

POUDRE SCHOOL DISTRICT BEATTIE ELEMENTARY SCHOOL

FACILITY CONDITION ASSESSMENT

FORT COLLINS, CO

OCTOBER 2023



Together, Building a Thriving Planet

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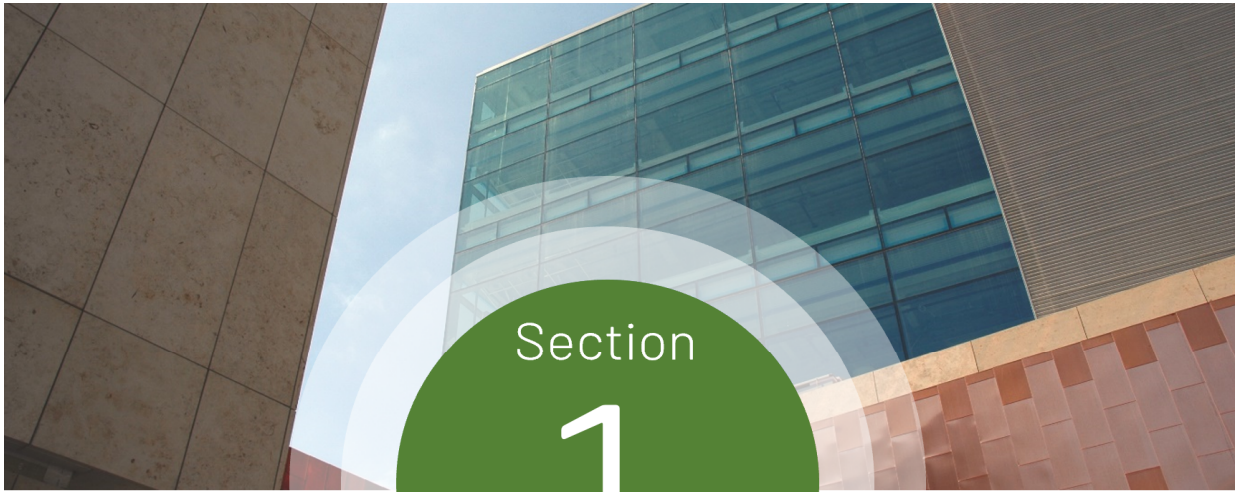
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Section

1

Executive Summary

Executive Summary

Project Goals

The contents of this report present the results of the Facility Condition Assessment (FCA) performed at Beattie ES within the Poudre School District (PSD) on July 7, 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
BEATTIE ES	45,535	1972
TOTAL	45,535	

Facility Summary

Beattie ES

Beattie ES is located at 3000 Meadowlark Ave., Fort Collins, CO 80526. This 45,535 SF facility consists of one level and was initially constructed in 1972. The equity index for this school is 1.46.



