ARLINGTON PUBLIC SCHOOLS

EDUCATE • PREPARE • INSPIRE

MASTER FACILITIES PLAN

MAY 2023

McGRANAHAN architects

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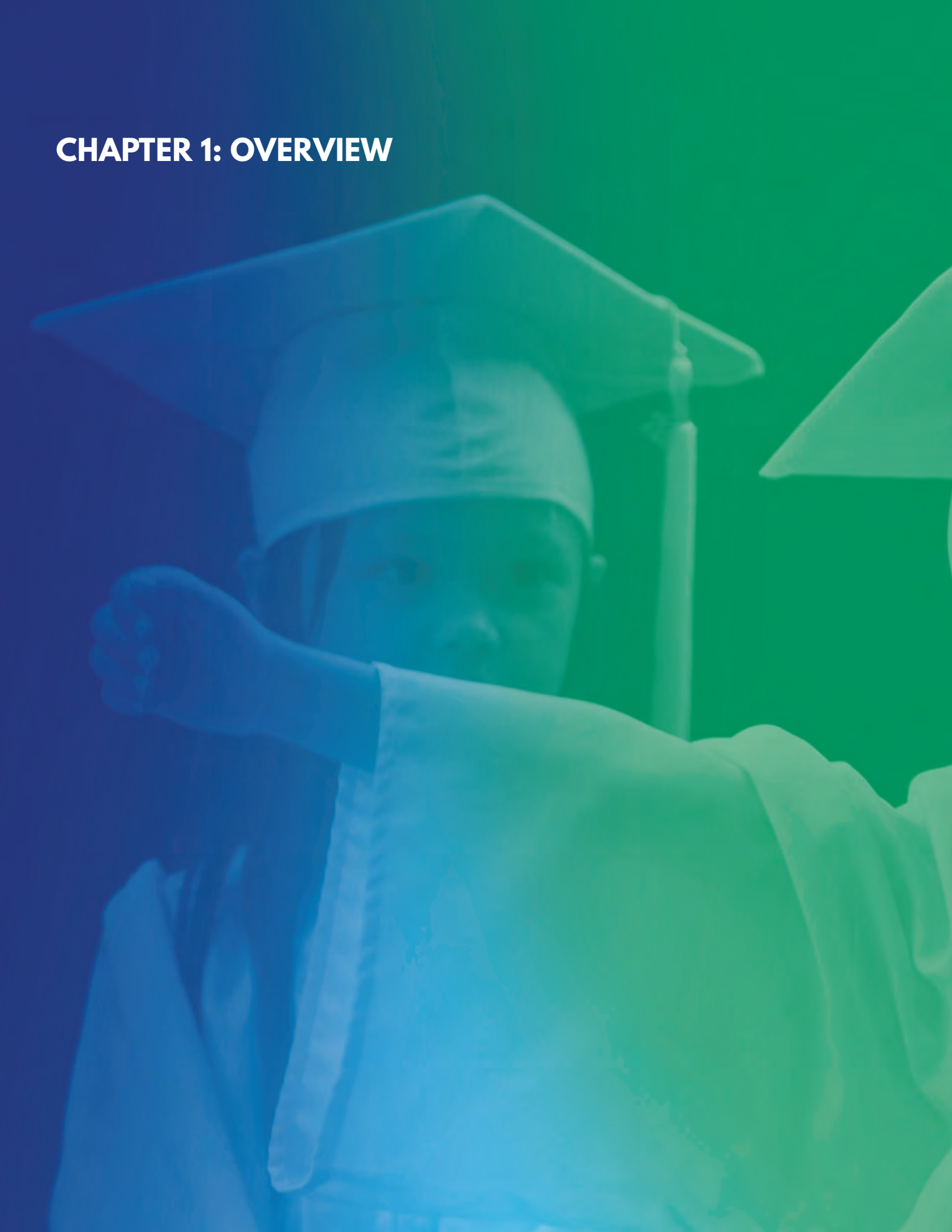
CHAPTER 1: OVERVIEW



CHAPTER 1: OVERVIEW

This 2023 Facilities Master Plan, was prepared for Arlington Public School in March of 2023. It is a complete update to the previous plan that was created in 2014. The intent of this document is to provide the district with a long range forecast of necessary and recommended facilities improvements across the district to allow them to anticipate and plan for the execution of those projects ahead of time.

The types of projects this study considered include:

Systems Repair and Replacement: These are projects that will be necessary at some point in time and involve the routine repair or replacement of building systems as they age.

Growth: These are projects that may be necessary to address changes in the student population in future years.

Functional Improvement: These are optional projects to make changes in the different facilities to improve a building's ability to serve the district's educational program.

Building Modernization: These projects consider the full renovation of older facilities to update their systems and configuration holistically to extend their useful life.

Technology related projects were included to the extent that they involve modifications to the facilities themselves, for example, installing a fiber backbone, or new cable, or expanding IDF rooms. The technology equipment and devices that are used in the different facilities (computers, smart screens, software, etc.) evolve and change too rapidly for the timeframe of this study. Those aspects of information technology are addressed in a separate technology master plan that was being developed by the district in parallel with this study and are not included herein.

Methodology

The report was compiled by McGranahan Architects. They were supported by BCE Engineers for mechanical and electrical systems, PCS Structural Solutions for structural evaluations, and Cornerstone Architectural Group for roof evaluations. The information contained herein was developed through review of district records and previous studies, direct observation of existing facilities by the Design Team, and interviews with district administrators, maintenance staff and leadership at each of the schools.

Contributors to this report include:

Dr. Chrys Sweeting, Superintendent

Brian Lewis, Executive Director of Operations

Kari Henderson-Burke, Executive Director of Teaching and Learning

Ed Aylesworth, Director of Child Nutrition and Support Services

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Feedback on the content of the study was also provided by the members of the district's Facilities Advisory Committee, including:

FAC Members

Anne Wendt, Community Member

Bethany Belisle, Principal, Eagle Creek Elementary

Cory Duskin, Community Member

Cody Fay, Community Member

Colleen Van Belle, Principal, Kent Prairie Elementary

Gary Sabol, Director of Communications

Gina Zeutenhorst, Executive Director of Finance

Katherine Ray, Operations Assistant

Lisa Foslien, Assistant Principal, Presidents Elementary

Leslie Olson, Principal, Post Middle School

Marilee Herman, Principal, Arlington High School

Matthew Jurick, Director of Technology

Michael Ray, Board Member

Marc Rosson, Former Board Member

Nicole Martinson, Community Member

Robert Stoddard, Assistant Principal, Kent Prairie Elementary

Sarah Blake, Community Member

Tom Roys, Athletic Director, Arlington High School

Project Costs

This report does not include cost estimates for any of the projects that are suggested. Useful cost information is dependent on a clear definition of the scope of a project and an accurate idea of when the project will occur. The scope of the projects are not defined beyond the conceptual level. For example, if a building will require the roof to be replaced, this report simply recommends a re-roof. It does not go into detail about the type of roofing system that should be considered. The timing of the projects are also defined in ranges of several years. In some cases, where the project is considered optional, there is no schedule recommendation. So the information necessary to produce useful cost estimates is not included in the report. It is assumed that when the district decides to proceed with any project the first step will be to clarify the specifics and develop a cost estimate.

Timeframe and Updates

The timeline for the projects included in this report span from as soon as practical (immediate) to more than 20 years out. The further out a project is the less reliable the specifics of timing and scope are. Therefore, it is recommended that this report be updated on a four year interval, with the next update in the spring of 2027.

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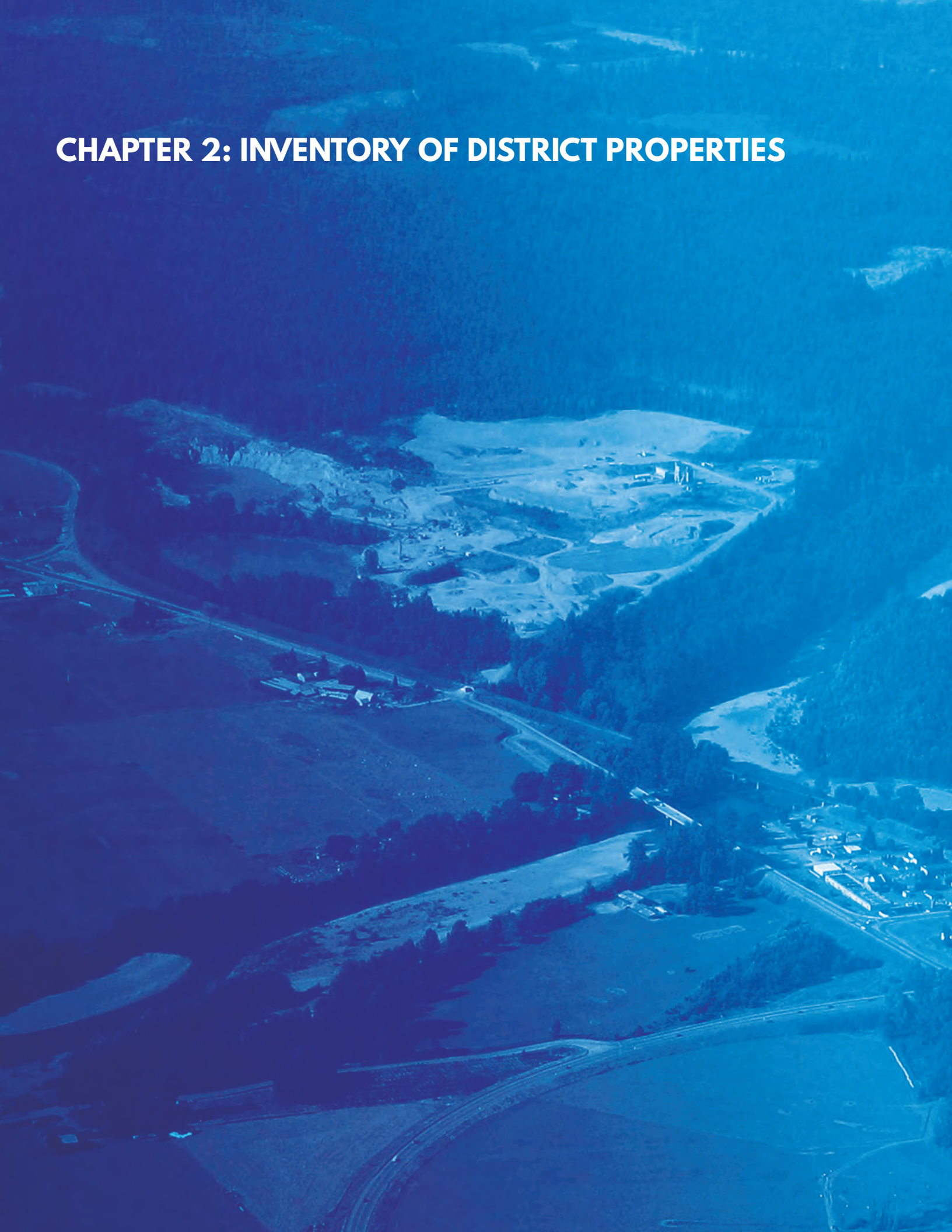
CHAPTER 2: INVENTORY OF DISTRICT PROPERTIES



CHAPTER 2: INVENTORY OF DISTRICT PROPERTIES

Arlington Public schools has nine individual school campuses, eight of which they own and one that is in a leased building. They have four support buildings, three of which they own and one that is in a leased building. The also own seven parcels of land that are not currently developed. The details of the specific properties are summarized in this chapter. They include:

Eagle Creek Elementary School

Kent Prairie Elementary School

Pioneer Elementary School

Presidents Elementary School

Haller Middle School

Post Middle School

Arlington High School

Weston High School

Stillaguamish Valley Learning Center

The French House

District Office

The "A" Building (houses Support Services)

The Transportation Center

7 Separate Parcels of Raw Land

Eagle Creek Elementary

Address

1216 East 5th Street
Arlington, WA 98223
Snohomish County

Site Information

Tax Parcel No.: 31051200200300

Approximate Acreage: 23.7

Building Information

Current Sq. Footage: 58,094 S.F.

Original Construction: 1989

Construction History

In 2021 a secure entry vestibule was created in the school, classroom door hardware was replaced for all rooms, CCTV cameras were upgraded and an access control system was added.

The single-story elementary school building was completed in 1989. The building is of Type II-N (2001 Uniform Building Code) construction, with one-hour construction in the Multi-Purpose Room and Stage areas. There are currently 2 portable classrooms serving this school and the district intends to add 2 new modular buildings (4 classrooms) in 2023. The roof was replaced in 2016 and was changed from metal roof to shingles.

Kent Prairie Elementary

Address

8110 207th Street NE
Arlington, WA 98223
Snohomish County

Site Information

Tax Parcel No.: 31051100400600

Approximate Acreage: 10

Building Information

Current Sq. Footage: 58,376 S.F.

Original Construction:1993

Construction History

In 2021 a secure entry vestibule was created in the school, classroom door hardware was replaced for all rooms, CCTV cameras were upgraded and an access control system was added. In the summer of 2023 the district will be executing a project to add on-site vehicle queuing for student pick-up and drop-off.

The single-story elementary school building was completed in 1993. The building is of Type II-N (2001 Uniform Building Code) construction, with one-hour construction in the Multi-Purpose Room and Stage areas. The building was constructed using the Eagle Creek design documents, adapted for this site. There are 2 portable classroom buildings on the site providing 4 additional classrooms. The building had a new roof installed in 2015.

Pioneer Elementary

Address

8213 Eaglefield Drive
Arlington, WA 98223
Snohomish County

Site Information

Tax Parcel No.: 00857400002100

Approximate Acreage: 20.60 Acres

Building Information

Current Sq. Footage: 59, 011 S.F

Original Construction: 2002

Construction History

The two-story elementary school building was completed in 2002. The building is of Type II-N (2001 Uniform Building Code) construction. In 2022 a secure entry vestibule was created in the school, classroom door hardware was replaced for all rooms, CCTV cameras were upgraded and an access control system was added.

Presidents Elementary

Address

505 E 3rd Street
Arlington, WA
Snohomish County

Site Information

Tax Parcel No.: 31050200401500

Approximate Acreage: 12.40 Acres

Building Information

Current Sq. Footage: 63,781 S.F

Original Construction: 2004

Construction History

The two-story elementary school building was completed in 2004. The building is of Type II-N (2001 Uniform Building Code) construction. There is currently 1 portable on this site providing 2 additional classrooms. In 2022 a secure entry vestibule was created in the school, classroom door hardware was replaced for all rooms, CCTV cameras were upgraded and an access control system was added.

Haller Middle School

Address

600 E. 1st Street
Arlington, WA 98223
Snohomish County

Site Information

Tax Parcel No.: 00455401101702

Approximate Acreage: 25.5

Building Information

Current Sq. Footage: 88,206 S.F

Original Construction:
Music Building: 1968
Gymnasium Addition: 1978
New Classroom Addition: 2006

Construction History

In 2022 two of the wooden light poles that support field lights for the football field were replaced. The original lights were retained. Also in 2022 a secure entry vestibule was added, classroom door hardware was replaced, CCTV cameras were updated and an access control system was installed.

The school shares a site with the district's Support Services Department (housed in the A Building from the original Arlington HS, and the French House that supports the district's Transitions Program.

The music building was built in 1968 with renovations in 2006. The Gymnasium Building was constructed in 1978 with renovations in 2006. The two-story classroom wings and Commons/Library addition was completed in 2006. The building is of Type V-B (2003 International Building Code) construction, with a two-hour fire wall separating the classroom wings from the remainder of the building.

In 2016, the Gym building was partially re-roofed and the gym floor was replaced.

Post Middle School

Address

1220 E 5th Street
Arlington, WA 98223
Snohomish County

Site Information

Tax Parcel No.: 31050100300400

Approximate Acreage: 24.6

Building Information

Current Sq. Footage: 76,256 S.F

Original Construction: 1981

Classroom Addition: 1993

Construction History

The first 3 buildings of the single-story campus-style middle school building were completed in 1981. The Main (100) Building houses the administrative offices, classrooms, library, multi-purpose room, stage and warming kitchen.

The Gymnasium Building (200) consists of the main gym, an auxiliary gym, locker/shower facilities and storage space. The 300 Building houses a technology shop, Home Ec classroom, Art classroom, office space and storage. In 1993 a classroom addition (400) was constructed at the southeast corner of the campus, with a covered walkway connecting it to the rest of the campus. The buildings are of Type V One-Hour (1979 and 1991 Uniform Building Code) construction. There are currently 6 portable classrooms serving this school.

Arlington High School

Address

18821 Crown Ridge Blvd.
Arlington, WA 98223
Snohomish County

Site Information

Tax Parcel No.:31052400200800

Approximate Acreage: 54

Building Information

Current Sq. Footage: 243,406 S.F

Original Construction: 2003

Construction History

In 2022-23 a classroom addition was constructed at the south end of the C wing. At the same time the Admin area was remodeled to create a secure entry vestibule, a scene shop was added to the south side of the BPAC, the original Life Skills rooms were converted to science rooms, and the entire exterior of all the buildings on campus (except the CTE Shop building) was painted and the masonry resealed. Other projects in 2022 included the replacement of classroom door hardware, upgrading CCTV cameras, and a new access control system.

The High School construction was completed in 2003. The two-story building is of Type II-One Hour (2001 Uniform Building Code) construction. Two-hour area separation walls divide the facility into five (5) separate building areas. The facility was designed with utility services and space to allow classrooms to be added to C wing in the future. The Performing Arts Center shell was constructed at that time, but the interior was finished as a separate project in 2005.

Weston High School

Address

4407 172nd Street
Arlington, WA 98223
Snohomish County

Site Information

Tax Parcel No.: 31052100400101

Approximate Acreage: 7.01 Acres

Building Information

Current Sq. Footage: 33, 323 S.F.

Original Construction: 1978

Construction History

Weston High School is housed in a single-story tilt-up concrete structure constructed in 1978. The building was originally constructed to house a light industrial company, with a large open space and enclosed offices. The building was adapted to the current uses in two phases. Phase 1 was completed in 2006 and included modernizing some of the building systems and providing classroom spaces to meet program needs. Phase 2 was completed in 2007 and turned some unused open space to storage space. Doors were added at hallways to help the district utilize portions of the facility better.

Since then the district has done a number of small tenant improvements that were not accurately documented. In 2023 a secure entry vestibule was created in the buildings lobby, classroom door hardware was replaced, the CCTV camera system was upgraded and an access control system was added. In the summer of 2023 the district intends to compete a project to replace two existing roof to HVAC units and modify the HVAC for the computer lab.

Stillaguamish Valley Learning Center

Address

1215 East 5th Street
Arlington, WA 98223
Snohomish County

Site Information

Tax Parcel No.: 31051200200300

Approximate Acreage: 23.7 Acres

Building Information

Current Sq. Footage: 8,960 S.F

Original Construction: 11 Portables

Construction History

The Stillaguamish Valley Learning Center (SVLC) provides space for the Alternative Learning Experience (ALE) program. ALE provides support for the homeschool programs and interaction with students ranges from a daily student presence to none at all. The campus is comprised of 11 portables. The site is adjacent to Eagle Creek Elementary School and shares an access drive with Eagle Creek and Post MS.

The French House

Address

600 E. 1st Street
Arlington, WA 98223
Snohomish County

Construction History

The French House is a former residence that is co-located on the site of Building A (Support Services) and Haller Middle School. It is currently used to house the district's Transitions program. The district does not have accurate records of its age or construction history.

District Office (Roosevelt Building)

Address

315 North French Avenue
Arlington, WA 98223

Site Information

The building is co-located on the site of Presidents Elementary.

Building Information

The 3 story building was originally built as a school but now houses the district's Administration Offices.

Construction History

The building was originally constructed in 1922. There have been numerous renovations and remodels through the years. The largest current challenge with the building is its general lack of ADA accessibility.

The “A” Building (houses Support Services)

Address

135 South French Avenue
Arlington, WA 98223
Snohomish County

Site Information

Building A is co-located on the same site as Haller Middle School and the French House.

Building Information

Original Construction: 1936

Construction History

Building A was one of the classroom buildings in the original Arlington High School. When the new high school was built in 2003 and the old high school was remodeled to become Haller Middle School in 2006, this building was removed from the district inventory of educational facilities. The building has not had any major repairs, improvements or modifications since then. The lower floor of the building is currently used to house the district's Support Services. The upper two floors are not in use.

The Transportation Center

Address

19124 63rd Ave NE
Arlington, WA 98223
Snohomish County

Construction History

The Transportation Center is housed in a facility that is directly adjacent to the Arlington Airport and leased from the City of Arlington. The district has done a number of improvements in the time they have occupied the building. The most recent was a new single ply roof system installed over the garage area and completed in March of 2023..

530 Site

TAX PARCEL 320536-001-015 and 320536-004-002

7 Separate Parcels of Raw Land

TAX PARCEL 32050100100400

26.96 Acres

TAX PARCEL 32051000400100

80.98 Acres

TAX PARCEL 32051100300100

207.89 Acres

TAX PARCEL 32060700300800

39.28 Acres

TAX PARCEL 32061800100300

105.55 Acres

TAX PARCEL 32061800301100

35.49 Acres

TAX PARCEL 32061800301400

1.19 Acres

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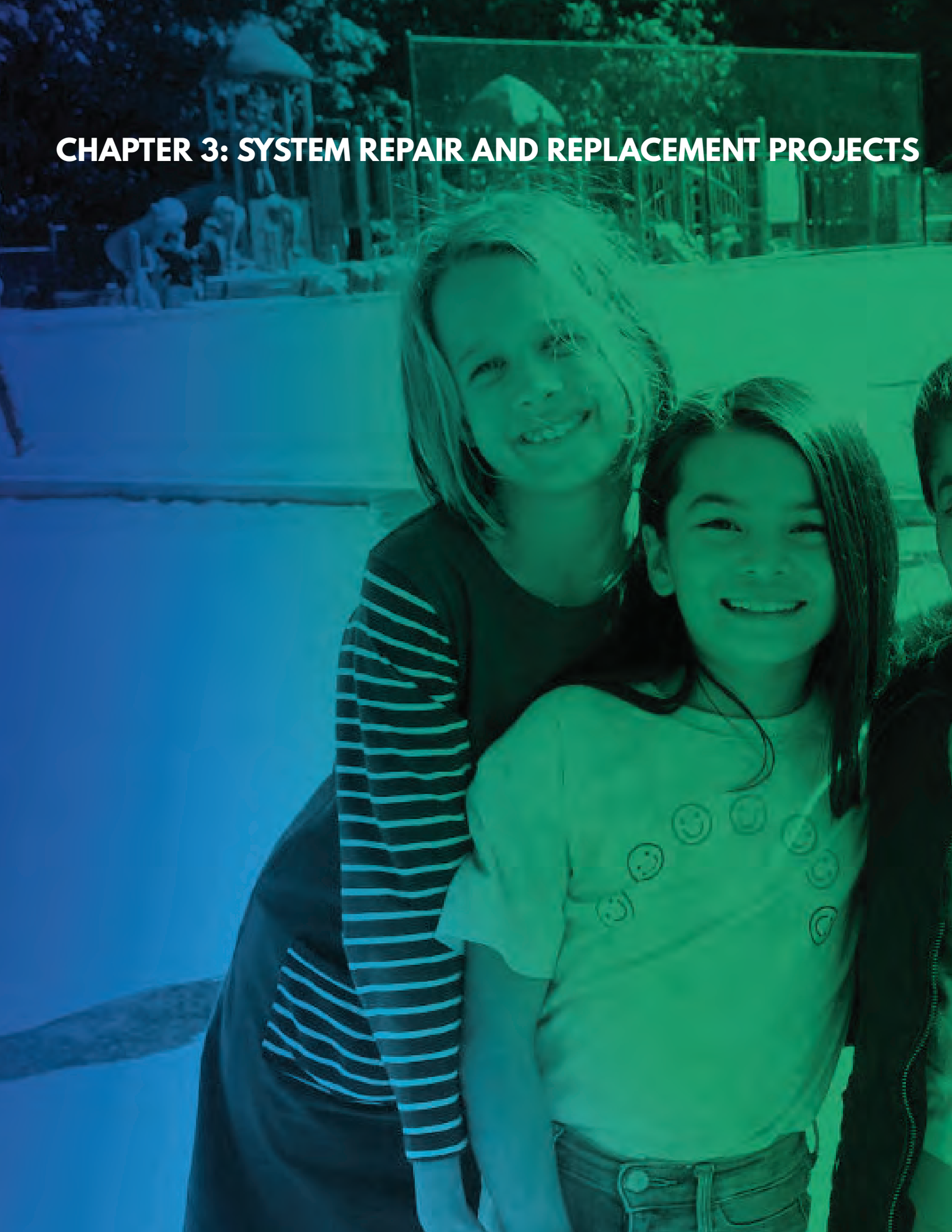
CHAPTER 3: SYSTEM REPAIR AND REPLACEMENT PROJECTS



CHAPTER 3: SYSTEM REPAIR AND REPLACEMENT PROJECTS

The maintenance department at Arlington Public Schools does very good job of maintaining the district's various schools and support buildings. But even with great preventative maintenance every component of a building will eventually wear out over time. This chapter discusses projects that are related to repairing or replacing systems as they age. This study does not take into consideration regular, routine maintenance, such as shampooing carpets, waxing floors, changing filters, or cleaning out gutters. Nor does it try to predict damage from accidents or premature equipment failures. It is focused on the periodic repair and replacement of building systems that is necessary as those systems age.

The recommendations in this chapter are based on:

- Direct field observations by the Design Team
- Interviews with district maintenance staff
- A detailed evaluation of the roofing systems for each building completed by Cornerstone Architectural Group, a building envelope specialist. Their report, referred to herein as the “2022 Roof Assessment Report”, is included as an appendix to this report.

The Design Team’s findings are included in this chapter. They are sorted by facility and by discipline. Where a current concern or issue was identified, a recommendation to resolve that issue is included, along with a proposed timeline. The timelines vary based on the severity of the problem. For systems where no immediate problems were identified, the Design Team attempted to estimate the reasonably anticipated serviceable life that was left in that system. It should be noted that many variables will affect the life span of a system, including many that are not within the Design Team’s or district’s control. The projected life spans are best judgements based on the average life of similar systems or equipment and assume continued regular maintenance. For the same reasons, the longer the projection the less accurate it should be considered.

The recommendations include long term replacements as far out as 25 years. However, it is recommended that the district reassess the conditions of all their facilities and update those projections on a four year cycle. This report will be published in spring of 2023. The next update is recommended in Spring of 2027.

The findings and recommendations are sorted by school and by system listed in two formats. The first is a simple timeline summary followed by a more detailed system by system narrative for each facility.

The timeline summary is broken into 4 year increments to match the typical levy cycle. The items are organized by school and by system. For each item there is a unique identifying number and title. The number indicates the facility and what type of system. For example ECES-A2 is at Eagle Creek Elementary School and it is an Architectural System. The title clarifies what type of system. The numbers on the timeline match the numbers in the narratives.

The timeline is also color coded to give a general sense as to the nature of the issue. The colors indicate the following:

- Systems that have no current issues and are not anticipated to have issues in the timespan of this study;
- Systems that need a relatively minor repair;
- Systems that need moderate repair or replacement; and
- Systems that need major repair or replacement.

The terms Minor, Moderate and Major are subjective and are relative to the system that is being referenced. For example, with an air handling unit, replacing the motor in one unit would be minor, replacing one or two units in a school would be moderate and replacing all the units in the school would be considered major. Adding a new fiber homerun between the existing MDF and an existing IDF would be relatively easy to do but would still be somewhat disruptive to the building so it would be listed as Moderate. Whereas replacing all the data cabling in a building would be very disruptive and would be listed as Major.

System Repair & Replacement

Eagle Creek Elementary - Recommended Project Timing

Long Range Repair/Replacement
Minor System Repair
Moderate Repair/Improvement
Major Repair/Replacement

PROJECT		1-4 years 2024-2028	5-8 years 2029-2032	9-12 years 2033-2036	13-16 years 2037-2040	17-20 years 2041-2044	21+ years 2045+
Eagle Creek Elementary							
ECES-S1	Site Lighting	x					
ECES-S2	Sight Utlities						x
ECES-S3	Storm Water Systems						x
ECES-S4	Paving and Parking	x					
ECES-S5	Landscape and Irrigation	x					
ECES-S6	Playfields	x					
ECES-S7	Play Equipment						x
ECES-S8	Fencing						x
ECES-A1	Roofing						x
ECES-A2	Exterior Walls						x
ECES-A3	Exterior Paint		x				
ECES-A4	Exterior Doors						x
ECES-A5	Exterior Windows						x
ECES-A6	Building Structure						x
ECES-A7	Flooring	x					x
ECES-A8	Interior Walls	x					
ECES-A9	Interior Paint						x
ECES-A10	Interior Doors						x
ECES-A11	Interior Windows/Relites						x
ECES-A12	Interior Ceilings						x
ECES-A13	Casework						x
ECES-A14	Kitchen Equipment	x					
ECES-A15	Misc. Equipment						x
ECES-M1	Controls						x
ECES-M2	Air Handling Units		x				
ECES-M3	Boilers						x
ECES-M4	Pumps				x		
ECES-M5	DX Cooling Unit	x					
ECES-M6	Hydronic Piping						x
ECES-M7	Exhaust Fans						x
ECES-M8	HVAC Ductwork						x
ECES-M9	Backflow Prevention	x					
ECES-M10	Domestic Water Piping						x
ECES-M11	Plumbing Fixtures		x				
ECES-M12	Hot Waterheaters		x	x			
ECES-M13	Fire Sprinklers	x					
ECES-E1	Service Transformer						x
ECES-E2	Switchgear and Panels		x				
ECES-E3	Interior Power						x
ECES-E4	Interior Lighting						x
ECES-E5	Lighting Controls						x
ECES-E6	Security and Access				x		
ECES-E7	CCTV Cameras				x		
ECES-E8	Intercom	x					
ECES-E9	Clock System			x			
ECES-E10	Fire Alarm		x				
ECES-T1	Fiber	x					
ECES-T2	Data Cabling		x				

Eagle Creek Elementary - System Observations

Site Infrastructure

ECES-S1: Site Lighting

The parking lot lighting on this site is inadequate. Vehicles moving through the parking area do not have adequate illumination to see students and staff. Existing fixtures are inefficient and have poor optics.

Nature of the Issue: System Deficiency

Recommended Action: Replace pole mounted fixtures with new LED fixture heads.

Timeline: Short Term (1-3 years)

ECES-S2: Site Utilities

No issues were noted with the site utilities at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

ECES-S3: Storm Water Systems

The storm systems appear to be in working order. There are some maintenance issues that would help the system continue to operate properly, such as cleaning gutters, adding dispersion pads at the downspouts on the portables, and using a Vactor pump to clean sediment out of sumps, etc. But there were not significant deficiencies noted.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

ECES-S4: Paving and Parking Lots

The sidewalks and curbs are generally in good repair. Pavement in the vehicle traffic areas is failing, particularly on the north side. There are some localized issues on the play areas where vehicle traffic has been allowed. The ADA ramps on the sidewalks do not meet current code. The district should consider replacing them when they do other parking lot repairs.

Nature of the Issue: System Failure

Recommended Action: Repave front parking and bus lane. Provide localized patch and repair in other areas. Replace existing ADA ramps with code compliant ramps.

Timeline: Short Term (1-3 years)

ECES-S5: Landscaping and Irrigation

The irrigation system does not have a deduct meter. This results in the water that is used for irrigation being included in the calculation of the school sanitary sewer use/cost. The City has previously indicated their intent to provide a new meter for the school. The district should coordinate with that work and add a deduct meter at that time. No other issues were noted with the existing landscaping at the time of this study.

Nature of the Issue: System Deficiency

Recommended Action: Add deduct meter. Coordinate with the City of Arlington.

Timeline: Short Term (1-4 years)

ECES-S6: Playfields

There is a catch basin lid that is exposed in the playfield and presents a risk of injury from a fall. The fields do not drain well but are otherwise functional.

Nature of the Issue: Safety Improvement

Recommended Action: Lower the catch basin lid and cover with sod.

Timeline: Short Term (1-3 years)

ECES-S7: Play Equipment

No issues were noted with the playground equipment at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

ECES-S8: Fencing

The fencing around the site has a few locations with localized damage that need to be repaired but otherwise it is in generally good shape.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

Architectural Systems

ECES-A1: Roofing

The roof system was replaced in 2016 with laminated shingles and metal valley flashing. It is in good shape and with regular maintenance has a serviceable life beyond 10 years.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess condition in 4 years.

Timeline: Long Term (20+ years)

ECES-A2: Exterior Wall Systems

No specific issues with the exterior wall systems were noted at the time of this study and nothing to suggest future problems should be anticipated.

Nature of the Issue: No current issues.

