control. The disadvantage of this solution is that an AFCI device will need to be installed to protect the entire circuit.

We recommend connecting the new fireplace inserts to a nearby unswitched circuit as long as the heating capability is permanently disabled. This will require the entire circuit to be AFCI protected.

If there is not enough space for the new breakers required even with moving equipment to tandem circuit breakers then a new panel with additional space and AFCI circuit breakers will be required. New circuits or circuit extensions should be surface mounted in secure, unfinished spaces and concealed in finished or exterior locations. Surface mount metallic wiremold in finished areas may only be considered with prior approval from KCHA and all other options have been exhausted.

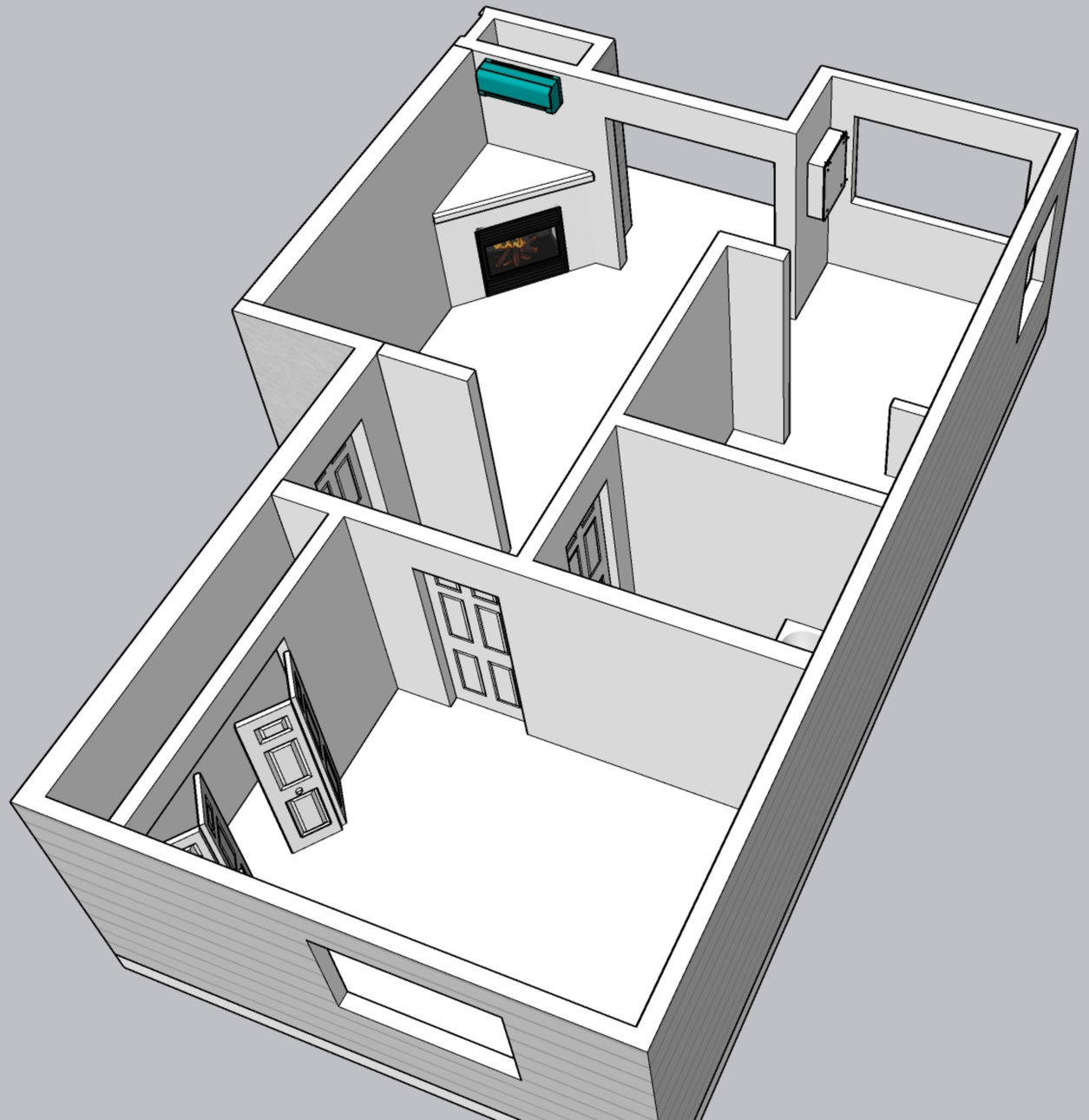
The new heat pump water heater in the community building can utilize the abandoned 2-pole, 20-amp circuit currently labeled “Jacuzzi Blower”. The heat pump water heater for the pool can utilize the abandoned 2-pole, 60-amp “Sauna Heat” circuit breaker. New branch circuits will be required for both heat pumps.