Beattie ES

Executive Summary

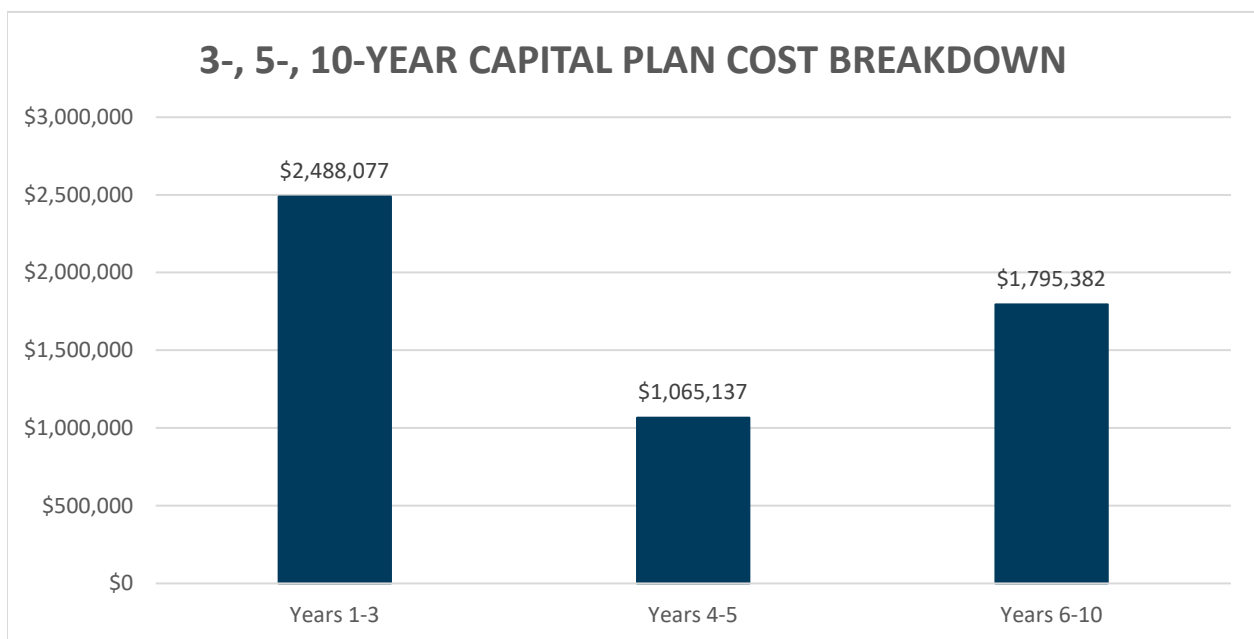
Assessment Summary

This section summarizes the building systems at the facility and describes the general condition observed based on the assessment performed on July 7, 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.



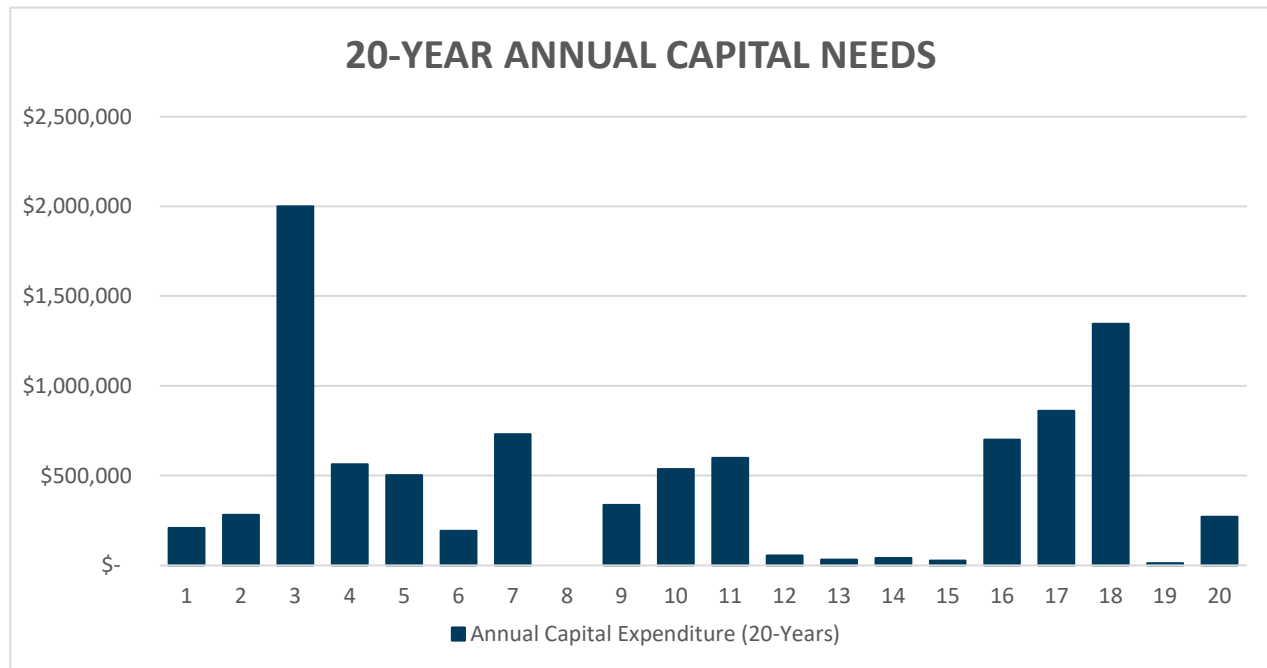
3-, 5-, 10-Year Capital Plan Cost Breakdown

