

Attachment B: Long-Range Plan to Renovate Existing School Facilities



Footnote: Edits include adding pool (circulation system) to major building systems and common space adequacy

SUMMARY:

On October 28, 2021, the School Board's (SB) gave direction that would shape the Superintendent's Capital Improvement Plan (CIP) for fiscal year (FY) 2023-2032 ([FY 2023-2032 CIP Direction](#)). One of the directions presented to staff included the development of a long-range plan to renovate existing school facilities (the plan). Further guidance identified upcoming CIPs to include:

1. a framework and guidelines for evaluating existing facilities as part of the FY 2023-32 CIP and
2. a schedule and prioritization of renovations by facility while securing bond or other funding sources to implement the plan as part of the FY 2025-34 CIP.

The School Board tasked the Department of Facilities and Operations (F&O) along with assistance from the Advisory Council on School Facilities and Capital Programs (FAC) with developing a framework and guidelines for evaluating all existing facilities. F&O and FAC established a subcommittee, meeting virtually beginning November 2021 to discuss a framework for building systems and the physical environment. As a result of the meetings the subcommittee focused their work on three categories:

Major Building Systems
Common Space Adequacy
Educational Space Adequacy

Each category is comprised of numerous components the subcommittee deemed essential or vital for providing optimal learning environments to students and staff. The components of the three categories include:

Major Building Systems	Common Space Adequacy	Educational Space Adequacy
1) HVAC 2) Electrical 3) Plumbing 4) Fire suppression / fire alarm 5) Building Enclosure 6) Security vestibules 7) Code standards 8) Ability to expand 9) Pool (Circulation System)	1) Kitchen 2) Cafeteria 3) Gymnasium 4) Performance Space 5) Library 6) Pool 7) Outdoor Spaces	1) Classroom (General) 2) Classroom (Special Education) 3) Support Services 4) Art 5) Music 6) Lab

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The subcommittee further refined the components into subcomponents. Staff developed a short definition from available resources and proposed assessment values for each subcomponent.

DEFINITIONS:

Major Building Systems	Definitions
<u>HVAC</u>	
1) Age	The length of time a Heating, Air Ventilation, and Cooling system has been operational.
2) Indoor air quality (IAQ)	The air quality within and around a building that may affect comfort, health, and well-being of building occupants. Air filtration is one component that may improve IAQ.
3) Ventilation	The capability of a system to offer outside air exchanges, preferably 4 -6 air changes per hour (ACH).
4) Thermal comfort	The perceived feeling on the human body as the result of heating and cooling the environment.
<u>Electrical</u>	
5) Switch Gear / Service Upgrade	Fuses and circuit breakers used to control, protect, and isolate electrical equipment.
6) Generator (KW)	Backup power source that provides electricity to critical systems of a building during power outages.
7) Indoor Lighting	Lighting fixtures used to provide satisfactory visual performance and illumination for educational spaces.
<u>Plumbing</u>	
8) Isolation Valves	Manual water supply shutoffs used by maintenance for specific sections of a facility's plumbing system.
9) Drainage – Sewer and Storm	Sanitary sewer drains, and related infrastructure carry effluent and grey water to the water pollution control plant for treatment. Storm drains and related infrastructure capture and divert excess rain and ground water from impervious surfaces.
10) Flow / Pressure	The volume of water being used or provided by a plumbing fixture over a determined length of time.
11) Water efficient fixtures	Plumbing fixtures designed for low water flows while maintaining optimal performance.
<u>Fire suppression / fire alarm</u>	
12) Panel / Alarm System	Fire alarm system warns occupants when smoke or a fire are detected in a building.
13) Sprinkler	An active fire protection method consisting of a water supply system, adequate pressure, and flowrate for water distribution throughout a facility.
<u>Building Enclosure</u>	
14) Roof	Part of the building envelope, a roof is the top covering of a building including the structure and roof cover (or membrane) to protect against environmental conditions such as air, water, heat, light, and noise.
15) Windows	An opening fitted in a wall or door that allows the transfer of light through glass panes. When located on the exterior of a building a window also provides interior spaces with natural light and fresh air.
16) Building Envelope	A building envelope is located on the exterior limits of a building as the delimitation between the unconditioned and conditioned spaces. The envelope also protects the building against environmental conditions such as air, water, heat, light, and noise.
<u>Security vestibules</u>	
17) Security Vestibules	An isolated space used to restrict and redirect occupants access to a building.
<u>Code standards</u>	
18) Meets Current Code	A set of rules/standards applicable in school construction and renovation. These may include building codes and professional standards such as American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE).
19) Accessibility / ADA	The Americans with Disabilities Act of 1990 is a civil rights law that prohibits discrimination based on disability.
20) Universal Design	Spaces that are designed and composed so they are accessible, understood, and useful for all.
<u>Ability to expand</u>	
21) Feasibility Study	Historical studies that analyzed a site for possible additions, renovations, or new builds.
22) Relocatable Complex	A temporary structure located adjacent to a facility that provides additional classroom seats during fluctuations in enrollment.
<u>Pool (Circulation System)</u>	
23) Age	The length of time a circulation system has been operational.
24) Water Standard	The proper water chemistry levels for optimal swimming pool functionality and comfort.

