### Building Disciplines Replacement Cost Summary

<table>
<thead>
<tr>
<th>Trade</th>
<th>Poor ($) (1-5 Years)</th>
<th>Fair ($) (5-10 Years)</th>
<th>Good ($) (10-20 Years)</th>
<th>Excellent ($) (20+ Years)</th>
<th>Total ($)</th>
<th>$/GSF</th>
<th>Percent of Building Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanical</td>
<td>64,100</td>
<td>417,200</td>
<td>336,400</td>
<td></td>
<td>817,600</td>
<td>52.09</td>
<td>50.7</td>
</tr>
<tr>
<td>Plumbing</td>
<td>22,600</td>
<td>29,600</td>
<td>62,200</td>
<td>178,500</td>
<td>293,000</td>
<td>18.66</td>
<td>18.2</td>
</tr>
<tr>
<td>Fire Protection</td>
<td>30,600</td>
<td></td>
<td>80,300</td>
<td></td>
<td>110,900</td>
<td>7.07</td>
<td>6.9</td>
</tr>
<tr>
<td>Electrical</td>
<td>6,500</td>
<td></td>
<td>326,300</td>
<td></td>
<td>332,800</td>
<td>21.20</td>
<td>20.7</td>
</tr>
<tr>
<td>Communications</td>
<td>57,100</td>
<td></td>
<td></td>
<td></td>
<td>57,100</td>
<td>3.64</td>
<td>3.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>117,300</strong></td>
<td><strong>453,300</strong></td>
<td><strong>782,000</strong></td>
<td><strong>258,800</strong></td>
<td><strong>1,611,400</strong></td>
<td>102.66</td>
<td></td>
</tr>
<tr>
<td>% of Total</td>
<td>7.3</td>
<td>28.1</td>
<td>48.5</td>
<td>16.1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

No critical items identified for this building.

Note: Cost Estimates are Construction Costs are in 2013 dollars to Replace in Kind unless otherwise noted.
<table>
<thead>
<tr>
<th>SYSTEM/COMPONENT</th>
<th>EXPECTED REMAINING SERVICE LIFE</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>POOR (1-5 YEARS)</td>
<td>FAIR (5-10 YEARS)</td>
</tr>
<tr>
<td><strong>STORM AND CONDENSATE SYSTEM</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steam and Condensate</td>
<td>15,400</td>
<td></td>
</tr>
<tr>
<td><strong>HEATING HOT WATER SYSTEM</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hot Water Heating Loop 1 (AHU-1 reheats)</td>
<td>65,700</td>
<td></td>
</tr>
<tr>
<td>Hot Water Heating Loop 2 (AHU-2 heating coil and reheats)</td>
<td>71,600</td>
<td></td>
</tr>
<tr>
<td><strong>HEAT EXCHANGER</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heat Exchanger 1 (reheats for AHU-1)</td>
<td>13,000</td>
<td></td>
</tr>
<tr>
<td>Heat Exchanger 2 (AHU-2 heating coil and reheats)</td>
<td>12,500</td>
<td></td>
</tr>
<tr>
<td><strong>SUPPLY AIR SYSTEM</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supply Air Ductwork</td>
<td>138,500</td>
<td></td>
</tr>
<tr>
<td><strong>AIR HANDLER</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AHU-1 (1985)</td>
<td>19,100</td>
<td></td>
</tr>
<tr>
<td>AHU-1 (1993)</td>
<td>99,300</td>
<td></td>
</tr>
<tr>
<td>AHU-2</td>
<td>91,200</td>
<td></td>
</tr>
<tr>
<td><strong>TOILET EXHAUST SYSTEM</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toilet Exhaust</td>
<td>56,300</td>
<td></td>
</tr>
<tr>
<td><strong>LABORATORY EXHAUST SYSTEM</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laboratory Exhaust</td>
<td>195,800</td>
<td></td>
</tr>
<tr>
<td><strong>NATURAL GAS SYSTEM</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lab Natural Gas</td>
<td>9,500</td>
<td></td>
</tr>
<tr>
<td><strong>HVAC CONTROLS SYSTEM</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HVAC Controls</td>
<td>29,600</td>
<td></td>
</tr>
<tr>
<td><strong>MECHANICAL TOTAL</strong></td>
<td>64,100</td>
<td>417,200</td>
</tr>
<tr>
<td>% OF TOTAL</td>
<td>7.8</td>
<td>51.0</td>
</tr>
</tbody>
</table>
Steam and condensate piping for the building is supplied from the Ceramics Building to the east (which is presumably supplied with campus steam), and appears to be routed through the attic space of the connecting vestibule. The steam supply piping appears to enter the building in the second floor mechanical room 207. Condensate return appears to drain to one or two condensate receivers in the building, before being pumped back to the Ceramics Building. Steam serves two steam-to-hot water heat exchangers, two domestic water heaters, the heating coils in two air handlers, and some of the older perimeter fin tube seen in the building. Most of the piping appears to be a combination of 1985 and 1993 construction. The piping does not appear to serve process loads.

<table>
<thead>
<tr>
<th>Item ID</th>
<th>302346</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Steam and condensate piping for the building is supplied from the Ceramics Building to the east (which is presumably supplied with campus steam), and appears to be routed through the attic space of the connecting vestibule. The steam supply piping appears to enter the building in the second floor mechanical room 207. Condensate return appears to drain to one or two condensate receivers in the building, before being pumped back to the Ceramics Building. Steam serves two steam-to-hot water heat exchangers, two domestic water heaters, the heating coils in two air handlers, and some of the older perimeter fin tube seen in the building. Most of the piping appears to be a combination of 1985 and 1993 construction. The piping does not appear to serve process loads.</td>
</tr>
<tr>
<td>Overall Condition</td>
<td>Poor</td>
</tr>
<tr>
<td>Date Installed</td>
<td>1/1/1985</td>
</tr>
<tr>
<td>Remaining Useful Life</td>
<td>2 Years Nominal Useful Life: 30 Years</td>
</tr>
<tr>
<td>Size/Capacity</td>
<td>3” medium pressure steam</td>
</tr>
<tr>
<td>Replacement Cost</td>
<td>$15,400</td>
</tr>
</tbody>
</table>

Steam pressure reducing valves, in 2nd floor mechanical room 207, where the steam piping enters the building.

Steam fin tube in lower level room 125.

Duplex condensate receiver in lower level room 125A.
## HOT WATER HEATING LOOP 1 (AHU-1 REHEATS) ASSESSMENT DATA

<table>
<thead>
<tr>
<th>Item ID</th>
<th>302337</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description</strong></td>
<td>HC-1 serves the zone reheat coils downstream of AHU-1. Some of these zone reheat coils are at VAV boxes and some are at air valves serving rooms with fume hoods. This steam-to-hot water heat exchanger and the associated duplex pumping package are located in room 206 near AHU-1. The pumps do not use variable-frequency drives.</td>
</tr>
<tr>
<td><strong>Date Installed</strong></td>
<td>1/1/1993</td>
</tr>
<tr>
<td><strong>Overall Condition</strong></td>
<td>Fair</td>
</tr>
<tr>
<td><strong>Remaining Useful Life</strong></td>
<td>10 Years</td>
</tr>
<tr>
<td><strong>Nominal Useful Life:</strong></td>
<td>30 Years</td>
</tr>
<tr>
<td><strong>Equipment Tag</strong></td>
<td>HC-1</td>
</tr>
<tr>
<td><strong>Size/Capacity</strong></td>
<td>50 gpm</td>
</tr>
<tr>
<td><strong>HP/kW</strong></td>
<td>Pumps: 1 HP each</td>
</tr>
<tr>
<td><strong>Voltage</strong></td>
<td>208V / 3 phase</td>
</tr>
<tr>
<td><strong>Replacement Cost</strong></td>
<td>$65,700</td>
</tr>
</tbody>
</table>
HOT WATER HEATING LOOP 1 (AHU - 1 REHEATS) SURVEY PHOTOGRAPHS

HC-1.
Heat exchanger and duplex pumps on rack.
Reheat coil valve at VAV box in room 206.

