POUDRE SCHOOL DISTRICT

SHEPARDSON STEM ELEMENTARY SCHOOL

FACILITY CONDITION ASSESSMENT

FORT COLLINS, CO

OCTOBER 2023

Together, Building a Thriving Planet

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Contacts

Key Contact Information

McKinstry Contacts

Devin Boyce
Program Manager, Facility Condition Assessments
720.408.4573
devinb@mckinstry.com

Roger Noonan
Senior Facility Assessment Consultant
970.531.1527
rogern@mckinstry.com

Josh Phillips
Facility Assessment Consultant
719.480.1372
joshph@mckinstry.com

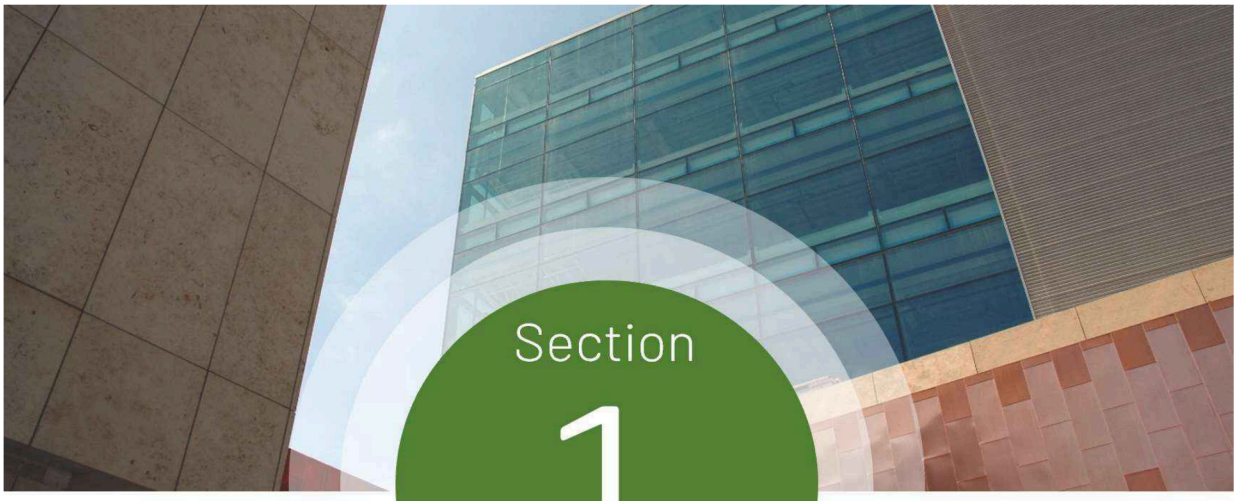
Tracey Cousins
Strategic Account Manager
720.445.7608
traceyc@mckinstry.com

Jaime Villarino-Eilenberger
Project Manager - Technical Services
949.933.7996
jaimev@mckinstry.com

Poudre School District Contacts

Trudy Trimbath
Energy and Sustainability Manager
970.490.3502
ttrimbath@psdschools.org

Jessie Ericson
Administrative Assistant - Operations
970.490.3080
jericson@psdschools.org



Section

1

Executive Summary

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Executive Summary

Project Goals

The contents of this report present the results of the Facility Condition Assessment (FCA) performed at Shepardson STEM ES within the Poudre School District (PSD) on July 19, 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

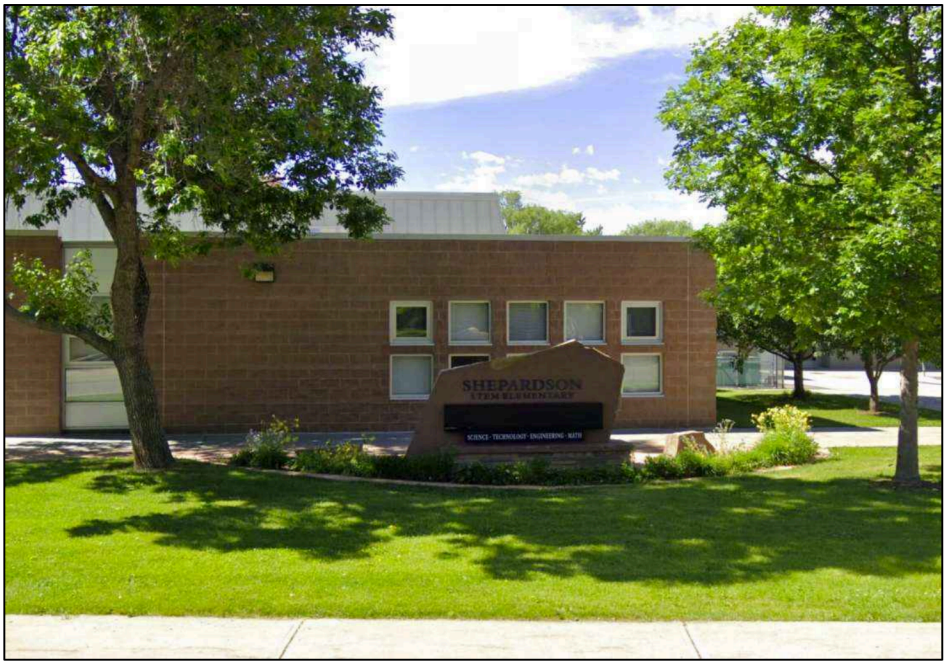
The scope of the FCA project included the assessment of the following campus.

