



# POUDRE SCHOOL DISTRICT CENTENNIAL HIGH SCHOOL

## FACILITY CONDITION ASSESSMENT

FORT COLLINS, CO

OCTOBER 2023



**Together, Building a Thriving Planet**

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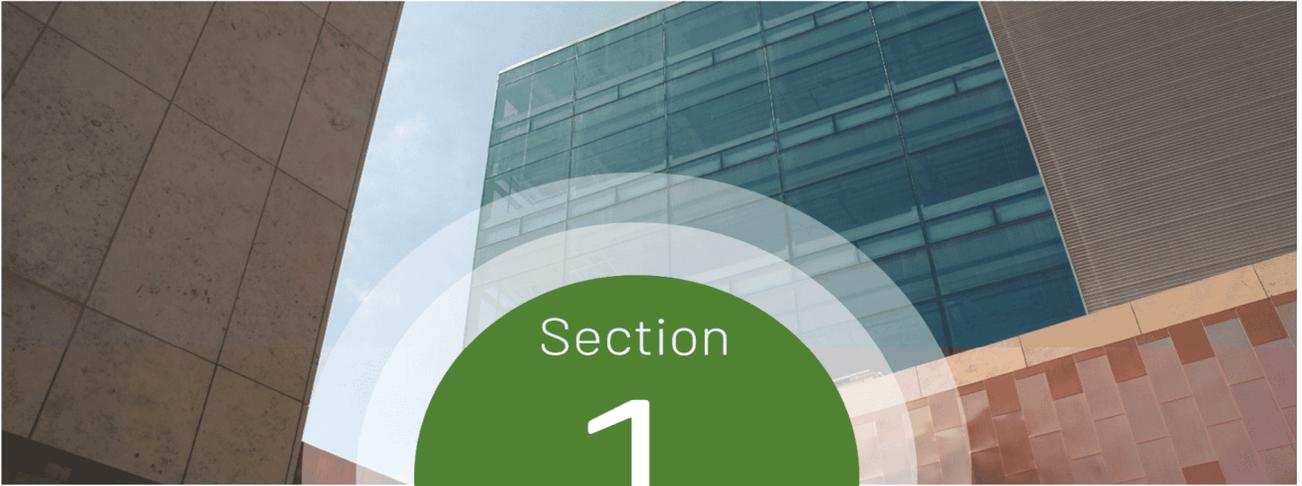
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Section

1

# Executive Summary

# Executive Summary

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## Project Goals

The contents of this report present the results of the Facility Condition Assessment (FCA) performed at Centennial HS within the Poudre School District (PSD) on July 6, 2023. PSD intends to utilize the findings of this report to inform both capital and operating budgets, prioritize maintenance efforts, and optimize planning processes as replacements and upgrades of assets and facility systems become necessary in the future.

## Facility List

The scope of the FCA project included the assessment of the following campus.

FACILITY NAME	AREA (SF)	YEAR(S) BUILT
CENTENNIAL HS	39,967	1955
<b>TOTAL</b>	<b>39,967</b>	

## Facility Summary

### Centennial HS

Centennial HS is located at 330 E. Laurel St., Fort Collins, CO 80524. This 39,967 SF facility consists of three levels and was initially constructed in 1955. The equity index for this school is 1.75.



*Centennial HS*

# Executive Summary

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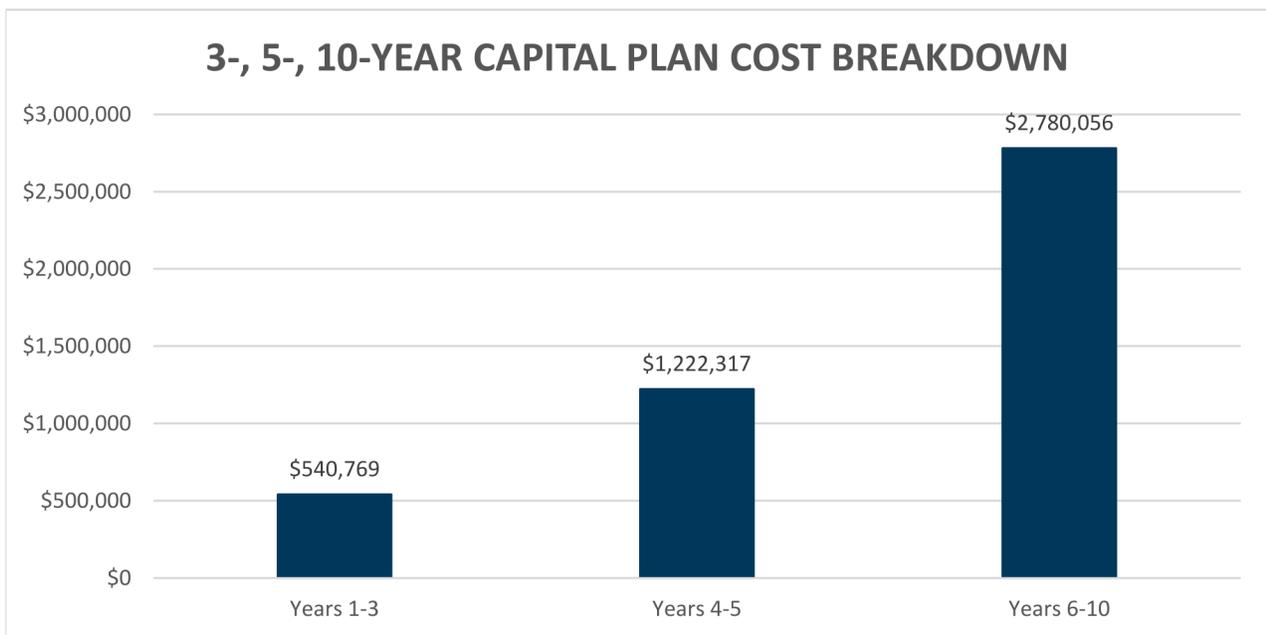
## Assessment Summary

This section summarizes the building systems at the facility and describes the general condition observed based on the assessment performed on July 6, 2023. Additional details, findings and recommendations are presented in Section 3 of this report.

## Capital Plan Summary

The estimated replacement costs for equipment expected to fail within the next ten years are shown below, divided into three separate plans. These plans are the 3-Year Plan, 5-Year Plan, and the 10-Year Plan. Each plan includes the cost for replacement of equipment expected to fail during these periods, based on the observed condition of the equipment at the time of the assessment.

Replacement costs include 3% inflation year over year.