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	\$297,635	\$0	\$0	\$0
B30 - Roofing	\$287,275	\$0	\$20,756	\$154,852
C10 - Int. Construction	\$94,899	\$151,410	\$0	\$116,012
C20 - Stairs	\$0	\$0	\$0	\$0
C30 - Interior Finishes	\$428,348	\$641,233	\$44,448	\$863,177
D10 - Conveying	\$0	\$0	\$0	\$0
D20 - Plumbing	\$36,920	\$6,006	\$56,955	\$0
D30 - HVAC	\$1,073,392	\$515,668	\$251,957	\$2,052,829
D40 - Fire Suppression	\$0	\$0	\$0	\$0
D50 - Electrical	\$1,334,745	\$467,860	\$365,638	\$0
E10 - Equipment	\$0	\$13,206	\$9,121	\$0
Total:	\$3,553,214	\$1,795,382	\$748,875	\$3,186,870

Section

2

Approach and Methodology

Scope and Approach

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

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

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 Beattie ES is 1.46.

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
Grand PSD Total - Oct 2022 Count	26,163	29.5%	5.8%	9.5%	3.4%	0.48	

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

Section

3

Condition Assessment

Condition Assessment

SYSTEMS DESCRIPTION

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

Exterior Enclosure

The exterior façade of this facility is brick from several different construction periods (1971, 1979, 1995). The brick from the different periods match in color, size, and texture. At major entry elements and classroom exterior entrances there are standing seam mansard roofing elements. Exterior windows are metal framed.

Roofing

The majority of the roofing is rolled asphalt [REDACTED]. There are a few areas where the rolled asphalt has a spray applied finish [REDACTED]. Note that the standing seam mansard elements have small sections of EPDM membrane roofing.

Interior Construction and Finishes

Interior partitions for this facility are largely CMU and Drywall with several movable partitions in the classroom areas. Flooring finishes are primarily carpet with areas of tile, traffic coating, LVT, VCT, and concrete. Ceiling finishes are primarily ACT with areas of drywall, and original ceiling tiles (gym ceiling). There are several areas of damaged ceiling tile.

Conveyance

N/A

Electrical and Lighting

The building's electrical distribution equipment consists of 120/208 panels and switchgear. [REDACTED] The fire alarm system dates to 2018. Interior lighting consists of fluorescent fixtures. Exterior lighting is made up of incandescent lights [REDACTED]. Consider upgrading the interior and exterior lighting to light emitting diode (LED) fixtures to reduce energy costs and maintenance needs.

HVAC Systems

The building's heating, ventilation, and air conditioning (HVAC) system consists of a hot water system, chilled water system, eight rooftop units, and hot water coils and VAVs. The building automation system is made up of Honeywell controls. Additional HVAC equipment includes makeup air units, exhaust fans, and unit heaters. Seven of the rooftop units, several exhaust fans, the hot water coils, unit heaters, hot water pumps and hot water system air separator [REDACTED] have surpassed their life expectancies and should be replaced within the next 3-5 years.

Plumbing

Domestic hot water is provided by four (4) natural gas fired water heaters. The three water heaters installed before 2010 have surpassed their life expectancies and are anticipated to need replacement within the next three years. Additional plumbing equipment includes backflow preventers, water treatment systems, and pumps. [REDACTED]

Fire Suppression

N/A

Equipment

There is one (1) walk-in cooler and one (1) walk-in freezer in the school's kitchen. These units generally appear to be in good condition.

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.

Beattie ES

Replace Rooftop Units

Seven of the rooftop units [REDACTED] have surpassed their life expectancies and should be replaced within the next three years.

The following assets are included within this measure:

FCAID-040094, FCAID-040095, FCAID-040096, FCAID-040097, FCAID-040098, FCAID-040099, FCAID-040100



Priority Level:	2
Estimated Cost:	\$801,820
Remaining Life:	3 years

Condition Assessment

Replace Switchboard

The three-section switchboard was installed in 1972 [REDACTED] This asset has surpassed its life expectancy by over 10 years and should be replaced within the next four years.

The following assets are included within this measure:

FCAID-040120, FCAID-040121, FCAID-040122, FCAID-040123



Priority Level: 2
Estimated Cost: \$160,720
Remaining Life: 4 years

Replace Hot Water Pumps

The two hot water pumps were installed in 1997 have surpassed their industry life expectancy and should be replaced in three years.

The following assets are included within this measure:

FCAID-040090, FCAID-040091



Priority Level: 2
Estimated Cost: \$23,440
Remaining Life: 3 years

Condition Assessment

Replace Water Heaters

The three water heaters installed before 2010 have surpassed their life expectancies and are anticipated to need replacement within the next three years.

