

# Northern Arizona University – Education & Support Facilities

## Facility Condition Assessment

### FACILITY SUMMARIES

The following is a summary of the facilities included in this assessment that provides a contextual reference and basis for the findings of the report.

#### 7C - Butler Office Building

Butler Office Building is located at 321 S Beaver St, Flagstaff, AZ 86001. The building was constructed in 1968, with a total floor area of 9,195 SF.

Butler Office Building was recently acquired by NAU and is currently unoccupied. The building previously served as a branch bank. There have been no recent renovations under NAU ownership. Heating and cooling are provided through standalone unitary heating and cooling units.



#### 8 - Bury

Bury is located at 610 Knoles Dr, Flagstaff, AZ 86011. The building was originally constructed in 1908, with a floor area of 17,470 SF.

Bury received its most recent renovations between 2013-2015, with the installation of the DDC automation/monitoring controls and the updating of the fire alarm system. Bury serves primarily as office space and is heated using steam provided by the North Heating and Cooling Plant.



#### 12 - Geology

Geology is located at 625 Knoles Dr, Flagstaff, AZ 86001. The building was constructed in 1948, with a total floor area of 22,559 SF.

The Geology building has undergone multiple minor renovations over the last 10 years, including installing DDC controls and meters (Noresco), updating the interior finishes, and HVAC/plumbing equipment replacements. The Geology building is used primarily for classroom and office space and is provided steam from the North Heating and Cooling Plant.



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### 3. Update the Interior Flooring

The interior flooring has not been updated since NAU acquired the building. Carpeting and ceramic tiles should be updated over the next 2-7 years.

The following assets are included within this measure:

- Flooring - Carpeting (FCAID-7C0023)
- Flooring - Ceramic Tile (FCAID-7C0024)

**Estimated Remaining Life:** 2-7 years  
**Estimated Replacement Cost:** \$200,080



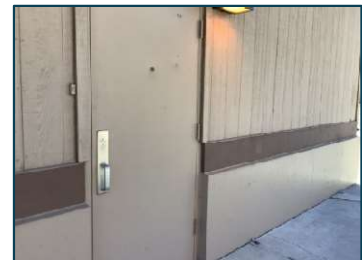
### 4. Update the Exterior Enclosure and Roofing

Based on the on-site visual inspection, the exterior siding, windows, and roofing appear to be in generally poor condition and outdated. Replacing these assets will be important to maintaining the integrity of the structure and ensuring water tightness.

The following assets are included within this measure:

- Roofing - Asphalt (FCAID-7C0022)
- Exterior Walls - Siding Veneer (FCAID-7C0015)
- Exterior Windows - Wood Framed (FCAID-7C0018)

**Estimated Remaining Life:** 5 years  
**Estimated Replacement Cost:** \$386,430



## 8 - Bury

### 1. Replaced Outdated HVAC Equipment

Much of the building's HVAC equipment is outdated, due to the age of the building. Replacing these assets will be critical to preventing any disruptions to operations caused by mechanical failures. Note, the heating water system was recently abandoned in favor of steam. However, replacement of the outdated steam equipment (including radiators) with heating water systems is recommended.

The following assets are included within this measure:

- Heating Water Pump (left) (FCAID-80028)
- Heating Water Pump (right) (FCAID-80029)
- Radiators (FCAID-80031)
- Heating Water Heat Exchanger (left) (FCAID-80025)
- Heating Water Heat Exchanger (right) (FCAID-80026)
- Window Mounted ACs (FCAID-80032)
- Steam Piping (FCAID-80033)
- Condensate Tanks (FCAID-80023)



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- DHW Heat Exchanger (FCAID-80024)
- Steam PRV (FCAID-80030)
- Condensate Receiver (FCAID-80022)

**Estimated Remaining Life:** 1-3 years  
**Estimated Replacement Cost:** \$413,660



### 2. Update the Exterior Enclosure

The exterior doors are outdated, and in poor condition. Replacement should be prioritized to maintain building security. Additionally, the exterior masonry walls are in somewhat poor condition due to erosion and grout deterioration. Refurbishment of the masonry walls is recommended within 5 years. Note, the price included for the masonry walls is for a full replacement and represents a maximum upper bound cost.

The following assets are included within this measure:

- Exterior Walls - Stone (FCAID-80001)
- Exterior Doors - Metal (FCAID-80002)
- Exterior Door - Wood (FCAID-80004)

**Estimated Remaining Life:** 1-5 years  
**Estimated Replacement Cost:** \$276,560



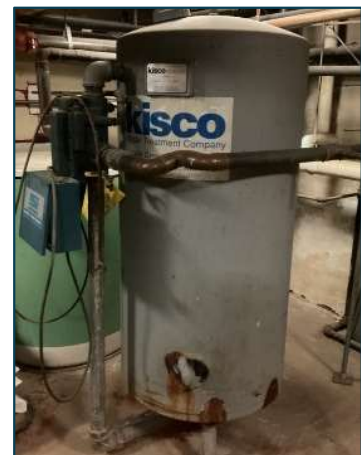
### 3. Replace the Water Softener

The water softener currently appears out of service, and in poor condition. Severe corrosion was noted on the bottom of the softener tank. Replacement of this asset is recommended as soon as feasible.