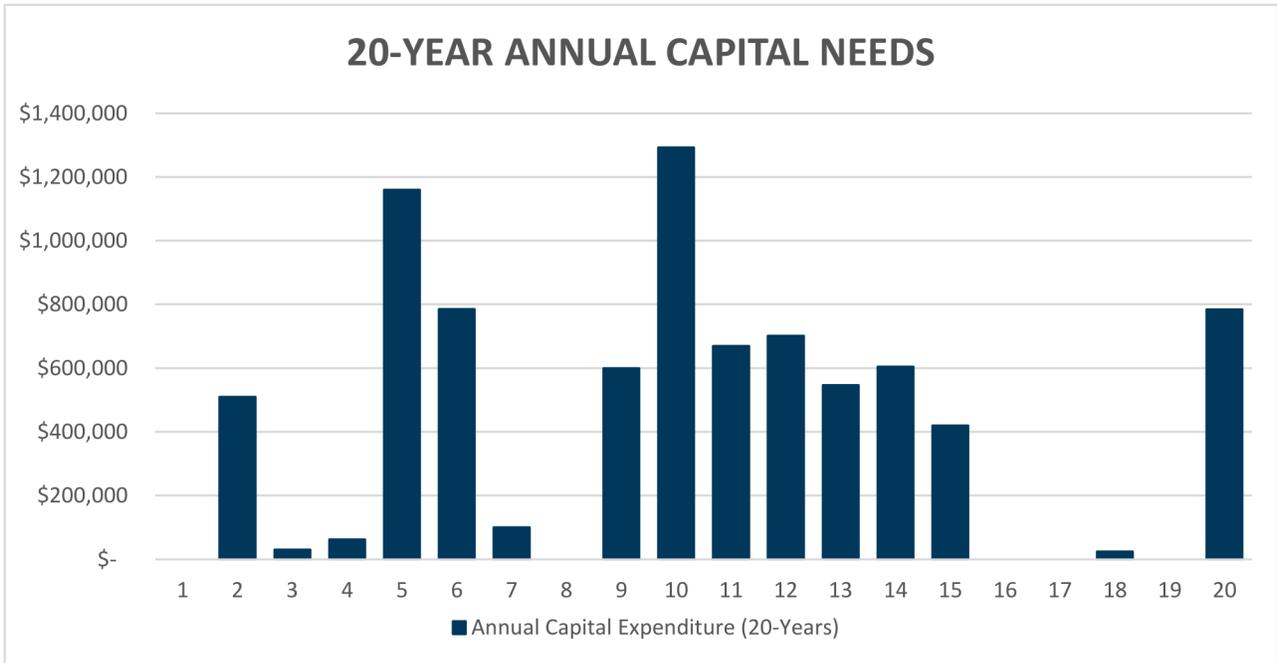
**3-, 5-, 10-Year Capital Plan Cost Breakdown**

# Executive Summary

## Annual Capital Expenditure (20 Years)

20-Year Annual Capital Needs and 20-Year Annual Capital Expenditure by Subsystem below indicate the estimated replacement costs for equipment expected to fail within the next twenty years, and are displayed both by year and by subsystem.

Replacement costs include 3% inflation year over year.



**Annual Capital Expenditure by Year**

Replacement costs associated with the Annual Capital Expenditure graph and table include values that are adjusted for inflation.

**20-Year Annual Capital Expenditure by Subsystem**

Subsystem	Years 1-5	Years 6-10	Years 11-15	Years 15-20
B20 - Enclosure	\$0	\$832,080	\$647,391	\$0
B30 - Roofing	\$30,535	\$331,479	\$0	\$0
C10 - Int. Construction	\$0	\$357,534	\$0	\$0
C20 - Stairs	\$0	\$37,669	\$0	\$0
C30 - Interior Finishes	\$592,208	\$104,656	\$474,695	\$76,681
D10 - Conveying	\$0	\$0	\$182,479	\$0
D20 - Plumbing	\$43,453	\$0	\$80,723	\$0
D30 - HVAC	\$940,052	\$402,800	\$237,870	\$707,592
D40 - Fire Suppression	\$0	\$0	\$0	\$0
D50 - Electrical	\$156,838	\$713,838	\$1,317,800	\$25,057
E10 - Equipment	\$0	\$0	\$0	\$0
<b>Total:</b>	<b>\$1,140,342</b>	<b>\$1,116,638</b>	<b>\$1,818,872</b>	<b>\$732,649</b>

Section

2

# Approach and Methodology

# Scope and Approach

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## Scope and Approach

### SCOPE OF WORK

The scope of this facility condition assessment includes all major mechanical, electrical, and plumbing equipment, and commercial refrigeration equipment. In addition, the building enclosure, roofing, interior construction and finishes, and fire suppression systems are included within the assessment. Turf, site assets, kitchen assets besides walk-in freezers, exhaust fans and kitchen make up air units are not included in scope.

The following table lists the general asset types included within the scope of this assessment. Also shown is the corresponding Uniformat code, which has been used to catalog equipment based on type and intended use.

*UniFormat Classification of Building Systems*

UNIFORMAT CODE	CATEGORY DESCRIPTION
B20	Exterior Enclosure (i.e. windows, walls, doors)
B30	Roofing (i.e. roofing covering, skylights, etc.)
C10	Interior Construction (i.e. doors, walls)
C20	Interior Stairs (i.e. stair construction)
C30	Interior Finishes (i.e. flooring, ceiling finishes, etc.)
D10	Conveying (i.e., elevators)
D20	Plumbing (i.e., water heating, pumps, compressors)
D30	Heating, Ventilation, and Air Conditioning
D40	Fire Suppression Systems
D50	Electrical (panelboards, transformers, switchgear)
E10	Equipment, Kitchen Hoods, Walk-in Units, etc.

# Scope and Approach

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## RATINGS, METHODS AND SCORING

To allow Poudre School District more flexibility in prioritizing capital planning efforts, McKinstry has developed the following metrics which assign various scores to each asset.

### Asset Condition

Condition ratings are presented for each asset as a score of 1 – 5. Scores are based upon a visual inspection during the building evaluation period. A score of 1 signifies that the asset is in great, “like new” condition. A score of 2 indicates that the asset is in good condition. A score of 3 signifies that the asset is in expected “average” condition based on function and the age of the asset. A score of 4 signifies that the asset is in poor condition, in need of repair, and will require replacement in the near future. A score of 5 signifies that the asset is in very poor or failed condition and in need of imminent replacement.

SCORE	CONDITION ASSESSMENT
1	Asset is in great condition, no action required.
2	Asset is in good condition, regular maintenance expected.
3	Asset is in expected condition, regular replacement/maintenance expected.
4	Asset is in poor condition, maintenance/replacement recommended soon.
5	Asset is in very poor condition, urgent replacement needed.

### Student/Teacher Impact

Student/Teacher Impact scores are presented for each asset on a scale of 1 – 5 (low to high impact). This metric considers educational (student and/or teacher) impact caused if the equipment were to fail. Assets serving classrooms and other educational spaces are assigned scores of 2-5 depending on the impact the failure of an asset would have and if backups are available. A student/teacher impact score of 1 indicates that there is little to no impact to educational activities.