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

ECES-A3: Exterior Paint

The facias and trim were painted roughly 10 years ago and the doors were painted 2 years ago. The paint on the main body of the building is much older but is holding up well. Repainting can wait 5-10 years.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Medium Term for repaint (5-10 years)

ECES-A4: Exterior Doors

No issues were noted with exterior doors or hardware at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

ECES-A5: Exterior Windows

No issues were noted with exterior windows at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

ECES-A6: Building Structure

No structural deficiencies were noted at the time of this study. The building was not inspected by a structural engineer as part of this study.

Nature of the Issue: None.

Recommended Action: None.

Timeline: NA

ECES-A7: Flooring

The carpet and resilient flooring at all classrooms, corridors, admin and the Gym were replaced in 2022. Both the carpet and resilient flooring should have a serviceable life of 30 years with proper maintenance.

The tile in the toilet rooms, both wall and floor tile, is failing. The grout is breaking down and the base tile is starting to break. The resilient flooring in the kitchen is well past its serviceable life. Seams are failing and water is getting below the flooring. It needs to be replaced.

Nature of the Issue: Partial System Replacement

Recommended Action: Replace the tile floors and walls in all the public toilet rooms. Replace the flooring in the kitchen.

Timeline: Short Term (1-4 years)

ECES-A8: Interior Walls

The building has tackable wall coverings in the corridors and portions of many classrooms that is comprised of a layer of drywall covered with a vinyl finish. The panels are old and starting to fail. The vinyl is damaged in many areas and there is no easy way to repair it. The product is no longer made so replacing it is not an option. The wall tile in the toilet rooms is also failing as noted above. There are cosmetic cracks in the masonry walls near the entry. Those formed a long time ago and have not changed or increased. They do not appear to be structural in nature.

Nature of the Issue: System Failure

Recommended Action: Replace existing tackable wall coverings with a different material. Confirm if all locations need tackable surfaces or if a more resilient material might work for some. Retile the walls in the toilet rooms.

Timeline: Short Term (1-4 years)

ECES-A9: Interior Paint

No issues were identified regarding the interior paint at the time of this study. The gym interior had been repainted 2 years ago.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

ECES-A10: Interior Doors

No concerns with interior doors were noted at the time of this study. The classroom door hardware was replaced in 2021.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess condition in 4 years.

Timeline: Long Term (10+ years)

ECES-A11: Interior Windows/Relites

No concerns with interior windows or relites were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess condition in 4 years.

Timeline: Long Term (10+ years)

ECES-A12: Ceilings

No concerns with interior ceilings were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess condition in 4 years.

Timeline: Long Term (10+ years)

ECES-A13: Casework

No concerns with casework were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess condition in 4 years.

Timeline: Long Term (10+ years)

ECES-A14: Kitchen Equipment

The kitchen equipment is from the original construction of the building. Some components have been repaired several times. Some newer pieces were added to help with capacity (reach in coolers). All of the equipment is well beyond its useful life and should be replaced. With continued maintenance it could last a few more years.

Nature of the Issue: System Replacement

Recommended Action: Replace all of the kitchen equipment. May consider a remodel of the kitchen at that time.

Timeline: Short Term (1-4 years)

ECES-A15: Miscellaneous Fixtures and Equipment

No concerns with any miscellaneous fixtures or equipment were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess condition in 4 years.

Timeline: NA

Mechanical, Plumbing and Fire Protection Systems

ECES-M1: HVAC Controls

The DDC Controls for the HVAC system will be fully replaced in the summer of 2023. The project had already bid at the time of this report.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Long Term (20+ years).

ECES-M2: Air Handling Units (AHUs)

The Air Handling Units (AHU's) serving the classroom are 30+ years old and past their average useful life. Failures could become more frequent. Given this, no failures were noted at the time of this report. These units are not complex and can continually be repaired. They should be expected to need replacement within 10 years.

Nature of the Issue: None at this time.

Recommended Action: Routine Maintenance. Reassess in 4 years.

Timeline: Medium Term for replacement (7-10 years).

ECES-M3: Boilers

The boilers and pumps have been replaced within the last five years and appear in good condition.

Nature of the Issue: No current issues

Recommended Action: None at this time. Reevaluate in 4 years.

Timeline: Long Term replacement (25 years).

ECES-M4: Boilers and Pumps

The boilers and pumps have been replaced within the last five years and appear in good condition.

Nature of the Issue: No current issues

Recommended Action: None at this time. Reevaluate in 4 years.

Timeline: Long Term replacement (15 years).

ECES-M5: DX Cooling Unit

There is a problem in the cooling system somewhere between the rooftop DX cooling unit, the refrigeration piping and the compressor. The system loses refrigerant over time and fails to provide adequate cooling. The district keeps it functioning by adding refrigerant. The DX unit itself is beyond its useful life.

Nature of the Issue: System Replacement

Recommended Action: Replace the entire system. This may include rethinking how it is designed.

Timeline: Short Term (1-3 years)

ECES-M6: Hydronic Piping

The hydronic piping system, except for that within the mechanical room, is 30+ years old and past its average useful life. No issues were noted at the time of this report but failures could become more frequent. With regular maintenance the system can last quite a while longer.

Nature of the Issue: No current issues

Recommended Action: Regular maintenance. Reevaluate in 4 years.

Timeline: NA

ECES-M7: Exhaust Fans

No issues were noted with any exhaust fans at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

ECES-M8: HVAC Distribution Ductwork

No issues were noted with the HVAC distribution ductwork at the time of this study.

Nature of the Issue: None

Recommended Action: None

Timeline: NA

ECES-M9: Backflow Prevention

There is no backflow prevention for the domestic water system or at the dishwasher. This could result in contamination of the domestic supply in the building or in the public system. It is not required in an existing building by code but would be a prudent health safety improvement.

Nature of the Issue: System Deficiency

Recommended Action: Install a backflow preventor for both the dishwasher and the domestic water system.

Timeline: Short Term (1-3 years).

ECES-M10: Domestic Water Piping

The domestic piping system is 30+ years old and past its average useful life. No issues were noted at the time of this report but failures could become more frequent.

Nature of the Issue: None

Recommended Action: Regular Maintenance. Reassess in 4 years.

Timeline: NA

ECES-M11: Plumbing Fixtures

The plumbing fixtures appear adequate but are 30+ years old. No issues were noted with any of the china fixtures. The faucets and flush valves will fail periodically and need to be replaced on a one at a time basis. There does not appear to be a need for a full replacement of all the fixtures at this time, but given their age a full replacement may be warranted in 5-7 years. The fixtures are not low flow and the district may want to consider low flow replacements as individual fixtures wear out.

Nature of the Issue: None

Recommended Action: Routine maintenance. Replace faucets and flush valves as they wear out. Reassess in 4 years.

Timeline: Medium Term for replacement (5-7 years)

ECES-M12: Water Heaters

The water heater for the domestic supply was replaced 12 years ago. The one for the kitchen was replaced 4 years ago. Both are operating as intended at this time.

Nature of the Issue: None

Recommended Action: Regular Maintenance. Reassess in 4 years.

Timeline: Medium Term replacement for the domestic (5-8 years). Long Term replacement for the Kitchen (10-12 years).

ECES-M13: Fire Sprinklers

This school only has sprinklers at the stage. The backflow prevention for the fire sprinkler system consists of a single check valve. Loss of water pressure could result in contaminated potable water in the building. No other issues with the fire sprinkler system were noted.

Nature of the Issue: System Deficiency.

Recommended Action: Replace single check valve assembly with a double check valve assembly.

Timeline: Short Term (1-3 years).

Electrical and Low Voltage Systems

ECES-E1: Service Transformer

The building's service transformer loop is fed from the service transformer at Post MS. The service is primary metered at the utility transformer at Post. This creates an operational complexity but does not impair the transformer's function.

Nature of the Issue: None

Recommended Action: None

Timeline: NA

ECES-E2: Switchgear and Panelboards

The switchgear and panelboards are original to the building's construction and are beyond their expected useful life. They appear to be in good working order but given their age the district should anticipate replacing them in the medium term.

Nature of the Issue: None

Recommended Action: Regular Maintenance. Reassess in 4 years.

Timeline: Medium Term (4-9 years)

ECES-E3: Interior Power

No issues were noted with interior power at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

ECES-E4: Interior Lighting

The majority of the fixtures in the building are fluorescent. The Gym was swapped to LED bulbs in fluorescent fixtures. No issues were noted with interior lighting at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

ECES-E5: Lighting Controls

The controls are mostly simple on/off switches. No issues were noted with interior lighting controls at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

ECES-E6: Security and Access Control Systems

The security and access control systems were upgrade in 2021. There were no issues noted at the time of this report. Serviceable life is beyond 10 years.

Nature of the Issue: None

Recommended Action: Regular Maintenance. Reassess in 4 years.

Timeline: Long Term (15+ years).

ECES-E7: CCTV Camera System

The CCTV camera system was upgrade in 2021. There were no issues noted at the time of this report. Serviceable life is beyond 10 years.

Nature of the Issue: No issues noted

Recommended Action: None required.

Timeline: Long Term (15+ years).

ECES-E8: Intercom System

The intercom system is an analog system and is failing. The intercom is an important component of building safety and should be replaced with a reliable system as soon as practical.

Nature of the Issue: System Failure

Recommended Action: Replace the system with SIP digital system.

Timeline: Short Term (1-3 years).

ECES-E9: Clock System

The existing clock system is a centralized analog system. It was replaced in 2021. It is operating properly.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Long Term replacement (12+ years)

ECES-E10: Fire Alarm System

The Sonitrol-monitored Simplex fire alarm is an older zoned system consisting of smoke detection and pull stations in the main core of the building, but not in classrooms. Parts may prove to be more difficult to obtain as the system gets older. The district should anticipate replacing it entirely in the medium term.

Nature of the Issue: System Replacement

Recommended Action: Replace the system with updated and expanded coverage.

Timeline: Medium Term (4-8 years).

Information Technology Infrastructure

ECES-T1: Fiber

The IDFs in the building are not connected to the MDF with a fiber homerun. That creates bandwidth deficiencies in portions of the building.

Nature of the Issue: System Deficiency

Recommended Action: Provide a new fiber homerun to those IDF rooms.

Timeline: Short Term (1-5 years)

ECES-T2: Data Cabling

The building's data cabling is approaching the end of its useful life. Based on the age of the building and the ever increasing demands on data systems it will likely need to be replaced in 5-7 years.

Nature of the Issue: System Upgrade

Recommended Action: Replace existing data cabling with CAT6A.

Timeline: Medium Term for the main buildings (5-7 years)

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System Repair & Replacement

Kent Prairie Elementary - Recommended Project Timing

Long Range Repair/Replacement
Minor System Repair
Moderate Repair/Improvement
Major Repair/Replacement

PROJECT		1-4 years 2024-2028	5-8 years 2029-2032	9-12 years 2033-2036	13-16 years 2037-2040	17-20 years 2041-2044	21+ years 2045+
Kent Prairie Elementary							
KPES-S1	Site Lighting	x					
KPES-S2	Sight Utlities						x
KPES-S3	Storm Water Systems	x					
KPES-S4	Paving and Parking	x					
KPES-S5	Landscape and Irrigation	x					
KPES-S6	Playfields						x
KPES-S7	Play Equipment						x
KPES-S8	Fencing						x
KPES-A1	Roofing						x
KPES-A2	Exterior Walls						x
KPES-A3	Exterior Paint		x				
KPES-A4	Exterior Doors						x
KPES-A5	Exterior Windows						x
KPES-A6	Building Structure						x
KPES-A7	Flooring		x				x
KPES-A8	Interior Walls	x					
KPES-A9	Interior Paint						x
KPES-A10	Interior Doors						x
KPES-A11	Interior Windows/Relites						x
KPES-A12	Interior Ceilings						x
KPES-A13	Casework						x
KPES-A14	Kitchen Equipment	x					
KPES-A15	Misc. Equipment						x
KPES-M1	Controls						x
KPES-M2	Air Handling Units		x				
KPES-M3	Boilers						x
KPES-M4	Pumps				x		
KPES-M5	DX Cooling Unit	x					
KPES-M6	Hydronic Piping						x
KPES-M7	Exhaust Fans						x
KPES-M8	HVAC Ductwork						x
KPES-M9	Backflow Prevention	x					
KPES-M10	Domestic Water Piping						x
KPES-M11	Plumbing Fixtures		x				
KPES-M12	Waterheaters				x		
KPES-M13	Fire Sprinklers						x
KPES-E1	Service Transformer						x
KPES-E2	Switchgear and Panels		x				
KPES-E3	Interior Power						x
KPES-E4	Interior Lighting						x
KPES-E5	Lighting Controls						x
KPES-E6	Security and Access				x		
KPES-E7	CCTV Cameras				x		
KPES-E8	Intercom	x					
KPES-E9	Clock System		x				
KPES-E10	Fire Alarm		x				
KPES-T1	Fiber	x					
KPES-T2	Data Cabling		x				

Kent Prairie Elementary - System Observations

Site Infrastructure

KPES-S1: Site Lighting

The parking lot lighting on this site is inadequate. Vehicles moving through the parking area do not have adequate illumination to see students and staff. Existing fixtures are inefficient and have poor optics.

Nature of the Issue: System Deficiency

Recommended Action: Replace pole mounted fixtures with new LED fixture heads.

Timeline: Short Term (1-3 years)

KPES-S2: Site Utilities

No issues were noted with the site utilities at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

KPES-S3: Storm Water Systems

There are some areas in paved areas that do not drain properly and minor ponding occurs.

Nature of the Issue: System Repair

Recommended Action: Repave and reestablish flow lines to catch basins in localized areas.

Timeline: Short Term (1-4 years)

KPES-S4: Paving and Parking Lots

The drive aisles are showing significant weathering and cracking. Tree roots are impacting pavement in many locations. Parking spaces are showing significant weathering, particularly around tree roots. Sidewalks are generally in good condition with a few cracked sections. Curbs are showing heavy wear from weather, vehicle traffic and roots.

Nature of the Issue: System nearing failure.

Recommended Action: Repave areas that are failing. Remove trees that are impacting pavement at the direction of an arborist. Replace concrete curbs.

Timeline: Short Term (1-4 years).

KPES-S5: Landscaping and Irrigation

The only issue noted with landscaping is trees that have fully matured and their roots are impacting paving. They should be replaced with a smaller tree, one that is less likely to send out long, shallow roots.

Nature of the Issue: System Repair

Recommended Action: Replace trees that are causing damage to paving.

Timeline: Short Term (1-4 years).

KPES-S6: Playfields

No issues were noted with the playfields at the time of this study. The playfield is sloped somewhat which makes it less desirable for competitive sports (community use) but it functions well for school use.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

KPES-S7: Play Equipment

No issues were noted with the playground equipment at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

ECES-S8: Fencing

No issues were noted with the fencing at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

Architectural Systems

KPES-A1: Roofing

The roof system was replaced in 2013 with laminated shingles and metal valley flashing. It is in good shape and with regular maintenance has a serviceable life beyond 10 years.

Nature of the Issue: No current issues.

Recommended Action: Regular maintenance. Reassess condition in 4 years.

Timeline: Long Term (20+ years)

KPES-A2: Exterior Wall Systems

No specific issues with the exterior wall systems were noted at the time of this study and nothing to suggest future problems should be anticipated.

Nature of the Issue: No current issues.

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

KPES-A3: Exterior Paint

The facias and trim were painted roughly 5 years ago and the doors were painted 1 year ago. The paint on the main body of the building is much older but is holding up well. Repainting can wait 5-10 years.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Medium Term for repaint (5-10 years)

KPES-A4: Exterior Doors

No specific issues with the exterior doors were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

KPES-A5: Exterior Windows

No specific issues with the exterior windows were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

KPES-A6: Building Structure

There is a minor settlement crack in interior masonry walls near the gym entry. It developed shortly after the school was built and has not changed. It does not appear to be a structural concern. No other concerns with the main building structure were noted. The building was not inspected by a structural engineer as part of this study.

The main glulam beam of the covered play area display evidence of rot and bird infestation at the exposed ends. If left unaddressed the rot could eventually present a structural concern.

Nature of the Issue: System Repair

Recommended Action: Repair damaged beam ends and provide weather protection.

Timeline: Short Term (1-3 years)

KPES-A7: Flooring

The carpet and resilient flooring at all classrooms, corridors, admin and the Gym were replaced in 2021. No other flooring issues were noted at the time of this study. Both the carpet and resilient flooring have an expected serviceable life of 30 years with regular maintenance. The bathroom tile is from the original construction but is holding up well. It may need to be replaced in the medium term.

Nature of the Issue: No current issues.

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Medium Term for tile (5-8 years). Long Term for Carpet and Resilient (29+ years)

KPES-A8: Interior Walls

The building has tackable wall coverings in the corridors and portions of many classrooms that is comprised of a layer of drywall covered with a vinyl finish. The panels are old and starting to fail. The vinyl is damaged in many areas and there is no easy way to repair it. The product is no longer made so replacing damaged panels is not an option. There are cosmetic cracks in the masonry walls near the entry. Those formed a long time ago and have not changed or increased. They do not appear to be structural in nature.

Nature of the Issue: System Failure

Recommended Action: Replace existing tackable wall coverings with a different material. Confirm if all locations need tackable surfaces or if a more resilient material might work for some. Retile the walls in the toilet rooms.

Timeline: Short Term (1-4 years)

KPES-A9: Interior Paint

No issues were identified regarding the interior paint at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

KPES-A10: Interior Doors

No concerns with interior doors were noted at the time of this study. The classroom door hardware was replaced in 2021.

Nature of the Issue: No current issues.

Recommended Action: Regular maintenance. Reassess condition in 4 years.

Timeline: Long Term (10+ years)

KPES-A11: Interior Relites

No concerns with interior relites were noted at the time of this study.

Nature of the Issue: No current issues.

Recommended Action: Regular maintenance. Reassess condition in 4 years.

Timeline: Long Term (10+ years)

KPES-A12: Ceilings

No concerns with interior ceilings were noted at the time of this study.

Nature of the Issue: No current issues.

Recommended Action: Regular maintenance. Reassess condition in 4 years.

Timeline: Long Term (10+ years)

KPES-A13: Casework

No concerns with casework were noted at the time of this study.

Nature of the Issue: No current issues.

Recommended Action: Regular maintenance. Reassess condition in 4 years.

Timeline: Long Term (10+ years)

KPES-A14: Kitchen Equipment

The kitchen equipment is from the original construction of the building. Some components have been repaired several times. Some newer pieces were added to help with capacity (reach in coolers). All of the equipment is well beyond its useful life and should be replaced. With continued maintenance it could last a few more years.

Nature of the Issue: System Replacement

Recommended Action: Replace all of the kitchen equipment. May consider a remodel of the kitchen at that time.

Timeline: Short Term (1-4 years)

KPES-A15: Fixtures and Equipment

No concerns with any miscellaneous fixtures or equipment were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess condition in 4 years.

Timeline: NA

Mechanical, Plumbing and Fire Protection Systems

KPES-M1: HVAC Controls

The DDC Controls for the HVAC system will be fully replaced in the summer of 2023. The project had already bid at the time of this report.

Nature of the Issue: None at this time.

Recommended Action: None required.

Timeline: Long Term (20+ years).

KPES-M2: Air Handling Units (AHUs)

The Air Handling Units (AHU's) serving the classroom are 30+ years old and past their average useful life. Failures could become more frequent. Given this, no failures were noted at the time of this report. These units are not complex and can continually be repaired. They may have another 7 years or so of serviceable life.

Nature of the Issue: None at this time.

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Medium Term for replacement (7-10 years).

KPES-M3: Boilers

The boilers and pumps have been replaced in 2022.

Nature of the Issue: No current issues

Recommended Action: None at this time.

Timeline: Long Term replacement (25 years).

KPES-M4: Pumps

The boilers and pumps have been replaced in 2022.

Nature of the Issue: No current issues

Recommended Action: None at this time.

Timeline: Long Term replacement (15 years).

KPES-M5: DX Cooling Unit

There is a problem in the cooling system somewhere between the rooftop DX cooling unit, the refrigeration piping and the compressor. The system loses refrigerant over time and fails to provide adequate cooling. The district keeps it functioning by adding refrigerant. The DX unit itself is beyond it useful life.

Nature of the Issue: System Replacement

Recommended Action: Replace the entire system. This may include rethinking how it is designed.

Timeline: Short Term (1-3 years)

KPES-M6: Hydronic Piping

The hydronic piping system, except for that within the mechanical room, is 30+ years old and past its average useful life. No issues were noted at the time of this report but failures could become more frequent. With regular maintenance the system can last quite a while longer.

Nature of the Issue: No current issues

Recommended Action: Regular maintenance. Reevaluate in 4 years.

Timeline: NA

KPES-M7: Exhaust Fans

No issues were noted with any exhaust fans at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

KPES-M8: HVAC Distribution Ductwork

No issues were noted with the HVAC distribution ductwork at the time of this study.

Nature of the Issue: None

Recommended Action: None

Timeline: NA

KPES-M9: Backflow Prevention

There is no backflow prevention for the domestic water system or at the dishwasher. This could result in contamination of the domestic supply in the building or in the public system. It is not required in an existing building by code but would be a prudent health safety improvement.

Nature of the Issue: System Deficiency

Recommended Action: Install a backflow preventor for both the dishwasher and the domestic water system.

Timeline: Short Term (1-3 years).

KPES-M10: Domestic Water Piping

The domestic piping system is 30+ years old and past its average useful life. No issues were noted at the time of this report but failures could become more frequent.

Nature of the Issue: None

Recommended Action: Regular Maintenance. Reassess in 4 years.

Timeline: NA

KPES-M11: Plumbing Fixtures

The plumbing fixtures appear adequate but are 30+ years old. No issues were noted with any of the china fixtures. The faucets and flush valves will fail periodically and need to be replaced on a one at a time basis. There does not appear to be a need for a full replacement of all the fixtures at this time but given the age of the fixtures a replacement may be necessary in 5-7 years. The fixtures are not low flow and the district may want to consider low flow replacements as individual fixtures wear out.

Nature of the Issue: None

Recommended Action: Routine maintenance. Replace faucets and flush valves as they wear out. Reassess in 4 years.

Timeline: Medium Term (5-7 years)

KPES-M12: Water Heaters

The water heater for the domestic supply was replaced 3 years ago. The one for the kitchen was replaced 1 year ago. Both are operating as intended at this time.

Nature of the Issue: None.

Action: Regular maintenance. Reevaluate in 4 years.

Timeline: Long Term replacement in (10-15 years).

KPES-M13: Fire Sprinklers

No issues with the fire sprinkler system were noted at the time of this study.

Nature of the Issue: None.

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA.

Electrical and Low Voltage Systems

KPES-E1: Service Transformer

No issues were noted at the time of this study with the buildings primary service or transformer.

Nature of the Issue: None

Recommended Action: None

Timeline: NA

KPES-E2: Switchgear and Panelboards

The switchgear and panelboards are original to the building's construction and are beyond their expected useful life. They appear to be in good working order but the district should anticipate replacing them in the medium term.

Nature of the Issue: No current issues

Recommended Action: Monitor system. Reevaluate in 4 years.

Timeline: Medium Term (4-8 years)

KPES-E3: Interior Power

No issues were noted with interior power at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA.

KPES-E4: Interior Lighting

The majority of the fixtures have had LED replacement bulbs installed in lieu of fluorescent or HID bulbs, but they are installed in fixtures that are designed for fluorescent/HID bulbs. No issues with the interior lighting systems were noted at the time of this study.

Nature of the Issue: None

Recommended Action: None

Timeline: NA

KPES-E5: Lighting Controls

The controls are mostly simple on/off switches. No issues were noted with interior lighting controls at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA.

KPES-E6: Security and Access Control Systems

The security and access control systems were upgraded in 2021. There were no issues noted at the time of this report. Serviceable life is beyond 10 years.

Nature of the Issue: No issues noted

Recommended Action: None required.

Timeline: Long Term (10+ years).

KPES-E7: CCTV Camera System

The CCTV camera system was upgrade in 2021. There were no issues noted at the time of this report. Serviceable life is beyond 10 years.

Nature of the Issue: No issues noted

Recommended Action: None required.

Timeline: Long Term (10+ years).

KPES-E8: Intercom System

The intercom system is in working order. However, it is older and finding replacement parts will be difficult to obtain if the system were to go out. There is also a distinct hum emitting from the outside speakers when there is not an announcement being made. The intercom is a key part in the overall building security so replacement before it fails is advisable.

Nature of the Issue: System Replacement

Recommended Action: Replace the system with updated components before it fails.

Timeline: Short Term (1-3 years).

KPES-E9: Clock System

The existing clock system is a centralized analog system. Replacement parts will be difficult to obtain if the system were to go out. The system may have another 4-8 years left.

Nature of the Issue: System Replacement

Recommended Action: Replace the system with a new, digital system.

Timeline: Medium Term (4-8 years).

KPES-E10: Fire Alarm System

The fire alarm is an older zoned system consists of smoke detection and pull stations in the main core of the building, but not in classrooms. 2 years ago the main panel was replaced with a Notifier system and the district has had continual problems with it since. If the problems persist the panel should be replaced again.

Nature of the Issue: Required Repair

Recommended Action: Replace the panel if the problems with false alarms persist.

Timeline: Medium Term (4-9 years).

Information Technology Infrastructure

KPES-T1: Fiber

The IDFs in the building are not connected to the MDF with a fiber homerun. That creates bandwidth deficiencies in portions of the building.

Nature of the Issue: System Deficiency

Recommended Action: Provide a new fiber homerun to those IDF rooms.

Timeline: Short Term (1-5 years)

KPES-T2: Data Cabling

The building's data cabling is approaching the end of its useful life. Based on the age of the building and the ever increasing demands on data systems it will likely need to be replaced in 5-7 years.

Nature of the Issue: System Upgrade

Recommended Action: Replace existing data cabling with CAT6A.

Timeline: Medium Term for the main buildings (5-7 years)

System Repair & Replacement

Pioneer Elementary - Recommended Project Timing

Long Range Repair/Replacement
Minor System Repair
Moderate Repair/Improvement
Major Repair/Replacement

PROJECT		1-4 years 2024-2028	5-8 years 2029-2032	9-12 years 2033-2036	13-16 years 2037-2040	17-20 years 2041-2044	21+ years 2045+
Pioneer Elementary							
PIES-S1	Site Lighting						x
PIES-S2	Sight Utlities						x
PIES-S3	Storm Water Systems						x
PIES-S4	Paving and Parking	x					
PIES-S5	Landscape and Irrigation	x					
PIES-S6	Playfields	x					
PIES-S7	Play Equipment						x
PIES-S8	Fencing						x
PIES-A1	Roofing	x					
PIES-A3	Exterior Walls	x					
PIES-A4	Exterior Paint	x					
PIES-A5	Exterior Doors						x
PIES-A6	Exterior Windows						x
PIES-A7	Building Structure						x
PIES-A8	Flooring	x		x			
PIES-A9	Interior Walls	x					
PIES-A10	Interior Paint						x
PIES-A11	Interior Doors						x
PIES-A12	Interior Windows/Relites						x
PIES-A13	Interior Ceilings						x
PIES-A14	Casework						x
PIES-A15	Kitchen Equipment			x			
PIES-A16	Misc. Equipment						x
PIES-M1	Controls		x				
PIES-M2	Air Handling Units		x				
PIES-M3	VAV Boxes		x				
PIES-M4	Boilers	x					
PIES-M5	Pumps	x					
PIES-M6	Chiller			x			
PIES-M7	Hydronic Piping	x					
PIES-M8	Backflow Prevention						x
PIES-M9	HVAC Duckwork						x
PIES-M10	Domestic Water Piping	x					
PIES-M11	Plumbing Fixtures	x					
PIES-M12	Domestic Water Heater		x		x		
PIES-M14	Fire Sprinklers						x
PIES-E1	Service Transformer						x
PIES-E2	Switchgear and Panels			x			
PIES-E3	Interior Power						x
PIES-E4	Interior Lighting						x
PIES-E5	Lighting Controls						x
PIES-E6	Security and Access				x		
PIES-E7	CCTV Cameras				x		
PIES-E8	Intercom				x		
PIES-E9	Clock System				x		
PIES-E10	Fire Alarm		x				
PIES-T1	Fiber	x					
PIES-T2	Data Cabling			x			

Pioneer Elementary - System Observations

Site Infrastructure

PIES-S1: Site Lighting

No issues were noted with the site lighting at the time of this study.

Nature of the Issue: None

Recommended Action: None

Timeline: NA

PIES-S2: Site Utilities

No issues were noted with the site utilities at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

PIES-S3: Storm Water Systems

Some indication of leaking at downspouts on the building was noted but otherwise the stormwater system appears to be functioning as intended.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

PIES-S4: Paving and Parking Lots

Paving in the drive aisles is showing signs of cracking and weathering but is in relatively good shape. There is one larger area that is sinking around a valve cover at the main entry that is creating a hazard for vehicles. The weathering is worse in the parking areas, particularly where tree roots have impacted the paving. Sidewalks are generally in good condition.

The curbs are the largest concern noted. They seem to be disintegrating as they age. The majority of the concrete curbs in the south lot are severely damaged. The north lot looked better but still has sections around corners that are in poor condition. The main entrance lane and main parking area also have larger sections of damaged curb.

Nature of the Issue: System Repair

Recommended Action: Remove and replace damaged sections of paving. Replace the majority of the curbing.

Timeline: Short Term (1-4 years)

PIES-S5: Landscaping and Irrigation

No issues were noted with the existing landscaping or irrigation at the time of this study. The landscaping blocks that comprise the retaining wall at the north side of the playfields, between the parking and playfields, are deteriorating. They have not yet reached a point where the integrity of the wall is a concern but they may if left to continue to deteriorate.

Nature of the Issue: System Replacement

Recommended Action: Rebuild the retaining wall.

Timeline: Short Term (1-4 years)

PIES-S6: Playfields

The playfields are too wet to use at times of the year. They do have an underdrain system but it does not function properly. The district uncovered a portion of the drain system and determined it is functioning. The soil used to build the field is not free draining enough to allow water to get to the drains. Removing the soil and replacing it with more appropriate material should allow the system to function as intended.

Nature of the Issue: System Repair

Recommended Action: Remove the soil on the playfields down to the drain system, confirm proper performance of the drains, and rebuild the field with well-draining material.

Timeline: Short Term (1-3 years)

PIES-S7: Play Equipment

No issues were noted with the playground equipment at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

PIES-S8: Fencing

No issues were noted with the fencing at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

Architectural

PIES-A1: Roofing

Per the 2022 Roof Assessment the existing roof has failed. The building is currently experiencing roof leaks. The roof should be replaced as soon as possible to avoid further damage.

Nature of the Issue: System Failure.

Recommended Action: Complete Replacement of Roofing System.

Timeline: Short Term (1-3 years)

PIES-A2: Exterior Wall Systems

Much of the painted window casing and perimeter trim is failing, compromising the building envelope. The Hardi-plank/ Hardi-panel wall cladding was not properly installed in the original construction. Nails were used rather than screws and as a result many panels are coming loose. There are also several locations throughout the exterior of the building that have holes or openings that are large enough for birds to get in.

Nature of the Issue: System Repair.

Recommended Action: Complete replacement of perimeter trim at all exterior windows. Reattach all the exterior cladding with screws, replacing panels where necessary. Re-caulk the entire system. Provide bird blocking at all exterior openings.

Timeline: Short Term (1-3 years)

PIES-A3: Exterior Paint

Paint adhesion is failing at the exposed metal deck soffits at the entry and covered play shed. Surface condensation is promoting algae/mildew growth on the siding and masonry in many locations.

Nature of the Issue: System Repair.

Recommended Action: Power wash and repaint all metal soffits, siding and trim. Clean and reseal all masonry.

Timeline: Short Term (1-3 years)

PIES-A4: Exterior Doors

No issues with the exterior doors were noted at the time of this study, other than the need to paint them along with the rest of the exterior.

Nature of the Issue: None

Recommended Action: Reassess in 4 years.

Timeline: NA

PIES-A5: Exterior Windows

Some exterior window glazing units were observed to have failed seals but not enough to indicate a system wide concern. The units in question will be repaired as part of regular maintenance. No other issues were noted at the time of this study.

Nature of the Issue: None

Recommended Action: None

Timeline: NA

PIES-A6: Building Structure

No structural deficiencies were noted at the time of this study. The building was not evaluated by a structural engineer as part of this study.

Nature of the Issue: None

Recommended Action: None

Timeline: NA

PIES-A7: Flooring

The expansion joints in the floor in several locations appear to be shrinking which is resulting in cracks in flooring material. The carpet, resilient flooring and tile are all from the original construction. The carpet and resilient flooring should have another 10 or more years left, the tile even longer.

Nature of the Issue: System Repair.

Recommended Action: Remove flooring, seal cracks, and replace the flooring material.

Timeline: Short Term repair of cracks (1-3 years). Long Term for new flooring (10+ years)

PIES-A8: Interior Walls

The building has tackable wall coverings in the corridors and portions of many classrooms that is comprised of a layer of drywall covered with a vinyl finish. The panels are old and starting to fail. The vinyl is damaged in many areas and there is no easy way to repair it. The product is no longer made so replacing damaged panels is not an option.