The following assets are included within this measure:

FCAID-040056, FCAID-040057, FCAID-040058



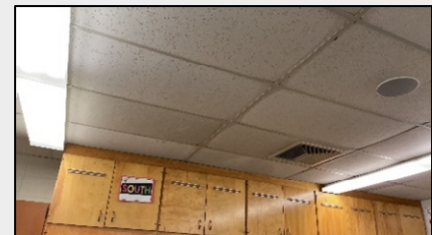
Priority Level:	2
Estimated Cost:	\$18,660
Remaining Life:	3 years

Replace Lighting Fixtures

Interior lighting consists of fluorescent fixtures, which were retrofitted in 2002 and just past their industry life expectancy. Exterior lighting is made up of incandescent lights [REDACTED]. Consider upgrading the interior and exterior lighting to light emitting diode (LED) fixtures to reduce energy costs and maintenance needs.

The following assets are included within this measure:

FCAID-040107, FCAID-040141, FCAID-040159



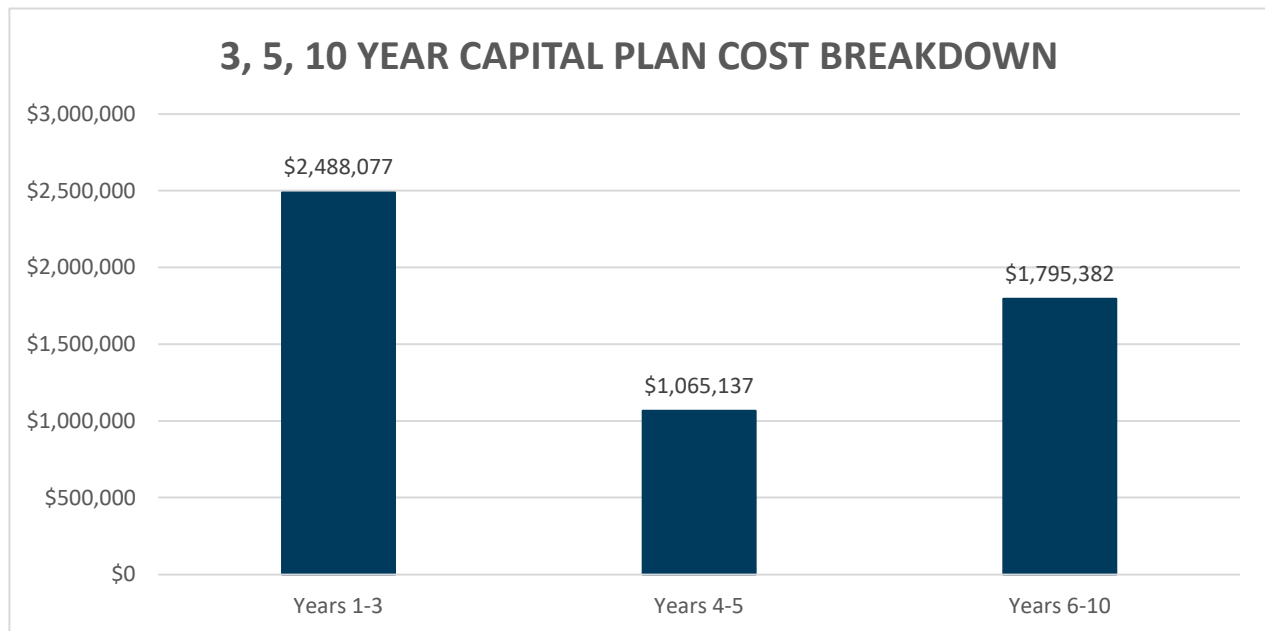
Priority Level:	2
Estimated Cost:	\$887,610
Remaining Life:	3-5 years

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.

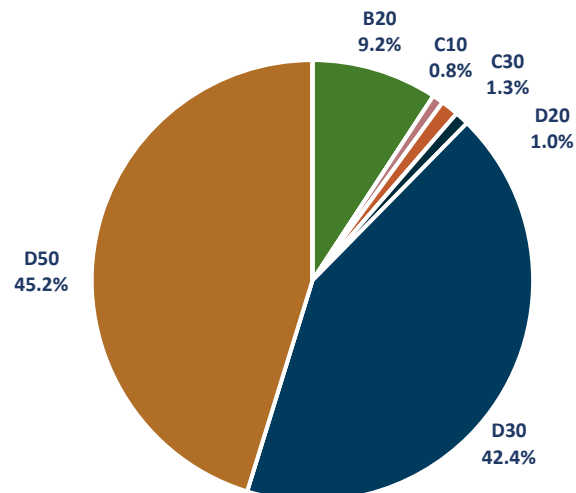
REPLACEMENT PERIOD	ASSET QUANTITY	CUMULATIVE REPLACEMENT COST
3-Year Plan	50	\$2,488,077
5-Year Plan	23	\$1,065,137
10-Year Plan	27	\$1,795,382
Total	100	\$5,348,596

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 \$2,488,077. The specific assets that will reach end of life in this period are listed in Appendix A.

