

LESHER IB WORLD MIDDLE SCHOOL

POUDRE SCHOOL
DISTRICT

LESHER, IB WORLD
SCHOOL MS

FACILITY CONDITION ASSESSMENT

FORT COLLINS, CO

MARCH 2023



Together, Building a Thriving Planet

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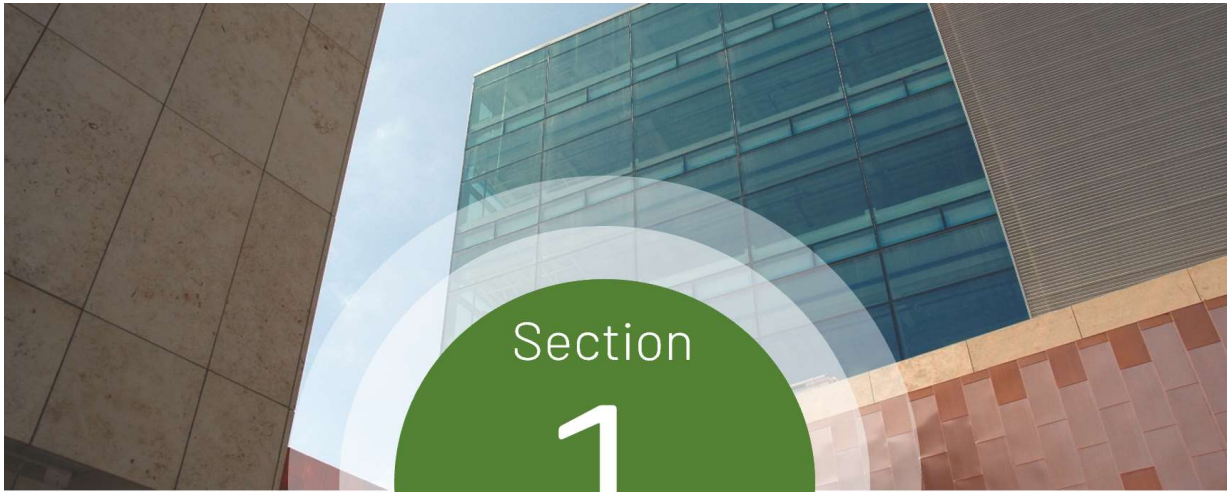
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Section

1

Executive Summary

Executive Summary

Project Goals

The contents of this report present the results of the Facility Condition Assessment (FCA) performed at Leshar, IB World School MS within the Poudre School District (PSD) on March 4, 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
LESHER, IB WORLD SCHOOL MS	93,686	1960
TOTAL	93,686	

Facility Summary

Leshar, IB World School MS

Leshar, IB World School MS is located at 1400 Stover St., Fort Collins, CO 80521. This 93,686 SF facility consists of one level and was initially constructed in 1960. The equity index for this school is 0.82.



Leshar, IB World School MS

Executive Summary

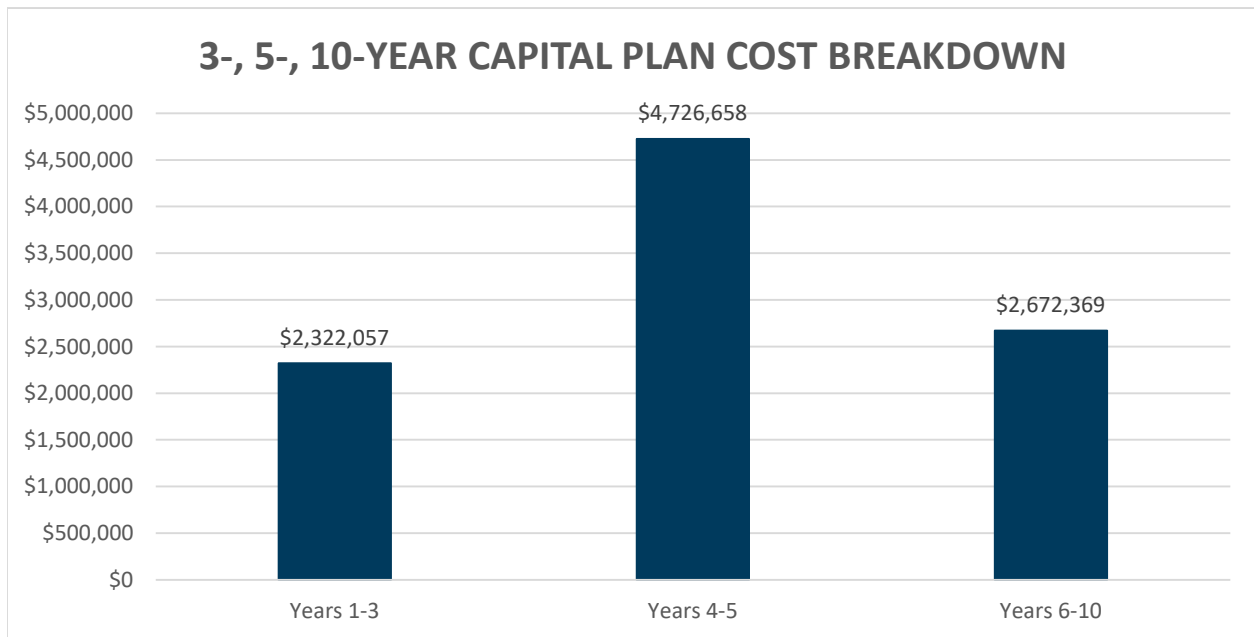
Assessment Summary

This section summarizes the building systems at the facility and describes the general condition observed based on the assessment performed on March 4, 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.