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Common Space Adequacy	Definitions
<u>Kitchen</u>	Space designed for food preparation and cooking of breakfast and lunches for students.
<u>Cafeteria</u>	Dedicated space for students to eat breakfast and lunch. Located with direct access to the service area and adjacent to the kitchen.
<u>Gymnasium</u>	A space for physical education classes, fitness, sports, and wellness.
<u>Performance Space</u>	A space to accommodate rehearsals, instructions and gatherings associated with music, drama, and school assemblies.
<u>Library</u>	A space designed for access to books, reading, information and information technology resources and allows for student collaboration and research.
<u>Pool</u>	A designed structure, specifically built for aquatics, swimming and water safety programs.
<u>Outdoor Spaces</u>	
1) Playground	Play areas that feature a mix of age-appropriate manufactured play structures and informal features.
2) Fields	Outdoor play surfaces of grass or synthetic turf further described as either regulation for athletics (rectangular, multipurpose or diamond), shared by Arlington County Government (ACG) or undersized for practice or play, not shared by ACG.
3) Outdoor Learning	A variety of outdoor spaces designed to encourage students to experience the natural systems on a site.
4) Outdoor dining	Area located outside the cafeteria which provides additional space for student dining.
5) Vehicular parking	Designated areas where staff and visitors may park vehicles.
6) Bicycle parking	Designated areas where staff and visitors may park bicycles.

Educational Space Adequacy	Definitions
<u>Classroom (General)</u>	A flexible and adaptable space to accommodate any of the core academic disciplines and supports frequent reconfiguration.
<u>Classroom (Special Education)</u>	Instructional spaces designed to assist students to function safely with as much mobility as possible and accessible to all disabled students. Designed, furnished, equipped, and maintained to facilitate the program requirements set forth in individualized education program.
<u>Support Services</u>	
1) Workspace	A space where staff can socialize, collaborate, eat, and prepare meals; perform lesson planning, administrative and committee work.
2) Pullout Space	Designated space in a facility where staff can work with students on a one-on-one basis or in a small group instructional format.
3) Administrative Space	Office space to provide leadership in a personal and organized environment to learners, staff, and the community.
4) Clinic	Space within a facility where first aid, emergency care and/or health services are administered to students.
<u>Art</u>	Environments specifically designed for the creation of visual arts.
<u>Music</u>	Environments specifically designed for the creation of instrumental and vocal arts.
<u>Lab</u>	A learning laboratory for teaching biology, chemistry, earth sciences or physics with equipment for supervised student experiments.