SCORE	STUDENT/TEACHER IMPACT
1	Failure poses no significant educational impact.
2	Failure poses low educational impact.
3	Failure poses moderate impact. Asset serves teaching area, but has backup.
4	Failure poses high educational impact.
5	Failure poses severe impact. Asset serves teaching area and has no backup.

### Energy Cost Impact

The Energy Impact score is presented for each asset on a scale of 1-5 (low to high impact). Each of the asset types within the scope of this assessment were evaluated based on their impact to energy cost and consumption (including electrical, natural gas, and liquid fuels). Assets with a higher Energy Cost Impact score indicate that the asset has a large contribution to the overall energy costs of the facility. A sample of Energy impact scores is shown below:

# Scope and Approach

ASSET TYPE	ASSET SIZE	ENERGY COST IMPACT (1-5)
Air Handling Unit	less than 10,000 CFM	3
	between 10,000 CFM – 50,000 CFM	4
	greater than 50,000 CFM	5
Chiller	less than 200 tons	3
	between 200 – 500 tons	4
	greater than 500 tons	5
Computer Room AC Condensing Unit Heat Pump	less than 10 tons	2
	greater than 10 tons	3
Cooling Tower	less than 200 tons of rejection	2
	greater than 200 tons of rejection	3
Dust Collector	less than 5 HP	2
	between 5 HP and 25 HP	3
	greater than 25 HP	4
Exhaust Fan	less than 5000 CFM	2
	greater than 5000 CFM	3
Fan Coil Unit	greater than 3000 CFM	2
Fuel Fired Boiler	less than 200 MBH	2
	between 200 – 1000 MBH	3
	between 1000 – 2000 MBH	4
	greater than 2000 MBH	5
Furnace	less than 100 MBH	2
	between 100 and 500 MBH	3
	greater than 500 MBH	4
Generator	less than 500 KW	2
	greater than 500 KW	3
Lighting, Exterior	LED	2
	Fluorescent	3
	HID/Incandescent	4
Lighting, Interior	LED	2
	Fluorescent	4
	HID/Incandescent	5
Make-Up Air Unit	less than 5,000 CFM	3
	between 5,000 and 25,000 CFM	4
	greater than 25,000 CFM	5
Pumps	less than 25 HP	2
	between 25 -150 HP*	3
	greater than 150 HP*	4
Return Fan Supply Fan	less than 20 HP	2
	greater than 20 HP*	3

# Scope and Approach

ASSET TYPE	ASSET SIZE	ENERGY COST IMPACT (1-5)		
Rooftop Unit	less than 5 ton	2		
	between 5 and 20 tons	3		
	between 20 and 50 tons	4		
	greater than 50 tons	5		
Transformer	greater than 200 kVA	2		
VFD	greater than 50 HP	2		
Air Compressor	All sizes	2		
Air Curtain				
Air Dryer				
Cabinet Unit Heater				
Dehumidifier				
Electric Duct Heater				
Humidifier				
Unit Heater				
Unit Ventilator				
Walk-In Condenser				
Walk-In Unit				
All Other			All sizes	1

\*Add 1 for direct drive motors

## Operational Impact

Operational Impact scores are presented for each asset on a scale of 1 – 5 (low to high impact). This metric considers the operational impact caused if the equipment were to fail. Assets serving critical administrative and district operational spaces are assigned scores of 2-5 depending on the impact the failure of an asset would have and if backups are available. An operational impact score of 1 indicates that there is little to no impact to administrative or operational activities.

SCORE	OPERATIONAL COST IMPACT SCORE
1	Asset has little to no operational impact.
2	Asset has a low level of operational impact.
3	Asset has a moderate operational impact.
4	Asset has a high level of operational impact.
5	Asset has severe operational impact.

## Industry Life Expectancy

The designed life expectancy for a given asset is determined using a combination of widely accepted industry standards including ASHRAE and BOMA, as well as a manufacturers' database of equipment life expectancies. This value is expressed in number of years.

# Scope and Approach

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## Observed Remaining Life

The Observed Remaining Life is also expressed in number of years and takes into consideration the function and operating environment of the asset, as well as a determination based upon a visual inspection of the asset. The Observed Remaining Life value may vary from the Design Life value. For example, a secondary heat exchanger that has been well maintained may have an Observed Remaining Life that is greater than the expected Design Life. Likewise, a primary chilled water pump that has not been well maintained, and shows visual signs of premature wear and tear, may have an Observed Remaining Life that is less than the expected Design Life.

## Cost Estimating

Based on the constraints of the scope outlined in the contract we have based our asset pricing upon industry standards, RSMeans, and pricing data sourced through McKinstry's construction division. This information is intended to assist in the prioritization and resource allocation associated with maintenance and capital replacement projects. Cost estimates are determined using specific characteristics of each asset (tonnage, motor size, capacity, etc.) along with one of several cost information data sets. Standard equipment warranties are included.

To clarify, all Estimated Replacement Costs include averages of the material cost of the asset, the demolition and installation of that asset type and are expressed in 2023 dollars. Additionally, site specific construction and equipment invoices have been utilized as available.

Costs associated with project design, contractor competence, commissioning, test and balance services and are excluded from the estimate and are the responsibility of the Client. McKinstry assumed a 3% inflation, applied year over year. All work is during normal business hours. For mechanical equipment any duct work, piping, existing appurtenances are to be reused; costs to repair or replace any lines going to or coming from the units is excluded. Existing isolation valves to be used; repair or replacement of isolation valves is excluded.

Costs typically associated with project-specific parameters are excluded and should be added at the discretion of the Client. Such exclusions include risks or contingencies such as asbestos abatement, other hazardous waste abatement, scope changes, design changes, taxes, special wage requirements such as Prevailing Wage rates, warranty management and unknown site conditions. Overtime and after-hours work is excluded. Any necessary structural or electrical upgrades to replace equipment is excluded. Incidental code violations resulting from project scope or execution are excluded. Correction of any existing code violations are excluded. Temporary heating, cooling, ventilation, and power during construction and the warranty period are excluded. Moving of heavy equipment or furniture to complete the work is excluded. Running and terminating new IP drops for equipment is excluded. Any changes to fire and life safety systems for mechanical equipment upgrades is excluded.

## Data-Driven Maintenance Approach

Included with the submission of this report is the FCA Data Collection Workbook, which includes all data collected for each asset. The Workbook can be used to quickly sort through equipment and prioritize maintenance and replacement efforts. Additional observations and equipment details are provided within the workbook for each asset.

# Scope and Approach

Each asset is classified according to building system, size, capacity, and other standards, as well as ratings of current condition and impact of failure. Such organization and classification facilitate searching and sorting the data for maintenance and replacement priorities. As mentioned, the impact ratings help to compare one asset to another. Based on observed condition and impact scores, the future maintenance priorities for each building are described further in later sections.

As each of the components identified in the workbook is repaired or replaced, the information can be revised to reflect the new conditions. Remaining useful life values can also be manually iterated one year from the assessment date to reflect fewer remaining years of life. Assets no longer in service can be removed from the list. Similarly, assets that have been newly installed can be added to the list. Following the impact guidelines, relative priority can be calculated for these assets.