FACILITY NAME	AREA (SF)	YEAR(S) BUILT
SHEPARDSON STEM ES	50,516	1978
TOTAL	**50,516**	

Facility Summary

Shepardson STEM ES

Shepardson STEM ES is located at 1501 Springwood Dr., Fort Collins, CO 80525. This 50,516 SF facility consists of one level and was initially constructed in 1978. The equity index for this school is 0.83.



Shepardson STEM ES

Executive Summary

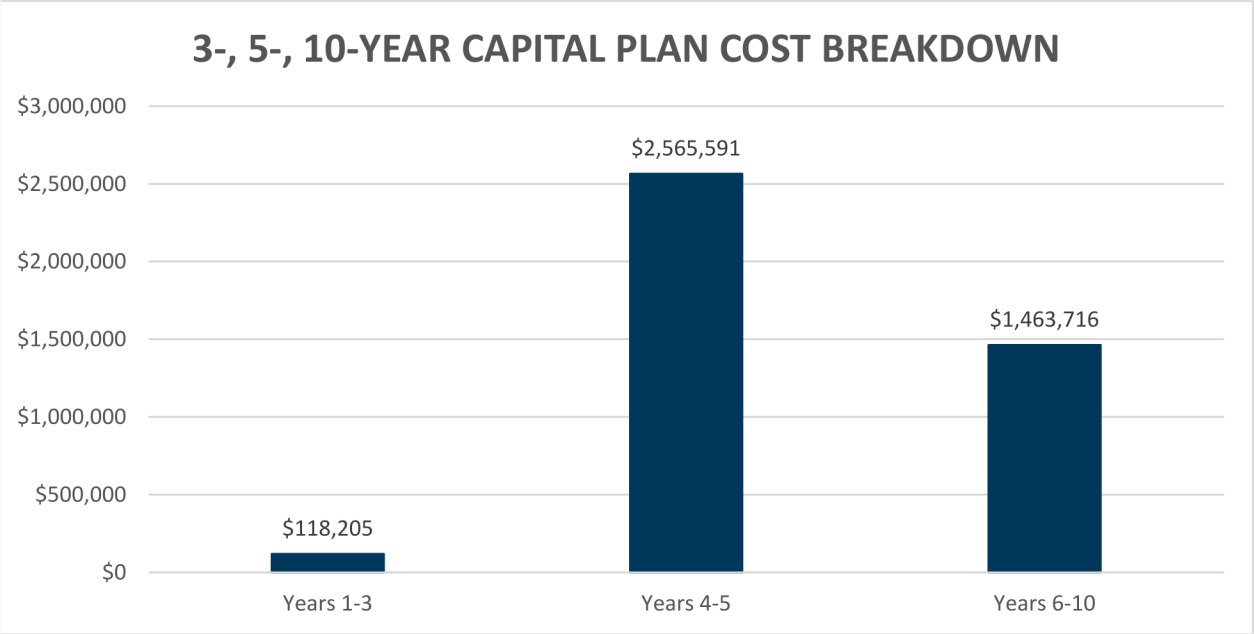
Assessment Summary

This section summarizes the building systems at the facility and describes the general condition observed based on the assessment performed on July 19, 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.



