Design for UAF Sustainable Village: SPRUCE HOUSE  
double wall with insulated foam raft foundation

NOTE: The information contained in these documents was developed and published as a reference for specific climatic and site conditions. These documents are not a substitute for a detailed architectural plan set or site-specific engineering.

Any application of knowledge contained in this manual will need to consider site-specific issues including but not limited to applicable codes and structural design considerations for soil type, weather, and wind and snow load conditions. It is essential that a structural engineer review the plans to ensure they meet design criteria appropriate to the site.

This home has many elements that require specialized knowledge. We strongly recommend that skilled tasks, plumbing and electric work be done by professionals.
SUSTAINABLE VILLAGE AT UAF
SOUTHWEST PROTOTYPE HOME

LEGEND
- Site Boundary
- House Location
- Student Gardens
- New Solar PV Array
- Existing Solar PV Array
- Foundation
- Foundation Piles
- Wetland Cores
- Stormwater Treatment Area
- Stormwater Parking Lot
- Waterbody
- Pedestrian Paved
- Pedestrian Unpaved
- Road Centerlines
- Multi
- Paved
- Gravel
- Parking

SYMBOLS & ABBREVIATIONS
- SITE PLAN
- FOUNDATION PLAN
- 1ST FLOOR PLAN
- 2ND FLOOR PLAN
- ROOF PLAN
- ELEVATIONS
- NORTH ELEVATION
- EAST ELEVATION
- SOUTH ELEVATION
- WEST ELEVATION
- WINDOW SCHEDULE
- DOOR SCHEDULE
- BUILDING SECTIONS
- DETAILS
- PLUMBING LAYOUT
- FIRE SUPPRESSION
- ELECTRICAL LIGHTING Layout
- ELECTRICAL SERVICE
- MECHANICAL VENTILATION
- MECHANICAL HEATING

CODE REFERENCE
IBC 2006
UPC 2009
NEC 2011

1 SUSTAINABLE VILLAGE LOCATION
4" DIA. DOUBLE WALLED PELLET VENT WITH STAINLESS STEEL HOOD DISCHARGE DIRECTION NEAR VERTICAL

COMBUSTION INTAKE USE WITH HOOD

HRV EXHAUST

NORTH ELEVATION

3'-9 3/4"

6'-8"

6'

6'

1'

9'

10'

36'

34'

32'

36'

32' FRAMING TO FRAMING

1/2" = 1'-0"

1/15/13

Tashina Duttle

Sustainable Village at South West Home: Design Development

A3.1
<table>
<thead>
<tr>
<th>ID</th>
<th>TYPE</th>
<th>WIDTH</th>
<th>HEIGHT</th>
<th>3D Front View</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>R</td>
<td>2'-6&quot;</td>
<td>2'-6&quot;</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>03</td>
<td>R</td>
<td>2'-6&quot;</td>
<td>3'-8&quot;</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>04</td>
<td>R</td>
<td>2'-6&quot;</td>
<td>2'-6&quot;</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>05</td>
<td>FIXED</td>
<td>5'</td>
<td>4'</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>06</td>
<td>FIXED</td>
<td>5'</td>
<td>4'</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>07</td>
<td>R</td>
<td>2'-6&quot;</td>
<td>3'-8&quot;</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ID</th>
<th>TYPE</th>
<th>WIDTH</th>
<th>HEIGHT</th>
<th>3D Front View</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>08</td>
<td>R</td>
<td>2'-6&quot;</td>
<td>3'-8&quot;</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>09</td>
<td>FIXED</td>
<td>2'-6&quot;</td>
<td>3'-8&quot;</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>10</td>
<td>FIXED</td>
<td>5'</td>
<td>4'</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>11</td>
<td>R</td>
<td>2'-6&quot;</td>
<td>3'-8&quot;</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>12</td>
<td>FIXED</td>
<td>5'</td>
<td>4'</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