## Equity Index

As an additional metric to the six existing areas of the Facilities Condition Assessment, Poudre School District has created an Equity Index to assist in prioritizing facilities improvement projects. This number takes into account student poverty, students qualifying for ELA services, students qualifying for Special Education services, and students who are homeless. The calculated score for each school is based on these factors and where it falls in relation to the district average. The formula would be:

$$\frac{\text{School Percentage in these areas added together as decimals}}{\text{District Percentages in these areas added together as decimals}}$$

In this formula, a school with student needs equal to the district average would have an equity index of 1.0. Schools with student needs higher than the district average would have an Equity Index greater than 1.0. Schools with student needs less than the district average would have an Equity Index less than 1.0.

Category	Equity Index
Low	0.29
High	3.20
Average	1.11
Median	0.95

The equity index for Centennial HS is 1.75.

Sample Calculation:

School Name	School Population K-12 Total	F/R	ELL	SPED	McKinney-Vento	Total of Previous Columns	Equity Index Number = school average / district average
Sample	381	15.20%	0.00%	8.40%	0.00%	0.24	0.24/0.48 = 0.49
<b>Grand PSD Total - Oct 2022 Count</b>	<b>26,163</b>	<b>29.5%</b>	<b>5.8%</b>	<b>9.5%</b>	<b>3.4%</b>	<b>0.48</b>	

F/R - Free or Reduced-Price Lunch; ELL- English Language Learners; SPED - Special Ed.; McKinney-Vento - Homeless Assistance

Section

3

# Condition Assessment

# Condition Assessment

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## SYSTEMS DESCRIPTION

This section summarizes the building systems at Centennial HS and describes the general condition observed based on the assessment. Specific findings and recommendations are detailed later in this report.

### Exterior Enclosure

This facility consists of two (2) construction styles. The first is the original building (dated 1906) which is a load bearing masonry structure that uses brick and stone elements. [REDACTED]

[REDACTED] The second construction type is newer (1999) and consists of masonry cavity walls (brick and CMU) with some pre-cast concrete feature elements. Exterior glazing is primarily metal clad wood windows with some metal framed windows at entry elements.

### Roofing

Both buildings have asphalt shingles and ballasted roofing. The original building has a built in "hidden" gutter system that requires extensive maintenance to avoid leaks. The new sloped roofing with asphalt shingles drains to a typ. gutter and downspout system. The flat roofing portions with ballasted roofing have internal drains with exterior overflow scuppers. [REDACTED]

### Interior Construction and Finishes

Interior Finishes in the Eastern newer construction are primarily drywall walls with ACT ceilings and carpeted flooring. The Western building has CMU walls with open ceilings (or decorative features) and concrete/tile/athletic flooring. The original building's interior finishes are plaster walls, drywall/ACT ceilings and carpeted flooring. There are locations where the original hardwood flooring is exposed. The connection between the original building and the new addition has exposed brickwork and wood trim. The Eastern building (new and original) has extensive exposed interior staircases with wooden handrails and wood wainscoting.

### Conveyance

The school has an elevator that serves three floors [REDACTED]

### Electrical and Lighting

The building's electrical distribution equipment consists of 480/277 panels, transformers, and switchgear. [REDACTED]

[REDACTED] The emergency generator and a couple of pump VFDs are nearing their the end of their industry life expectancy and are anticipated to need replacement soon. The fire alarm system dates to 2017. Interior lighting consists mostly of fluorescent fixtures. Exterior lighting is made up of a mixture of fluorescent, incandescent, and LED lights [REDACTED]

[REDACTED] There exists only one incandescent light fixture that requires upgrade to LED.

### HVAC Systems

The building's heating, ventilation, and air conditioning (HVAC) system consists of a hot water system, five rooftop units, and baseboard radiant heaters. Additional HVAC equipment includes exhaust fans and cabinet unit heaters. Several pieces of HVAC equipment including unit heaters, exhaust fans and hoods, hot water pumps, and the five rooftop units [REDACTED] have either reached or surpassed their life expectancies and should be replaced within the next 1-5 years. The four VFDs will require replacement in 6-14 years. Heating Water System Pumps 1-4 date to 2003 and are expected to require replacement within 4-5 years. The two boilers are not expected to require replace for 15 years.

### Plumbing

Domestic hot water is provided by four (4) natural gas fired water heater, three of which were installed in 2003 and the fourth installed in 2017. The water heaters installed in 2003 [REDACTED] have surpassed their life expectancy, and are anticipated to need replacement soon. Additional plumbing equipment includes backflow preventers, expansion tanks, and pumps. [REDACTED]

### Fire Suppression

Fire protection consists of a wet type fire sprinkler system estimated to have been installed in 2017.

### Equipment

N/A

# Condition Assessment

## PRIORITIES

### SPECIFIC PRIORITIES

The top capital measures (up to five max) have been detailed in the following tables. Each measure receives a priority level of 1, 2, or 3. A priority level of 1 indicates that the measure is considered an immediate concern or a potential hazard and should be addressed as soon as possible. A priority level of 2 indicates that the measure is considered urgent, but not a potential hazard or there is a less severe impact to occupants. A priority level of 3 indicates that the assets associated with the measure are nearing end of life, but have not yet failed or have a mild to moderate impact on occupant safety and comfort.

### Centennial HS

#### Asphalt Shingle Replacement

Both the East and West buildings have sloped roofs with Asphalt Shingles. These shingles are reaching the end of their designed lifespans and replacement should be considered in the near future.

The following assets are included within this measure:

FCAID - 150023, FCA - 150024



<b>Priority Level:</b>	3
<b>Estimated Cost:</b>	\$127,090
<b>Remaining Life:</b>	1 Year

# Condition Assessment

## Internal Gutter on Original Sloped Roof

As part of the original roof design, an internal gutter was installed. It is presumed that as part of the latest re-roofing (with asphalt shingles) the flashing of this internal gutter was reviewed, repaired, and updated. As part of the re-roofing of the asphalt shingles (due to their lifespan) the internal gutter should once again be reviewed and repaired as needed. (similar to the adjacent Asphalt Shingles)

The following assets are included within this measure:

FCAID - 150020



**Priority Level:** 3  
**Estimated Cost:** TBD  
**Remaining Life:** 1 Year

## Upgrade Interior and Exterior Lighting

Interior lighting mostly consists of fluorescent lighting retrofitted in 2012. Exterior lighting is made up, in part, of incandescent or fluorescent fixtures. Consider upgrading the interior and exterior lighting to LED fixtures to reduce energy costs and maintenance needs.

The following assets are included within this measure:

FCAID-150144, FCAID-150179



**Priority Level:** 2  
**Estimated Cost:** \$393,630  
**Remaining Life:** 10 Years

# Condition Assessment

## Replace Rooftop Units

The five rooftop units were installed in 2003, [REDACTED] have surpassed their life expectancies, and should be replaced within the next five years.