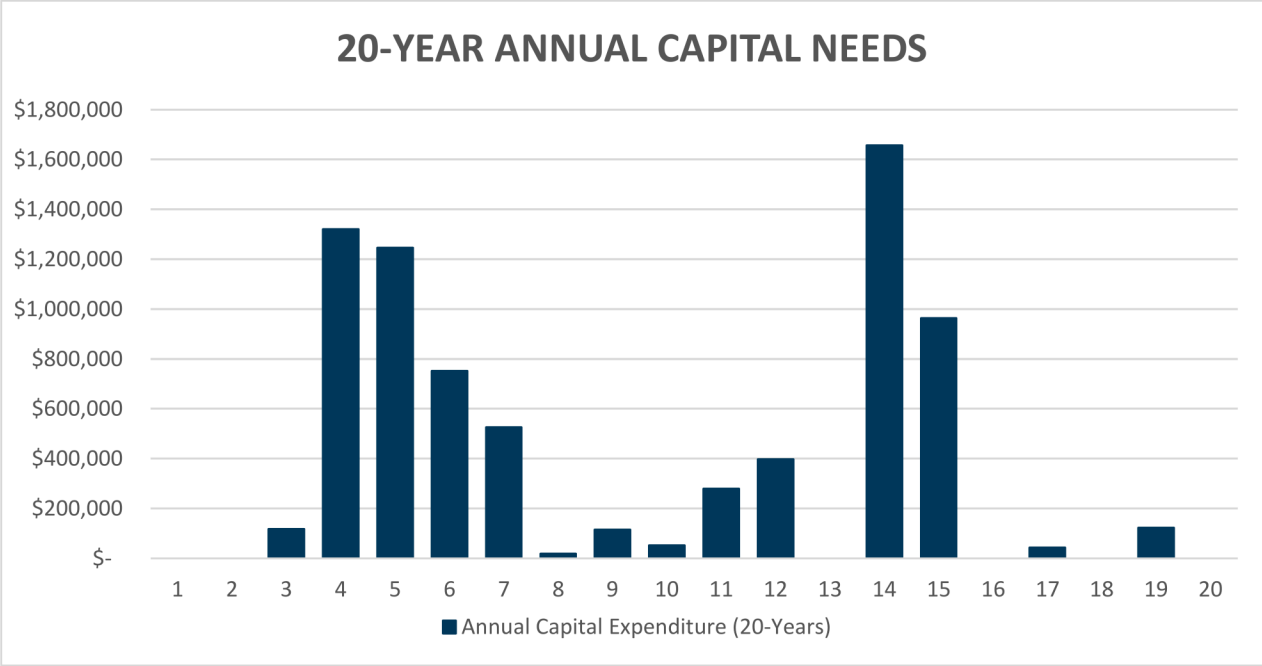
3-, 5-, 10-Year Capital Plan Cost Breakdown

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	$108,386	$51,773	$327,107	$0
B30 - Roofing	$0	$489,874	$0	$0
C10 - Int. Construction	$0	$19,100	$217,689	$0
C20 - Stairs	$0	$0	$0	$0
C30 - Interior Finishes	$928,476	$194,410	$844,092	$0
D10 - Conveying	$0	$0	$0	$0
D20 - Plumbing	$26,641	$31,199	$15,581	$41,305
D30 - HVAC	$392,237	$154,538	$1,232,531	$124,597
D40 - Fire Suppression	$0	$0	$0	$0
D50 - Electrical	$1,215,773	$515,182	$649,967	$0
E10 - Equipment	$12,283	$7,639	$7,608	$0
Total:	**$1,646,933**	**$708,558**	**$1,905,688**	**$165,902**

Section

2

Approach and Methodology

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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

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

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:

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

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 Shepardson STEM ES is 0.83.

Sample Calculation:

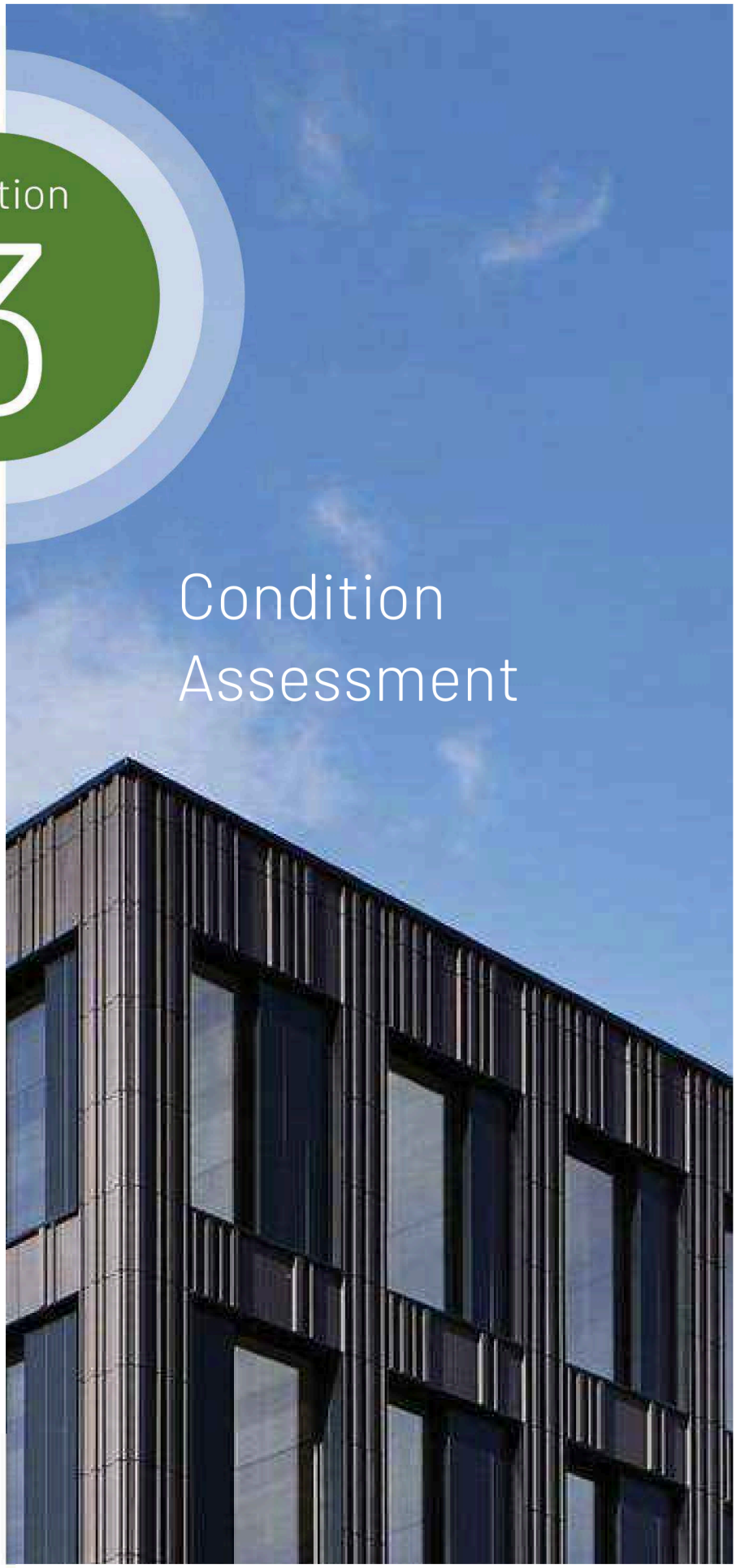
School Name	School Population K-12 Total	F/R	ELL	SPED	McKinney-Vento	Total of Previous Columns	Equity Index Number = school average / district average
Sample	381	15.20%	0.00%	8.40%	0.00%	0.24	0.24/0.48 = 0.49
Grand PSD Total - Oct 2022 Count	**26,163**	**29.5%**	**5.8%**	**9.5%**	**3.4%**	**0.48**	

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

Section

3

Condition Assessment



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Condition Assessment

SYSTEMS DESCRIPTION

This section summarizes the building systems at Shepardson STEM 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 masonry from several different construction periods (1977 1995, 2001). Original masonry (brick) has standing seam metal mansard roofing elements at major entry elements and classroom exterior entrances. The 1995 addition has matching brick with a curved wall adjacent to the main entry. The 2001 addition is a CMU facade with metal panel accents and steel canopy elements. Throughout, exterior windows are typically metal framed.

Roofing

The majority of the roofing is rolled asphalt which has a spray applied finish over the top. [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).

Conveyance

N/A

Electrical and Lighting

The building's electrical distribution equipment consists of 120/208 panels, transformers, and switchgear. [redacted]. The switchboard MSB 2 is estimated to have surpassed its life expectancy. The fire alarm system dates to 2015. Interior lighting consists of mostly fluorescent fixtures. Exterior lighting includes incandescent lighting fixtures [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, two air handling units, seven rooftop units, hot water coils, and radiant heaters. The building automation system is made up of Schneider Electric controls. Additional HVAC equipment includes fan coil units, exhaust fans, unit heaters, and cabinet unit heaters. The air handling units, a rooftop unit, and several exhaust fans [redacted]have surpassed their life expectancies and should be replaced within the next 3-5 years.

Plumbing

Domestic hot water is provided by one (1) natural gas fired water heater installed in 2006 and three electric water heaters installed in 2009. Additional plumbing equipment includes backflow preventers, expansion tanks, and pumps. The water heaters and a backflow preventer have surpassed their life expectancy and are anticipated to need replacement within the next 4-7 years.

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.

Shepardson STEM ES

Replace Air Handling Units

The two air handling units, AHU-1 and AHU-2, have surpassed their industry life expectancy by over 20 years [redacted]. It is recommended that these two units be replaced within the next four years.

The following assets are included within this measure:

FCAID-520049, FCAID-520050

Priority Level:	2
Estimated Cost:	$113,760
Remaining Life:	4 years

Condition Assessment

Replace Rooftop Units

The two rooftop units, RTU-5 and RTU-6, have surpassed their industry life expectancy [redacted]. It is recommended that these two units be replaced within the next 3-4 years.

The following assets are included within this measure:

FCAID-520142, FCAID-520143

Priority Level: 2
Estimated Cost: $101,600
Remaining Life: 3-4 years

Replace or Recoat Coated Asphalt Roofing

The coated asphalt roofing is [redacted] reaching the end of its industry life expectancy. The roof will need to be recoated or replaced soon.