Air separator and expansion tank for hot water heating loop, in room 206.
**HOT WATER HEATING LOOP 2 (AHU-2 HEATING COIL AND REHEATS) ASSESSMENT DATA**

<table>
<thead>
<tr>
<th>Item ID</th>
<th>302338</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>HX-2 serves the heating coil in AHU-2 and the zone reheat coils downstream of AHU-2, plus approximately 8 cabinet unit heaters on the second floor and 2 unit heaters. This steam-to-hot water heat exchanger and the associated duplex pumping package are located on a rack near AHU-2 in room 207A.</td>
</tr>
<tr>
<td>Overall Condition</td>
<td>Good</td>
</tr>
<tr>
<td>Date Installed</td>
<td>1/1/1998</td>
</tr>
<tr>
<td>Remaining Useful Life</td>
<td>15 Years</td>
</tr>
<tr>
<td>Equipment Tag</td>
<td>HX-2</td>
</tr>
<tr>
<td>Manufacturer</td>
<td>Bell &amp; Gossett</td>
</tr>
<tr>
<td>Size/Capacity</td>
<td>62 gpm</td>
</tr>
<tr>
<td>HP/kW</td>
<td>Pumps: 5 HP each</td>
</tr>
<tr>
<td>Replacement Cost</td>
<td>$71,600</td>
</tr>
</tbody>
</table>

**HOT WATER HEATING LOOP 2 (AHU-2 HEATING COIL AND REHEATS) SURVEY PHOTOGRAPHS**

- HX-2.
- Pumps (left) and heat exchanger (right) in room 207A.
- Pumps for hot water heating loop.

UIUC/UIS MEP CONDITION ASSESSMENT
UIUC PROJECT NUMBER U12151
CANNON DESIGN PROJECT NUMBER 4009.01

CERAMICS KILN HOUSE
0011 - PAGE 6
**HEAT EXCHANGER 1 (REHEATS FOR AHU-1) ASSESSMENT DATA**

<table>
<thead>
<tr>
<th>Item ID</th>
<th>302335</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>HC-1 serves the zone reheat coils downstream of AHU-1. This steam-to-hot water heat exchanger and the associated pumping package are located in room 206 near AHU-1.</td>
</tr>
<tr>
<td>Overall Condition</td>
<td>Good</td>
</tr>
<tr>
<td>Date Installed</td>
<td>1/1/1993</td>
</tr>
<tr>
<td>Remaining Useful Life</td>
<td>15 Years Nominal Useful Life: 35 Years</td>
</tr>
<tr>
<td>Equipment Tag</td>
<td>HC-1</td>
</tr>
<tr>
<td>Size/Capacity</td>
<td>50 gpm at 50 degrees F temperature rise</td>
</tr>
<tr>
<td>Replacement Cost</td>
<td>$13,000</td>
</tr>
</tbody>
</table>

**HEAT EXCHANGER 1 (REHEATS FOR AHU-1) SURVEY PHOTOS**

![HC-1](image-url)
**Heat Exchanger 2 (AHU-2 Heating Coil and Reheats) Assessment Data**

<table>
<thead>
<tr>
<th>Item ID</th>
<th>302336</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>HX-2 serves the heating coil in AHU-2 and the zone reheat coils downstream of AHU-2, plus approximately 8 cabinet unit heaters on the second floor and 2 unit heaters. This steam-to-hot water heat exchanger and the associated pumping package are located on a rack near AHU-2 in room 207A.</td>
</tr>
<tr>
<td>Overall Condition</td>
<td>Good</td>
</tr>
<tr>
<td>Date Installed</td>
<td>1/1/1998</td>
</tr>
<tr>
<td>Remaining Useful Life</td>
<td>20 Years Nominal Useful Life: 35 Years</td>
</tr>
<tr>
<td>Equipment Tag</td>
<td>HX-2</td>
</tr>
<tr>
<td>Manufacturer</td>
<td>Bell &amp; Gossett</td>
</tr>
<tr>
<td>Size/Capacity</td>
<td>36 gpm at 20 degrees F temperature rise</td>
</tr>
<tr>
<td>Replacement Cost</td>
<td>$12,500</td>
</tr>
</tbody>
</table>

**Heat Exchanger 2 (AHU-2 Heating Coil and Reheats) Survey Photographs**

HX-2.
<table>
<thead>
<tr>
<th>Item ID</th>
<th>302349</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Most supply air ductwork in the building is newer than 1993 and is a variable-air volume (VAV) delivery system using VAV boxes or air valves with zone hot water reheat coils. The air valves are used in some lab rooms with fume hoods to maintain negative pressurization within the room.</td>
</tr>
<tr>
<td>Overall Condition</td>
<td>Good</td>
</tr>
<tr>
<td>Date Installed</td>
<td>1/1/1993</td>
</tr>
<tr>
<td>Remaining Useful Life</td>
<td>10 Years</td>
</tr>
<tr>
<td>Nominal Useful Life: 30 Years</td>
<td></td>
</tr>
<tr>
<td>Replacement Cost</td>
<td>$138,500</td>
</tr>
</tbody>
</table>
Typical supply air diffuser.

VAV box in room 207A.

Main ductwork near AHU-1.

Supply air ductwork above lab ceiling.
<table>
<thead>
<tr>
<th>Item ID</th>
<th>302328</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>AHU-1 (installed in 1985, not to be confused with the AHU-1 installed in 1993) serves several rooms at the east end of the first floor. The unit is a suspended horizontal fan-coil type unit located in mechanical room 207, with a DX cooling coil and a steam heating coil. The unit has outside ventilation air capability, and return air capability but no return air fan, with relief air apparently provided through a sidewall louver. The unit supplies air at constant volume, with no zone reheat coils. The condensing unit is located outside, on the lower roof area on the north side of the building. The condensing unit appears to be newer than 1985 construction and is considered to be in good condition.</td>
</tr>
<tr>
<td>Overall Condition</td>
<td>Poor</td>
</tr>
<tr>
<td>Date Installed</td>
<td>1/1/1985</td>
</tr>
<tr>
<td>Remaining Useful Life</td>
<td>2 Years</td>
</tr>
<tr>
<td>Equipment Tag</td>
<td>AHU-1</td>
</tr>
<tr>
<td>Size/Capacity</td>
<td>2000 cfm</td>
</tr>
<tr>
<td>Replacement Cost</td>
<td>$19,100</td>
</tr>
</tbody>
</table>
AHU-1 (1985) Survey Photographs

AHU-1

Condensing unit for AHU-1.

Outside air intake (left) and return air ductwork (bottom) for AHU-1.

