Arlington Public Schools

Long-Range Plan to Renovate Existing School Facilities:

Existing Facility Evaluation Framework Report

April 14, 2023 (revised April 18, 2023)

MTFA architecture

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1. Executive Summary

Executive Summary

Arlington Public Schools (APS) is in a transition period regarding its current portfolio of facilities across the county. Recent new construction projects have provided additional student capacity to catch up to growing population demands, so there is a reduced need for new construction to increase seats and an increased need to address deferred renovation, maintenance, and modernization needs on existing buildings. In response, the School Board charged the Department of Facilities and Operations to develop a long-range plan to renovate existing school facilities and shape current and future Capital Improvement Plans. While the initial need was highlighted during the COVID-19 pandemic with a need to evaluate mechanical ventilation rates across the school system in order to prioritize renovations, the School Board has a broad range of needs to balance in meeting current standards. Therefore, all existing APS facilities need to be evaluated across a full range of criteria and ranked in order of greatest need for renovation.

The adopted FY 2023-32 APS Capital Improvement Plan (https://www.apsva.us/wp-content/uploads/2022/10/FY-2023-32-CIP-Report-Final.pdf) includes an initial facility evaluation framework and guidelines developed around three major categories: Major Building Systems, Common Space Adequacy, and Educational Space Adequacy. This initial framework developed in collaboration between APS and the Advisory Council on School Facilities and Capital Programs (FAC) laid the foundation for the scope of this project in preparation for undertaking a system-wide evaluation study of all APS facilities. APS aims to provide optimal learning environments, and this project's goal is to identify assess, and prioritize facilities for APS' long-term plan for renovations.

In order to meet the goals of this project, the MTFA team will employ a methodology for systematically evaluating and quantifying each facility called a Facility Condition Assessment (FCA). The FCA provides an overview of the school buildings relative to each building's age and current condition and provides a measure to index the condition of each building against other district schools using industry recognized metrics. The output is a projection of capital needs with costs in current dollars. This information is supplemented by a Building Characteristic summary to provide a more complete picture of short-term needs to meet health, safety, and educational priorities with long-term capital renewal needs based on aging building infrastructure. The FCA also allows for a portfolio-level look at future capital renovation needs and provides a living document for funding capital renewal projects.

The development of the Facility Condition Assessment framework for APS also involves the on-site evaluation of four pilot schools. This test case validation provides important feedback on the assessment criteria, establishes a level of effort for the full system assessment, and provides a sample of expected output.

2. General Project Overview

General Project Overview

APS retained MTFA Architecture (MTFA) in November 2022 to develop the specific evaluation criteria, assessment values, and overall scope of the facility evaluation.

The project is divided into two stages:

1. Stage 1 consists of meeting with APS and the team as required to develop the proposed framework, testing it to verify the expected results and level of effort, and then providing a report to summarize the proposed approach. A draft of the report will be shared for review and to gather and address public feedback.
2. Stage 2 consists of completing the evaluations for all school facilities per the approach approved through Stage 1.

The framework and guidelines for evaluating existing facilities guides APS in prioritizing facilities based on current and projected conditions. The criteria will help sort and rank highest needs wholistically for each building. Once the framework and methodology are approved, MTFA will perform the facility evaluations and compile the data for all.

List of Facilities

This project is intended to be undertaken across all current APS facilities (see Fig. 1). Note Gunston MS, Jefferson, MS, and Langston HS are joint use facilities. These facilities are owned by APS and portions of it are designated for use for Arlington County Department of Parks and Recreation (DPR). The attached matrix (*Attachment A)* provides a list of all facilities included in the study with notes.

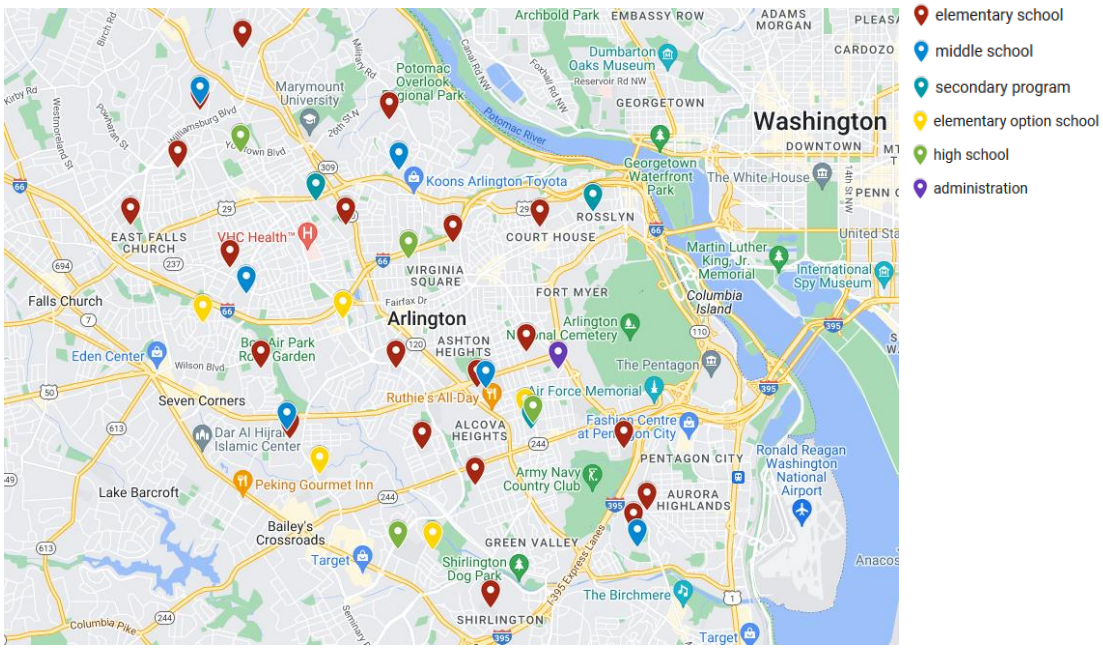


Fig. 1 – Map of Current APS Facilities

Attachment A: List of Facilities

3. Project Team

Project Team

The project team is as follows:

MTFA Architecture is the Prime contract consultant to APS for this project.

MTFA Architecture | www.mtfa.net
3200 Langston Boulevard – Arlington, VA 22207
703-524-6616

In order to support the required scope of the project and supplement the team with additional expertise, the following firms serve as consultants to MTFA on this project:

Facility Engineering Associates (FEA) is a consultant providing facility evaluation expertise.

Facility Engineering Associates, P.C. | www.feapc.com
12701 Fair Lakes Circle, Suite 101, Fairfax, VA 22033
703-667-1029

CMTA is a consultant providing MEP systems expertise including specific experience and familiarity with APS.

CMTA | www.cmta.com
10411 Meeting Street
Prospect, KY 40059
502-326-3085

4. Project Schedule

Project Schedule

See attached project schedule for milestones and durations of Stage 1. The following is a summary of the schedule:

- The project team met with APS several times in January and February to develop the methodology and evaluation criteria.
- The initial pilot test site assessments were performed in early February. Data input and analysis followed.
- A draft evaluation framework report will be submitted at the end of February for review and comment by APS in March.
- The project team will present the overall process to the APS Facility Advisory Committee in mid-March.
- Stage 2 and the remaining site assessments are anticipated to occur during Summer 2023.
- The final project report and data are anticipated to be submitted in early Fall 2023.

Attachment B: Project Schedule

5. Proposed Evaluation Methodology

Proposed Evaluation Methodology: Facility Condition Assessment

In order to meet the goals of this project, the MTFA team proposes to perform a Facility Condition Assessment at each school. A facility condition assessment consists of a facility condition index and a building characteristics index (*see Fig. 2*):

- The facility condition index (FCI) evaluates major systems infrastructure and is a standard systematic evaluation and ranking tool based on system age, condition, and replacement cost. The facility condition index evaluates criteria to standard categories per ASTM Uniformat II, Level 3. The FCI is determined by looking at deferred maintenance (what you haven't done in the past but need to) and accumulated degradation (what's going to expire in the future) against the estimated current replacement value (CRV). Current RS Means data is used to establish the estimated current replacement value. Each system element is evaluated on a degradation curve over the course of its expected useful life (EUL) considering age, operation, environment, and maintenance. Each system element is rated on a scale from 1-5 (1 is crisis/failure, 5 is excellent) (*see Fig. 3*). The collective ratings of all elements create the FCI.

- The building characteristics index evaluates other building and environmental elements not included in the FCI and/or customized to APS-specific requirements and priorities.

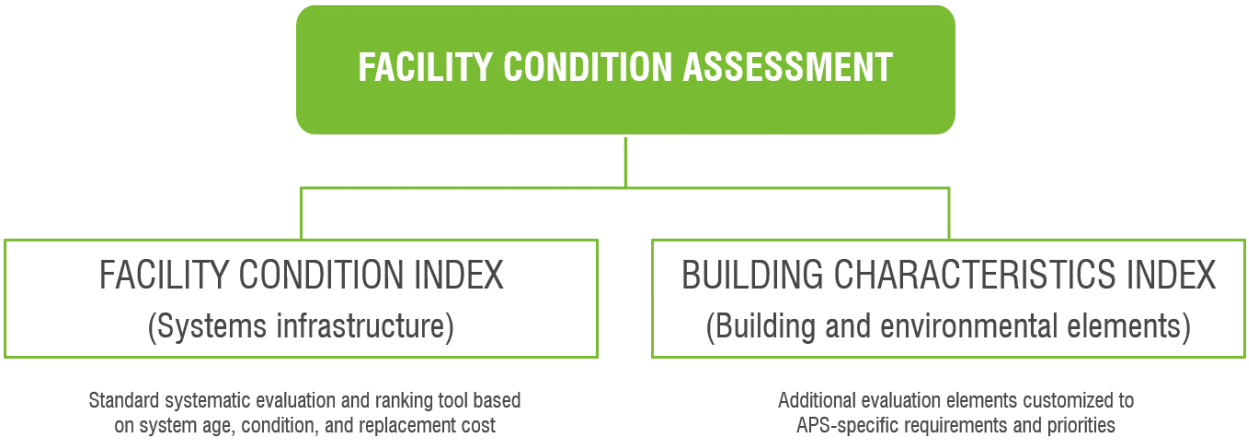


Fig. 2 – Facility Condition Assessment Diagram

The purpose of this Summary is to provide an overview of the school buildings relative to each building's age and current condition and provides a measure to "index" the condition of each building against other district schools using industry recognized metrics. The output of a facility condition assessment (FCA) is a projection of capital needs based on our observations of system age and condition observed during our site visit. The attachments to this report include reports of condition ratings, a forecast of anticipated future needs, and system details on a building-by-building basis. Each school-by-school summary outlines the forecast of anticipated capital needs over a 10-year period from 2023 to 2032.

Rating Definitions

The following tables provide the basis of the rating system that is described in this reference guide. Refer to the individual systems for definitions of deficiencies and other items to consider in completing the evaluations.

Rating	Condition	% Deficiencies Allowed
5	Excellent	0-5%
4	Good	5-10%
3	Fair	10-25%
2	Poor	25-50%
1	Crisis/Failure	>50%

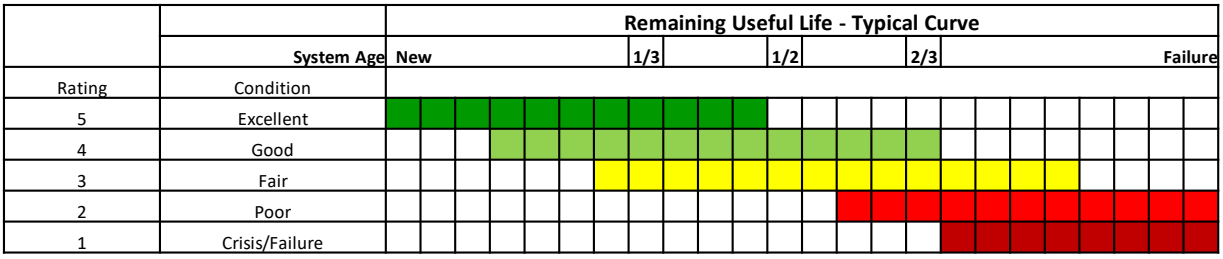


Fig. 3 – Rating System Definitions

Evaluation Criteria

Through a series of meetings in early 2023 between the project team and APS, the MTFA team developed a robust set of evaluation criteria in order to provide a meaningful assessment of each facility relative to current APS standards and one another. Most aspects have a defined standard against which they are measured and ranked in order to provide sufficient differentiation between all of the facilities. Others are reporting information only that can be used by APS in a high-level overview comparing projects against one another.

The FCA includes a school-by-school summary of the observed condition of building systems and the expected useful life (EUL) and remaining useful life (RUL) of each system. It also includes projected capital needs over a 10-year reporting period.

A facility condition assessment (FCA) is visual in nature and not intended to uncover hidden conditions, perform sampling or testing, determine code compliance of buildings and systems, nor does it involve operation of building systems. The on-site portion of the FCA generally includes conversations with operations and maintenance personnel to determine system or equipment history and known deficiencies. The FCA does not include testing or analysis of potential hazardous materials such as asbestos, lead, PCBs, or other potentially harmful materials. The presence of these materials may be noted in the FCA where indicated by school personnel while conducting the FCA.

For Arlington Public Schools, the FCA was limited to the buildings only. Some site features were included in the Building Characteristic evaluation and are listed in the project database to help assess which schools require further evaluation in Stage 2. The FCA is based on ASTM E1557-09 (Standard Classification for Building Elements and Related Sitework -- Uniformat II) as a general framework for performing condition assessments at a building system level. The evaluation included the following building systems:

- Exterior Systems - roofs, walls, window systems, doors.
- Interior Construction - walls, doors, flooring, classroom casework.

- Interior Finishes: Flooring, ceiling, wall finishes.
- Fire and Life Safety systems.
- Heating, Ventilation and Air Conditioning.
- Plumbing systems.
- Electrical and service distribution.
- Fire detection and suppression systems.

In addition to the visual assessment of the systems listed above, the FCA was supplemented with an evaluation of Building Characteristics. These characteristics are initially based on the framework provided by APS and customized to include the most relevant school system standards and priorities.

The following is a summary of select building characteristics:

- Indoor Air Quality (IAQ): The IAQ of the classrooms and common spaces was evaluated to confirm if they met the recommended equivalent air changes per hour (eACH) as outlined by the Harvard T.H. Chan School. This category factors in both filtration and ventilation to find an equivalent to the amount of "clean" air the space is provided with. The evaluation was done by calculating the eACH based on the as-built drawings and airflows from existing documents according to the dimensions of the space. Results showed that most classrooms had adequate IAQ and met or exceeded the recommended eACH of 6. While some spaces have lower levels of both ventilation and filtration, most learning spaces can combine these factors to bring the eACH rates into acceptable or suggested ranges.

- Ventilation: The team evaluated whether the classrooms and common spaces met the current guidelines as described in current applicable ASHRAE 62.1 for Virginia. This was evaluated using the outside air flows provided in the as-built drawings and the calculated volume of the spaces. Where the number of students was known it was used in the calculations, otherwise the total occupancy was estimated for large common spaces or based on ASHRAE guidelines. Many of the schools evaluated have ventilation levels below the ASHRAE guidelines that are current code requirements as they might not have been renovated since guidelines have been updated.

- Filtration: Based on existing documents and physical inspections at each facility, the team evaluated the level of filtration in classrooms and common spaces to determine the final IAQ score of these spaces. The units serving these spaces were inspected to determine what level of filtration is present currently, but also what level of filtration is possible with the existing units. Older schools with older units appear to have limited filtration ability, with not enough fan power to achieve the desired MERV 13. While many units have filter houses and fans that are MERV 13 capable, some of these units were still utilizing only MERV 8 rated filters.

- Specialty Ventilation Requirements: The team evaluated the spaces and equipment throughout the school that have special ventilation requirements either by code or by design. For the elementary schools evaluated this comprised almost exclusively of art room exhaust and exhaust of kilns near to those spaces. Most of the schools evaluated did not meet current ASHRAE exhaust requirements of 0.7 cfm/sf.

- Interior/Exterior Lighting: The team evaluated the campus lighting for consistencies in correlated color temperature (CCT) on both the interior and exterior, dark sky compliance of exterior light fixtures, lighting levels within the school, the presence of LED fixtures, and the

presence of occupancy sensors. It was found that most schools do not have a consistent CCT for interior fixtures and none of the schools meet the county guidelines for exterior site lighting (3000K). Only the newest school was fully LED with occupancy sensors and fully dark sky compliant exterior fixtures, all other schools were at best a mix of LED and fluorescent fixtures with minimal occupancy sensors and non-dark sky compliant exterior fixtures.

- Water Efficient Fixtures: The team took spot checks of the existing fixtures throughout the schools to evaluate the number of efficient fixtures. As of 2009, APS has used water-efficient fixtures. They are expected to be included in any facility renovated or newly built since then.

- Water Use Intensity: The annual water consumption in total gal/sf was noted for reference. This measurement was taken from information made publicly available by APS. An average of the calendar years 2019 and 2022 were evaluated in an attempt to account for reduced school usage.

- Energy Use Intensity: The annual energy consumption in total kBTU/sf was noted for reference. This measurement was taken from information made publicly available by APS. An average of the calendar years 2019 and 2022 were evaluated in an attempt to account for reduced school usage.

Refer to Attachment C for a matrix of the full evaluation criteria, metrics, and comments for each building characteristic.

Attachment C: Project Evaluation Criteria

Responding to Emergency Equipment and Facility Issues Identified During Evaluation

During a progress meeting for this project, APS was asked how they handle emergency equipment or facility issues that are discovered during surveys. APS cited an example from one of the four evaluation pilot test schools: during survey at Ashlawn Elementary, significant cracking was observed in the kitchen floor. The issue was immediately reported by APS and converted into a maintenance work order. The project team will report any potential crisis issues requiring immediate attention to APS when discovered so APS can investigate further and respond as required.

Metrics and Reporting

The results of the FCA for each school building is reported in a building report which is included as an attachment to this report. The building reports list the general description of the school. School provided information such as *Gross Square Footage*, *Year Built, Year(s) Renovated* are reported.

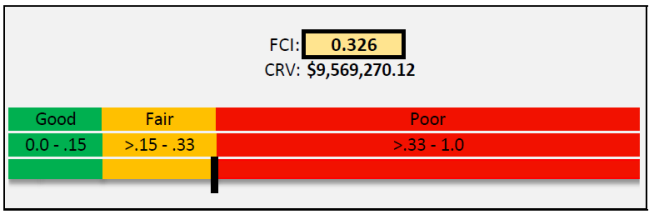
The information gathered during the FCA is used to develop condition indices that are based on the industry-utilized metric of FCI and considers these factors:

- Age and condition of each building system.
- The accumulated degradation of each system based on its estimated and remaining useful life.

- Near-term (1-3 year) projects that are required to correct significant deficiencies.

The data is aggregated by major building system (Uniformat II, Level 3). Each building system generates a System Condition Index (SCI) so that each major building system's index is included in the facility condition index. The facility condition index (FCI) is then determined based on the accumulated degradation (AD) of the facility, or the deferred maintenance (DM), as determined by the near-term capital renewal needs (generally immediate and 1 to 3 year needs).

The FCI provides a relative measure of the condition of a building within a group or portfolio of buildings. For this evaluation, the range of FCI is depicted as Good/Fair/Poor. The FCI is the number depicted on the sliding scale and represents the composite calculation of each of the system-level indicators described below.



The FCI range can be used, along with other factors such as building system condition and other building characteristics, to determine the appropriate maintenance, repair, and replacement actions, or in this case, can be used by the Master Planning team to refer to existing building age and condition to inform decisions about building condition relative to programming changes and other factors for decision-making in the master planning process.

As stated above, the FCI is the summary composite rating of each of the building systems that comprise the building infrastructure (structural, mechanical, plumbing, special systems, etc). The general condition of each of the building systems (designated as A10 through F10; Uniformat Level II designations) is shown as Green/Yellow/Red.

●	System rating 5-4
●	System rating 3
●	System rating 2-1

A system rating of 5 or 4 generally indicates that the system has a significant remaining service life and is in good condition. A system rating of 1 or 2 generally indicates that the system needs repairs or replacement, either within the next capital renewal cycle (rating of 1), or within the near term of the next few years (system rating 2). System rating of 3 generally indicates that the system is in the middle of its expected service life. The system rating is used to derive the FCI and can provide a data-driven decision-making tool for disposition of buildings in accordance with the Master Plan.