Nature of the Issue: System Repair.

Recommended Action: Remove and replace all wallcovering in corridors.

Timeline: Short Term (1-3 years)

PIES-A9: Interior Paint

No issues were identified regarding the interior paint at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

PIES-A10: Interior Doors

No concerns with interior doors were noted at the time of this study. The classroom door hardware was replaced in 2021.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

PIES-A11: Interior Relites

No concerns with interior relites were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

PIES-A12: Ceilings

No concerns with interior ceilings were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

PIES-A13: Casework

No concerns with casework were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

PIES-A14: Kitchen Equipment

The majority of the kitchen equipment is original to the building. No issues or concerns were noted at the time of this study. The life span of the equipment will vary between the different components and most of it is relatively easy to repair. In general it all should have another 10 years or more left.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Long Term for replacement (10+ years)

PIES-A15: Miscellaneous Fixtures and Equipment

No concerns with miscellaneous fixtures or equipment were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

Mechanical, Plumbing and Fire Protection Systems

PIES-M1: HVAC Controls

No issues were noted with the DDC controls for the HVAC system at the time of this study. The system is original to the building, which was constructed in 2002. It is coming close to the end of its anticipated serviceable life and the district may find it harder and harder to find replacement parts.

Nature of the Issue: System Replacement

Recommended Action: Provide a new controls system when the current one proves too difficult to maintain.

Timeline: Medium Term (7-10 years).

PIES-M2: Air Handling Units (AHUs)

No issues with the Air Handling Units (AHU's) were noted at the time of this report. The units should have at least 7-10 years of serviceable life left.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Medium Term for replacement (7-10 years).

PIES-M3: Variable Air Volume Units (VAV)

The VAVs are operating as designed and appear to be in good condition. They are 4-6 years away from the end of their anticipated useful life.

Nature of the Issue: System Replacement.

Recommended Action: Replace with new units.

Timeline: Medium Term (4-6 years)

PIES-M4: Boilers

The boilers are still 5+ years from the end of their expected service life, but one of them has failed. The remaining boiler is currently keeping up with the building heating load but there is no backup/redundancy.

Nature of the Issue: Partial System Failure.

Recommended Action: Replace the failed boiler. The district may want to consider replacing both as part of the same project to avoid a subsequent project in the short term.

Timeline: Short Term (1-3 years)

PIES-M5: Pumps

The pumps appear to be in good condition and no issues were noted. But they are within 5 years of the end of their anticipated useful life. Recommend replacing them at the same time as the boilers.

Nature of the Issue: System Replacement.

Recommended Action: Replace when the boilers are replaced.

Timeline: Short Term (1-3 years)

PIES-M6: Chiller

The chiller is operating as designed and no issues were noted. It is nearing the end of its anticipated useful life, however, because the school is not used in the hottest times of the year the operational hours on the chiller are lower than its age. It could have another 10+ years before it needs to be replaced.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Long Term for replacement (10+ years)

PIES-M7: Hydronic Piping

The hydronic piping appears to be generally in good condition. There is a section in area F, near AHU-1, that is very noisy when the system is running properly. This may indicate air is getting trapped in the system. It does not appear to be causing an operational issue but the noise is loud enough to be disruptive. The cause of the noise should be further investigated and revisions to the system be made if appropriate.

Nature of the Issue: System Repair.

Recommended Action: Determine cause of noise and modify the system as possible to eliminate it.

Timeline: Short Term (1-4 years)

PIES-M8: Backflow Prevention

No issues were noted with the building's backflow prevention for the domestic water system or at the dishwasher.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

PIES-M9: HVAC Distribution Ductwork

No issues were noted with the HVAC distribution ductwork at the time of this study.

Nature of the Issue: None

Recommended Action: None

Timeline: NA

PIES-M10: Domestic Water Piping

There appears to be a problem with a few check valves in the system that is causing hot and cold water to cross over. Preliminary investigation by the district indicated that the original installation may have been the cause.

Nature of the Issue: System Repair

Recommended Action: Assess all check valves and replace those that are not performing reliably.

Timeline: Short Term (1-4 years)

PIES-M11: Plumbing Fixtures

The plumbing fixtures appear adequate. No issues were noted with any of the china fixtures. The sensors on the faucets are problematic. They stick in the open position. Maintenance has not been sufficient to resolve the problem long term. They all need to be replaced with a more reliable fixture.

Nature of the Issue: System Deficiency.

Recommended Action: Replace all the sink faucets.

Timeline: Short Term (1-4 years)

PIES-M12: Hot Water Heaters

The domestic hot water heater for the building was replaced in 2022. There were no current issues noted and the system should have 12-15 years of life remaining. The domestic hot water heater for the kitchen was replaced 7 years ago. There were no current issues noted and the system should have 6-8 years of life remaining.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Medium Term replacement for the Kitchen (6-8 years). Long Term replacement for the Building (12-15 years)

PIES-M13: Fire Sprinklers

No issues with the fire sprinkler system were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

Electrical and Low Voltage Systems

PIES-E1: Service Transformer

No issues were noted at the time of this study with the buildings primary service or transformer.

Nature of the Issue: None

Recommended Action: None

Timeline: NA

PIES-E2: Switchgear and Panelboards

The switchgear and panelboards are original to the building's construction and are in good working order. The standard life span of electrical gear is 30 years and can last substantially longer. This equipment should have at least 10 years left.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Long Term (10+ years)

PIES-E3: Interior Power

No issues were noted with interior power at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA.

PIES-E4: Interior Lighting

The majority of the fixtures in the building have had LED replacement bulbs installed in lieu of fluorescent or HID bulbs. No issues were noted with interior lighting at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA.

PIES-E5: Lighting Controls

The controls are mostly simple on/off switches. No issues were noted with interior lighting controls at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

PIES-E6: Security and Access Control Systems

The security and access control systems were upgraded in 2021. There were no issues noted at the time of this report. Serviceable life is beyond 10 years.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Long Term (15+ years).

PIES-E7: CCTV Camera System

The CCTV camera system was upgrade in 2021. There were no issues noted at the time of this report. Serviceable life is beyond 10 years.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Long Term (15+ years).

PIES-E8: Intercom System

The intercom system is in working order and utilizes the phone system to broadcast messages via the original intercom speakers. No known issues were noted.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Long Term (15+ years).

PIES-E9: Clock System

No issues were noted with the clock system at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Long Term (15+ years).

PIES-E10: Fire Alarm System

The fire alarm system is a Notifier addressable system. It was noted that smoke detectors in this school require substantially more cleaning than other schools, but no system deficiencies were noted. The system should have 6-10 more years of serviceable life.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Medium Term (6-10 years)

Information Technology Infrastructure

PIES-T1: Fiber

The IDFs in the building are not connected to the MDF with a fiber homerun. That creates bandwidth deficiencies in portions of the building.

Nature of the Issue: System Deficiency

Recommended Action: Provide a new fiber homerun to those IDF rooms.

Timeline: Short Term (1-4 years)

PIES-T2: Data Cabling

The building's data cabling is approaching the end of its useful life. Based on the age of the building and the ever increasing demands on data systems it will likely need to be replaced in 8-10 years.

Nature of the Issue: System Upgrade

Recommended Action: Replace existing data cabling with CAT6A.

Timeline: Medium Term for the main buildings (8-10 years)

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System Repair & Replacement

Presidents Elementary - Recommended Project Timing

Long Range Repair/Replacement
Minor System Repair
Moderate Repair/Improvement
Major Repair/Replacement

PROJECT		1-4 years 2024-2028	5-8 years 2029-2032	9-12 years 2033-2036	13-16 years 2037-2040	17-20 years 2041-2044	21+ years 2045+
Presidents Elementary							
PRES-S1	Site Lighting						x
PRES-S2	Sight Utlities						x
PRES-S3	Storm Water Systems	x					
PRES-S4	Paving and Parking				x		
PRES-S5	Landscape and Irrigation						x
PRES-S6	Playfields						x
PRES-S7	Play Equipment						x
PRES-S8	Fencing						x
PRES-A1	Roofing	x					
PRES-A3	Exterior Walls	x					
PRES-A4	Exterior Paint	x					
PRES-A5	Exterior Doors						x
PRES-A6	Exterior Windows	x					
PRES-A7	Building Structure						x
PRES-A8	Flooring	x		x			
PRES-A9	Interior Walls						x
PRES-A10	Interior Paint						x
PRES-A11	Interior Doors						x
PRES-A12	Interior Windows/Relites						x
PRES-A13	Interior Ceilings						x
PRES-A14	Casework						x
PRES-A15	Kitchen Equipment	x					
PRES-A16	Misc. Equipment						x
PRES-M1	Controls			x			
PRES-M2	Air Handling Units				x		
PRES-M3	VAV Boxes		x				
PRES-M4	Boilers		x				
PRES-M5	Pumps		x				
PRES-M6	Chiller		x				
PRES-M7	Hydronic Piping						x
PRES-M8	Dishwasher Hood	x					
PRES-M9	HVAC Ductwork	x					
PRES-M10	Backflow Prevention						x
PRES-M11	Domestic Water Piping	x					
PRES-M12	Plumbing Fixtures	x					
PRES-M13	Water Heaters				x		
PRES-M14	Fire Sprinklers						x
PRES-E1	Service Transformer						x
PRES-E2	Switchgear and Panels			x			
PRES-E3	Interior Power						x
PRES-E4	Interior Lighting						x
PRES-E5	Lighting Controls						x
PRES-E6	Security and Access				x		
PRES-E7	CCTV Cameras				x		
PRES-E8	Intercom			x			
PRES-E9	Clock System			x			
PRES-E10	Fire Alarm		x				
PRES-T1	Fiber	x					
PRES-T2	Data Cabling			x			

Presidents Elementary - System Observations

Site Infrastructure

PRES-S1: Site Lighting

No issues were noted with the site lighting at the time of this study.

Nature of the Issue: None

Recommended Action: None

Timeline: NA

PRES-S2: Site Utilities

No issues were noted with the site utilities at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

PRES-S3: Storm Water Systems

No major issues were noted with the storm water conveyance system. Some areas of ponding were noted. Many adjacent to the playfield. The paved area under the covered play shed has an area of ponding that makes a large section of the surface unusable on wet days. Several building downspouts were noted to be not performing properly, with leaking and water overflowing the gutters.

Nature of the Issue: System Repair

Recommended Action: Reconstruct areas of paving where ponding is occurring to reestablish proper drain paths to storm water structures. Evaluate cause of ponding at the play shed and revise the paving accordingly. Confirm if the downspouts and gutters have been properly maintained. If they have, evaluate design of downspouts to determine if modifications could help them function better.

Timeline: Short Term (1-4 years)

PRES-S4: Paving and Parking Lots

The paving in the drive aisles and parking areas all appeared to be in very good condition, with just some minor weathering and small cracking. Two areas were noted where tree roots are causing damage; one at the bus lane and another in the east parking lot. Neither are a major concern at this time. Sidewalks and curbs are all in good condition. The only concern noted was the limited areas of ponding noted above. With proper maintenance the systems should have another 10-15 years before major repairs are needed.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Long Term (12-15 years)

PRES-S5: Landscaping and Irrigation

No issues were noted with the existing landscaping at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

PRES-S6: Playfields

No issues were noted with the playfields at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

PRES-S7: Play Equipment

No issues were noted with the playground equipment at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

PRES-S8: Fencing

No issues were noted with the fencing at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

Architectural

PRES-A1: Roofing

Per the 2022 Roof Assessment the existing roof system is failing. It has 2-3 more years of serviceable life. The roof system should be replaced as soon as possible to avoid further damage.

Nature of the Issue: System Failure.

Recommended Action: Complete Replacement of Roofing System.

Timeline: Short Term (1-3 years)

PRES-A2: Exterior Wall Systems

The cementitious siding is generally not securely attached to the sheathing (ring-shank nails in metal studs v. screws). Many locations where panel edges are lifting. This presents a threat of water infiltration into the wall cavity.

There are many locations on the exterior with holes that are large enough for birds to get in.

Nature of the Issue: System Repair.

Recommended Action: Further investigation is warranted to determine the extent of water infiltration that has already occurred, if any. Secure all loose panels with screw-fasteners and re-caulk as necessary. Provide bird blocking at all locations where birds are able to enter.

Timeline: Short Term (1-4 years)

PRES-A3: Exterior Paint

Paint adhesion is failing and surface condensation is promoting algae/mildew growth on the siding and masonry.

Nature of the Issue: System Repair.

Recommended Action: Power wash all exterior surfaces. Repaint all siding. Reseal all masonry.

Timeline: Short Term (1-3 years)

PIES-A4: Exterior Doors

No issues with the exterior doors were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Reassess in 4 years.

Timeline: NA

PRES-A5: Exterior Windows

The glazing units in several windows are failing. They are not leaking but condensation is forming between the panes of glass, which dramatically reduces the thermal performance of the window.

Nature of the Issue: System Repair.

Recommended Action: Replace failed glazing units.

Timeline: Short Term (1-3 years)

PRES-A6: Building Structure

No structural deficiencies were noted at the time of this study. The building was not evaluated by a structural engineer as part of this study.

Nature of the Issue: None

Recommended Action: None

Timeline: NA

PRES-A7: Flooring

The is a location where a large, long crack in the concrete slab on grade is telegraphing through to the flooring materials and causing them to crack. No other issues were noted with carpet, resilient flooring, tile floors, or other floor materials at the time of this study. The carpet and resilient materials should have another 10 years of life.

Nature of the Issue: No current issues.

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Short Term for crack repair (1-4 years). Long Term for flooring replacement (10+ years).

PRES-A8: Interior Walls

No issues were noted with interior walls at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

PRES-A9: Interior Paint

No issues were identified regarding the interior paint at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

PRES-A10: Interior Doors

No concerns with interior doors were noted at the time of this study. The classroom door hardware was replaced in 2021.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

PRES-A11: Interior Relites

No concerns with interior relites were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

PRES-A12: Ceilings

No concerns with interior ceilings were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

PRES-A13: Casework

No concerns with casework were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

PRES-A14: Kitchen Equipment

The kitchen equipment is mostly from the original construction. The dishwasher needs to be replaced. The walk in refrigerator and freezer both will need replacement soon. The ovens are also close to the end of their useful life.

Nature of the Issue: System Replacement

Recommended Action: Perform a detailed evaluation of the condition of each piece of equipment and replace those that are failing or close to failing before they go out unexpectedly.

Timeline: Short Term (1-4 years)

PRES-A15: Fixtures and Equipment

No concerns with fixtures or equipment were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

Mechanical, Plumbing and Fire Protection Systems

PRES-M1: HVAC Controls

No issues were noted with the DDC Controls for the HVAC system at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Long Term (10+ years).

PRES-M2: Air Handling Units (AHUs)

The AHUs are operating as designed and appear to be in good condition. They are 12-15 years away from the end of their anticipated useful life.

Nature of the Issue: None noted.

Recommended Action: None at this time. Reassess in 4 years.

Timeline: Long Term for replacement (12-15 years)

PRES-M3: Variable Air Volume Units (VAV)

The VAVs are operating as designed and appear to be in good condition. They are 5-7 years away from the end of their anticipated useful life.

Nature of the Issue: None noted.

Recommended Action: None at this time. Reassess in 4 years.

Timeline: Medium Term replacement (5-7 years)

PRES-M4: Boilers

The boilers are reaching the end of their anticipated service life and will likely require repair or replacement in the near future.

Nature of the Issue: System Replacement

Recommended Action: Replace boilers and pumps.

Timeline: Medium Term (5-7 years)

PRES-M5: Boilers and Pumps

The pumps are operating properly and no issues were noted. However, they are from the original construction and have reached the end of their anticipated life. They should be replaced at the same time as the boilers.

Nature of the Issue: System Replacement

Recommended Action: Replace boilers and pumps.

Timeline: Medium Term (5-7 years)

PRES-M6: Chiller Replacement

The chiller is operating as designed but nearing its anticipated useful life. The district should begin to plan for a replacement. In the short term the unit needs to be properly anchored to avoid a safety issue in a seismic event.

Nature of the Issue: System Replacement

Recommended Action: Replace chiller

Timeline: Medium Term (5-9 years)

PRES-M7: Hydronic Piping System

No issues were noted related hydronic piping system at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

PRES-M8: Dishwasher Exhaust Hood

The dishwasher hood exhaust system is underperforming and allows steam to escape into the kitchen. It could be caused by fan speed and/or ductwork size.

Nature of the Issue: System Deficiency.

Recommended Action: Upgrade system.

Timeline: Short Term (1-3 years)

PRES-M9: HVAC Distribution Ductwork

On the second floor, in the SW of the building, 12-15 feet of return air duct was damaged by an unknown pressure event. The district has made a temporary patch but the ductwork needs to be replaced. The ductwork for the two Type-1 exhaust hoods in the kitchen has been left bare in the mezzanine space. Code requires those ducts to be encased in a rated enclosure or wrapped with an approved fire wrap system.

No other issues were noted with the ductwork at the time of this study.

Nature of the Issue: System Repair

Recommended Action: Repair/Replace damaged ductwork.

Timeline: Short Term (1-3 years)

PRES-M10: Backflow Prevention

No issues were noted with the building's backflow prevention for the domestic water system or at the dishwasher.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

PRES-M11: Domestic Hot Water Piping

It was noted that some of the joints on the copper domestic hot water piping have begun to leak. The piping is well within the service life and the failures may be due to the installation practices. Leaving them unaddressed may result in more significant damage to the building from a larger failure.

Nature of the Issue: System Repair.

Recommended Action: Check all fittings and replace those that are failing.

Timeline: Short Term (1-3 years)

PRES-M12: Plumbing Fixtures

The plumbing fixtures appear adequate. No issues were noted with any of the china fixtures. The sensors on the faucets are problematic. They stick in the open position. Maintenance has not been sufficient to resolve the problem long term. They all need to be replaced with a more reliable fixture.

Nature of the Issue: System Deficiency.

Recommended Action: Replace all the sink faucets.

Timeline: Short Term (1-4 years)

PRES-M13: Hot Water Heaters

No issues were noted with the hot water heaters for the building or kitchen. The domestic water heater was replaced 5 years ago. The kitchen was replaced 4 years ago. Both have 12-15 years of life left.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Long Term for replacement (12-15 years)

PRES-M14: Fire Sprinklers

No issues with the fire sprinkler system were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

Electrical and Low Voltage Systems

PRES-E1: Service Transformer

No issues were noted at the time of this study with the buildings primary service or transformer.

Nature of the Issue: None

Recommended Action: None

Timeline: NA

PRES-E2: Switchgear and Panelboards

The switchgear and panelboards are original to the building's construction and are in good working order. The standard life span of electrical gear is 30 years and can last substantially longer.

Nature of the Issue: None

Recommended Action: None at this time. Reassess in 4 years.

Timeline: Long Term (10+ years)

PRES-E3: Interior Power

No issues were noted with interior power at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA.

PRES-E4: Interior Lighting

The majority of the fixtures are fluorescent. No issues were noted with interior lighting at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA.

PRES-E5: Lighting Controls

The controls are mostly simple on/off switches. No issues were noted with interior lighting controls at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

PRES-E6: Security and Access Control Systems

The security and access control systems were upgraded in 2021. There were no issues noted at the time of this report. Serviceable life is beyond 10 years.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Long Term (15+ years).

PRES-E7: CCTV Camera System

The CCTV camera system was upgraded in 2021. There were no issues noted at the time of this report. Serviceable life is beyond 10 years.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Long Term (15+ years).

PRES-E8: Intercom System

The intercom system is in working order and utilizes the phone system to broadcast messages via the original intercom speakers. No known issues were noted.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Long Term (10+ years).

PRES-E9: Clock System

The existing clocks are older but at this time parts are available. The system should have 10+ years left.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Long Term (10+ years).

PRES-E10: Fire Alarm System

The fire alarm system is a Notifier addressable system. No system deficiencies were noted. The system should have 6-10 more years of serviceable life.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Medium Term (6-10 years)

Information Technology Infrastructure

PRES-T1: Fiber

The IDFs in the building are not connected to the MDF with a fiber homerun. That creates bandwidth deficiencies in portions of the building.

Nature of the Issue: System Deficiency

Recommended Action: Provide a new fiber homerun to those IDF rooms.

Timeline: Short Term (1-4 years)

PRES-T2: Data Cabling

The building's data cabling is approaching the end of its useful life. Based on the age of the building and the ever increasing demands on data systems it will likely need to be replaced in 8-10 years.

Nature of the Issue: System Upgrade

Recommended Action: Replace existing data cabling with CAT6A.

Timeline: Medium Term for the main buildings (8-10 years)

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System Repair & Replacement

Haller Middle School - Recommended Project Timing

Long Range Repair/Replacement
Minor System Repair
Moderate Repair/Improvement
Major Repair/Replacement

PROJECT		1-4 years 2024-2028	5-8 years 2029-2032	9-12 years 2033-2036	13-16 years 2037-2040	17-20 years 2041-2044	21+ years 2045+
Haller Middle School							
HMS-S1	Site Lighting						x
HMS-S2	Sports Field Lighting						x
HMS-S3	Sight Utlities						x
HMS-S4	Storm Water Systems						x
HMS-S5	Paving and Parking	x					
HMS-S6	Landscape and Irrigation	x					
HMS-S7	Playfields						x
HMS-S8	Fencing						x
HMS-S9	Bleachers	x					
HMS-S10	Running Track	x					
HMS-A1	Roofing	x	x				
HMS-A2	Exterior Walls	x					
HMS-A3	Exterior Paint	x					
HMS-A4	Exterior Doors						x
HMS-A5	Exterior Windows						x
HMS-A6	Building Structure						x
HMS-A7	Flooring - Gym	x					
HMS-A8	Flooring - Main	x			x		
HMS-A9	Interior Walls						x
HMS-A10	Interior Paint						x
HMS-A11	Interior Doors						x
HMS-A12	Interior Windows/Relites						x
HMS-A13	Interior Ceilings						x
HMS-A14	Casework						x
HMS-A15	Kitchen Equipment	x		x			
HMS-A16	Misc. Equipment						x
HMS-M1	Controls		x				
HMS-M2	Air Handling Units			x			
HMS-M3	VAV Boxes		x				
HMS-M4	Boilers			x			
HMS-M5	Pumps			x			
HMS-M6	Heat Pumps	x					
HMS-M7	Chiller		x				
HMS-M8	Hydronic Piping						x
HMS-M9	Exhaust Fans						x
HMS-M10	HVAC Ductwork						x
HMS-M11	Backflow Prevention						x
HMS-M12	Domestic Water Piping						x
HMS-M13	Plumbing Fixtures						x
HMS-M14	Water Heaters	x		x			
HMS-M15	Fire Sprinklers						x
HMS-E1	Service Transformer						x
HMS-E2	Switchgear and Panels			x			
HMS-E3	Interior Power						x
HMS-E4	Interior Lighting						x
HMS-E5	Lighting Controls						x
HMS-E6	Security and Access				x		
HMS-E7	CCTV Cameras				x		
HMS-E8	Intercom				x		
HMS-E9	Clock System		x				
HMS-E10	Fire Alarm		x				
HMS-T1	Fiber	x					
HMS-T2	Data Cabling		x				

Haller Middle School - System Observations

Site Infrastructure

HMS-S1: Site Lighting

No issues were noted with the site lighting at the time of this study.

Nature of the Issue: None

Recommended Action: None

Timeline: NA

HMS-S2: Sports Field Lighting

The lighting for the football field is mounted on four wooden poles. In 2022 two of the four poles were replaced. The other two were evaluated and found to still be structurally sound. The lighting fixtures themselves are old and have exceeded their anticipated useful life. However, the district has not been having any issues with them and there is no scheduled update or replacement at this time.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

HMS-S3: Site Utilities

Eroded and weathered pavement has exposed the lids of some observation wells and other utility covers. See the discussion below under paving. No other issues were noted with the utilities serving the site.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

HMS-S4: Storm Water Systems

There are several locations of notable ponding in the north parking area. In the northeast lot there is severe ponding around a catch basin which appears to be sitting a couple inches above the low point of the basin. The bus lane and northwest lots appear to be draining well. There are several locations on the site where debris was clogging catch basins and causing ponding. Removal of that debris resulted in the ponding flowing into the basin in a matter of minutes. At least one building downspout on the north side of the building was noted to be draining directly to grade with no obvious path for stormwater to leave the site. See the discussion below under paving for recommendations related to resolving ponding.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

HMS-S5: Paving and Parking Lots

Nearly all of the drive lanes on the site, including Washington Ave and the south access road, are very weathered with alligator cracking throughout most sections, indicating degradation of the subgrade. The only exceptions seemed to be the bus lane at the north side of the school, which looked to be paved more recently, as well as the south loading zone which appeared to have newer pavement. Several areas that are used for vehicle traffic are not paved. Similar to the drive aisles, weathering, prolonged usage, and infiltration of stormwater into underlying soils has caused nearly all of the parking spaces to be severely damaged to the point of needing replacement. The parking lot to the northwest was in relatively better condition, but still showed some significant cracking which is a concern. No major concerns were noted with the sidewalks. Many sections of curbing show heavy weathering in parking areas, drive aisles, and driveway aprons. The bus lane curbs looked fine, but curbs particularly in the north parking lots show significant weathering and heavy damage in some areas. Overall the paving and curbing is failing and needs to be replaced.

Nature of the Issue: System Failure

Recommended Action: Repave the entire parking and driveways. This will also offer an opportunity to resolve the ponding issues noted in the storm water systems above.

Timeline: Short Term (1-4 years)

HMS-S6: Landscaping and Irrigation

There are portions of the grass slopes to the northwest of the stadium that were repaired by the district grounds crew after unauthorized dumping of excavation spoils. The area has not yet been stabilized or reseeded. This is not only a landscaping concern but also can allow stormwater erosion if not corrected soon.

Nature of the Issue: System Repair

Recommended Action: Reseed the grass slopes.

Timeline: Short Term (as soon as possible)

HMS-S7: Playfields

Some areas of minor ponding were noted on the running track but no other issues were noted with the playfields at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

HMS-S8: Fencing

No issues were noted with the fencing at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

HMS-S9: Bleachers

The wooden bleacher structure have deteriorated to the extent that it is no longer safe to occupy. They have been closed to use. The district would like to use the visitors side as a school evacuation assembly area. They do not need bleachers on both sides of the field.

Nature of the Issue: System Failure

Recommended Action: Remove the home side bleachers. Replace/rebuild the visitors side to serve as seating for the field and as a assembly area.

Timeline: Short Term (1-4 years)

HMS-S10: Running Track

No issues were noted with the existing cinder running track.

Nature of the Issue: None

Recommended Action: None

Timeline: Short Term N/A

Architectural

HMS-A1: Roofing

There are two major roof-systems: 3-tab laminated shingles on steep-sloped roofs and granulated built-up multi-ply membrane on the lower sloped areas. Per the 2022 Roof Assessment report, the shingle portions are rated as "Failing". The portion of the built up system over the Music Building is also failing and needs to be replaced. The portion of that system that is over the Gym Building is in better condition and should have 4-5 years more life. At the time of publication of this report the multi-ply system was being evaluated for warranty repair work which may affect the recommended replacement schedule.

Nature of the Issue: System Failure.

Recommended Action: Complete Replacement of Roofing System.

Timeline: Short Term for Shingles and Music Building roof (1-3 years). Medium Term for Gym Building (4-5 years).

HMS-A2: Exterior Wall Systems

The only issue noted with the exterior wall systems is a number of locations where birds are able to enter. It is an ongoing maintenance issue. No other issues were noted with the exterior wall assemblies at the time of this study.

Nature of the Issue: System Deficiency

Recommended Action: Provide bird blocking at locations where birds are currently building nests.

Timeline: Short Term (1-4 years)

HMS-A3: Exterior Paint

The paint on the exterior of the building is starting to fail in many spots. It is time to repaint.

Nature of the Issue: System Repair.

Recommended Action: Power wash and repaint the entire exterior of the building.

Timeline: Short Term (1-3 years)

HMS-A4: Exterior Doors

No issues with the exterior doors were noted at the time of this study, other than the need to repaint.

Nature of the Issue: None

Recommended Action: Reassess in 4 years.

Timeline: NA

HMS-A5: Exterior Windows

No issues with the exterior windows were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Reassess in 4 years.

Timeline: NA

HMS-A6: Building Structure

No structural deficiencies were noted at the time of this study. The building was not observed by a structural engineer at the time of this study.

Nature of the Issue: None

Recommended Action: None

Timeline: NA

HMS-A7: Flooring – Gym Building

The tile flooring in the locker rooms and toilet rooms the 1978 Gym building is failing and needs to be replaced.

Nature of the Issue: System Failure.

Recommended Action: Provide new tile flooring in these areas.

Timeline: Short Term (1-4 years)

HMS-A8: Flooring – Main Building

Cracks in the slab-on-grade in the 2006 areas of the building are telegraphing through the VCT flooring. Some areas have been repaired by the district but many remain, particularly in the west end of the first floor. The flooring materials themselves should have another 12-15 years of life.

Nature of the Issue: System Repair.

Recommended Action: Remove damage tiles, patch cracks and install new tiles.

Timeline: Short Term repair (1-3 years). Long Term replacement (12-15 years)

HMS-A9: Interior Walls

No issues were noted with interior walls at the time of this study.

Nature of the Issue: None

Recommended Action: None

Timeline: NA

HMS-A10: Interior Paint

No issues were identified regarding the interior paint at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

HMS-A11: Interior Doors

No concerns with interior doors were noted at the time of this study. The classroom door hardware was replaced in 2021.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

HMS-A12: Interior Relites

No concerns with interior relites were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

HMS-A13: Ceilings

No concerns with interior ceilings were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

HMS-A14: Casework

No concerns with casework were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

HMS-A15: Kitchen Equipment

The outdoor condensing unit for the walk-in cooler is failing. The unit for the freezer is beyond its anticipated useful life. The rest of the equipment should have another 10+ years left.

Nature of the Issue: System Failure.

Recommended Action: Replace the condensing units for both the cooler and freezer.

Timeline: Immediate for replacing coolers. Medium Term for other equipment (10+ years).

HMS-A16: Miscellaneous Fixtures and Equipment

No issues were noted with any miscellaneous fixtures or equipment at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

Mechanical, Plumbing and Fire Protection Systems

HMS-M1: HVAC Controls

No issues with the existing controls were noted at the time of this study. The system is getting old and may eventually have trouble getting parts but not at this time. The district should anticipate replacing it in the medium term.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Medium Term (7-10 years)

HMS-M2: Air Handling Units (AHUs)

The air handling units serving the main building are operating as designed and appear to be in good condition.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Long Term for replacement (12-15 years).

HMS-M3: VAV Boxes

The VAV units are operating as designed and appear to be in good condition. They should have 5-7 years of life left.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Medium Term replacement (5-7 years).

HMS-M4: Boilers

The boilers are within their average useful life but are showing signs of corrosion and/or condensing. Entering water temperatures should be maintained at about 140 degrees to prevent condensing and early failure. With proper maintenance they should have 10-12 years of life left.

Nature of the Issue: System Adjustment

Recommended Action: Confirm entering water temp. Regular maintenance. Reassess in 4 years.

Timeline: Long Term replacement (10-12 years).

HMS-M5: Pumps

The pumps appear to be in good condition. They should have 8-10 years of life left.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Medium Term replacement (8-10 years).

HMS-M6: Heat Pumps

The three heat pumps serving the gym/music building are nearing their useful average life. No specific issues were noted but they will likely need replacement in 2-4 years.

Nature of the Issue: System Replacement

Recommended Action: Replace existing heat pumps.

Timeline: Short Term (2-4 years).

HMS-M7: Chiller

The chiller is operating as designed but is nearing its anticipated average useful life. No specific issues were noted but it may need replacement in 4-6 years.

Nature of the Issue: System Replacement

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Medium Term for replacement (4-6 years).

HMS-M8: Hydronic Piping

No issues were noted with the hydronic piping at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

HMS-M9: Exhaust Fans

No issues were noted with any exhaust fans or hoods at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

HMS-M10: HVAC Distribution Ductwork

No issues were noted with the HVAC distribution ductwork at the time of this study.

Nature of the Issue: None

Recommended Action: None

Timeline: NA

HMS-M11: Backflow Prevention

No issues were noted with the building's backflow prevention for the domestic water system or at the dishwasher.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

HMS-M12: Domestic Water Piping

No issues were noted with the domestic water piping at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

HMS-M13: Plumbing Fixtures

No issues were noted with any of the china fixtures. The faucets and flush valves will fail periodically and need to be replaced on a one at a time basis. There does not appear to be a need for a full replacement of all the fixtures at this time or in the immediate future. The fixtures are not low flow and the district may want to consider low flow replacements as individual fixtures wear out.

Nature of the Issue: None

Recommended Action: Routine maintenance. Replace faucets and flush valves as they wear out. Reassess in 4 years.