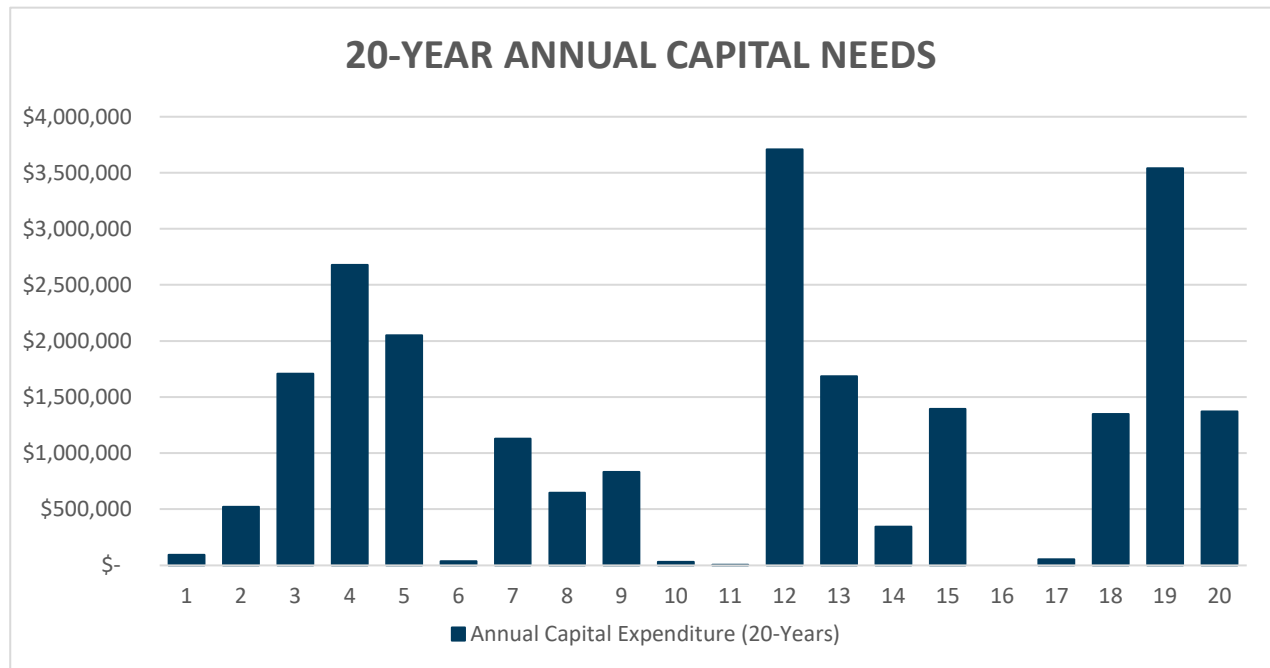
3-, 5-, 10-Year Capital Plan Cost Breakdown

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	\$553,292	\$0	\$4,042,637	\$0
B30 - Roofing	\$106,063	\$750,637	\$0	\$0
C10 - Int. Construction	\$0	\$0	\$0	\$0
C20 - Stairs	\$0	\$0	\$0	\$0
C30 - Interior Finishes	\$1,237,530	\$0	\$1,851,228	\$55,007
D10 - Conveying	\$0	\$0	\$0	\$0
D20 - Plumbing	\$0	\$36,827	\$14,718	\$28,652
D30 - HVAC	\$2,013,484	\$1,851,384	\$10,413	\$2,129,214
D40 - Fire Suppression	\$0	\$0	\$0	\$2,765,637
D50 - Electrical	\$3,138,346	\$9,917	\$1,216,666	\$1,333,660
E10 - Equipment	\$0	\$23,603	\$0	\$0
Total:	\$7,048,715	\$2,672,369	\$7,135,662	\$6,312,170

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 Unifformat 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 Leshar, IB World School MS is 0.82.

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 Lesher, IB World School MS and describes the general condition observed based on the assessment. Specific findings and recommendations are detailed later in this report.

Exterior Enclosure

The original building was constructed in 1960. Subsequent additions to the school were completed in 1972, 1976, 1980, 1993, and 2007. All additions are primarily of brick construction. Windows are typically steel framed type with some updated sections of aluminum framed windows. The glass, but not frames, of all windows was replaced in 2006.

Roofing

Rolled asphalt roofing is present on all building sections. Most of the roofing material was replaced in 2007. However, the 1972 and 1993 sections of rolled asphalt roofing were not replaced in 2007 [REDACTED]

Interior Construction and Finishes

The interior construction components of the building, including brick and concrete masonry unit (CMU) walls are original. Most doors were replaced in 2007. The interior doors are primarily of the wood and hollow metal type. The majority of interior finishes were updated in 2007 including carpeting, acoustical tile ceilings.

Conveyance

The building is of single level construction and therefore does not have, or require, a passenger or freight elevator.

Electrical and Lighting

The building includes both 120/208V and 277/480V service. Electrical assets, including panelboards, transformers, and the main switchboard are of varying ages of install. [REDACTED] Emergency back-up lighting appears to date to the 2007 renovation. Though the building's interior lighting system was replaced in 2007 all lighting fixtures are of the fluorescent type with the exception of the lighting in the Main Gym which has been updated to LED fixtures. Recommend replacement of the fluorescent lighting fixtures with LED lighting fixtures in approximately 4 years.