In addition to reporting the building FCI, each building system condition rating is listed on the Capital Needs Forecast as Red/Yellow/Green as indicated above. The projected capital need for repair or replacement of each system which falls within the study period is reported in the table. In this case, a 10-year projection of capital needs is provided. In addition, "Local" or major system components that may require major repair or replacement within the next few years, or projects that have already been planned by school personnel at the time of the FCA are listed in the capital needs forecast.

Basis of Capital Needs Forecasts

The forecast of anticipated future needs provides a view of timing and relative magnitude of costs intended to inform the planning and budgeting process. Generally, the needs forecast for a particular building or building system represents the near-term needs (expressed as DM) at the time of the evaluation. FCI is expressed as a ratio of the sum of near-term need, or DM to the current replacement value (CRV) of the system, based on the model of system values for that building type. The FCI can also be expressed as a ratio of Accumulated Degradation (AD) to the current replacement value of the building. This provides the long-term projection of need for those buildings that are currently performing as intended but will require capital renewal funding based on the ongoing aging of building systems.

The forecast of future needs expressed in the tables are reflective of building system "raw" costs. These costs are based on the experience and professional judgment of the assessment team, information provided by school and district personnel, and RS Means online pricing data. They are not intended to predict actual bid costs for projects and are do not currently have a cost multiplier applied.

The conversion of anticipated future needs (raw costs) to anticipated repair/replacement costs (project costs) can be made using a cost multiplier. Cost multipliers are developed based on current construction forecasts and commercially available construction indices for capital renewal (Major Maintenance) such as RS Means. Typically, a raw cost multiplier is developed by the District and the Assessment Team and includes adjustment factors such as those listed below:

- Labor cost factors such as labor pool availability, travel and living expenses and commuting
- AE Design Fees and construction oversight fees
- Contractor General Requirements, Overhead and Profit
- Owner-imposed costs
- Contingencies
- Existing conditions mark-ups

The other multiplier that is used in capital needs analysis is a factor that increases currently projected cost by considering inflation. An inflation factor (discount rate) can be developed by using references such as the Producer Price Index (PPI) or estimates of industry specific cost indices such as RS Means. The forecast of future needs expressed in the report tables do not currently include an adjustment for inflation. As of this report, the costs shown are today's dollars using raw RS Means cost data for 2022.

Living Report: A Database that Adapts to Future Developments

This study is intended to produce a dynamic document that can be updated as new projects are completed and existing systems age. Its purpose is to serve as a database that evolves over time, and the project team recommends that it be updated every 4-5 years to reflect recent projects and changes.

Tiered Level of Assessment Approach

The MTFA team presented a proposed tiered level of assessment approach that differentiates high level, basic conditions analysis from more in-depth evaluation (*see Fig. 4*):

- A Tier 1 assessment determines system age and condition and evaluates simple quantifiable metrics. This level of assessment is consistent with the expectations for analysis in this project.

- A Tier 2 assessment involves additional measurement, testing, analysis, or study to further evaluate the highest priority needs and deficiencies identified in the Tier 1 assessment. This level of assessment would be a future additional effort not part of this project.

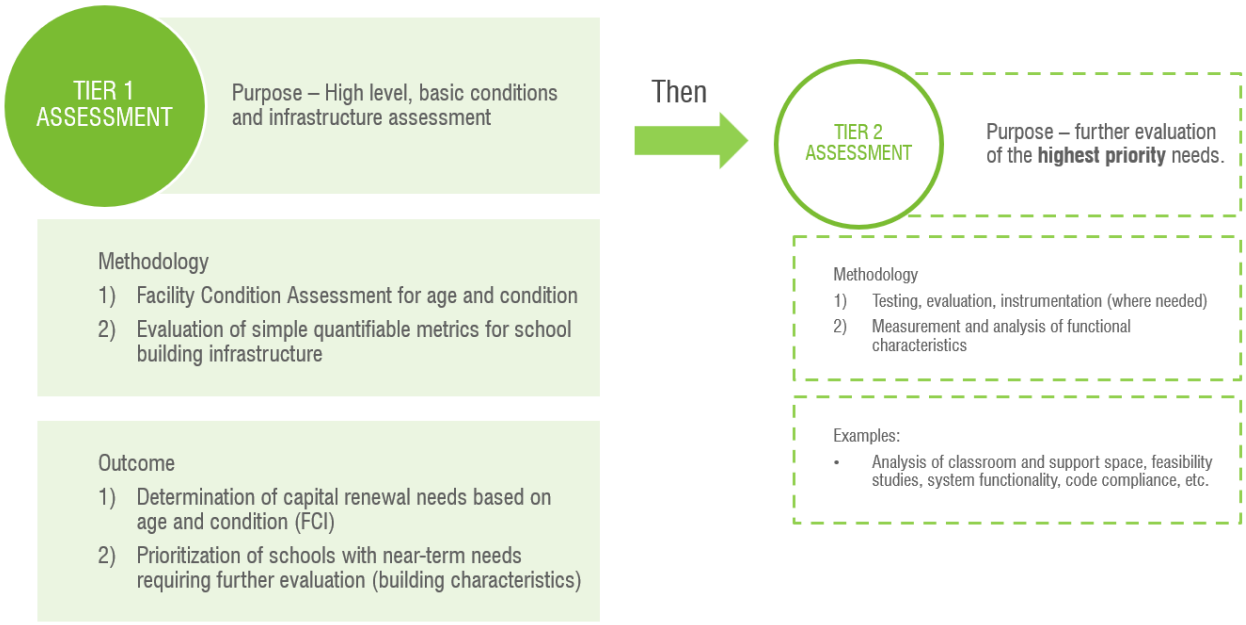


Fig. 4 – Tiered Level of Assessment Diagram

Evaluation Criteria Considered but Not Included

The following items were proposed and discussed but ultimately not included in the evaluation criteria:

- Lighting control systems: APS typically does not prefer lighting control systems because of complications with maintenance and user behavior and it should not be added as an evaluation element.
- Daylight harvesting
- Overall code compliance: the MTFA team explained that evaluating against current code standards can be subjective and difficult to quantify. The intent of this section would be to focus on life safety and any major issues not already evaluated in another category in order to identify the big-ticket important items that will matter most to the community.
- Decarbonization: aligns with APS goals, but is not consistent with the specific goals from the school board for this project.
- Acoustics: Features are too complex and subjective to properly evaluate and quantify.
- Furnishings and Equipment: FFE is already covered separately on a replacement schedule and schools also have a discretionary budget for these items. FFE is not a contributing factor to replacement priority for facilities.
- Classroom shape: Classroom shape is a difficult metric to evaluate because ideal proportions vary based on size and some program-specific instruction spaces are atypical but can be the most special and desirable.
- Pool Water Standards: these are operational issues.
- Gymnasium number of stations: functionality is based on size of gym and use by teacher.
- Vehicle and Bicycle Parking: number of spaces is based on use permit conditions from county and are not relevant for this study.
- IT Infrastructure: systems are generally independent from building facility infrastructure and would not be a relevant reason to prioritize a school renovation.
- Admin office planning factor: difficult to determine since staffing needs and use vary year to year.
- Sustainability: APS projects uphold sustainability as a fundamental value during the design and construction phases, but it is not the primary factor guiding the selection of schools for renovation. Despite this, certain sustainability criteria such as energy use intensity (EUI), on-site renewable energy, and geothermal design are evaluated and included as data points.

6. Existing Building Documentation

Existing Building Documentation

APS provided the project team with available reference documents, drawings, and information for each facility. The project team assumes all information in this documentation is accurate and usable as the initial basis for certain evaluation criteria. Where feasible, the information is verified on site by field observation and survey. Information provided and referenced for this report includes the following:

- Existing building drawings and specifications
- Educational Specifications and desired program guidelines
- Utility data
- Roof Survey
- Database of rooms/schools

7. Evaluation Pilot Testing and Reports

Evaluation Pilot Testing

In order to test the proposed framework, the facility condition assessment was performed on four pilot APS schools: Ashlawn Elementary, Barcroft Elementary, Alice West Fleet Elementary (Fleet), and Montessori Public School of Arlington (MPSA).

After discussion between the project team and APS, these elementary schools were selected for time and cost effectiveness for initial assessment, expected ability to provide meaningful range of conditions, and shared geographical proximity.

The schools were visited on February 8 and 9, 2023. Survey teams were accompanied by APS personnel for access and to address questions.

Evaluation Pilot Testing

See attached draft Facility Condition Assessment reports for each of the four schools. Also provided are portfolio summary reports including the four schools evaluated.

Attachment D: Facility Condition Assessment Reports

8. List of File Attachments

The following file attachments are provided with this report:

1. Attachment A: *APS Facilities Included in Assessment*
2. Attachment B: *APS project schedule*
3. Attachment C: *Project Evaluation Criteria*
4. Attachment D: *20230414 Facility Condition Assessment Reports*
5. *20230414 APS - Data and Reporting Workbook – Stage 1.xls* (Excel) (Native File) - This Excel spreadsheet is the native file for the FCA data and reporting for the pilot evaluations to date.

END REPORT

ATTACHMENT A: APS FACILITIES INCLUDED IN ASSESSMENT

APS Facilities Included in Assessment (SY 23-24)

	Colloquial Name	School Name	School Type	Address	Zip Code	School Design Capacity	Building Gross SqFt	Relocatable Classrooms	Utility Relocatables	Total Relocatable SqFt	Total SqFt	Acres	Year Built	Last Reno	Special Programs & Characteristics	Existing Drawings	Feasibility Study	In CMTA Report	School Website Link	Comments
	Abingdon	Abingdon Elementary School	Elementary	3035 S Abingdon St	22206	725	106,630	4	0	4,200	110,830	9.80	1950	2017				y	https://abingdon.apsva.us/	
	ASF	Arlington Science Focus Elementary School	Elementary	1501 N Lincoln St	22201	752	68,127	6	0	5,880	74,007	6.22	1953	2000				y	https://asfs.apsva.us/	
	ATS	Arlington Traditional Elementary School	Elementary	1030 N McKinley Rd	22205	684	89,599	0	0	0	89,599	7.70	1951	2021				y	https://ats.apsva.us/	
Test	Ashlawn	Ashlawn Elementary School	Elementary	5950 8th Rd N	22205	684	97,005	4	0	4,200	101,205	7.47	1956	2014				y	https://ashlawn.apsva.us/	Test Evaluation
Test	Barcroft	Barcroft Elementary School	Elementary	625 S Wakefield St	22204	460	68,700	8	0	7,560	76,260	5.20	1924	1992				y	https://barcroft.apsva.us/	Test Evaluation
	Barrett	Barrett Elementary School	Elementary	4401 N Henderson Rd	22203	576	75,672	4	0	4,200	79,872	7.13	1939	2001				y	https://barrett.apsva.us/	
	Campbell	Campbell Elementary School	Elementary	737 S Carlin Springs Rd	22204	436	71,919	3	0	2,592	74,511	9.09	1955	2002				y	https://campbell.apsva.us/	
	Cardinal	Cardinal Elementary School	Elementary	1644 N McKinley Rd	22205	747	128,377	0	0	0	128,377	10.88	2021					y	https://cardinal.apsva.us/	
	Career Center	Arlington Career Center & Arlington Tech	Other	816 S Walter Reed Dr	22204	950	159,853	16	0	15,120	174,973	8.53	1974	2020				y	https://careercenter.apsva.us/	
	Carlin Springs	Carlin Springs Elementary School	Elementary	5995 5th Rd S	22204	585	86,745	4	0	4,200	90,945	32.23	2001					y	https://carlinsprings.apsva.us/	
	Claremont	Claremont Elementary School	Elementary	4700 S Chesterfield Rd	22206	599	76,038	7	0	6,744	82,782	15.00	1952	2003				y	https://claremont.apsva.us/	
	Discovery	Discovery Elementary School	Elementary	5241 36th St N	22207	630	97,588	0	0	0	97,588	24.77	2015					y	https://discovery.apsva.us/	
	Hamm	Dorothy Hamm Middle School	Middle	4100 Vacation Ln	22207	1,000	185,819	0	0	0	185,819	9.10	1950	2019				y	https://dorothyhamm.apsva.us/	
	Drew	Dr. Charles R. Drew Elementary School	Elementary	3500 23rd St S	22206	674	100,815	0	1	864	101,679	8.02	1944	2019				y	https://drew.apsva.us/	
	Key	Escuela Key Elementary School	Elementary	855 N Edison St	22205	465	77,261	8	0	8,400	85,661	7.78	1926	2021					https://key.apsva.us/	
	F&O	Facilities and Operations at the Trades Center	Other	2770 S Taylor St	22206		75,000	0	0	0	75,000	5.96	1965	2021					Facilities & Operations - Arlington Public	Non-educational - put at bottom of priority list
Test	Fleet	Alice West Fleet Elementary School	Elementary	115 S Old Glebe Rd	22204	752	111,634	0	0	0	111,634	~~3.69~~	2019						https://fleet.apsva.us/	Test Evaluation
	Glebe	Glebe Elementary School	Elementary	1770 N Glebe Rd	22207	510	82,889	4	0	4,200	87,089	6.96	1971	2004				y	https://glebe.apsva.us/	
	Gunston	Gunston Middle School	Middle	2700 S Lang St	22206	992	199,241	6	0	5,880	205,121	20.00	1959	2017				y	https://gunston.apsva.us/	
	The Heights	H-B Woodlawn Secondary & Eunice Kennedy Shriver Programs	Secondary	1601 Wilson Blvd	22201	775	181,803	0	0	0	181,803	2.38	2019					y	https://hbwoodlawn.apsva.us/	
	Hoffman-Boston	Hoffman-Boston Elementary School	Elementary	1415 S Queen St	22204	566	108,135	0	0	0	108,135	8.77	1916	1999				y	https://hoffmanboston.apsva.us/	
	Innovation	Innovation Elementary School	Elementary	2300 Key Blvd	22201	653	84,617	4	0	4,200	88,817	4.36	1968	2021				y	https://innovation.apsva.us/	
	Jamestown	Jamestown Elementary School	Elementary	3700 N Delaware St	22207	597	75,899	0	0	0	75,899	10.97	1953	2004				y	https://jamestown.apsva.us/	
	Jefferson	Jefferson Middle School	Middle	125 S Old Glebe Rd	22204	1,086	234,923	0	1	864	235,787	8.62	1972	2010					https://jefferson.apsva.us/	
	Kenmore	Kenmore Middle School	Middle	200 S Carlin Springs Rd	22204	1,045	206,188	2	1	3,456	209,644	~~32.23~~	2005					y	https://kenmore.apsva.us/	
	Langston	Langston High School Continuation & New Directions Alternative Programs	High	2121 N Culpeper St	22207	150	47,291	0	0	0	47,291	4.02	2003					y	https://hsc.apsva.us/	
	Long Branch	Long Branch Elementary School	Elementary	33 N Fillmore St	22201	533	70,754	4	0	4,200	74,954	2.21	1973	1996				y	https://longbranch.apsva.us/	
Test	MPSA	Montessori Public School of Arlington	Elementary	701 S Highland St	22204	463	61,488	0	0	0	61,488	4.20	1975	2019				y	https://montessori.apsva.us/	Test Evaluation
	Nottingham	Nottingham Elementary School	Elementary	5900 Little Falls Rd	22207	513	70,944	5	0	5,064	76,008	8.95	1952	2006				y	https://nottingham.apsva.us/	
	Oakridge	Oakridge Elementary School	Elementary	1414 24th St S	22202	674	81,622	8	1	9,288	90,910	8.21	1950	1999				y	https://oakridge.apsva.us/	
	Planetarium	David M Brown Planetarium	Other	1426 N Quincy St	22207		2,458	0	0	0	2,458	~~22.59~~	1970	2013					https://www.apsva.us/planetarium-overview/	Non-educational - put at bottom of priority list
	Randolph	Randolph Elementary School	Elementary	1306 S Quincy St	22204	484	70,880	2	0	1,728	72,608	7.33	1947	1993				y	https://randolph.apsva.us/	
	Swanson	Swanson Middle School	Middle	5800 Washington Blvd	22205	948	132,158	6	2	9,336	141,494	6.70	1939	2005				y	https://swanson.apsva.us/	
	Syphax	Syphax Education Center - leased	Other	2110 Washington Blvd	22204		141,126	0	0	0	141,126	~~2.41~~	1991	2017				y	https://www.apsva.us/school-	Non-educational - put at bottom of priority list
	Taylor	Taylor Elementary School	Elementary	2600 N Stuart St	22207	659	80,428	6	0	5,880	86,308	9.70	1953	2013				y	https://taylor.apsva.us/	
	Thurgood Marshall	Employee Assistance Program - leased	Other	2847 Wilson Blvd	22201		11,217	0	0	0	11,217	~~0.75~~	1960	2001				y	https://eap.apsva.us/contact-	Non-educational - put at bottom of priority list
	Tuckahoe	Tuckahoe Elementary School	Elementary	6550 26th St N	22213	545	69,685	4	0	4,200	73,885	6.57	1953	1999				y	https://tuckahoe.apsva.us/	
	Wakefield	Wakefield High School	High	1325 S Dinwiddie St	22206	2,203	403,940	6	0	5,880	409,820	37.50	2013	2017				y	https://wakefield.apsva.us/	
	W-L	Washington-Liberty High School	High	1301 N Stafford St	22201	2,308	378,068	0	0	0	378,068	22.59	2009	2015					https://wl.apsva.us/	
	WL Annex	New HS Seats at the Washington-Liberty Education Center	High	1426 N Quincy St	22207	600	55,169	0	0	0	55,169	~~22.59~~	1970	2022				y	https://www.apsva.us/education-center-reuse/	
	Williamsburg	Williamsburg Middle School	Middle	3600 N Harrison St	22207	997	170,865	2	0	1,728	172,593	~~24.77~~	1954	2004				y	https://williamsburg.apsva.us/	
	Yorktown	Yorktown High School	High	5200 Yorktown Blvd	22207	2,189	355,887	0	0	0	355,887	9.87	2013	2018				y	https://yhs.apsva.us/	
	TOTAL						5,054,457	123	6	129,864	5,184,321	474								

APS Facilities NOT Included in Assessment

	Fenwick	Arlington Community High School (ACHS)	High	800 S Walter Reed Dr	22204		24,149	0	0	0	24,149	~~9.42~~	1974	2017					https://achs.apsva.us/	Planned for demolition Summer 2023