Timeline: NA

HMS-M14: Hot Water Heaters

The water heater for the domestic supply to the building was replaced 8 years ago. It should have another 7-10 years of life. The water heater for the kitchen was replaced when the building was remodeled in 2006 and has reached the end of its useful life.

Nature of the Issue: System Replacement

Recommended Action: Provide new water heaters for domestic and hot water.

Timeline: Short Term for Kitchen (1-4 years). Medium Term for building service (7-10 years)

HMS-M15: Fire Sprinklers

No issues with the fire sprinkler system were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

Electrical and Low Voltage Systems

HMS-E1: Service Transformer

No issues were noted at the time of this study with the building's primary service or transformer.

Nature of the Issue: None

Recommended Action: None

Timeline: NA

HMS-E2: Switchgear and Panelboards

The switchgear and panelboards are original to the building's construction and are in good working order. The standard life span of electrical gear is 30 years and can last substantially longer. The equipment should have at least 10 years of serviceable life left.

Nature of the Issue: None noted

Recommended Action: None at this time. Reassess in 4 years.

Timeline: Long Term for replacement (10-12 years)

HMS-E3: Interior Power

No issues were noted with interior power at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

HMS-E4: Interior Lighting - General

The lights in the Commons were converted to LED replacement bulbs installed in fixtures that are designed for fluorescent. The rest of the building still has fluorescent fixtures. No issues with interior lighting were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

HMS-E5: Lighting Controls

The controls are mostly simple on/off switches. No issues were noted with interior lighting controls at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

HMS-E6: Security and Access Control Systems

The security and access control systems were upgraded in 2021. There were no issues noted at the time of this report. Serviceable life is beyond 10 years.

Nature of the Issue: No issues noted

Recommended Action: None required.

Timeline: Long Term (15+ years).

HMS-E7: CCTV Camera System

The CCTV camera system was upgraded in 2021. There were no issues noted at the time of this report. Serviceable life is beyond 10 years.

Nature of the Issue: No issues noted

Recommended Action: None required.

Timeline: Long Term (15+ years).

HMS-E8: Intercom System

The intercom system is in working order and utilizes the phone system to broadcast messages via the original intercom speakers.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Long Term (15+ years).

HMS-E9: Clock System

The existing clock system is a centralized analog system. Replacement parts will be difficult to obtain if the system were to go out. The system may have another 4-8 years left.

Nature of the Issue: System Replacement

Recommended Action: Replace the system with a new digital system.

Timeline: Medium Term (4-8 years)

HMS-E10: Fire Alarm System

The Sonitrol-monitored Simplex fire alarm is an addressable system. No system deficiencies were noted. The system should have 6-10 more years of serviceable life.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 5 years.

Timeline: Medium Term (6-10 years)

Information Technology Infrastructure

HMS-T1: Fiber

Not all of the IDFs in the building are connected to the MDF with a fiber homerun. That creates bandwidth deficiencies in portions of the building.

Nature of the Issue: System Deficiency

Recommended Action: Provide a new fiber homerun to those IDF rooms that are currently connected by cable.

Timeline: Short Term (1-5 years)

HMS-T2: Data Cabling

The building's data cabling is approaching the end of its useful life. Based on the age of the building and the ever increasing demands on data systems it will likely need to be replaced in 7-9 years.

Nature of the Issue: System Upgrade

Recommended Action: Replace existing data cabling with CAT6A.

Timeline: Medium Term for the main buildings (7-9 years)

System Repair & Replacement

Post Middle School - Recommended Project Timing

Long Range Repair/Replacement
Minor System Repair
Moderate Repair/Improvement
Major Repair/Replacement

PROJECT		1-4 years 2024-2028	5-8 years 2029-2032	9-12 years 2033-2036	13-16 years 2037-2040	17-20 years 2041-2044	21+ years 2045+
Post Middle School							
PMS-S1	Site Lighting	x					
PMS-S2	Sight Utlities						x
PMS-S3	Storm Water Systems	x					
PMS-S4	Paving and Parking	x					
PMS-S5	Landscape and Irrigation						x
PMS-S6	Playfields						x
PMS-S7	Running Track	x					
PMS-S8	Fencing						x
PMS-A1	Roofing	x					
PMS-A2	Exterior Walls	x					
PMS-A3	Exterior Paint	x					
PMS-A4	Exterior Doors	x					
PMS-A5	Exterior Windows						x
PMS-A6	Building Structure - Roof	x					
PMS-A7	Building Structure - Walls	x					
PMS-A8	Flooring	x					
PMS-A9	Interior Walls	x					
PMS-A10	Interior Paint	x					
PMS-A11	Interior Doors	x					
PMS-A12	Interior Windows/Relites						x
PMS-A13	Interior Ceilings	x					
PMS-A14	Casework	x					
PMS-A15	Kitchen Equipment			x			
PMS-A16	Misc. Equipment						x
PMS-M1	Controls	x					
PMS-M2	AHUs / Heat Pumps	x					
PMS-M3	Boilers	x					
PMS-M4	Pumps	x					
PMS-M5	Roof Top Condensers		x				
PMS-M6	Exhaust Fans						x
PMS-M7	HVAC Ductwork						x
PMS-M8	Backflow Prevention						x
PMS-M9	Domestic Water Piping	x					
PMS-M10	Plumbing Fixtures	x					
PMS-M11	Water Heaters		x	x			
PMS-M12	Fire Sprinklers						x
PMS-E1	Service Transformer						x
PMS-E2	Switchgear and Panels	x					
PMS-E3	Interior Power						x
PMS-E4	Interior Lighting	x					
PMS-E5	Lighting Controls	x					
PMS-E6	Security and Access				x		
PMS-E7	CCTV Cameras				x		
PMS-E8	Intercom	x					
PMS-E9	Clock System	x					
PMS-E10	Fire Alarm	x					
PMS-T1	Fiber	x					
PMS-T2	Data Cabling	x					
PMS-T3	IDF Rooms	x					

Post Middle School - System Observations

Site Infrastructure

PMS-S1: Site Lighting

The existing site lighting is generally inadequate and presents a safety issue. There are not enough poles throughout the parking areas and those that do exist don't put out enough light. The areas around and between the buildings are lit from fixtures on the underside of roof overhangs which do not cast enough light far enough from the building to be effective.

Nature of the Issue: System Replacement

Recommended Action: Replace the existing pole mounted fixtures with new LED fixture heads. Add poles in the parking area and between the buildings to address dark areas.

Timeline: Short Term (1-4 years)

PMS-S2: Site Utilities

No issues were noted with site utilities at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

PMS-S3: Storm Water Systems

There is significant ponding on the campus, particularly between the buildings and in the parking area. The district has done a lot of work to clear and clean storm control systems with limited improvement. One downspout at south end of the building dumps directly to paving and the runoff does not make it to the drain system. There is a larger area of ponding near the front entry drive. Two storm drains on the east side don't tie to anything and have limited capacity which causes more ponding. Runoff from the upper field to the lower field, down site stairway, is causing notable erosion.

Nature of the Issue: System Failure

Recommended Action: Remedying this issue would require a holistic redesign and rebuild of the site's storm water system.

Timeline: Short Term (1-2 years)

PMS-S4: Paving and Parking Lots

Paving in vehicle travel and parking areas has exceeded it functional life. There is significant alligator cracking and many areas of failed pavement. Curbs and walks are in better shape but there is some sidewalk heaving.

Nature of the Issue: System Failure

Recommended Action: Repave entire parking area and all driveways. Repair curbs and sidewalks at that time.

Timeline: Short Term (1-4 years)

PMS-S5: Landscaping and Irrigation

No issues were noted with the existing landscaping at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

PMS-S6 Playfields

No issues were noted with the playfields at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

PMS-S7: Running Track

The running track has exceeded its useful life. The surface material is deteriorating and coming off. The asphalt base is cracking and sinking.

Nature of the Issue: System Failure

Recommended Action: Replace the running track.

Timeline: Short Term (1-4 years)

PMS-S8: Fencing

The majority of the site fencing was replaced in 2021.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Long Term (20+ years)

Architectural

PMS-A1: Roofing

There are two major roof-systems: 3-tab laminated shingles on steep-sloped roofs and granulated built-up multi-ply membrane on the lower sloped areas. Per the 2022 Roof Assessment report, both systems are rated as "Failing". A temporary cover was installed 7 years ago that was supposed to last 12 years but it is also failing even though warranty maintenance has been applied.

Nature of the Issue: System Failure.

Recommended Action: Complete Replacement of Roofing System.

Timeline: Short Term (1-3 years)

PMS-A2: Exterior Wall Systems

Some cracks are present in the exterior CMU veneer throughout the school. It appears to be due to the lack of control joints in the original construction. These cracks are well protected in most cases by the large roof overhangs but should be repaired/ resealed to prevent further deterioration.

There are several areas on the buildings where the facia boards and wood trim are showing signs of moisture damage. Left unattended the moisture intrusion could continue causing damage to underlying structure.

Nature of the Issue: System Repair

Recommended Action: Patch cracks in all CMU walls. Replace all facia boards and wood trim.

Timeline: Short Term (1-4 years)

PMS-A3: Exterior Paint

The building has not been repainted in a very long time. All the exterior surfaces are in need of repair and repainting.

Nature of the Issue: System Replacement.

Recommended Action: Reseal all exterior masonry walls and provide anti-graffiti coating. Repaint all other exterior surfaces.

Timeline: Short Term (1-3 years)

PMS-A4: Exterior Doors

The exterior doors and hardware throughout the school are well past their useful life and are very hard to maintain. Many have issues shutting and opening properly.

Nature of the Issue: System Replacement

Recommended Action: Replace all exterior doors and hardware.

Timeline: Short Term (1-3 years)

PMS-A5: Exterior Windows

The exterior windows are single-pane and a significant source of energy loss. Otherwise they function properly.

Nature of the Issue: None

Recommended Action: None

Timeline: NA

PMS-A6: Building Structure – Roof Diaphragm

There are several locations where the span of the plywood roof diaphragm exceeds the limit of current design standards. The diaphragm is the horizontal membrane that ties the individual roof joists together, commonly referred to as the roof deck. In this case that is the plywood sheathing. Due to the relatively low level of force anticipated in the diaphragm it is anticipated that this would not be a significant concern but further evaluation would be necessary to confirm. Upgrading the diaphragm could be achieved during a re-roof of the buildings.

Nature of the Issue: System Deficiency

Recommended Action: Upgrade the roof diaphragm as required when the building is being reroofed.

Timeline: Short Term (1-3 years)

PMS-A7: Building Structure – Non-Bearing CMU Walls

The non-bearing CMU walls at the Gymnasium Building are not properly anchored to the roof diaphragm to resist seismic forces. Additionally, there are not properly detailed crossties that would serve to distribute anchorage forces to the diaphragm.

Nature of the Issue: System Deficiency

Recommended Action: Provide proper anchors and/or blocking between CMU walls and roof diaphragm.

Timeline: Short Term (1-3 years)

PMS-A8: Flooring

The flooring materials throughout the building are well beyond their anticipated useful life span. Many are beyond a point where regular maintenance is sufficient to keep them functional. There is asbestos in many of the flooring materials and mastic. With the exception of a small area that was recently replaced the carpets are worn out and need to be replaced. In the gym locker areas tile flooring is failing and coming loose. The wood floor in the main gym is in good shape but the VCT flooring in the auxiliary gym (assumed to be VCT) is problematic. It also contains asbestos.

Wood floor is OK. Aux gym tile problematic. Asbestos in substrate.

Nature of the Issue: System Replacement.

Recommended Action: Replace all flooring systems.

Timeline: Short Term (1-3 years)

HMS-A9: Interior Walls

The tile walls in many of the bathrooms are failing. The GWB substrate is deteriorating.

Nature of the Issue: System Replacement

Recommended Action: Replace all tile wall finishes.

Timeline: Short Term (1-3 years)

PMS-A10: Interior Paint

The interior of the building has not been painted in quite some time. It is long over due for a new paint job.

Nature of the Issue: System Replacement

Recommended Action: Repaint all interior, painted surfaces.

Timeline: Short Term (1-3 years)

PMS-A11: Interior Doors

The school is designed with outdoor circulation so it has a limited number of interior doors compared to a more typical middle school. On those that exist the hardware is generally worn out but otherwise they operate properly.

Nature of the Issue: System Repair

Recommended Action: Replace the hardware on all interior doors.

Timeline: Short Term (1-3 years)

PMS-A12: Interior Windows/Relites

No issues were noted with any interior windows or relites.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess condition in 4 years.

Timeline: NA

PMS-A13: Ceilings

In general the ceilings throughout the buildings are well beyond their anticipated useful life. Continued repair and maintenance is not sufficient.

Nature of the Issue: System Replacement.

Recommended Action: Replace all ceilings.

Timeline: Short Term (1-3 years)

PMS-A14: Casework

The countertops in the science classrooms are failing and need to be replaced. The countertops also contain asbestos, and while currently sealed, this presents difficulty maintaining them in the event of a fracture or scratch releasing friable asbestos into the classroom space.

Nature of the Issue: System Repair

Recommended Action: Replace the countertops in all science rooms.

Timeline: Short Term (1-3 years)

PMS-A15: Kitchen Equipment

Ovens, dishwasher, and coolers have been replaced recently and have at least 15 years of life. The remainder of the equipment is in relatively good working order. It will all need to be replaced in 8-12 years depending on the specific piece.

Nature of the Issue: None

Recommended Action: Regular Maintenance. Reassess in 4 years.

Timeline: Medium to Long Term for replacement (8-15 years)

PMS-A16: Miscellaneous Fixtures and Equipment

No specific issues were noted with any miscellaneous fixtures or equipment.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

Mechanical, Plumbing and Fire Protection Systems

PMS-M1: HVAC Controls

The controls system is very, very old and difficult to keep running. It is not sufficient to maintain appropriate indoor air quality.

Nature of the Issue: System Failure

Recommended Action: Provide a new DDC controls system for the entire facility.

Timeline: Short Term (1-3 years).

PMS-M2: Air Handling Units (AHUs) – Heat Pumps

The refrigeration circuit for the air handling unit serving the Admin and Library, and a few classrooms, is failing and requires repair or replacement.

The majority of the classrooms in the original building are served by individual heat pumps in closets, with one unit serving 2 classrooms. The units are very old and it is difficult to get replacement units that are properly configured and fit in the closets. The units are not capable of providing sufficient fresh, outdoor air. The district has been able to keep the units running but the entire system needs to be replaced in the short term.

The Gym units are from the original construction and well past their useful life.

Nature of the Issue: System Replacement

Recommended Action: Replace the entire system. This will likely involve a redesign to a new system approach.

Timeline: Short Term (1-3 years).

PMS-M3: Boilers

The boiler that serves the 1996 addition is original to that construction. It is well past its serviceable life. In 2002 the district replaced the boilers for the Gym building but one failed and was again replaced in 2007. They are close to the end of their serviceable life.

Nature of the Issue: System Replacement

Recommended Action: Replace the boilers.

Timeline: Short Term (1-4 years).

PMS-M4: Pumps

No specific issues were noted with the pumps but they are beyond their anticipated serviceable life and should be replaced when the boilers are.

Nature of the Issue: System Replacement

Recommended Action: Replace the pumps when the boilers are replaced.

Timeline: Short Term (1-4 years).

PMS-M5: Roof-top Condensing Unit

There are 7 roof top split system units. Because the roof to this school is relatively easy to access they are subject to vandalism, but no specific operational issues were noted. They are old and will need to be replaced in 5-8 years.

Nature of the Issue: System Replacement

Recommended Action: Replace all seven roof-top split system units.

Timeline: Medium Term (5-8 years).

PMS-M6: Exhaust Fans

No issues with exhaust fans were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

PMS-M7: HVAC Distribution Ductwork

In general the distribution ductwork in this school does not provide sufficient air distribution but no specific operational problems were noted at the time of this study. The potential to revise it is discussed elsewhere in this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

PMS-M8: Backflow Prevention

There is a backflow prevention for the domestic water system and the dishwasher. No issues were noted at the time of this study.

Nature of the Issue: None

Recommended Action: None.

Timeline: NA

PMS-M9: Domestic Water Piping

The hot water system relies on a circulation pump that does not have enough capacity to effectively supply hot water to the entire building. The pumps are operating but the system is inadequate.

Nature of the Issue: System Replacement

Recommended Action: Replace the hot water distribution system with something with greater capacity or another approach altogether.

Timeline: Short Term (1-3 years)

PMS-M10: Plumbing Fixtures

Recent testing indicated that water from the sinks in Home EC and the science rooms has levels of lead that are still below regulation but are close to the limit. The sinks in those rooms should be replaced, including piping. The majority of the sinks elsewhere in the building are very old and are becoming harder to maintain or repair. They also need to be replaced.

Nature of the Issue: System Replacement

Recommended Action: Replace all sinks and related faucets.

Timeline: Short Term (1-3 years)

PMS-M11: Hot Water Heaters

The hot water heater for the gym was replaced in 2002. Holding tank was original. It functions but has no more than 5 years left. The hot water heater in the 1996 addition was new in 2011. It should have another 4-6 years left.

The hot water heater for the original building, which serves the kitchen and office area was replaced in 2020. It should have 10-12 years left.

Nature of the Issue: System Replacement

Recommended Action: Provide new water heaters.

Timeline: Medium Term for gym and 1996 addition (5-8 years). Long Term for original building (10-12 years).

PMS-M12: Fire Sprinklers

The building only has fire sprinklers at the stage. No issues were noted with that limited system at the time of this study.

Nature of the Issue: None

Recommended Action: None

Timeline: NA

Electrical and Low Voltage Systems

PMS-E1: Service Transformer

The building's service transformer loop feeds the service transformer at Eagle Creek ES. The service is primary metered at the utility transformer at Post Middle School. This creates an operational complexity but does not impair the transformer's function.

Nature of the Issue: None

Recommended Action: None

Timeline: NA

PMS-E2: Switchgear and Panelboards

The switchgear and panelboards are original to the building's construction. They are well past their anticipated useful life and are very limited in their capacity. It is difficult to find enough capacity to add new equipment to the building and today's schools are very dependent on equipment.

Nature of the Issue: System Replacement

Recommended Action: Replace all panel and switchgear.

Timeline: Short Term for replacement (1-4 years)

PMS-E3: Interior Power

There were not specific deficiencies noted except for the limited capacity noted above in Panelboards.

Nature of the Issue: None

Recommended Action: None

Timeline: NA

PMS-E4: Interior Lighting

The majority of the fixtures in the building are fluorescent and original to the building. They are well past their useful life, difficult to maintain, and need to be replaced.

Nature of the Issue: System Replacement.

Recommended Action: Replace the existing light fixtures.

Timeline: Short Term (1-4 years)

PMS-E5: Lighting Controls

The majority of the lighting controls within the building are simple on/off switches. No specific issues were noted with lighting controls at the time of this study. However, if the lighting is replaced as recommended above the controls should be updated at the same time. In fact code will require it.

Nature of the Issue: System Replacement

Recommended Action: Replace the lighting controls system when the lighting is replaced.

Timeline: Short Term (1-4 years)

PMS-E6: Security and Access Control Systems

The security and access control systems were upgraded in 2021. There were no issues noted at the time of this report. Serviceable life is beyond 10 years.

Nature of the Issue: No issues noted

Recommended Action: None required.

Timeline: Long Term (15+ years).

PMS-E7: CCTV Camera System

The CCTV camera system was upgraded in 2021. There were no issues noted at the time of this report. Serviceable life is beyond 10 years.

Nature of the Issue: No issues noted

Recommended Action: None required.

Timeline: Long Term (15+ years).

PMS-E8: Intercom System

The intercom system is well past its useful life and difficult to keep functioning. The intercom is a key part in the overall building security so replacement before it fails is advisable.

Nature of the Issue: Risk of System Failure

Recommended Action: Replace the system with updated components before it fails.

Timeline: Short Term (1-3 years).

PMS-E9: Clock System

The clock system in the building is beyond its useful life and not currently working properly. It should be replaced.

Nature of the Issue: System Replacement.

Recommended Action: Replace the existing clock system.

Timeline: Short Term (1-3 years).

PMS-E10: Fire Alarm System

The system has a new main panel as of a year ago. The rest of the system is old and outdated and needs to be replaced. It is difficult to keep functional.

Nature of the Issue: Required Replacement

Recommended Action: Replace the system with updated and expanded coverage.

Timeline: Short Term (1-3 years).

Information Technology Infrastructure

PMS-T1: Fiber

The building's fiber connection to the district's Data Center is combined with SVLC. They should be separated so that issues at one school do not affect the other. None of the IDFs in the building are connected to the MDF with a fiber homerun. That creates bandwidth deficiencies throughout the building.

Nature of the Issue: System Deficiency

Recommended Action: Establish independent fiber service to PMS and SVLC. Provide a new fiber homeruns to all IDF rooms.

Timeline: Short Term (1-5 years)

PMS-T2: Data Cabling

The building's data cabling is well past the end of its useful life and does not have adequate capacity to support the technology used in the building

Nature of the Issue: System Replacement

Recommended Action: Replace existing data cabling with CAT6A.

Timeline: Short Term (1-3 years).

PMS-T3: IDF Rooms

The building does not currently have enough IDF rooms. Data cable runs are too long for many areas of the building which results in unreliable data connections. More IDF rooms throughout the building, connected back to the MDF with fiber, would alleviate the issue. The challenge will be finding the physical space to create them.

Nature of the Issue: System Deficiency

Recommended Action: Add IDF rooms to provide more reliable data service to classrooms.

Timeline: Short Term (1-3 years).

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System Repair & Replacement

Arlington High School - Recommended Project Timing

Long Range Repair/Replacement
Minor System Repair
Moderate Repair/Improvement
Major Repair/Replacement

	PROJECT	1-4 years 2024-2028	5-8 years 2029-2032	9-12 years 2033-2036	13-16 years 2037-2040	17-20 years 2041-2044	21+ years 2045+
Arlington High School							
AHS-S1	Site Lighting	x					
AHS-S2	Field Lighting	x					
AHS-S3	Sight Utilities						x
AHS-S4	Storm Water Systems	x					
AHS-S5	Paving and Parking	x					
AHS-S6	Landscape and Irrigation						x
AHS-S7	Football Field	x					
AHS-S8	Shot Put Venue		x				
AHS-S9	Running Track	x	x		x	x	
AHS-S10	Fast Pitch Fields	x					
AHS-S11	Baseball Fields	x					
AHS-S12	Tennis Courts	x					
AHS-S13	Practice Fields	x					
AHS-S14	Fencing						x
AHS-A1	Roofing - Main	x					
AHS-A2	Gutters - Main	x					
AHS-A3	Roofing - CTE Shop			x			
AHS-A4	Gutters - CTE Chop	x					
AHS-A5	Roofing - Grandstand	x		x			
AHS-A6	Roofing - Field House	x					
AHS-A7	Roofing Ticket Booth	x					
AHS-A8	Exterior Walls						X
AHS-A9	Exterior Paint - Main					x	
AHS-A10	Exterior Paint - CTE Shop	x					
AHS-A11	Exterior Paint - FH					x	
AHS-A12	Exterior Paint - Ticket					x	
AHS-A13	Exterior Paint - Grandst.					x	
AHS-A14	Exterior Doors						x
AHS-A15	Exterior Windows						x
AHS-A16	Building Structure	x					
AHS-A17	Floor Slabs - Main	x					
AHS-A18	Flooring - Main	x		x			
AHS-A19	Flooring - Gyms	x					
AHS-A20	Flooring - CTE						x
AHS-A21	Flooring - GS/FH/TB						x
AHS-A22	Interior Walls						x
AHS-A23	Interior Paint						x
AHS-A24	Interior Doors						x
AHS-A25	Interior Windows/Relites						x
AHS-A26	Interior Ceilings						x
AHS-A27	Casework	x					
AHS-A28	Kitchen Equipment		x				
AHS-A29	Misc. Equipment						x
AHS-M1	Controls			x			
AHS-M2	Air Handling Units - Main			x			
AHS-M3	Air Handling Units - CTE	x					
AHS-M4	Boilers	x					
AHS-M5	Pumps	x					
AHS-M6	Chiller		x				
AHS-M7	Hydronic Piping						x
AHS-M8	Exhaust Fans						x
AHS-M9	HVAC Ductwork	x					
AHS-M10	Backflow Prevention						x
AHS-M11	Domestic Water Piping						x
AHS-M12	Plumbing Fixtures						x
AHS-M13	Water Heaters - Main	x	x	x			
AHS-M14	Water Heater - CTE	x					
AHS-M15	Water Heater - GS	x					
AHS-M16	Fire Sprinklers						x

Long Range Repair/Replacement
Minor System Repair
Moderate Repair/Improvement
Major Repair/Replacement

PROJECT		1-4 years 2024-2028	5-8 years 2029-2032	9-12 years 2033-2036	13-16 years 2037-2040	17-20 years 2041-2044	21+ years 2045+
AHS-E1	Service Transformer						x
AHS-E2	Switchgear and Panels				x		
AHS-E3	Interior Power						x
AHS-E4	Interior Lighting						x
AHS-E5	Interior Lighting - Gym	x					
AHS-E6	Lighting Controls						X
AHS-E7	Security and Access				X		
AHS-E8	CCTV Cameras				X		
AHS-E9	Intercom						X
AHS-E10	Clock System						X
AHS-E11	Fire Alarm		X				
AHS-T1	Fiber	x					
AHS-T2	Data Cabling	x	x				

Arlington High School - System Observations

Site Infrastructure

AHS-S1: Site Lighting

Ballast failures are occurring frequently with the new Beacon site lighting fixtures in the student parking lot. Attempts to repair them are not resolving the issue. They should be replaced with different fixtures.

Nature of the Issue: System Deficiency

Recommended Action: Replace fixtures with lower maintenance fixtures.

Timeline: Short Term (1-4 years)

AHS-S2: Field Lighting

The lights at the football field are operational but the system is 20 years old and beyond its anticipated serviceable life. It is a difficult system for the district to maintain. The lights should be replaced in the next few years.

Nature of the Issue: System Replacement

Recommended Action: Replace the lights at the football field with LED lights.

Timeline: Short Term (2-4 years)

AHS-S3: Site Utilities

No issues were noted with the site utilities at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

AHS-S4: Storm Water Systems

A downspout at northeast corner of visitor stands outlets directly to gravel surfacing and causing erosion in the area. Minor ponding was noted on the access road to rear of building.

Nature of the Issue: System Repair

Recommended Action: Provide some form of splash block to mitigate the erosion behind the bleachers.

Timeline: Short Term (1-4 years)

AHS-S5: Paving and Parking Lots

The paving in drive aisles is generally in good shape with the exception of some cracking; notably at the access road behind the stadium, the main bus entrance and the bus pick up area. The paving in the parking areas is generally in good shape as well but is starting to show cracking. The cracking is mainly concentrated at the end of drive aisles and near landscape beds, which may indicate root impacts. The cracking is not severe and could be addressed with crack seal.

The curbs on site are in good condition with the exception of the curb along the drive to baseball fields, behind the stadium, which is broken in many spots and the curb at the walk to the visitors side of the football field. Those two locations need repair.

The sidewalks and plazas are all in good shape with miscellaneous cracks noted in many locations but nothing of major concern. The one exception is near the ticket booth where a few uneven slabs were noted that could present trip hazards. In several locations the material that fills the expansion joints in the sidewalks has deteriorated which is causing a larger maintenance issue.

Nature of the Issue: System Repair

Recommended Action: General repair to the parking and drive areas. Provide a crack seal to all of the asphalt paving areas. Repair/replace damaged curbs. Repair uneven paving near ticket booth. Refill sidewalk expansion joints.

Timeline: Short Term (1-4 years)

AHS-S6: Landscaping and Irrigation

No issues were noted with the existing landscaping or irrigation at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

AHS-S7: Football Field

Football field was replaced in 2014. The product used, Fieldturf, has a typical functional life span of 10-12 years. It will start to degrade visually in 7-8 but should provide a safe playing surface for longer. The field should be evaluated for replacement in 2-4 years.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Short Term for replacement (2-4 years)

AHS-S8: Shot Put Venue

The school has a unique set up with the landing area for the shot put event being synthetic turf. That material is not designed for that function so it will have a shorter life than the football field surface. It will likely need to be replaced in 7-8 years.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Medium Term for replacement (7-8 years)

AHS-S9: Running Track

The running track was resurfaced in the summer of 2022. It will require a series of repair projects through its expected life. In 3-4 years the lanes will need restriping. In 8-10 years the surface will need a "flood and chip" and the lanes restriped again. In 12-15 years the lanes will again need to be restriped. At 20 years it will likely need to be replaced.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Short Term for restripe (3-4 years). Medium Term for flood and chip (7-9 years). Long Term for third restripe (10-14 years). Long Term for eventual replacement (20+ years).

AHS-S10: Fast Pitch Fields

The JV fast pitch field has poor drainage, particularly in the infield and left field. The field has an underdrain system that was added at some point after the field was originally constructed. It may not be functioning properly.

Nature of the Issue: System Repair

Recommended Action: Inspect current underdrain system and repair or replace as appropriate.

Timeline: Short Term (1-4 years)

AHS-S11: Baseball Fields

The JV baseball field has a drainage problem, particularly in center field. The field was equipped with an underdrain system as part of the original construction. It may not be functioning properly.

Nature of the Issue: System Repair

Recommended Action: Inspect current underdrain system and repair or replace as appropriate.

Timeline: Short Term (1-4 years)

AHS-S12: Tennis Courts

The courts were resurfaced in 2020 but they are starting to show cracks in the surface and in the asphalt base. The cracks in the asphalt need to be addressed and the courts resurfaced.

Nature of the Issue: System Repair

Recommended Action: Repair and seal cracks in the asphalt base. Resurface and restripe the courts.

Timeline: Short Term (1-4 years)

AHS-S13: Practice Fields

Large portions of the grass practice field at the south end of the football field are too wet to use, which may indicate a drainage problem. The athletic programs at the school need the practice space.

Nature of the Issue: System Deficiency

Recommended Action: Evaluate and install an underdrain system for the practice field as indicated by evaluation.

Timeline: Short Term (1-4 years)

AHS-S14: Fencing

No issues were noted with the fencing at this site at the time of the study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

Architectural

AHS-A1: Roofing – Main Building

Per the 2022 Roof Assessment Report the shingle roof system has limited-service life left. The level of degradation observed on this three-tab shingle roof system is a combination of failing substrate, damaged materials, poor installation, inadequate ventilation and active leaks.

Nature of the Issue: System Failure.

Recommended Action: Full reroof of the main building, excluding the new classroom addition, the Scene Shop and the south side of the BPAC, which was reroofed at the time of the addition in 2022.

Timeline: Short Term (1-3 years)

AHS-A2: Gutters – Main Building

During a heavy rain water will overflow/overshoot the gutters in two locations; on the SW corner of the main Commons roof, by the front entry, and directly above the ticket booth at the BPAC. Both conditions appear to be a result of inadequate downspout capacity. A similar condition exists on the east end of the Commons roof, near that door out to the CTE Shop Building.

Nature of the Issue: System Deficiency.

Recommended Action: Increase the size of the downspout serving the Commons roof. The sub-grade connection should be sufficient. Add a second downspout in the vicinity of where the BPAC gutter is overflowing. That will require some additional underground piping to connect it to the storm drain system. Add capacity to the gutter/downspout on the east side as well.

Timeline: Short Term (1-4 years)

AHS-A3: Roof – CTE Shop Building

No issues were noted with the metal roof system on the CTE Shop. Given the life of the building, with regular maintenance it should have another 10+ years of life.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years .

Timeline: Long Term (10-15 years)

AHS-A4: Gutters – CTE Shop Building

Overflow downspout capacity. Gutters are coming off. Capacity problem.

The gutters at the CTE Shop do not have sufficient capacity. They overflow during a heavy rainstorm. A section is also pulling away from the building. The gutters should be replaced with large capacity gutters and the capacity of the downspouts confirmed.

Nature of the Issue: System Repair

Recommended Action: Enlarge the gutters. Evaluate capacity of downspouts and potentially upsize them.

Timeline: Short Term (1-4 years)

AHS-A5: Roofing – Grandstand / Bleachers

The roofs at the grandstand and bleachers were not included in the 2022 Roof Assessment. Downspouts at the grandstand were noted to be leaking. They may need to be repaired/rebuilt. No issues were noted with either roof. The metal roofs should have 10+ years left.

Nature of the Issue: System Repair

Recommended Action: Confirm cause of leaks at downspouts on grandstand and repair accordingly.

Timeline: Short Term (1-4 years)

AHS-A6: Roofing – Field House

The roof at the field house was not included in the 2022 Roof Assessment. However, it is the same age as the main building and was constructed at the same time by the same contractor. It is assumed to also be in need of replacement until further assessment indicates otherwise.

Nature of the Issue: System Failure.

Recommended Action: Evaluate and reroof the building as indicated by the evaluation.