HVAC Systems

The HVAC assets include air handling units, rooftop units, exhaust fans, duct heating units, cabinet unit heaters, fan coil units, and vertical unit ventilators. RTUs 1-9 are original 1962-built units that received control upgrades in 2007. There are 40 VUVs present in the building which provide outside ventilation air and hydronic heating but lack cooling capabilities. The heating water system features two gas-fired boilers with associated circulation pumps.

Plumbing

Plumbing assets include a single gas-fired water heater and two circulation pumps. One backflow preventer, two thermostatic mixing valves, one bypass feeder, and a single sump pump are also provided.

Fire Suppression

The fire alarm system and the wet fire sprinkler system date to the 2007 renovation. The Fire Protection System appears to be well maintained and updated per fire code requirements. No deficiencies were noted with this system.

Equipment

The Kitchen area is provided one walk-in cooler and one walk-in freezer with associated condensing units.

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.

Lesher, IB World School MS

1. Replace Rolled Asphalt Roofing

The 1993 and 1972 [REDACTED] Roofing material is bubbled up and has visible cracks. Recommend replacement of these sections within the year.

The following assets are included within this measure:

FCAID-320020, FCAID-320021



Priority Level:	2
Estimated Cost:	\$42,630
Remaining Life:	≤ 1 Year

Condition Assessment

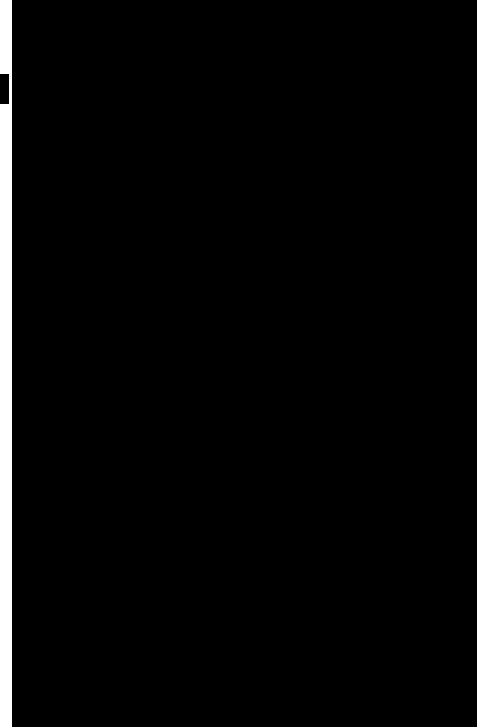
[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



Priority Level: 2
Estimated Cost: \$22,400
Remaining Life: ≤ 1 Year

3. Replace Older Electrical Panelboards

Nine of the electrical panelboards date to 1980 [REDACTED]
[REDACTED] Recommend replacement within the year.

The following assets are included within this measure:

FCAID-320210, FCAID-320214, FCAID-320214, FCAID-320215, FCAID-320216, FCAID-320217, FCAID-320218, FCAID-320219, FCAID-320225



Priority Level: 2
Estimated Cost: \$28,620
Remaining Life: ≤ 1 Year

Condition Assessment

4. Replace Exterior Windows



The following assets are included within this measure:

FCAID-320012, FCAID-320013, FCAID-320014, FCAID-320015



Priority Level: 3
Estimated Cost: \$367,840
Remaining Life: ≤ 2 Years

5. Replace Heating Water Pumps

HWP-1 and HWP-2 are 2006-built 20 Hp pumps that [REDACTED] require replacement within two years. HWP-3 and HWP-4 are 2006-built 2 Hp pumps that [REDACTED] [REDACTED] require replacement within two years.

The following assets are included within this measure:

FCAID-320143 through FCAID-320146



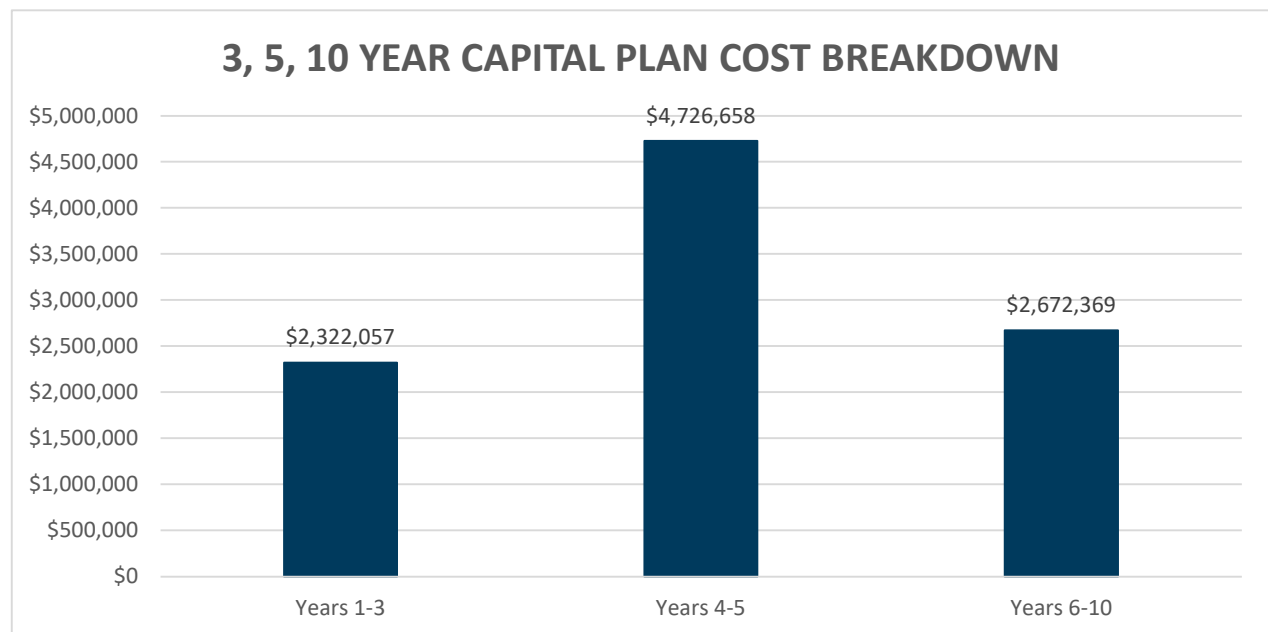
Priority Level: 2
Estimated Cost: \$68,700
Remaining Life: ≤ 2 Years