Relief air louver for areas served by AHU-1.
<table>
<thead>
<tr>
<th><strong>AHU-1 (1993) Assessment Data</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Item ID</strong></td>
</tr>
<tr>
<td><strong>Description</strong></td>
</tr>
<tr>
<td><strong>Date Installed</strong></td>
</tr>
<tr>
<td><strong>Remaining Useful Life</strong></td>
</tr>
<tr>
<td><strong>Nominal Useful Life:</strong></td>
</tr>
<tr>
<td><strong>Equipment Tag</strong></td>
</tr>
<tr>
<td><strong>Manufacturer</strong></td>
</tr>
<tr>
<td><strong>Size/Capacity</strong></td>
</tr>
<tr>
<td><strong>HP/kW</strong></td>
</tr>
<tr>
<td><strong>Voltage</strong></td>
</tr>
<tr>
<td><strong>Replacement Cost</strong></td>
</tr>
</tbody>
</table>
AHU-1 (1993) Survey Photographs

AHU-1. Condensing unit for AHU-1
Outside air intake ductwork for AHU-1.
<table>
<thead>
<tr>
<th>Item ID</th>
<th>302330</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>AHU-2 serves the 2nd floor of the building. AHU-2 is a floor-mounted modular air handler that is located in second floor mechanical room 206. The unit has a hot water heating coil and a DX cooling coil (approx. 30 tons nominal cooling). The unit serves a variable-air volume (VAV) ductwork system that has zone hot water reheat coils at the VAV boxes. This AHU has a separate return air fan, suspended above the AHU. The supply and return fans have variable-frequency drives (VFDs). The air-cooled condensing unit is located outside at ground level, at the northeast corner of the building.</td>
</tr>
<tr>
<td>Date Installed</td>
<td>1/1/1998</td>
</tr>
<tr>
<td>Remaining Useful Life</td>
<td>15 Years  Nominal Useful Life: 30 Years</td>
</tr>
<tr>
<td>Equipment Tag</td>
<td>AHU-2</td>
</tr>
<tr>
<td>Manufacturer</td>
<td>Trane</td>
</tr>
<tr>
<td>Model Number</td>
<td>Climate Changer</td>
</tr>
<tr>
<td>Size/Capacity</td>
<td>5585 cfm</td>
</tr>
<tr>
<td>HP/kW</td>
<td>Supply fan: 15 HP</td>
</tr>
<tr>
<td>Voltage</td>
<td>208V / 3 phase</td>
</tr>
<tr>
<td>Replacement Cost</td>
<td>$91,200</td>
</tr>
</tbody>
</table>
## Toilet Exhaust Assessment Data

<table>
<thead>
<tr>
<th>Item ID</th>
<th>302350</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Toilet exhaust for the single set of restrooms is provided by a single utility-set type fan that is suspended in the attic peak space near the roof. The fan discharges through the roof.</td>
</tr>
<tr>
<td>Date Installed</td>
<td>1/1/1993</td>
</tr>
<tr>
<td>Overall Condition</td>
<td>Fair</td>
</tr>
<tr>
<td>Remaining Useful Life</td>
<td>10 Years</td>
</tr>
<tr>
<td>Size/Capacity</td>
<td>350 cfm</td>
</tr>
<tr>
<td>HP/kW</td>
<td>1/4 HP</td>
</tr>
<tr>
<td>Voltage</td>
<td>120V / 1 phase</td>
</tr>
<tr>
<td>Replacement Cost</td>
<td>$56,300</td>
</tr>
</tbody>
</table>

## Toilet Exhaust Survey Photographs

Exhaust discharges at peak of upper roof. Per existing drawings, the toilet exhaust is part of the grouping on the right.
<table>
<thead>
<tr>
<th>Item ID</th>
<th>302342</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Lab exhaust appears to consist of older hoods designed to remove heat from ceramics processing, and newer fume hoods designed to isolate fumes and keep the rooms negatively pressurized. The older hoods have a single fan for each hood. The newer fume hoods use air valves in the supply air to the room and the exhaust air from the fume hood to maintain negative space pressurization. Some of these hoods may be tied together to a single fan. One of the older hoods is served by an exhaust fan located on the lower roof. The other exhaust fans in the building are located in the second floor mechanical room space or in the attic space of the peaked roof.</td>
</tr>
<tr>
<td>Overall Condition</td>
<td>Fair</td>
</tr>
<tr>
<td>Date Installed</td>
<td>1/1/1993</td>
</tr>
<tr>
<td>Remaining Useful Life</td>
<td>10 Years</td>
</tr>
<tr>
<td>Replacement Cost</td>
<td>$195,800</td>
</tr>
</tbody>
</table>
View of the north elevation of the building, showing two exhaust fans on the lower roof and the discharge of several other fans at the peak of the upper roof.

Fume hood in lab, with air valve on exhaust air duct.

Exhaust fans in second floor mechanical space.

Older hood above ceramics processing workbench.
<table>
<thead>
<tr>
<th>Item ID</th>
<th>302341</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>The labs in the west end of the building are provided with natural gas. The natural gas service appears to be routed from the adjoining Nuclear Engineering Building. Natural gas also appears to be used for a few ceramics ovens. Natural gas does not appear to serve any non-lab or non-process loads.</td>
</tr>
<tr>
<td>Overall Condition</td>
<td>Good</td>
</tr>
<tr>
<td>Date Installed</td>
<td>1/1/1993</td>
</tr>
<tr>
<td>Remaining Useful Life</td>
<td>20 Years Nominal Useful Life: 40 Years</td>
</tr>
<tr>
<td>Size/Capacity</td>
<td>3” natural gas service</td>
</tr>
<tr>
<td>Replacement Cost</td>
<td>$9,500</td>
</tr>
</tbody>
</table>

**LAB NATURAL GAS SURVEY PHOTOGRAPHS**

- Natural gas piping in lab.
- Natural gas service at fume hood (top knob).
<table>
<thead>
<tr>
<th>Item ID</th>
<th>302339</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>HVAC controls appear to be a mixture of older DDC controls at the two large air handlers and two heat exchangers, pneumatic controls at the VAV boxes and perimeter heat, with some standalone thermostats at cabinet unit heaters, and some manual control valves at older steam fin tube. Lab fume hoods appear to have newer DDC controls tied to the air valves in the room. There is a duplex temperature control air compressor located in the second floor mechanical space. This air compressor appears to be separate from the lab compressed air system.</td>
</tr>
<tr>
<td>Overall Condition</td>
<td>Poor</td>
</tr>
<tr>
<td>Date Installed</td>
<td>1/1/1993</td>
</tr>
<tr>
<td>Remaining Useful Life</td>
<td>Exceeded</td>
</tr>
<tr>
<td>Nominal Useful Life: 18 Years</td>
<td></td>
</tr>
<tr>
<td>Replacement Cost</td>
<td>$29,600</td>
</tr>
</tbody>
</table>
Temperature control duplex air compressor.

Steam fin tube on 1st floor, with manual control valve.

DDC controls interface panels near AHU-1.