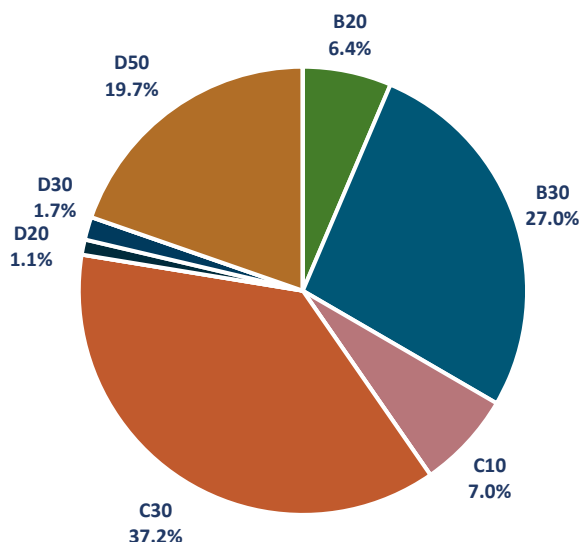
SUBSYSTEM	Years 1-3	Percent
A10 - Foundations	\$0	0%
B10 - Superstructure	\$0	0%
B20 - Exterior Enclosure	\$229,463	9%
B30 - Roofing	\$0	0%
C10 - Int. Construction	\$20,435	1%
C20 - Stairs	\$0	0%
C30 - Interior Finishes	\$31,933	1%
D10 - Conveying	\$0	0%
D20 - Plumbing	\$25,326	1%
D30 - HVAC	\$1,055,627	42%
D40 - Fire Protection	\$0	0%
D50 - Electrical	\$1,125,291	45%
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 \$1,065,137. 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	\$68,172	6%
B30 - Roofing	\$287,275	27%
C10 - Int. Construction	\$74,464	7%
C20 - Stairs	\$0	0%
C30 - Interior Finishes	\$396,414	37%
D10 - Conveying	\$0	0%
D20 - Plumbing	\$11,594	1%
D30 - HVAC	\$17,765	2%
D40 - Fire Protection	\$0	0%
D50 - Electrical	\$209,453	20%
E10 - Equipment	\$0	0%
G20 - Site Improvements	\$0	0%
G40 - Site Electrical	\$0	0%

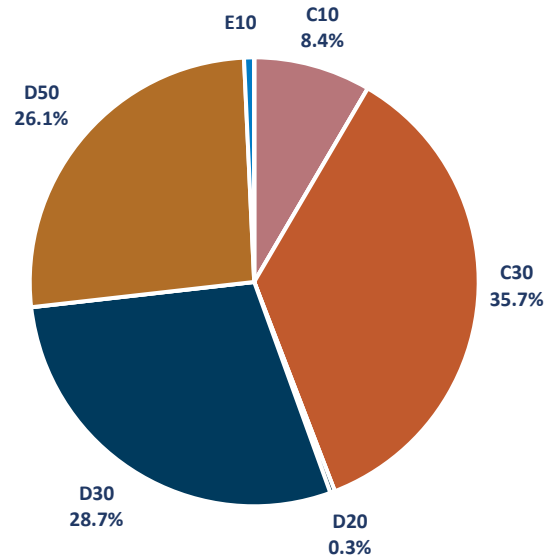


Condition Assessment

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 \$1,795,382. 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	\$0	0%
B30 - Roofing	\$0	0%
C10 - Int. Construction	\$151,410	8%
C20 - Stairs	\$0	0%
C30 - Interior Finishes	\$641,233	36%
D10 - Conveying	\$0	0%
D20 - Plumbing	\$6,006	<1%
D30 - HVAC	\$515,668	29%
D40 - Fire Protection	\$0	0%
D50 - Electrical	\$467,860	26%
E10 - Equipment	\$13,206	1%
G20 - Site Improvements	\$0	0%
G40 - Site Electrical	\$0	0%