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PROPOSED ASSESSMENT VALUE:

Major Building Systems	Proposed Assessment Value
<u>HVAC</u>	
1) Age	Multiplication factor.
2) Indoor air quality	Measurable range.
3) Ventilation	Measurable range.
4) Thermal comfort	Measurable range.
<u>Electrical</u>	
5) Switch Gear / Service Upgrade	Measurable range.
6) Generator (KW)	Measurable range.
7) Indoor Lighting	Measurable range of LED coverage.
<u>Plumbing</u>	
8) Isolation Valves	Measurable range of isolated coverage.
9) Drainage – Sewer and Storm	Yes or no, with yes having a value.
10) Flow / Pressure	Yes or no, with yes having a value.
11) Water efficient fixtures	Measurable range of fixture coverage.
<u>Fire suppression / fire alarm</u>	
12) Panel / Alarm System	Measurable range.
13) Sprinkler	100% coverage or no, with no having a value.
<u>Building Enclosure</u>	
14) Roof	Measurable range of roof type / usefulness and leaks: yes or no, with yes having a value.
15) Windows	Measurable range of efficiency / age.
16) Building Envelope	Measurable range.
<u>Security vestibules</u>	
17) Security Vestibules	Yes or no, with no having a value.
<u>Code standards</u>	
18) Meets Current Code	Yes or no, with no having a value.
19) Accessibility / ADA	Yes or no, with no having a value.
20) Universal Design	Yes or no, with no having a value.
<u>Ability to expand</u>	
21) Feasibility Study	Yes or no, with no having a value.
22) Relocatable Complex	Yes or no, with no having a value.
<u>Pool (Circulation System)</u>	
23) Age	Multiplication factor.
24) Water Standard	Measurable range.

Common Space Adequacy	Proposed Assessment Value
<u>Kitchen</u>	1) Size per student served (Square feet / student). 2) Number of service lines (Number). 3) Lunch periods (Number of lunch servings and length of lunch, duration).
<u>Cafeteria</u>	Size per student served (Square feet / student).
<u>Gymnasium</u>	1) Number of stations. 2) Size (Length by width).
<u>Performance Space</u>	1) Availability (Yes / no, with no having a value). 2) Seating (Occupancy).
<u>Library</u>	1) Linear bookshelves (Ft / student). 2) Library classroom (Yes / no, with no having a value).
<u>Pool</u>	The design capacity / number of swimmers per pool.
<u>Outdoor Spaces</u>	
1) Playground	Number and Type: PreK – K (Lower) & Gr. 1 – 5 (Upper).
2) Fields	Number, Size & Type: grass or synthetic turf.
3) Outdoor Learning	Number of stations and type / description.
4) Outdoor dining	Yes / no, with no having a value.
5) Vehicular parking	Number of parking spaces.
6) Bicycle parking	Number of parking spaces.

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Educational Space Adequacy	Proposed Assessment Value
<u>Classroom (General)</u>	1) Size (Square footage of instructional space per school level). 2) Number of classrooms. 3) Specific Requirements (To establish a value this could be "the absence of a specific requirement" such as the percentage of natural light, the percentage of operable windows, the availability of In-suite bathrooms for PreK and K, the availability of a classroom sink w/ hot & cold faucet for primary).
<u>Classroom (Special Education)</u>	1) Size (Square footage of instructional space per school level). 2) Specific Requirements (Number and type of "permanent" special education classrooms). 3) Resource rooms (Yes / no, with no having a value).
<u>Support Services</u>	
1) Workspace	Yes / no, with no having a value.
2) Pullout Space	Yes / no, with no having a value.
3) Administrative Space	Square footage of administrative space per staffing allocations.
4) Clinic	Meets the County standards for square foot requirements and number of beds.
<u>Art</u>	1) Quantity (Number of art specific rooms). 2) Specific Requirements (Availability of kiln, sinks & faucets, storage: material & product).
<u>Music</u>	1) Quantity and Type (Number of music rooms and type: vocal, instrumental, orchestral). 2) Specific Requirements (Availability of instrument storage).
<u>Lab</u>	Quantity and Type (Number of labs and type: wet, dry, maker space).

The final layer of analysis identifies the purpose for including each component and subcomponent as part of the evaluation process. The purpose or reason incorporated in the plan include:

Purpose of Incorporation
1) Continuity of Service
2) Maintenance
3) Energy Efficiency
4) Health
5) Safety and Security
6) Impacts on Academics
7) Flexibility

Although the FAC's primary focus is on the physical, built environment, the group was compelled to include the concept of equity. The Department of Diversity, Equity and Inclusion shared with the committee a proposed plan to perform equity assessments on a facility-by-facility basis, but the committee did not want the concept of equity to be forgotten.