Steam-to-hot water heat exchanger, with pneumatic steam control valve above.
<table>
<thead>
<tr>
<th>SYSTEM/COMPONENT</th>
<th>EXPECTED REMAINING SERVICE LIFE</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>POOR (1-5 YEARS)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FAIR (5-10 YEARS)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>GOOD (10-20 YEARS)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>EXCELLENT (20+ YEARS)</td>
<td></td>
</tr>
<tr>
<td><strong>DOMESTIC COLD WATER SYSTEM</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Domestic Cold Water</td>
<td>27,100</td>
<td>27,100</td>
</tr>
<tr>
<td><strong>DOMESTIC HOT WATER SYSTEM</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Domestic Hot Water</td>
<td>20,900</td>
<td>20,900</td>
</tr>
<tr>
<td><strong>HEATER</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Domestic Water Heater WH-1</td>
<td>29,600</td>
<td>29,600</td>
</tr>
<tr>
<td><strong>PLUMBING FIXTURES SYSTEM</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plumbing Fixtures</td>
<td>43,400</td>
<td>43,400</td>
</tr>
<tr>
<td><strong>SANITARY WASTE AND VENT SYSTEM</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sanitary, Waste, and Vent</td>
<td>87,200</td>
<td>87,200</td>
</tr>
<tr>
<td><strong>STORM DRAINAGE SYSTEM</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storm Drainage</td>
<td>13,000</td>
<td>13,000</td>
</tr>
<tr>
<td><strong>SUB-SOIL DRAINAGE SYSTEM</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subsoil Drainage</td>
<td>9,600</td>
<td>9,600</td>
</tr>
<tr>
<td><strong>PROCESS WATER SYSTEM</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deionized Water</td>
<td>8,300</td>
<td>8,300</td>
</tr>
<tr>
<td><strong>COMPRESSED-AIR</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lab Compressed Air</td>
<td>54,000</td>
<td>54,000</td>
</tr>
<tr>
<td><strong>PLUMBING TOTAL</strong></td>
<td>22,600</td>
<td>29,600</td>
</tr>
<tr>
<td></td>
<td>62,200</td>
<td>178,500</td>
</tr>
<tr>
<td></td>
<td><strong>% OF TOTAL</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>7.7</td>
<td>10.1</td>
</tr>
<tr>
<td></td>
<td>21.2</td>
<td>60.9</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>293,000</td>
<td></td>
</tr>
</tbody>
</table>
Two different domestic cold water services appear to be provided from west of the building. A 2” and 3” domestic cold water service enters at the west end of the building. The water meters for the 2” service are in a closet in lab 107. There is no water pressure booster pump. The water services are separate from the fire protection service that is routed from the Ceramics Building to the east. Domestic cold water piping appears to be 1985 construction or newer.

The building does not have any separate non-potable cold water system for the labs.

- Overall Condition: Excellent
- Date Installed: 1/1/1985
- Remaining Useful Life: 22 Years
- Nominal Useful Life: 50 Years
- Size/Capacity: 2” and 3” water services
- Replacement Cost: $27,100

Water meters for 2” domestic water service, in first floor Lab 107 area.
**Domestic Hot Water Assessment Data**

<table>
<thead>
<tr>
<th>Item ID</th>
<th>302333</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Hot water piping in the building is provided from two steam-to-hot water domestic water heaters. Most of the hot water piping appears to be 1993 and newer. There are older lab sinks in the building but these appear to be provided with cold water only. The hot water piping has a recirculation line (and a recirculation pump at each water heater). The building does not have any separate non-potable hot water system for the labs.</td>
</tr>
<tr>
<td>Overall Condition</td>
<td>Excellent</td>
</tr>
<tr>
<td>Date Installed</td>
<td>1/1/1993</td>
</tr>
<tr>
<td>Remaining Useful Life</td>
<td>30 Years</td>
</tr>
<tr>
<td>Replacement Cost</td>
<td>$20,900</td>
</tr>
</tbody>
</table>

**Domestic Hot Water Survey Photographs**

- Water heater.
- Water heater.
- Lab sink.
<table>
<thead>
<tr>
<th>Item ID</th>
<th>302334</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Domestic Water Heater WH-1 is a steam-to-hot water packaged unit that serves the restrooms and the newer 1st floor labs at the west end of the building. The system has a storage tank and a separate simplex recirculation pump. At time of survey the disconnect for this water heater was in the off position.</td>
</tr>
<tr>
<td>Overall Condition</td>
<td>Fair</td>
</tr>
<tr>
<td>Date Installed</td>
<td>1/1/1993</td>
</tr>
<tr>
<td>Remaining Useful Life</td>
<td>5 Years Nominal Useful Life: 25 Years</td>
</tr>
<tr>
<td>Manufacturer</td>
<td>PVI</td>
</tr>
<tr>
<td>Model Number</td>
<td>250 N 50A-FS</td>
</tr>
<tr>
<td>Serial Number</td>
<td>69379139</td>
</tr>
<tr>
<td>Size/Capacity</td>
<td>50 gallon tank at 250 gph (80 degrees F temperature rise).</td>
</tr>
<tr>
<td>HP/kW</td>
<td>Circulator pump: 1/3 HP</td>
</tr>
<tr>
<td>Voltage</td>
<td>115 V / 1 phase</td>
</tr>
<tr>
<td>Replacement Cost</td>
<td>$29,600</td>
</tr>
</tbody>
</table>
Water heater WH-1.

Water heater WH-1. The disconnect on the wall is in the off position.
<table>
<thead>
<tr>
<th>Item ID</th>
<th>302343</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Plumbing fixtures in the restrooms are newer and in good condition. Most lab sinks are 1993 or newer. Some older lab sinks are probably 1985 installation and are fitted with cold water only. The one safety shower/eyewash in the building uses cold water only and lacks a floor drain. Toilets and urinals seen used manual flush valves.</td>
</tr>
<tr>
<td>Overall Condition</td>
<td>Excellent</td>
</tr>
<tr>
<td>Date Installed</td>
<td>1/1/1993</td>
</tr>
<tr>
<td>Remaining Useful Life</td>
<td>30 Years Nominal Useful Life: 50 Years</td>
</tr>
<tr>
<td>Replacement Cost</td>
<td>$43,400</td>
</tr>
</tbody>
</table>
PLUMBING FIXTURES SURVEY PHOTOGRAPHS

Toilet in 1st floor mens restroom.

Safety shower / eyewash in 1st floor corridor.

Newer lab sink.

Older lab sink, which is provided with cold water only.
### Sanitary, Waste, and Vent Assessment Data

<table>
<thead>
<tr>
<th>Item ID</th>
<th>302344</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Sanitary, waste, and vent piping appears to be from 1985 or newer. Some of the sanitary piping is plastic acid-resistant piping that does eventually tie into the regular sanitary piping (some sinks have acid dilution traps). The east side of the lower level of the building has a duplex ejector pit.</td>
</tr>
<tr>
<td>Overall Condition</td>
<td>Excellent</td>
</tr>
<tr>
<td>Date Installed</td>
<td>1/1/1985</td>
</tr>
<tr>
<td>Remaining Useful Life</td>
<td>22 Years</td>
</tr>
<tr>
<td>Nominal Useful Life: 50 Years</td>
<td></td>
</tr>
<tr>
<td>Replacement Cost</td>
<td>$87,200</td>
</tr>
</tbody>
</table>
Believed to be ejector pit serving the east half of the lower level.

Acid-resistant waste piping (above).

Acid-resistant vent piping.

Acid-resistant piping below lab sink.
<table>
<thead>
<tr>
<th>Item ID</th>
<th>302347</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>This peaked-roof building uses gutters with exterior downspouts. The downspouts tie into subsoil storm drainage piping that drains away from the building by gravity.</td>
</tr>
<tr>
<td>Overall Condition</td>
<td>Poor</td>
</tr>
<tr>
<td>Date Installed</td>
<td>1/1/1913</td>
</tr>
<tr>
<td>Remaining Useful Life</td>
<td>Exceeded</td>
</tr>
<tr>
<td>Replacement Cost</td>
<td>$13,000</td>
</tr>
</tbody>
</table>

**Storm Drainage Survey Photographs**

Typical exterior gutter and downspout.