Arlington Public Schools

MTFA architecture

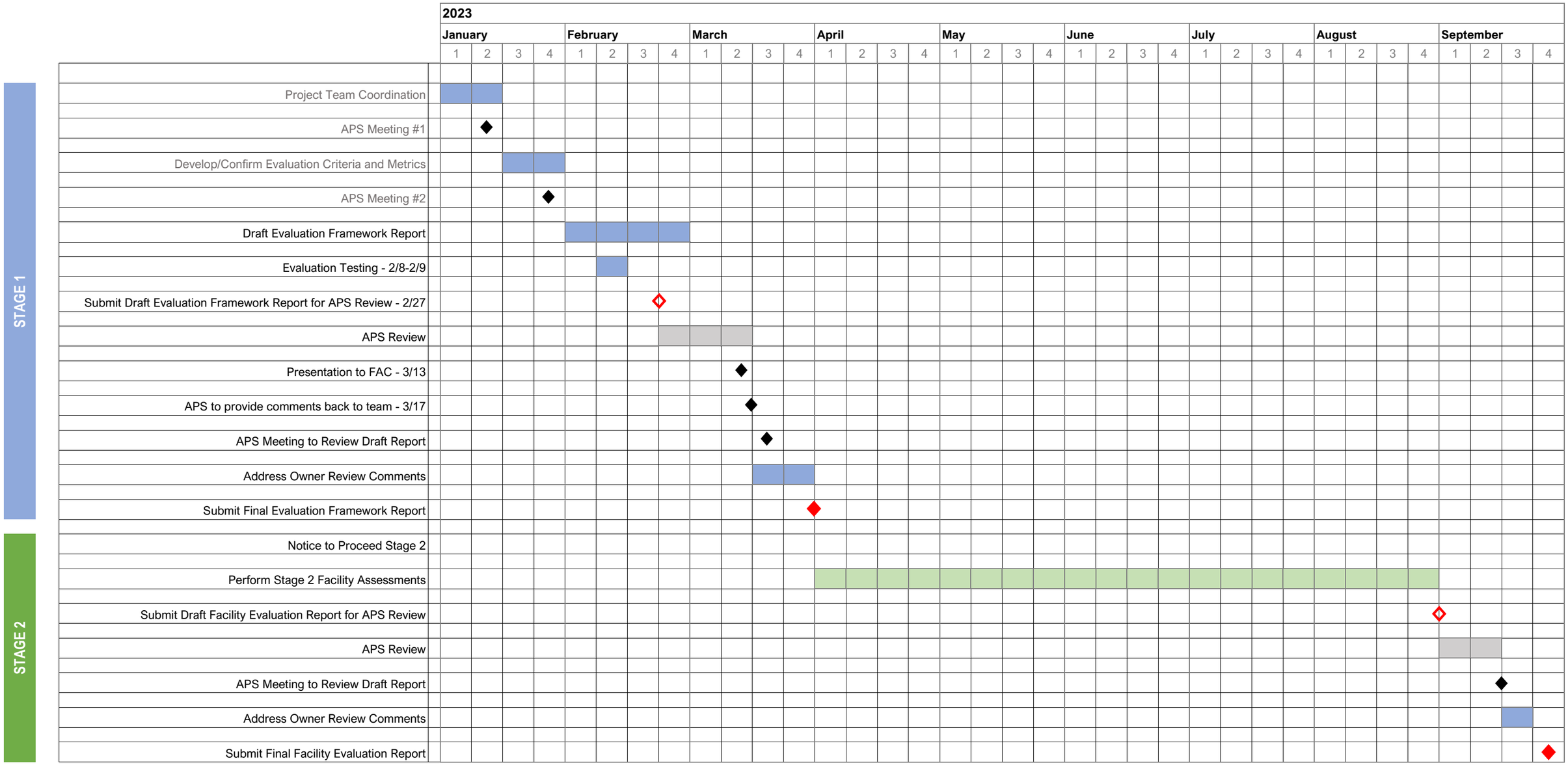
ATTACHMENT B: PROJECT SCHEDULE

APS Existing Facility Evaluation

PROJECT SCHEDULE

Revised 1/31/2023

MTFA architecture



APS Facility Condition Assessment Evaluation Criteria

Rev 4/14/2023

Item No:	*Major Building Systems*	Facility Condition Index	Building Characteristics	What building characteristic is evaluated?	Evaluation Methodology	Tier 1 Evaluation: Metric and Scale of Values (1 lowest, 5 highest)	Notes	Level of Effort for Tier 1 Evaluation	Potential Tier 2 Evaluation recommendations
		FCI	BCI	FCI: To Uniformat Level 3		Facility Condition Index = DM/CRV	Measured against modeled CRV. Will Include Capital Renewal forecasting tools		
	HVAC	SCI					System Condition Index (SCI) -Identify Major Repair/Capital Needs		
1.0	Age/Condition	√		System Age/Condition	Observation	1-5 scale on degradation curve			Identify subsystem needs
2.0	Indoor Air Quality		√	Likelyhood to meet code requirements and ability to deliver code minimum OA	Date of Retrofit, Ability to provide % Outside Air, presence of economizer	measurable range: green >6 eACH, yellow 4-6-eACH, red <4-eACH	Scaled rank based on air changes. Information pulled from 3.0 and 4.0. 6/hr is excellent, 4 is ok, <4 is bad	Evaluation of as-built drawings followed by site visit to confirm general airflow conditions of as-builts	Measure indoor air quality and provide score and recommendations based on county comparison and ASHRAE recommended CO2 levels. (further evaluation).
3.0	Ventilation - Classrooms		√	Ventilation Capability - Classrooms	evaluate size of space and amount of air provided, use as-builts, CMTA study	measurable range: ASHRAE 62.1 - green=exceeds, yellow=meets, red=does not meet	Measure ventilation rates and provide score and recommendations based on county comparison and ASHRAE and Harvard T.H. Chan School of Health recommended air change rates. Pull from previous CMTA study. Scaled Rank (Does not meet code, meets code, or exceeds code).	Evaluation of as-built drawings and room size calculations	
4.0	Ventilation - Gymnasium		√	Ventilation Capability - Gymnasium	evaluate size of space and amount of air provided, use as-builts, CMTA study	measurable range: ASHRAE 62.1 - green=exceeds, yellow=meets, red=does not meet	Measure ventilation rates and provide score and recommendations based on county comparison and ASHRAE and Harvard T.H. Chan School of Health recommended air change rates. Pull from previous CMTA study. Scaled Rank (Does not meet code, meets code, or exceeds code).	Evaluation of as-built drawings and room size calculations	
5.0	Ventilation - Dining		√	Ventilation Capability - Dining	evaluate size of space and amount of air provided, use as-builts, CMTA study	measurable range: ASHRAE 62.1 - green=exceeds, yellow=meets, red=does not meet	Measure ventilation rates and provide score and recommendations based on county comparison and ASHRAE and Harvard T.H. Chan School of Health recommended air change rates. Pull from previous CMTA study. Scaled Rank (Does not meet code, meets code, or exceeds code).	Evaluation of as-built drawings and room size calculations	
6.0	Ventilation - Library		√	Ventilation Capability - Library	evaluate size of space and amount of air provided, use as-builts, CMTA study	measurable range: ASHRAE 62.1 - green=exceeds, yellow=meets, red=does not meet	Measure ventilation rates and provide score and recommendations based on county comparison and ASHRAE and Harvard T.H. Chan School of Health recommended air change rates. Pull from previous CMTA study. Scaled Rank (Does not meet code, meets code, or exceeds code).	Evaluation of as-built drawings and room size calculations	
7.0	Specialty Ventilation Requirements		√	Specialty space ventilation requirements	Evaluate size of space and amount of ventilation provided for adequate ventilation of specialty spaces such as labs, art rooms, shops, kilns, etc.	does ventilation meet code requirements and APS standards	yes/no with partial	Evaluation of as-built plans and site visit for confirmation of plans	Evaluate specific airflow rates for spaces and equipment utilizing test and balance procedures to get exact measurements
8.0	Filtration - Classrooms		√	Level of filtration - Classrooms	Observation: Filter types installed	Scaled Rank (MERV-14+ = good,MERV-11-13 = ok, <MERV-11 = bad)	Observe and measure filtration and air change rates based on ASHRAE and Harvard T.H. Chan School of Health recommended levels Scaled Rank (MERV-13 = ok, MERV-14+ = good, MERV-11 = bad)	Evaluation of existing filters on site and availability of additional filter drop at unit	
9.0	Filtration - Gymnasium		√	Level of filtration - Gymnasium	Observation: Filter types installed	Scaled Rank (MERV-14+ = good,MERV-11-13 = ok, <MERV-11 = bad)	Observe and measure filtration and air change rates based on ASHRAE and Harvard T.H. Chan School of Health recommended levels Scaled Rank (MERV-13 = ok, MERV-14+ = good, MERV-11 = bad)	Evaluation of existing filters on site and availability of additional filter drop at unit	
10.0	Filtration - Library		√	Level of filtration - Library	Observation: Filter types installed	Scaled Rank (MERV-14+ = good,MERV-11-13 = ok, <MERV-11 = bad)	Observe and measure filtration and air change rates based on ASHRAE and Harvard T.H. Chan School of Health recommended levels Scaled Rank (MERV-13 = ok, MERV-14+ = good, MERV-11 = bad)	Evaluation of existing filters on site and availability of additional filter drop at unit	
11.0	Thermal comfort		√	Capability for Individual Temp control and building humidity control	Observation: Presence of Thermostats	yes/no with partial	yes/no with partial	Evaluation of as-built plans and site visit for confirmation of plans	Assess existing controls, zoning, and measure temperature in spaces. Provide score and recommendations based on typical APS/LEED requirements.
	Electrical	SCI					System Condition Index (SCI) -Identify Major Repair/Capital Needs		
1.0	Switchgear (Capacity/Age/Condition)	√		System Age/Condition/Capacity	Observation	Building-level Power Delivery (W/SF)measurable range: green >10-W/sf, yellow 6-10-W/sf, red <6-@sf	Building-level Power Delivery (W/SF) - measurable range: green >10-W/sf, yellow 6-10-W/sf, red <6-@sf	Building walkthrough and evaluation of as-built drawings	
2.0	Generator kW (Size/Age/Condition)	√		System Age/Condition	Observation	1-5 scale on degradation curve		Building walkthrough	
3.1	Indoor Lighting (LED coverage)		√	Presence of LED fixtures	Observation	Are LED's present in 75% of spaces or not - yes/no	presence in 75% of spaces. Take a single lighting level for reference.	Building walkthrough	Provide recommendations and score based on typical APS/IES/LEED requirements. Assess quality of light, light levels, control capability, etc.
3.2	Exterior Lighting		√	Exterior light pollution	Observation	Yes/no compliant with Dark Sky standards	Dark Sky compliance/presence of full cutoff fixtures	Building walkthrough	
3.3	Indoor Lighting Color Temperature		√	Color temperature of fixtures	Observation	yes/no meets desired standard of 4000K and is consistent		Building walkthrough	
3.4	Exterior Lighting Color Temperature		√	Color temperature of fixtures	Observation	yes/no meets desired standard of 3000K and is consistent		Building walkthrough	
3.5	Occupancy Sensors		√	Yes/No	Observation	yes/no present or not		Building walkthrough	
	Plumbing	SCI					System Condition Index (SCI) -Identify Major Repair/Capital Needs		
1.0	Age/Condition	√		System Age/Condition	Observation	1-5 scale on degradation curve		Building walkthrough	
2.0	Isolation Valves		√	Yes/No presence and ability to isolate	Observation	yes/no/partial	Partial value if part of building is able to be isolated (addition vs existing)	Building walkthrough and evaluation of as-built drawings	
3.0	Flow/Pressure		√	Yes/No sufficient pressure for fixtures	Observation	yes/no meeting what criteria - problems	Coordinate with APS plumbing dept. for specific issues	Building walkthrough	
4.1	Water Efficient Fixtures		√	Yes/No/% Efficient fixtures	Observation	Are efficient/low flow fixtures present or not - yes/no/partial?	Water efficient fixtures: Evaluate efficiency of existing fixtures/equipment and provide recommendations to reduce water use.	Building walkthrough	
4.2	Water Usage Intensity (WUI)		√	Rank all schools, value	Evaluate WUI data	benchmark ranking of all schools mapped to ratings	Analyze water use of existing APS schools, benchmark Water Use Intensity (WUI), and rank all schools.	analysis of APS WUI records	

	Fire Suppression/Fire Alarm	SCI					System Condition Index (SCI) -Identify Major Repair/Capital Needs		
1.0	Fire Alarm System	√		System Age/Condition	Observation	1-5 scale on degradation curve			
2.0	Fire Suppression System	√		System Age/Condition	Observation	1-5 scale on degradation curve			
	Building Enclosure	SCI					System Condition Index (SCI) -Identify Major Repair/Capital Needs		
1.0	Roof	√		System Age/Condition	Observation	1-5 scale on degradation curve	Review and coordinate with roof condition survey.	Infrared Camera Inspection on site?	Review energy efficiency and make recommendations
2.0	Windows	√		System Age/Condition	Observation	1-5 scale on degradation curve		Infrared Camera Inspection on site?	Review energy efficiency and make recommendations
3.0	Building Envelope	√		System Age/Condition	Observation	1-5 scale on degradation curve	Roof/Window/Building Envelope: Provide building pressure test, infrared photos, etc. to assess building envelope.	Infrared Camera Inspection on site?	Review energy efficiency and make recommendations based on cfm/ft2 performance of building pressure test, results of infrared photos, etc.
	Building Security						System Condition Index (SCI) -Identify Major Repair/Capital Needs		
1.0	Security Vestibules		√	Yes/No	Observation	yes/no		Building walkthrough	
2.1	Areas of concealment (interior)		√	Yes/No	Observation	yes/no	an indication that the interior building corridors promote circulation without areas of concealment.	Building walkthrough	
2.2	Areas of concealment (exterior)		√	Yes/No	Observation	yes/no	an indication that the exterior building geometry, wall construction and landscaping do not allow for exterior areas of concealment adjacent to the building.	Building walkthrough	
2.3	Single point of entry		√	Yes/No	Observation	yes/no	an indication that visitor traffic is directed to the main entry of the building, toward entry security features.	Building walkthrough	
	Life Safety and Code Standards								
	Accessible entrance		√	Yes/No	Observation	yes/no		Building walkthrough	
	Elevator (if multistory)		√	Yes/No	Observation	yes/no		Building walkthrough	
	Bathroom Accessibility		√	Yes/No/Partial	Observation	yes/no/partial	Bathrooms generally meet current accessibility standards	Building walkthrough	
	Corridor Width		√	Yes/No/Partial	Observation	yes/no/partial	Corridors are 6'-0" minimum width with projections less than 4"	Building walkthrough	
	Stairs/Guardrails/Handrails		√	Yes/No/Partial	Observation	yes/no/partial	Generally meets current code requirements for riser/tread, headroom clearances, guardrail and handrail heights and sizing	Building walkthrough	
	Accessibility in Public Spaces		√	Yes/No/Partial	Observation	yes/no/partial		Building walkthrough	
	Ability to Expand								
1.0	Feasibility Study		√	Yes/No	Evaluate existing documentation	yes/no	Coordinate info with APS	Analysis of APS records	
2.1	Relocatable Complex		√	Yes/No	Observation/Evaluate existing documentation	yes/no	Coordinate info with APS	Building walkthrough	
2.2	Number of Relocatable Classrooms		√	Total Number on site	Observation/Evaluate existing documentation		Information only	Analysis of APS records followed by site visit to confirm.	
	Pool (Circulation System)	SCI							
1.0	Age/Condition	√		System Age/Condition	Observation	1-5 scale on degradation curve		Building walkthrough	
	Other								
1.0	Energy Use Intensity (EUI) Benchmarking		√	Rank all schools, value	Evaluate existing documentation	Scaled Rank (range of good/better/bad?)	Analyze energy use of existing APS schools, benchmark EUI, and rank all schools.	Analysis of existing APS EUI record data + latest energy bills	Further evaluation of utilities/field evaluation
2.1	Daylighting Access		√	Yes/No based on daylight availability provide percentage of classroom/learning spaces with access	Observation	100% of classrooms = good/green, > 90% = ok/yellow, < 90% = bad/red		Evaluation of as-built drawings followed by site visit to confirm.	Provide recommendations to improve daylighting in common occupied spaces.
2.2	Daylighting Controllability		√	Yes/No	Observation	yes/no presence of blinds/shades		Building walkthrough	
3.0	On-site renewable energy		√	Yes/No presence of on-site solar	Observation	Yes/No		Building walkthrough	
4.0	Geothermal		√	Yes/No presence of on-site geothermal	Observation	Yes/No		Building walkthrough	If No, is it feasible on site
5.1	Elevator Age/Condition	√		System Age/Condition	Observation	1-5 scale on degradation curve		Building walkthrough	
5.2	Number of Elevators		√	Quantity	Observation	Yes/no 2 or more are present	APS standard is 2 or more for redundancy	Building walkthrough	
5.3	Elevator Size		√	Yes/No can accommodate stretcher (min. size)	Observation	Yes/no meets size requirements by code		Building walkthrough	

ATTACHMENT C: PROJECT EVALUATION CRITERIA

	Common Space Adequacy	Facility Condition Assessment	Building Characteristics	What building characteristic is evaluated?	Evaluation Methodology	Tier 1 Evaluation: Metric and Scale of Values (1 lowest, 5 highest)	NOTES	Level of Effort for Tier 1 Evaluation	Potential Tier 2 Evaluation recommendations
1.0	Cafeteria		√	Size per student served	Existing drawing review/Observation	15 net sf/student, accommodate school capacity in three seatings	Measure against school capacity	Evaluation of as-built drawings followed by site visit to confirm.	
1.1	Kitchen		√	1) Size per student served	Existing drawing review/Observation	3 net sf/student		Evaluation of as-built drawings followed by site visit to confirm.	
1.2			√	2) Number of service lines	Existing drawing review/Observation	Y/N 2 serving lines present	Standard 2	Evaluation of as-built drawings followed by site visit to confirm.	
1.3			√	3) Lunch periods	Existing drawing review/Observation		Standard 3	Evaluation of as-built drawings followed by site visit to confirm.	
1.4		√		4) Kitchen Equipment age/condition	Existing drawing review/Observation	1-5 scale on degradation curve		Building walkthrough	
2.1	Gymnasium		√	1) Size (Length & Width)	Existing drawing review/Observation	Y/N meets minimum size requirement	Minimum gym size – 94' x 58'. Add comments/notes about presence of daylight and divider curtain	Evaluation of as-built drawings followed by site visit to confirm.	
3.1	Performance Space		√	1) Availability (Y/N)	Existing drawing review/Observation			Evaluation of as-built drawings followed by site visit to confirm.	
3.2			√	2) Seating (Occupancy)	Existing drawing review/Observation			Evaluation of as-built drawings followed by site visit to confirm.	
4.1	Library		√	1) Linear Bookshelves (Ft/student)	Existing drawing review/Observation		Define standard/measure against capacity - from design guides (9,000 - 12,000 volumes?) (900LF)	Building walkthrough	
4.2			√	2) Library classroom (Y/N)	Existing drawing review/Observation			Evaluation of as-built drawings followed by site visit to confirm.	
5.0	Pool		√	Design Capacity/# of swimmers	Existing drawing review/Observation		Define standard from design guides.	Evaluation of as-built drawings followed by site visit to confirm.	
	Outdoor Spaces								
6.1	Playground		√	Number/type	Existing drawing review/Observation		Define standard from design guides.	Site walkthrough	
6.2			√	Age/Condition of Equipment	Observation	1-5 scale on degradation curve		Site walkthrough	
6.3			√	Playground Surfacing	Observation	Yes/Good - Rubberized surface No/Bad - mulch/wood chips, or other		Site walkthrough	
7.0	Fields		√	Number/size/type	Existing drawing review/Observation		Define standard from design guides. No standard at elementary school level (yes/no presence for elementary)	Site walkthrough	
8.0	Outdoor Learning		√	Number of stations/type	Existing drawing review/Observation	yes/no		Site walkthrough	
9.0	Outdoor dining		√	Y/N	Existing drawing review/Observation	yes/no		Site walkthrough	

	Educational Space Adequacy	Facility Condition Assessment	Building Characteristics	What building characteristic is evaluated?	Evaluation Methodology	Tier 1 Evaluation: Metric and Scale of Values (1 lowest, 5 highest)	NOTES	Level of Effort for Tier 1 Evaluation	Potential Tier 2 Evaluation recommendations
1.1	Classrooms (General)		√	1) Size (SF of instructional space per school)	Existing drawing review/Observation	Green - classroom meets minimum standard area. Yellow - within 10% below. Red - more than 10% below.	Kindergarden & Pre k – 1040sf including tlt = x amount per school 1st grade – 870sf including tlt = x amount per school General ed – 825sf = all other classrooms. Evaluate each individual classroom and provide total number of each rating.	Evaluation of as-built drawings followed by site visit to confirm.	
1.2			√	2) Number of classrooms	Existing drawing review/Observation		Information only	Evaluation of as-built drawings followed by site visit to confirm.	
1.3			√	3) Availability of operable windows	Existing drawing review/Observation	yes - 90% of classrooms have at least one operable window, no - < 90%		Building walkthrough	
1.4			√	4) In-suite toilet room for Pre-K and K	Existing drawing review/Observation	yes/no		Evaluation of as-built drawings followed by site visit to confirm.	
1.5			√	5) Classroom sink	Existing drawing review/Observation	yes/no presence of sinks within classrooms		Building walkthrough	
2.1	Classrooms (Special Education)		√	1) Size (SF of instructional space per school)	Existing drawing review/Observation	Green - all classrooms meet standard. Yellow - within 10% below. Red - below.	Standard min. is 500 sf	Evaluation of as-built drawings followed by site visit to confirm.	
2.2			√	2) Number and Type of "Permanent" Special Education classrooms	Existing drawing review/Observation		Information only	Evaluation of as-built drawings followed by site visit to confirm.	
2.3			√	3) Resource Rooms	Existing drawing review/Observation	yes/no		Evaluation of as-built drawings followed by site visit to confirm.	
2.4			√	4) Availability of OT/PT spaces	Existing drawing review/Observation	yes/no present space for this use or not		Evaluation of as-built drawings followed by site visit to confirm.	
	Support Services								
3.1	Workspace		√	1) Y/N	Existing drawing review/Observation	yes/no		Evaluation of as-built drawings followed by site visit to confirm.	
3.2	Pullout Space		√	2) Y/N	Existing drawing review/Observation	yes/no		Evaluation of as-built drawings followed by site visit to confirm.	
3.4	Clinic		√	4) County Standards	Existing drawing review/Observation	yes/no	2 beds, Sink w/ eyewash, Refrigerator, Office with window, ensuite toilet	Building walkthrough	
4.1	Art		√	1) Quantity (number of rooms)	Existing drawing review/Observation	Yes/no meets QUANTITY STANDARD		Evaluation of as-built drawings followed by site visit to confirm.	
4.2			√	2) Availability of kiln	Existing drawing review/Observation	yes/no		Building walkthrough	
4.3			√	3) Availability of sinks/faucets	Existing drawing review/Observation	yes/no		Building walkthrough	
4.4			√	4)Availability of storage	Existing drawing review/Observation	yes/no		Building walkthrough	
5.1	Music		√	1) Quantity and type	Existing drawing review/Observation	Yes/no meets QUANTITY STANDARD	Type: vocal, instrumental, orchestra Define standard - from design guides. 2 +1	Evaluation of as-built drawings followed by site visit to confirm.	
5.2			√	2) Availability of Instrument Storage	Existing drawing review/Observation	yes/no		Building walkthrough	
6.0	Lab		√	Quantity and Type	Existing drawing review/Observation	Yes/no meets QUANTITY STANDARD	Type: wet, dry, maker space Define standard - from design guides.	Evaluation of as-built drawings followed by site visit to confirm.	
	Notes:								
	FCA is conducted to ASTM E1557 Standard Classification for Building Elements and Related Sitework -- UNIFORMAT II - to Level III								