Timeline: Short Term (1-3 years)

AHS-A7: Roofing – Ticket Booth

The roof at the ticket booth was not included in the 2022 Roof Assessment. However, it is the same age as the main building and was constructed at the same time by the same contractor. It is assumed to also be in need of replacement until further assessment indicates otherwise.

Nature of the Issue: System Failure.

Recommended Action: Evaluate and reroof the building as indicated by the evaluation.

Timeline: Short Term (1-3 years)

AHS-A8: Exterior Wall Systems – All Buildings

No specific issues with the exterior wall systems were noted at the time of this study and nothing to suggest future problems should be anticipated.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

AHS-A9: Exterior Paint and Finishes – Main Building

All painted surfaces on the exterior of the main building were repainted in 2022. The exterior masonry was re-sealed at the same time and an anti-graffiti coating was provided. The exterior finishes should perform for at least 15 years.

Nature of the Issue: None.

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Long Term for repainting (15-20 years).

AHS-A10: Exterior Paint and Finishes – CTE Shop

The CTE Shop building was not repainted at the time that the main building was. It is time to repaint the building.

Nature of the Issue: System Replacement.

Recommended Action: Repaint the exterior of this building.

Timeline: Short Term (1-4 years).

AHS-A11: Exterior Paint and Finishes – Field House

All painted surfaces on the exterior of the field house were repainted in 2022. The exterior masonry was re-sealed at the same time and an anti-graffiti coating was provided. The exterior finishes should perform for at least 15 years.

Nature of the Issue: None.

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Long Term for repainting (15-20 years).

AHS-A12: Exterior Paint and Finishes – Ticket Booth

All painted surfaces on the exterior of the ticket booth were repainted in 2022. The exterior masonry was re-sealed at the same time and an anti-graffiti coating was provided. The exterior finishes should perform for at least 15 years.

Nature of the Issue: None.

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Long Term for repainting (15-20 years).

AHS-A13: Exterior Paint and Finishes – Grandstand and Bleachers

The painted surfaces of the grandstand were repainted in 2022 and the masonry was resealed. They should not need to be redone for 15 years.

Nature of the Issue: None.

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Long Term for repainting (15-20 years).

AHS-A14: Exterior Doors – All Buildings

No issues were noted with exterior doors or hardware at the time of this study. All painted doors on the exterior of the main building, field house, ticket booth and grandstand were repainted in 2022.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

AHS-A15: Exterior Windows – All Buildings

No issues were noted with exterior windows at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

AHS-A16: Building Structure – All Buildings

There are potential indications that the freezer and cooler in the kitchen are settling at a different rate than the main building. The doors are sticking and flooring is cracking. Further investigation is warranted. No other structural deficiencies were noted with any of the structures on site at the time of this study.

Nature of the Issue: System Repair.

Recommended Action: Further investigation should be done to confirm if there is differential settlement occurring. The freezer and cooler both need to be replaced. That may offer a good opportunity to address the settlement if it is confirmed.

Timeline: Short Term (1-4 years).

AHS-A17: Floor Slabs – Main Building

Some of the concrete floor slabs in the B wing of the main building have exhibited visible shrinking which has opened up gaps in the floor. In the Commons a crack has developed off the corner to the C wing. The cause of the cracks should be investigated and the cracks should be repaired. No other issues with floor slabs were noted for any other buildings.

Nature of the Issue: System Repair.

Recommended Action: Fill gaps with appropriate resilient compound to allow regular maintenance.

Timeline: Short Term (1-3 years)

AHS-A18: Floor Finishes – Main Building

The Commons floor was refinished in 2020. The resilient flooring in the kitchen is holding up well with the exception of a seam that is failing and may need to be redone. There were no other specific deficiencies noted for carpet or resilient flooring. They should have another 8-10 years of life at least. There were no issues noted for tile floors.

Nature of the Issue: System Repair

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Short Term for the kitchen floor (1-4 years). Long Term for replacement of carpet and resilient flooring (8-10 years).

AHS-A19: Floor Finishes – Gyms

The wood floor in the gyms swell and buckle at different times of the year. The most significant problems are in the NW corner of the main gym and the SW corner of the auxiliary gym. Those areas buckle to a point where they become a significant tripping hazard and even impair the function of the door between the two gyms. The individual boards that comprise the floor system also show signs of cupping which can be a tripping hazard for court sports. The issues are more acute when the HVAC system is not running. This is a moisture problem but it is unclear where the moisture is coming from.

The wood floor system has vented cove base around the perimeter and a wood sleeper system that holds the flooring material up off of the concrete slab below. That system is intended to provide ventilation under the floor to address moisture under the floor. Unfortunately, the sleepers run in both directions and do not allow for effective ventilation below the floor.

Attempts by the district to identify the source of the moisture or alleviate the swelling have been unsuccessful. It should be resolved as soon as possible.

Nature of the Issue: System Repair and Replacement.

Recommended Action: Continue to investigate the cause of the gym floor swelling and repair as appropriate. This will likely require removal of a section of the floor in the worst areas to provide access to the slab below. If the source of the moisture can be identified and eliminated the floor can be sanded to eliminate the cupping edges of boards and refinished. If the source cannot be found the floor system should be fully replaced with a system that has better under floor ventilation.

Timeline: Short Term (1-4 years).

AHS-A20: Floor Finishes – CTE Shop

No issues were noted in the floors at the CTE Shop at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

AHS-A21: Floor Finishes – Grandstand / Field House / Ticket Booth

No issues were noted in the floors at any of these structures at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

AHS-A22: Interior Walls – All Buildings

No issues were noted with any interior walls at the time of this study.

Nature of the Issue: None

Recommended Action: None

Timeline: NA

AHS-A23: Interior Paint – All Buildings

No issues were identified regarding the interior paint at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

AHS-A24: Interior Doors – All Buildings

Many of the interior doors have had issues with sagging through the years. The maintenance staff periodically adjust and shim them. It is anticipated that the issue will eventually resolve itself. This is considered a regular maintenance issue at the time of this study but should be reassessed. The hardware for the classrooms was replaced in 2022.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

AHS-A25: Interior Windows / Relites – All Buildings

No concerns with interior relites were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

AHS-A26: Ceilings – All Buildings

No concerns with interior ceilings were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

AHS-A27: Casework – All Buildings

The plastic laminate countertops in the science labs and Home EC have many cracked and delaminating edges. No other casework issues were noted.

Nature of the Issue: System Repair.

Recommended Action: Replace damages countertops. The district may want to consider a more durable finish than plastic laminate for these conditions.

Timeline: Short Term (1-3 years)

AHS-A28: Kitchen Equipment

No concerns with kitchen equipment were noted at the time of this study. However, all the equipment is from the original construction and is reaching the end of its anticipated functional life. The cooler and freezer will need replacement in 5-7 years. Other equipment is on a similar timeline and should be reassessed regularly.

Nature of the Issue: No current issues.

Recommended Action: Regular maintenance. Reassess condition in 4 years.

Timeline: Medium Term replacement (5-8 years)

AHS-A29: Miscellaneous Fixtures and Equipment

No concerns with any miscellaneous fixtures or equipment were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

Mechanical, Plumbing and Fire Protection Systems

AHS-M1: HVAC Controls – All Buildings

The DDC Controls for the HVAC system are adequate and operating as designed. They are original to the building and should have at least another 10 years of life.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Long Term (10+ years).

AHS-M2: Air Handling Units (AHUs) – Main Building

The air handling units for the main building and PAC are operating as designed and appear to be in good condition. They should have at least 8-10 years of serviceable life left.

Nature of the Issue: None at this time.

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Medium Term for replacement (8-10 years).

AHS-M3: Air Handling Units (AHUs) – CTE Shop

The gas furnaces and outdoor condensing units for the shop building are operating as designed, but they are past their average useful life. They should be replaced.

Nature of the Issue: System Replacement.

Recommended Action: Replace the furnaces and outdoor condensing units.

Timeline: Short Term for replacement (1-3 years).

AHS-M4: Boilers – Main Building

The boilers are nearing the end of their service life and are showing signs of condensing. They should be replaced within 5 years. The boiler flues had failed in the recent past, resulting in automatic boiler shutdown for safety. The system could be modified to not rely on the draft fan which would eliminate this issue.

Nature of the Issue: System Replacement

Recommended Action: Provide new boilers. Modify system to resolve issue with flues.

Timeline: Short Term (3-5 years).

AHS-M5: Pumps – Main Building

The pumps appear to be in good condition and no issues were noted. However they are nearing the end of their anticipated serviceable life. They should be replaced at the same time as the boilers.

Nature of the Issue: System Replacement

Recommended Action: Provide new pumps.

Timeline: Short Term (3-5 years).

AHS-M6: Chiller – Main Building

The chillers are operating as designed but are nearing the end of their anticipated serviceable life. They will likely need to be replaced in 5-7 years.

Nature of the Issue: System Replacement

Recommended Action: Provide new chillers.

Timeline: Medium Term (5-7 years).

AHS-M7: Hydronic Piping – Main Building

The hydronic piping appears to be in good condition. There are some leaks in valves and at AHUs that the maintenance department is aware of. Other than that no issues were noted.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reevaluate in 4 years.

Timeline: NA

AHS-M8: Exhaust Fans – All Buildings

No issues were noted with any exhaust fans at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

AHS-M9: HVAC Distribution Ductwork – All Buildings

It was noted that air stratification is occurring in the drama classroom. No other issues with the air distribution ductwork were noted.

Nature of the Issue: System Deficiency

Recommended Action: Modify ductwork to provide a low return and/or add ceiling paddle fans.

Timeline: Short Term (1-3 years)

AHS-M10: Backflow Prevention – All Buildings

No issues were noted with the backflow prevention for the domestic water system or at the dishwasher at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA.

AHS-M11: Domestic Water Piping - All Buildings

No issues were noted with the domestic water piping system at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

AHS-M12: Plumbing Fixtures – All Buildings

No current issues were noted. Most of the plumbing fixtures are original to the building and should have plenty of serviceable life left. All faucets have been replaced. The faucets and flush valves will fail periodically and need to be replaced on a one at a time basis. There does not appear to be a need for a full replacement of all the fixtures at this time or in the immediate future.

Nature of the Issue: None

Recommended Action: Regular maintenance. Replace faucets and flush valves as they wear out. Reassess in 4 years.

Timeline: NA

AHS-M13: Water Heaters – Main Building

The gas fired water heater for the Kitchen has reached the end of its serviceable life and should be replaced. The two gas fired water heaters that serve the locker rooms have also reached the end of their lives and should be replaced. The electric water heaters have been replaced since the building was opened. The C wing was replaced in 2020, the B wing in 2018, and the D wing in 2014. They can be anticipated to have 12-15 years of life.

Nature of the Issue: System Replacement.

Recommended Action: Replace hot water heaters as they age.

Timeline: Short Term for Kitchen and Gyms (1-3 years). Medium Term for D wing (5-7 years). Long Term for B and C wings (10-12 years).

AHS-M14: Water Heater – CTE Shop

The gas fired water heater for the CTE Shop has reached the end of its serviceable life and needs to be replaced.

Nature of the Issue: System Replacement.

Recommended Action: Provide a new hot water heater for the CTE Shop.

Timeline: Short Term (1-3 years).

AHS-M15: Water Heater – Grandstand

The gas fired water heater for the Grandstand has reached the end of its serviceable life and needs to be replaced.

Nature of the Issue: System Replacement.

Recommended Action: Provide a new hot water heater for the Grandstand.

Timeline: Short Term (1-3 years).

AHS-M16: Fire Sprinklers – All Buildings

No issues were noted with the fire sprinkler system.

Nature of the Issue: None.

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

Electrical and Low Voltage Systems

AHS-E1: Service Transformer – All Buildings

No issues were noted with the transformers or power service to any of the buildings. The transformers are still well within their expected life spans.

Nature of the Issue: None at this time.

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Long Term (10+ years).

AHS-E2: Switchgear and Panelboards – All Buildings

The switchgear and panelboards are original to the building's construction and are in good working order. The standard life span of electrical gear is 30 years and can last substantially longer.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Long Term (10-15 years)

AHS-E3: Interior Power – All Buildings

No issues were identified related to interior power at the time of this study.

Nature of the Issue: None

Recommended Action: None

Timeline: NA

AHS-E4: Interior Lighting – All Buildings

The majority of the fixtures have had LED replacement bulbs installed in lieu of fluorescent or HID bulbs, but they are installed in fixtures that are designed for fluorescent/HID bulbs. There were not issues noted with the operation of the fixtures at the time of the study.

Nature of the Issue: None

Recommended Action: None

Timeline: NA

AHS-E5: Interior Lighting - Gymnasium

It was noted that the main gym appears to be darker than most competition gyms. This may be due to the fact that the school is using LED replacement bulbs in fixtures that are not LED fixtures. Those bulbs are not as bright as the original bulbs.

Nature of the Issue: System Deficiency

Recommended Action: Replace the existing light fixtures with LED fixtures.

Timeline: Short Term (1-3 years)

AHS-E6: Lighting Controls – All Buildings

The majority of the lighting controls within the building are simple on/off switches with some occupancy sensors. No issues were noted with the lighting controls at the time of this study.

Nature of the Issue: None

Recommended Action: None

Timeline: NA

AHS-E7: Security and Access Control Systems – All Buildings

The security and access control systems were upgraded in 2021. There were no issues noted at the time of this report. Serviceable life is beyond 10 years.

Nature of the Issue: No issues noted

Recommended Action: None required.

Timeline: Long Term (15+ years).

AHS-E8: CCTV Camera System – All Buildings

The CCTV camera system was upgraded in 2021. There were no issues noted at the time of this report. Serviceable life is beyond 10 years.

Nature of the Issue: No issues noted

Recommended Action: None required.

Timeline: Long Term (15+ years).

AHS-E9: Intercom System – All Buildings

The intercom system is in working order and utilizes the phone system to broadcast messages via the original intercom speakers.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

AHS-E10: Clock System – All Buildings

No issues were identified with the clock system.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

AHS-E11: Fire Alarm System

The fire alarm system is a Simplex addressable system. The main panel was upgraded in 2022 as part of the Admin remodel. The existing original system components throughout the building should have 6-10 more years of serviceable life.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 5 years.

Timeline: Medium Term (6-10 years)

Information Technology Infrastructure

AHS-T1: Fiber

Not all of the IDFs in the building are connected to the MDF with a fiber homerun. That creates bandwidth deficiencies in portions of the building.

Nature of the Issue: System Deficiency

Recommended Action: Provide a new fiber homerun to those IDF rooms that are currently connected by cable.

Timeline: Short Term (1-5 years)

AHS-T2: Data Cabling

The building's data cabling is approaching the end of its useful life. Based on the age of the building and the ever increasing demands on data systems it will likely need to be replaced in 5-7 years. The cabling in the grandstand, or potentially between the grandstand and the main building, is problematic. Troubleshooting has been unsuccessful in resolving the issues. The cabling for that building should be replaced as soon as practical.

Nature of the Issue: System Upgrade

Recommended Action: Replace existing data cabling with CAT6A.

Timeline: Short Term for grandstand (1-3 years). Medium Term for the main buildings (5-7 years)

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System Repair & Replacement

Weston High School - Recommended Project Timing

Long Range Repair/Replacement
Minor System Repair
Moderate Repair/Improvement
Major Repair/Replacement

PROJECT		1-4 years 2024-2028	5-8 years 2029-2032	9-12 years 2033-2036	13-16 years 2037-2040	17-20 years 2041-2044	21+ years 2045+
Weston High School							
WHS-S1	Site Lighting	x					
WHS-S2	Sight Utlities						x
WHS-S3	Storm Water Systems						x
WHS-S4	Paving and Parking	x					
WHS-S5	Landscape and Irrigation						x
WHS-S6	Fencing						x
WHS-A1	Roofing	x	x				
WHS-A2	Exterior Walls	x					
WHS-A3	Exterior Paint	x					
WHS-A4	Exterior Doors						x
WHS-A5	Exterior Windows	x					
WHS-A6	Building Structure						x
WHS-A7	Flooring	x					
WHS-A8	Interior Walls						x
WHS-A9	Interior Paint	x					
WHS-A10	Interior Doors						x
WHS-A11	Interior Windows/Relites						x
WHS-A12	Interior Ceilings						x
WHS-A13	Casework	x					
WHS-A14	Kitchen Equipment				x		
WHS-A15	Misc. Equipment						x
WHS-M1	Controls						x
WHS-M2	Heat Pumps						x
WHS-M3	Packaged Units		x				
WHS-M4	VAV Boxes		x				
WHS-M5	Exhaust Fans						x
WHS-M6	HVAC Ductwork						x
WHS-M7	Backflow Prevention						x
WHS-M8	Domestic Water Piping						x
WHS-M9	Water Heaters			x			
WHS-M10	Plumbing Fixtures	x					
WHS-M11	Fire Sprinklers						x
WHS-E1	Service Transformer						x
WHS-E2	Switchgear and Panels	x					
WHS-E3	Interior Power						x
WHS-E4	Interior Lighting						x
WHS-E5	Lighting Controls						x
WHS-E6	Security and Access				x		
WHS-E7	CCTV Cameras				x		
WHS-E8	Intercom - NA						
WHS-E9	Clock System - NA						
WHS-E10	Fire Alarm						x
WHS-T1	Data Cabling	x					

Weston High School - System Observations

Site Infrastructure

WHS-S1: Site Lighting

The lighting in the parking areas is inadequate and presents a safety issue. One pole doesn't have power running to it and the others have low output heads. There are not enough poles in the lot to resolve the issue.

Nature of the Issue: System Deficiency

Recommended Action: Replace pole mounted fixtures with new LED fixture heads and add lighting.

Timeline: Short Term (1-3 years)

WHS-S2: Site Utilities

No issues were noted with the site utilities at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

WHS-S3: Storm Water Systems

The drainage pond is not fenced but appears to be functioning properly. Multiple catch basins have damaged asphalt around their rims which is causing ponding. No other issues were noted with the storm water systems at the time of this study.

Nature of the Issue: System Repair

Recommended Action: Provide fence at pond for safety. Repair asphalt around catch basins to reestablish proper flow.

Timeline: NA

WHS-S4: Paving and Parking Lots

The paving in the entire parking lots shows extensive cracking and weathering, particularly in the drive aisles. There are numerous large potholes near both of the gates. Ponding was noted in several areas, particularly on the east side of the site. Tree root damage was noted in the loading zone on the north side of the building. The paving has reached the end of its useful life and needs to be replaced.

The sidewalks are limited to the front of the building. They are functional but very weathered and will likely continue to deteriorate. They should be replaced before they become a safety hazard.

There is limited curbing on the site, mostly in planters near the building. Sections of that have been damaged by vehicle traffic .

Nature of the Issue: System Failure

Recommended Action: Repave the entire parking area. Replace the sidewalks. Repair curbs.

Timeline: Short Term (1-4 years)

WHS-S5: Landscaping and Irrigation

There is very little landscaping on this site and no irrigation. No issues were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

WHS-S6: Fencing

The site has problems with trespassers cutting the fence material which requires periodic repairs. But no other specific issues were noted with the fencing at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

Architectural

WHS-A1: Roofing

The level of degradation observed on the single-ply roof system is typical for the age of the building, including minor holes, ponding in gutters and some partially opened seams. The system has 8-10 years of serviceable life left, per 2022 Roof Assessment report.

There is a concern with gutter capacity. The system is not able to keep up with the flow during heavier rainfall which results in gutters overflowing.

Nature of the Issue: System Deficiency.

Recommended Action: Add capacity to gutter system, through larger gutters, large downspouts or more downspouts.

Timeline: Short Term for gutter repairs (1-4 years). Medium Term for replacement (8-10 years)

WHS-A2: Exterior Wall Systems

There are numerous, minor cracks & spalling forming at the panel joints of the wall panels. Perimeter window sealant has started to separate from the windows creating gaps. There have been previous issues with water infiltration into the building at the base of the wall panels.

Nature of the Issue: System Repair.

Recommended Action: Repair all visible cracks with gap-filling compound to maintain envelope integrity. Remove and replace all sealant joints. Reseal panel joints as appropriate

Timeline: Short Term (1-3 years)

WHS-A3: Exterior Paint

The exterior of the building is mostly concrete. It was resealed and painted 10 years ago but the system is starting to fail. It needs to be repainted to avoid further damage.

Nature of the Issue: System Failure.

Recommended Action: Repaint the exterior of the building.

Timeline: Short Term (1-4 years)

WHS-A4: Exterior Doors

No issues were noted with exterior doors at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

WHS-A5: Exterior Windows

A few windows on the north side of the building leak. It is exacerbated by the gutter overflow noted above but the windows should not fail even under that added flow. The noted windows need to be replaced.

Nature of the Issue: System Repair

Recommended Action: Replace the windows that are failing.

Timeline: Short Term (1-4 years)

WHS-A6: Building Structure

No structural deficiencies were noted at the time of this study. The building was not evaluated by a structural engineer at this time.

Nature of the Issue: None

Recommended Action: None.

Timeline: NA

WHS-A7: Flooring

The carpet and tile floors throughout the facility are very old and are failing. The floor slab in the mechanical and custodial spaces in SW corner of the building is in particularly bad shape and needs to be repoured.

Nature of the Issue: System Repair/Replacement

Recommended Action: Replace all carpets and tile floors. Remove and repour slab in mechanical/custodial spaces.

Timeline: Short Term (1-4 years)

WHS-A8: Interior Walls

No issues were noted with interior walls at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

WHS-A9: Interior Paint

The interior of this building has been painted in piecemeal fashion as the district has done small remodels. Overall, the interior could benefit from new paint, although some individual spaces may not need it.

Nature of the Issue: System Replacement

Recommended Action: Repaint the interiors of the building.

Timeline: Short Term (1-4 years)

WHS-A10: Interior Doors

No concerns with interior doors were noted at the time of this study. The classroom door hardware was replaced in 2021.

Nature of the Issue: No current issues.

Recommended Action: Regular maintenance. Reassess condition in 4 years.

Timeline: Long Term (10+ years)

WHS-A11: Interior Windows/Relites

No concerns with interior windows or relites were noted at the time of this study.

Nature of the Issue: No current issues.

Recommended Action: Regular maintenance. Reassess condition in 4 years.

Timeline: Long Term (10+ years)

WHS-A12: Ceilings

No concerns with interior ceilings were noted at the time of this study.

Nature of the Issue: No current issues.

Recommended Action: Regular maintenance. Reassess condition in 4 years.

Timeline: Long Term (10+ years)

WHS-A13: Casework

The counters in the boys toilet rooms are failing and need to be replaced. No other concerns with casework were noted at the time of this study.

Nature of the Issue: System Repair.

Recommended Action: Replace the counters in the boys toilet room.

Timeline: Short Term (1-3 years)

WHS-A14: Kitchen Equipment

The school has very limited kitchen equipment. It is limited to a reach in cooler and warming oven. Both are relatively new and operating properly. They should have at least 12-15 years of life left in them.

Nature of the Issue: No current issues.

Recommended Action: Regular maintenance. Reassess condition in 4 years.

Timeline: Long Term (12-15 years)

WHS-A15: Fixtures and Equipment

No concerns with fixtures or equipment were noted at the time of this study.

Nature of the Issue: No current issues.

Recommended Action: Regular maintenance. Reassess condition in 4 years.

Timeline: Long Term (10+ years)

Mechanical, Plumbing and Fire Protection Systems

WHS-M1: HVAC Controls

The DDC Controls for the HVAC system will be fully replaced in the summer of 2023. The project had already bid at the time of this report.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Long Term (10+ years).

WHS-M2: Heat Pumps

The two roof top heat pumps will be replaced in the summer of 2023. The project had already bid at the time of this report. The new units will have a life expectancy of approximately 20 years.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Long Term (20+ years).

WHS-M3: Packaged Units

The nine roof top gas/electric packaged units were replaced in approximately 2007. They are approaching the end of their anticipated serviceable life. The should be replaced in the medium term.

Nature of the Issue: System Replacement

Recommended Action: Replace all the roof top units.

Timeline: Medium Term (5-7 years).

WHS-M4: VAV Boxes

The VVT (VAV) boxes are in decent shape. They should have another 5-7 years of serviceable life.

Nature of the Issue: System Replacement

Recommended Action: Replace all VVT boxes.

Timeline: Medium Term (5-7 years).

WHS-M5: Exhaust Fans

The bathroom exhaust fans were replaced 3 years ago and are operating properly. No issues were noted with any exhaust fans at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

WHS-M6: HVAC Ductwork

There are a number of issues with the ductwork in this facility. Most have to do with modifications that have been made to the system through the years without proper documentation. The drawings that the district has are not accurate. The district maintenance staff was unable to define the extent of the issue at the time of this study. Resolving the broader, general concern would require a holistic evaluation, redesign and rebuild of the building's ductwork system. That is noted elsewhere in this report as a potential functional improvement.

Nature of the Issue: None

Recommended Action: None

Timeline: NA

WHS-M7: Backflow Prevention

No issues were noted with the backflow prevention for the domestic water system.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

WHS-M8: Domestic Water Piping

No issues were noted with the domestic piping system at the time of this study.

Nature of the Issue: No current issues

Recommended Action: Monitor system. Reevaluate in 4 years.

Timeline: NA

WHS-M9: Water Heaters

There are two domestic hot water heaters. One serves the main building and was replaced 4 years ago. The other serves the back restroom area and was replaced 5 years ago. Both should have 10-12 years life left.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Long Term replacement (10-12 years).

WHS-M10: Plumbing Fixtures

At the time of this study the district was in the process of planning a remodel of toilet rooms in this facility that they intend to do with their own forces in the summer of 2023. That will include replacement of some plumbing fixtures. The full scope was not fully defined at the time of this study. The sinks in the boys toilet room do need to be replaced along with the countertop noted above.

Nature of the Issue: System Repair

Recommended Action: Replace sinks in boys toilet room.

Timeline: Short Term (1-4 years)

WHS-M11: Fire Sprinklers

No issues were noted with the fire sprinkler system at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

Electrical and Low Voltage Systems

WHS-E1: Service Transformer – All Buildings

No issues were noted with the transformers or power service to any of the buildings.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

WHS-E2: Switchgear and Panelboards

The switchgear and panelboards were installed in 2006. Since then circuits have been added and changed in a haphazard manner. There are several sub panels throughout the building that were installed before it was being used as a school facility and they are not necessary now. The system is not well documented so it is difficult for the district to make changes to respond to changes in use. The district is slowly working to reduce the unnecessary sub panels and organize the main panelboards but that will take a lot of work and time. To adequately address the overall concerns would require a full replacement of the power distribution system in the building.

Nature of the Issue: System Deficiency

Recommended Action: Consider full replacement of the power distribution system.

Timeline: Short Term (1-4 years)

WHS-E3: Interior Power

See the discussion under Switchgear and Panelboards above.

WHS-E4: Interior Lighting

The light fixtures in this facility are fluorescent and have not been updated to LED bulbs. No specific issues were noted with the system other than them being old. They are operating properly.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

WHS-E5: Lighting Controls

The majority of the lighting controls within the building are simple on/off switches. No issues were noted with the lighting controls at the time of this study.

Nature of the Issue: None

Recommended Action: None

Timeline: NA

WHS-E6: Security and Access Control Systems

The security and access control systems were upgraded in 2021. There were no issues noted at the time of this report. Serviceable life is beyond 15 years.

Nature of the Issue: None

Recommended Action: Regular Maintenance. Reassess in 4 years.

Timeline: Long Term (15+ years).

WHS-E7: CCTV Camera System

The CCTV camera system was upgrade in 2021. There were no issues noted at the time of this report. Serviceable life is beyond 15 years.

Nature of the Issue: None

Recommended Action: Regular Maintenance. Reassess in 4 years.

Timeline: Long Term (15+ years).

WHS-E8: Intercom System

This building does not have an intercom system.

WHS-E9: Clock System

This building does not have a clock system. The existing clocks are individual, standalone digital type.

WHS-E10: Fire Alarm System

No issues were noted with the Simplex fire alarm system at the time of this study.

Nature of the Issue: None

Recommended Action: Regular Maintenance. Reassess in 4 years.

Timeline: NA

Information Technology Infrastructure

DO-T1: Data Cabling

The building has older cable for its data network that does not provide the capacity necessary for today's technology.

Nature of the Issue: System Upgrade

Recommended Action: Replace existing data cabling with CAT6A.

Timeline: Short Term (1-5 years)

System Repair & Replacement

Stillaguamish Valley Learning Center Recommended Project Timing

Long Range Repair/Replacement
Minor System Repair
Moderate Repair/Improvement
Major Repair/Replacement

PROJECT		1-4 years 2024-2028	5-8 years 2029-2032	9-12 years 2033-2036	13-16 years 2037-2040	17-20 years 2041-2044	21+ years 2045+
Stillaguamish Valley Learning Center							
SVLC-S1	Site Lighting	x					
SVLC-S2	Sight Utlities						x
SVLC-S3	Storm Water Systems	x					
SVLC-S4	Paving and Parking	x					
SVLC-S5	Landscape and Irrigation						x
SVLC-S8	Fencing						x
SVLC-A1	Roofing	x					x
SVLC-A2	Exterior Walls	x					
SVLC-A3	Exterior Paint	x					
SVLC-A4	Exterior Doors	x					
SVLC-A5	Exterior Windows						x
SVLC-A6	Building Structure	x					
SVLC-A7	Toilet Rooms	x					
SVLC-A8	Flooring			x			
SVLC-A9	Interior Walls						x
SVLC-A10	Interior Paint						x
SVLC-A11	Interior Doors						x
SVLC-A12	Interior Windows/Relites						x
SVLC-A13	Interior Ceilings						x
SVLC-A14	Casework						x
SVLC-A15	Misc. Equipment	x					
SVLC-M1	Controls				x		
SVLC-M2	Heat Pumps	x		x			
SVLC-M3	Exhaust Fans						x
SVLC-M4	HVAC Ductwork						x
SVLC-M5	Backflow Prevention	x					
SVLC-M6	Domestic Water Piping						x
SVLC-M7	Plumbing Fixtures						x
SVLC-M8	Waterheaters	x					
SVLC-M9	Fire Sprinklers - NA						
SVLC-E1	Service Transformer						x
SVLC-E2	Switchgear and Panels			x			
SVLC-E3	Interior Power	x					
SVLC-E4	Interior Lighting						x
SVLC-E5	Lighting Controls						x
SVLC-E6	Security and Access				x		
SVLC-E7	CCTV Cameras				x		
SVLC-E8	Intercom				x		
SVLC-E9	Clock System - NA						
SVLC-E10	Fire Alarm			x			
SVLC-T1	Data Cabling		x				

Stillaguamish Valley Learning Center - System Observations

Site Infrastructure

SVLC-S1: Site Lighting

In general the site lighting is inadequate. The existing fixtures are LED but do not provide sufficient output. It could be significantly improved by replacing the existing lights with higher performing fixtures and adding new light poles.

Nature of the Issue: System Deficiency

Recommended Action: Replace the existing pole mounted fixtures with higher performing LED fixture heads and add light poles, particular in the parking area.

Timeline: Short Term (1-3 years)

SVLC-S2: Site Utilities

No issues were noted with the site utilities at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

SVLC-S3: Storm Water Systems

This campus was developed in phases and does not appear to have a coordinated storm water management system. Downspouts on building drain into swales which in turn drain into a detention pond. The staff noted several areas of ponding. Surface water run-off pools in the swale on the south side of the site and the grounds stay moist year-round.

Nature of the Issue: System Deficiency

Recommended Action: Add local drains in areas where ponding is problematic.

Timeline: Short Term (1-4 years)

SVLC-S4: Paving and Parking Lots

No major issues were noted with the paving or curbing in the parking areas. There is some alligator cracking that should be repaired before it becomes a larger issue. The sidewalk is in poor condition and needs to be replaced.

Nature of the Issue: System Repair

Recommended Action: Repair/patch at sections with alligator cracking that have failed. Crack seal and seal coat the entire lot. Replace the existing sidewalk.

Timeline: Short Term (1-3 years)

SVLC-S5: Landscaping and Irrigation

No issues were noted with the existing landscaping at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

SVLC-S6: Fencing

No issues were noted with the fencing at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

Architectural

SVLC-A1: Roofing – All Buildings

All the roofs are comprised of shingles in various conditions which drain to the longitudinal edges at relatively low slopes. There are (6) roofs that are in good shape and appear to have been recently replaced. They should have 20+ years of life. There are (5) roofs that have reached the end of their useful life and that are failing or have failed. They should be replaced as soon as practical.

Nature of the Issue: Partial System Replacement

Recommended Action: Reroof the 5 portables that have failed.

Timeline: Short Term (1-4 years)

SVLC-A2: Exterior Wall Systems – All Buildings

All of the existing buildings need minor repairs to siding. Many need significant repairs including the potential of dry rot damage to the wall framing from moisture intrusion.

Nature of the Issue: System Repair

Recommended Action: Repair and re-caulk siding and wall framing where required.

Timeline: Short Term (1-3 years).

SVLC-A3: Exterior Paint – All Buildings

All of the portables need to be cleaned, resealed and repainted in the short term to protect them from moisture intrusion.