Exterior gutter and downspout.
<table>
<thead>
<tr>
<th>Item ID</th>
<th>302348</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>The building appears to have a perimeter drain tile system, which appears to tie to the storm drain system without the use of a sump pit (the first floor appears to only a few feet below grade). The outside gutter downspouts tie into subsoil drainage piping, and this implies the use of a perimeter drain tile system. This perimeter drain tile system is rather old and is assumed to be in poor condition.</td>
</tr>
<tr>
<td>Date Installed</td>
<td>1/1/1913</td>
</tr>
<tr>
<td>Overall Condition</td>
<td>Poor</td>
</tr>
<tr>
<td>Remaining Useful Life</td>
<td>Exceeded</td>
</tr>
<tr>
<td>Replacement Cost</td>
<td>$9,600</td>
</tr>
</tbody>
</table>

Typical gutter downspout, which ties into subsoil drain piping.
### Deionized Water Assessment Data

<table>
<thead>
<tr>
<th>Item ID</th>
<th>302331</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>One sink in 1st floor Lab 124 is provided with deionized water. The deionized water is apparently fed from a machine located under the counter.</td>
</tr>
<tr>
<td>Overall Condition</td>
<td>Good</td>
</tr>
<tr>
<td>Date Installed</td>
<td>1/1/1998</td>
</tr>
<tr>
<td>Remaining Useful Life</td>
<td>15 Years</td>
</tr>
<tr>
<td>Nominal Useful Life: 30 Years</td>
<td></td>
</tr>
<tr>
<td>Replacement Cost</td>
<td>$8,300</td>
</tr>
</tbody>
</table>

### Deionized Water Survey Photographs

Sink with deionized water service, in Lab 124.
**LAB COMPRESSED AIR ASSESSMENT DATA**

<table>
<thead>
<tr>
<th>Item ID</th>
<th>302340</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Labs in the west portion of the building are provided with compressed air. A lab air compressor is located in the second floor mechanical space. This simplex air compressor appears to be separate from the temperature control system.</td>
</tr>
<tr>
<td>Overall Condition</td>
<td>Good</td>
</tr>
<tr>
<td>Date Installed</td>
<td>1/1/1993</td>
</tr>
<tr>
<td>Remaining Useful Life</td>
<td>10 Years Nominal Useful Life: 30 Years</td>
</tr>
<tr>
<td>Replacement Cost</td>
<td>$54,000</td>
</tr>
</tbody>
</table>

**LAB COMPRESSED AIR SURVEY PHOTOGRAPHS**

- Lab compressed air piping (left).
- Compressed air service at fume hood (orange knob).
- Lab air compressor.
<table>
<thead>
<tr>
<th>SYSTEM/COMPONENT</th>
<th>EXPECTED REMAINING SERVICE LIFE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>POOR (1-5 YEARS)</td>
</tr>
<tr>
<td><strong>FIRE ALARM SYSTEM</strong></td>
<td></td>
</tr>
<tr>
<td>Fire Alarm System</td>
<td>30,600</td>
</tr>
<tr>
<td><strong>SPRINKLER SYSTEM</strong></td>
<td></td>
</tr>
<tr>
<td>Sprinklers</td>
<td></td>
</tr>
<tr>
<td><strong>FIRE PROTECTION TOTAL</strong></td>
<td>30,600</td>
</tr>
<tr>
<td>% OF TOTAL</td>
<td>27.6</td>
</tr>
<tr>
<td>Item ID</td>
<td>302322</td>
</tr>
<tr>
<td>-----------</td>
<td>--------------</td>
</tr>
<tr>
<td>Description</td>
<td>The fire alarm system for this building is an extension from the main Ceramics Building. The main FACP is located in the main Ceramics building. Adequate coverage is seen throughout the Kiln house with strobes throughout corridors and labs and pull stations at the exits.</td>
</tr>
<tr>
<td>Overall Condition</td>
<td>Poor</td>
</tr>
<tr>
<td>Date Installed</td>
<td>1/1/1993</td>
</tr>
<tr>
<td>Remaining Useful Life</td>
<td>Exceeded Nominal Useful Life: 20 Years</td>
</tr>
<tr>
<td>Manufacturer</td>
<td>Simplex</td>
</tr>
<tr>
<td>Replacement Cost</td>
<td>$30,600</td>
</tr>
<tr>
<td>Item ID</td>
<td>302345</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>Description</td>
<td>The building is fully sprinklered. The system is fed from the Ceramics Building to the east, with the piping routed through the attic of the connecting breezeway. There is no fire pump in this building. There does not appear to be any associated standpipes in this building. The system appears to be a typical wet pipe sprinkler system.</td>
</tr>
<tr>
<td>Overall Condition</td>
<td>Excellent</td>
</tr>
<tr>
<td>Date Installed</td>
<td>1/1/1993</td>
</tr>
<tr>
<td>Remaining Useful Life</td>
<td>30 Years</td>
</tr>
<tr>
<td>Nominal Useful Life</td>
<td>50 Years</td>
</tr>
<tr>
<td>Replacement Cost</td>
<td>$80,300</td>
</tr>
</tbody>
</table>
Lab ceiling with sprinkler heads.

Typical sprinkler head.

Sprinkler piping (black pipe) above ceramics ovens.

Sprinkler piping in the second floor mechanical space at the east end of the building. The larger piping appears to be the main sprinkler piping that is routed from the Ceramics Building to the east.
<table>
<thead>
<tr>
<th>System/Component</th>
<th>Expected Remaining Service Life</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Poor (1-5 Years)</td>
<td></td>
</tr>
<tr>
<td>Medium Voltage System</td>
<td>Medium Voltage System</td>
<td>81,000</td>
</tr>
<tr>
<td>Low Voltage System</td>
<td>Low Voltage System</td>
<td>89,600</td>
</tr>
<tr>
<td>Interior Lighting</td>
<td>interior Lighting System</td>
<td>93,100</td>
</tr>
<tr>
<td>Exit Lighting System</td>
<td>Exit Lighting System</td>
<td>8,300</td>
</tr>
<tr>
<td>Lighting Control System</td>
<td>Lighting Controls System</td>
<td>22,700</td>
</tr>
<tr>
<td>Exterior Lighting System</td>
<td>Exterior Lighting System</td>
<td>6,500</td>
</tr>
<tr>
<td><strong>Electrical Total</strong></td>
<td></td>
<td>332,800</td>
</tr>
<tr>
<td><strong>% of Total</strong></td>
<td></td>
<td>98.0</td>
</tr>
</tbody>
</table>
The medium voltage substation is located in the first floor electrical room. The 600A MV switch is at the front end of a substation that provides power to the building. The medium voltage dry type transformer, 500KVA, steps the voltage down to 120/208V.

<table>
<thead>
<tr>
<th>Description</th>
<th>The medium voltage substation is located in the first floor electrical room. The 600A MV switch is at the front end of a substation that provides power to the building. The medium voltage dry type transformer, 500KVA, steps the voltage down to 120/208V.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Condition</td>
<td>Good</td>
</tr>
<tr>
<td>Date Installed</td>
<td>1/1/1993</td>
</tr>
<tr>
<td>Remaining Useful Life</td>
<td>20 Years</td>
</tr>
<tr>
<td>Size/Capacity</td>
<td>600A, 400E</td>
</tr>
<tr>
<td>Voltage</td>
<td>4,160V</td>
</tr>
<tr>
<td>Replacement Cost</td>
<td>$31,400</td>
</tr>
<tr>
<td>Critical Issues</td>
<td></td>
</tr>
</tbody>
</table>

UIUC/UIS MEP CONDITION ASSESSMENT
UIUC PROJECT NUMBER U12151
CANNON DESIGN PROJECT NUMBER 4009.01

CERAMICS KILN HOUSE
0011 - PAGE 42
## Medium Voltage System Assessment Data

<table>
<thead>
<tr>
<th>Item ID</th>
<th>302327</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>The medium voltage system starts with Load Center #44 which sits on the exterior of the building and provides service to the Nuclear Engineer building, Transportation Building, Ceramics and Plant Services buildings. In the Ceramic Kiln house, a medium voltage substation has a 600A, 400E switch which provides power to the building.</td>
</tr>
<tr>
<td>Overall Condition</td>
<td>Good</td>
</tr>
<tr>
<td>Date Installed</td>
<td>1/1/1993</td>
</tr>
<tr>
<td>Remaining Useful Life</td>
<td>20 Years</td>
</tr>
<tr>
<td>Nominal Useful Life: 40 Years</td>
<td></td>
</tr>
<tr>
<td>Voltage</td>
<td>4,160V</td>
</tr>
<tr>
<td>Replacement Cost</td>
<td>$81,000</td>
</tr>
</tbody>
</table>