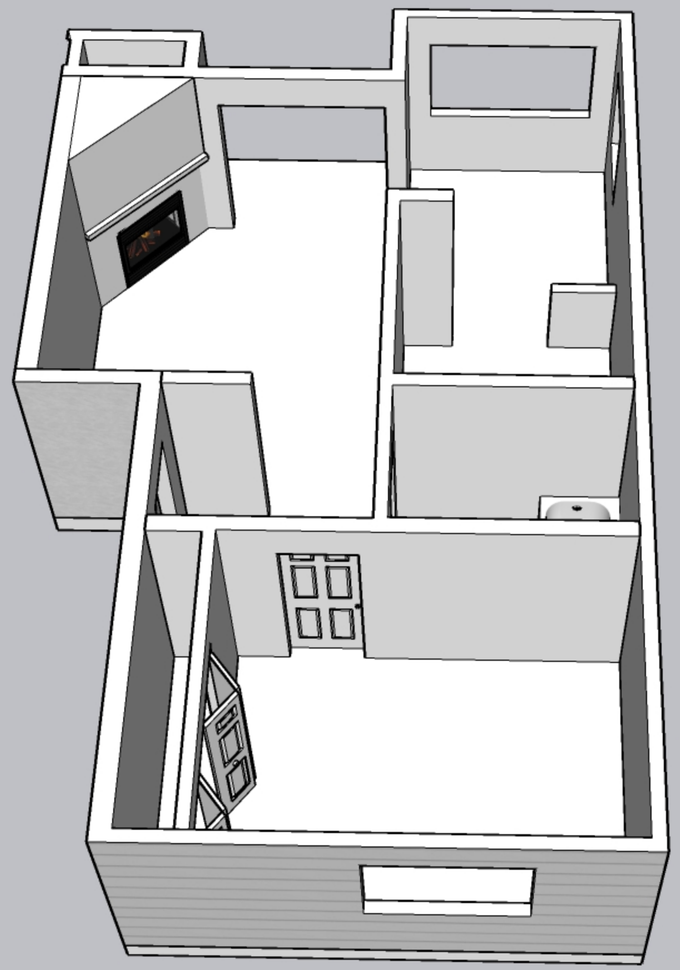
Please feel free to contact us with any questions.