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PURPOSE OF INCORPORATION:

Major Building Systems - Purpose	Continuity of Service	Maintenance	Energy Efficiency	Health	Safety & security	Impacts on Academics	Flexibility
<u>HVAC</u>	◆	◆	◆	◆	◆	◆	◆
1) Age	◆	◆	◆				
2) Indoor Air Quality			◆	◆		◆	
3) Ventilation			◆	◆		◆	
4) Thermal Comfort			◆	◆		◆	
<u>Electrical</u>							
5) Switch Gear / Service Upgrade	◆	◆					◆
6) Generator (KW)	◆	◆					◆
7) Indoor Lighting		◆	◆			◆	
<u>Plumbing</u>							
8) Isolation Valves		◆					◆
9) Drainage – Sewer and Storm	◆	◆					
10) Flow / Pressure	◆	◆					◆
11) Water efficient fixtures			◆				
<u>Fire suppression / fire alarm</u>							
12) Panel / Alarm System	◆	◆			◆		◆
13) Sprinkler					◆		◆
<u>Building Enclosure</u>							
14) Roof		◆	◆				
15) Windows		◆	◆	◆		◆	
16) Building Envelope		◆	◆				
<u>Security vestibules</u>							
18) Security vestibules					◆		
<u>Code standards</u>							
19) Meets Current Code		◆	◆		◆		
20) Accessibility / ADA					◆		
21) Universal Design					◆	◆	
<u>Ability to expand</u>							
21) Feasibility Study							◆
22) Relocatable Complex							◆
<u>Pool (Circulation System)</u>							
23) Age	◆	◆	◆				
24) Water Standard				◆		◆	

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Common Space Adequacy - Purpose	Continuity of Service	Maintenance	Energy Efficiency	Health	Safety & Security	Impacts on Academics	Flexibility
<u>Kitchen</u>	◆	◆	◆	◆	◆	◆	◆
<u>Cafeteria</u>					◆	◆	◆
<u>Gymnasium</u>					◆	◆	◆
<u>Performance Space</u>						◆	◆
<u>Library</u>						◆	
<u>Pool</u>				◆		◆	
<u>Outdoor Spaces</u>							
1) Playground			◆	◆			
2) Fields		◆		◆			
3) Outdoor Learning					◆		
4) Outdoor dining				◆			
5) Vehicular parking						◆	◆
6) Bicycle parking				◆			◆

Educational Space Adequacy - Purpose	Continuity of Service	Maintenance	Energy Efficiency	Health	Safety & Security	Impacts on Academics	Flexibility
<u>Classroom (General)</u>	◆	◆	◆	◆	◆	◆	◆
<u>Classroom (Special Education)</u>						◆	◆
<u>Support Services</u>							
1) Workspace						◆	◆
2) Pullout Space						◆	◆
3) Administrative Space						◆	◆
4) Clinic				◆			
<u>Art</u>						◆	
<u>Music</u>						◆	
<u>Lab</u>						◆	

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NEXT STEPS:

The recommended next steps include the adoption by the School Board of the proposed framework and guidelines for evaluating schools. Upon adoption, staff would work with a consultant to begin the data collection and analysis process for each facility based on the framework. The table below is a proposed timeline for the project:

Timing	Action
June 2022 FY 2023-32 Adopted CIP	<ul style="list-style-type: none"> Propose a framework and guidelines for evaluating schools
Fall 2022 – Fall 2023	<ul style="list-style-type: none"> School Evaluation Schedule: Data collection and plan conducted by staff and consultants
June 2024 FY 2025-34 Adopted CIP	<ul style="list-style-type: none"> Prioritize and recommend a schedule of school renovations Secure funding source and availability for: <ul style="list-style-type: none"> - Planning / design - Construction
Fall 2024	<ul style="list-style-type: none"> School Renovation Schedule: Begin to plan and design renovations conducted by consultants
Fall 2026	<ul style="list-style-type: none"> Projected renovation construction start time