The following assets are included within this measure:

FCAID-150133, FCAID-150134, FCAID-150135, FCAID-150136, FCAID-150137



**Priority Level:** 2  
**Estimated Cost:** \$385,620  
**Remaining Life:** 5 Years

## Replace Hot Water Pumps

The hot water pumps have reached the end of their life expectancy and are anticipated to need to be replaced within the next four years.



The following assets are included within this measure:

FCAID-150099, FCAID-150100, FCAID-150101, FCAID-150102



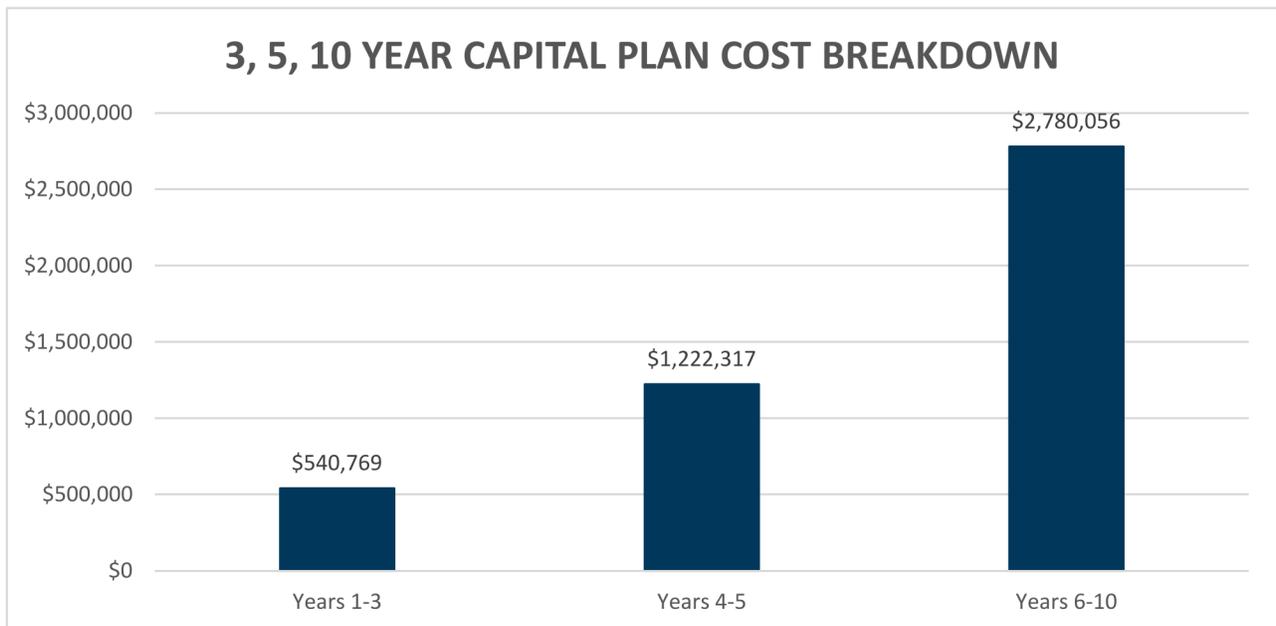
**Priority Level:** 2  
**Estimated Cost:** \$47,600  
**Remaining Life:** 4 Years

# Condition Assessment

## 3-, 5-, 10-YEAR PLANS

The following sections present the expected equipment replacement costs over the next ten years, broken into three separate plans. These plans are the 3-Year Plan, 5-Year Plan, and the 10-Year Plan. Each plan includes the equipment expected to fail during these periods, based on the observed condition of the equipment at the time of the assessment. Note, the 3-Year Plan includes assets failing within the next three years, the 5-Year Plan includes assets failing between four and five years, and the 10-Year Plan includes assets failing between in the next six to ten years from the assessment date.

**The chart below presents the total expected replacement costs for each plan. Note that these figures include 3% inflation YOY.**



## Future Capital Plan

The table below displays replacement costs for the campus, and the number of associated assets expected to fail within the next ten years. Assets requiring replacement or extensive maintenance in this plan are presented in Appendices A, B, and C.

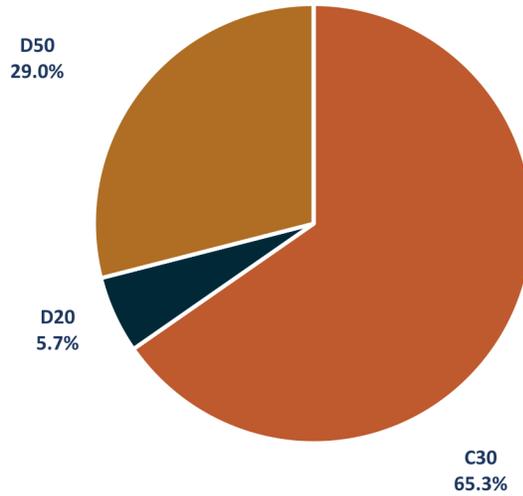
REPLACEMENT PERIOD	ASSET QUANTITY	CUMULATIVE REPLACEMENT COST
3-Year Plan	5	\$540,769
5-Year Plan	75	\$1,222,317
10-Year Plan	34	\$2,780,056
<b>Total</b>	<b>114</b>	<b>\$4,543,142</b>

# Condition Assessment

## 3-YEAR PLAN BREAKDOWN

The three-year plan includes the estimated capital expenditure needed to replace assets reaching end of life in years 1-3, or between 2024 and 2026. The sum of the anticipated capital needs is \$540,769. The specific assets that will reach end of life in this period are listed in Appendix A.

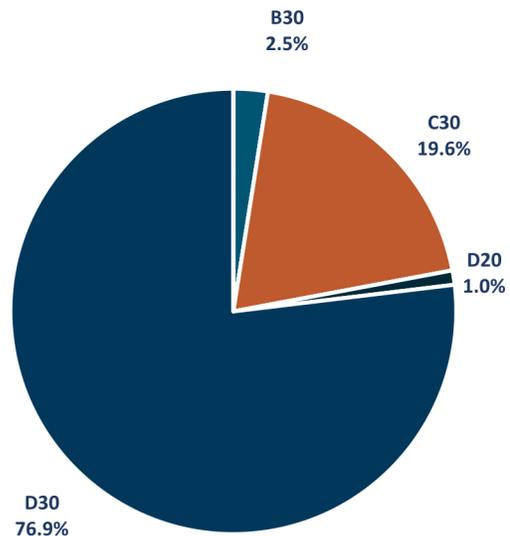
SUBSYSTEM	Years 1-3	Percent
A10 - Foundations	\$0	0%
B10 - Superstructure	\$0	0%
B20 - Exterior Enclosure	\$0	0%
B30 - Roofing	\$0	0%
C10 - Int. Construction	\$0	0%
C20 - Stairs	\$0	0%
C30 - Interior Finishes	\$353,218	65%
D10 - Conveying	\$0	0%
D20 - Plumbing	\$30,713	6%
D30 - HVAC	\$0	0%
D40 - Fire Protection	\$0	0%
D50 - Electrical	\$156,838	29%
E10 - Equipment	\$0	0%
G20 - Site Improvements	\$0	0%
G40 - Site Electrical	\$0	0%



## 5-YEAR PLAN BREAKDOWN

The five-year plan includes the estimated capital expenditure needed to replace assets reaching end of life in years 4-5, or between 2027 and 2028. The sum of the anticipated capital needs is \$1,222,317. The specific assets that will reach end of life in this period are listed in Appendix A.