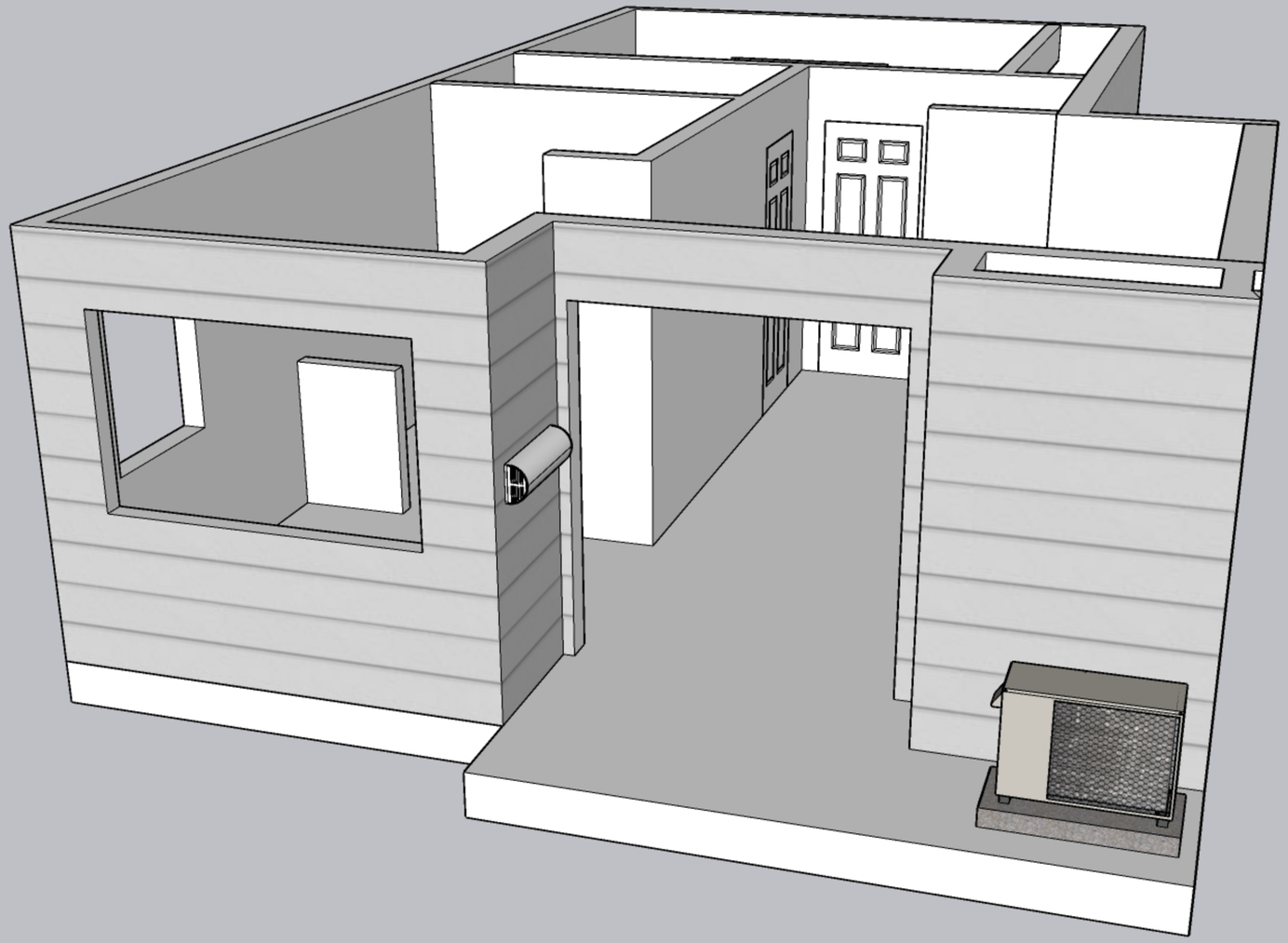
Sincerely,

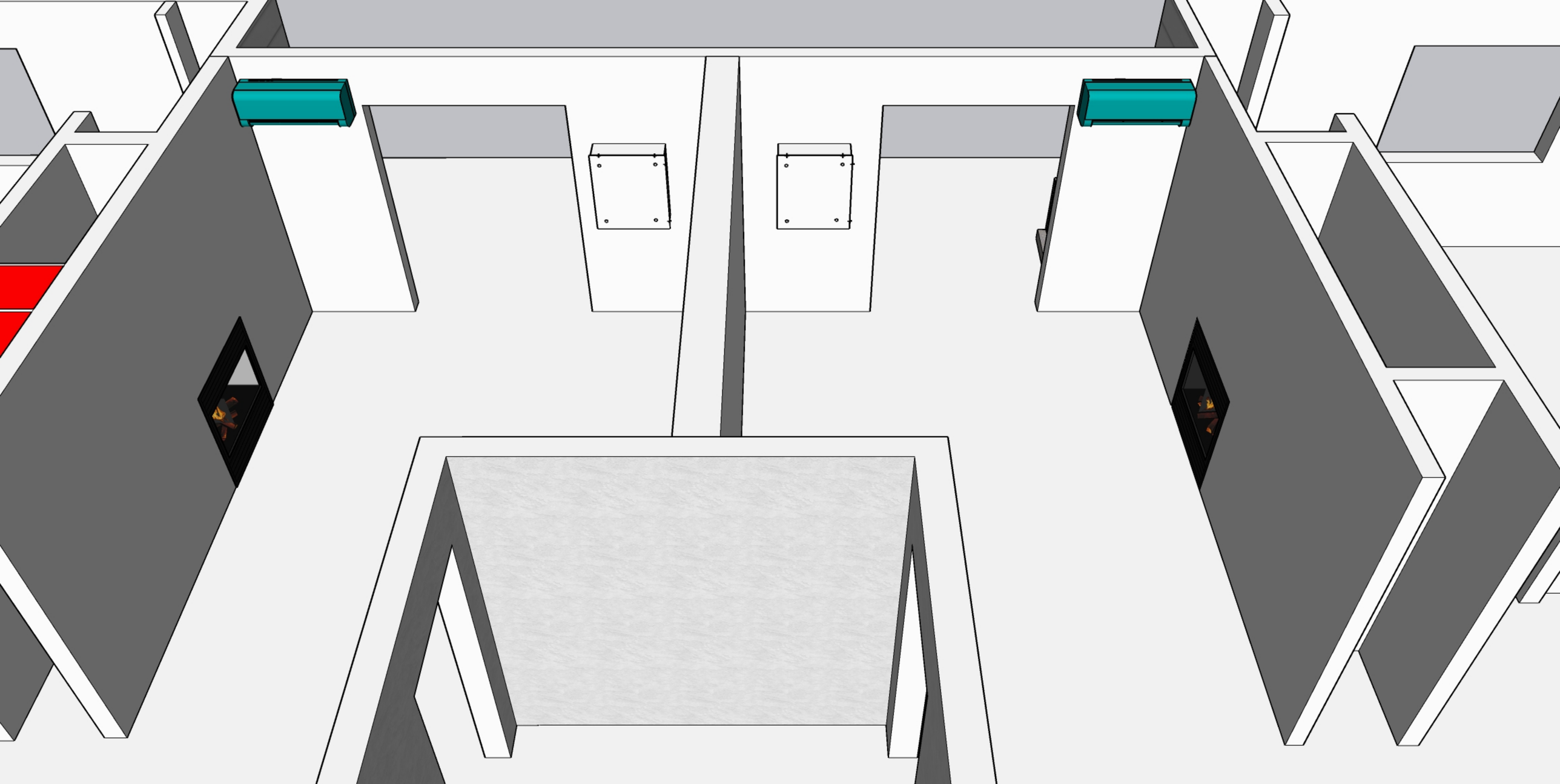
Jeffrey Ludwig

Jeffrey Ludwig
Electrical Engineer









MARINA CLUB FIREPLACE/LAUNDRY FAN COUNT

Building A			Building B				Building C			Building D					Building E			Building F				Building G		
Units	Fireplace	Laundry Fan	Units	Fireplace	Laundry Fan	Laundry Fan Not Needed	Units	Fireplace	Laundry Fan	Units	Fireplace	No Fireplace	Laundry Fan	Laundry Fan Needed	Units	Fireplace	Laundry Fan Needed	Units	Fireplace	Laundry Fan	Laundry Fan Needed	Units	Fireplace	Laundry Fan Needed