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.

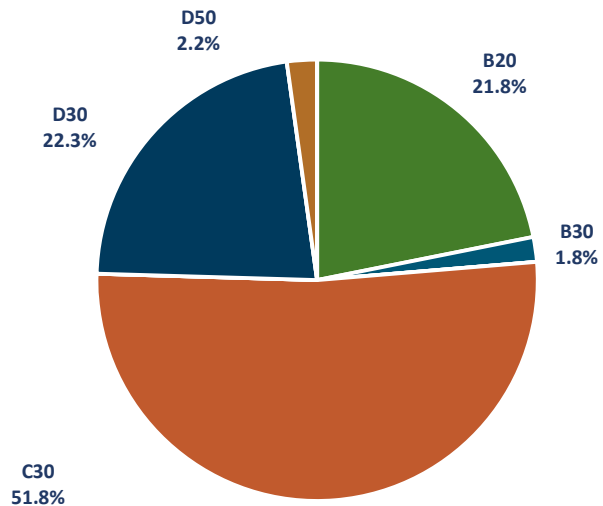
REPLACEMENT PERIOD	ASSET QUANTITY	CUMULATIVE REPLACEMENT COST
3-Year Plan	50	\$2,322,057
5-Year Plan	80	\$4,726,658
10-Year Plan	60	\$2,672,369
Total	190	\$9,721,084

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 \$2,322,057. The specific assets that will reach end of life in this period are listed in Appendix A.

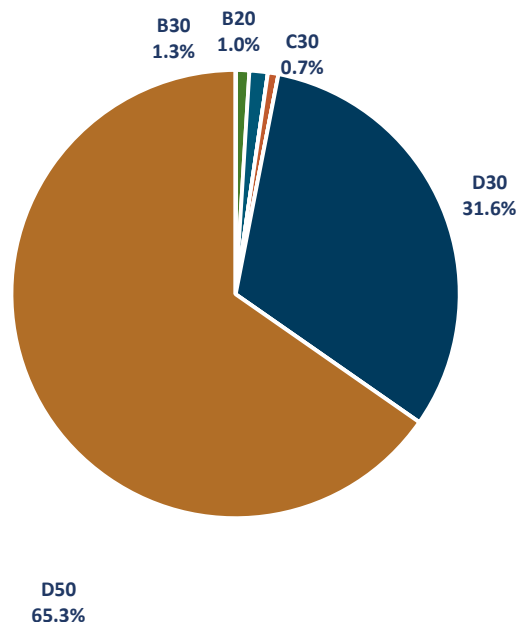
SUBSYSTEM	Years 1-3	Percent
A10 - Foundations	\$0	0%
B10 - Superstructure	\$0	0%
B20 - Exterior Enclosure	\$507,327	22%
B30 - Roofing	\$42,630	2%
C10 - Int. Construction	\$0	0%
C20 - Stairs	\$0	0%
C30 - Interior Finishes	\$1,202,222	52%
D10 - Conveying	\$0	0%
D20 - Plumbing	\$0	0%
D30 - HVAC	\$518,858	22%
D40 - Fire Protection	\$0	0%
D50 - Electrical	\$51,020	2%
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 \$4,726,658. 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	\$45,966	1%
B30 - Roofing	\$63,433	1%
C10 - Int. Construction	\$0	0%
C20 - Stairs	\$0	0%
C30 - Interior Finishes	\$35,307	1%
D10 - Conveying	\$0	0%
D20 - Plumbing	\$0	0%
D30 - HVAC	\$1,494,626	32%
D40 - Fire Protection	\$0	0%
D50 - Electrical	\$3,087,326	65%
E10 - Equipment	\$0	0%
G20 - Site Improvements	\$0	0%
G40 - Site Electrical	\$0	0%