SUBSYSTEM	Years 4-5	Percent
A10 - Foundations	\$0	0%
B10 - Superstructure	\$0	0%
B20 - Exterior Enclosure	\$0	0%
B30 - Roofing	\$30,535	2%
C10 - Int. Construction	\$0	0%
C20 - Stairs	\$0	0%
C30 - Interior Finishes	\$238,991	20%
D10 - Conveying	\$0	0%
D20 - Plumbing	\$12,740	1%
D30 - HVAC	\$940,052	77%
D40 - Fire Protection	\$0	0%
D50 - Electrical	\$0	0%
E10 - Equipment	\$0	0%
G20 - Site Improvements	\$0	0%
G40 - Site Electrical	\$0	0%

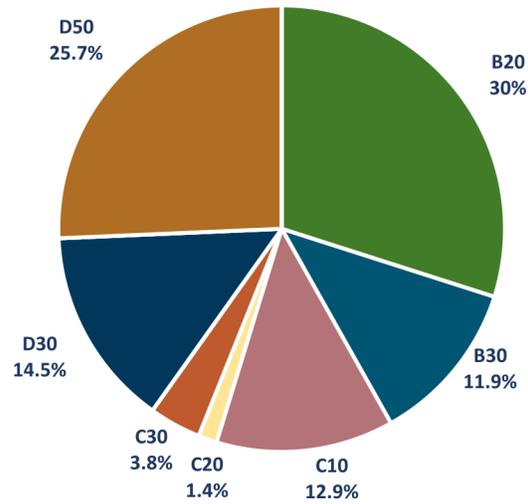


# Condition Assessment

## 10-YEAR PLAN BREAKDOWN

The ten-year plan includes the estimated capital expenditure needed to replace assets reaching end of life in years 6-10, or between 2029 and 2033. The sum of the anticipated capital needs is \$2,780,056. The specific assets that will reach end of life in this period are listed in Appendix A.

SUBSYSTEM	Years 6-10	Percent
A10 - Foundations	\$0	0%
B10 - Superstructure	\$0	0%
B20 - Exterior Enclosure	\$832,080	30%
B30 - Roofing	\$331,479	12%
C10 - Int. Construction	\$357,534	13%
C20 - Stairs	\$37,669	1%
C30 - Interior Finishes	\$104,656	4%
D10 - Conveying	\$0	0%
D20 - Plumbing	\$0	0%
D30 - HVAC	\$402,800	14%
D40 - Fire Protection	\$0	0%
D50 - Electrical	\$713,838	26%
E10 - Equipment	\$0	0%
G20 - Site Improvements	\$0	0%
G40 - Site Electrical	\$0	0%



# Condition Assessment

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## PRIORITY SUMMARY

The summary below assigns a composite Overall Priority Score to the campus as of the assessment date. Priority Scores range from 6 (low priority) to 30 (high priority), and are based on asset condition, operating impact, student impact, energy impact, estimated replacement cost, and observed remaining life.

In addition to the Overall Priority Score, each Subsystem category within the site is assigned a Priority Score. This score can differentiate systems that may need more attention than others, due to condition or impact on occupants or operations. Each Subsystem category includes a general narrative section under the Description column.

## Future Capital Plan

The Subsystem scores are color coded to reflect the level of priority:  $\leq 12$  = Green, 12.1-23.9 = Yellow,  $\geq 24$  = Red. Higher priority scores indicate that a system should be considered for maintenance or capital improvements before other systems with lower scores. The rating scale for Priority Score is visualized below.

LOW	MEDIUM-LOW	MEDIUM	MEDIUM-HIGH	HIGH
6	12	18	24	30

# Condition Assessment

## PRIORITY SCORE SUMMARY - CENTENNIAL HS



### CENTENNIAL HS

BUILDING TYPE:	High School
YEAR BUILT:	1955
GROSS AREA (SF):	39,967
DATE ASSESSED:	July 6, 2023
PRIORITY SCORE:	15.9

SUBSYSTEM:	DESCRIPTION	PRIORITY SCORE
B20 - Ext. Enclosure	This facility consists of two (2) construction styles. The first is the original building (dated 1906) which is a load bearing masonry structure that uses brick and stone elements. [REDACTED] The second construction type is newer (1999) and consists of masonry cavity walls (brick and CMU) with some pre-cast concrete feature elements. Exterior glazing is primarily metal clad wood windows with some metal framed windows at entry elements.	12.9
B30 - Roofing	Both buildings have asphalt shingles and ballasted roofing. The original building has a built in "hidden" gutter system that requires extensive maintenance to avoid leaks. The new sloped roofing with asphalt shingles drains to a typ. gutter and downspout system. The flat roofing portions with ballasted roofing have internal drains with exterior overflow scuppers. [REDACTED]	14.0
C10 - Int. Construction	Interior Finishes in the Eastern newer construction are primarily drywall walls with ACT ceilings and carpeted flooring. The Western building has CMU walls with open ceilings (or decorative features) and concrete/tile/athletic flooring. The original building's interior finishes are plaster walls, drywall/ACT ceilings and carpeted flooring. There are locations where the original	12.2
C30 - Interior Finishes	hardwood flooring is exposed. The connection between the original building and the new addition has exposed brickwork and wood trim. The Eastern building (new and original) has extensive exposed interior staircases with wooden handrails and wood wainscotting.	15.5
D20 - Plumbing	Domestic hot water is provided by four (4) natural gas fired water heater, three of which were installed in 2003 and the fourth installed in 2017. The water heaters installed in 2003 [REDACTED] have surpassed their life expectancy, and are anticipated to need replacement soon. Additional plumbing equipment includes backflow preventers, expansion tanks, and pumps. [REDACTED]	12.7
D30 - HVAC	The building's heating, ventilation, and air conditioning (HVAC) system consists of a hot water system, five rooftop units, and baseboard radiant heaters. Additional HVAC equipment includes exhaust fans and cabinet unit heaters. Several pieces of HVAC equipment including unit heaters, exhaust fans and hoods, hot water pumps, and the five rooftop units [REDACTED] have either reached or surpassed their life expectancies and should be replaced within the next 1-5 years. The four VFDs will require replacement in 6-14 years. Heating Water System Pumps 1-4 date to 2003 and are expected to require replacement within 4-5 years. The two boilers are not expected to require replace for 15 years.	16.2
D40 - Fire Suppression	Fire protection consists of a wet type fire sprinkler system estimated to have been installed in 2017.	20.0
D50 - Electrical	The building's electrical distribution equipment consists of 480/277 panels, transformers, and switchgear. [REDACTED] The emergency generator and a couple of pump VFDs are nearing their the end of their industry life expectancy and are anticipated to need replacement soon. The fire alarm system dates to 2017. Interior lighting consists mostly of fluorescent fixtures. Exterior lighting is made up of a mixture of fluorescent, incandescent, and LED lights [REDACTED]. There exists only one incandescent light fixture that requires upgrade to LED.	20.3
E10 - Equipment	N/A	N/A