101	1	1	101	1	1		101	1	1	101		1	1		101	1	1	101	1	1		101	1	1
102	1	1	102	1		1	102	1	1	102		1	1		102	1	1	102	1	1		102	1	1
103	1	1	103	1	1		103	1	1	103		1		1	103	1	1	103	1	1		103	1	1
104	1	1	104	1	1		104	1	1	104		1		1	104	1	1	104	1		1	104	1	1
201	1	1	201	1	1		201	1	1	201		1		1	201	1	1	201	1	1		201	1	1
202	1	1	202	1	1		202	1	1	202		1	1		202	1	1	202	1	1		202	1	1
203	1	1	203	1	1		203	1	1	203		1		1	203	1	1	203	1	1		203	1	1
204	1	1	204	1		1	204	1	1	204		1		1	204	1	1	204	1	1		204	1	1
301	1	1	301	1	1		301	1	1	301	1			1								301	1	1
302	1	1	302	1	1		302	1	1	302	1			1								302	1	1
303	1	1	303	1	1		303	1	1	303	1			1								303	1	1
304	1	1	304	1		1	304	1	1	304	1											304	1	1
	12	12		12	9	3		12	12		4	8	3	8		8	8		8	7	1		12	12

Building R		
Units	Fireplace	Laundry Fan
201	1	1

TOTAL UNITS	77
TOTAL BATH FANS	101
TOTAL FIREPLACES	69
LAUNDRY FANS TO BE REPLACED	44
LAUNDRY FANS TO BE INSTALLED	29

Fireplace Demo Marina Club Apartments

Scope of Work

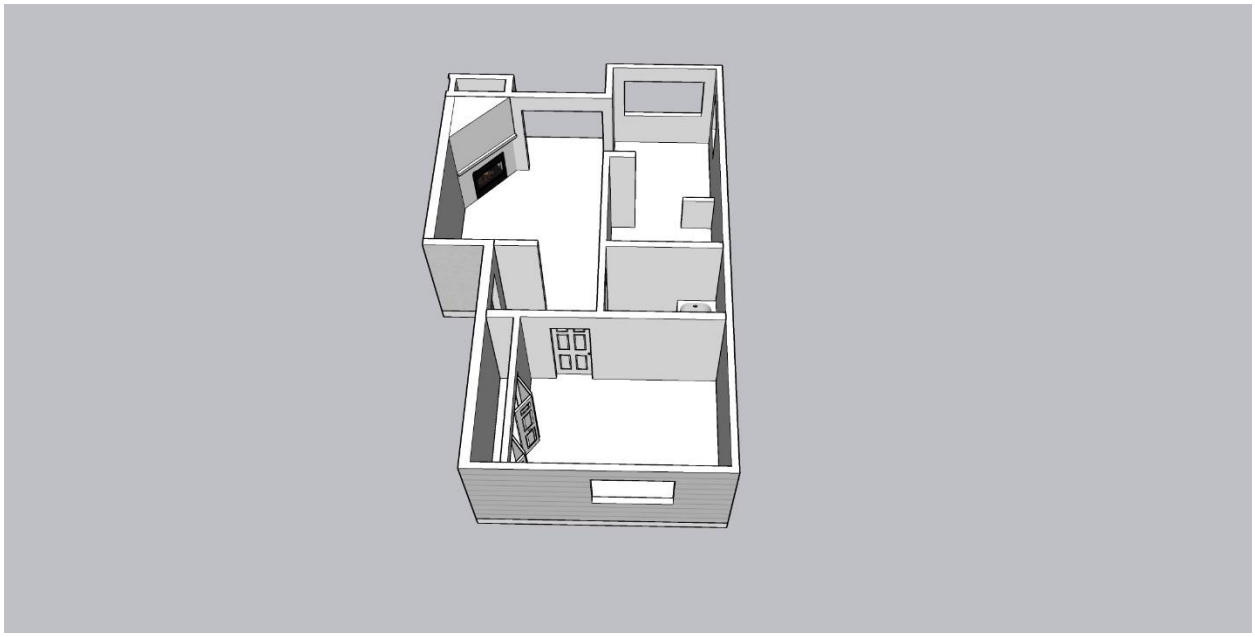
- 1 bedroom, 1 bath units Buildings B,D,F twenty four (24) total at Marina Club Apartments have diagonal facing fireplaces in the living room. The demo will consist of demo above the fireplace to square off walls for Mitsubishi DHP head.