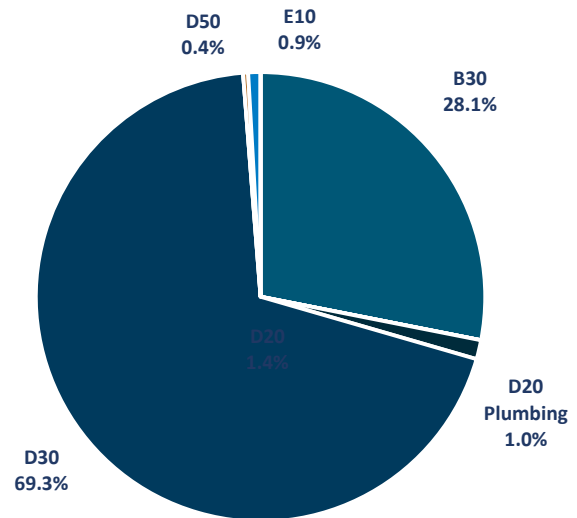


Condition Assessment

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 \$2,672,369. 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	\$750,637	28%
C10 - Int. Construction	\$0	0%
C20 - Stairs	\$0	0%
C30 - Interior Finishes	\$0	0%
D10 - Conveying	\$0	0%
D20 - Plumbing	\$36,827	1%
D30 - HVAC	\$1,851,384	69%
D40 - Fire Protection	\$0	0%
D50 - Electrical	\$9,917	<1%
E10 - Equipment	\$23,603	1%
G20 - Site Improvements	\$0	0%
G40 - Site Electrical	\$0	0%



Condition Assessment

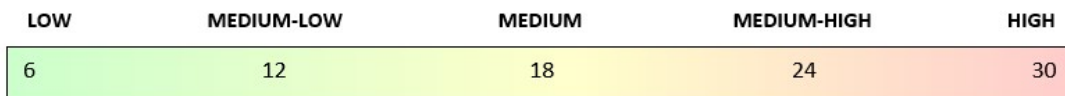
PRIORITY SUMMARY

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.

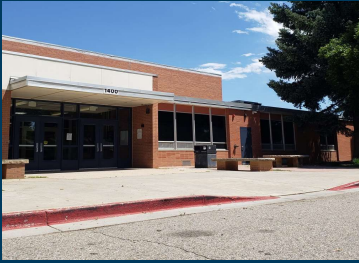
Future Capital Plan

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 - LESHER, IB WORLD SCHOOL MS

		LESHER, IB WORLD SCHOOL MS BUILDING TYPE: Middle School YEAR BUILT: 1960 GROSS AREA (SF): 93,686 DATE ASSESSED: March 14, 2023 PRIORITY SCORE: 16.7
SUBSYSTEM:	DESCRIPTION	PRIORITY SCORE
B20 - Ext. Enclosure	The original building was constructed in 1960. Subsequent additions to the school were completed in 1972, 1976, 1980, 1993, and 2007. All additions are primarily of brick construction. Windows are typically steel framed type with some updated sections of aluminum framed windows. The glass, but not frames, of all windows was replaced in 2006.	13.2
B30 - Roofing	Rolled asphalt roofing is present on all building sections. Most of the roofing material was replaced in 2007. However, the 1972 and 1993 sections of rolled asphalt roofing were not replaced in 2007 [REDACTED]	15.9
C10 - Int. Construction	The interior construction components of the building, including brick and concrete masonry unit (CMU) walls are original. Most doors were replaced in 2007. The interior doors are primarily of the wood and hollow metal type. The majority of interior finishes were updated in 2007 including carpeting, acoustical tile ceilings.	16.0
C30 - Interior Finishes		16.3
D20 - Plumbing	Plumbing assets include a single gas-fired water heater and two circulation pumps. One backflow preventer, two thermostatic mixing valves, one bypass feeder, and a single sump pump are also provided.	9.4
D30 - HVAC	The HVAC assets include air handling units, rooftop units, exhaust fans, duct heating units, cabinet unit heaters, fan coil units, and vertical unit ventilators. RTUs 1-9 are original 1962-built units that received control upgrades in 2007. There are 40 VUVs present in the building which provide outside ventilation air and hydronic heating but lack cooling capabilities. The heating water system features two gas-fired boilers with associated circulation pumps.	16.6
D40 - Fire Suppression	The fire alarm system and the wet fire sprinkler system date to the 2007 renovation. The Fire Protection System appears to be well maintained and updated per fire code requirements. No deficiencies were noted with this system.	20.0
D50 - Electrical	The building includes both 120/208V and 277/480V service. Electrical assets, including panelboards, transformers, and the main switchboard are of varying ages of install. [REDACTED] Emergency back-up lighting appears to date to the 2007 renovation. Though the building's interior lighting system was replaced in 2007 all lighting fixtures are of the fluorescent type with the exception of the lighting in the Main Gym which has been updated to LED fixtures. Recommend replacement of the fluorescent lighting fixtures with LED lighting fixtures in approximately 4 years.	21.4
E10 - Equipment	The Kitchen area is provided one walk-in cooler and one walk-in freezer with associated condensing units.	13.0

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.