Nature of the Issue: System Replacement.

Recommended Action: Clean, reseal and repaint the exterior of all the portables.

Timeline: Short Term (1-3 years).

SVLC-A4: Exterior Doors – All Buildings

On some of the portables moisture intrusion around door frames has damaged the framing and impaired the proper function of the doors.

Nature of the Issue: System Repair

Recommended Action: Reframe door openings at locations of water damage.

Timeline: Short Term (1-3 years).

SVLC-A5: Exterior Windows – All Buildings

No issues were noted with exterior windows at the time of this report.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

SVLC-A6: Building Structure – All Buildings

These buildings were not evaluated by a structural engineer at the time of this study. District staff did note signs of moisture intrusion in exterior walls of some of the portables that has resulted in dry rot. Those areas should be repaired.

Nature of the Issue: System Repair

Recommended Action: Identify all locations of dry rot in the existing walls and repair as necessary.

Timeline: Short Term (1-3 years).

SVLC-A7: Toilet Rooms

Several of the portables have toilet rooms in them. The campus also has one building that is a toilet facility. In that building all the finishes are in poor condition, in general. The resilient flooring is worn and allowing moisture intrusion into subfloor. Countertops are damaged. The layout of the facilities does not comply with ADA requirements.

Nature of the Issue: System Failure.

Recommended Action: Replace all finishes and casework in the toilet rooms. Consider reconfiguring those that are not currently ADA compliant.

Timeline: Short Term (1-3 years).

SVLC-A8: Flooring – All Buildings

No issues with floor finishes other than those noted for the toilet rooms were noted for any of the buildings. Portables P3, P5, P6 and P8 have had floor repair and new tiles installed recently. That should be sufficient for 20+ years. The flooring in the other six portables is in good shape and should have 12-15 years of life.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Long Term for replacement (12-15 years)

SVLC-A9: Interior Walls – All Buildings

No issues with interior walls, other than the wainscot in toilet rooms, were noted any of the buildings.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

SVLC-A10: Interior Paint – All Buildings

No issues were identified regarding the interior paint at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

SVLC-A11: Interior Doors – All Buildings

No concerns with interior doors were noted at the time of this study.

Nature of the Issue: No current issues.

Recommended Action: Regular maintenance. Reassess condition in 4 years.

Timeline: Long Term (10+ years)

SVLC-A12: Interior Windows / Relites – All Buildings

No concerns with interior relites were noted at the time of this study.

Nature of the Issue: No current issues.

Recommended Action: Regular maintenance. Reassess condition in 4 years.

Timeline: Long Term (10+ years)

SVLC-A13: Ceilings – All Buildings

No concerns with interior ceilings were noted at the time of this study.

Nature of the Issue: No current issues.

Recommended Action: Regular maintenance. Reassess condition in 4 years.

Timeline: Long Term (10+ years)

SVLC-A14: Casework – All Buildings

Other than those noted for toilet rooms above, no concerns with casework were noted at the time of this study.

Nature of the Issue: No current issues.

Recommended Action: Regular maintenance. Reassess condition in 4 years.

Timeline: Long Term (10+ years)

SVLC-A15: Miscellaneous Fixtures and Equipment – All Buildings

Several of the ADA ramps that provide access to the various portable buildings are past their useful life. They are wooden ramps which have a shorter life span. They should be replaced with a more durable system. No other issues with fixtures or equipment were noted at the time of this study.

Nature of the Issue: System Replacement.

Recommended Action: Replace all the existing wooden ADA ramps with an aluminum ramp system such as Welcome Ramp or similar.

Timeline: Short Term (1-3 years)

Mechanical, Plumbing and Fire Protection Systems

SVLC-M1: HVAC Controls – All Buildings

The existing HVAC control system for this campus is standalone and is functioning as designed. It is a fairly new system and should have at least 15 years of life.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Long Term (15+ years).

SVLC-M2: Wall Mounted Heat Pumps – All Buildings

The wall mounted heat pumps are showing their age with failures starting to occur. The heat pump on Portable 6 needs to be replaced as soon as possible. The others are functioning now but should be replaced soon. The exception is Portable 10, that serves as the kindergarten room. That split system heat pump was installed in 2017 and should have 10+ years of serviceable life.

Nature of the Issue: System Replacement

Recommended Action: Replace the heat pumps for all portables except 10.

Timeline: Short Term for nine of the portables (1-4 years). Long Term for portable 10 (10+ years)

SVLC-M3: Exhaust Fans – All Buildings

No issues were noted with any exhaust fans at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

SVLC-M4: HVAC Distribution Ductwork – All Buildings

No issues were noted with the HVAC distribution ductwork at the time of this study.

Nature of the Issue: None

Recommended Action: None

Timeline: NA

SVLC-M5: Backflow Prevention – All Buildings

The campus has several domestic water meters and most, if not all, do not have backflow prevention systems. There is one on Portable 5 which is currently being used to teach science. Portables 1, 6 and 8 that have toilet rooms do not have a system installed. That would have been a code requirement at the time the portables were installed and should be provided now.

Nature of the Issue: System Deficiency

Recommended Action: Install a backflow preventor for all domestic water service connections.

Timeline: Short Term (1-4 years).

SVLC-M6: Domestic Water Piping – All Buildings

No issues were noted with the domestic water piping for any of the buildings at the time of this study.

Nature of the Issue: None

Recommended Action: Regular Maintenance. Reassess in 4 years.

Timeline: NA

SVLC-M7: Plumbing Fixtures – All Buildings

The plumbing fixtures in all buildings vary in age but all appear to be adequate.

Nature of the Issue: None

Recommended Action: None

Timeline: NA

SVLC-M8: Water Heaters – All Buildings

The water heater in the toilet room building is at the end of its serviceable life and needs to be replaced. No issues were noted with any of the water heaters for any of the other buildings.

Nature of the Issue: Partial System Replacement

Recommended Action: Replace the water heater in the toilet room building.

Timeline: Short Term (1-2 years).

SVLC-M9: Fire Sprinklers – All Buildings

None of the buildings on this campus are provided with fire sprinklers. Because of their size and separation they are not required by code to have fire sprinklers.

Electrical and Low Voltage Systems

SVLC-E1: Service Transformer

No issues were noted with the campus' service or transformers at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

SVLC-E2: Switchgear and Panelboards – All Buildings

The panelboards are original to the building's construction and are beyond their anticipated useful life. However they appear to be in good working order and should last for another 6-10 years.

Nature of the Issue: None

Recommended Action: Regular Maintenance. Reevaluate in 4 years.

Timeline: Medium Term replacement (6-10 years)

SVLC-E3: Interior Power – All Buildings

Receptacles in areas that are accessible by students are not tamper-proof. They met code at the time of installation, but do not meet the current National Electrical Code or WAC. The should be replaced with tamper resistant outlets in the portables that serve very young students, P6 and P8. No other issues were identified related to interior power at the time of this study.

Nature of the Issue: System Deficiency

Recommended Action: Replace outlets in buildings P6 and P8

Timeline: Short Term (1-4 years).

SVLC-E4: Interior Lighting – All Buildings

The lights in all buildings have T8 bulbs. No issues were noted with interior lighting in any of the buildings at the time of this study.

Nature of the Issue: None

Recommended Action: None

Timeline: NA

SVLC-E5: Lighting Controls – All Buildings

The majority of the lighting controls within the building are simple on/off switches. No issues were noted with lighting control in any of the buildings at the time of this study.

Nature of the Issue: None

Recommended Action: None

Timeline: NA

SVLC-E6: Security and Access Control Systems – All Buildings

The security and access control systems were upgraded in 2021. There were no issues noted at the time of this report. Serviceable life is beyond 10 years.

Nature of the Issue: None

Recommended Action: Regular Maintenance. Reassess in 4 years.

Timeline: Long Term (15+ years).

SVLC-E7: CCTV Camera System – All Buildings

The CCTV camera system was upgrade in 2021. There were no issues noted at the time of this report. Serviceable life is beyond 10 years.

Nature of the Issue: None

Recommended Action: Regular Maintenance. Reassess in 4 years.

Timeline: Long Term (15+ years).

SVLC-E8: Intercom System

The district purchased a new NocTel SIP-Based phone/intercom system for this campus in December of 2022. At the time that this study was published it had not yet been installed but was planned for the summer of 2023. It is the first installation of a system the district would like to extend to all their facilities. The new system should have a serviceable life of at least 15 years.

Nature of the Issue: None

Recommended Action: Regular Maintenance. Reassess in 4 years.

Timeline: Long Term (15+ years).

SVLC-E9: Clock System

This campus does not have a clock system. Each building has an individual clock.

SVLC-E10: Fire Alarm System – All Buildings

The fire alarm system is an older Simplex system that has limited capability. The district has not had any issues with the system and it should be able to be maintained for at least another 10 years.

Nature of the Issue: None

Recommended Action: None

Timeline: Long Term replacement (10+ years)

Information Technology Infrastructure

SVLC-T1: Data Cabling – All Buildings

The data cabling in each of the portables varies depending on the age of the portable. But all of it is approaching the end of its useful life. Based on the age of the buildings and the ever increasing demands on data systems it will likely need to be replaced in 5-7 years.

Nature of the Issue: System Upgrade

Recommended Action: Replace existing data cabling with CAT6A.

Timeline: Medium Term for the main buildings (5-7 years)

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System Repair & Replacement

The French House - Recommended Project Timing

Long Range Repair/Replacement
Minor System Repair
Moderate Repair/Improvement
Major Repair/Replacement

PROJECT		1-4 years 2024-2028	5-8 years 2029-2032	9-12 years 2033-2036	13-16 years 2037-2040	17-20 years 2041-2044	21+ years 2045+
French House							
FH-S1	Site Lighting						x
FH-S2	Sight Utlities	x					
FH-S3	Storm Water Systems - NA						
FH-S4	Paving and Parking - NA						
FH-S5	Landscape and Irrigation						x
FH-S6	Fencing						x
FH-A1	Roofing					x	
FH-A2	Chimney	x					
FH-A3	Exterior Walls						x
FH-A4	Exterior Paint				x		
FH-A5	Exterior Doors						x
FH-A6	Exterior Windows						x
FH-A7	Building Structure						x
FH-A8	Flooring						x
FH-A9	Interior Walls						x
FH-A10	Interior Paint						x
FH-A11	Interior Doors						x
FH-A12	Interior Windows/Relites						x
FH-A13	Interior Ceilings						x
FH-A14	Casework						x
FH-A15	Misc. Equipment						x
FH-M1	Controls				x		
FH-M2	Heat Pump				x		
FH-M3	Exhaust Fans						x
FH-M4	HVAC Distribution	x					
FH-M5	Backflow Prevention						x
FH-M6	Domestic Water Piping						x
FH-M7	Plumbing Fixtures						x
FH-M8	Water Heaters				x		
FH-M9	Fire Sprinklers - NA						
FH-E1	Service Transformer						x
FH-E2	Switchgear and Panels			x			
FH-E3	Interior Power						x
FH-E4	Interior Lighting						x
FH-E5	Lighting Controls						x
FH-E6	Security and Access				x		
FH-E7	CCTV Cameras				x		
FH-E8	Intercom - NA						
FH-E9	Clock System - NA						
FH-E10	Fire Alarm						x

The French House - System Observations

Site

FH-S1: Sight Lighting

No issues were noted with the site lighting at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

FH-S2: Sight Utilities

The water service to this building is failing and needs to be replaced.

Nature of the Issue: System Failure

Recommended Action: Replace the water service.

Timeline: Short Term (1-4 years)

FH-S3: Storm Water Systems

See discussion under Building A

FH-S4: Paving and Parking Lots

See discussions under Haller Middle School and Building A.

FH-S5: Landscaping and Irrigation

No issues were noted with the existing landscaping at the time of this study. The site does not have irrigation.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

FH-S6: Fencing

No issues were noted with the site fencing at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

Architectural

FH-A1: Roofing

Per the 2022 Roof Assessment the roofing system on this building is in good condition and is fairly new. It should have 15 years or more of serviceable life left.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess condition in 4 years.

Timeline: Long Term replacement (15+ years)

FH-A2: Chimney

The building has a brick chimney that is showing signs of deterioration as a result of weathering. It is no longer in use and should be removed before it becomes a safety issue.

Nature of the Issue: System Failing

Recommended Action: Remove the chimney and patch the roof.

Timeline: Short Term (1-3 years)

FH-A3: Exterior Wall Systems

No issues were noted with the exterior wall systems at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

FH-A4: Exterior Paint

The exterior of the building has been painted recently. It should have at least 10-15 years of life.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Long Term (10-15 years)

FH-A5: Exterior Doors

No specific issues with the exterior doors or hardware were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

FH-A6: Exterior Windows

No specific issues were noted with the exterior windows at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

FH-A7: Building Structure

No issues were noted with the buildings structural system. The building was not inspected by a structural engineer as part of this study.

Nature of the Issue: None

Recommended Action: None

Timeline: NA

FH-A8: Flooring

The resilient flooring in the kitchen and the carpet in the learning spaces were both replaced 3 years ago. They should have at least 20 years of life.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Long Term (20+ years)

FH-A9: Interior Walls

No specific issues with the interior walls or wall finishes were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

FH-A10: Interior Paint

The interiors have recently been painted. No issues were identified regarding the interior paint at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

FH-A11: Interior Doors

No concerns with interior doors were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess condition in 4 years.

Timeline: Long Term (10+ years)

FH-A12: Interior Windows / Relites

No concerns with interior relites were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess condition in 4 years.

Timeline: Long Term (10+ years)

FH-A13: Ceilings

No concerns with interior ceilings were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess condition in 4 years.

Timeline: Long Term (10+ years)

FH-A14: Casework

No concerns with casework were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess condition in 4 years.

Timeline: Long Term (10+ years)

FH-A15: Miscellaneous Fixtures and Equipment

No concerns with fixtures or equipment were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess condition in 4 years.

Timeline: Long Term (10+ years)

Mechanical, Plumbing and Fire Protection Systems

FH-M1: HVAC Controls

Controls for the heat pump are stand alone and are operating properly. They are relatively new and should have at least 15 years of life left.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Long Term replacement (15+ years).

FH-M2: Heat Pump

The heat pump is new and in good shape. It is operating as designed. It still has quite a bit of its anticipated serviceable life left.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Long Term replacement (13-15 years).

FH-M3: Exhaust Fans

No issues were noted with any exhaust fans at the time of this study.

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

FH-M4: HVAC Distribution

There is no direct heating provided to the second floor. Adding a "Cadet" wall heater for the staff office should be sufficient.

Nature of the Issue: System Deficiency

Recommended Action: Add a wall mount electric heater.

Timeline: Short Term (1-3 years)

FH-M5: Backflow Prevention

No issues were noted for the backflow prevention at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

FH-M6: Domestic Water Piping

The piping is a mix of older copper and newer PEX and appears to be in good shape.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

FH-M7: Plumbing Fixtures

No specific issues were noted with the plumbing fixtures at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

FH-M8: Water Heaters

The water heater is relatively new and should have 10-12 years of life left at least.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Long Term replacement (10-12 years).

FH-M9: Fire Sprinklers

The building is not equipped with a fire sprinkler system.

Electrical and Low Voltage Systems

FH-E1: Service Transformer

No issues were noted with the buildings transformer or primary electrical service at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

FH-E2: Switchgear and Panelboards

The main panelboard is older and is beyond its anticipated serviceable life, however it appears to be in good working order. The district should plan on replacing it in the medium term.

Nature of the Issue: Eventual System Replacement

Recommended Action: Replace the main panelboard.

Timeline: Medium Term (6-10 years).

FH-E3: Interior Power

No issues were noted with the interior power systems at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

FH-E4: Interior Lighting

The majority of the existing fixtures are fluorescent. No issues were noted with the interior lighting at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

FH-E5: Lighting Controls

The majority of the lighting controls within the building are simple on/off switches. No issues were noted with the interior lighting at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

FH-E6: Security and Access Control Systems

There were no issues noted at the time of this report for the security system. This building does not have access control.

Nature of the Issue: None

Recommended Action: Regular Maintenance. Reassess in 4 years.

Timeline: Long Term (10+ years).

FH-E7: CCTV Camera System

There is no CCTV Camera system at this building.

FH-E8: Intercom System

There is no intercom system at this building.

FH-E9: Clock System

There is no clock system at this building.

FH-E10: Fire Alarm System

There is no fire alarm system, only standalone smoke detectors were observed. There were no issues noted with the smoke detectors.

Nature of the Issue: None

Recommended Action: None

Timeline: NA.

System Repair & Replacement

District Office - Recommended Project Timing

Long Range Repair/Replacement
Minor System Repair
Moderate Repair/Improvement
Major Repair/Replacement

PROJECT		1-4 years 2024-2028	5-8 years 2029-2032	9-12 years 2033-2036	13-16 years 2037-2040	17-20 years 2041-2044	21+ years 2045+
District Office							
DO-S1	Site Lighting						x
DO-S2	Sight Utilities						x
DO-S3	Storm Water Systems						x
DO-S4	Paving and Parking						x
DO-S5	Landscape and Irrigation	x					
DO-S6	Fencing - NA						
DO-A1	Roofing				x		
DO-A2	Exterior Walls						x
DO-A3	Exterior Paint	x					
DO-A4	Exterior Doors						x
DO-A5	Exterior Windows	x					
DO-A6	Building Structure						x
DO-A7	Flooring	x					
DO-A8	Interior Walls						x
DO-A9	Interior Paint						x
DO-A10	Interior Doors						x
DO-A11	Interior Windows/Relites						x
DO-A12	Interior Ceilings	x					
DO-A13	Casework						x
DO-A14	Misc. Equipment						x
DO-M1	Controls			x			
DO-M2	Furnaces	x					
DO-M3	Heat Pumps	x			x		
DO-M4	Condensing Units	x					
DO-M5	Electric Unit Heaters		x				
DO-M6	Exhaust Fans						x
DO-M7	HVAC Ductwork - NA						
DO-M8	Backflow Prevention	x					
DO-M9	Domestic Water Piping						x
DO-M10	Plumbing Fixtures	x					
DO-M11	Water Heaters			x			
DO-M12	Fire Sprinklers - NA						
DO-E1	Service Transformer						x
DO-E2	Switchgear and Panels		x				
DO-E3	Interior Power						x
DO-E4	Interior Lighting						x
DO-E5	Lighting Controls						x
DO-E6	Security and Access				x		
DO-E7	CCTV Cameras				x		
DO-E8	Intercom - NA						
DO-E9	Clock System - NA						
DO-E10	Fire Alarm	x					
DO-T1	Fiber	x					
DO-T2	Data Cabling	x					

District Office - System Observations

Site

DO-S1: Sight Lighting

No issues were noted with the site lighting at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

DO-S2: Sight Utilities

No issues were noted with the site utilities at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

DO-S3: Storm Water Systems

No issues were noted with the storm water systems at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

DO-S4: Paving and Parking Lots

No issues were noted with the paving in the drive aisles or parking areas. Sidewalks are old but in good condition. With the exception of one small broken section of curbing the curbs are in very good shape.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

DO-S5: Landscaping and Irrigation

No issues were noted with the existing landscaping. The irrigation system has failed and needs to be replaced.

Nature of the Issue: System Failure

Recommended Action: Replace the irrigation system.

Timeline: Short Term (1-4 years)

DO-S6: Fencing

The site has no fencing.

Architectural

DO-A1: Roofing

The roof of this building was not included in the 2022 Roof Assessment. The roof was recovered in 2022 with a polyurethane coating system installed by Tremco. It has a 20 year warranty.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess condition in 4 years.

Timeline: Long Term for replacement (15-20 years)

DO-A2: Exterior Wall Systems

The building has experienced water intrusion from the roof/parapet in the past which has caused interior damage. The roof repairs done in 2022 appear to have addressed it but the building is very old and could be leaking from a number of areas other than the roof, including windows, parapets, or cracks in the exterior walls. The district should monitor the building for any new signs of water intrusion.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess condition in 4 years.

Timeline: NA

DO-A3: Exterior Paint

The paint on the building is failing and needs to be replaced.

Nature of the Issue: System Failure.

Recommended Action: Prep and repaint the exterior of the building.

Timeline: Short Term (1-4 years)

DO-A4: Exterior Doors

No specific issues with the exterior doors or hardware were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

DO-A5: Exterior Windows

The windows on the entire lower floor and in the Lincoln Room on the third floor need to be replaced. They are single pane. The windows in the rest of the building were previously replaced with double pane windows.

Nature of the Issue: Partial System Replacement

Recommended Action: Replace the single pane windows on the lower floor and in the Lincoln Room with double pane windows.

Timeline: Short Term (1-4 years)

DO-A6: Building Structure

No structural deficiencies were noted at the time of this study. The building was not formally assessed by a structural engineer.

Nature of the Issue: No current issues.

Recommended Action: None.

Timeline: NA

DO-A7: Flooring

The carpets in the building are old and past their functional lifespan. No other issues with flooring materials were noted at the time of this study.

Nature of the Issue: System Replacement

Recommended Action: Replace carpets throughout the facility.

Timeline: Short Term (1-4 years)

DO-A8: Interior Walls

No specific issues with the interior walls or wall finishes were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

DO-A9: Interior Paint

No issues were identified regarding the interior paint at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

DO-A10: Interior Doors

No concerns with interior doors were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess condition in 4 years.

Timeline: NA

DO-A11: Interior Windows / Relites

No concerns with interior relites were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess condition in 4 years.

Timeline: NA

DO-A12: Ceilings

The stucco finish is failing in some areas in the stairways and falling. It needs to be repaired. No other ceiling issues were noted at the time of this study.

Nature of the Issue: System Repair

Recommended Action: Patch and repair stucco finish in stairway ceilings.

Timeline: Short Term (1-4 years)

DO-A13: Casework

No concerns with casework were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess condition in 4 years.

Timeline: NA

DO-A14: Miscellaneous Fixtures and Equipment

No concerns with fixtures or equipment were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess condition in 4 years.

Timeline: NA

Mechanical, Plumbing and Fire Protection Systems

DO-M1: HVAC Controls

The existing HVAC control system is stand alone and is functioning as designed. It should have 10 or more years of serviceable life left. The district may consider replacing it when they replace the HVAC system.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Long Term (10+ years).

DO-M2: Furnaces

The furnaces that serve the upper two floors are 20 years old and nearing the end of their anticipated serviceable life. They will need to be replaced in the 2-5 years.

Nature of the Issue: System Replacement.

Recommended Action: Replace all 12 furnaces.

Timeline: Short Term (2-4 years).

DO-M3: Heat Pumps

The heat pump serving the Washington Room is past is useful life and needs to be replaced. The other two pumps were replaced in the past 3-5 years and should have another 12-15 years left.

Nature of the Issue: System Replacement.

Recommended Action: Replace the heat pump that serves the Washington Room.

Timeline: Short Term for WA Room (1-3 years). Long Term for the remainder (12-15 years)

DO-M4: Condensing Units

The condensing units for the lower level are at grade. The ones for the upper two levels are roof top. The roof top units are about 20 years old and will need to be replaced in 2-5 years. The ones on grade vary in age but should be replaced at the same time.

Nature of the Issue: System Replacement.

Recommended Action: Replace all condensing units

Timeline: Short Term (2-4 years).

DO-M5: Electric Unit Heaters

No issues were noted with the electric unit heaters that serve the restrooms. Based on the condition of the units in the men's toilet room on the lower level these should be replaced in 5-7 years.

Nature of the Issue: System Replacement

Recommended Action: Replace existing units with a similar system.

Timeline: Medium Term (5-7 years)

DO-M6: Exhaust Fans

No issues were noted with any exhaust fans at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

DO-M7: HVAC Distribution Ductwork

This building does not have ductwork for distribution.

DO-M8: Backflow Prevention

The backflow prevention for the domestic water consists of a single check valve. This should be revised to a double check valve.

Nature of the Issue: System Replacement

Recommended Action: Replace existing backflow assembly with a double check valve assembly.

Timeline: Short Term (1-3 years)

DO-M9: Domestic Water Piping

The domestic water piping is mostly galvanized steel with some newer copper. The galvanized steel pipe is well past the useful service life and although no issues were noted, failures could become more frequent.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

DO-M10: Plumbing Fixtures

The faucets in the Men's Toilet Room on the lower level are old and difficult to use. They should be replaced with newer fixtures. No other issues with plumbing fixtures were noted.

Nature of the Issue: System Replacement

Recommended Action: Replace all the faucets in the Men's Toilet Room.

Timeline: Short Term (1-4 years)

DO-M11: Water Heaters

At the time of this study the water heaters had recently been replaced and no issues were noted.

Nature of the Issue: None

Recommended Action: Regular Maintenance. Reassess in 4 years.

Timeline: Long Term replacement in (10-12 years).

DO-M12: Fire Sprinklers

The building is not equipped with a fire sprinkler system.

Electrical and Low Voltage Systems

DO-E1: Service Transformer

No issues were noted with the buildings transformer or primary electrical service at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

DO-E2: Switchgear and Panelboards

The switchgear and panelboards are older and are beyond their useful life, however they appear to be in good working order. Replacement parts and circuit breakers will be difficult to obtain if the equipment were to fail or if new electrical work is required. The system should be replaced in the medium term.

Nature of the Issue: Eventual System Replacement

Recommended Action: Regular Maintenance. Reassess in 4 years.

Timeline: Medium Term for replacement (6-10 years)

DO-E3: Interior Power

No issues were noted with the interior power systems at the time of this study.

Nature of the Issue: None

Recommended Action: None

Timeline: NA

DO-E4: Interior Lighting

The majority of the existing fixtures are fluorescent. Although they are old, no issues were identified related to interior lighting at the time of this study.

Nature of the Issue: None

Recommended Action: None

Timeline: NA

DO-E5: Lighting Controls

The majority of the lighting controls within the building are simple on/off switches. No issues were noted with lighting controls at the time of this study.

Nature of the Issue: None

Recommended Action: None

Timeline: NA

DO-E6: Security and Access Control Systems

The security and access control systems were upgraded in 2021. There were no issues noted at the time of this report. Serviceable life is beyond 10 years.

Nature of the Issue: None

Recommended Action: Regular Maintenance. Reassess in 4 years.

Timeline: Long Term (15+ years).

DO-E7: CCTV Camera System

The CCTV camera system was upgraded in 2021. There were no issues noted at the time of this report. Serviceable life is beyond 10 years.

Nature of the Issue: No issues noted

Recommended Action: None required.

Timeline: Long Term (15+ years).

DO-E8: Intercom System

This building does not have an intercom system.

DO-E9: Clock System

This building does not have a clock system.

DO-E10: Fire Alarm System

The fire alarm system is an older Simplex system that has limited capability and has reached the end of its anticipated serviceable life. It should be replaced in the short term.

Nature of the Issue: System Replacement

Recommended Action: Replace the existing fire alarm system.

Timeline: Short Term (1-5 years)

Information Technology Infrastructure

DO-T1: Fiber

The building does not have a fiber homerun between the MDF and IDF. The old cable homerun does not have the bandwidth to support today's technology.

Nature of the Issue: System Upgrade

Recommended Action: Provide a new fiber homerun.

Timeline: Short Term (1-5 years)

DO-T2: Data Cabling

The building has older cable for its data network that does not provide the capacity necessary for today's technology.

Nature of the Issue: System Upgrade

Recommended Action: Replace existing data cabling with CAT6A.

Timeline: Short Term (1-5 years)

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System Repair & Replacement

Building "A" (Support Services) - Recommended Project Timing

Long Range Repair/Replacement
Minor System Repair
Moderate Repair/Improvement
Major Repair/Replacement

	PROJECT	1-4 years 2024-2028	5-8 years 2029-2032	9-12 years 2033-2036	13-16 years 2037-2040	17-20 years 2041-2044	21+ years 2045+
Building A							
BA-S1	Site Lighting						x
BA-S2	Sight Utilities						x
BA-S3	Storm Water Systems	x					
BA-S4	Paving and Parking	x					
BA-S5	Landscape and Irrigation						x
BA-S6	Fencing	x					
BA-A1	Roofing	x	x				
BA-A2	Exterior Walls						x
BA-A3	Exterior Paint	x					
BA-A4	Exterior Doors	x					
BA-A5	Exterior Windows						x
BA-A6	Building Structure	x					
BA-A7	Flooring						x
BA-A8	Interior Walls						x
BA-A9	Interior Paint	x					
BA-A10	Interior Doors		x				
BA-A11	Interior Windows/Relites						x
BA-A12	Interior Ceilings						x
BA-A13	Casework	x					
BA-A14	Misc. Equipment	x					
BA-M1	Controls	x					
BA-M2	HVAC Equipment	x					
BA-M3	Boiler			x			
BA-M4	Pumps			x			
BA-M5	Hydronic Piping						x
BA-M6	Exhaust Fans						x
BA-M7	HVAC Ductwork						x
BA-M8	Backflow Prevention						x
BA-M9	Domestic Water Piping						x
BA-M10	Plumbing Fixtures	x					
BA-M11	Water Heaters	x					
BA-M12	Fire Sprinklers						x
BA-E1	Service Transformer						x
BA-E2	Switchgear and Panels						x
BA-E3	Interior Power						x
BA-E4	Interior Lighting						x
BA-E5	Lighting Controls						x
BA-E6	Security and Access				x		
BA-E7	CCTV Cameras				x		
BA-E8	Intercom						x
BA-E9	Clock System						x
BA-E10	Fire Alarm	x					
BA-T1	Data Cabling	x					

Building "A" (Support Services) System Observations

Building A is the orginal building of the old Arlington High School campus complex. The district is currently only using the lower floor of the building to house Support Services. The recommendations in this report assume that the district will continue with that limited use and not put the rest of the building back into use.

Site

BA-S1: Sight Lighting

No issues were noted with the site lighting at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

BA-S2: Sight Utilities

No issues were noted with the site utilities at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

BA-S3: Storm Water Systems

Significant ponding was noted on the paved surfaces in the southeast corner of the site. It is most likely due to settlement of the surface.

Nature of the Issue: System Repair

Recommended Action: Replace paving in areas of ponding and reestablish proper flowlines to storm water system.

Timeline: Short Term (1-4 years)

BA-S4: Paving and Parking Lots

The drive aisle on the south side of the building is in fairly good shape up to the point where it connects to the drive behind Haller MS. The drive aisle and parking area are shared with the French House. Portions of the parking are gravel. The paved sections are showing signs of weathering and are cracking in several areas. They need to be recoated.

The curbs are showing heavy weathering and are damaged by tree roots in many locations. They should be replaced.

The sidewalks on the street frontage are in good shape with just a few spots that are uneven. The sidewalks on site are cracked in several locations but are otherwise functional.

Nature of the Issue: System Repair

Recommended Action: Add paving to gravel parking areas. Recoat and seal the asphalt in the drive aisle and parking areas. Replace all the curbing. Repair cracks in the sidewalks on site.

Timeline: Short Term (1-4 years)

BA-S5: Landscaping and Irrigation

No issues were noted with the existing landscaping at the time of this study. The site does not have irrigation.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

BA-S6: Fencing

The entrance gate was damaged and is not properly functional. It should be replaced, preferably with a rolling gate.

Nature of the Issue: System Repair

Recommended Action: Replace the entrance gate with a rolling gate.

Timeline: Short Term (1-4 years)

Architectural

BA-A1: Roofing

This building was not included in the 2022 Roof Assessment. The district did have the roof evaluated by Tremco, a roofing contractor, in 2022. They recommended a number of general repairs to extend the life of the roof. They did not suggest how long it could be extended with those repairs. Based on the age of the roof it is likely that it will need to be replaced within 5-7 years, even with the recommended repairs.

Nature of the Issue: System Replacement

Recommended Action: Do the recommended repairs as soon as possible. Reroof the building when the system starts to fail.

Timeline: Short Term for repairs (1-3 years). Medium Term for replacement (5-7 years)

BA-A2: Exterior Wall Systems

No issues were noted with the exterior wall systems at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

BA-A3: Exterior Paint

The paint on much of the exterior is starting to fail. The building should be repainted before it incurs more damage from weather.

Nature of the Issue: System Failure

Recommended Action: Repaint entire building exterior. This may require some moss removal/wall repair/crack sealing preparation before painting.

Timeline: Short Term (1-3 years)

BA-A4: Exterior Doors

Several of the exterior doors have significant air gaps around their perimeter. This could likely be addressed with weatherstripping.

Nature of the Issue: System Repair

Recommended Action: Provide new weatherstripping at all exterior doors.

Timeline: Short Term (1-3 years)

BA-A5: Exterior Windows

No specific issues were noted with the exterior windows at the time of this study. Many of the windows are single pane but they are otherwise functional.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

BA-A6: Building Structure

The previous Master Plan, completed in 2014, noted that connection of the exterior concrete walls to the floor and roof diaphragms does not meet current code. Improving those connections would improve the overall lateral load resistance of the building. The building was not reevaluated as part of this study but no work has been done to correct that deficiency since the last Master Plan so it is assumed to still be a deficiency in the building structure.