The following assets are included within this measure:

FCAID-520012

Priority Level: 2
Estimated Cost: $339,000
Remaining Life: 6 years

Replace Switchboard

The switchboard MSB 2 is estimated to have surpassed its life expectancy, it is anticipated to need replacement within the next four years.

The following assets are included within this measure:

FCAID-520153, FCAID-520154

Priority Level: 2
Estimated Cost: $64,540
Remaining Life: 4 years

Replace Lighting Fixtures

Interior lighting consists of mostly fluorescent fixtures. Exterior lighting includes incandescent lighting fixtures [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-520174

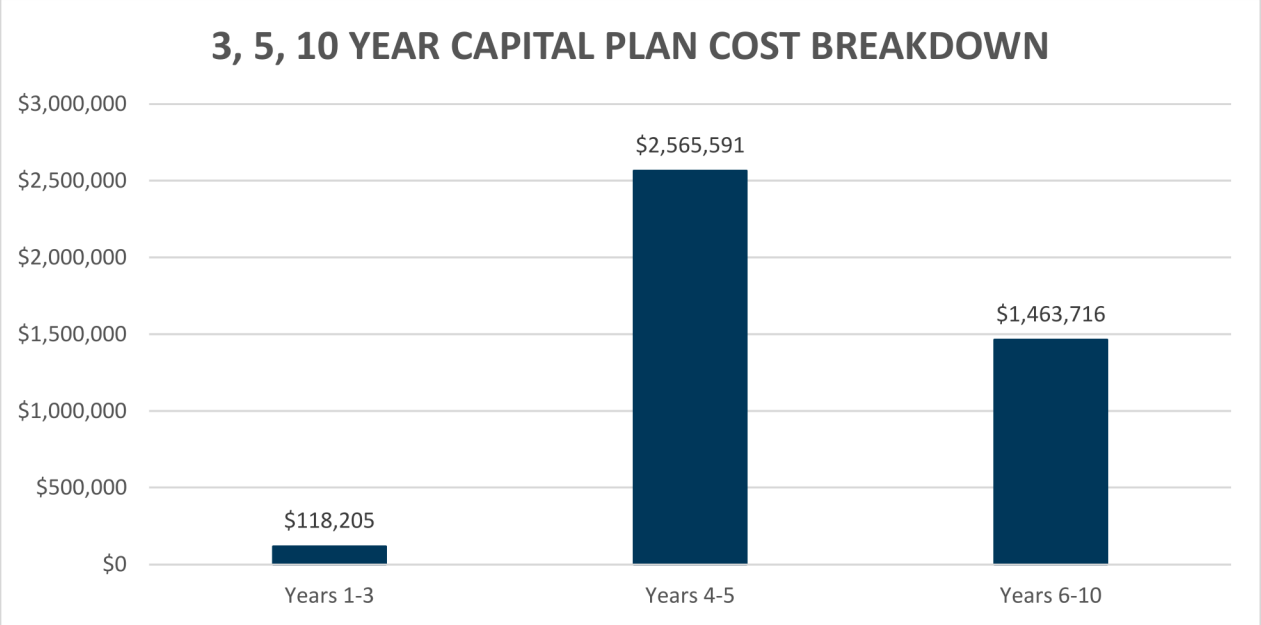
Priority Level: 2
Estimated Cost: $657,350
Remaining Life: 4 years

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.

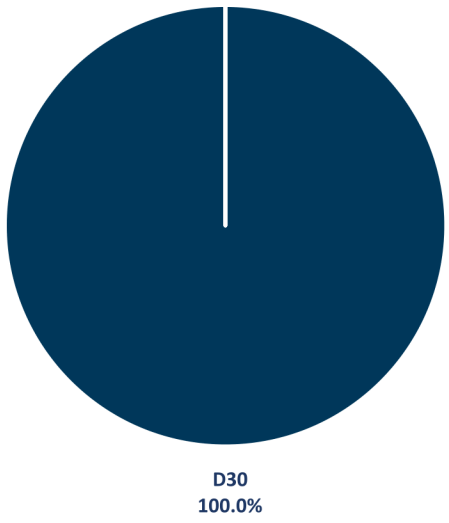
REPLACEMENT PERIOD	ASSET QUANTITY	CUMULATIVE REPLACEMENT COST
3-Year Plan	11	$118,205
5-Year Plan	36	$2,565,591
10-Year Plan	35	$1,463,716
Total	**82**	**$4,147,512**

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 $118,205. The specific assets that will reach end of life in this period are listed in Appendix A.