Condition Assessment

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: ≤ 12 = Green, 12.1-23.9 = Yellow, ≥ 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 - BEATTIE ES

		BEATTIE ES	
		BUILDING TYPE:	Elementary School
		YEAR BUILT:	1972
		GROSS AREA (SF):	45,535
		DATE ASSESSED:	July 6, 2023
		PRIORITY SCORE:	17.0
SUBSYSTEM:	DESCRIPTION	PRIORITY SCORE	
B20 - Ext. Enclosure	The exterior façade of this facility is brick from several different construction periods (1971, 1979, 1995). The brick from the different periods match in color, size, and texture. At major entry elements and classroom exterior entrances there are standing seam mansard roofing elements. Exterior windows are metal framed.	13.3	
B30 - Roofing	The majority of the roofing is rolled asphalt. There are a few areas where the rolled asphalt has a spray applied finish. Note that the standing seam mansard elements have small sections of EPDM membrane roofing.	15.1	
C10 - Int. Construction	Interior partitions for this facility are largely CMU and Drywall with several movable partitions in the classroom areas. Flooring finishes are primarily carpet with areas of tile, traffic coating, LVT, VCT, and concrete. Ceiling finishes are primarily ACT with areas of drywall, and original ceiling tiles (gym ceiling). There are several areas of damaged ceiling tile.	12.2	
C30 - Interior Finishes		15.7	
D20 - Plumbing	Domestic hot water is provided by four (4) natural gas fired water heaters. The three water heaters installed before 2010 have surpassed their life expectancies and are anticipated to need replacement within the next three years. Additional plumbing equipment includes backflow preventers, water treatment systems, and pumps.	13.9	
D30 - HVAC	The building's heating, ventilation, and air conditioning (HVAC) system consists of a hot water system, chilled water system, eight rooftop units, and hot water coils and VAVs. The building automation system is made up of Honeywell controls. Additional HVAC equipment includes makeup air units, exhaust fans, and unit heaters. Seven of the rooftop units, several exhaust fans, the hot water coils, unit heaters, hot water pumps and hot water system air separator have surpassed their life expectancies and should be replaced within the next 3-5 years.	18.0	
D40 - Fire Suppression	N/A	N/A	
D50 - Electrical	The building's electrical distribution equipment consists of 120/208 panels and switchgear. The fire alarm system dates to 2018. Interior lighting consists of fluorescent fixtures. Exterior lighting is made up of incandescent lights. Consider upgrading the interior and exterior lighting to light emitting diode (LED) fixtures to reduce energy costs and maintenance needs.	22.0	
E10 - Equipment	There is one (1) walk-in cooler and one (1) walk-in freezer in the school's kitchen. These units generally appear to be in good condition.	14.3	

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. [≤12 = green, 12-24 = yellow, ≥24 = red]

Appendices

A. 3-YEAR PLAN ASSETS LIST

B. 5-YEAR PLAN ASSETS LIST

C.10-YEAR PLAN ASSETS LIST

Appendix A

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.