Nature of the Issue: System Deficiency.

Recommended Action: Provide positive connections of the exterior concrete walls to roof and floor diaphragms.

Timeline: Short Term (1-4 years)

BA-A7: Flooring

No specific issues with the flooring materials in the areas of the building that the district is currently using. If they were to expand that use the other areas should be reevaluated. It was noted that some of the floors in the building do contain asbestos. That would be a consideration should the district opt to expand their use of this facility.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

BA-A8: Interior Walls

There are several areas where plaster, mortar, tiles, etc. are failing in this building. However, they are mostly upstairs and not an issue for the way the district is currently using the building.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

BA-A9: Interior Paint

The entire interior of the building needs to be repainted. It is less of a concern with the areas that the district is not currently using.

Nature of the Issue: System Failure

Recommended Action: Repaint in the areas that the district is using.

Timeline: Short Term (1-4) years

BA-A10: Interior Doors

The hardware on the interior doors is very old but still functioning. Other than that no issues were noted with interior doors at the time of this study. If the district continues to use this facility the hardware will likely need to be replaced at least in the areas they are using in 5-8 years.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess condition in 4 years.

Timeline: Medium Term (5-8 years)

BA-A11: Interior Relites

No concerns with interior relites were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess condition in 4 years.

Timeline: NA

BA-A12: Ceilings

The district noted that ceilings are crumbling and falling in places, especially in stairwells. It is mostly isolated to areas upstairs that are not currently in use. They should be addressed if the district expands its use of the building but otherwise repairs can be deferred.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess condition in 4 years.

Timeline: NA

BA-A13: Casework

The district noted a lot of damage to casework from students carving in the surfaces. This is throughout the building. It should be repaired in the areas that the district is currently using. Other areas can be deferred.

Nature of the Issue: System Repair

Recommended Action: Repair or replace damaged casework in the areas of the building that the district is using.

Timeline: Short Term (1-4 years)

BA-A14: Fixtures and Equipment

District staff noted that most of the miscellaneous equipment and fixtures throughout the building is old and out of date. A more detailed inventory would be required to identify those items that are currently being used and in need of replacement.

Nature of the Issue: Partial System Replacement

Recommended Action: Survey condition of specific equipment that is currently being used and replace as appropriate.

Timeline: Short Term (1-4 years)

Mechanical, Plumbing and Fire Protection Systems

BA-M1: HVAC Controls

The DDC Controls for the HVAC system is failing and needs to be replaced. The district has been patching it as necessary to keep it functioning but that will only be possible for so long.

Nature of the Issue: System Failure

Recommended Action: Replace entire DDC Controls System.

Timeline: Short Term (1-4 years).

BA-M2: HVAC Equipment

The fan coils, unit heaters, unit ventilators, and radiators are well past their useful life and their condition is poor in general. They require a high level of maintenance. The entire system should be replaced if the district intends to continue to use this facility.

Nature of the Issue: System Failure.

Recommended Action: Replace all components of the HVAC system.

Timeline: Short Term (1-4 years).

BA-M3: Boiler

The boiler is roughly 10 years old. It may have 10-12 years of serviceable life left.

Nature of the Issue: System Replacement

Recommended Action: Replace the boiler.

Timeline: Long Term (10-12 years)

BA-M4: Pumps

The age of the pumps is unclear. They are functioning properly but should be replaced when the boiler is.

Nature of the Issue: System Replacement

Recommended Action: Replace at the same time as the boiler.

Timeline: Long Term (10-12 years)

BA-M5: Hydronic Piping

The hydronic piping is a mixture of newer and older steel piping with the latter being past its useful life. Increased maintenance issue should be expected.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

BA-M6: Exhaust Fans

The exhaust fans in the building are very old. They should be replaced if the district opts to expand their use of the facility. However, no specific issues were noted with any exhaust fans at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

BA-M7: HVAC Distribution Ductwork

The building ductwork is adequate but aging. No specific issues were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

BA-M8: Backflow Prevention

No issues were noted for the backflow prevention at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

BA-M9: Domestic Water Piping

The domestic water piping is mostly galvanized steel with some newer copper. The galvanized steel pipe is well past the useful service life and although no issues were noted, failures could become more frequent. The district added new PEX piping in the areas they are utilizing several years back. The areas upstairs have been shut off except for the heating system.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

BA-M10: Plumbing Fixtures

All of the plumbing fixtures in the building are beyond their useful life and need to be replaced. The scope of the replacement would depend on how the district intends to use the facility in the long run.

Nature of the Issue: System Replacement

Recommended Action: Replace plumbing fixtures in the areas of the building that the district intends to continue to use long term.

Timeline: Short Term (1-4 years)

BA-M11: Water Heaters

The water heater is at least 10 years old and is past its anticipated serviceable life. It should be replaced before it fails, even if the district only intends to continue partial occupancy of the building.

Nature of the Issue: System Replacement

Recommended Action: Replace the water heater.

Timeline: Short Term (2-4 years).

BA-M12: Fire Sprinklers

No issues with the fire sprinkler system were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular Maintenance. Reassess in 4 years.

Timeline: NA

Electrical and Low Voltage Systems

BA-E1: Service Transformer

No issues were noted with the building's transformer or primary electrical service at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

BA-E2: Switchgear and Panelboards

The switchgear and panelboards are original to the building's construction and are beyond their useful life, however they appear to be in good working order. They can continue to be repaired as needed but should be replaced if the district intends to increase its use of this facility.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

BA-E3: Interior Power

The interior power is old but sufficient for the district's current use. I should be reevaluated if the district opts to expand their use of the facility.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

BA-E4: Interior Lighting

The lights on the first floor are LED bulbs in fluorescent fixtures. The lights on the upper floor are fluorescent. No specific issues were noted with the interior lighting at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

BA-E5: Lighting Controls

The majority of the lighting controls within the building are simple on/off switches. No issues were noted with lighting controls at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

BA-E6: Security and Access Control Systems

There were no issues noted at the time of this report for the security system. This building does not have access control.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Long Term (15+ years).

BA-E7: CCTV Camera System

At the time of this study an upgrade to the CCTV camera system was in progress. It is assumed that will address this system for at least 15 years.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Long Term (15+ years).

BA-E8: Intercom System

The building has an intercom system but it is not used with the current programs in the building. It is very old and would likely need to be replaced if the district were to opt to expand the use of this building.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

BA-E9: Clock System

The clock system in this building has failed and been disconnected. It would need to be replaced if the district were to opt to use this building differently than they currently are.

BA-E10: Fire Alarm System

The fire alarm system is an older Simplex system that has limited capability and has reached the end of its anticipated serviceable life. It should be replaced in the short term.

Nature of the Issue: System Replacement

Recommended Action: Replace the existing fire alarm system.

Timeline: Short Term (1-4 years).

Information Technology Infrastructure

BA-T1: Data Cabling

The building has older cable for its data network that does not provide the capacity necessary for today's technology.

Nature of the Issue: System Upgrade

Recommended Action: Replace existing data cabling with CAT6A.

Timeline: Short Term (1-5 years)

System Repair & Replacement

Transportation Center - Recommended Project Timing

Long Range Repair/Replacement
Minor System Repair
Moderate Repair/Improvement
Major Repair/Replacement

PROJECT		1-4 years 2024-2028	5-8 years 2029-2032	9-12 years 2033-2036	13-16 years 2037-2040	17-20 years 2041-2044	21+ years 2045+
Transportation Center							
TC-S1	Site Lighting	x					
TC-S2	Sight Utilities						x
TC-S3	Storm Water Systems	x					
TC-S4	Paving and Parking	x					
TC-S5	Landscape - NA						
TC-S6	Fencing	x					x
TC-A1	Roofing						x
TC-A2	Exterior Walls	x					x
TC-A3	Exterior Paint	x					
TC-A4	Exterior Doors						x
TC-A5	Exterior Windows						x
TC-A6	Building Structure						x
TC-A7	Flooring				x		
TC-A8	Interior Walls						x
TC-A9	Interior Paint	x					
TC-A10	Interior Doors						x
TC-A11	Interior Windows/Relites						x
TC-A12	Interior Ceilings						x
TC-A13	Casework						x
TC-A14	Misc. Equipment						x
TC-M1	Controls	x					
TC-M2	Frunaces	x					
TC-M3	Unit Heaters	x					
TC-M4	Exhaust Fans						x
TC-M5	HVAC Ductwork	x					x
TC-M6	Backflow Prevention						x
TC-M7	Domestic Water Piping	x					
TC-M8	Plumbing Fixtures						x
TC-M9	Water Heaters			x			
TC-M10	Fire Sprinklers - NA						
TC-E1	Service Transformer						x
TC-E2	Switchgear and Panels						x
TC-E3	Interior Power						x
TC-E4	Interior Lighting - General						x
TC-E5	Interior Lighting - Shop	x					
TC-E6	Lighting Controls						x
TC-E7	Security and Access		x				
TC-E8	CCTV Cameras	x					
TC-E9	Intercom - NA						
TC-E10	Clock System - NA						
TC-E11	Fire Alarm	x					
TC-T1	Data Cabling	x					

Transportation Center - System Observations

Site

TC-S1: Sight Lighting

The lighting in the parking areas and yard is inadequate. The lighting level is too low for the amount of vehicle traffic on the site.

Nature of the Issue: System Deficiency

Recommended Action: Upgrade the site lighting. This may include replacing existing light fixtures with higher output fixtures and/or adding new fixtures.

Timeline: Short Term (1-4 years)

TC-S2: Sight Utilities

No issues were noted with the site utilities at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

TC-S3: Storm Water Systems

The storm water management systems at the site are woefully inadequate. One vault flows north to a distribution system but has inadequate capacity so that area ponds. There is a detention pond in the SW corner but nothing on the site appears to flow to it. Near the southeast entrance there is what appears to be a washing station for vehicles. That area has little to no proper drainage. The result is a larger, soapy pond of water, even on a dry day. During a site visit the design team could not locate a catch basin in this area that would help to mitigate this issue. Other catch basins on site look very old, and the one near the gas pumps looked like it was full of muck and sediment from the surrounding gravel surfacing. The gravel parking and storage on the south side of the site which surrounds the gas pumps did appear to be saturated with stormwater, and large puddles and potholes with water are scattered through this area.

Nature of the Issue: System Failure

Recommended Action: Rebuild the stormwater management systems on the site.

Timeline: Short Term (1-4 years)

TC-S4: Paving and Parking Lots

The paving in the drive aisles and parking areas has failed and needs to be replaced. There is severe cracking in several areas, large areas of alligator cracking, excessive wear, and potholes throughout the site. The gravel portions of the site, which included the bus parking, are rutted an full of potholes. There are no sidewalks on the site and curbing is mostly limited to wood wheel stops that are rotting.

Nature of the Issue: System failure.

Recommended Action: Repave all the parking areas and drive lanes. Potentially expand the area of parking. This could be tied to modifying the storm system noted above.

Timeline: Short Term (1-4 years)

TC-S5: Landscaping and Irrigation

There is no landscaping or irrigation on this site except for a few trees at the perimeter of the property.

TC-S6: Fencing

The site fencing needs repairs. There are at least 4 posts in various locations (east boundary, north boundary, south boundaries) that are falling over and starting to fail. The majority of the chain link fencing has barbed wire along the top, but there are numerous sections where the barbed wire is damaged. Rust is visible throughout most sections of the fence and barbed wire.

Nature of the Issue: System Repair

Recommended Action: Repair/replace damaged sections of fence.

Timeline: Short Term (1-4 years)

Architectural

TC-A1: Roofing

The roof system was replaced in early 2023 with a new single ply membrane assembly installed on top of the existing metal panel roofing. The new roof should have at least 20 years of life, likely longer.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess condition in 4 years.

Timeline: Long Term (20+ years)

TC-A2: Exterior Wall Systems

Some of the siding on the north and northeast walls is damages and needs to be repaired.

Nature of the Issue: System Repair

Recommended Action: Repair areas of damaged siding.

Timeline: Short Term (1-4 years)

TC-A3: Exterior Paint

The paint on the exterior of the building is well past its useful life and failing. The building should be repainted.

Nature of the Issue: System Failure

Recommended Action: Repaint the exterior of the building.

Timeline: Short Term (1-4 years)

TC-A4: Exterior Doors

No specific issues with the exterior doors or hardware were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

TC-A5: Exterior Windows

No specific issues with the exterior windows were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

TC-A6: Building Structure

No structural deficiencies were noted at the time of this study. The building was not formally assessed by a structural engineer.

Nature of the Issue: None

Recommended Action: None.

Timeline: NA

TC-A7: Flooring

The carpet was replaced several years ago. Its exact age is unclear. It is in good shape and should have 12-15 years left. The tile in the breakroom is in good shape. No other issues with flooring were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: Long Term for carpet replacement (12-15 years)

TC-A8: Interior Walls

No specific issues with the interior walls or wall finishes were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

TC-A9: Interior Paint

The paint in the interior of the building is well past its serviceable life. The interior should be repainted.

Nature of the Issue: None

Recommended Action: Repaint the interior of the building.

Timeline: Short Term (1-4 years)

TC-A10: Interior Doors

No concerns with interior doors were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess condition in 4 years.

Timeline: Long Term (10+ years)

TC-A11: Interior Relites

No concerns with interior relites were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess condition in 4 years.

Timeline: Long Term (10+ years)

TC-A12: Ceilings

No concerns with interior ceilings were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess condition in 4 years.

Timeline: Long Term (10+ years)

TC-A13: Casework

No concerns with casework were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess condition in 4 years.

Timeline: Long Term (10+ years)

TC-A14: Miscellaneous Fixtures and Equipment

No concerns with fixtures or equipment were noted at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess condition in 4 years.

Timeline: Long Term (10+ years)

Mechanical, Plumbing and Fire Protection Systems

TC-M1: HVAC Controls

The existing HVAC control system is stand alone and is functioning as designed. The system is old and should be considered for replacement when furnaces are.

Nature of the Issue: System Replacement

Recommended Action: Replace with new system when furnaces are replaced.

Timeline: Short Term replacement (1-3 years).

TC-M2: Furnaces

The two gas fired furnaces that serve the office area are operating as intended but are well past their anticipated useful life. They should be replaced before they fail. At the time of this study the district was considering adding a long radiant heater in the shop area.

Nature of the Issue: System Replacement.

Recommended Action: Replace both furnaces.

Timeline: Short Term (1-3 years).

TC-M3: Unit Heaters

The two gas fired unit heaters that serve the garage are operating as intended but are well past their anticipated useful life. They should be replaced before they fail.

Nature of the Issue: System Replacement.

Recommended Action: Replace both furnaces.

Timeline: Short Term (1-3 years).

TC-M4: Exhaust Fans

No issues were noted with any exhaust fans at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

TC-M5: HVAC Distribution Ductwork

The ductwork is adequate but aging. Some of the insulation is loose or falling off. The district may want to consider replacing it when they replace the furnaces and unit heaters.

Nature of the Issue: System Replacement

Recommended Action: Replace ductwork system at the same time as the furnaces are replaced.

Timeline: Short Term (1-3 years)

TC-M6: Backflow Prevention

No issues were noted with the backflow prevention system on the domestic water supply at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

TC-M7: Domestic Water Piping

The hot water domestic piping system is not properly insulated. No other issues were noted with the domestic water piping system.

Nature of the Issue: System Deficiency

Recommended Action: Provide insulation for the portions of the piping system that are not fully insulated.

Timeline: Short Term (1-3 years)

TC-M8: Plumbing Fixtures

No issues were noted with any of the china fixtures. The faucets and flush valves will fail periodically and need to be replaced on a one at a time basis. There does not appear to be a need for a full replacement of all the fixtures at this time or in the immediate future. The fixtures are not low flow and the district may want to consider low flow replacements as individual fixtures wear out.

Nature of the Issue: None

Recommended Action: Routine maintenance. Replace faucets and flush valves as they wear out. Reassess in 4 years.

Timeline: NA

TC-M9: Water Heaters

At the time of this study the water heaters had recently been replaced and no issues were noted.

Nature of the Issue: None

Recommended Action: Regular Maintenance. Reassess in 4 years.

Timeline: Medium Term replacement (8-10 years).

TC-M10: Fire Sprinklers

The building is not equipped with a fire sprinkler system.

Nature of the Issue: None

Recommended Action: None

Timeline: NA

Electrical and Low Voltage Systems

TC-E1: Service Transformer

The building's service connection was updated in 2022. No issues were noted with that service at the time of this study.

Nature of the Issue: None

Recommended Action: Regular maintenance. Reassess in 4 years.

Timeline: NA

TC-E2: Switchgear and Panelboards

The main panelboard was replaced in 2022. No issues were noted with that system at the time of this study.

Nature of the Issue: None

Recommended Action: Regular Maintenance. Reassess in 4 years.

Timeline: Long Term (20+ years)

TC-E3: Interior Power

No issues were noted with interior power at the time of this study.

Nature of the Issue: None

Recommended Action: None

Timeline: NA

TC-E4: Interior Lighting - General

The majority of the existing fixtures are fluorescent. No issues were noted with the interior lighting at the time of this study.

Nature of the Issue: None

Recommended Action: None

Timeline: NA

TC-E5: Interior Lighting - Shop

The existing fixtures in the garage areas are fluorescent. The lighting levels in the maintenance garage are below standards for the function in the space and are recommended to be replaced for safety. There could be measurable energy savings by replacing the existing fixtures with LED fixtures.

Nature of the Issue: System Deficiency

Recommended Action: Replace the existing light fixtures with LED fixtures.

Timeline: Short Term (1-5 years)

TC-E6: Lighting Controls

The majority of the lighting controls within the building are simple on/off switches. No issues were noted with the lighting controls at the time of this study.

Nature of the Issue: None

Recommended Action: None

Timeline: NA

TC-E7: Security and Access Control Systems

There were no issues noted at the time of this report for the Sonitrol security system other than it appears to be an older system. Replacement parts will become increasingly difficult to obtain. The district should consider replacing the system in the medium term. This building does not have access control.

Nature of the Issue: System Replacement

Recommended Action: Replace the system when it becomes too difficult to maintain.

Timeline: Medium Term (5-10 years).

TC-E8: CCTV Camera System

The CCTV system is older and is beyond its serviceable life. It should be replaced in the short term.

Nature of the Issue: System Replacement

Recommended Action: Replace the existing CCTV system.

Timeline: Short Term (1-4 years)

TC-E9: Intercom System

This building does not have an intercom system.

TC-E10: Clock System

This building does not have a clock system.

TC-E11: Fire Alarm System

This building does not have a fire alarm system. The district may want to explore adding one for occupant safety and notification.

Nature of the Issue: System Deficiency

Recommended Action: Provide a fire alarm system for the facility.

Timeline: Short Term (1-3 years)

Information Technology Infrastructure

TC-T1: Data Cabling

The building has older cable for its data network that does not provide the capacity necessary for today's technology.

Nature of the Issue: System Upgrade

Recommended Action: Replace existing data cabling with CAT6A.

Timeline: Short Term (1-5 years)

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CHAPTER 4: GROWTH PROJECTS

CHAPTER 4: GROWTH PROJECTS

This chapter considers the need for capital projects in response to future changes in student enrollment. In early 2022 the district completed a ten year demographic projection. The report, titled 2022-23 to 2031-32 Enrollment Forecasts Report – Arlington Public Schools (referred to here as "the demographic study") was completed by Flo Analytics and is included in appendix 3 of this document. That study projects student population at each of the district's schools from the 2022-23 school year through the 2031-32 school year. The conclusions and recommendations included in this chapter are based on the findings in that report.

Enrollment Forecasts

The demographic study included three potential growth scenarios; high, medium and low. That study identifies the medium scenario as the "preferred" scenario. That is the scenario that was used for the purposes of this report. The demographic study looked at enrollment in terms of full time equivalent (FTE) and head count. Not all students enrolled in a school will attend the school for the full day. FTE adds up the portions of a day for each student and aggregates them into the equivalent of a full day student. Head count is the number of students that are enrolled in a school for any portion of day. For example, if one student attends the school for the morning and another for the afternoon they would combine to be one FTE but they would add two to the headcount. Even if a student is only at the school for part of the day the building has to be sized to accommodate the peak load of the day. So for the purposes of this planning exercise the Head Count values from demographic study were used.

This study looked at the projected enrollment in the 2031-32 school year to determine the need to add capacity. The projected enrollment at each of the district's school in that year are as follows:

Eagle Creek Elementary:	**694**	**Post Middle School:**	**767**
Kent Prairie Elementary:	**691**	**Arlington High School:**	**1,825**
Pioneer Elementary:	**630**	**Weston High School *:**	**150**
Presidents Elementary:	**553**	**Stillaguamish Valley Learning Center *:**	**156**
Haler Middle School:	**708**		

** The demographic study did not include projections for Weston High School or SVLC. Those projections are from the district.*

Table 4-1: Building Attendance Enrollment Forecasts by School/Program (Headcount)

Building Attendance →							
Building/Program	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2031**
Eagle Creek ES	625	664	689	706	693	706	694
Kent Prairie ES	596	603	625	641	655	660	691
Pioneer ES	494	523	536	567	582	603	630
Presidents ES	469	520	540	551	550	554	553
Haller MS	584	582	580	560	601	605	708
Post MS	643	649	637	639	672	680	767
Arlington HS	1,636	1,640	1,651	1,731	1,656	1,669	1,825
SVLC ES	81	61	61	61	61	61	61
SVLC MS	65	49	49	49	49	49	49
SVLC HS	51	53	53	53	53	53	53
Open Doors	30	41	41	41	41	41	41
Weston HS	100	113	113	113	113	113	113
K-12	***5,374***	***5,496***	***5,575***	***5,711***	***5,726***	***5,793***	***6,184***

The information in this table comes directly from the Enrollment Forecast Report prepared by Flo Analytics and included in Appendix 3. See that report for more detailed information.

Building Capacity

The demographic study projects the student enrollment at each school. To determine the potential need for a capital project the student capacity for each school must be compared against the projected enrollment. The formula for calculating a schools capacity is:

Number of Classrooms x Students/Room x Efficiency = Capacity

Number of Classrooms:

- At the elementary school level students spend a majority of their day in one classroom. They leave that room to go to specialty programs like music and PE. While they are in those specialty programs their classroom is not backfilled with other students. It is either left empty or used by a teacher for planning. Therefore, the specialty spaces are not adding to capacity of the school. Only the main classrooms are included in the calculation of capacity.
- At the middle school and high school level students change rooms each period. The specialty program spaces and the general classrooms are in use simultaneously so both are counted in the calculation of capacity.

Number of Students per Classroom:

- K-3: 21 students per class
- 4-6: 24 students per class
- 7-8: 28 students per class
- 9-12: 30 students per class
- Special Education at primary schools: 10 students per class.
- Special Education at secondary schools: 15 students per class.
- Resource rooms are included as Special Education.

Efficiency

- The general classrooms in an elementary school are used for the entire school day so they are considered to be 100% efficient. As noted above the specialty spaces are not included in the capacity calculation.
- At middle school and high school the general classrooms are typically utilized 5 out of 6 periods for student instruction. One period a day a classroom is typically used for teacher planning. Therefore, general classrooms are considered to be 83% efficient.
- The specialty spaces at middle school (music rooms, shops, art, CTE, etc.) are typically less efficient than a general classroom. Depending on the size of the school and the diversity of the curriculum each of the specialty spaces may not be in demand for as many as 5 periods a day. Their class sizes may not always be as large as a typical general classroom. That is even more the case at the high school level where the curriculum is broader and the nature of some of the spaces is more specialized. However, for the purposes of this report the specialty program spaces at the middle schools and high schools have been assumed to be as efficient as a general classroom, 83%.

Several of the schools have portable classrooms on site. Some are used for ancillary programs outside of K-12 education while others are used for K-12 instruction. The district uses portables to bridge between the time when the enrollment of the school exceeds the building's capacity and the time when it is large enough of a delta to justify the cost and impact of building a new school or school addition.

Using the formula above the capacity of each school was calculated with portables and without. See Table 4.2 for more detailed information. The capacity for each school (with current portables / without current portables) is as follows:

Eagle Creek Elementary: **648 / 648**

Kent Prairie Elementary: **744 / 648**

Pioneer Elementary: **579 / 579**

Presidents Elementary: **701 /701**

Haller Middle School: **612 / 612**

Post Middle School: **850 / 757**

Arlington High School: **1,980 / 1,980**

Weston High School: **237 /237**

Stillaguamish Valley Learning Center: **174 / 0**

Table 4-2 School Capacity Calculations

	NUMBER OF CLASSROOMS								CAPACITY**	
SCHOOL	**K-3**	**4-6**	**7-8**	**9-12**	**Specific***	**SPED**	**Port**	**Total**	**Max**	**Effective**
Eagle Creek	18	10			3	3		34	648	648
Kent Prairie	18	10			3	3	4	38	744	744
Pioneer	17	8			4	3		32	579	579
Presidents	18	10			4	5		37	668	668
Haller		9	9		8	3		29	737	612
Post		11	11		10	4	4	40	1024	850
Arlington				48	28	7		83	2385	1980
Weston				9		1		10	285	237
SVLC				7				7	210	174

*Specific program spaces include music, art, science, gyms, shops, tech and other specialized programs.
** Capacity includes existing portables on site

Enrollment vs. Capacity

The following tables show the comparison of projected enrollment to calculated capacity for each site for the years included in the demographic study. All calculations assume existing portables that are being used for K-12 instruction will continue to be used.

Table 4-3 Enrollment vs. Capacity Comparison

SCHOOL	CAPACITY	PROJECTED ENROLLMENT (HEAD COUNT)					
		22-23	23-24	24-25	25-26	26-27	30-31
ELEMENTARY SCHOOL							
Eagle Creek ES							
Buildings	648						
Portables	0						
Total	648	661	689	706	693	706	694
Difference		(13)	(41)	(58)	(45)	(58)	(46)
Kent Prairie ES							
Buildings	648						
Portables	96						
Total	744	600	625	641	655	660	691
Difference		144	119	103	89	84	53
Pioneer ES							
Buildings	579						
Portables	0						
Total	579	536	536	567	582	603	630
Difference		43	43	12	(3)	(24)	(51)
Presidents ES							
Buildings	668						
Portables	0						
Total	668	518	540	551	550	554	553
Difference		150	128	117	118	114	115
Elementary Totals							
Capacity / Head Count	2,639	2,315	2,390	2,465	2,480	2,523	2,568
Difference		324	249	174	159	116	**71**

SCHOOL	CAPACITY	PROJECTED ENROLLMENT (HEAD COUNT)					
		22-23	23-24	24-25	25-26	26-27	30-31
MIDDLE SCHOOL							
Haller MS							
Buildings	612						
Portables	0						
Total	612	580	580	560	601	605	708
Difference		32	32	52	11	7	(96)
Post MS							
Buildings	757						
Portables	93						
Total	850	637	637	639	672	680	767
Difference		213	213	211	178	170	83
Middle School Totals							
Capacity / Headcount	1,462	1,217	1,217	1,199	1,273	1,285	1,475
Difference		245	245	263	189	177	**(13)**
HIGH SCHOOL							
Arlington HS							
Buildings	1,980						
Portables	0						
Total	1,980	1,567	1,651	1,731	1,656	1,669	1,825
Difference			329	249	324	311	155
Weston HS							
Buildings	237						
Portables	0						
Total	237	105	113	118	123	128	150
Difference		132	124	119	114	109	87
High School Totals							
Capacity / Headcount	2,216	1,672	2,009	2,112	1,968	1,974	1,962
Difference		544	207	104	248	242	**254**
SVLC							
Buildings	0						
Portables	174						
Total	174	156	156	156	156	156	156
		18	18	18	18	18	**18**

Conclusions and Recommendations

Based on the current capacity of the district's existing school facilities and the enrollment projections for the next ten years there does not appear to be a need for any major capital projects to address growth.

At the high school level the addition to Arlington High School added enough capacity to accommodate the projected growth.

At the middle school level, in 10 years Haller Middle School will need an additional capacity equivalent to just over three classrooms. In the same time period Post Middle School will have excess capacity that is almost enough to accommodate the shortfall at Haller (83 student capacity at Post vs. 96 student need at Haller). Attendance boundaries could be adjusted to shift some of Haller's demand to Post. Another option would to add three portables to Haller's site, the first of which would be needed in the 27-28 school year. Post is the oldest school in the district and as mentioned elsewhere in this report is a consideration for replacement. If that were to occur, the new school could be sized to accommodate the projected enrollment at Post as well as the overage at Haller.

At the elementary school level, the district has sufficient capacity between the four elementary schools to accommodate the district wide enrollment. Unfortunately the growth and available capacity is not uniform between the four schools. Eagle Creek Elementary is already slightly overcrowded and will need two new classrooms by 2030-31. Pioneer Elementary will be over capacity starting in 2026-27 and in need of three new classrooms by 2030-31. At the same time, by 2030-31, Kent Prairie Elementary will have two classrooms of excess capacity and Presidents Elementary will have almost five. Current attendance boundaries could be modified to shift that demand from the overcrowded schools to the schools with capacity. The district could also add portables to the overcrowded sites. In 2020 McGranahan Architects completed a feasibility study to evaluate adding portables to the four elementary school sites. That study showed it would be relatively easy to add 2-6 portables at Eagle Creek Elementary. However, that is not the case for Pioneer Elementary. That site is too small and constricted for any portables to be added without significant compromise to the function of the site. If the growth projected for Pioneer materializes the district will need to consider an adjustment to attendance boundaries for that school.

The recommendations of this report for addressing projected growth in the district are:

- The district is currently planning to add two modular buildings to Eagle Creek in the summer of 2023. That will provide four additional classrooms which should address projected shortfall on that site.
- Revisit growth projections for the entire district in 2026. The demographic study noted that the data it used to formulate its projections was impacted by the Covid pandemic. At the time of that study it was not clear what the long term impact on enrollment might be. In 2022-23 The district saw a drop in enrollment that is not consistent with the projections in the demographic study. Revisiting those projections every four years will help identify if any of those year to year differences constitute a trend that might influence future planning.
- When the growth projections are updated in 2026 determine if there is still a shortfall at Pioneer and whether an attendance boundary adjustment is necessary.

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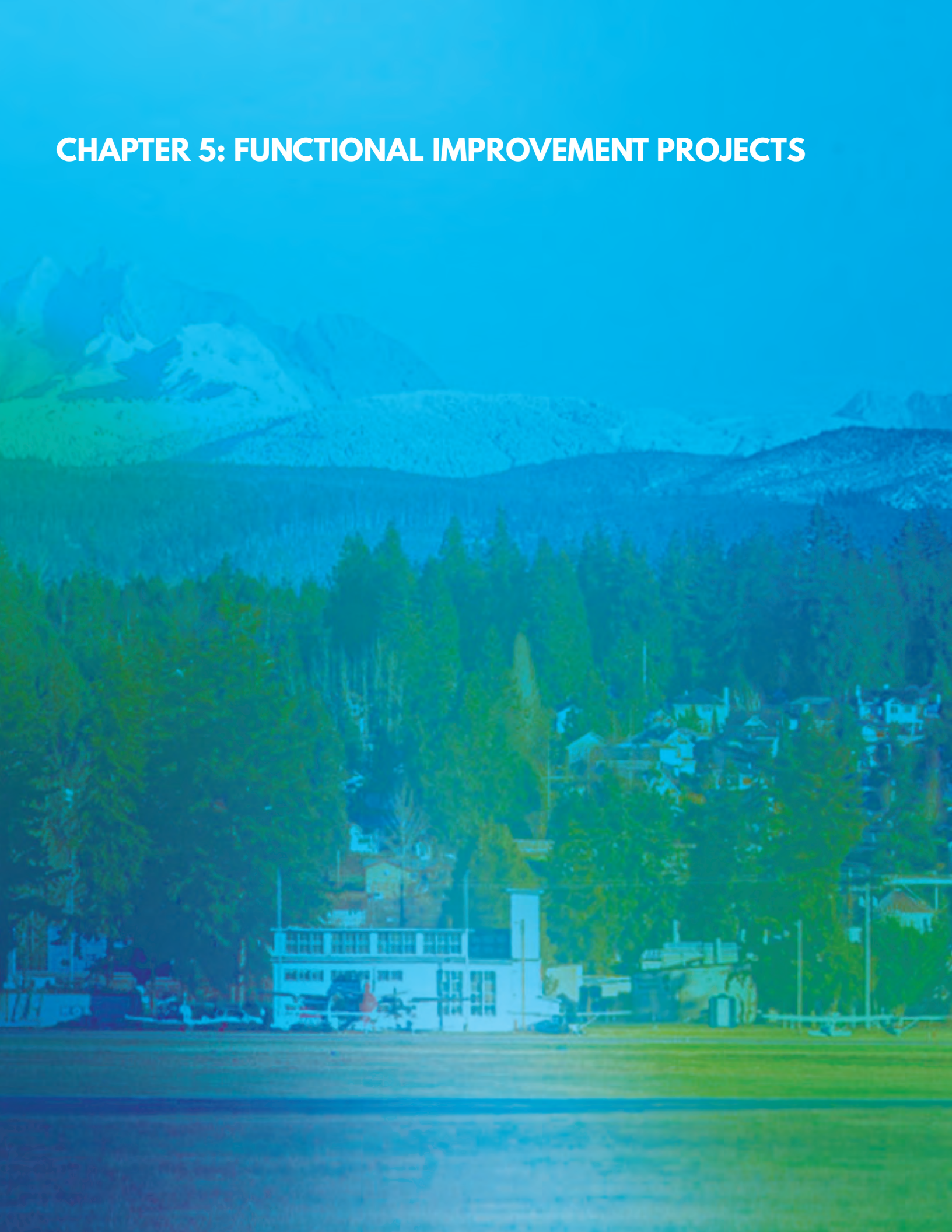
CHAPTER 5: FUNCTIONAL IMPROVEMENT PROJECTS



CHAPTER 5: FUNCTIONAL IMPROVEMENT PROJECTS

The different schools and support facilities that make up the district's building inventory were each built at different times and under different circumstances. The schools were designed to serve the curriculum and educational approach that was in place in the district at the time they were constructed. All of the support buildings are in facilities that were adapted to serve their needs. None were purpose-built for their current function. All the facilities were built with the resources that were available to the district at the time.