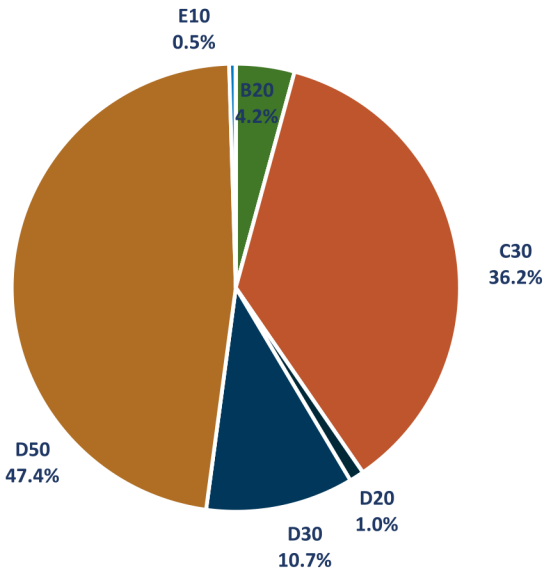
SUBSYSTEM	Years 1-3	Percent
A10 - Foundations	$0	0%
B10 - Superstructure	$0	0%
B20 - Exterior Enclosure	$0	0%
B30 - Roofing	$0	0%
C10 - Int. Construction	$0	0%
C20 - Stairs	$0	0%
C30 - Interior Finishes	$0	0%
D10 - Conveying	$0	0%
D20 - Plumbing	$0	0%
D30 - HVAC	$118,205	100%
D40 - Fire Protection	$0	0%
D50 - Electrical	$0	0%
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 $2,565,591. 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	$108,386	4%
B30 - Roofing	$0	0%
C10 - Int. Construction	$0	0%
C20 - Stairs	$0	0%
C30 - Interior Finishes	$928,476	36%
D10 - Conveying	$0	0%
D20 - Plumbing	$26,641	1%
D30 - HVAC	$274,031	11%
D40 - Fire Protection	$0	0%
D50 - Electrical	$1,215,773	47%
E10 - Equipment	$12,283	<1%
G20 - Site Improvements	$0	0%
G40 - Site Electrical	$0	0%

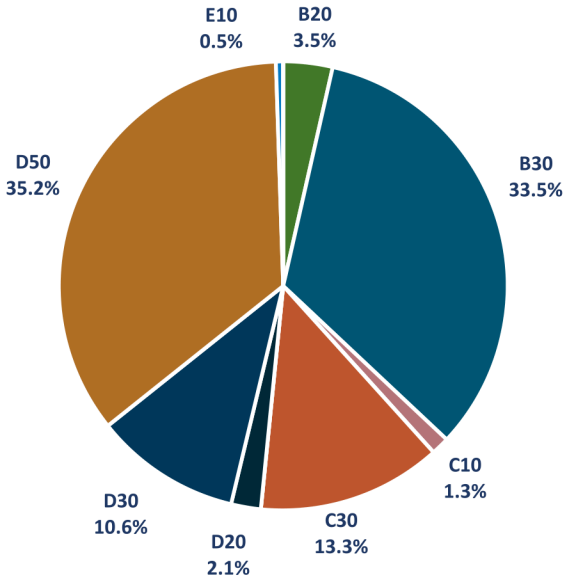


Condition Assessment

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 $1,463,716. 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	$51,773	4%
B30 - Roofing	$489,874	33%
C10 - Int. Construction	$19,100	1%
C20 - Stairs	$0	0%
C30 - Interior Finishes	$194,410	13%
D10 - Conveying	$0	0%
D20 - Plumbing	$31,199	2%
D30 - HVAC	$154,538	11%
D40 - Fire Protection	$0	0%
D50 - Electrical	$515,182	35%
E10 - Equipment	$7,639	1%
G20 - Site Improvements	$0	0%
G40 - Site Electrical	$0	0%



Condition Assessment

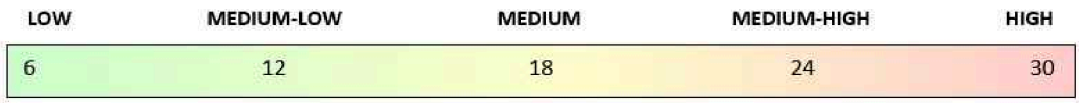
PRIORITY SUMMARY

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.