- Remove existing sheet rock and studs above fireplace, existing wall behind diagonal wall will be sheet rocked and fire taped.

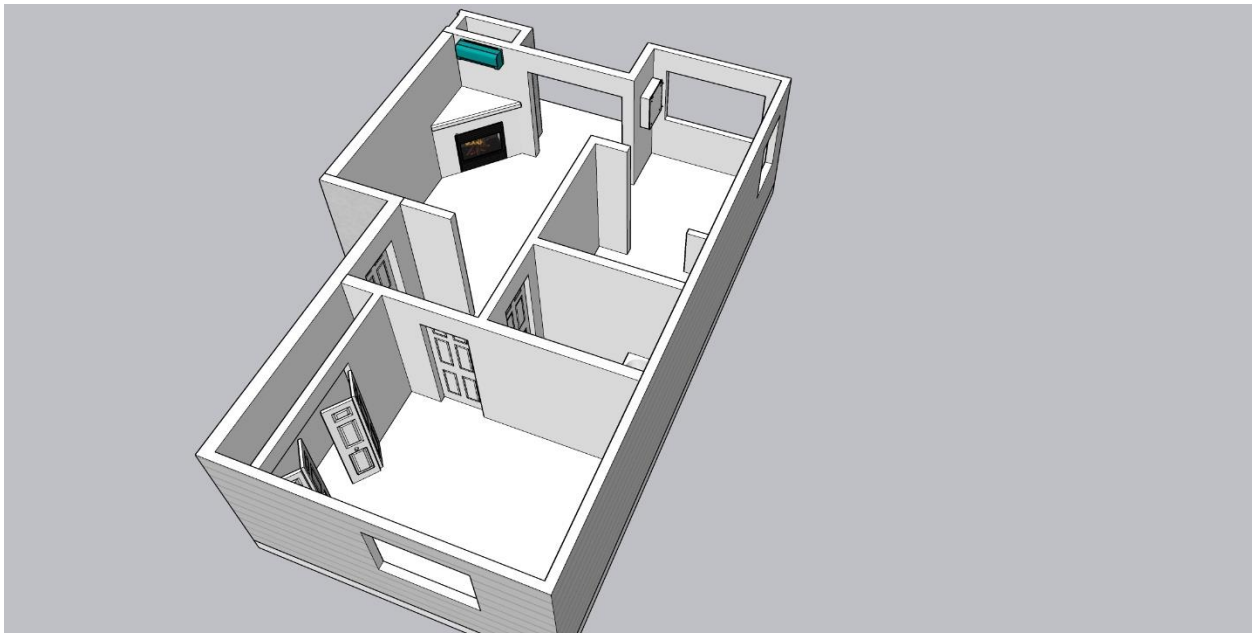
- Remove piping from old fireplace, air seal wall, patch hole in ceiling

- Texture and paint to match existing walls

- Install counter top on top of fireplace



1 bedroom before demo



1 bedroom after demo with DHP and Fresh Box installed


S 222nd St
S 222nd St
S 222nd St
S 222nd St
S 222nd St
S 222nd
NORTH
WEST
A
2445
3 BR
2 Bath
B
2445
1 BR
1 Bath
C
2445
3 BR
2 Bath
D
2445
1 BR
1 Bath
EAST
OFFICE
(R)
2445
2 BR
1 Bth
NORTH
Marina Club Apartments
2445
2445
SOUTH
2445
E
2 BR 1 Bath
EAST
WEST
F
QuiseRides Mobile
Auto Detailing
1 BR 1 Bath
22226
22224
22228
2445
G
2 BR 1 Bath
2445
SOUTH
22232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