LESHER, IB WORLD SCHOOL MS

ASSET ID	DESCRIPTION	SUBSYSTEM	OBSERVED REMAINING	REPLACEMENT COST	PRIORITY SCORE
FCAID-10049	Back-Up Generator	D50 - Electrical	1	\$22,400	20
FCAID-10012	Exterior Windows: Metal Framed (1960)	B20 - Exterior Enclosu	2	\$204,480	20
FCAID-10021	Roofing: Rolled Asphalt (1993)	B30 - Roofing	1	\$21,310	18
FCAID-10020	Roofing: Rolled Asphalt (1972)	B30 - Roofing	1	\$21,320	18
FCAID-10001	Exterior Windows: Glass Block	B20 - Exterior Enclosu	2	\$124,710	18
FCAID-10208	Panel BRPEM	D50 - Electrical	1	\$3,000	17
FCAID-10166	VUV - Room 13	D30 - HVAC	3	\$30,370	17
FCAID-10215	Panel LPC	D50 - Electrical	1	\$3,270	17
FCAID-10014	Exterior Windows: Metal Framed (1976)	B20 - Exterior Enclosu	2	\$40,840	17
FCAID-10168	VUV - Room 13B	D30 - HVAC	3	\$30,370	17
FCAID-10029	Interior Flooring Finishes: Carpet	C30 - Interior Finishes	3	\$1,077,980	17
FCAID-10213	Panel LPA	D50 - Electrical	1	\$3,270	17
FCAID-10015	Exterior Windows: Metal Framed (1980)	B20 - Exterior Enclosu	2	\$81,680	17
FCAID-10217	Panel LPE	D50 - Electrical	1	\$3,270	17
FCAID-10223	Panel UVPB	D50 - Electrical	1	\$3,000	17
FCAID-10167	VUV - Room 13A	D30 - HVAC	3	\$30,370	17
FCAID-10141	HWP-1	D30 - HVAC	3	\$24,640	17
FCAID-10169	VUV - Room 14	D30 - HVAC	3	\$30,370	17
FCAID-10013	Exterior Windows: Metal Framed (1972)	B20 - Exterior Enclosu	2	\$40,840	17
FCAID-10212	Panel LBA	D50 - Electrical	1	\$3,000	17
FCAID-10161	VUV - Room 10	D30 - HVAC	3	\$30,370	17
FCAID-10214	Panel LPB	D50 - Electrical	1	\$3,270	17
FCAID-10163	VUV - Room 11	D30 - HVAC	3	\$30,370	17
FCAID-10216	Panel LPD	D50 - Electrical	1	\$3,270	17
FCAID-10164	VUV - Room 12	D30 - HVAC	3	\$30,370	17
FCAID-10218	Panel LPF	D50 - Electrical	1	\$3,270	17

FCAID-10165	VUV - Room 12A	D30 - HVAC	3	\$30,370	17
FCAID-10142	HWP-2	D30 - HVAC	3	\$24,640	17
FCAID-10055	CUH-2	D30 - HVAC	2	\$8,750	16
FCAID-10143	HWP-3	D30 - HVAC	3	\$9,710	16
FCAID-10144	HWP-4	D30 - HVAC	3	\$9,710	16
FCAID-10042	AC-1	D30 - HVAC	2	\$4,520	15
FCAID-10146	HWP-6	D30 - HVAC	3	\$4,630	15
FCAID-10145	HWP-5	D30 - HVAC	3	\$4,630	15
FCAID-10051	CUH-1	D30 - HVAC	3	\$6,480	14
FCAID-10052	CUH-10	D30 - HVAC	3	\$8,750	14
FCAID-10057	CUH-4	D30 - HVAC	3	\$9,240	14
FCAID-10053	CUH-11	D30 - HVAC	3	\$8,750	14
FCAID-10030	Interior Flooring Finishes: Sealed Concrete	C30 - Interior Finishes	3	\$37,490	14
FCAID-10054	CUH-12	D30 - HVAC	3	\$8,750	14
FCAID-10056	CUH-3	D30 - HVAC	3	\$8,750	14
FCAID-10060	CUH-7	D30 - HVAC	3	\$9,240	14
FCAID-10061	CUH-8	D30 - HVAC	3	\$9,240	14
FCAID-10058	CUH-5	D30 - HVAC	3	\$9,240	14
FCAID-10059	CUH-6	D30 - HVAC	3	\$9,240	14
FCAID-10062	CUH-9	D30 - HVAC	3	\$9,240	14
FCAID-10033	Interior Flooring Finishes: Hardwood (Stag	C30 - Interior Finishes	3	\$17,740	13
FCAID-10131	ET-HW-1	D30 - HVAC	3	\$23,520	12
FCAID-10132	ET-HW-2	D30 - HVAC	3	\$23,520	12
FCAID-10048	AS-1	D30 - HVAC	3	\$11,310	11

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.

LESHER, IB WORLD SCHOOL MS

ASSET ID	DESCRIPTION	SUBSYSTEM	OBSERVED REMAINING LIFE	REPLACEMENT COST	PRIORITY SCORE
FCAID-10206	Interior Lighting: Fluorescent	D50 - Electrical	4	\$1,338,340	25
FCAID-10205	Fire Alarm System	D50 - Electrical	5	\$729,810	22
FCAID-10138	Boiler-2	D30 - HVAC	5	\$141,860	22
FCAID-10137	Boiler-1	D30 - HVAC	5	\$141,860	22
FCAID-10225	Security System	D50 - Electrical	5	\$356,940	20
FCAID-10152	RTU-4	D30 - HVAC	4	\$47,000	19
FCAID-10154	RTU-6	D30 - HVAC	4	\$45,410	19
FCAID-10153	RTU-5	D30 - HVAC	4	\$47,000	19
FCAID-10149	RTU-1	D30 - HVAC	4	\$51,940	19
FCAID-10150	RTU-2	D30 - HVAC	4	\$60,120	19
FCAID-10151	RTU-3	D30 - HVAC	4	\$78,460	19
FCAID-10156	RTU-8	D30 - HVAC	4	\$35,380	18
FCAID-10155	RTU-7	D30 - HVAC	4	\$32,740	18
FCAID-10157	RTU-9	D30 - HVAC	4	\$35,380	18
FCAID-10203	Emergency Back-Up Lighting	D50 - Electrical	5	\$356,940	17
FCAID-10125	EF-51	D30 - HVAC	4	\$27,120	16
FCAID-10122	EF-5	D30 - HVAC	4	\$27,120	16
FCAID-10129	EF-9	D30 - HVAC	4	\$27,120	16
FCAID-10064	CU-2	D30 - HVAC	4	\$5,030	16
FCAID-10115	EF-43	D30 - HVAC	4	\$27,120	16
FCAID-10081	EF-15	D30 - HVAC	4	\$27,120	15
FCAID-10063	CU-1	D30 - HVAC	5	\$10,050	15
FCAID-10082	EF-16	D30 - HVAC	4	\$27,120	15
FCAID-10124	EF-50	D30 - HVAC	4	\$6,710	14
FCAID-10116	EF-44	D30 - HVAC	4	\$8,660	14