Condition Assessment

PRIORITY SCORE SUMMARY - SHEPARDSON STEM ES

SHEPARDSON STEM ES

BUILDING TYPE:	Elementary School
YEAR BUILT:	1978
GROSS AREA (SF):	50,516
DATE ASSESSED:	July 19, 2023
PRIORITY SCORE:	**15.8**

SUBSYSTEM:	DESCRIPTION	PRIORITY SCORE
B20 - Ext. Enclosure	The exterior façade of this facility is masonry from several different construction periods (1977 1995, 2001). Original masonry (brick) has standing seam metal mansard roofing elements at major entry elements and classroom exterior entrances. The 1995 addition has matching brick with a curved wall adjacent to the main entry. The 2001 addition is a CMU facade with metal panel accents and steel canopy elements. Throughout, exterior windows are typically metal framed.	**11.2**
B30 - Roofing	The majority of the roofing is rolled asphalt which has a spray applied finish over the top. [redacted] l. Note that the standing seam mansard elements have small sections of EPDM membrane roofing.	**15.7**
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).	**12.0**
C30 - Interior Finishes		**14.3**
D20 - Plumbing	Domestic hot water is provided by one (1) natural gas fired water heater installed in 2006 and three electric water heaters installed in 2009. Additional plumbing equipment includes backflow preventers, expansion tanks, and pumps. The water heaters and a backflow preventer have surpassed their life expectancy and are anticipated to need replacement within the next 4-7 years.	**13.2**
D30 - HVAC	The building's heating, ventilation, and air conditioning (HVAC) system consists of a hot water system, two air handling units, seven rooftop units, hot water coils, and radiant heaters. The building automation system is made up of Schneider Electric controls. Additional HVAC equipment includes fan coil units, exhaust fans, unit heaters, and cabinet unit heaters. The air handling units, a rooftop unit, and several exhaust fans [redacted] have surpassed their life expectancies and should be replaced within the next 3-5 years.	**15.8**
D40 - Fire Suppression	N/A	**N/A**
D50 - Electrical	The building's electrical distribution equipment consists of 120/208 panels, transformers, and switchgear. [redacted] The switchboard MSB 2 is estimated to have surpassed its life expectancy. The fire alarm system dates to 2015. Interior lighting consists of mostly fluorescent fixtures. Exterior lighting includes incandescent lighting fixtures and is, generally [redacted] Consider upgrading the interior and exterior lighting to light emitting diode (LED) fixtures to reduce energy costs and maintenance needs.	**21.6**
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.	**14.5**

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.

SHEPARDSON STEM ES

ASSET ID	DESCRIPTION	SUBSYSTEM	OBSERVED REMAINING	REPLACEMENT COST	PRIORITY SCORE
FCAID-520143	RTU-6	D30 - HVAC	3	$54,600	21
FCAID-520119	EF-8	D30 - HVAC	3	$5,550	15
FCAID-520115	EF-22	D30 - HVAC	3	$5,550	15
FCAID-520104	EF-1	D30 - HVAC	3	$5,550	15
FCAID-520110	EF-13	D30 - HVAC	3	$6,210	15
FCAID-520117	EF-3	D30 - HVAC	3	$5,550	15
FCAID-520111	EF-14	D30 - HVAC	3	$5,550	15
FCAID-520107	EF-10	D30 - HVAC	3	$5,550	15
FCAID-520121	EF-9	D30 - HVAC	3	$5,550	15
FCAID-520112	EF-16	D30 - HVAC	3	$6,210	15
FCAID-520113	EF-19	D30 - HVAC	3	$5,550	15

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.

SHEPARDSON STEM ES

ASSET ID	DESCRIPTION	SUBSYSTEM	OBSERVED REMAINING LIFE	REPLACEMENT COST	PRIORITY SCORE
FCAID-520174	Interior Lighting, Fluorescent	D50 - Electrical	4	$657,350	25
FCAID-520173	Emergency Lighting	D50 - Electrical	4	$192,470	24
FCAID-520049	AHU-1	D30 - HVAC	4	$56,880	20
FCAID-520050	AHU-2	D30 - HVAC	4	$56,880	20
FCAID-520142	RTU-5	D30 - HVAC	4	$47,000	19
FCAID-520176	Security System	D50 - Electrical	5	$192,470	19
FCAID-520153	MSB 2 Sec. 1	D50 - Electrical	4	$32,270	18
FCAID-520154	MSB 2 Sec. 2	D50 - Electrical	4	$32,270	18
FCAID-520147	Walk-in Condenser	E10 - Equipment	4	$5,030	17
FCAID-520031	Flooring: Carpet	C30 - Int. Finishes	5	$376,630	16
FCAID-520131	HWC-6-2	D30 - HVAC	4	$5,520	15
FCAID-520099	CUH-2	D30 - HVAC	4	$6,610	15
FCAID-520033	Flooring: Older Tile	C30 - Int. Finishes	4	$79,090	15
FCAID-520029	Ceiling Finish: ACT	C30 - Int. Finishes	5	$366,280	15
FCAID-520130	HWC-6-1	D30 - HVAC	4	$6,900	15
FCAID-520169	Walk in Cooler	E10 - Equipment	5	$6,030	15
FCAID-520010	Windows: Metal (1977)	B20 - Ext. Enclosure	5	$83,870	14
FCAID-520045	WH-1	D20 - Plumbing	4	$10,610	14
FCAID-520042	CP-1	D20 - Plumbing	4	$4,630	14
FCAID-520043	CP-2	D20 - Plumbing	4	$4,630	14
FCAID-520118	EF-7	D30 - HVAC	5	$6,210	13
FCAID-520097	CUH	D30 - HVAC	5	$8,750	13
FCAID-520120	EF-8	D30 - HVAC	5	$6,210	13
FCAID-520041	BFP-1	D20 - Plumbing	4	$400	13
FCAID-520098	CUH	D30 - HVAC	5	$8,750	13