ATTACHMENT C: PROJECT EVALUATION CRITERIA

ASTM Uniformat II Classification Standard:

Level I	Level II	Level III
A Substructure	A10 Foundations	A1010 Standard Foundations
		A1020 Special Foundations
		A1030 Slab on Grade
	A20 Basement Construction	A2010 Basement Excavation
		A2020 Basement Walls
B Shell	B10 Superstructure	B1010 Floor Construction
		B1020 Roof Construction
	B20 Exterior Enclosure	B2010 Exterior Walls
		B2020 Exterior Windows
		B2030 Exterior Doors
	B30 Roofing	B3010 Roof Coverings
		B3020 Roof Openings
C Interiors	C10 Interior Construction	C1010 Partitions
		C1020 Interior Doors
		C1030 Fittings
	C20 Stairs	C2010 Stair Construction
		C2020 Stair Finishes
	C30 Interior Finishes	C3010 Wall Finishes
		C3020 Floor Finishes
		C3030 Ceiling Finishes
D Services	D10 Conveying	D1010 Elevators & Lifts
		D1020 Escalators & Moving Walks
		D1090 Other Conveying Systems
	D20 Plumbing	D2010 Plumbing Fixtures
		D2020 Domestic Water Distribution
		D2030 Sanitary Waste
		D2040 Rain Water Drainage
		D2090 Other Plumbing Systems
	D30 HVAC	D3010 Energy Supply
		D3020 Heat Generating Systems
		D3030 Cooling Generating Systems
		D3040 Distribution Systems
		D3050 Terminal & Package Units
		D3060 Controls & Instrumentation
		D3070 System Testing & Balancing
		D3090 Other HVAC Systems & Equipment
	D40 Fire Protection	D4010 Sprinklers
		D4020 Standpipes
		D4030 Fire Protection Specialties
		D4090 Other Fire Protection Systems
	D50 Electrical	D5010 Electrical Service & Distribution
		D5020 Lighting and Branch Wiring
		D5030 Communications & Security
		D5090 Other Electrical Systems
E Equipment & Furnishings	E10 Equipment	E1010 Commercial Equipment
		E1020 Institutional Equipment
		E1030 Vehicular Equipment
		E1090 Other Equipment
	E20 Furnishings	E2010 Fixed Furnishings
		E2020 Movable Furnishings
F Special Construction & Demolition	F10 Special Construction	F1010 Special Structures
		F1020 Integrated Construction
		F1030 Special Construction Systems
		F1040 Special Facilities
		F1050 Special Controls and Instrumentation
	F20 Selective Building Demolition	F2010 Building Elements Demolition
		F2020 Hazardous Components Abatement
G Sitework & Utilities	G10 Site Preparation	G1010 Site Clearing
		G1020 Site Demolition and Relocations
		G1030 Site Earthwork
		G1040 Hazardous Waste Removal
	G20 Site Improvements	G2010 Roadways
		G2020 Parking Lots
		G2030 Pedestrian Paving
		G2040 Site Development
		G2050 Landscaping
	G30 Site Mechanical Utilities	G3010 Water Supply
		G3020 Sanitary Sewer
		G3030 Storm Sewer
		G3040 Heating Distribution
		G3050 Cooling Distribution
		G3060 Fuel Distribution
		G3090 Other Site Mechanical Utilities
	G40 Site Electrical Utilities	G4010 Electrical Distribution
		G4020 Site Lighting
		G4030 Site Communications & Security
		G4090 Other Site Electrical Utilities
	G90 Other Site Construction	G9010 Services and Pedestrian Tunnels
		G9090 Other Site Systems & Equipment

ATTACHMENT D: FACILITY CONDITION ASSESSMENT REPORTS

FACILITY CONDITION INDEX SUMMARY

RATING LEGEND

- Rating 4 to 5 = Good to Excellent Condtion
- Rating 3 = Fair Condtion
- Rating 1 to 2 = Unacceptable to Poor Condition
- System Not Present

Return to Navigation Page

SITE	BUILDING NAME	A101000 - STANDARD FOUNDATIONS	A103000 - SLAB ON GRADE	A202000 - BASEMENT WALLS	B101000 - FLOOR CONSTRUCTION	B102000 - ROOF CONSTRUCTION	B201000 - EXTERIOR WALLS	B202000 - EXTERIOR WINDOWS	B203000 - EXTERIOR DOORS	B301000 - ROOF COVERINGS	C101000 - PARTITIONS	C102000 - INTERIOR DOORS	C103000 - FITTINGS	C201000 - STAIR CONSTRUCTION	C301000 - WALL FINISHES	C302000 - FLOOR FINISHES	C303000 - CEILING FINISHES	D101010 - ELEVATORS	D101020 - LIFTS	D201000 - PLUMBING SYSTEMS AND FIXTURES	D202005 - COMMERCIAL WATER HEATER	D204000 - BUILDING STORMWATER DRAINAGE	D301000 - ENERGY SUPPLY	D3010010 - GEOTHERMAL HEATING / COOLING SUPPLY	D302000 - CENTRAL PLANT HEATING	D303000 - CENTRAL PLANT COOLING	D304010 - DISTRIBUTION SYSTEMS - HEATING	D304020 - DISTRIBUTION SYSTEMS - COOLING	D305010 - TERMINAL & PACKAGE UNITS	D306000 - CONTROLS	D401000 - SPRINKLERS	D402000 - STANDPIPES	D501000 - ELECTRICAL SERVICE AND DISTRIBUTION	D502000 - LIGHTING AND BRANCH WIRING	D503000 - COMMUNICATION/SECURITY/FIRE ALARM	D509000 - EMERGENCY POWER	E102000 - INSTITUTIONAL EQUIPMENT	E109002 - FOOD SERVICE EQUIPMENT	E201020 - FIXED FURNISHINGS - CASEWORK	F102010 - ELEMENTARY SCHOOL GYMS/MULTI-PURPOSE ROOMS/AUXILLIARY GYMS	F102050 - HAZMAT STORAGE ROOMS	F103010 - PERIMETER CONTAINMENT WALLS
APS	Ashlawn Elementary School																																							
APS	Barcroft Elementary School																																								
APS	Alice West Fleet Elementary School																																								
APS	Montessori Public School of Arlington																																								

BUILDING CHARACTERISTICS SUMMARIES

ARLINGTON PUBLIC SCHOOLS - 2023 BUILDING CHARACTERISTICS
Major Building Systems

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Building Index	School Name	2.0 HVAC - Indoor Air Quality	3.0 HVAC - Ventilation - Classroom	4.0 HVAC - Ventilation - Gymnasium	5.0 HVAC - Ventilation - Dining	6.0 HVAC - Ventilation - Library	7.0 HVAC - Specialty Ventilation Requirements	8.0 HVAC - Filtration - Classrooms	9.0 HVAC - Filtration - Gymnasium	10.0 HVAC - Filtration - Library	11.0 HVAC - Thermal Comfort	3.1 Electrical - Indoor Lighting (LED coverage)	3.2 Electrical - Exterior Lighting	3.3 Electrical - Indoor Lighting Color Temperature	3.4 Electrical - Exterior Lighting Color Temperature	3.5 Electrical - Occupancy Sensors	2.0 Plumbing - Isolation Valves	3.0 Plumbing - Flow/Pressure	4.1 Plumbing - Water Efficient Fixtures	4.2 Plumbing - Water Usage Intensity (WUI)
1	Ashlawn Elementary School																			
2	Barcroft Elementary School																			
3	Alice West Fleet Elementary School																			
4	Montessori Public School of Arlington																			

ARLINGTON PUBLIC SCHOOLS - 2023 BUILDING CHARACTERISTICS
Major Building Systems

1.0 Building Security - Security Vestibules	2.1 Building Security - Areas of concealment (interior)	2.2 Building Security - Areas of concealment (exterior)	2.3 Building Security - Single point of entry	Life Safety and Code Standards - Accessible entrance	Life Safety and Code Standards - Elevator (if multistory)	Life Safety and Code Standards - Bathroom Accessibility	Life Safety and Code Standards - Corridor Width	Life Safety and Code Standards - Stairs/Guardrails/Handrails	Life Safety and Code Standards - Accessibility in Public Spaces	1.0 Ability to Expand - Feasibility Study	2.0 Ability to Expand - Relocatable Complex	Relocatable Classrooms	1.0 Other - Energy Use Intensity (EUI) Benchmarking	2.1 Other - Daylighting Access	2.2 Other - Daylighting Controllability	3.0 Other - On-site renewable energy	4.0 Other - Geothermal	5.2 Other - Number of Elevators	5.3 Other - Elevator Size
												4							
												8							
												0							
												0							

ARLINGTON PUBLIC SCHOOLS - 2023 BUILDING CHARACTERISTICS
Common Space Adequacy

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Building Index	School Name	1.0 Cafeteria	1.1 Kitchen	1.2 Kitchen	1.3 Kitchen	2.2 Gymnasium	3.1 Performance Space	3.2 Performance Space	4.1 Library	4.2 Library	5.0 Pool	6.1 Playground	6.2 Playground	6.3 Playground	7.0 Fields	8.0 Outdoor Learning	9.0 Outdoor dining
1	Ashlawn Elementary School																
2	Barcroft Elementary School																
3	Alice West Fleet Elementary School																
4	Montessori Public School of Arlington																

ARLINGTON PUBLIC SCHOOLS - 2023 BUILDING CHARACTERISTICS
Educational Space Adequacy

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Building Index	School Name	1.1 Classrooms (General) - Green Rating	1.1 Classrooms (General) - Yellow Rating	1.1 Classrooms (General) - Red Rating	1.3 Classrooms (General)	1.4 Classrooms (General)	1.5 Classrooms (General)	2.1 Classrooms (Special Education)	2.2 Classrooms (Special Education)	2.3 Classrooms (Special Education)	2.4 Classrooms (Special Education)	3.1 Workspace	3.2 Pullout Space	3.4 Clinic	4.1 Art	4.2 Art	4.3 Art	4.4 Art	5.1 Music	5.2 Music	6.0 Lab
1	Ashlawn Elementary School	17	5	1																	
2	Barcroft Elementary School	18	0	2																	
3	Alice West Fleet Elementary School	11	20	2																	
4	Montessori Public School of Arlington	15	0	5																	

Arlington Public Schools FCA

2023 Condition Assessment

GENERAL INFORMATION

Building Name	Year Built[1]	Building GSF[2]	Building FCI_{AD}
Ashlawn Elementary School	1956	97,005	0.220

Building Number	Last Renovation[1]	No. of Floors	Building CRV[6]
1	2014	3	$12,608,445

Condition Category Legend		
Good	Fair	Poor
0.0 - .15	>.15 - .33	>.33 - 1.0

Building Description

The Ashlawn Elementary School is multi-story facility located at 5950 8th Road N. in Arlington, Virginia. It was originally constructed in 1956. It was expanded and renovated in 1967, 1989, 1995, 2000 and 2014. The 2014 addition is significant and employs modern exterior wall treatment. The building's use is primarily educational or an E Use Group under the Virginia Uniform Statewide Building Code (USBC). The construction method and types vary and are dependent on the time of construction. In general terms the majority of construction (based on the existing drawings) appear to be a Type II noncombustible pursuant to the current USBC. The building has a slab on grade at the lowest level and elevated concrete floor system on the upper levels. The superstructure varies and includes load bearing masonry and steel framing. The exterior wall assembly varies depending on the age of each area of the building. Generally the older areas consist of masonry construction with precast accent features and ribbon configured window assemblies in the older portions of the building. The most recent addition uses masonry, precast, fiber board panels and curtainwall ribbon windows for the exterior wall assembly (Refer to the Exterior Wall Section for more information). The exterior doors consist of newer metal units in metal frames. The metal doors occur in different configurations (stile/rail with glazing and flush units). The roof assembly varies based on the date of construction but are all low sloped (refer to the Roof Covering Section for more information). The interior finishes (wall, floor and ceiling) are uniformly more recent in age and appear to be well maintained.

SYSTEM DETAILS[3,4,6]

Building Systems	Rating	System Description	Quantity	Unit of Measure	Unit Cost	CRV	EUL	RUL
A101000 - STANDARD FOUNDATIONS	3	Strip and spread footings	36,645	BLDG FP SF	$4.68	$171,499	99	30
A103000 - SLAB ON GRADE	3	Slab on grade	36,645	BLDG FP SF	$7.22	$264,577	99	99
A202000 - BASEMENT WALLS	3	Concrete basement walls	8,605	BASEMENT SF	$8.74	$75,208	99	99
B101000 - FLOOR CONSTRUCTION	4	Steel framed with concrete and metal deck	60,360	ELEV FL SF	$13.36	$806,410	99	99
B102000 - ROOF CONSTRUCTION	4	Wood frame roofing system on load bearing walls	36,645	BLDG FP SF	$12.02	$440,473	99	99
B201000 - EXTERIOR WALLS	3	Brick masonry wall assembly	97,005	BLDG GROSS SF	$7.81	$757,609	70	30
B202000 - EXTERIOR WINDOWS	3	Exterior windows	97,005	BLDG GROSS SF	$2.31	$224,082	40	10
B203000 - EXTERIOR DOORS	3	Exterior doors	97,005	BLDG GROSS SF	$1.18	$114,466	30	10
B301000 - ROOF COVERINGS	2	Built-up roof	36,645	BLDG FP SF	$14.31	$524,390	25	0
C101000 - PARTITIONS	3	Concrete block (CMU) partitions	97,005	FINISHED SF	$6.52	$632,473	70	30
C102000 - INTERIOR DOORS	3	Interior doors	97,005	FINISHED SF	$6.16	$597,551	40	10
C103000 - FITTINGS	3	Partitions and lockers	97,005	FINISHED SF	$2.10	$203,711	30	10
C201000 - STAIR CONSTRUCTION	3	Cast-in-place concrete stairs	97,005	BLDG GROSS SF	$0.15	$14,551	50	10
C301000 - WALL FINISHES	3	Standard wall finishes	97,005	FINISHED SF	$3.02	$292,955	6	3
C302000 - FLOOR FINISHES	3	Standard floor finishes	97,005	FINISHED SF	$7.39	$716,867	14	6
C303000 - CEILING FINISHES	3	Standard ceiling finishes	97,005	FINISHED SF	$8.76	$849,764	20	6
D101010 - ELEVATORS	5	Elevator	1	EACH	$92,000.00	$92,000	35	25
D101020 - LIFTS	3	Single level wheel chair lift	1	EACH	$9,875.00	$9,875	20	6
D201000 - PLUMBING SYSTEMS AND FIXTURES	4	Plumbing Systems and Fixtures	85,905	SERVED SF	$3.53	$303,245	50	22
D202005 - COMMERCIAL WATER HEATER	5	Gas Water Heater, Commercial, Greater than 300 MBH	2	MBH	$396.44	$793	40	30
D204000 - BUILDING STORMWATER DRAINAGE	4	Internal roof drains	36,645	BLDG FP SF	$2.19	$80,253	60	10
D301000 - ENERGY SUPPLY	5	Natural gas supply	97,005	BLDG GROSS SF	$0.06	$5,820	60	32
D301010 - GEOTHERMAL HEATING / COOLING SUPPLY	-				-	-		
D302000 - CENTRAL PLANT HEATING	4	Boiler	97,005	SERVED SF	$3.24	$314,296	20	11
D303000 - CENTRAL PLANT COOLING	5	Chiller system	97,005	SERVED SF	$3.26	$316,236	30	20
D304010 - DISTRIBUTION SYSTEMS - HEATING	3	Heat pump system	85,455	SERVED SF	$4.14	$353,784	40	22
D304020 - DISTRIBUTION SYSTEMS - COOLING	4	Heat pump system distribution	85,455	SERVED SF	$4.14	$353,784	50	22
D305010 - TERMINAL & PACKAGE UNITS	4	Terminal and package units, <10,000 SF	450	SERVED SF	$37.20	$16,740	20	13
D306000 - CONTROLS	4	HVAC controls - heat pump system	85,905	SERVED SF	$0.41	$35,221	30	10
D401000 - SPRINKLERS	4	Sprinkler system	97,005	SERVED SF	$4.48	$434,582	50	22
D402000 - STANDPIPES	-				-	-		
D501000 - ELECTRICAL SERVICE AND DISTRIBUTION	5	Main electrical entrance and switch - 1200 Amp Service	97,005	BLDG GROSS SF	$2.94	$285,195	60	31
D502000 - LIGHTING AND BRANCH WIRING	5	Distribution panels, wiring, lighting and fixtures - >1000 Amp service	85,905	BLDG GROSS SF	$16.90	$1,451,795	60	32
D503000 - COMMUNICATION/SECURITY/FIRE ALARM	4	Communication, alarm, telephone, and wiring	97,005	BLDG GROSS SF	$4.15	$402,571	20	10
D509000 - EMERGENCY POWER	3	Emergency Generator, >=80 kW to <100 kW	1	EACH	$46,635.00	$46,635	35	6
E102000 - INSTITUTIONAL EQUIPMENT	3	Institutional equipment	2,300	SERVED SF	$48.04	$110,492	15	5
E109002 - FOOD SERVICE EQUIPMENT	4	Serving kitchen	97,005	SERVED SF	$1.05	$101,855	20	11
E109007 - ATHLETIC EQUIPMENT	4	Miscellaneous athletic systems (racquetball, squash, sport court)	5,800	SERVED SF	$86.00	$498,800	20	8
E201020 - FIXED FURNISHINGS - CASEWORK	3	Cabinetry	1,000	LENGTH LF	$431.92	$431,920	35	7
F102010 - ELEMENTARY SCHOOL GYMS/MULTI-PURPOSE ROOMS/AUXILLIARY GYM	4	Multi-purpose room	5,300	SERVED SF	$52.07	$275,971	20	8
F102050 - HAZMAT STORAGE ROOMS	-				-	-		
F103010 - PERIMETER CONTAINMENT WALLS	-				-	-		

1. Values shown were provided by APS.
2. If FEA's estimated Gross Square Feet of the building (GSF) differed significantly from the GSF provided by APS, FEA used its own estimated GSF for this report.
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5. The values in the above Projected Needs table are in 2023 dollars and do not include any cost markup factors.
6. Markup factors applied are based on information provided by APS and FEA's experience.

ASHLAWN ELEMENTARY

FEA FACILITY ENGINEERING ASSOCIATES

Arlington Public Schools

MTFA architecture

Arlington Public Schools FCA

2023 Condition Assessment

GENERAL INFORMATION

Building Name	Year Built[1]	Building GSF[2]	Building FCI_{AD}
Ashlawn Elementary School	1956	97,005	0.220

Condition Category Legend		
Good	Fair	Poor
0.0 - .15	>.15 - .33	>.33 - 1.0

Building Number	Last Renovation[1]	No. of Floors	Building CRV[6]
1	2014	3	$12,608,445

Building Description

The Ashlawn Elementary School is multi-story facility located at 5950 8th Road N. in Arlington, Virginia. It was originally constructed in 1956. It was expanded and renovated in 1967, 1989, 1995, 2000 and 2014. The 2014 addition is significant and employs modern exterior wall treatment. The building's use is primarily educational or an E Use Group under the Virginia Uniform Statewide Building Code (USBC). The construction method and types vary and are dependent on the time of construction. In general terms the majority of construction (based on the existing drawings) appear to be a Type II noncombustible pursuant to the current USBC. The building has a slab on grade at the lowest level and elevated concrete floor system on the upper levels. The superstructure varies and includes load bearing masonry and steel framing. The exterior wall assembly varies depending on the age of each area of the building. Generally the older areas consist of masonry construction with precast accent features and ribbon configured window assemblies in the older portions of the building. The most recent addition uses masonry, precast, fiber board panels and curtainwall ribbon windows for the exterior wall assembly (Refer to the Exterior Wall Section for more information). The exterior doors consist of newer metal units in metal frames. The metal doors occur in different configurations (stile/rail with glazing and flush units). The roof assembly varies based on the date of construction but are all low sloped (refer to the Roof Covering Section for more information). The interior finishes (wall, floor and ceiling) are uniformly more recent in age and appear to be well maintained.