SNC Window Schedule
### Door Schedule Southwest Unit

<table>
<thead>
<tr>
<th>Door No.</th>
<th>Type</th>
<th>Width</th>
<th>Height</th>
<th>Swing</th>
<th>3D Front View</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Fiber Glass Insulated Door</td>
<td>3'</td>
<td>6'-6&quot;</td>
<td>RHIS</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Solid Core Door</td>
<td>3'</td>
<td>6'-6&quot;</td>
<td>RHIS</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Fiber Glass Insulated Door</td>
<td>3'</td>
<td>6'-6&quot;</td>
<td>RHIS</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Bifold Closet Doors</td>
<td>3'</td>
<td>6'-6&quot;</td>
<td>RHIS</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Solid Core Door</td>
<td>2'-8&quot;</td>
<td>6'-8&quot;</td>
<td>RHIS</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Solid Core Door</td>
<td>2'-8&quot;</td>
<td>6'-8&quot;</td>
<td>RHIS</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Solid Core Door</td>
<td>2'-4&quot;</td>
<td>6'-6&quot;</td>
<td>LHIS</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Solid Core Door</td>
<td>2'-4&quot;</td>
<td>6'-6&quot;</td>
<td>LHIS</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Solid Core Door</td>
<td>2'-4&quot;</td>
<td>6'-6&quot;</td>
<td>LHIS</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Pocket Door</td>
<td>2'-4&quot;</td>
<td>6'-6&quot;</td>
<td>RHIS</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Solid Core Door</td>
<td>2'-4&quot;</td>
<td>6'-6&quot;</td>
<td>LHIS</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Solid Core Door</td>
<td>2'-4&quot;</td>
<td>6'-6&quot;</td>
<td>LHIS</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Solid Core Door</td>
<td>2'-6&quot;</td>
<td>6'-6&quot;</td>
<td>RHIS</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Solid Core Door</td>
<td>2'-6&quot;</td>
<td>6'-6&quot;</td>
<td>RHIS</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Solid Core Door</td>
<td>2'-6&quot;</td>
<td>6'-6&quot;</td>
<td>RHIS</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Solid Core Door</td>
<td>2'-6&quot;</td>
<td>6'-6&quot;</td>
<td>RHIS</td>
<td></td>
</tr>
</tbody>
</table>
BUILDING SECTION

1

DETAIL

2

ELASTOMERIC COATING

3/4" T&G

TAPERED 2X6 SHIM

11 7/8" BCI 16" OC

2x6 DOUBLE TOP PLATE

2x6 FRAMING

1/2" OSB

VERSA RIM

3/8" CARRIAGE BOLTS

(2) 2x12

2X4 TOP PLATE

12" CELLULOSE INSULATION

2X4 NON-STRUCTURAL FRAMING

BUILDING SECTIONS

DETAIL

1

BUILDING SECTION

2

DETAIL

2

ELASTOMERIC COATING

3/4" T&G

TAPERED 2X6 SHIM

11 7/8" BCI 16" OC

2x6 DOUBLE TOP PLATE

2x6 FRAMING

1/2" OSB

VERSA RIM

3/8" CARRIAGE BOLTS

(2) 2x12

2X4 TOP PLATE

12" CELLULOSE INSULATION

2X4 NON-STRUCTURAL FRAMING

BUILDING SECTIONS
**AquaSAFE**™ **GENERAL NOTES:**

1. **This system is designed 4 or 8 NPS (NPS 3 and NPS 6) as a residential/multipurpose system (Section 3.5.3).
2. **Ensure uniform pressure to the fixture, especially in high or low pressure systems.** The high or low pressure systems may be subject to positive or negative pressure which may be hazardous to the operation of the system and may cause damage to the system. Ensure the water supply is adequate for the system and that the system is properly压力

3. **When using the system in a commercial or industrial application, it is the responsibility of the building owner or facility manager to ensure that the system is properly maintained and that the water supply is adequate for the system.

4. **All exterior pipes to be used are "tapped" valves.

5. **Insulation Recommendations:**

   - **High pressure systems:** Use insulation in all pipes and fittings to prevent water from freezing and damaging the system.
   - **Low pressure systems:** Use insulation in all pipes and fittings to prevent water from freezing and damaging the system.

6. **Extreme Temperature Installations:**

   - **High pressure systems:** Use insulation in all pipes and fittings to prevent water from freezing and damaging the system.
   - **Low pressure systems:** Use insulation in all pipes and fittings to prevent water from freezing and damaging the system.

7. **Banding PEX Tubing:**

   - **In residential settings:** Band all runs of PEX tubing with a minimum of two bands, spaced a minimum of 12 inches apart.
   - **In commercial settings:** Band all runs of PEX tubing with a minimum of two bands, spaced a minimum of 12 inches apart.