## Medium Voltage System Survey Photographs

![MV Sub](image)

**MV Sub**
<table>
<thead>
<tr>
<th>Item ID</th>
<th>302325</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>From the secondary side of the MV transformer, a 2000A, 208V switchboard, with bolted pressure switch, provides distribution to panel boards located throughout the corridors.</td>
</tr>
<tr>
<td>Overall Condition</td>
<td>Good</td>
</tr>
<tr>
<td>Date Installed</td>
<td>1/1/1993</td>
</tr>
<tr>
<td>Remaining Useful Life</td>
<td>20 Years</td>
</tr>
<tr>
<td>Nominal Useful Life:</td>
<td>40 Years</td>
</tr>
<tr>
<td>Voltage</td>
<td>480V</td>
</tr>
<tr>
<td>Replacement Cost</td>
<td>$89,600</td>
</tr>
<tr>
<td>Critical Issues</td>
<td></td>
</tr>
</tbody>
</table>

**Low Voltage System Survey Photographs**

![Distribution Section of Sub](Image1)

![Panels](Image2)
## Interior Lighting System Assessment Data

<table>
<thead>
<tr>
<th>Item ID</th>
<th>302323</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>The interior lighting consists of recessed 2x4 lensed, T-8 troffers throughout the corridors and labs.</td>
</tr>
<tr>
<td>Overall Condition</td>
<td>Good</td>
</tr>
<tr>
<td>Date Installed</td>
<td>1/1/2003</td>
</tr>
<tr>
<td>Remaining Useful Life</td>
<td>15 Years</td>
</tr>
<tr>
<td>Nominal Useful Life: 25 Years</td>
<td></td>
</tr>
<tr>
<td>Replacement Cost</td>
<td>$93,100</td>
</tr>
</tbody>
</table>

## Interior Lighting System Survey Photographs

![Corridor Lighting](#)

![Lab Lighting](#)
| **EXIT LIGHTING SYSTEM ASSESSMENT DATA** |
|-----------------|-----------------|
| **Item ID**     | 302320          |
| **Description** | The exit signs in the building appear to be the newer, thermoplastic, LED style with battery backup. |
| **Overall Condition** | Good          |
| **Date Installed** | 1/1/2003       |
| **Remaining Useful Life** | 15 Years         |
| **Nominal Useful Life:** | 25 Years |
| **Replacement Cost** | $8,300         |

**EXIT LIGHTING SYSTEM SURVEY PHOTOGRAPHS**

Exit Sign
<table>
<thead>
<tr>
<th>Item ID</th>
<th>302324</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Throughout the first and second floor corridors, ceiling mounted occupancy sensors were added to control the corridor lighting. All offices and labs are still manual on/off switches.</td>
</tr>
<tr>
<td>Overall Condition</td>
<td>Good</td>
</tr>
<tr>
<td>Date Installed</td>
<td>1/1/2010</td>
</tr>
<tr>
<td>Remaining Useful Life</td>
<td>17 Years Nominal Useful Life: 20 Years</td>
</tr>
<tr>
<td>Replacement Cost</td>
<td>$22,700</td>
</tr>
<tr>
<td><strong>Item ID</strong></td>
<td>302321</td>
</tr>
<tr>
<td>--------------</td>
<td>--------</td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td>The only exterior lighting on the building is two metal halide wall packs on the north side of the building, which help illuminate a drive lane.</td>
</tr>
<tr>
<td><strong>Overall Condition</strong></td>
<td>Fair</td>
</tr>
<tr>
<td><strong>Date Installed</strong></td>
<td>1/1/1993</td>
</tr>
<tr>
<td><strong>Remaining Useful Life</strong></td>
<td>5 Years</td>
</tr>
<tr>
<td><strong>Recommendation</strong></td>
<td>Recommend installing egress lighting fixtures outside entries to aid in security of staff/students.</td>
</tr>
<tr>
<td><strong>Replacement Cost</strong></td>
<td>$6,500</td>
</tr>
<tr>
<td>SYSTEM/COMPONENT</td>
<td>EXPECTED REMAINING SERVICE LIFE</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td></td>
<td>POOR (1-5 YEARS)</td>
</tr>
<tr>
<td><strong>DATA SYSTEM</strong></td>
<td>Communication Infrastructure System</td>
</tr>
<tr>
<td><strong>COMMUNICATIONS TOTAL</strong></td>
<td>% OF TOTAL</td>
</tr>
</tbody>
</table>
### Communication Infrastructure System Assessment Data

<table>
<thead>
<tr>
<th>Item ID</th>
<th>303620</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>The building is served by IDF located in room 202, shared with building 0117 Nuclear Engineering Laboratory. Fiber and copper originate from Node #1. Fiber distributes radially from the building IDF to a hub room (telecommunication room) to within 100 meters of end-use equipment and lands at rack mounted fiber switch(es) within the hub room. The single hub room HA is located on the second floor in room 202. It consists of one rack served by base building power with a dedicated technology ground bar tied to the building ground system. The room is cooled by base building chilled water and is sprinkled. Outlet standards typically have 1°C stubbed to cable management. Standard outlet consists of two network cables and two data jacks. Station cable consists of Cat 5. The building is typically equipped with WIFI throughout (coverage not noted).</td>
</tr>
<tr>
<td>Overall Condition</td>
<td>Good</td>
</tr>
<tr>
<td>Date Installed</td>
<td>UIUC network upgrade complete (date range 2006 to 2012)</td>
</tr>
<tr>
<td>Remaining Useful Life</td>
<td>20 Years Nominal Useful Life: 20 Years</td>
</tr>
<tr>
<td>Replacement Cost</td>
<td>$57,100</td>
</tr>
</tbody>
</table>

### Communication Infrastructure System Survey Photographs

- Data Rack and Ground Bar
- Cable Management and Rack Power
- Distribution Conduit Stub
The Ceramics Kiln House contains two floors. The building consists of mechanical and electrical rooms, building service storage, classroom and research laboratories, administrative offices, a classroom, and a storage area. The Life Safety Code classifies the building as Business Occupancy. The Ceramics Kiln House has a manual and automatic fire alarm system. Manual pull stations are located at all exits. Automatic fire detection is located in the second floor (Room 220, 218, 203, 210, 253, and Corridor 217) and the first floor (Room 115, 125A, 125, 108, 108A, 108B, 105, 124, 123, 122, 121, 127, and Vestibule 116 and 118). Occupant notification is by both audible/visual and visual alarms. Audible/visual alarms are located in the second floor (Room 208 and Corridor 217) and the first floor (Corridor 119). Visual alarms are located in the second floor (Room 220, 203, 218, 204, and 214) and the first floor (Room 107, 108, 108A, 108B, 105, 124, 123, 122, 112, 125, 125A, and 127). The fire alarm control panel for the building, located on the first floor southeast vestibule in the Ceramics Building, is a Cerebus Pyrotronics MXL. The Ceramics Kiln House has no observable emergency lighting or emergency power systems. The Ceramics Kiln House is a fully sprinklered building with no standpipe system. The fire department connection is located on the southeast side of the Ceramics Building from Room 012.