System priority scored from 6 (lowest priority) to 30 (highest priority) based on condition, operating impact, student/teacher impact, energy impact, estimated replacement cost, and observed remaining life. [ $\leq 12$  = green,  $12-24$  = yellow,  $\geq 24$  = red]

Appendices

- A. 3-YEAR PLAN ASSETS LIST
- B. 5-YEAR PLAN ASSETS LIST
- C. 10-YEAR PLAN ASSETS LIST

# Appendix A

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## APPENDIX A: 3-YEAR PLAN ASSETS LIST

The individual assets associated with the 3-Year Plan are shown below, sorted from highest to lowest priority score. The priority score key is shown below for convenience.

Note that these values represent current replacement costs expressed in 2023 dollar amounts and are not adjusted for inflation.

LOW	MEDIUM-LOW	MEDIUM	MEDIUM-HIGH	HIGH
6	12	18	24	30

The asset ID listed for each entry has been assigned during this assessment and reflects the corresponding asset in the FCA workbook.

### CENTENNIAL HS

ASSET ID	DESCRIPTION	SUBSYSTEM	OBSERVED REMAINING LIFE	REPLACEMENT COST	PRIORITY SCORE
FCAID-150147	Emergency Back-up Lighting	D50 - Electrical	2	\$152,270	26
FCAID-150048	Interior Floor Finishes: Carpet	C30 - Int. Finishes	2	\$342,930	19
FCAID-150067	WH-3	D20 - Plumbing	3	\$9,650	14
FCAID-150068	WH-4	D20 - Plumbing	3	\$9,650	14
FCAID-150065	WH-1	D20 - Plumbing	3	\$9,650	14

# Appendix B

## APPENDIX B: 5-YEAR PLAN ASSETS LIST

The individual assets associated with the 5-Year Plan are shown below, sorted from highest to lowest priority score. The priority score key is shown below for convenience.

Note that these values represent current replacement costs expressed in 2023 dollar amounts and are not adjusted for inflation.

LOW	MEDIUM-LOW	MEDIUM	MEDIUM-HIGH	HIGH
6	12	18	24	30

The asset ID listed for each entry has been assigned during this assessment and reflects the corresponding asset in the FCA workbook.

### CENTENNIAL HS

ASSET ID	DESCRIPTION	SUBSYSTEM	OBSERVED REMAINING LIFE	REPLACEMENT COST	PRIORITY SCORE
FCAID-150133	RTU-1	D30 - HVAC	5	\$160,160	20
FCAID-150137	RTU-5	D30 - HVAC	5	\$47,000	18
FCAID-150134	RTU-2	D30 - HVAC	5	\$72,910	18
FCAID-150135	RTU-3	D30 - HVAC	5	\$60,130	18
FCAID-150136	RTU-4	D30 - HVAC	5	\$45,420	18
FCAID-150100	P-2	D30 - HVAC	4	\$11,900	15
FCAID-150099	P-1	D30 - HVAC	4	\$11,900	15
FCAID-150101	P-3	D30 - HVAC	4	\$11,900	15
FCAID-150102	P-4	D30 - HVAC	4	\$11,900	15
FCAID-150066	WH-2	D20 - Plumbing	4	\$9,650	14
FCAID-150046	Interior Ceiling Finishes: ACT	C30 - Int. Finishes	5	\$168,610	14
FCAID-150093	RH-7	D30 - HVAC	5	\$11,810	13
FCAID-150129	FTR-302	D30 - HVAC	5	\$7,150	13
FCAID-150082	EF-8	D30 - HVAC	5	\$8,190	13
FCAID-150103	DHC-03-01	D30 - HVAC	5	\$3,500	13
FCAID-150116	FTR-R107	D30 - HVAC	5	\$7,150	13
FCAID-150104	DHC-03-02	D30 - HVAC	5	\$3,500	13
FCAID-150090	RH-4	D30 - HVAC	5	\$9,590	13
FCAID-150105	DHC-03-03	D30 - HVAC	5	\$2,000	13
FCAID-150086	IH-3	D30 - HVAC	5	\$6,210	13
FCAID-150106	DHC-04-04	D30 - HVAC	5	\$1,750	13
FCAID-150131	FTR-304	D30 - HVAC	5	\$7,150	13
FCAID-150107	DHC-04-05	D30 - HVAC	5	\$1,750	13
FCAID-150122	FTR-S213	D30 - HVAC	5	\$7,150	13