FCAID-10077	EF-11B	D30 - HVAC	4	\$5,550	14
FCAID-10094	EF-27	D30 - HVAC	4	\$6,210	14
FCAID-10120	EF-48	D30 - HVAC	4	\$5,550	14
FCAID-10095	EF-28	D30 - HVAC	4	\$8,190	14
FCAID-10128	EF-8	D30 - HVAC	4	\$6,710	14
FCAID-10096	EF-29A	D30 - HVAC	4	\$9,590	14
FCAID-10093	EF-26	D30 - HVAC	4	\$12,980	14
FCAID-10097	EF-29B	D30 - HVAC	4	\$9,590	14
FCAID-10118	EF-46	D30 - HVAC	4	\$5,550	14
FCAID-10098	EF-2S	D30 - HVAC	4	\$9,590	14
FCAID-10089	EF-21	D30 - HVAC	4	\$9,590	14
FCAID-10099	EF-3	D30 - HVAC	4	\$8,190	14
FCAID-10126	EF-6	D30 - HVAC	4	\$8,190	14
FCAID-10100	EF-30	D30 - HVAC	4	\$8,190	14
FCAID-10092	EF-24	D30 - HVAC	4	\$12,980	14
FCAID-10101	EF-31	D30 - HVAC	4	\$8,190	14
FCAID-10079	EF-13	D30 - HVAC	4	\$8,190	14
FCAID-10102	EF-32	D30 - HVAC	4	\$8,190	14
FCAID-10088	EF-20	D30 - HVAC	4	\$16,270	14
FCAID-10103	EF-33	D30 - HVAC	4	\$9,590	14
FCAID-10117	EF-45	D30 - HVAC	4	\$11,230	14
FCAID-10104	EF-34	D30 - HVAC	4	\$6,710	14
FCAID-10119	EF-47	D30 - HVAC	4	\$6,710	14
FCAID-10105	EF-35	D30 - HVAC	4	\$6,710	14
FCAID-10121	EF-49	D30 - HVAC	4	\$6,710	14
FCAID-10086	EF-1S	D30 - HVAC	4	\$9,590	14
FCAID-10123	EF-5	D30 - HVAC	4	\$6,710	14
FCAID-10076	EF-11A	D30 - HVAC	4	\$5,550	14
FCAID-10090	EF-22	D30 - HVAC	4	\$16,270	14
FCAID-10074	EF-10	D30 - HVAC	4	\$12,980	14
FCAID-10127	EF-7	D30 - HVAC	4	\$6,710	14
FCAID-10109	EF-39	D30 - HVAC	4	\$5,550	14
FCAID-10091	EF-23	D30 - HVAC	4	\$16,270	14
FCAID-10087	EF-2	D30 - HVAC	4	\$8,660	14
FCAID-10073	EF-1	D30 - HVAC	4	\$8,660	14
FCAID-10083	EF-17	D30 - HVAC	4	\$6,710	14
FCAID-10078	EF-12	D30 - HVAC	4	\$9,590	14
FCAID-10085	EF-19	D30 - HVAC	4	\$11,230	14
FCAID-10080	EF-14	D30 - HVAC	4	\$12,980	14
FCAID-10113	EF-41	D30 - HVAC	4	\$11,230	14
FCAID-10114	EF-42	D30 - HVAC	4	\$11,230	14
FCAID-10110	EF-3S	D30 - HVAC	4	\$6,210	14
FCAID-10084	EF-18	D30 - HVAC	4	\$12,980	14
FCAID-10111	EF-4	D30 - HVAC	4	\$11,230	14
FCAID-10112	EF-40	D30 - HVAC	4	\$11,230	14
FCAID-10107	EF-37	D30 - HVAC	4	\$1,260	14
FCAID-10075	EF-11	D30 - HVAC	4	\$5,550	14

FCAID-10108	EF-38	D30 - HVAC	4	\$5,550	14
FCAID-10016	Exterior Windows: Metal Framed (1993)	B20 - Exterior Enclosu	5	\$40,840	14
FCAID-10106	EF-36	D30 - HVAC	4	\$8,190	14
FCAID-10019	Roofing: Metal Flashing	B30 - Roofing	4	\$58,050	13
FCAID-10028	Interior Ceiling Finishes: Acoustic Tile		4	\$625,120	12
FCAID-10140	GUH-1	D30 - HVAC	5	\$7,540	12
FCAID-10031	Interior Flooring Finishes: Rolled VCT (Sma	C30 - Interior Finishes	5	\$31,370	12
FCAID-10159	UH-1	D30 - HVAC	5	\$3,520	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.

