**Work Order Bid MONTGOMERY PLAZA (ID) (TYPE A) 1 Building, 4 units 1411/1415 Pennsylvania Plaza**

**WORK ORDER INFORMATION**
- **Work Order Name:** WO/Montgomery Plaza BDRM (1)/1
- **Work Order Type:** Weatherization
- **Audit Name:** Type A - 1 bdrm only

**CLIENT INFORMATION**
- **Client ID:** Montgomery Plaza BDRM (1)

**(TYPE A) 1 Buildings, 4 units MONTGOMERY PLAZA APARTMENTS 1411 and 1415 Pennsylvania Plaza**

**SCOPE OF WORK**

**All measures must be performed as per Tennessee Standard Work Specifications**

**Health and Safety Concerns:**

1. Smoke detectors and CO detectors will need to be installed.

2. Kitchens have gas ranges, but the majority of range hoods are only recirculating units or are not properly improperly vented.

3. Minimum ASHRAE standards must be met through the installation of kitchen range vent hoods.

**Infiltration Reduction:** All units were measured with very high infiltration rates, largely due to an open ceiling area in each mechanical closet which connects the conditioned units to the outside. Ducts were in poor condition with many duct branches completely disconnected.

**Insulation:** Walls are insulated with older R11 batts. Attics are insulated to depths varying from 3” to 8”. However, due to the lack of insulation above the missing ceiling area of all mechanical closets, a weighted-average calculation was performed which significantly reduced the effective R-value in all attics. Typically, this reduced each attic to an equivalent of about R6.

**Baseload:** Water Heaters must be wrapped with insulation, and pipes must also be insulated.
**Ventilation:** Intermittent exhaust fans exist in the bathrooms of some units. It appears these units are vented to the outside. Kitchen fans are all currently recirculating units - or are improperly vented - but apparently were once vented to outside prior to some previous renovation. Given the use of gas ranges. Kitchen fans that are vented to outside are required. While ASHRAE requirements will be met by the installation of kitchen exhaust fans, it is recommended to replace or install a spot ventilation exhaust fan in the main bathroom of each unit.

**Energy Conservation Measures:**

1. **Infiltration Reduction**
   a. Blower Door target for each unit type and building type must be met or exceeded.
   b. Air sealing measures must include sealing mechanical room ceiling at the attic floor.
   c. Building A only: seal kitchen soffit from attic.
   d. Large openings must be sealed with appropriate material as per SWS 3.1001.
   e. Air seal top plates as well as wire and plumbing penetrations in attic.
   f. Seal marriage wall inside mechanical chase from first floor ceiling to second floor ceiling.
   g. Some front and back doors need new weather strip and door sweeps.

2. **R-38 additional attic insulation**
   a. Attics should have overall R38 added to whole area.
   b. This shall result in R44 throughout all parts of each attic.
   c. Cost includes:
      i. Attic hatch build, seal and insulate.
      ii. Baffles to be placed in every accessible joist cavity.
      iii. Depth markers to be installed, 1 per every 300 square feet of attic.
      iv. Junction box flags to be placed at every electrical junction box or device.

3. **DHW pipe insulation**
   a. Pipes will be insulated for up to 6’ from the water heater tank on both the hot and cold pipes.
   b. No gaps should be evident.

4. **DHW tank insulation**
   a. Water heater shall be insulated with a minimum R10 insulating jacket.

**Health & Safety**

1. **Smoke detectors**
   a. Install one smoke detector in each bedroom.
   b. Install one smoke detector near the bedrooms in each shared hallway.
   c. Ensure at least one smoke detector on each floor.

2. **CO detectors**
   a. Install one CO detector near the bedrooms in each shared hallway.
   b. Ensure at least one CO detector on each floor.

3. **ASHRAE kitchen exhaust fan**
   a. Fan must be vented to outside.
   b. Fan will run at a continuous flow rate as per ASHRAE calculations.
   c. Fan must be rated for one or less at continuous flow setting.
d. Fan must be able to pull a flow rate of minimum 100 CFM intermittent at high setting

<table>
<thead>
<tr>
<th>Measure 1</th>
<th>Infiltration Reduction (Per Apartment)</th>
<th>Components</th>
<th>Inspected</th>
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<tr>
<td>Comment</td>
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<table>
<thead>
<tr>
<th># Material / Labor</th>
<th>Description /</th>
<th>Units</th>
<th>Qty</th>
<th>Unit Cost</th>
<th>Total</th>
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**Other Detail**

**Measure Sub Total:**

**Sub Total:**

**Field Notes:**

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*Client ID*: Montgomery Plaza  
*Work Order Bid (ID)*:  
WO/Montgomery Plaza BDRM (1)/1  
Report Run On: 1/29/2019  
*DOE Weatherization Assistant Version*: 8.9.0  
*Page*: 2 of 6
### Measure 2  User-Spec Ceiling R Unit Cost per 16 unit

#### Comment

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<th>Qty</th>
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<tbody>
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<td>Insulation</td>
<td>Attic Insulation - Blown Sq. Ft</td>
<td>Fiberglass - R-38</td>
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#### Other Detail

#### Measure Sub Total:  

#### Sub Total:  

#### Field Notes:

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### Measure 3  DWH Pipe Insulation

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<tr>
<td>2</td>
<td>Labor</td>
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#### Other Detail

#### Measure Sub Total:  

#### Sub Total:  

#### Field Notes:

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Client ID: Montgomery Plaza  
Work Order Bid (ID): WO/Montgomery Plaza BDRM (1)/1  
DOE Weatherization Assistant: Version 8.9.0  
Report Run On: 1/29/2019  
Page 3 of 6
### Measure 4  
**DWH Tank Insulation**

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### Other Detail

**Field Notes:**

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### Measure 5  
**(2) smoke detectors**

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**Other Detail**

**Field Notes:**

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<tr>
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**Other Detail**

**Field Notes:**

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Sub Total:

Grand Total for building
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<th># bldg. type</th>
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<td>DHW Pipe Insulation</td>
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<td>DHW Tank Insulation</td>
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