FCAID-520109	EF-11	D30 - HVAC	5	$1,260	13
FCAID-520100	CUH-3	D30 - HVAC	5	$6,610	13
FCAID-520114	EF-21	D30 - HVAC	5	$1,260	13
FCAID-520116	EF-27	D30 - HVAC	5	$5,550	13
FCAID-520102	CUH-6	D30 - HVAC	5	$6,610	13
FCAID-520039	Wall Finish: Tile	C30 - Int. Finishes	4	$5,400	13
FCAID-520105	EF-1	D30 - HVAC	5	$5,550	13
FCAID-520108	EF-11	D30 - HVAC	5	$5,550	13
FCAID-520009	Exterior Windows: Aluminum (1995)	B20 - Ext. Enclosure	5	$12,430	13
FCAID-520101	CUH-4	D30 - HVAC	5	$6,610	13
FCAID-520044	ET-1	D20 - Plumbing	4	$4,110	11

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.

SHEPARDSON STEM ES

ASSET ID	DESCRIPTION	SUBSYSTEM	OBSERVED REMAINING LIFE	REPLACEMENT COST	PRIORITY SCORE
FCAID-520149	Fire Alarm System	D50 - Electrical	7	$393,520	22
FCAID-520012	Roofing: Coated Asphalt	B30 - Roofing	6	$339,000	17
FCAID-520141	RTU-4	D30 - HVAC	6	$35,380	17
FCAID-520134	IH-FCU-2	D30 - HVAC	7	$3,090	16
FCAID-520133	IH-AHU-2	D30 - HVAC	7	$3,090	16
FCAID-520132	IH-AHU-1	D30 - HVAC	7	$3,090	16
FCAID-520171	Backup Generator	D50 - Electrical	6	$22,400	16
FCAID-520014	Roofing: Light Tube	B30 - Roofing	6	$51,860	14
FCAID-520015	Roofing: Metal Flashing	B30 - Roofing	6	$28,790	14
FCAID-520170	Walk-in Freezer	E10 - Equipment	9	$6,030	14
FCAID-520125	FCU-2	D30 - HVAC	9	$6,370	13
FCAID-520047	WH-400	D20 - Plumbing	7	$8,580	13
FCAID-520136	P-2	D30 - HVAC	9	$11,900	13
FCAID-520135	P-1	D30 - HVAC	9	$11,900	13
FCAID-520127	FCU-4	D30 - HVAC	9	$6,370	13
FCAID-520046	WH-300	D20 - Plumbing	7	$8,580	13
FCAID-520128	FCU-5	D30 - HVAC	9	$6,370	13
FCAID-520048	WH-500	D20 - Plumbing	7	$8,580	13
FCAID-520013	Roofing: Ladder	B30 - Roofing	6	$2,920	13
FCAID-520126	FCU-3	D30 - HVAC	9	$6,370	13
FCAID-520124	FCU-1	D30 - HVAC	9	$6,610	13
FCAID-520036	Flooring: Traffic Coating	C30 - Int. Finishes	6	$55,900	12
FCAID-520037	Flooring: VCT	C30 - Int. Finishes	6	$55,900	12
FCAID-520034	Flooring: Sheet Vinyl	C30 - Int. Finishes	6	$55,900	12
FCAID-520103	EF	D30 - HVAC	9	$1,260	11

FCAID-520148	ATS-1	D50 - Electrical	9	$4,300	11
FCAID-520040	BFP	D20 - Plumbing	6	$400	11
FCAID-520145	UH-1	D30 - HVAC	7	$4,520	11
FCAID-520003	Exterior Doors: Wood, Double	B20 - Ext. Enclosure	10	$39,680	11
FCAID-520168	VFD-2	D50 - Electrical	9	$5,480	10
FCAID-520028	Interior Windows: Metal Framed	C10 - Int. Construct.	8	$15,530	10
FCAID-520167	VFD-1	D50 - Electrical	9	$5,480	10
FCAID-520096	Bypass Feeder	D30 - HVAC	9	$750	9
FCAID-520051	AS-1	D30 - HVAC	7	$7,530	9
FCAID-520122	ET-1	D30 - HVAC	9	$11,620	8