8. **Standard Riser Assembly:**

   - **In residential settings:** A standard riser assembly consists of a vertical water supply line that extends both domes and the safety dome (Figure F001).
   - **In commercial settings:** A standard riser assembly consists of a vertical water supply line that extends both domes and the safety dome (Figure F001).
1st FLOOR ELECTRICAL PLAN

SW PANEL SCHEDULE

KEY
- **GFI RECEPTACLE**
- **RECEPTACLE**
- **PILOT SWITCH**
- **SWITCH**
- **3-WAY SWITCH**
- **SMOKE DETECTOR**
- **TELEVISION**
- **TELEPHONE**
- **OUTDOOR LIGHT**
- **SCONCE LIGHT**
- **DOORBELL**
- **T8 FIXTURE**
- **CAN FIXTURE**
- **CO DETECTOR**
- **RANGE LIGHT - LIGHT/FAN**
- **2-WAY EMERGENCY EXIT LIGHT**

- **SD**
- **RB**
- **3-WAY SWITCH**
- **SMOKE DETECTOR**
- **TELEVISION**
- **TELEPHONE**
- **OUTDOOR LIGHT**
- **SCONCE LIGHT**
- **DOORBELL**
- **T8 FIXTURE**
- **CAN FIXTURE**
- **CO DETECTOR**
- **RANGE LIGHT - LIGHT/FAN**
- **2-WAY EMERGENCY EXIT LIGHT**

**ETC:**

**Panel Legend:**
- **1 SD** Downstairs Plugs & Lights
- **2 SD** Main
- **3 SD** Upstairs Plugs & Lights
- **4 SD** Bathroom plugs & lights
- **5 SD** Front Exterior Plugs
- **6 SD** Kitchen Plugs
- **7 SD** Downstairs Lights
- **8 SD** Main
- **9 SD** Upstairs Mystery Switches
- **11 SD** Main
- **12 SD** Main
- **13 SD** Main
- **14 SD** Main
- **15 SD** Downstairs Smoke Detector
- **16 SD** Downstairs Smoke Detector
- **17 SD** Downstairs Smoke Detector
- **18 SD** Downstairs Smoke Detector
- **19 SD** Downstairs Smoke Detector
- **20 SD** Downstairs Smoke Detector
- **21 SD** Downstairs Smoke Detector
- **22 SD** Downstairs Smoke Detector
- **23 SD** Downstairs Smoke Detector
- **24 SD** Downstairs Smoke Detector

**Legend:**
- **SD** Smoke Detector
- **RB** Receptacle
- **SW** Switch
- **HHR** Heat Trace to STP & H2O
2nd FLOOR ELECTRICAL PLAN

- Bedroom 003 A: 120 sq ft
- Bedroom 004 A: 114 sq ft
- Reading Nook 009 A: 175 sq ft
- Bedroom 019 A: 114 sq ft
- Deck 015 A: 304 sq ft

**KEY**
- **GFI RECEPTACLE**
- **RECEPTACLE**
- **SWITCH**
- **3-WAY SWITCH**
- **SMOKE DETECTOR**
- **TELEVISION**
- **TELEPHONE**
- **OUTDOOR LIGHT**
- **SCONCE LIGHT**
- **DOORBELL**
- **T8 FIXTURE**
NOTES:
1. ALL HRV DUCTING TO BE 6" ROUND DUCT
2. SUPPLY ZONE REGISTERS HAVE CONSTANT AIRFLOW VALVES = 20 CFM
3. FIRST FLOOR RETURN ZONE REGISTER LAV = 20CFM
4. 2ND FLOOR RETURN ZONE REGISTER LAV = 100CFM

KEY
- RETURN AIR DIFFUSER
- SUPPLY AIR
- GRILLE DIRECTION
- SUPPLY IS AN ADJUSTABLE DIFFUSER 8" ABOVE FLOOR

SUPPLY AIR
EXHAUST AIR
COMBUSTION EXHAUST AIR
COMBUSTION SUPPLY AIR

TO 2ND FLOOR

CERAMIC CORE HEATER

Mechanical
Bedroom
HVR

TO 2ND FLOOR

TO 2ND FLOOR

To 2nd Floor

NOTES:
1. ALL HRV DUCTING TO BE 6" ROUND DUCT
2. SUPPLY ZONE REGISTERS HAVE CONSTANT AIRFLOW VALVES = 20 CFM
3. FIRST FLOOR RETURN ZONE REGISTER LAV = 20CFM
4. 2ND FLOOR RETURN ZONE REGISTER LAV = 100CFM
Sustainable Village at South West Home
FS 443
PROJECT ISSUED 03/10/2012
Design Development

DESIGNED BY: CCHRC
DRAWN BY: Aa

MECHANICAL VENTILATION PLAN

KEY

RETURN AIR DIFFUSER
SUPPLY AIR
GRILLE DIRECTION
SUPPLY IS AN ADJUSTABLE DIFFUSER 8" ABOVE FLOOR

Bedroom 003
A: 120 sq ft

Bedroom 004
A: 114 sq ft

Reading Nook 009
A: 175 sq ft

Deck 015
A: 304 sq ft

Bedroom 019
A: 114 sq ft

2nd FLOOR

08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27