OCCUPANT LOAD/EXITING

Second Floor: 73 occupants; two exits required (2 exits provided); the exit width including stairs/doors provides capacity for 317 occupants. Door and stair widths are sufficient for occupants served.

First Floor (LED): 136 occupants; 2 exits required (3 exits provided); 28” exit door width required (156” provided); door and corridor widths are sufficient for occupants served.
<table>
<thead>
<tr>
<th>Item ID</th>
<th>REQUIREMENT NUMBER</th>
<th>INSPECTION DATE</th>
<th>IDENTIFIED ISSUE</th>
<th>LEGACY VALUE</th>
<th>PERCENT COMPLETE</th>
<th>POOR</th>
<th>FAIR</th>
<th>CODE</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>303776</td>
<td>REQ-50956</td>
<td>11/18/2002</td>
<td>ADA: Lacking Detectable Warning Strips</td>
<td>3,500</td>
<td>0.0</td>
<td>3,500</td>
<td></td>
<td></td>
<td>3,500</td>
</tr>
<tr>
<td>303837</td>
<td>REQ-51106</td>
<td>11/18/2002</td>
<td>Handrails: Non-ADA Compliant</td>
<td>2,600</td>
<td>0.0</td>
<td>2,600</td>
<td></td>
<td></td>
<td>2,600</td>
</tr>
<tr>
<td>303836</td>
<td>REQ-51246</td>
<td>11/18/2002</td>
<td>ADA Access: Install Handicap Accessible Ramp</td>
<td>23,800</td>
<td>0.0</td>
<td>23,800</td>
<td></td>
<td></td>
<td>23,800</td>
</tr>
<tr>
<td>303771</td>
<td>REQ-51318</td>
<td>11/18/2002</td>
<td>Doors: Install Safety Glazing</td>
<td>400</td>
<td>0.0</td>
<td>400</td>
<td></td>
<td></td>
<td>400</td>
</tr>
<tr>
<td>303838</td>
<td>REQ-49631</td>
<td>11/18/2002</td>
<td>Lightning Protection: Aged</td>
<td>12,300</td>
<td>0.0</td>
<td>12,300</td>
<td></td>
<td></td>
<td>12,300</td>
</tr>
<tr>
<td>303772</td>
<td>REQ-51105</td>
<td>11/18/2002</td>
<td>Exterior Wall: Re-point Brick</td>
<td>17,500</td>
<td>0.0</td>
<td>17,500</td>
<td></td>
<td></td>
<td>17,500</td>
</tr>
<tr>
<td>303773</td>
<td>REQ-51247</td>
<td>11/18/2002</td>
<td>Roof: Repair Clay Tile</td>
<td>14,500</td>
<td>0.0</td>
<td>14,500</td>
<td></td>
<td></td>
<td>14,500</td>
</tr>
<tr>
<td>303774</td>
<td>REQ-56523</td>
<td>7/29/2005</td>
<td>Fire Barrier: Unprotected Penetrations</td>
<td>13,300</td>
<td>0.0</td>
<td>13,300</td>
<td></td>
<td></td>
<td>13,300</td>
</tr>
<tr>
<td>303775</td>
<td>REQ-56606</td>
<td>7/29/2005</td>
<td>Means of Egress Components: Door Swing</td>
<td>600</td>
<td>0.0</td>
<td>600</td>
<td></td>
<td></td>
<td>600</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>GENERAL LEGACY ITEMS TOTALS</strong></td>
<td><strong>88,600</strong></td>
<td>0.0</td>
<td><strong>58,200</strong></td>
<td></td>
<td></td>
<td><strong>30,400</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>TOTALS</strong></td>
<td><strong>88,600</strong></td>
<td>0.0</td>
<td><strong>58,200</strong></td>
<td></td>
<td></td>
<td><strong>30,400</strong></td>
</tr>
</tbody>
</table>

% OF LEGACY VALUE
- Poor = VFA Priorities 1, 2, and 3
- Fair = VFA Priority 4
- Code = VFA Priority 5
<table>
<thead>
<tr>
<th>L E G A C Y  A S S E S S M E N T  D A T A :   R E Q - 5 0 9 5 6</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Date Inspected</strong></td>
</tr>
<tr>
<td><strong>Description</strong></td>
</tr>
<tr>
<td><strong>Requirement Category</strong></td>
</tr>
<tr>
<td><strong>Requirement Name</strong></td>
</tr>
<tr>
<td><strong>Condition</strong></td>
</tr>
<tr>
<td><strong>Percent Complete</strong></td>
</tr>
<tr>
<td><strong>Recommendation</strong></td>
</tr>
<tr>
<td><strong>Estimated Cost</strong></td>
</tr>
<tr>
<td><strong>Estimated Remaining Cost</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>L E G A C Y  A S S E S S M E N T  D A T A :   R E Q - 5 1 1 0 6</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Date Inspected</strong></td>
</tr>
<tr>
<td><strong>Description</strong></td>
</tr>
<tr>
<td><strong>Requirement Category</strong></td>
</tr>
<tr>
<td><strong>Requirement Name</strong></td>
</tr>
<tr>
<td><strong>Condition</strong></td>
</tr>
<tr>
<td><strong>Percent Complete</strong></td>
</tr>
<tr>
<td><strong>Recommendation</strong></td>
</tr>
<tr>
<td><strong>Estimated Cost</strong></td>
</tr>
<tr>
<td><strong>Estimated Remaining Cost</strong></td>
</tr>
<tr>
<td>Legacy Assessment Data: Req - 51246</td>
</tr>
<tr>
<td>-------------------------------------</td>
</tr>
<tr>
<td><strong>Date Inspected</strong>: 11/18/2002</td>
</tr>
<tr>
<td><strong>Description</strong>: The ramp from the Kiln House to the Ceramics building is too steep. The pitch is 1.55. ADAAG allows a maximum of .083.</td>
</tr>
<tr>
<td><strong>Requirement Category</strong>: Accessibility</td>
</tr>
<tr>
<td><strong>Requirement Name</strong>: ADA Access: Install Handicap Accessible Ramp (Legacy)</td>
</tr>
<tr>
<td><strong>Condition</strong>: Critical</td>
</tr>
<tr>
<td><strong>Percent Complete</strong>: 0.0</td>
</tr>
<tr>
<td><strong>Recommendation</strong>: Remove the existing ramp and replace with compliant ramp per ADAAG 4.8.2. Cost includes excavation, concrete footings, concrete ramp, railings etc. A difficulty factor of 20% has been applied to represent typical costs associated with working in older buildings or confined areas, such as higher staging costs, additional demolition, addition physical and equipment resources and may not account for project specific items such as timing requirements, hidden conditions, and the organizing of multiple deficiencies corrections where issues other than costs are the prime considerations.</td>
</tr>
<tr>
<td><strong>Estimated Cost</strong>: 23,818.00</td>
</tr>
<tr>
<td><strong>Estimated Remaining Cost</strong>: 23,818.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Legacy Assessment Data: Req - 51318</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Date Inspected</strong>: 11/18/2002</td>
</tr>
<tr>
<td><strong>Description</strong>: Regardless of the occupancy, glass doors must conform to the BOCA 2406.1.1 which requires glass doors to have a manufacturers designation of safety glass. None of the exterior doors had this designation. Glazing in ingress and means of egress doors shall comply with and pass the requirements of CPSC 16 CFR; 1201, Safety Standard for Architectural Glazing. The fire doors at the 1st floor corridor have view panels that are too large.</td>
</tr>
<tr>
<td><strong>Requirement Category</strong>: Building Code</td>
</tr>
<tr>
<td><strong>Requirement Name</strong>: Doors: Install Safety Glazing (Legacy)</td>
</tr>
<tr>
<td><strong>Condition</strong>: Critical</td>
</tr>
<tr>
<td><strong>Percent Complete</strong>: 0.0</td>
</tr>
<tr>
<td><strong>Recommendation</strong>: Install safety glazing as required in the view panels. A difficulty factor of 20% has been applied to represent typical costs associated with working in older buildings or confined areas, such as higher staging costs, additional demolition, addition physical and equipment resources and may not account for project specific items such as timing requirements, hidden conditions, and the organizing of multiple deficiencies corrections where issues other than costs are the prime considerations.</td>
</tr>
<tr>
<td><strong>Estimated Cost</strong>: 424.00</td>
</tr>
<tr>
<td><strong>Estimated Remaining Cost</strong>: 424.00</td>
</tr>
<tr>
<td>Legacy Assessment Data: REQ-49631</td>
</tr>
<tr>
<td>----------------------------------</td>
</tr>
<tr>
<td>Date Inspected: 11/18/2002</td>
</tr>
<tr>
<td>Description:</td>
</tr>
<tr>
<td>The lighting protection system is beyond its life expectancy showing evident signs of corrosion. Bonding connections are missing or loose. Down conductors are not protected for a minimum distance of 6 ft (1.8 m) above grade level as required by NFPA Section 3-9.11.</td>
</tr>
<tr>
<td>Requirement Category: Functionality</td>
</tr>
<tr>
<td>Requirement Name: Lightning Protection: Aged (Legacy)</td>
</tr>
<tr>
<td>Condition: Poor</td>
</tr>
<tr>
<td>Percent Complete: 0.0</td>
</tr>
<tr>
<td>Recommendation: Replace lightning protection system under the NFPA 780 requirements. Estimated quantities are for budgetary purposes only. A difficulty factor of 20% has been applied to represent typical costs associated with working in older buildings or confined areas, such as higher staging costs, additional demolition, addition physical and equipment resources and may not account for project specific items such as timing requirements, hidden conditions, and the organizing of multiple deficiencies corrections where issues other than costs are the prime considerations.</td>
</tr>
<tr>
<td>Estimated Cost: 12,265.00 Estimated Remaining Cost: 12,265.00</td>
</tr>
<tr>
<td>Action Date: 11/18/2007</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Legacy Assessment Data: REQ-51105</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date Inspected: 11/18/2002</td>
</tr>
<tr>
<td>Description:</td>
</tr>
<tr>
<td>The mortar joints in the exterior masonry walls have aged to a point where they appear porous and ineffective in repelling moisture. These areas include; the south side towards the creek and the corner near Nuclear Eng. Bldg 117 and various other locations.</td>
</tr>
<tr>
<td>Requirement Category: Integrity</td>
</tr>
<tr>
<td>Requirement Name: Exterior Wall: Re-point Brick (Legacy)</td>
</tr>
<tr>
<td>Condition: Poor</td>
</tr>
<tr>
<td>Percent Complete: 0.0</td>
</tr>
<tr>
<td>Recommendation: Provide pointing and repointing at indicated locations. A difficulty factor of 20% has been applied to represent typical costs associated with working in older buildings or confined areas, such as higher staging costs, additional demolition, addition physical and equipment resources and may not account for project specific items such as timing requirements, hidden conditions, and the organizing of multiple deficiencies corrections where issues other than costs are the prime considerations.</td>
</tr>
<tr>
<td>Estimated Cost: 17,491.00 Estimated Remaining Cost: 17,491.00</td>
</tr>
<tr>
<td>Action Date: 11/18/2003</td>
</tr>
</tbody>
</table>
### Legacy Assessment Data: REQ-51247