BEATTIE ES

ASSET ID	DESCRIPTION	SUBSYSTEM	OBSERVED REMAINING	REPLACEMENT COST	PRIORITY SCORE
FCAID-040141	Lighting, Interior: Fluorescent	D50 - Electrical	3	\$697,140	26
FCAID-040159	Emergency Backup Lighting	D50 - Electrical	3	\$173,490	23
FCAID-040142	Security System	D50 - Electrical	1	\$173,490	22
FCAID-040099	RTU-4	D30 - HVAC	3	\$142,200	22
FCAID-040100	RTU-5	D30 - HVAC	3	\$142,200	22
FCAID-040097	RTU-2	D30 - HVAC	3	\$142,200	22
FCAID-040098	RTU-3	D30 - HVAC	3	\$142,200	22
FCAID-040095	RTU-1	D30 - HVAC	3	\$142,200	22
FCAID-040096	RTU-2 (1995)	D30 - HVAC	3	\$45,410	20
FCAID-040094	RTU-1 (1995)	D30 - HVAC	3	\$45,410	20
FCAID-040085	Emergency Generator	D50 - Electrical	1	\$28,150	19
FCAID-040002	Exterior Doors: Metal, Single	B20 - Ext. Enclosure	2	\$114,510	17
FCAID-040037	Interior Windows: Metal Framed (1995)	B20 - Ext. Enclosure	2	\$23,300	17
FCAID-040150	HWC-1	D30 - HVAC	3	\$10,120	16
FCAID-040154	HWC-5	D30 - HVAC	3	\$10,120	16
FCAID-040152	HWC-3	D30 - HVAC	3	\$10,120	16
FCAID-040010	Exterior Windows: Aluminum Framed (1995)	B20 - Ext. Enclosure	2	\$11,650	16
FCAID-040091	P-2	D30 - HVAC	3	\$11,720	16
FCAID-040011	Exterior Windows: Metal Framed (1995)	B20 - Ext. Enclosure	2	\$3,880	16
FCAID-040151	HWC-2	D30 - HVAC	3	\$10,120	16
FCAID-040090	P-1	D30 - HVAC	3	\$11,720	16
FCAID-040153	HWC-4	D30 - HVAC	3	\$10,120	16
FCAID-040001	Exterior Doors: Metal, Double	B20 - Ext. Enclosure	2	\$69,440	16
FCAID-040155	HWC-6	D30 - HVAC	3	\$10,120	16
FCAID-040157	HWC-8	D30 - HVAC	3	\$5,520	16
FCAID-040156	HWC-7	D30 - HVAC	3	\$10,120	16

FCAID-040158	HWC-9	D30 - HVAC	3	\$10,120	16
FCAID-040056	WH-1	D20 - Plumbing	3	\$6,220	15
FCAID-040071	EF	D30 - HVAC	3	\$6,210	15
FCAID-040058	WH-3	D20 - Plumbing	3	\$6,220	15
FCAID-040075	EF-5	D30 - HVAC	3	\$6,210	15
FCAID-040073	EF-1	D30 - HVAC	3	\$6,710	15
FCAID-040076	EF-101391	D30 - HVAC	3	\$6,710	15
FCAID-040057	WH-2	D20 - Plumbing	3	\$6,220	15
FCAID-040077	EF-2	D30 - HVAC	3	\$6,710	15
FCAID-040070	EF	D30 - HVAC	3	\$6,210	15
FCAID-040078	EF-3	D30 - HVAC	3	\$5,550	15
FCAID-040072	EF-1	D30 - HVAC	3	\$1,260	15
FCAID-040079	EF-4	D30 - HVAC	3	\$6,210	15
FCAID-040074	EF-10	D30 - HVAC	3	\$5,550	15
FCAID-040040	Interior Ceiling Finish: Tiles	C30 - Int. Finishes	2	\$29,860	15
FCAID-040081	EF-7	D30 - HVAC	3	\$5,550	15
FCAID-040083	EF-9	D30 - HVAC	3	\$5,550	15
FCAID-040080	EF-2	D30 - HVAC	3	\$5,550	15
FCAID-040022	Interior Doors: 95 Movable Partition	C10 - Int. Construct.	2	\$9,920	14
FCAID-040023	Interior Doors: 95 Movable Partition	C10 - Int. Construct.	2	\$9,920	14
FCAID-040060	Water Treatment System	D20 - Plumbing	1	\$5,530	14
FCAID-040049	Interior Flooring Finish: Old VCT	C30 - Int. Finishes	3	\$1,110	13
FCAID-040061	AS-1 (HWS)	D30 - HVAC	3	\$7,530	12
FCAID-040087	Glycol Feeder 2	D30 - HVAC	3	\$1,780	12

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.