The following asset is included in this measure:

- Water Softener (FCAID-80017)

**Estimated Remaining Life:** 1 year  
**Estimated Replacement Cost:** \$8,050



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### 4. Update Interior Finishes

The interior finishes (including carpeting, VCT flooring, stairwells, and drywall walls) are generally in somewhat poor condition due to age and are recommended for replacement. A portion of the drywall walls adjacent to the exterior perimeter were noted to have water damage, especially on the southwest corner of the building. On average, these assets were originally installed between 15-30 years ago.

The following assets are included within this measure:

- Interior Walls - Drywall (FCAID-80008)
- Flooring - Carpet (FCAID-80014)
- Stairwell - East (FCAID-80012)
- Stairwell - Center (FCAID-80013)
- Flooring - VCT (FCAID-80015)

**Estimated Remaining Life:** 2-5 years  
**Estimated Replacement Cost:** \$542,490



### 5. Update the Fire Suppression System

The fire suppression/sprinkler system appears to have been originally installed in 1982 and is now outdated. Updates and refurbishment should be prioritized for this system within 5 years, to ensure full system functionality when needed.

The following asset is included within this measure:

- Fire Suppression System (FCAID-80034)

**Estimated Remaining Life:** 5 years  
**Estimated Replacement Cost:** \$320,440



## 12 - Geology

### 1. Renovate the HVAC System

The heating, ventilation, and air conditioning (HVAC) systems generally date from 1985 and are in poor condition. This includes the heating water generation system and air distribution system. A full system replacement (versus individual equipment replacements) is likely warranted within 5 years. Of note, the majority of the automation controls were converted to either full DDC or electronic pneumatic controls in 2013. Ideally, many of these controls can be repurposed as equipment is replaced.

The following assets are included within this measure:

- AH-1 (FCAID-120001)
- AH-2 (FCAID-120002)





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### 8 - BURY



#### 8 – BURY

|                         |          |
|-------------------------|----------|
| BUILDING TYPE:          | Office   |
| YEARS BUILT:            | 1908     |
| GROSS SQUARE FOOTAGE:   | 17,470   |
| DATE ASSESSED:          | 4/1/2022 |
| OVERALL PRIORITY SCORE: | 14.1     |

| SUBSYSTEM                   | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                   | PRIORITY SCORE |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| A10 - Foundations           | The foundation is assumed to be original to 1908 construction, and will likely need further inspection and refurbishment as soon as feasible due to its age.                                                                                                                                                                                                                                  | 18.0           |
| B20 - Exterior Enclosure    | The exterior enclosure consists of stone masonry walls, which are in average to somewhat poor condition. Some minor grout deterioration and stone erosion was noted. The exterior metal and wood doors are in poor condition, replacement needed as soon as feasible. The exterior vinyl windows appear to have been replaced circa 2000, and will likely require replacement within 8 years. | 13.0           |
| B30 - Roofing               | The roofing appears in average condition, the year of last replacement is not known. Approximate remaining life is 6-10 years.                                                                                                                                                                                                                                                                | 13.0           |
| C10 - Interior Construction | The interior drywall walls appear original. Portions of water damage to drywall were noted near the exterior wall interface, especially for below grade walls. Interior wood and metal doors appear in fair condition.                                                                                                                                                                        | 13.8           |
| C20 - Stairs                | Interior stairwells appear to be in somewhat poor condition. The traction surfaces covering the stairs will likely need replacement within 4 years.                                                                                                                                                                                                                                           | 14.0           |
| C30 - Interior Finishes     | The interior flooring is outdated, high traffic portions of carpeting and VCT flooring have a remaining life of 3-5 years.                                                                                                                                                                                                                                                                    | 13.6           |
| D20 - Plumbing              | The domestic water softener has failed, and needs replacement as soon as possible. Water supply and wastewater piping are likely outdated and may require further investigation and potential refurbishment within 7 years.                                                                                                                                                                   | 11.9           |
| D30 - HVAC                  | The heating water generation system was abandoned, and converted to a steam system for the radiators. Generally, the HVAC equipment have either been abandoned or are in poor condition. Replacement of the buildings heating system and equipment is recommended within 3 years.                                                                                                             | 13.1           |
| D40 - Fire Protection       | The fire suppression system appears to have been last updated in 1982, and is now due for updates and equipment replacements.                                                                                                                                                                                                                                                                 | 17.0           |
| D50 - Electrical            | The majority of the electrical distribution equipment was replaced circa 2001. Interior and exterior lighting appear dated, and include both fluorescent and incandescent lamps. Replacing these fixtures with LED is recommended to reduce energy costs. The fire alarm system was last updated circa 2015.                                                                                  | 15.0           |

System priority scored from 5 (low priority) to 25 (high priority) based on condition, occupant impact, energy impact, estimated replacement cost, and observed remaining life. [ $\leq 10$  = green, 10.1-15.9 = yellow,  $\geq 16$  = red]