FCAID-150108	DHC-04-06	D30 - HVAC	5	\$1,750	13
FCAID-150088	RH-2	D30 - HVAC	5	\$11,810	13
FCAID-150109	DHC-05-07	D30 - HVAC	5	\$1,750	13
FCAID-150080	EF-6	D30 - HVAC	5	\$6,710	13
FCAID-150110	DHC-05-08	D30 - HVAC	5	\$1,750	13
FCAID-150084	IH-1	D30 - HVAC	5	\$6,210	13
FCAID-150111	DHC-05-09	D30 - HVAC	5	\$1,750	13
FCAID-150128	FTR-301	D30 - HVAC	5	\$7,150	13
FCAID-150112	FTR-100	D30 - HVAC	5	\$11,920	13
FCAID-150087	RH-1	D30 - HVAC	5	\$9,590	13
FCAID-150113	FTR-101	D30 - HVAC	5	\$7,150	13
FCAID-150115	FTR-R103	D30 - HVAC	5	\$7,150	13
FCAID-150017	Solar Tunnel	B30 - Roofing	5	\$17,780	13
FCAID-150117	FTR-S211	D30 - HVAC	5	\$7,150	13
FCAID-150092	RH-6	D30 - HVAC	5	\$11,810	13
FCAID-150132	FTR-S309	D30 - HVAC	5	\$7,150	13
FCAID-150071	CUH-2	D30 - HVAC	5	\$6,610	13
FCAID-150094	RH-8	D30 - HVAC	5	\$9,590	13
FCAID-150073	CUH-4	D30 - HVAC	5	\$6,610	13
FCAID-150089	RH-3	D30 - HVAC	5	\$9,590	13
FCAID-150076	EF-2	D30 - HVAC	5	\$6,710	13
FCAID-150091	RH-5	D30 - HVAC	5	\$11,810	13
FCAID-150078	EF-4	D30 - HVAC	5	\$6,210	13
FCAID-150114	FTR-102	D30 - HVAC	5	\$7,150	13
FCAID-150074	CUH-1	D30 - HVAC	5	\$6,610	13
FCAID-150118	FTR-212	D30 - HVAC	5	\$7,150	13
FCAID-150072	CUH-3	D30 - HVAC	5	\$6,610	13
FCAID-150119	FTR-213	D30 - HVAC	5	\$7,150	13
FCAID-150075	EF-1	D30 - HVAC	5	\$6,710	13
FCAID-150120	FTR-213B	D30 - HVAC	5	\$7,150	13
FCAID-150077	EF-3	D30 - HVAC	5	\$6,210	13
FCAID-150121	FTR-213C	D30 - HVAC	5	\$7,150	13
FCAID-150079	EF-5	D30 - HVAC	5	\$6,210	13
FCAID-150123	FTR-214	D30 - HVAC	5	\$7,150	13
FCAID-150081	EF-7	D30 - HVAC	5	\$5,550	13
FCAID-150124	FTR-214B	D30 - HVAC	5	\$7,150	13
FCAID-150083	EF-9	D30 - HVAC	5	\$6,210	13
FCAID-150125	FTR-214C	D30 - HVAC	5	\$7,150	13
FCAID-150085	IH-2	D30 - HVAC	5	\$6,210	13
FCAID-150126	FTR-215	D30 - HVAC	5	\$7,150	13
FCAID-150127	FTR-300	D30 - HVAC	5	\$7,150	13
FCAID-150130	FTR-303	D30 - HVAC	5	\$7,150	13
FCAID-150053	Interior Floor Finishes: Sheet Vinyl	C30 - Int. Finishes	5	\$42,070	12
FCAID-150139	UH-2	D30 - HVAC	5	\$3,520	12
FCAID-150140	UH-3	D30 - HVAC	5	\$4,520	12
FCAID-150054	Interior Floor Finishes: VCT	C30 - Int. Finishes	5	\$1,660	11
FCAID-150095	ET-1	D30 - HVAC	5	\$18,250	10

FCAID-150069	AS-1	D30 - HVAC	5	\$9,870	10
FCAID-150059	ET-1	D20 - Plumbing	5	\$1,950	10
FCAID-150015	Roofing: Hatch	B30 - Roofing	5	\$9,350	10
FCAID-150098	Gas Meter	D30 - HVAC	5	\$3,430	10

# Appendix C

## APPENDIX C: 10-YEAR PLAN ASSETS LIST

The individual assets associated with the 10-Year Plan are shown below, sorted from highest to lowest priority score. The priority score key is shown below for convenience.

Note that these values represent current replacement costs expressed in 2023 dollar amounts and are not adjusted for inflation.

LOW	MEDIUM-LOW	MEDIUM	MEDIUM-HIGH	HIGH
6	12	18	24	30

The asset ID listed for each entry has been assigned during this assessment and reflects the corresponding asset in the FCA workbook.

### CENTENNIAL HS

ASSET ID	DESCRIPTION	SUBSYSTEM	OBSERVED REMAINING LIFE	REPLACEMENT COST	PRIORITY SCORE
FCAID-150146	Fire Alarm System	D50 - Electrical	9	\$311,480	21
FCAID-150165	Security System	D50 - Electrical	9	\$152,270	18
FCAID-150070	Building Automation System	D30 - HVAC	6	\$342,520	17
FCAID-150143	Emergency Generator	D50 - Electrical	7	\$84,540	16
FCAID-150018	Roofing: Ballasted Rolled Asphalt	B30 - Roofing	6	\$116,620	15
FCAID-150023	Roofing: Asphalt Shingle (1906 Building)	B30 - Roofing	6	\$73,780	14
FCAID-150038	Interior doors: Wood, Single (1906)	C10 - Int. Construct.	10	\$120,160	14
FCAID-150024	Roofing: Asphalt Shingle (2004 Building)	B30 - Roofing	6	\$53,310	14
FCAID-150052	Interior Floor Finishes: Tile	C30 - Int. Finishes	6	\$50,020	13
FCAID-150003	Exterior Walls : Stone	B20 - Ext. Enclosure	10	\$241,300	13
FCAID-150007	Exterior Walls: Brick (1906)	B20 - Ext. Enclosure	10	\$339,760	13
FCAID-150044	Stairs (1906)	C20 - Stairs	10	\$28,870	13
FCAID-150019	Roofing: Gutter	B30 - Roofing	6	\$5,200	13
FCAID-150022	Roofing: Roof Ladder	B30 - Roofing	6	\$5,830	13
FCAID-150021	Roofing: Metal Flashing	B30 - Roofing	6	\$13,020	13
FCAID-150142	ATS-1	D50 - Electrical	6	\$4,300	12
FCAID-150138	UH-1	D30 - HVAC	9	\$4,520	11
FCAID-150176	VFD P-3	D50 - Electrical	6	\$5,480	11
FCAID-150028	Interior Wall: Plaster (1906)	C10 - Int. Construct.	10	\$111,100	11
FCAID-150020	Roofing: Gutter (1906 Building)	B30 - Roofing	10	\$5,380	11
FCAID-150050	Interior Ceiling Finishes: Open Ceiling (Pair)	C30 - Int. Finishes	6	\$2,440	11
FCAID-150014	Exterior Windows: Wood	B20 - Ext. Enclosure	10	\$9,320	11
FCAID-150016	Skylight - Small	B30 - Roofing	10	\$10,770	11
FCAID-150174	VFD P-1	D50 - Electrical	6	\$5,480	11

FCAID-150144	Exterior Lighting: Suspended (1906)	D50 - Electrical	10	\$610	10
FCAID-150177	VFD P-4	D50 - Electrical	9	\$5,480	10
FCAID-150002	Exterior Walls : Cornice	B20 - Ext. Enclosure	10	\$38,610	10
FCAID-150055	Interior Floor Finishes: Hardwood (1906)	C30 - Int. Finishes	10	\$16,540	10
FCAID-150032	Interior Wall: Brick (1906)	C10 - Int. Construct.	10	\$35,070	10
FCAID-150013	Exterior Walls : Wood (1906)	B20 - Ext. Enclosure	10	\$4,350	9
FCAID-150042	Interior Wall Finishes: Wood (1906)	C10 - Int. Construct.	10	\$5,230	9
FCAID-150047	Interior Ceiling Finishes: Tile	C30 - Int. Finishes	10	\$17,060	9
FCAID-150004	Exterior Windows: Stucco (1906)	B20 - Ext. Enclosure	10	\$4,380	9
FCAID-150034	Interior Wall: Guardrail (1906)	C10 - Int. Construct.	10	\$2,460	9