<table>
<thead>
<tr>
<th>Date Inspected</th>
<th>11/18/2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>The clay tile roofs are in generally good condition. However, some of the tiles are in need of repair or replacement.</td>
</tr>
<tr>
<td>Requirement Category</td>
<td>Integrity</td>
</tr>
<tr>
<td>Requirement Name</td>
<td>Roof: Repair Clay Tile (Legacy)</td>
</tr>
<tr>
<td>Condition</td>
<td>Poor</td>
</tr>
<tr>
<td>Percent Complete</td>
<td>0.0</td>
</tr>
<tr>
<td>Recommendation</td>
<td>Repair or replace broken and cracked clay tiles. A difficulty factor of 20% has been applied to represent typical costs associated with working in older buildings or confined areas, such as higher staging costs, additional demolition, addition physical and equipment resources and may not account for project specific items such as timing requirements, hidden conditions, and the organizing of multiple deficiencies corrections where issues other than costs are the prime considerations.</td>
</tr>
<tr>
<td>Estimated Cost</td>
<td>14,527.00</td>
</tr>
<tr>
<td>Estimated Remaining Cost</td>
<td>14,527.00</td>
</tr>
<tr>
<td>Action Date</td>
<td>11/18/2007</td>
</tr>
</tbody>
</table>

### Legacy Assessment Data: REQ-56523

<table>
<thead>
<tr>
<th>Date Inspected</th>
<th>7/29/2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>There exists ductwork, conduit, pipes, and similar building service equipment, without fire protection, penetrating a fire barrier. This occurs in the following areas: Second Floor - Room 202, 207, and 206; First Floor - Room 102 and 121. This is not compliant with NFPA 101 Section 8.2.3.2.4.2</td>
</tr>
<tr>
<td>Requirement Category</td>
<td>Life Safety</td>
</tr>
<tr>
<td>Requirement Name</td>
<td>Fire Barrier: Unprotected Penetrations (Legacy)</td>
</tr>
<tr>
<td>Condition</td>
<td>Poor</td>
</tr>
<tr>
<td>Percent Complete</td>
<td>0.0</td>
</tr>
<tr>
<td>Recommendation</td>
<td>Seal openings with approved through-penetration firestopping system. Adjustment factor of 2.0 used to account for additional costs typically associated with retrofit work, working with existing construction, limited-access conditions, and/or smaller size jobs (less than $5,000).</td>
</tr>
<tr>
<td>Estimated Cost</td>
<td>13,312.00</td>
</tr>
<tr>
<td>Estimated Remaining Cost</td>
<td>13,312.00</td>
</tr>
<tr>
<td>Action Date</td>
<td>7/29/2006</td>
</tr>
<tr>
<td><strong>Date Inspected</strong></td>
<td>7/29/2005</td>
</tr>
<tr>
<td>-------------------</td>
<td>------------</td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td>There exists two horizontal exit doors, located in the second floor Corridor 210, that do not swing in the direction of egress travel. This is not compliant with NFPA 101 Section 7.2.1.4.2 nor the exceptions of 7.2.4.3.6.</td>
</tr>
<tr>
<td><strong>Requirement Category</strong></td>
<td>Life Safety</td>
</tr>
<tr>
<td><strong>Requirement Name</strong></td>
<td>Means of Egress Components: Door Swing (Legacy)</td>
</tr>
<tr>
<td><strong>Condition</strong></td>
<td>Poor</td>
</tr>
<tr>
<td><strong>Percent Complete</strong></td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Recommendation</strong></td>
<td>Reinstall the two horizontal exit doors to swing in the direction of egress travel.</td>
</tr>
<tr>
<td><strong>Estimated Cost</strong></td>
<td>587.00</td>
</tr>
<tr>
<td><strong>Estimated Remaining Cost</strong></td>
<td>587.00</td>
</tr>
<tr>
<td><strong>Action Date</strong></td>
<td>7/29/2006</td>
</tr>
</tbody>
</table>