BEATTIE ES

ASSET ID	DESCRIPTION	SUBSYSTEM	OBSERVED REMAINING LIFE	REPLACEMENT COST	PRIORITY SCORE
FCAID-040120	Switchboard Sec. 1	D50 - Electrical	4	\$40,180	19
FCAID-040122	Switchboard Sec. 3	D50 - Electrical	4	\$40,180	19
FCAID-040121	Switchboard Sec. 2	D50 - Electrical	4	\$40,180	19
FCAID-040123	Switchboard Sec. 4	D50 - Electrical	4	\$40,180	19
FCAID-040017	Roofing: Rolled Asphalt	B30 - Roofing	5	\$237,300	17
FCAID-040038	Interior Ceiling Finish: ACT	C30 - Int. Finishes	4	\$324,140	17
FCAID-040115	Panel LE	D50 - Electrical	4	\$3,600	15
FCAID-040113	Panel LA	D50 - Electrical	4	\$3,270	15
FCAID-040112	Panel K	D50 - Electrical	4	\$3,600	15
FCAID-040110	Panel EM	D50 - Electrical	4	\$3,000	15
FCAID-040008	Exterior Windows: 71 Metal Framed	B20 - Ext. Enclosure	5	\$27,180	14
FCAID-040103	UH-1	D30 - HVAC	4	\$6,740	14
FCAID-040055	Water Heater	D20 - Plumbing	4	\$10,610	14
FCAID-040019	Skylight	B30 - Roofing	5	\$14,820	13
FCAID-040009	Exterior Windows: Metal Framed (1979)	B20 - Ext. Enclosure	5	\$13,980	13
FCAID-040041	Interior Flooring Finish: Tile (1971)	C30 - Int. Finishes	5	\$25,010	13
FCAID-040035	Interior Windows: 71 Metal Framed	B20 - Ext. Enclosure	5	\$15,530	13
FCAID-040069	CUH	D30 - HVAC	5	\$9,240	13
FCAID-040036	Interior Windows: Metal Framed (1979)	B20 - Ext. Enclosure	5	\$3,880	13
FCAID-040012	Roof Hatch	B30 - Roofing	5	\$3,120	13
FCAID-040045	Interior Flooring Finish: Hardwood	C10 - Int. Construct.	5	\$66,160	12
FCAID-040042	Interior Flooring Finish: Tile (1995)	C30 - Int. Finishes	5	\$12,500	12
FCAID-040107	Exterior Lighting: Wall Pack	D50 - Electrical	5	\$16,980	12

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.

BEATTIE ES

ASSET ID	DESCRIPTION	SUBSYSTEM	OBSERVED REMAINING LIFE	REPLACEMENT COST	PRIORITY SCORE
FCAID-040101	RTU-6	D30 - HVAC	6	\$142,200	20
FCAID-040064	B-2	D30 - HVAC	9	\$103,400	20
FCAID-040140	Fire Alarm System	D50 - Electrical	10	\$354,720	20
FCAID-040063	B-1	D30 - HVAC	9	\$103,400	20
FCAID-040043	Interior Flooring Finish: Carpet	C30 - Int. Finishes	7	\$536,760	16
FCAID-040138	Walk in Cooler	E10 - Equipment	7	\$6,030	15
FCAID-040068	Walk-In Condenser	E10 - Equipment	7	\$5,030	15
FCAID-040054	CP-1	D20 - Plumbing	7	\$4,630	13
FCAID-040021	Interior Doors: 79 Movable Partition	C10 - Int. Construct.	7	\$29,760	12
FCAID-040020	Interior Doors: 71 Movable Partition	C10 - Int. Construct.	7	\$29,760	12
FCAID-040105	ATS-1	D50 - Electrical	6	\$4,340	12
FCAID-040145	VAV-6-3	D30 - HVAC	9	\$7,270	11
FCAID-040143	VAV-6-1	D30 - HVAC	9	\$5,640	11
FCAID-040147	VAV-6-5	D30 - HVAC	9	\$7,270	11
FCAID-040104	VAV-6-6	D30 - HVAC	9	\$3,500	11
FCAID-040144	VAV-6-2	D30 - HVAC	9	\$7,270	11
FCAID-040031	Interior Wall Construction: Drywall (1971)	C10 - Int. Construct.	6	\$10,460	11
FCAID-040146	VAV-6-4	D30 - HVAC	9	\$7,270	11
FCAID-040050	Interior Wall Finish: Tile	C30 - Int. Finishes	6	\$270	11
FCAID-040148	VAV-6-7	D30 - HVAC	9	\$5,640	11
FCAID-040149	VAV-6-8	D30 - HVAC	9	\$5,640	11
FCAID-040052	BFP-1	D20 - Plumbing	7	\$400	11
FCAID-040029	Interior Wall Construction: Drywall (1971)	C10 - Int. Construct.	10	\$52,280	10
FCAID-040062	AS-2 (CHWS)	D30 - HVAC	6	\$6,390	10
FCAID-040086	Glycol Feeder 1	D30 - HVAC	6	\$1,780	10

FCAID-040084	ET-1	D30 - HVAC	9	\$9,630	9
FCAID-040102	Tank 2	D30 - HVAC	10	\$3,430	8