LESHER, IB WORLD SCHOOL MS

ASSET ID	DESCRIPTION	SUBSYSTEM	OBSERVED REMAINING LIFE	REPLACEMENT COST	PRIORITY SCORE
FCAID-10045	AHU-A	D30 - HVAC	8	\$142,200	20
FCAID-10046	AHU-B	D30 - HVAC	8	\$142,200	20
FCAID-10047	AHU-C	D30 - HVAC	8	\$120,870	19
FCAID-10043	AHU-1	D30 - HVAC	8	\$62,570	18
FCAID-10044	AHU-2	D30 - HVAC	8	\$49,770	18
FCAID-10186	VUV - Room 31	D30 - HVAC	7	\$30,370	16
FCAID-10182	VUV - Room 300-1	D30 - HVAC	7	\$28,890	16
FCAID-10184	VUV - Room 300-B	D30 - HVAC	7	\$38,890	16
FCAID-10191	VUV - Room 37A	D30 - HVAC	7	\$30,370	16
FCAID-10189	VUV - Room 35	D30 - HVAC	7	\$30,370	16
FCAID-10193	VUV - Room 38	D30 - HVAC	7	\$30,370	16
FCAID-10197	VUV - Room 7	D30 - HVAC	7	\$28,890	16
FCAID-10195	VUV - Room 5	D30 - HVAC	7	\$28,890	16
FCAID-10160	VUV - Room 1	D30 - HVAC	7	\$28,890	16
FCAID-10199	VUV - Room 9	D30 - HVAC	7	\$28,890	16
FCAID-10162	VUV - Room 106	D30 - HVAC	7	\$28,890	16
FCAID-10183	VUV - Room 300-2	D30 - HVAC	7	\$28,890	16
FCAID-10170	VUV - Room 15	D30 - HVAC	7	\$30,370	16
FCAID-10185	VUV - Room 300-C	D30 - HVAC	7	\$38,890	16
FCAID-10171	VUV - Room 16	D30 - HVAC	7	\$30,370	16
FCAID-10188	VUV - Room 34	D30 - HVAC	7	\$30,370	16
FCAID-10172	VUV - Room 17	D30 - HVAC	7	\$30,370	16
FCAID-10190	VUV - Room 36	D30 - HVAC	7	\$30,370	16
FCAID-10022	Roofing: Rolled Asphalt (2007)	B30 - Roofing	9	\$592,560	16
FCAID-10192	VUV - Room 37B	D30 - HVAC	7	\$30,370	16

FCAID-10174	VUV - Room 2	D30 - HVAC	7	\$28,890	16
FCAID-10194	VUV - Room 4	D30 - HVAC	7	\$28,890	16
FCAID-10175	VUV - Room 20	D30 - HVAC	7	\$28,890	16
FCAID-10196	VUV - Room 6	D30 - HVAC	7	\$28,890	16
FCAID-10176	VUV - Room 22	D30 - HVAC	7	\$28,890	16
FCAID-10198	VUV - Room 8	D30 - HVAC	7	\$28,890	16
FCAID-10179	VUV - Room 29	D30 - HVAC	7	\$38,890	16
FCAID-10180	VUV - Room 3	D30 - HVAC	7	\$28,890	16
FCAID-10173	VUV - Room 19	D30 - HVAC	7	\$30,370	16
FCAID-10177	VUV - Room 28A	D30 - HVAC	7	\$11,750	15
FCAID-10187	VUV - Room 33	D30 - HVAC	7	\$11,750	15
FCAID-10181	VUV - Room 30	D30 - HVAC	7	\$11,750	15
FCAID-10178	VUV - Room 28B	D30 - HVAC	7	\$11,750	15
FCAID-10069	HC-6-7	D30 - HVAC	6	\$2,600	14
FCAID-10072	HC-6M	D30 - HVAC	6	\$2,600	14
FCAID-10071	HC-6-J	D30 - HVAC	6	\$2,600	14
FCAID-10065	HC-6-6	D30 - HVAC	6	\$2,600	14
FCAID-10067	HC-2	D30 - HVAC	6	\$2,600	14
FCAID-10133	FCU - Room 35	D30 - HVAC	7	\$9,490	14
FCAID-10066	HC-1	D30 - HVAC	6	\$2,600	14
FCAID-10134	FCU - Room 35A	D30 - HVAC	7	\$9,490	14
FCAID-10068	HC-5	D30 - HVAC	6	\$2,600	14
FCAID-10135	FCU - Room 35B	D30 - HVAC	7	\$9,490	14
FCAID-10070	HC-6-8	D30 - HVAC	6	\$2,600	14
FCAID-10136	FCU - Room 35C	D30 - HVAC	7	\$9,490	14
FCAID-10147	MAU-1	D30 - HVAC	9	\$53,260	14
FCAID-10234	Walk-In Cooler	E10 - Equipment	10	\$6,030	13
FCAID-10235	Walk-In Freezer	E10 - Equipment	10	\$12,060	13
FCAID-10201	ATS-1	D50 - Electrical	7	\$4,340	12
FCAID-10148	BB Radiant Heater	D30 - HVAC	9	\$480	12
FCAID-10036	DHWP-1	D20 - Plumbing	10	\$4,630	11
FCAID-10037	DHWP-2	D20 - Plumbing	8	\$4,630	11
FCAID-10158	ST-1	D20 - Plumbing	6	\$10,050	11
FCAID-10041	GWH-1	D20 - Plumbing	9	\$10,610	10
FCAID-10226	Surge Protector	D50 - Electrical	8	\$3,850	9