SYSTEM OBSERVATIONS

Building Systems	Rating	Observations
A101000 - STANDARD FOUNDATIONS	3	The foundation type for the older portions of the building appear to be concrete masonry units (CMU). The more recent addition uses a cast in place concrete foundation wall.
A103000 - SLAB ON GRADE	3	The lowest level of the building has a slab on grade.
A202000 - BASEMENT WALLS	3	For the original portion of the building, the drawings indicate cast in place concrete
B101000 - FLOOR CONSTRUCTION	4	The original building (circa 1955) has two levels. The ground level is a slab on grade. The upper level is a cast in place (one way) reinforced concrete floor assembly. The more recent addition has three (3) levels and uses steel framing with a structural deck with cast in place concrete. The overall rating is good.
B102000 - ROOF CONSTRUCTION	4	The original building (circa 1955) has a cast in place (one way) reinforced concrete roof assembly supported by cast in place concrete columns. There are steel beams over window openings and steel framing at the gymnasium. The more recent addition has uses steel framing. The overall rating is good.
B201000 - EXTERIOR WALLS	3	The original (circa 1955) building's exterior wall assembly is brick veneer over CMU engaging exposed to view cast in place concrete columns. A continuous concrete spandrel is located across the top of the wall at the roof line and also between the floors at the two story portion of the building. The 1967 addition uses similar materials. A subsequent addition (circa 1995) uses two colors of brick veneer and split face/ground face CMU. The 2014 addition has a similar brick veneer used as an accent feature, but adds fiber cement panels and ground face masonry units. The more recent exterior wall assemblies are in good condition. There are vertical
B202000 - EXTERIOR WINDOWS	3	The exterior windows are not original. Based on record drawings, it appears the original units were removed and replaced in 1995. The windows are aluminum framed units with thermal glazing. The windows in the 2014 addition appear to be in good condition. There are both fixed and operable units. The sealant around the window opening (especially at the sill) is cracked and open. Overall rating is fair due to the age of the majority of
B203000 - EXTERIOR DOORS	3	There are both glazed storefront units and flush units. All exterior doors are metal in metal frames.
B301000 - ROOF COVERINGS	2	There are several roof coverings based on the age of the different portions of the building. The majority assembly is a built up roof (BUR) asphalt. There is a standing seem metal roof assembly in the north quadrant of the building. There is ballasted asphalt BUR and a section of BUR with a cap sheet. The roofing report (by Gale) indicates the sections using a BUR should be replaced by 2020. In addition the report recommended that the
C101000 - PARTITIONS	3	The majority of the older portions of the building have a CMU interior partitions. One area has a glazed CMU. The more recent building areas have gypsum board over framing. There are several areas with interior glazed
C102000 - INTERIOR DOORS	3	The majority of the interior doors are solid core wood panels in metal frames. The doors types vary and include flush and glazed units.
C103000 - FITTINGS	3	The school has several section of metal lockers.
C201000 - STAIR CONSTRUCTION	3	The original building has interior concrete stairs. The more recent areas of the building have steel framed units with metal pan concrete infill treads. All stairs have hand and guard rails.
C301000 - WALL FINISHES	3	Wall finishes are predominately painted. At certain locations (one stair and bathrooms),the wall finish is ceramic tile.
C302000 - FLOOR FINISHES	3	Throughout the school there are several floor finishes including carpet, vinyl tile and ceramic tile.
C303000 - CEILING FINISHES	3	The majority of ceiling finishes are suspended acoustical tile. The age of the tile varies. Some tile corners are curled in the suspension system.
D101010 - ELEVATORS	5	One elevator in 2013 addition. Cab walls covered with temporary protection blankets. No issues reported or observed. Cab interior dimensions were 51"x80" with a 42" door centered on long side.
D101020 - LIFTS	3	Stair lift at back of stage in cafeteria/multipurpose room. Estimated installed in 1995 based on nameplate. Items were stored to block usage at time of visit. No issues reported or observed.
D201000 - PLUMBING SYSTEMS AND FIXTURES	4	Assumed copper domestic water piping and cast iron sanitary piping throughout. Assumed most of the older plumbing to have been replaced/installed in 1995 (75%) and newer plumbing as part of 2013 addition (25%). No issues reported or observed.
D202005 - COMMERCIAL WATER HEATER	5	Domestic water heater and two storage tanks installed in 2013 per plans. Natural gas fired, 399 MBH. No issues reported or observed.
D204000 - BUILDING STORMWATER DRAINAGE	4	Stormwater piping assumed to be original to each phase of construction. ~50% near end of EUL and ~50% in first half of EUL. No issues reported or observed.
D301000 - ENERGY SUPPLY	5	Natural gas supply assumed to have been upgraded in 1995. No issues reported or observed.
D301010 - GEOTHERMAL HEATING / COOLING SUPPLY	-	
D302000 - CENTRAL PLANT HEATING	4	Two high efficienty boilers installed 2014. No issues reported or observed.
D303000 - CENTRAL PLANT COOLING	5	Rooftop cooling tower installed 2013. No issues reported or observed.
D304010 - DISTRIBUTION SYSTEMS - HEATING	3	Combination of RTUs, heat pump systems, and unit ventilators. Assumed most of the older distribution to have been replaced/installed in 1995 (75%) and newer distribution as part of 2013 addition (25%). Unit ventilators in classrooms generally appeared to be nearing end of EUL. No issues reported or observed.
D304020 - DISTRIBUTION SYSTEMS - COOLING	4	Combination of RTUs, heat pump systems, and unit ventilators. Assumed most of the older distribution to have been replaced/installed in 1995 (75%) and newer distribution as part of 2013 addition (25%). No issues reported or observed.
D305010 - TERMINAL & PACKAGE UNITS	4	Small split-system serving portion of administration area (assumed Principal's office and conference room). Condenser unit installed 2014. No issues reported or observed.
D306000 - CONTROLS	4	Digital controls throughout. Assumed most of the older controls to have been replaced/installed in 1995 (75%) and newer controls as part of 2013 addition (25%). No issues reported or observed.
D401000 - SPRINKLERS	4	Sprinklers installed throughout. Assumed most of the older system assumed to have been replaced/installed in 1995 (75%) and newer system as part of 2013 addition (25%). No issues reported or observed.
D402000 - STANDPIPES	-	
D501000 - ELECTRICAL SERVICE AND DISTRIBUTION	5	Main electrical entrance installed in 1994. 1200A, 480Y/277V, 3 phase, 4 wire. No issues reported or observed.
D502000 - LIGHTING AND BRANCH WIRING	5	Assumed most of the older electrical system to have been replaced/installed in 1995 (75%) and newer system as part of 2013 addition (25%). No issues reported or observed.
D503000 - COMMUNICATION/SECURITY/FIRE ALARM	4	Fire alarm system and PA system assumed to have been upgraded in 2013. Security system panel labeled as not in service. No issues reported or observed.
D509000 - EMERGENCY POWER	3	Emergency generator assumed to have been installed in 1994. Nameplate listed 85 KW, 106.8 KVA. No issues reported or observed.
E102000 - INSTITUTIONAL EQUIPMENT	3	Art Kiln assumed installed in 1995. No issues reported or observed.
E109002 - FOOD SERVICE EQUIPMENT	4	Serving Kitchen. Counters and sinks assumed to be original to 1995. Warming and serving appliances appeared to be mostly replaced around 2014. No issues reported or observed with equipment. Kitchen reportedly planned to be fully renovated/expanded in 2025. Failing kitchen flooring to be captured in flooring section above.
E109007 - ATHLETIC EQUIPMENT	4	Single-purpose elementary school gymnasium. Constructed 1995. Vinyl flooring, painted walls with soundproofing panels, and painted ceiling structure were in good condition and had likely been renovated more
E201020 - FIXED FURNISHINGS - CASEWORK	3	Assumed most of the older casework to have been replaced/installed in 1995 (75%) and newer casework as part of 2013 addition (25%). Quantity estimated based on number of classrooms. Expected level of wear and tear observed.
F102010 - ELEMENTARY SCHOOL GYMS/MULTI-PURPOSE ROOMS/AL	4	Multi-purpose room served as cafeteria and auditorium. Constructed 1995. VCT flooring, painted walls with fabric panels, and metal panels and painted ceiling structure were in good condition and had likely been renovated more recently. Stage finishes and equipment appeared original but in good condition. Lighting may have been upgraded and remained in good condition. RTU assumed original but no issues reported.
F102050 - HAZMAT STORAGE ROOMS	-	
F103010 - PERIMETER CONTAINMENT WALLS	-	

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Arlington Public Schools FCA

2023 Condition Assessment

GENERAL INFORMATION

Building Name	Year Built[1]	Building GSF[2]	Building FCI_{AD}	Condition Category Legend
Ashlawn Elementary School	1956	97,005	0.220	Good 0.0 - .15 / Fair >.15 - .33 / Poor >.33 - 1.0
Building Number	**Last Renovation[1]**	**No. of Floors**	**Building CRV[6]**	**No. of Local Projects**
1	2014	3	$12,608,445	9

Building Description

The Ashlawn Elementary School is multi-story facility located at 5950 8th Road N. in Arlington, Virginia. It was originally constructed in 1956. It was expanded and renovated in 1967, 1989, 1995, 2000 and 2014. The 2014 addition is significant and employs modern exterior wall treatment. The building's use is primarily educational or an E Use Group under the Virginia Uniform Statewide Building Code (USBC). The construction method and types vary and are dependent on the time of construction. In general terms the majority of construction (based on the existing drawings) appear to be a Type II noncombustible pursuant to the current USBC. The building has a slab on grade at the lowest level and elevated concrete floor system on the upper levels. The superstructure varies and includes load bearing masonry and steel framing. The exterior wall assembly varies depending on the age of each area of the building. Generally the older areas consist of masonry construction with precast accent features and ribbon configured window assemblies in the older portions of the building. The most recent addition uses masonry, precast, fiber board panels and curtainwall ribbon windows for the exterior wall assembly (Refer to the Exterior Wall Section for more information). The exterior doors consist of newer metal units in metal frames. The metal doors occur in different configurations (stile/rail with glazing and flush units). The roof assembly varies based on the date of construction but are all low sloped (refer to the Roof Covering Section for more information). The interior finishes (wall, floor and ceiling) are uniformly more recent in age and appear to be well maintained.

PROJECTED NEEDS[5,6]

Building Systems	Rating	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
A101000 - STANDARD FOUNDATIONS	3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A103000 - SLAB ON GRADE	3	$ 80,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A202000 - BASEMENT WALLS	3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
B101000 - FLOOR CONSTRUCTION	4	$ 40,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
B102000 - ROOF CONSTRUCTION	4	$ 75,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
B201000 - EXTERIOR WALLS	3	$ 100,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
B202000 - EXTERIOR WINDOWS	3	$ 75,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 224,082	$ -	$ -
B203000 - EXTERIOR DOORS	3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 114,466	$ -	$ -
B301000 - ROOF COVERINGS	2	$ 524,390	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
C101000 - PARTITIONS	3	$ 25,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
C102000 - INTERIOR DOORS	3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 597,551	$ -	$ -
C103000 - FITTINGS	3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 203,711	$ -	$ -
C201000 - STAIR CONSTRUCTION	3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
C301000 - WALL FINISHES	3	$ -	$ -	$ 292,955	$ -	$ -	$ -	$ -	$ -	$ 292,955	$ -	$ -	$ -
C302000 - FLOOR FINISHES	3	$ -	$ -	$ -	$ -	$ -	$ 716,867	$ -	$ -	$ -	$ -	$ -	$ -
C303000 - CEILING FINISHES	3	$ 25,000	$ -	$ -	$ -	$ -	$ 849,764	$ -	$ -	$ -	$ -	$ -	$ -
D101010 - ELEVATORS	5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D101020 - LIFTS	3	$ -	$ -	$ -	$ -	$ -	$ 9,875	$ -	$ -	$ -	$ -	$ -	$ -
D201000 - PLUMBING SYSTEMS AND FIXTURES	4	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D202005 - COMMERCIAL WATER HEATER	5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D204000 - BUILDING STORMWATER DRAINAGE	4	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 80,253	$ -	$ -
D301000 - ENERGY SUPPLY	5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D301010 - GEOTHERMAL HEATING / COOLING SUPPLY	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D302000 - CENTRAL PLANT HEATING	4	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 314,296	$ -
D303000 - CENTRAL PLANT COOLING	5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D304010 - DISTRIBUTION SYSTEMS - HEATING	3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D304020 - DISTRIBUTION SYSTEMS - COOLING	4	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D305010 - TERMINAL & PACKAGE UNITS	4	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D306000 - CONTROLS	4	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 35,221	$ -	$ -
D401000 - SPRINKLERS	4	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D402000 - STANDPIPES	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D501000 - ELECTRICAL SERVICE AND DISTRIBUTION	5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D502000 - LIGHTING AND BRANCH WIRING	5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D503000 - COMMUNICATION/SECURITY/FIRE ALARM	4	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 402,571	$ -	$ -
D509000 - EMERGENCY POWER	3	$ -	$ -	$ -	$ -	$ -	$ 46,635	$ -	$ -	$ -	$ -	$ -	$ -
E102000 - INSTITUTIONAL EQUIPMENT	3	$ -	$ -	$ -	$ -	$ 110,492	$ -	$ -	$ -	$ -	$ -	$ -	$ -
E109002 - FOOD SERVICE EQUIPMENT	4	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 101,855	$ -
E109007 - ATHLETIC EQUIPMENT	4	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 498,800	$ -	$ -	$ -	$ -
E201020 - FIXED FURNISHINGS - CASEWORK	3	$ -	$ -	$ -	$ -	$ -	$ -	$ 431,920	$ -	$ -	$ -	$ -	$ -
F102010 - ELEMENTARY SCHOOL GYMS/MULTI-PURPOSE ROOMS/AUXILLIARY GYM	4	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 275,971	$ -	$ -	$ -	$ -
F102050 - HAZMAT STORAGE ROOMS	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
F103010 - PERIMETER CONTAINMENT WALLS	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
BUILDING Total in USD		**$944,390**	**$0**	**$292,955**	**$0**	**$110,492**	**$1,623,141**	**$431,920**	**$774,771**	**$292,955**	**$1,657,853**	**$416,151**	**$0**

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BARCROFT ELEMENTARY

Arlington Public Schools FCA

2023 Condition Assessment

GENERAL INFORMATION

Building Name	Year Built[1]	Building GSF[2]	Building FCI_{AD}
Barcroft Elementary School	1924	68,700	0.289

Building Number	Last Renovation[1]	No. of Floors	Building CRV[6]
2	1993	2	$10,855,928

Condition Category Legend		
Good	Fair	Poor
0.0 - .15	>.15 - .33	>.33 - 1.0

Building Description

Barcroft Elementary School is a multi-story building located at 625 S. Wakefiled Street in Arlington, VA. It was originally constructed in 1924, then expanded in 1954. It has been renovated and expanded several times since (1973, 1991 and 1993). The current occupant load is 400 students (based on information from Arlington Public School). The building is used for education use and therefore considered an E Use Group under the current Virginia Uniform Statewide Building Code (USBC). The construction type is likely a Type 2, non-combustible construction for the more recent areas and Type 3 (under today's building code) for the older areas. The existing drawings indicate wood framing at the roof. The building's configuration is generally a center corridor with rooms each side. Corridors terminate at exterior doors or adjacent to major rooms(gymnasium, cafeteria, etc.). The building has a main entrance with a vestibule (security consideration) located adjacent to the administrative area. There are approximately six (6) exits directly to the exterior. The exterior wall assembly is predominately a brick veneer with accent precast panels and window sills. The older portions of the exterior walls appear to be multi-wythe masonry, due to the Flemish bond coursing. The roof areas consist of low sloped assemblies and include built up roofing (BUR) with a mopped in aggregate and a single ply membrane at the gymnasium roof. The exterior walls extend past the roof plain creating a parapet with a metal coping. Exterior doors are metal in metal frames in various configurations. The windows do not appear to be original. The windows are both fixed and operable, the majority of which are metal frames with thermal glazing. The interior doors are wood in metal frames. The interior partitions are predominately masonry (CMU) with select walls consisting of gypsum board over framing. There are several floor, ceiling and wall finishes all of which are well maintained.

SYSTEM DETAILS[3,4,6]

Building Systems	Rating	System Description	Quantity	Unit of Measure	Unit Cost	CRV	EUL	RUL
A101000 - STANDARD FOUNDATIONS	3	Strip and spread footings	42,148	BLDG FP SF	$4.68	$197,253	99	99
A103000 - SLAB ON GRADE	3	Slab on grade	42,148	BLDG FP SF	$7.22	$304,309	99	99
A202000 - BASEMENT WALLS	-				-	-		
B101000 - FLOOR CONSTRUCTION	3	Steel framed with concrete and metal deck	26,552	ELEV FL SF	$13.36	$354,735	99	99
B102000 - ROOF CONSTRUCTION	3	Wood frame roofing system on load bearing walls	42,148	BLDG FP SF	$12.02	$506,619	99	99
B201000 - EXTERIOR WALLS	3	Brick masonry wall assembly	68,700	BLDG GROSS SF	$7.81	$536,547	70	15
B202000 - EXTERIOR WINDOWS	4	Exterior windows	68,700	BLDG GROSS SF	$2.31	$158,697	40	35
B203000 - EXTERIOR DOORS	4	Exterior doors	68,700	BLDG GROSS SF	$1.18	$81,066	30	25
B301000 - ROOF COVERINGS	2	Built-up roof	42,148	BLDG FP SF	$14.31	$603,138	25	0
C101000 - PARTITIONS	3	Concrete block (CMU) partitions	68,700	FINISHED SF	$6.52	$447,924	70	30
C102000 - INTERIOR DOORS	3	Interior doors	68,700	FINISHED SF	$6.16	$423,192	40	15
C103000 - FITTINGS	3	Partitions and lockers	68,700	FINISHED SF	$2.10	$144,270	30	15
C201000 - STAIR CONSTRUCTION	3	Metal stairs with concrete filled pans	68,700	BLDG GROSS SF	$0.29	$19,923	50	20
C301000 - WALL FINISHES	3	Standard wall finishes	68,700	FINISHED SF	$3.02	$207,474	50	20
C302000 - FLOOR FINISHES	3	Standard floor finishes	68,700	FINISHED SF	$7.39	$507,693	14	10
C303000 - CEILING FINISHES	3	Standard ceiling finishes	68,700	FINISHED SF	$8.76	$601,812	20	10
D101010 - ELEVATORS	3	Elevator	1	EACH	$92,000.00	$92,000	35	5
D101020 - LIFTS	-				-	-		
D201000 - PLUMBING SYSTEMS AND FIXTURES	4	Plumbing Systems and Fixtures	68,700	SERVED SF	$3.53	$242,511	50	19
D202005 - COMMERCIAL WATER HEATER	3	Gas Water Heater, Commercial, 131 to 180 MBH	1	EACH	$18,550.00	$18,550	15	2
D204000 - BUILDING STORMWATER DRAINAGE	4	Internal roof drains	42,148	BLDG FP SF	$2.19	$92,304	60	29
D301000 - ENERGY SUPPLY	4	Natural gas supply	68,700	BLDG GROSS SF	$0.06	$4,122	60	29
D301010 - GEOTHERMAL HEATING / COOLING SUPPLY	-				-	-		
D302000 - CENTRAL PLANT HEATING	3	Boiler	50,000	SERVED SF	$3.24	$162,000	40	11
D303000 - CENTRAL PLANT COOLING	3	Chiller system	50,000	SERVED SF	$3.26	$163,000	30	8
D304010 - DISTRIBUTION SYSTEMS - HEATING	3	Heating system piping and individual terminal AHUs	50,000	SERVED SF	$9.51	$475,500	40	9
D304020 - DISTRIBUTION SYSTEMS - COOLING	3	Chilled water piping and individual terminal AHUs	50,000	SERVED SF	$13.17	$658,500	40	9
D305010 - TERMINAL & PACKAGE UNITS	3	Rooftop package units	9,800	SERVED SF	$24.70	$242,060	30	5
D306000 - CONTROLS	3	HVAC Controls - 2 Pipe with DX System	59,800	SERVED SF	$1.46	$87,308	20	3
D401000 - SPRINKLERS	4	Sprinkler system	68,700	SERVED SF	$4.48	$307,776	50	19
D402000 - STANDPIPES	-				-	-		
D501000 - ELECTRICAL SERVICE AND DISTRIBUTION	4	Main electrical entrance and switch - 2000 Amp Service	68,700	BLDG GROSS SF	$4.82	$331,134	60	29
D502000 - LIGHTING AND BRANCH WIRING	4	Distribution panels, wiring, lighting and fixtures - >1200 Amp service	68,700	BLDG GROSS SF	$25.38	$1,743,606	60	29
D503000 - COMMUNICATION/SECURITY/FIRE ALARM	3	Communication, alarm, telephone, and wiring	68,700	BLDG GROSS SF	$4.15	$285,105	20	5
D509000 - EMERGENCY POWER	3	Emergency Generator, >=80 kW to <100 kW	1	EACH	$46,635.00	$46,635	35	6
E102000 - INSTITUTIONAL EQUIPMENT	4	Institutional equipment	1,200	SERVED SF	$48.04	$57,648	15	7
E109002 - FOOD SERVICE EQUIPMENT	3	Serving kitchen	68,700	SERVED SF	$1.05	$72,135	20	5
E109007 - ATHLETIC EQUIPMENT	-				-	-		
E201020 - FIXED FURNISHINGS - CASEWORK	3	Cabinetry	500	LENGTH LF	$431.92	$215,960	35	6
F102010 - ELEMENTARY SCHOOL GYMS/MULTI-PURPOSE ROOMS/AUXILLIARY GYM	3	Multi-purpose room	8,900	SERVED SF	$52.07	$463,423	20	8
F102050 - HAZMAT STORAGE ROOMS	-				-	-		
F103010 - PERIMETER CONTAINMENT WALLS	-				-	-		

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BARCROFT ELEMENTARY

FEA FACILITY ENGINEERING ASSOCIATES

Arlington Public Schools

MTFA architecture

Arlington Public Schools FCA

2023 Condition Assessment

GENERAL INFORMATION

Building Name	Year Built[1]	Building GSF[2]	Building FCI_{AD}
Barcroft Elementary School	1924	68,700	0.289

Building Number	Last Renovation[1]	No. of Floors	Building CRV[6]
2	1993	2	$10,855,928

Condition Category Legend		
Good	Fair	Poor
0.0 - .15	>.15 - .33	>.33 - 1.0

Building Description

Barcroft Elementary School is a multi-story building located at 625 S. Wakefiled Street in Arlington, VA. It was originally constructed in 1924, then expanded in 1954. It has been renovated and expanded several times since (1973, 1991 and 1993). The current occupant load is 400 students (based on information from Arlington Public School). The building is used for education use and therefore considered an E Use Group under the current Virginia Uniform Statewide Building Code (USBC). The construction type is likely a Type 2, non-combustible construction for the more recent areas and Type 3 (under today's building code) for the older areas. The existing drawings indicate wood framing at the roof. The building's configuration is generally a center corridor with rooms each side. Corridors terminate at exterior doors or adjacent to major rooms(gymnasium, cafeteria, etc.). The building has a main entrance with a vestibule (security consideration) located adjacent to the administrative area. There are approximately six (6) exits directly to the exterior. The exterior wall assembly is predominately a brick veneer with accent precast panels and window sills. The older portions of the exterior walls appear to be multi-wythe masonry, due to the Flemish bond coursing. The roof areas consist of low sloped assemblies and include built up roofing (BUR) with a mopped in aggregate and a single ply membrane at the gymnasium roof. The exterior walls extend past the roof plain creating a parapet with a metal coping. Exterior doors are metal in metal frames in various configurations. The windows do not appear to be original. The windows are both fixed and operable, the majority of which are metal frames with thermal glazing. The interior doors are wood in metal frames. The interior partitions are predominately masonry (CMU) with select walls consisting of gypsum board over framing. There are several floor, ceiling and wall finishes all of which are well maintained.

SYSTEM OBSERVATIONS

Building Systems	Rating	Observations
A101000 - STANDARD FOUNDATIONS	3	Different portions of the building were constructed at various time. The foundation wall type is predominantly concrete masonry units (CMU). The foundation walls are in fair condition.
A103000 - SLAB ON GRADE	3	The first floor is a slab on grade.
A202000 - BASEMENT WALLS	-	
B101000 - FLOOR CONSTRUCTION	3	The first floor is a slab on grade and the second floor is an elevated slab. The existing drawings (circa 1973 and 1992) indicate both a structural concrete slab and slab in metal deck supported by steel joists.
B102000 - ROOF CONSTRUCTION	3	The existing drawings note wood framing for the 1924 and 1954 portions of the building. The drawings for the more recent additions (1973 and 1993) indicate steel framing for the roof construction. The steel framing is the predominate roof construction. There were no observed defects. Rated "Fair" due to the age.
B201000 - EXTERIOR WALLS	3	Due to the varying dates of construction, the exterior wall assemblies are in different conditions. Generally the 1924 era walls are in good condition and more recent 1973 walls are in poor condition. There are several defects listed in System Recommendation and itemized in Local Projects.
B202000 - EXTERIOR WINDOWS	4	The exterior windows are not original and appear to have been recently replaced inclusive of the sealant in the masonry openings around the frames. The units are metal frames with thermal glazing.
B203000 - EXTERIOR DOORS	4	Exterior doors vary but generally consist of metal stile/rail with glazing and metal flush doors in metal frames. The stile and rail doors are not original and appear to have been recently replaced.
B301000 - ROOF COVERINGS	2	There are several roof covering types including built up roofing (BUR) and a hybrid with cap sheet. The roofing reports provided by APS indicated an EPDM roof was also present. FEA did not find the EPDM roof. The majority of the roof covering is a BUR.
C101000 - PARTITIONS	3	Interior partitions are primarily concrete masonry units (CMU) of different construction periods.
C102000 - INTERIOR DOORS	3	The majority of the interior doors are wood (various styles and ages) in metal frames. There are also metal doors in metal frames, observed at first passages/stairs. The overall rating is fair.
C103000 - FITTINGS	3	The toilet partitions are not original and are in fair condition.
C201000 - STAIR CONSTRUCTION	3	Interior stairs include cast in place concrete and steel framed with concrete in fill pans. Stairs have metal hand rails and guard rails.
C301000 - WALL FINISHES	3	Walls finishes include painted wall surfaces through the building except at bathrooms which have glazed CMU (older portion of the building) and ceramic tile.
C302000 - FLOOR FINISHES	3	Floor finishes include carpet, vinyl tile, quarry tile and ceramic tile. Carpet is the predominate floor finish. The floor finishes are not original. The rating is based on the carpet.
C303000 - CEILING FINISHES	3	Ceiling finishes are predominately suspended acoustical tile (SAT). There are several secondary areas with gypsum board ceiling finishes included dropped soffits.
D101010 - ELEVATORS	3	Single elevator assumed installed in 1992. No issues reported or observed. Cab interior dimensions were 68"x51" with a 36" door on one end of the long side.
D101020 - LIFTS	-	
D201000 - PLUMBING SYSTEMS AND FIXTURES	4	Copper domestic piping and cast iron sanitary piping assumed installed in 1992. No issues reported or observed.
D202005 - COMMERCIAL WATER HEATER	3	Natural gas DWH heater installed 2010 and estimated size to be between 181-300 MBH. No issues reported or observed.
D204000 - BUILDING STORMWATER DRAINAGE	4	Cast iron stormwater piping assumed to be installed in 1992 or earlier. No issues reported or observed.
D301000 - ENERGY SUPPLY	4	Natural gas main feed assumed to be replaced in 1992. No issues reported or observed.
D301010 - GEOTHERMAL HEATING / COOLING SUPPLY	-	
D302000 - CENTRAL PLANT HEATING	3	Two boilers installed in 1993. Appeared to primarily serve classrooms. Minor corrosion and prior leaks noted. No issues reported.
D303000 - CENTRAL PLANT COOLING	3	Rooftop chiller appeared to primarily serve classrooms. Unit appeared to be installed in 2001. No issues reported or observed.
D304010 - DISTRIBUTION SYSTEMS - HEATING	3	Most classrooms served by unit ventilators. Heating/chilled water piping was copper. Appeared to be installed in 1992. No issues reported or observed.
D304020 - DISTRIBUTION SYSTEMS - COOLING	3	Most classrooms served by unit ventilators. Heating/chilled water piping was copper. Appeared to be installed in 1992. No issues reported or observed.
D305010 - TERMINAL & PACKAGE UNITS	3	Several rooftop package units served rooms other than classrooms. Some small condensing units appeared to provide supplementary to specific offices/rooms. Most units appeared older and were assumed to be installed in 1992. No issues reported. General weathering of unit exterior observed.
D306000 - CONTROLS	3	Digital controls throughout varied in vintage and type, but generally were older and assumed to mostly be from 1992. No issues reported or observed.
D401000 - SPRINKLERS	4	Sprinklers throughout were assumed to be installed in 1992. No issues reported or observed.
D402000 - STANDPIPES	-	
D501000 - ELECTRICAL SERVICE AND DISTRIBUTION	4	Electrical entrance equipment installed 1992. No issues reported or observed. 3000A, 208Y/120V, 3 phase, 4 wire.
D502000 - LIGHTING AND BRANCH WIRING	4	Assumed most of the distribution panels, wiring, switches, and fixtures were original to 1992. No issues reported or observed.
D503000 - COMMUNICATION/SECURITY/FIRE ALARM	3	Fire alarm panel age was not known, but assumed to be about 15 years old. No issues reported or observed.
D509000 - EMERGENCY POWER	3	Emergency generator not directly observed. Size assumed to be between 80-100 KW. Assumed to have been installed with main electric service in 1992. No issues reported.
E102000 - INSTITUTIONAL EQUIPMENT	4	Art Kiln looks less than 10 years old and in good condition. No issues reported or observed.
E109002 - FOOD SERVICE EQUIPMENT	3	Serving Kitchen. Counters and sinks assumed to be original to 1992. Warming and serving appliances appeared to be 15 or more years old. No issues reported or observed with equipment.
E109007 - ATHLETIC EQUIPMENT	-	
E201020 - FIXED FURNISHINGS - CASEWORK	3	Assumed most of the casework to have been installed in 1992. Quantity estimated based on number of classrooms. Expected level of wear and tear observed.
F102010 - ELEMENTARY SCHOOL GYMS/MULTI-PURPOSE ROOMS/AL	3	Single-purpose elementary school gymnasium. Vinyl flooring, painted walls with soundproofing panels, and painted ceiling structure were in good condition and had likely been renovated more recently. Basketball hoops appeared old but in good condition. Attached bathrooms with ceramic tile floor, painted walls/ceilings, in good condition. Lighting may have been upgraded and remained in good condition. RTU estimated to be installed in 2014 but controls issues were reported (always hot/humid in winter and cold in summer).Multi-purpose room served as cafeteria and auditorium. Vinyl flooring and painted walls were in good condition and had likely been renovated more recently. Acoustical ceiling tile was aged and in fair condition. Stage finishes and equipment appeared older but in good condition. Lighting may have been upgraded and remained in good condition. RTU estimated to be installed in 2014 and had no issues reported.
F102050 - HAZMAT STORAGE ROOMS	-	
F103010 - PERIMETER CONTAINMENT WALLS	-	

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Arlington Public Schools FCA

2023 Condition Assessment

GENERAL INFORMATION

Building Name	Year Built[1]	Building GSF[2]	Building FCI_{AD}	Condition Category Legend
Barcroft Elementary School	1924	68,700	0.289	Good 0.0 - .15 / Fair >.15 - .33 / Poor >.33 - 1.0
Building Number	**Last Renovation[1]**	**No. of Floors**	**Building CRV[6]**	**No. of Local Projects**
2	1993	2	$10,855,928	2

Building Description

Barcroft Elementary School is a multi-story building located at 625 S. Wakefiled Street in Arlington, VA. It was originally constructed in 1924, then expanded in 1954. It has been renovated and expanded several times since (1973, 1991 and 1993). The current occupant load is 400 students (based on information from Arlington Public School). The building is used for education use and therefore considered an E Use Group under the current Virginia Uniform Statewide Building Code (USBC). The construction type is likely a Type 2, non-combustible construction for the more recent areas and Type 3 (under today's building code) for the older areas. The existing drawings indicate wood framing at the roof. The building's configuration is generally a center corridor with rooms each side. Corridors terminate at exterior doors or adjacent to major rooms(gymnasium, cafeteria, etc.). The building has a main entrance with a vestibule (security consideration) located adjacent to the administrative area. There are approximately six (6) exits directly to the exterior. The exterior wall assembly is predominately a brick veneer with accent precast panels and window sills. The older portions of the exterior walls appear to be multi-wythe masonry, due to the Flemish bond coursing. The roof areas consist of low sloped assemblies and include built up roofing (BUR) with a mopped in aggregate and a single ply membrane at the gymnasium roof. The exterior walls extend past the roof plain creating a parapet with a metal coping. Exterior doors are metal in metal frames in various configurations. The windows do not appear to be original. The windows are both fixed and operable, the majority of which are metal frames with thermal glazing. The interior doors are wood in metal frames. The interior partitions are predominately masonry (CMU) with select walls consisting of gypsum board over framing. There are several floor, ceiling and wall finishes all of which are well maintained.

PROJECTED NEEDS[5,6]

Building Systems	Rating	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
A101000 - STANDARD FOUNDATIONS	3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A103000 - SLAB ON GRADE	3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A202000 - BASEMENT WALLS	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
B101000 - FLOOR CONSTRUCTION	3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
B102000 - ROOF CONSTRUCTION	3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
B201000 - EXTERIOR WALLS	3	$ -	$ 209,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
B202000 - EXTERIOR WINDOWS	4	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
B203000 - EXTERIOR DOORS	4	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
B301000 - ROOF COVERINGS	2	$ 603,138	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
C101000 - PARTITIONS	3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
C102000 - INTERIOR DOORS	3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
C103000 - FITTINGS	3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
C201000 - STAIR CONSTRUCTION	3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
C301000 - WALL FINISHES	3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
C302000 - FLOOR FINISHES	3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 507,693	$ -	$ -
C303000 - CEILING FINISHES	3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 601,812	$ -	$ -
D101010 - ELEVATORS	3	$ -	$ -	$ -	$ -	$ 92,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D101020 - LIFTS	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D201000 - PLUMBING SYSTEMS AND FIXTURES	4	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D202005 - COMMERCIAL WATER HEATER	3	$ -	$ 18,550	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D204000 - BUILDING STORMWATER DRAINAGE	4	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D301000 - ENERGY SUPPLY	4	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D301010 - GEOTHERMAL HEATING / COOLING SUPPLY	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D302000 - CENTRAL PLANT HEATING	3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 162,000	$ -
D303000 - CENTRAL PLANT COOLING	3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 163,000	$ -	$ -	$ -	$ -
D304010 - DISTRIBUTION SYSTEMS - HEATING	3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 475,500	$ -	$ -	$ -
D304020 - DISTRIBUTION SYSTEMS - COOLING	3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 658,500	$ -	$ -	$ -
D305010 - TERMINAL & PACKAGE UNITS	3	$ -	$ -	$ -	$ -	$ 242,060	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D306000 - CONTROLS	3	$ -	$ -	$ 87,308	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D401000 - SPRINKLERS	4	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D402000 - STANDPIPES	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D501000 - ELECTRICAL SERVICE AND DISTRIBUTION	4	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D502000 - LIGHTING AND BRANCH WIRING	4	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D503000 - COMMUNICATION/SECURITY/FIRE ALARM	3	$ -	$ -	$ -	$ -	$ 285,105	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D509000 - EMERGENCY POWER	3	$ -	$ -	$ -	$ -	$ -	$ 46,635	$ -	$ -	$ -	$ -	$ -	$ -
E102000 - INSTITUTIONAL EQUIPMENT	4	$ -	$ -	$ -	$ -	$ -	$ -	$ 57,648	$ -	$ -	$ -	$ -	$ -
E109002 - FOOD SERVICE EQUIPMENT	3	$ -	$ -	$ -	$ -	$ 72,135	$ -	$ -	$ -	$ -	$ -	$ -	$ -
E109007 - ATHLETIC EQUIPMENT	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
E201020 - FIXED FURNISHINGS - CASEWORK	3	$ -	$ -	$ -	$ -	$ -	$ 215,960	$ -	$ -	$ -	$ -	$ -	$ -
F102010 - ELEMENTARY SCHOOL GYMS/MULTI-PURPOSE ROOMS/AUXILLIARY GYM	3	$ 2,000	$ -	$ -	$ -	$ -	$ -	$ -	$ 463,423	$ -	$ -	$ -	$ -
F102050 - HAZMAT STORAGE ROOMS	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
F103010 - PERIMETER CONTAINMENT WALLS	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
BUILDING Total in USD		**$605,138**	**$227,550**	**$87,308**	**$0**	**$691,300**	**$262,595**	**$57,648**	**$626,423**	**$1,134,000**	**$1,109,505**	**$162,000**	**$0**

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Arlington Public Schools FCA

2023 Condition Assessment

GENERAL INFORMATION

Building Name	Year Built[1]	Building GSF[2]	Building FCI_{AD}
Alice West Fleet Elementary School	2019	111,638	0.031

Building Number	Last Renovation[1]	No. of Floors	Building CRV[6]
3	No record	4	$17,622,064

Condition Category Legend		
Good	Fair	Poor
0.0 - .15	>.15 - .33	>.33 - 1.0

Building Description

The Alice West Fleet Elementary School was constructed in 2019 and is a multi-story elementary school located at 115 S. Glebe Road in Arlington Virginia. The occupancy load is 725 students. The building contains two stories below grade for parking (open garage) and four stories above grade for educational use (E Use Group, Virginia Uniform Statewide Building Code).Pursuant to the Virginia Uniform Statewide Building Code, the construction type appears to be Type 2, non-combustible. The gross building area is 111,638 sf and excludes the garage square footage. The first floor through the forth floor are elevated slabs over steel framing. The first floor has at grade access and contains the main entry with a vestibule (security compliant), adjacent administrative spaces, a central open circulation foyer with an open stair, an entry way to the cafeteria and gymnasium and the first floor's central corridor to access classrooms. The remaining portion of the first floor contains classrooms. The second through fourth floors contain education spaces including but not limited to a media room and classrooms. The upper floors are accessible by multiple stairways and two elevators. The as-built drawings indicate that one elevator was not installed. The elevators appear to comply with ADA requirements. The elevated floor assembly consists of steel framing with cast in place concrete slabs. With the exception of gymnasium which has a timber roof, the remaining roof assembly is steel framing. The primary roof covering is a standing seam metal assembly. There is a small area of roof with a single ply membrane assembly. The roof has a PV solar array via a lease agreement. The exterior walls have a variety of veneers including but not limited to; brick, terra cotta tile, ground face concrete masonry and horizontal fiber cement siding. The exterior fenestration is both fixed and operable metal framed units with thermal glazing. Building domestic hot water was generated utilizing a heat pump system. Water supply piping was copper, sanitary sewer system and storm drainage was PVC. Building power was through a 1600 Amps, 480/2770V, three phase power service which was stepped down as needed for 208/120V for connected and lighting load distribution. The extensive privately owned and maintained photovoltaic arrays covering most of the roof area and associated battery systems provided most of the building electrical needs. Lighting was LED. There was security access and CCTV systems. There was a fire suppression system utilizing fire and jockey pumps with an air compressor for the dry pipe sections of the system. The fire alarm system was addressable. The natural gas emergency generator was rated at 150kW and power emergency lighting and designated services. There were two 6-stop machine-room-less elevators. A third elevator was being installed at the time of the survey.

SYSTEM DETAILS[3,4,6]

Building Systems	Rating	System Description	Quantity	Unit of Measure	Unit Cost	CRV	EUL	RUL
A101000 - STANDARD FOUNDATIONS	5	Strip and spread footings	38,998	BLDG FP SF	$6.29	$245,297	99	99
A103000 - SLAB ON GRADE	5	Slab on grade	38,998	BLDG FP SF	$7.22	$281,566	99	99
A202000 - BASEMENT WALLS	5	Concrete basement walls	51,443	BASEMENT SF	$9.94	$511,343	99	99
B101000 - FLOOR CONSTRUCTION	4	Steel framed building supporting concrete floor slabs	111,634	ELEV FL SF	$21.94	$2,449,250	99	99
B102000 - ROOF CONSTRUCTION	5	Steel framed building supporting metal roof deck	58,998	BLDG FP SF	$12.52	$738,655	99	99
B201000 - EXTERIOR WALLS	5	Brick masonry wall assembly	111,634	BLDG GROSS SF	$14.03	$1,566,225	70	67
B202000 - EXTERIOR WINDOWS	5	Exterior windows	111,634	BLDG GROSS SF	$9.80	$1,094,013	40	37
B203000 - EXTERIOR DOORS	5	Exterior doors	111,634	BLDG GROSS SF	$0.53	$59,166	30	27
B301000 - ROOF COVERINGS	5	Standing seam metal roof	58,998	BLDG FP SF	$10.60	$625,379	40	37
C101000 - PARTITIONS	5	Drywall over studs	111,634	FINISHED SF	$3.31	$369,509	25	22
C102000 - INTERIOR DOORS	5	Interior doors	111,634	FINISHED SF	$2.46	$274,620	40	37
C103000 - FITTINGS	5	Partitions and lockers	111,634	FINISHED SF	$2.13	$237,780	25	22
C201000 - STAIR CONSTRUCTION	5	Metal stairs with concrete filled pans	111,634	BLDG GROSS SF	$1.01	$112,750	50	47
C301000 - WALL FINISHES	5	Standard wall finishes	111,634	FINISHED SF	$2.65	$295,830	6	3
C302000 - FLOOR FINISHES	5	Standard floor finishes	111,634	FINISHED SF	$7.39	$824,975	14	11
C303000 - CEILING FINISHES	5	Standard ceiling finishes	111,634	FINISHED SF	$8.76	$977,914	20	17
D101010 - ELEVATORS	5	Elevator	2	EACH	$107,384.00	$214,768	30	26
D101020 - LIFTS	-				-	-		
D201000 - PLUMBING SYSTEMS AND FIXTURES	5	Plumbing Systems and Fixtures	111,634	SERVED SF	$8.98	$1,002,473	50	46
D202005 - COMMERCIAL WATER HEATER	5	Electric Water Heater, Commercial, 30 to 180 KW and 150 to 350 Gallons	2	EACH	$67,125.00	$134,250	20	16
D204000 - BUILDING STORMWATER DRAINAGE	5	Internal roof drains plus in-floor drainage system	38,998	BLDG FP SF	$2.56	$99,835	50	46
D301000 - ENERGY SUPPLY	-				-	-		
D301010 - GEOTHERMAL HEATING / COOLING SUPPLY	5	Geothermal system with heat pumps	111,634	SERVED SF	$2.28	$254,526	25	21
D302000 - CENTRAL PLANT HEATING	-				-	-		
D303000 - CENTRAL PLANT COOLING	5	Chiller system	27,909	SERVED SF	$4.23	$118,055	25	21
D304010 - DISTRIBUTION SYSTEMS - HEATING	5	Heat pump system	111,634	SERVED SF	$4.41	$492,306	20	16
D304020 - DISTRIBUTION SYSTEMS - COOLING	-				-	-		
D305010 - TERMINAL & PACKAGE UNITS	-				-	-		
D306000 - CONTROLS	5	HVAC controls - geothermal system	111,634	SERVED SF	$0.11	$12,280	15	11
D401000 - SPRINKLERS	5	Sprinkler system	111,634	SERVED SF	$4.11	$458,816	50	46
D402000 - STANDPIPES	5	Standpipe system	111,634	SERVED SF	$0.33	$36,839	50	46
D501000 - ELECTRICAL SERVICE AND DISTRIBUTION	5	Main electrical entrance and switch - 1600 Amp Service	111,634	BLDG GROSS SF	$1.64	$183,080	50	46
D502000 - LIGHTING AND BRANCH WIRING	5	Distribution panels, wiring, lighting and fixtures - >1200 Amp service	111,634	BLDG GROSS SF	$18.88	$2,107,650	50	46
D503000 - COMMUNICATION/SECURITY/FIRE ALARM	5	Communication, alarm, telephone, and wiring	111,634	BLDG GROSS SF	$5.30	$591,660	20	16
D509000 - EMERGENCY POWER	5	Emergency Generator, >=125 kW to <185 kW	1	EACH	$44,512.25	$44,512	35	31
E102000 - INSTITUTIONAL EQUIPMENT	5	Institutional equipment	200	SERVED SF	$83.48	$16,696	20	16
E109002 - FOOD SERVICE EQUIPMENT	5	Commercial kitchen components	5,731	SERVED SF	$1.82	$10,430	20	16
E109007 - ATHLETIC EQUIPMENT	-				-	-		
E201020 - FIXED FURNISHINGS - CASEWORK	5	Cabinetry	1,500	LENGTH LF	$431.92	$647,880	35	31
F102010 - ELEMENTARY SCHOOL GYMS/MULTI-PURPOSE ROOMS/AUXILLIARY GYM	5	Multi-purpose room	9,044	SERVED SF	$52.07	$470,921	20	16
F102050 - HAZMAT STORAGE ROOMS	5	Prefabricated HAZMAT storage	200	SERVED SF	$246.49	$49,298	50	46
F103010 - PERIMETER CONTAINMENT WALLS	5	Wood/Composite Privacy Fence	200	LENGTH LF	$57.58	$11,516	30	26

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FLEET ELEMENTARY

FEA FACILITY ENGINEERING ASSOCIATES

Arlington Public Schools

MTFA architecture

Arlington Public Schools FCA

2023 Condition Assessment

GENERAL INFORMATION

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SYSTEM OBSERVATIONS

Building Systems	Rating	Observations
A101000 - STANDARD FOUNDATIONS	5	The foundation system appears to be cast in place concrete.
A103000 - SLAB ON GRADE	5	The lowest level of the parking garage is a slab on grade. The first floor is considered an elevated slab.
A202000 - BASEMENT WALLS	5	The basement wall system appears to be cast in place concrete.
B101000 - FLOOR CONSTRUCTION	4	The primary floor construction is steel framing with a cast in place concrete floor system. The facilities first through fourth floor are elevated floor construction.
B102000 - ROOF CONSTRUCTION	5	The primary roof construction is steel framing. The steel framing is fire protected with a spray on system.
B201000 - EXTERIOR WALLS	5	Based on the as-built drawings, the exterior wall framing is non-combustible steel studs. The exterior wall assembly includes several types of veneer consisting of; terra cotta (rain screen), brick veneer, fiber cement siding and ground face CMU.
B202000 - EXTERIOR WINDOWS	5	The exterior windows are both fixed and operable metal framed units with thermal glazing.
B203000 - EXTERIOR DOORS	5	The exterior doors consist of single and paired storefront assemblies and metal flush panel.
B301000 - ROOF COVERINGS	5	The predominate roof covering is a standing seam metal roof assembly. There is a small section of single ply membrane. There are two roof terraces with paved roof covering. The total area reflects the main roof and terrace roof coverings.
C101000 - PARTITIONS	5	The predominate interior partition type is gypsum board on steel stud framing.
C102000 - INTERIOR DOORS	5	The predominate interior door type is solid wood in metal frames. The door variation includes full glass (stile and rail), narrow lite and flush.
C103000 - FITTINGS	5	The predominate fittings for this facility include toilet partitions and metal lockers.
C201000 - STAIR CONSTRUCTION	5	The interior stair construction consists of steel framed units with concrete filled pans and metal hand/guardrails.
C301000 - WALL FINISHES	5	Wall finishes were painted finishes in the majority of areas. Bathrooms had ceramic tile finishes. Both are well maintained.
C302000 - FLOOR FINISHES	5	There are three primary floor finishes including; stained concrete, tile (vinyl, ceramic, etc.) and carpet. All are well maintained. The system EUL is based on carpet.
C303000 - CEILING FINISHES	5	The predominate ceiling finish is a suspended acoustical tile system.
D101010 - ELEVATORS	5	Two machine-room-less elevators provided 6-stop service. The elevators served the school floors and the two garage floors. A third elevator was under construction. Score based on observed conditions and age with no issues noted or reported.
D101020 - LIFTS	-	
D201000 - PLUMBING SYSTEMS AND FIXTURES	5	Domestic and waste plumbing fixtures and features included restroom waterclosets, urinals, and sinks; janitor stations: wet traps; and emergency wash stations. The piping, which was predominantly PVC, and fixtures appeared functional with in-wall, overhead, and limited in-slab distribution. There were elevator sump pumps. Score based on observed conditions and age with no issues noted or reported. The assessment included plumbing systems in the garage that served the school. Plumbing systems and distribution serving the garage was not assessed like the oil filtration tank and sump pump system.
D202005 - COMMERCIAL WATER HEATER	5	Two 200 gallon electric domestic water heaters provided circulating hot water throughout. Score based on observed conditions and age with no issues noted or reported.
D204000 - BUILDING STORMWATER DRAINAGE	5	Storm drainage system was internal to the roof line and integral to the roofing system, though had drops internal and external to the building. The system had no issues reported or observed outside of warrantee alignments and fasteners amounting to routine maintenance. Score based on observed conditions and age with no issues noted or reported. The assessment included systems in the garage that served the school. Systems and distribution serving the garage was not assessed.
D301000 - ENERGY SUPPLY	-	
D301010 - GEOTHERMAL HEATING / COOLING SUPPLY	5	A closed loop, 72 well, 6 circuit, 560 ft vertical geothermal well system serves as the hydronic source heat exchange for the water source heat pumps for space conditioning. Score based on observed conditions and age with no issues noted or reported.
D302000 - CENTRAL PLANT HEATING	-	
D303000 - CENTRAL PLANT COOLING	5	A Multistack heat water to water heat pump provided differential tempered water for building space conditioning. Score based on observed conditions and age with no issues noted or reported.
D304010 - DISTRIBUTION SYSTEMS - HEATING	5	Distributed ducted water source heat pumps provide conditioning throughout and are augmented by DOAS MAU and HVAC load reducers (air scrubbers). Score based on observed conditions and age with no issues noted or reported.
D304020 - DISTRIBUTION SYSTEMS - COOLING	-	
D305010 - TERMINAL & PACKAGE UNITS	-	
D306000 - CONTROLS	5	The major building MEP systems incorporated a DDC and monitoring system throughout. Score based on observed conditions and age with no issues noted or reported.
D401000 - SPRINKLERS	5	A single water service, with a fire and jockey pump, served wet and dry distributed sprinkler systems throughout the building and included exterior overhangs. Score based on observed conditions and age with no issues
D402000 - STANDPIPES	5	There were stairwell standpipe systems with no reported or issues observed. Connections were mechanical or bare welds. Floor-fastened bollards protected valve protrusions. Score based on observed conditions and age with no issues noted or reported. The assessment included systems in the garage that served the school. Systems and distribution serving the garage was not assessed.
D501000 - ELECTRICAL SERVICE AND DISTRIBUTION	5	The 480/277V, 1600A service rated switchboard provides power to the building distribution. It was original construction, including the wiring. No issues reported or observed. Score based on age, observation, and no reported issues. The assessment included systems in the garage that served the school. Systems and distribution serving the garage was not assessed.
D502000 - LIGHTING AND BRANCH WIRING	5	Branch and light fixture wiring was copper including the wiring from the electrical distribution panels to the connected load and lighting panels. Lighting was typically LED with assorted occupancy sensors and power
D503000 - COMMUNICATION/SECURITY/FIRE ALARM	5	Communication, security, and fire alarm systems were found to be functioning with no issues reported or noted. Condition rating based on age and observed condition. The assessment included systems in the garage that served the school. Systems and distribution serving the garage was not assessed.
D509000 - EMERGENCY POWER	5	MTU diesel fueled 150 kw emergency generator and automatic transfer switches. Score based on observed conditions and age with no issues noted or reported.
E102000 - INSTITUTIONAL EQUIPMENT	5	two kilns with exhaust system. Score based on observed conditions and age with no issues noted or reported.
E109002 - FOOD SERVICE EQUIPMENT	5	Kitchen limited to warming and cooling/chilled/frozen food services with cold storage, heat exhaust, and cooking utensil washing. Score based on observed conditions and age with no issues noted or reported.
E109007 - ATHLETIC EQUIPMENT	-	
E201020 - FIXED FURNISHINGS - CASEWORK	5	Classrooms, offices, corridor study areas had floor mounted laminate wood casework including desks, work stations, storage cubes, shelving, drawers and cabinets throughout. Score based on observed conditions and age with no issues noted or reported.
F102010 - ELEMENTARY SCHOOL GYMS/MULTI-PURPOSE ROOMS/AL	5	Multipurpose room with gym features and raised stage areas. Score based on observed conditions and age with no issues noted or reported.
F102050 - HAZMAT STORAGE ROOMS	5	Exterior stand alone structure for non-combustible material storage. Score based on observed conditions and age with no issues noted or reported.
F103010 - PERIMETER CONTAINMENT WALLS	5	Coated and painted chain-link fencing securing play and garden spaces including limited full height fabric covered fencing around the exterior storage shed and emergency generator. Score based on observed conditions and age with no issues noted or reported.

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Arlington Public Schools FCA

2023 Condition Assessment

GENERAL INFORMATION

Building Name	Year Built[1]	Building GSF[2]	Building FCI_{AD}	Condition Category Legend
Alice West Fleet Elementary School	2019	111,638	0.031	Good 0.0 - .15 / Fair >.15 - .33 / Poor >.33 - 1.0
Building Number	**Last Renovation[1]**	**No. of Floors**	**Building CRV[6]**	**No. of Local Projects**
3	No record	4	$17,622,064	0

Building Description

The Alice West Fleet Elementary School was constructed in 2019 and is a multi-story elementary school located at 115 S. Glebe Road in Arlington Virginia. The occupancy load is 725 students. The building contains two stories below grade for parking (open garage) and four stories above grade for educational use (E Use Group, Virginia Uniform Statewide Building Code).Pursuant to the Virginia Uniform Statewide Building Code, the construction type appears to be Type 2, non-combustible. The gross building area is 111,638 sf and excludes the garage square footage. The first floor through the forth floor are elevated slabs over steel framing. The first floor has at grade access and contains the main entry with a vestibule (security compliant), adjacent administrative spaces, a central open circulation foyer with an open stair, an entry way to the cafeteria and gymnasium and the first floor's central corridor to access classrooms. The remaining portion of the first floor contains classrooms. The second through fourth floors contain education spaces including but not limited to a media room and classrooms. The upper floors are accessible by multiple stairways and two elevators. The as-built drawings indicate that one elevator was not installed. The elevators appear to comply with ADA requirements. The elevated floor assembly consists of steel framing with cast in place concrete slabs. With the exception of gymnasium which has a timber roof, the remaining roof assembly is steel framing. The primary roof covering is a standing seam metal assembly. There is a small area of roof with a single ply membrane assembly. The roof has a PV solar array via a lease agreement. The exterior walls have a variety of veneers including but not limited to; brick, terra cotta tile, ground face concrete masonry and horizontal fiber cement siding. The exterior fenestration is both fixed and operable metal framed units with thermal glazing. Building domestic hot water was generated utilizing a heat pump system. Water supply piping was copper, sanitary sewer system and storm drainage was PVC. Building power was through a 1600 Amps, 480/2770V, three phase power service which was stepped down as needed for 208/120V for connected and lighting load distribution. The extensive privately owned and maintained photovoltaic arrays covering most of the roof area and associated battery systems provided most of the building electrical needs. Lighting was LED. There was security access and CCTV systems. There was a fire suppression system utilizing fire and jockey pumps with an air compressor for the dry pipe sections of the system. The fire alarm system was addressable. The natural gas emergency generator was rated at 150kW and power emergency lighting and designated services. There were two 6-stop machine-room-less elevators. A third elevator was being installed at the time of the survey.

PROJECTED NEEDS[5,6]

Building Systems	Rating	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
A101000 - STANDARD FOUNDATIONS	5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A103000 - SLAB ON GRADE	5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A202000 - BASEMENT WALLS	5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
B101000 - FLOOR CONSTRUCTION	4	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
B102000 - ROOF CONSTRUCTION	5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
B201000 - EXTERIOR WALLS	5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
B202000 - EXTERIOR WINDOWS	5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
B203000 - EXTERIOR DOORS	5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
B301000 - ROOF COVERINGS	5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
C101000 - PARTITIONS	5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
C102000 - INTERIOR DOORS	5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
C103000 - FITTINGS	5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
C201000 - STAIR CONSTRUCTION	5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
C301000 - WALL FINISHES	5	$ -	$ -	$ 295,830	$ -	$ -	$ -	$ -	$ -	$ 295,830	$ -	$ -	$ -
C302000 - FLOOR FINISHES	5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 824,975	$ -
C303000 - CEILING FINISHES	5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D101010 - ELEVATORS	5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D101020 - LIFTS	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D201000 - PLUMBING SYSTEMS AND FIXTURES	5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D202005 - COMMERCIAL WATER HEATER	5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D204000 - BUILDING STORMWATER DRAINAGE	5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D301000 - ENERGY SUPPLY	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D301010 - GEOTHERMAL HEATING / COOLING SUPPLY	5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D302000 - CENTRAL PLANT HEATING	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D303000 - CENTRAL PLANT COOLING	5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D304010 - DISTRIBUTION SYSTEMS - HEATING	5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D304020 - DISTRIBUTION SYSTEMS - COOLING	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D305010 - TERMINAL & PACKAGE UNITS	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D306000 - CONTROLS	5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 12,280	$ -
D401000 - SPRINKLERS	5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D402000 - STANDPIPES	5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D501000 - ELECTRICAL SERVICE AND DISTRIBUTION	5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D502000 - LIGHTING AND BRANCH WIRING	5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D503000 - COMMUNICATION/SECURITY/FIRE ALARM	5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D509000 - EMERGENCY POWER	5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
E102000 - INSTITUTIONAL EQUIPMENT	5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
E109002 - FOOD SERVICE EQUIPMENT	5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
E109007 - ATHLETIC EQUIPMENT	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
E201020 - FIXED FURNISHINGS - CASEWORK	5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
F102010 - ELEMENTARY SCHOOL GYMS/MULTI-PURPOSE ROOMS/AUXILLIARY GYM	5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
F102050 - HAZMAT STORAGE ROOMS	5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
F103010 - PERIMETER CONTAINMENT WALLS	5	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
BUILDING Total in USD		**$0**	**$0**	**$295,830**	**$0**	**$0**	**$0**	**$0**	**$0**	**$295,830**	**$0**	**$837,255**	**$0**

1. Values shown were provided by APS.

2. If FEA's estimated Gross Square Feet of the building (GSF) differed significantly from the GSF provided by APS, FEA used its own estimated GSF for this report.

3. The Current Replacement Value (CRV) shown at the top of this report is in 2023 dollars and does not include any cost markup factors.

4. The Unit Cost and Current Replacement Value (CRV) shown for each system are in 2023 dollars and do not include any cost markup factors.

5. The values in the above Projected Needs table are in 2023 dollars and do not include any cost markup factors.

6. Markup factors applied are based on information provided by APS and FEA's experience.

Arlington Public Schools FCA

2023 Condition Assessment

GENERAL INFORMATION

Building Name	Year Built[1]	Building GSF[2]	Building FCI_{AD}
Montessori Public School of Arlington	1975	61,488	0.376

Building Number	Last Renovation[1]	No. of Floors	Building CRV[6]
4	1993	1	$10,118,204

Condition Category Legend		
Good	Fair	Poor
0.0 - .15	>.15 - .33	>.33 - 1.0

Building Description

The Montessori Elementary School (MPSA) is located at 701 S. Highland St. in Arlington, Virginia and located on a larger campus with other buildings which are not a part of the evaluation. The building was originally constructed in 1975 (drawings circa 1972) and expanded in 1993. The original building has a partial lower level. The main floor is approximately 49,840 and the partial lower level is 1,920 GSF. The total original building area is 51,115 GSF. The 1993 addition is approximately 9,520 GSF. The total GSF for the entire 60,635 GSF. The main entrance is located adjacent to the campus parking lot. The superstructure is a combination of cast in place concrete columns (circular), load bearing masonry and steel framing. There are two exterior wall systems present. The predominate exterior wall assembly is the original cast in place concrete. The cast in place concrete was formed using vertical board which created an exterior feature. The masonry wall assembly uses a 8" x 8" smooth faced/glazed CMU. The exterior window assemblies are primarily a storefront system configured as individual openings and in multiple unit ribbon arrangement. The window assemblies replaced the existing original windows and appear to have been installed with the 1993 addition. The roof system consists of both a sheet metal roof over a mansard roof structure and a low sloped aggregate embedded built up roof. The interior systems include; CMU partitions, gypsum board framed partitions and carpet/vinyl floor finishes. The ceiling system is predominantly suspended acoustical tile (SAT). There is an open stair is a split level configuration constructed of concrete. A chair lift provides ADA access between the upper and lower levels in the original building.

SYSTEM DETAILS[3,4,6]

Building Systems	Rating	System Description	Quantity	Unit of Measure	Unit Cost	CRV	EUL	RUL
A101000 - STANDARD FOUNDATIONS	3	Strip and spread footings	59,360	SF	$4.68	$277,805	99	99
A103000 - SLAB ON GRADE	3	Slab on grade	59,360	SF	$7.22	$428,579	99	99
A202000 - BASEMENT WALLS	3	Concrete basement walls	1,275	SF	$8.74	$11,144	99	99
B101000 - FLOOR CONSTRUCTION	3	Concrete framed floor supported by load bearing walls	1,275	SF	$26.36	$33,609	99	99
B102000 - ROOF CONSTRUCTION	3	Concrete roof frame over main facility and steel roof structure over gym	59,360	SF	$34.29	$2,035,454	99	99
B201000 - EXTERIOR WALLS	3	Insulated concrete panel	59,360	SF	$5.79	$343,694	70	19
B202000 - EXTERIOR WINDOWS	3	Exterior windows	61,488	SF	$2.31	$142,037	40	10
B203000 - EXTERIOR DOORS	3	Exterior doors	59,360	SF	$1.18	$70,045	30	10
B301000 - ROOF COVERINGS	2	Built-up roof	41,000	SF	$14.31	$586,710	25	0
C101000 - PARTITIONS	3	Concrete block (CMU) partitions	61,488	FINISHED SF	$6.52	$400,902	70	40
C102000 - INTERIOR DOORS	3	Interior doors	61,488	FINISHED SF	$6.16	$378,766	40	10
C103000 - FITTINGS	3	Partitions and lockers	61,488	FINISHED SF	$2.10	$129,125	30	0
C201000 - STAIR CONSTRUCTION	3	Cast-in-place concrete stairs	61,488	BLDG GROSS SF	$0.15	$9,223	70	19
C301000 - WALL FINISHES	3	Standard wall finishes	61,488	SF	$3.02	$185,694	6	2
C302000 - FLOOR FINISHES	3	Standard floor finishes	61,488	SF	$7.39	$454,396	14	3
C303000 - CEILING FINISHES	2	Standard ceiling finishes	61,488	FINISHED SF	$8.76	$538,635	20	0
D101010 - ELEVATORS	-				-	-		
D101020 - LIFTS	3	Single level wheel chair lift	1	EACH	$9,875.00	$9,875	30	10
D201000 - PLUMBING SYSTEMS AND FIXTURES	3	Plumbing Systems and Fixtures	61,488	SERVED SF	$3.53	$217,053	50	10
D202005 - COMMERCIAL WATER HEATER	2	Gas Water Heater, Commercial, Less than 80 MBH	1	EACH	$8,325.00	$8,325	15	1
D204000 - BUILDING STORMWATER DRAINAGE	3	Internal roof drains	59,360	BLDG FP SF	$2.19	$129,998	60	12
D301000 - ENERGY SUPPLY	3	Natural gas supply	61,488	BLDG GROSS SF	$0.06	$3,689	60	12
D301010 - GEOTHERMAL HEATING / COOLING SUPPLY	-				-	-		
D302000 - CENTRAL PLANT HEATING	2	Boiler	61,488	SERVED SF	$3.24	$199,221	40	11
D303000 - CENTRAL PLANT COOLING	3	Chiller system	61,488	SERVED SF	$3.26	$200,451	30	10
D304010 - DISTRIBUTION SYSTEMS - HEATING	3	Heat pump system	53,488	SERVED SF	$4.14	$221,440	40	10
D304020 - DISTRIBUTION SYSTEMS - COOLING	3	Heat pump system distribution	53,488	SERVED SF	$4.14	$221,440	40	10
D305010 - TERMINAL & PACKAGE UNITS	-				-	-		
D306000 - CONTROLS	3	HVAC controls - heat pump system	53,488	SERVED SF	$0.41	$21,930	20	5
D401000 - SPRINKLERS	3	Sprinkler system	61,488	SERVED SF	$4.48	$275,466	50	10
D402000 - STANDPIPES	-				-	-		
D501000 - ELECTRICAL SERVICE AND DISTRIBUTION	3	Main electrical entrance and switch - 600 Amp Service	61,488	BLDG GROSS SF	$1.47	$90,387	40	5
D502000 - LIGHTING AND BRANCH WIRING	3	Distribution panels, wiring, lighting and fixtures - 0 to 1000 Amp service	61,488	BLDG GROSS SF	$15.89	$977,044	40	10
D503000 - COMMUNICATION/SECURITY/FIRE ALARM	3	Communication, alarm, telephone, and wiring	61,488	BLDG GROSS SF	$4.15	$255,175	20	5
D509000 - EMERGENCY POWER	3	Emergency Generator, >=30 kW to <80 kW	1	EACH	$29,255.58	$29,256	35	5
E102000 - INSTITUTIONAL EQUIPMENT	3	Institutional equipment	2,600	SERVED SF	$48.04	$124,904	20	5
E109002 - FOOD SERVICE EQUIPMENT	3	Commercial kitchen components	61,488	SERVED SF	$4.20	$258,250	20	5
E109007 - ATHLETIC EQUIPMENT	-				-	-		
E201020 - FIXED FURNISHINGS - CASEWORK	3	Cabinetry	1,000	LENGTH LF	$431.92	$431,920	35	5
F102010 - ELEMENTARY SCHOOL GYMS/MULTI-PURPOSE ROOMS/AUXILLIARY GYM	4	Multi-purpose room	8,000	SERVED SF	$52.07	$416,560	20	8
F102050 - HAZMAT STORAGE ROOMS	-				-	-		
F103010 - PERIMETER CONTAINMENT WALLS	-				-	-		

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Condition Category Legend		
Good	Fair	Poor
0.0 - .15	>.15 - .33	>.33 - 1.0

Building Number	Last Renovation[1]	No. of Floors	Building CRV[6]
4	1993	1	$10,118,204

Building Description

The Montessori Elementary School (MPSA) is located at 701 S. Highland St. in Arlington, Virginia and located on a larger campus with other buildings which are not a part of the evaluation. The building was originally constructed in 1975 (drawings circa 1972) and expanded in 1993. The original building has a partial lower level. The main floor is approximately 49,840 and the partial lower level is 1,920 GSF. The total original building area is 51,115 GSF. The 1993 addition is approximately 9,520 GSF. The total GSF for the entire 60,635 GSF. The main entrance is located adjacent to the campus parking lot. The superstructure is a combination of cast in place concrete columns (circular), load bearing masonry and steel framing. There are two exterior wall systems present. The predominate exterior wall assembly is the original cast in place concrete. The cast in place concrete was formed using vertical board which created an exterior feature. The masonry wall assembly uses a 8" x 8" smooth faced/glazed CMU. The exterior window assemblies are primarily a storefront system configured as individual openings and in multiple unit ribbon arrangement. The window assemblies replaced the existing original windows and appear to have been installed with the 1993 addition. The roof system consists of both a sheet metal roof over a mansard roof structure and a low sloped aggregate embedded built up roof. The interior systems include; CMU partitions, gypsum board framed partitions and carpet/vinyl floor finishes. The ceiling system is predominantly suspended acoustical tile (SAT). There is an open stair is a split level configuration constructed of concrete. A chair lift provides ADA access between the upper and lower levels in the original building.

SYSTEM OBSERVATIONS

Building Systems	Rating	Observations
A101000 - STANDARD FOUNDATIONS	3	The drawings indicate cast in place concrete foundations for the original building and the addition. The foundation wall is concrete masonry units. The RUL is based on the original construction date (circa 1975).
A103000 - SLAB ON GRADE	3	The building is a split level configuration. The lowest level and portion of the upper level have a slab on grade. The lower level plan is approximately 1,275 SF. The RUL is based on the original construction date.
A202000 - BASEMENT WALLS	3	The lowest (partial) level of the building has basement walls.
B101000 - FLOOR CONSTRUCTION	3	A portion of the upper level floor plate is an elevated slab constructed with cast in place concrete framing. The remaining portion of the upper floor is a slab on grade.
B102000 - ROOF CONSTRUCTION	3	The original building uses cast in place concrete. The 1993 portion of the building uses steel framing. The more predominate system (by SF) is the original building .. The RUL is based on the original building.
B201000 - EXTERIOR WALLS	3	There are two exterior wall systems present. The predominate exterior wall assembly is the original cast in place concrete (circa 1972). The cast in place concrete was formed using vertical board which created an exterior feature. The masonry wall assembly uses a 8" x 8" smooth faced/glazed CMU. There are metal panel facias matching the roof. The RUL is based on the age of the predominate wall assembly.
B202000 - EXTERIOR WINDOWS	3	The exterior window assemblies are primarily a storefront system configured as individual openings and in multiple unit ribbon arrangement. The window assemblies replaced the existing original windows and appear to have been installed with the 1993 addition. The RUL is based on age using the 1993 construction date.
B203000 - EXTERIOR DOORS	3	The exterior doors include both flush panel and glazed units in metal frames. The glazed units are a part of a storefront system. The doors appear to have replaced the original based on the drawings for the 1993 addition. The RUL is based observation versus the EUL.
B301000 - ROOF COVERINGS	2	The roof system consists of both a sheet metal roof over a mansard roof structure and a low sloped aggregate embedded built up roof. The BUR is the predominate roof type. The BUR appears to have been installed with the 1993 renovation. The RUL is based on the construction in 1993.
C101000 - PARTITIONS	3	CMU interior partitions are in the original (1972) building. Gypsum board framed interior walls are in the 1993 era building. The CMU walls are the predominate assembly. The RUL is based on the CMU (1972) wall.
C102000 - INTERIOR DOORS	3	The 1993 addition, renovated the majority of the original building inclusive of the interior doors. The interior doors are a combination of wood flush in metal panels, wood panels with glazing and several metal flush doors. All doors are in metal frames. The wood door is the predominate assembly. The RUL is based on the 1993 construction date.
C103000 - FITTINGS	3	There are existing prefinished metal lockers. The lockers are well maintained. The RUL is based on the 1993 addition.
C201000 - STAIR CONSTRUCTION	3	There is one interior stair in a split level configuration serving a small lower level of the original building. The RUL is based on the original building age (1972).
C301000 - WALL FINISHES	3	The interior walls are predominated painted. There are areas with ceramic tile finishes. The overall condition is rated as fair. The RUL is based on observed conditions.
C302000 - FLOOR FINISHES	3	The interior floor finishes include, carpet, vinyl tile, athletic floor (gym) and ceramic tile. The predominate floor type is carpet. RUL is based on observations.
C303000 - CEILING FINISHES	2	The majority of the ceiling finishes are suspended acoustical tile (SAT). The ceiling at the gymnasium is exposed to view steel framing with sound panels inserted between the framing members. The RUL is based on the SAT.
D101010 - ELEVATORS	-	
D101020 - LIFTS	3	The building has a lift located adjacent to the stairs at the split level. The lift does not appear large enough for a gurney. The lift does appear large enough to comply with accessibility. The RUL is based on observation.
D201000 - PLUMBING SYSTEMS AND FIXTURES	3	Assumed copper domestic piping and cast iron sanitary piping original to 1975. No issues reported or observed.
D202005 - COMMERCIAL WATER HEATER	2	Single small DWH in boiler room, installed 1993. Significant corrosion on the unit, but no issues reported.
D204000 - BUILDING STORMWATER DRAINAGE	3	Stormwater piping for low-slope roof areas assumed to be original to 1975. No issues reported or observed. Sloped metal roof areas drain directly over side and not included in this square footage.
D301000 - ENERGY SUPPLY	3	Natural gas supply assumed original to 1975. No issues reported or observed.
D301010 - GEOTHERMAL HEATING / COOLING SUPPLY	-	
D302000 - CENTRAL PLANT HEATING	2	Two gas boilers assumed to be installed in 1994. Signs of corrosion and prior leaks observed. No issues reported.
D303000 - CENTRAL PLANT COOLING	3	Cooling tower assumed installed 2003. No issues reported or observed with equipment. Steel dunnage was significantly rusted, with holes in the I-beam supports.
D304010 - DISTRIBUTION SYSTEMS - HEATING	3	Combination of unit ventilators and heat pumps throughout the school. Steel piping used for heating water distribution. Most equipment was installed in 1993, although some heat pump units were noted to have been replaced more recently. No issues reported or observed.
D304020 - DISTRIBUTION SYSTEMS - COOLING	3	Combination of unit ventilators and heat pumps throughout the school. Steel piping used for chilled water distribution. Most equipment was installed in 1993, although some heat pump units were noted to have been replaced more recently. No issues reported or observed.
D305010 - TERMINAL & PACKAGE UNITS	-	
D306000 - CONTROLS	3	Digital controls assumed to be original to 1993 with most HVAC equipment. No issues reported or observed.
D401000 - SPRINKLERS	3	Sprinkler system throughout assumed to be original to 1975. No issues reported or observed.
D402000 - STANDPIPES	-	
D501000 - ELECTRICAL SERVICE AND DISTRIBUTION	3	Main electrical entrance appeared original to 1975. No issues reported or observed. 600A, 3 pole.
D502000 - LIGHTING AND BRANCH WIRING	3	Majority of electrical distribution panels, wiring, and switches appeared original to 1975. Lighting appeared to have been upgraded within the last 10 years. No issues reported or observed.
D503000 - COMMUNICATION/SECURITY/FIRE ALARM	3	Fire alarm panel age was unknown but appeared more than 10 years old. PA system appeared newer than 10 years old. No security system noted. No issues reported or observed.
D509000 - EMERGENCY POWER	3	Emergency generator was in a locked area and could not be accessed up close. Size unknown but assumed to be between 30-80 KW. Age unknown but appeared older, and assumed to be installed around 1994 with HVAC upgrades. No issues reported or observed.
E102000 - INSTITUTIONAL EQUIPMENT	3	Kiln for art classroom. Age unknown but assumed to be about 20 years old. No issues reported or observed.
E109002 - FOOD SERVICE EQUIPMENT	3	Kitchen equipment for serving kitchen. Age unknown but assumed to be about 20 years old. It was reported that the ventilation hood did not work. No issues reported or observed with other equipment.
E109007 - ATHLETIC EQUIPMENT	-	
E201020 - FIXED FURNISHINGS - CASEWORK	3	Assumed most of the casework to have been installed in 1975. Quantity estimated based on number of classrooms. Expected level of wear and tear observed.
F102010 - ELEMENTARY SCHOOL GYMS/MULTI-PURPOSE ROOMS/AL	4	Single-purpose elementary school gymnasium. Constructed 1995. Vinyl flooring, painted walls with soundproofing panels, and painted ceiling structure were in good condition and had likely been renovated more recently. Basketball hoops appeared original but in good condition. Lighting may have been upgraded recently and remained in good condition. Heat pump for gym appeared to have been replaced in 2017.Multi-purpose room served as cafeteria and auditorium. Constructed 1975. VCT flooring, painted walls, and acoustical ceiling tiles were in good condition and had likely been renovated more recently. Stage finishes and equipment appeared original but in good condition. Lighting may have been upgraded recently and remained in good condition. Heat pumps appeared to have been installed in 1993.
F102050 - HAZMAT STORAGE ROOMS	-	
F103010 - PERIMETER CONTAINMENT WALLS	-	

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Arlington Public Schools FCA

2023 Condition Assessment

GENERAL INFORMATION

Building Name	Year Built[1]	Building GSF[2]	Building FCI_{AD}	Condition Category Legend
Montessori Public School of Arlington	1975	61,488	0.376	Good 0.0 - .15 / Fair >.15 - .33 / Poor >.33 - 1.0
Building Number	**Last Renovation[1]**	**No. of Floors**	**Building CRV[6]**	**No. of Local Projects**
4	1993	1	$10,118,204	4

Building Description

The Montessori Elementary School (MPSA) is located at 701 S. Highland St. in Arlington, Virginia and located on a larger campus with other buildings which are not a part of the evaluation. The building was originally constructed in 1975 (drawings circa 1972) and expanded in 1993. The original building has a partial lower level. The main floor is approximately 49,840 and the partial lower level is 1,920 GSF. The total original building area is 51,115 GSF. The 1993 addition is approximately 9,520 GSF. The total GSF for the entire 60,635 GSF. The main entrance is located adjacent to the campus parking lot. The superstructure is a combination of cast in place concrete columns (circular), load bearing masonry and steel framing. There are two exterior wall systems present. The predominate exterior wall assembly is the original cast in place concrete. The cast in place concrete was formed using vertical board which created an exterior feature. The masonry wall assembly uses a 8" x 8" smooth faced/glazed CMU. The exterior window assemblies are primarily a storefront system configured as individual openings and in multiple unit ribbon arrangement. The window assemblies replaced the existing original windows and appear to have been installed with the 1993 addition. The roof system consists of both a sheet metal roof over a mansard roof structure and a low sloped aggregate embedded built up roof. The interior systems include; CMU partitions, gypsum board framed partitions and carpet/vinyl floor finishes. The ceiling system is predominantly suspended acoustical tile (SAT). There is an open stair is a split level configuration constructed of concrete. A chair lift provides ADA access between the upper and lower levels in the original building.

PROJECTED NEEDS[5,6]

Building Systems	Rating	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
A101000 - STANDARD FOUNDATIONS	3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A103000 - SLAB ON GRADE	3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
A202000 - BASEMENT WALLS	3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
B101000 - FLOOR CONSTRUCTION	3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
B102000 - ROOF CONSTRUCTION	3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
B201000 - EXTERIOR WALLS	3	$ 128,500	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
B202000 - EXTERIOR WINDOWS	3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 142,037	$ -	$ -
B203000 - EXTERIOR DOORS	3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 70,045	$ -	$ -
B301000 - ROOF COVERINGS	2	$ 586,710	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
C101000 - PARTITIONS	3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
C102000 - INTERIOR DOORS	3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 378,766	$ -	$ -
C103000 - FITTINGS	3	$ 129,125	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
C201000 - STAIR CONSTRUCTION	3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
C301000 - WALL FINISHES	3	$ -	$ 185,694	$ -	$ -	$ -	$ -	$ -	$ 185,694	$ -	$ -	$ -	$ -
C302000 - FLOOR FINISHES	3	$ -	$ -	$ 454,396	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
C303000 - CEILING FINISHES	2	$ 538,635	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D101010 - ELEVATORS	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D101020 - LIFTS	3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 9,875	$ -	$ -
D201000 - PLUMBING SYSTEMS AND FIXTURES	3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 217,053	$ -	$ -
D202005 - COMMERCIAL WATER HEATER	2	$ 8,325	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D204000 - BUILDING STORMWATER DRAINAGE	3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D301000 - ENERGY SUPPLY	3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D301010 - GEOTHERMAL HEATING / COOLING SUPPLY	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D302000 - CENTRAL PLANT HEATING	2	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 199,221	$ -
D303000 - CENTRAL PLANT COOLING	3	$ 50,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 200,451	$ -	$ -
D304010 - DISTRIBUTION SYSTEMS - HEATING	3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 221,440	$ -	$ -
D304020 - DISTRIBUTION SYSTEMS - COOLING	3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 221,440	$ -	$ -
D305010 - TERMINAL & PACKAGE UNITS	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D306000 - CONTROLS	3	$ -	$ -	$ -	$ -	$ 21,930	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D401000 - SPRINKLERS	3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 275,466	$ -	$ -
D402000 - STANDPIPES	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D501000 - ELECTRICAL SERVICE AND DISTRIBUTION	3	$ -	$ -	$ -	$ -	$ 90,387	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D502000 - LIGHTING AND BRANCH WIRING	3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 977,044	$ -	$ -
D503000 - COMMUNICATION/SECURITY/FIRE ALARM	3	$ -	$ -	$ -	$ -	$ 255,175	$ -	$ -	$ -	$ -	$ -	$ -	$ -
D509000 - EMERGENCY POWER	3	$ -	$ -	$ -	$ -	$ 29,256	$ -	$ -	$ -	$ -	$ -	$ -	$ -
E102000 - INSTITUTIONAL EQUIPMENT	3	$ -	$ -	$ -	$ -	$ 124,904	$ -	$ -	$ -	$ -	$ -	$ -	$ -
E109002 - FOOD SERVICE EQUIPMENT	3	$ 5,000	$ -	$ -	$ -	$ 258,250	$ -	$ -	$ -	$ -	$ -	$ -	$ -
E109007 - ATHLETIC EQUIPMENT	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
E201020 - FIXED FURNISHINGS - CASEWORK	3	$ -	$ -	$ -	$ -	$ 431,920	$ -	$ -	$ -	$ -	$ -	$ -	$ -
F102010 - ELEMENTARY SCHOOL GYMS/MULTI-PURPOSE ROOMS/AUXILLIARY GYM	4	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 416,560	$ -	$ -	$ -	$ -
F102050 - HAZMAT STORAGE ROOMS	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
F103010 - PERIMETER CONTAINMENT WALLS	-	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
BUILDING Total in USD		**$1,446,295**	**$185,694**	**$454,396**	**$0**	**$1,211,822**	**$0**	**$0**	**$602,254**	**$0**	**$2,713,618**	**$199,221**	**$0**

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