Over the years since each of the schools were built educational delivery has changed. The district's approach to curriculum has changed and evolved. The nature of the support functions have changed. As a result the demands on the facilities have changed. This chapter of the Master Plan looks at potential projects for each of the sites that will help the buildings better respond to those changes.

The ideas contained in this chapter came from direct interviews with district administrators, leadership at each school, and district maintenance staff. Each group provided their perspective of where individual buildings may be lacking or could benefit from an improvement or reconfiguration. The list includes suggestions to upgrade systems that are otherwise functional but they are not maintenance or repair ideas. They are ideas to improve a facility's ability to effectively deliver curriculum and serve the district's mission.

Each idea is sorted by facility. For each there is a description of the improvement that is being proposed, a recommended resolution, and a brief discussion of the potential impacts or feasibility of implementing the resolution. None of these ideas have been evaluated beyond a very conceptual level. If the district were to opt to proceed with any of them, further study would be required to determine the cost and full impact of implementation.

Unlike the ideas listed in the chapter for Systems Repair and Replacement none of the ideas in this chapter are critical to the ongoing function of the facilities. They are all optional improvements. Therefore there is not a calendar or timing recommendation associated with them.

Functional Improvements

Eagle Creek Elementary School

Many of the ideas proposed by the staff at Eagle Creek focused on adding accommodations for specialized instruction and support. The building's arrangement and site layout do lend themselves to expanding the school if necessary or adding portables to increase capacity. At the time of this study the district had begun a project to add two modular buildings to this site that will add four classrooms. That project is expected to be done by the end of summer 2023.

Site

ECES-F1: Inclusive Playground

The current playground equipment is functional and well used but it does not have accommodations for disabled students. The school would like to replace it with equipment that provides universal access.

Proposed Response: Replace the existing equipment for new equipment in the same location. Verify that the current location has ADA compliant access.

Feasibility: This would be a relatively easy improvement to implement. It may involve some regrading of the playground to provide ADA access but otherwise the existing equipment could simply be removed and new equipment provided.

ECES-F2: Playfield Drainage

The grass playfields do not drain properly. During wet times of the year they are unusable.

Proposed Response: Install an underdrain system for the fields. This would likely include removal of the base material that forms the field and replacing it with more free-flowing soil.

Feasibility: There does not appear to be any technical challenges with implementing this idea.

ECES-F3: Complete Site Fencing

The existing fencing system does not entirely enclose the playgrounds. For site safety the district would like to extend the fence so it does.

Proposed Response: Install fencing for those portions of the site that are not currently enclosed.

Feasibility: There does not appear to be any technical challenges with implementing this idea.

Building

ECES-F4: Dedicated Space for Specialists

The school currently has two specialists that have to work with students in classrooms. That makes the classroom unavailable for the teacher for planning or prep and it requires the specialists to move around the building. A dedicated space for those specialists could provide room for small group work as well as one-on-one, without taking away a classroom. The specialists would be working with different groups at the same time so they would each need an independent space.

Proposed Response: Remodel/repurpose an existing area in the school to provide dedicated offices for the specialists.

Feasibility: This idea would be relatively easy to accommodate if there were space in the school that could be repurposed. At the time of this study the school did not have a surplus of space and in fact was slightly overcrowded. However, the district intends to add modular classrooms to the school in the summer of 2023. If that increased capacity can be used to free up a classroom inside the building that classroom could relatively easily be remodeled to serve as office and meeting space for this purpose.

ECES-F5: Student Recovery Space

There are times when a student needs a space, apart from classrooms and other students, to recover when their emotions are charged to help address their SEL needs. The school does not currently have such a space for students outside of the Special Education programs. They would like to add one that is more easily accessible for all students. Ideally this space would be closely associated with the office to allow administrators to supervise the students in the space.

Proposed Response: Remodel/repurpose an existing space in the admin area to serve as a student recovery space. This may include modifications to how the office is accessed for this particular function.

Feasibility: If area can be created outside of the admin suite for the specialists as noted above it would be relatively easy to backfill in the admin with a student recovery space. It would be a simple tenant improvement. If the specialists cannot be relocated space would need to be identified elsewhere in the building which would be more difficult. In fact, being away from the office may make the idea infeasible from a supervision standpoint.

ECES-F6: Dedicated Space for Science/STEAM

The school does not currently have a space that is appropriately outfitted to support science or STEAM related activities. It does have a science room but due to the size of the student population it is being used as a general classroom. The space would also need a minor renovation to allow it to function as a contemporary science space. One appropriately equipped science space could serve the entire school.

Proposed Response: Remodel the original science room to update its capability to function as a science room.

Feasibility: The existing science room has accommodations for sinks, etc. so it would be a relatively simple tenant improvement to upgrade the room to today's standards. The biggest challenge is displacing the current classroom function. If capacity is created by new modular construction on the campus and that space can be used for general classroom, freeing up this space to be a dedicated science room, this idea would be easy to achieve.

ECES-F7: Dedicated Space for Art

The school does not currently have a space that is appropriately outfitted or dedicated to support Art instruction. That program is currently housed on the platform stage adjacent to the Multi-Purpose room. That space was not originally intended for art instruction so it does not have the proper accommodations. It is also too small. Having it dedicated as an Art Room limits the use as a stage for school events. One appropriately equipped art space could serve the entire school.

Proposed Response: Identify a space in the school that can be converted to an Art Room and remodel that space.

Feasibility: The biggest challenge for this idea is finding space in the building. It could be done as an addition to the school. The configuration of the school lends itself to an addition. But the cost would be relatively high for a single classroom space which may make it cost prohibitive. However, if capacity is created by new modular construction on the campus and that space can be used for general classroom, that could free up a space inside the building that could be remodeled into an Art room relatively easily.

ECES-F8: Dedicated Food Service Space

Currently food service is done in the Multi-Purpose room, the same room that is used for physical education instruction. The size of the student population and the time it takes to process students through a lunch service requires the food service function to start relatively early and run relatively late in the day. That creates challenges scheduling enough time in the space for PE instruction.

Proposed Response: Add a new, dedicated space for food service that is independent of the Multi-purpose room. The space could serve other large group functions but it's primary purpose would be food service.

Feasibility: The school does not have any existing spaces that could serve this need. An addition would be required. The site has adequate space and the floorplan of the building lends itself well to the addition of a second multi-purpose space. The largest challenge would be cost. An addition of that scale would be expensive relative to the amount of area and function it adds.

ECES-F9: Small Group Work Space

Today's curriculum delivery at the elementary level includes a lot small and medium sized group work. The school uses the open floor area between the classrooms in each pod for that function. The space was not designed for that purpose and presents some challenges. The school staff would like to explore options for making the spaces more conducive to that practice.

Proposed Response: Some accommodations could be made to address acoustics, lighting, and potentially creating separate, discreet areas. The exact function the school wants to achieve would have to be more fully vetted.

Feasibility: The feasibility of this idea depends entirely on what the school is hoping to achieve. The pod spaces are completely surrounded by classrooms and they are part of the corridor system that provides access to those rooms from the rest of the school. Any architectural interventions would need to maintain that access. There is a conflicting need for that space when two or three classes want to get together for one event. Permanent partitions in the pod would preclude that function. Movable partitions are an option but that makes resetting the space for a different function more difficult and less likely to occur. The most benefit may be gained by limiting the improvements to acoustics, lighting, technology and furniture.

ECES-F10: Instructional Technology

The school would like to see the addition of Smartboards and Voice Amplification Systems to aid in instruction added to all the classrooms. A significant amount of curriculum is delivered digitally and having the appropriate technology to display that content is beneficial. Voice systems all instructors to be heard uniformly across the room without having to strain their voices.

Proposed Response: Provide both Smartboards and Voice Amplification Systems.

Feasibility: Both systems would be relatively easy to add to all the classrooms.

Systems

ECES-F11: Fire Sprinklers

The school does not have an automatic fire sprinkler system.

Proposed Response: Provide a fire sprinkler system throughout the school.

Feasibility: Retrofitting the building with a fire sprinkler system is not technically infeasible. The challenge is the impact on the existing building and the time it would take to complete. Installing sprinkler piping above ceilings and in concealed spaces will require a significant amount of demolition and rebuild of existing finishes. Doing the entire building at one time would not likely be completed in a single summer. The project may have to be broken into 2 or 3 separate projects that are each small enough to get done in three months. It would be most cost effective to do this work in concert with upgrades to other building wide systems as part of a holistic modernization. The district has reserved funds from the 2020 Capital Levy to support installation of a fire suppression system in conjunction with a modernization project.

ECES-F12: Classroom Hot Water

The sinks in the classrooms get hot water from local heating units at the sinks (Insta-Hots). One unit serves two classrooms. The units are not capable of providing sufficient hot water for the demand. The district would like to update that system.

Proposed Response: Replace the existing units with more effective, efficient units. Either provide one replacement for each existing unit or potentially provide one for each classroom.

Feasibility: There does not appear to be anything from a technical standpoint that would make this improvement infeasible.

ECES-F13: Plumbing Fixtures

The faucets and flush valves in the building are adequate but well past their anticipated useful life. None are water efficient types. The district would like to replace all the faucets and flush valves with new, water efficient versions.

Proposed Response: Replace the existing faucets and flush valves.

Feasibility: There does not appear to be anything from a technical standpoint that would make this improvement infeasible.

ECES-F14: Standalone Primary Transformer

The primary energy transformer that serves the school is sub-fed from the transformer at Post Middle School. That presents the potential that problems with the transformer at Post would cause disruptions at both Post and ECES.

Proposed Response: Replace the transformer with a new direct feed transformer that is not sub-fed from Post.

Feasibility: There does not appear to be anything from a technical standpoint that would make this improvement infeasible.

ECES-F15: Interior Power

Receptacles in areas that are accessible by students are not tamper-proof. They met code at the time of installation, but do not meet the current national Electrical Code or WAC.

Proposed Response: Provide tamper resistant outlets in all student areas.

Feasibility: There does not appear to be anything from a technical standpoint that would make this improvement infeasible. This would only involve replacing the outlets themselves. It would not require any new wiring or circuits.

ECES-F16: Interior Lighting

The light fixtures in this school are all fluorescent except for the fixtures in the gym. The gym fixtures have had LED replacement bulbs installed in lieu of fluorescent or HID bulbs, but they are installed in fixtures that are designed for fluorescent/HID bulbs. The district would like to change the lighting system to a complete LED system. LED bulbs in fluorescent fixtures do not provide the full benefit of LED lighting. LED fixtures have very long lifespans and cut down on labor associated with changing bulbs, the provide higher quality light, and they use far less energy than fluorescent fixtures.

Proposed Response: Replace all the lighting in the building with LED lighting.

Feasibility: There does not appear to be anything from a technical standpoint that would make this improvement infeasible. The potential energy savings are likely to be minimal and would not offset the cost for the labor to change the system in the anticipated life span of the fixtures, even when taking into consideration the current labor for bulb replacement.

ECES-F17: Digital Intercom

The current intercom system is functional and should be for a number of years more but the district would like to convert all of the intercom systems in their facilities to a digital system.

Proposed Response: Replace the existing intercom with a digital system.

Feasibility: There does not appear to be anything from a technical standpoint that would make this improvement infeasible. It would not be particularly impactful on the building and could be done over a summer.

Kent Prairie Elementary School

Many of the ideas proposed by the staff at Kent Prairie focused on adding accommodations for specialized instruction and support. The building's arrangement lends itself to expanding the school however the site is relatively small. An addition is not likely feasible at this site so those ideas that would be dependent on an addition, like a dedicated lunch room, were not included in this study. However, the site does have enough room for additional portables so creating some additional classroom capacity to free up space inside the building for other uses would be feasible so those ideas are included.

Site

KPES-F1: Inclusive Playground

The current playground equipment is functional and well used but it does not have accommodations for disabled students. The school would like to replace it with equipment that provides universal access.

Proposed Response: Replace the existing equipment for new equipment in the same location. Verify that the current location has ADA compliant access.

Feasibility: This would be a relatively easy improvement to implement. It may involve some regrading of the playground to provide ADA access but otherwise the existing equipment could simply be removed and new equipment provided.

KPES-F2: Playfield Drainage

The grass playfields do not drain properly. During wet times of the year they are unusable. The field also has a notable slope that makes it less suitable for organized sports.

Proposed Response: Install an underdrain system for the fields. This would likely include removal of the base material that forms the field and replacing it with more free-flowing soil. The slope of the current field could be alleviated by placing more of the new material above the existing surface, thereby reducing the amount of necessary excavation.

Feasibility: There does not appear to be any technical challenges with implementing this idea.

KPES-F3: Complete Site Fencing

The existing fencing system does not entirely enclose the playgrounds. For site safety the district would like to extend the fence so it does.

Proposed Response: Install fencing for those portions of the site that are not currently enclosed.

Feasibility: There does not appear to be any technical challenges with implementing this idea.

Building

KPES-F4: Dedicated Space for Occupational Therapy

Currently the occupational therapist and physical therapist share a single space to work with students, a space that is too small. Although they may often serve the same students the functions are very different and require different accommodations. Being combined also makes it difficult to work with multiple students at the same time. A dedicated space for OT that is separate from PT would allow both to be set up more intentionally for the nature of their interactions with students.

Proposed Response: Remodel/repurpose an existing space in the school to provide dedicated office/work area for OT. Remodel the PT space to better serve that function.

Feasibility: This idea would be relatively easy to accommodate if there were space in the school that could be repurposed. At the time of this study the school was not over its calculated capacity but every space was being utilized for education. The scale of this function would not justify an addition so the school would have to rethink how it is using space inside the building, including the portables, and identify a space that could be repurposed. Alternately, if portables were added to the site the increased classroom space could free up space inside the building to be repurposed.

KPES-F5: Student Recovery Space

There are times when a student needs a space, apart from classrooms and other students, to recover when their emotions are charged to help address their SEL needs. The school does not currently have such a space for students outside of the Special Education programs. They would like to add one that is more easily accessible for all students. Ideally this space would be closely associated with the office to allow administrators to supervise the students in the space.

Proposed Response: Remodel/repurpose an existing space in the admin area to serve as a student recovery space. This may include modifications to how the office is accessed for this particular function.

Feasibility: A simple tenant improvement to create this function would not be technically challenging. The challenge would be finding space in the Admin area that could be repurposed. The school would need to identify a function in Admin that could be eliminated or relocated to elsewhere in the school. One potential would be to move specialists out of the office as is discussed for ECES but that also would require space elsewhere being repurposed. That could be achieved by adding more modular classrooms to the site.

KPES-F6: Dedicated Space for Science/STEAM

The school does not currently have a space that is appropriately outfitted to support science or STEAM related activities. It does have a science room but due to the size of the student population it is being used as a general classroom. The space would also need a minor renovation to allow it to function as a contemporary science space. One appropriately equipped science space could serve the entire school.

Proposed Response: Remodel the original science room to update its capability to function as a science room.

Feasibility: The existing science room has accommodations for sinks, etc. so it would be a relatively simple tenant improvement to upgrade the room to today's standards. The biggest challenge is displacing the current classroom function. If capacity is created by new modular construction on the campus and that space can be used for general classroom, freeing up this space to be a dedicated science room, this idea would be easy to achieve.

KPES-F7: Dedicated Space for Art

The school does not currently have a space that is appropriately outfitted or dedicated to support Art instruction. That program is currently housed on the platform stage adjacent to the Multi-Purpose room. That space was not originally intended for art instruction so it does not have the proper accommodations. It is also too small. Having it dedicated as an Art Room limits the use as a stage for school events. One appropriately equipped art space could serve the entire school.

Proposed Response: Identify a space in the school that can be converted to an Art Room and remodel that space.

Feasibility: The biggest challenge for this idea is finding space in the building. A small addition to the school might be achievable but it would be costly and would have a significant impact on functionality of the site. However, if capacity is created by new modular construction on the campus and that space can be used for general classroom, that could free up a space inside the building that could be remodeled into an Art room relatively easily.

KPES-F8: Larger Kitchen

The kitchen was designed to support a smaller student population than exists in the school currently. It is too small for the current demand. There is also inadequate space for storing lunch tables when the Multi-Purpose room is in use for PE or another function.

Proposed Response: Enlarge the kitchen and add table storage.

Feasibility: It would be technically feasible to enlarge the kitchen in its current location. There does appear to be sufficient area. The cost would be very high relative to the area that would be added. It also would be very unlikely that it could be completed over a single summer break. The district would have to find temporary accommodations for food service for as much as half a school year, if not longer. It may be possible to relocate the kitchen to the opposite side of the Multi-Purpose room to allow the old one to be used while the new one is built but that would be very disruptive to parking and vehicle circulation on the site. Further study would be needed.

KPES-F9: Instructional Technology

The school would like to see the addition of Smartboards and Voice Amplification Systems to aid in instruction added to all the classrooms. A significant amount of curriculum is delivered digitally and having the appropriate technology to display that content is beneficial. Voice systems all instructors to be heard uniformly across the room without having to strain their voices.

Proposed Response: Provide both Smartboards and Voice Amplification Systems.

Feasibility: Both systems would be relatively easy to add to all the classrooms.

Systems

KPES-F10: Plumbing Fixtures

The faucets and flush valves in the building are adequate but well past their anticipated useful life. None are water efficient types. The district would like to replace all the faucets and flush valves with new, water efficient versions.

Proposed Response: Replace the existing faucets and flush valves.

Feasibility: There does not appear to be anything from a technical standpoint that would make this improvement infeasible.

KPES-F11: Interior Power

Receptacles in areas that are accessible by students are not tamper-proof. They met code at the time of installation, but do not meet the current national Electrical Code or WAC.

Proposed Response: Provide tamper resistant outlets in all student areas.

Feasibility: There does not appear to be anything from a technical standpoint that would make this improvement infeasible. This would only involve replacing the outlets themselves. It would not require any new wiring or circuits.

KPES-F12: Interior Lighting

The majority of the light fixtures in this school are LED bulbs in fluorescent fixtures. They are more energy efficient than fluorescent bulbs but do not operate as efficiently as LED lights in LED fixtures nor do they have the lifespan of LED lights. The district would like to change the lighting system to a complete LED system. LED fixtures have very long lifespans and cut down on labor associated with changing bulbs, provide higher quality light, and use far less energy than fluorescent fixtures.

Proposed Response: Replace all the lighting in the building with LED lighting.

Feasibility: There does not appear to be anything from a technical standpoint that would make this improvement infeasible. The potential energy savings are likely to be minimal and would not offset the cost for the labor to change the system in the anticipated life span of the fixtures, even when taking into consideration the current labor for bulb replacement.

KPES-F13: Digital Intercom

The current intercom system is functional and should be for a number of years more but the district would like to convert all of the intercom systems in their facilities to a digital system.

Proposed Response: Replace the existing intercom with a digital system.

Feasibility: There does not appear to be anything from a technical standpoint that would make this improvement infeasible. It would not be particularly impactful on the building and could be done over a summer.

Pioneer Elementary School

One of the largest constraints at Pioneer to any significant change is the site itself. The site is relatively small for an elementary school. There is no room to enlarge the building or add freestanding buildings. The suggested ideas to add classrooms, a second commons, a second play shed, a dedicated lunch room, or portables are simply not feasible on this site and were not included in this report. The second largest challenge is the size of the student population. The building was not over capacity at the time of this report but it is projected to be in 10 years. There is little to no underutilized space. Repurposing a space to serve a different function will be a challenge unless there are current functions that can be eliminated.

Site

PIES-F1: Inclusive Playground

The current playground equipment is functional and well used but it does not have accommodations for disabled students. The school would like to replace it with equipment that provides universal access and include more interactive equipment that is focused on learning.

Proposed Response: Replace the existing equipment with new equipment in the same location. Verify that the current location has ADA compliant access.

Feasibility: This would be a relatively easy improvement to implement. It may involve some regrading of the playground to provide ADA access but otherwise the existing equipment could simply be removed and new equipment provided.

PIES-F2: Awning at Bus Area

The school is served by 4 full size buses and 3-4 small buses that arrive at the site at different times at the end of the school day. The last bus to arrive is often quite awhile after school is out. In bad weather the kids waiting for the buses have no weather protection. They either have to stand in the rain or the school has to remain open and allow them to wait inside. Having a covered waiting area would allow the students to wait outside.

Proposed Response: Provide an awning at the bus lane.

Feasibility: There does not appear to be any technical challenges with implementing this idea. However, there does not appear to be sufficient length in the sidewalk adjacent to the bus lane for the number of busses that serve the site. It is unclear how many students ride on each bus but it is likely there will not be enough space to provide a canopy that is large enough for all the students on all the busses. The school may still be required to let students out of the school in waves.

PIES-F3: Complete Site Fencing

The existing fencing system does not entirely enclose the playgrounds. For site safety the district would like to extend the fence so it does.

Proposed Response: Install fencing for those portions of the site that are not currently enclosed.

Feasibility: There does not appear to be any technical challenges with implementing this idea.

PIES-F4: Running Track

The school would like a dedicated running track around the existing playfield.

Proposed Response: Redesign the playfield to accommodate a running track.

Feasibility: There does not appear to be any technical challenges with implementing this idea. However, there is not sufficient space behind the existing baseball backstops. The entire field would have to be reconfigured to create the space for a running track. The baseball fields, which are already small, would get smaller. The overall cost would be very high for a running track.

Building

PIES-F5: Dedicated Space for Resource and EL Services

The school does not have sufficient space to support the need for Resource Rooms and EL Services.

Proposed Response: Remodel/repurpose an existing area in the school to provide dedicated space.

Feasibility: This idea would be relatively easy to accommodate if there were space in the school that could be repurposed. At the time of this study the school did not have a surplus of space and were using every space for education. The site does not have enough area to accommodate the addition or portables. If the school cannot identify a space that could be repurposed addressing this need is infeasible in the existing school.

PIES-F6: Dedicated Computer Lab

The school would like a dedicated computer lab that is appropriately equipped for computer instruction.

Proposed Response: Remodel/repurpose an existing space in the school to create a computer lab.

Feasibility: This idea would be relatively easy to accommodate if there were space in the school that could be repurposed. Pioneer is one of the schools that is projected to be over capacity in 10 years. With that in mind it may be difficult to identify a classroom that could be converted.

PIES-F7: A Second Dedicated Life Skills Space

The school currently has one Life Skills space that was designed intentionally for that function. Their need is such that they are also using a second space for Life Skills. The second space is not appropriately outfitted for that purpose. It does not have a toilet room and other necessary accommodations. The need is not likely to go away in the future so the school would like to create a second, formal Life Skills room.

Proposed Response: Remodel/repurpose an existing space in the building for Life Skills. This could potentially be the second space they are currently using or swap locations with another classroom that is closer to the current Life Skills room and a Life Skills Suite could be created.

Feasibility: This would require a tenant improvement to convert an existing space. That would not be technically infeasible. Since the school has already dedicated a space to this function formalizing that practice by creating a second Life Skills room would not have an impact on the current functional capacity of the school. It would reduce to calculated capacity for future growth.

PIES-F8: Sensory Path

The school would like to create a "sensory path" inside the building. A sensory path is a series of guided movements for students to follow, shown by markings on the ground or walls. As students follow the path and complete the movements, they work off excess energy and develop their gross motor skills.

Proposed Response: Create a sensory path in the existing corridors.

Feasibility: This would be a relatively easy project to execute.

PIES-F9: Dedicated Space for Art

The school does not currently have a space that is appropriately outfitted or dedicated to support Art instruction. One appropriately equipped art space could serve the entire school.

Proposed Response: Identify a space in the existing building that could be converted to serve as an Art Room and remodel it as necessary.

Feasibility: The biggest challenge for this idea is finding space in the building. The school is currently using every available space for program and is anticipated to be overcrowded in 10 years. The site is too constrained to accommodate an addition or portables.

PIES-F10: Display Cases

The school would like to add display cases throughout the facility to display student work.

Proposed Response: Add a variety of display cases and other accommodations for displaying student work.

Feasibility: This would be a relatively easy request to accommodate with little disruption to the school.

PIES-F11: Instructional Technology

The school would like to see the addition of Smartboards and Voice Amplification Systems to aid in instruction added to all the classrooms. A significant amount of curriculum is delivered digitally and having the appropriate technology to display that content is beneficial. Voice systems allow instructors to be heard uniformly across the room without having to strain their voices.

Proposed Response: Provide both Smartboards and Voice Amplification Systems.

Feasibility: Both systems would be relatively easy to add to all the classrooms.

PIES-F12: Eliminate Roof Access

The roof at the kindergarten play area is relatively easy to access from the exterior of the building. That results in trespassers on the roof and vandalism. The district would like to eliminate that access.

Proposed Response: Identify how people are accessing the building and eliminate that access. Providing additional security cameras could also help in identifying who is dong the vandalism.

Feasibility: The solution will depend on how the roof is being accessed but preliminary discussions suggest it would take minimal modifications to remedy.

Systems

PIES-F13: Interior Power

Receptacles in areas that are accessible by students are not tamper-proof. They met code at the time of installation, but do not meet the current national Electrical Code or WAC.

Proposed Response: Provide tamper resistant outlets in all student areas. This would only involve replacing the outlets themselves. It would not require any new wiring or circuits.

Feasibility: There does not appear to be anything from a technical standpoint that would make this improvement infeasible.

PIES-F14: Interior Lighting

The majority of the light fixtures in this school are LED bulbs in fluorescent fixtures. They are more energy efficient than fluorescent bulbs but do not as efficient as LED lights nor to they have the lifespan of LED lights. The district would like to change the lighting system to a complete LED system. LED fixtures have very long lifespans and cut down on labor associated with changing bulbs, the provide higher quality light, and they use far less energy than fluorescent fixtures.

Proposed Response: Replace all the lighting in the building with LED lighting.

Feasibility: There does not appear to be anything from a technical standpoint that would make this improvement infeasible. The potential energy savings are likely to be minimal and would not offset the cost for the labor to change the system in the anticipated life span of the fixtures, even when taking into consideration the current labor for bulb replacement.

PIES-F15: Digital Intercom

The current intercom system is functional and should be for a number of years more but the district would like to convert all of the intercom systems in their facilities to a digital system.

Proposed Response: Replace the existing intercom with a system.

Feasibility: There does not appear to be anything from a technical standpoint that would make this improvement infeasible. It would not be particularly impactful on the building and could be done over a summer.

PIES-F16: Sound System in the Gym

The building does not currently have a functioning sound system in the gym.

Proposed Response: Install a sound system.

Feasibility: There does not appear to be anything from a technical standpoint that would make this improvement infeasible.

Presidents Elementary School

The majority of the ideas proposed by the staff at Presidents involve increasing support services. The building has the most capacity of any of the district's elementary schools so there should be some flexibility to repurpose space. The site could conceivably accommodate an addition. There is also room to add portables.

Site

PRES-F1: Inclusive Playground

The current playground equipment is functional and well used but it does not have accommodations for disabled students. The school would like to replace it with equipment that provides universal access and include more interactive equipment that focused on learning.

> Proposed Response: Replace the existing equipment for new equipment in the same location. Verify that the current location has ADA compliant access.
>
> Feasibility: This would be a relatively easy improvement to implement. It may involve some regrading of the playground to provide ADA access but otherwise the existing equipment could simply be removed and new equipment provided.

PRES-F2: Playfield Drainage

The grass playfields do not drain properly. During wet times of the year they are unusable.

> Proposed Response: Install an underdrain system for the fields. This would likely include removal of the base material that forms the field and replacing it with more free-flowing soil.
>
> Feasibility: There does not appear to be any technical challenges with implementing this idea.

Building

PRES-F3: Enlarged Counseling Center

The school currently has one office for a counselor. It is not large enough to do more than one-on-one meetings. They would like a larger space to allow the counselor to meet with small groups. The space would ideally have an office as well as a small group meeting space. Ideally this would be in the office area but it could be elsewhere in the building.

> Proposed Response: Remodel/repurpose an existing area in the school to provide a larger counseling center.
>
> Feasibility: This idea would be relatively easy to accommodate if there is space in the school that could be repurposed. This school has more capacity than the current enrollment and it is not projected to reach its capacity within 10 years so identifying space should be feasible.

PRES-F4: Student Recovery Space

There are times when a student needs a space, apart from classrooms and other students, to recover when their emotions are charged to help address the SEL needs. The school does not currently have such a space for students outside of the Special Education programs. They would like to add one that is more easily accessible for all students. Ideally this space would be closely associated with the office to allow administrators to supervise the students in the space.

Proposed Response: Remodel/repurpose an existing space in the admin area to serve as a student recovery space. This may include modifications to how the office is accessed for this particular function.

Feasibility: If area can be created outside of the admin suite for the counseling center as noted above it would be relatively easy to backfill in the admin with a student recovery space. It would be a simple tenant improvement. If the specialists cannot be relocated space would need to be identified elsewhere in the building which would be more difficult. In fact, being away from the office may make the idea infeasible from a supervision standpoint.

PRES-F5: Student Sensory Room

The school would like a sensory room that is not as closely associated with the Life Skills program so it can be more easily accessed by all students.

Proposed Response: Remodel/repurpose an existing space in the admin area to serve as a second sensory room.

Feasibility: This idea would be relatively easy to accommodate if there is space in the school that could be repurposed. This school has more capacity than the current enrollment and it is not projected to reach its capacity within 10 years so identifying space should be feasible.

PRES-F6: Inclusive Pre-School

The school currently has a pre-school program that serves students with special needs. They would like to enlarge that program to serve all students and allow them to mainstream the special needs students.

Proposed Response: The current pre-school program is housed in a portable. A second portable could be added to provide increased capacity directly adjacent to the existing portable.

Feasibility: The feasibility of adding a portable to this site was previously studied and determined that it would be relatively easy to add one adjacent to the existing.

PRES-F7: Dedicated Food Service Space

Currently food service is done in the Multi-Purpose room, the same room that is used for physical education instruction. The size of the student population and the time it takes to process students through a lunch service requires the food service function to start relatively early and run relatively late in the day. That creates real challenges scheduling enough time in the space for PE instruction.

Proposed Response: Add a new, dedicated space for food service that is independent of the gym. The space could serve other large group functions but it's primary purpose would be food service. The school does not have any existing spaces that could serve this need so an addition would be necessary. One viable option would be to displace the existing covered play area, which is directly adjacent to the existing Commons, and convert that area to be a lunch room. Then build a new covered play area.

Feasibility: There is nothing from a technical standpoint that would make this solution infeasible. It would be relatively expensive for the limited function that would be gained.

PRES-F8: Instructional Technology

The school would like to see the addition of Smartboards and Voice Amplification Systems to aid in instruction added to all the classrooms. A significant amount of curriculum is delivered digitally and having the appropriate technology to display that content is beneficial. Voice systems allow instructors to be heard uniformly across the room without having to strain their voices.

Proposed Response: Provide both Smartboards and Voice Amplification Systems.

Feasibility: Both systems would be relatively easy to add to all the classrooms.

Systems

PRES-F9: Interior Power

Receptacles in areas that are accessible by students are not tamper-proof. They met code at the time of installation, but do not meet the current national Electrical Code or WAC.

Proposed Response: Provide tamper resistant outlets in all student areas.

Feasibility: There does not appear to be anything from a technical standpoint that would make this improvement infeasible. This would only involve replacing the outlets themselves. It would not require any new wiring or circuits.

PRES-F10: Interior Lighting

The majority of the light fixtures in this school are LED bulbs in fluorescent fixtures. They are more energy efficient than fluorescent bulbs but do not operate as efficiently as LED lights in LED fixtures nor do they have the lifespan of LED lights. The district would like to change the lighting system to a complete LED system. LED fixtures have very long lifespans and cut down on labor associated with changing bulbs, provide higher quality light, and use far less energy than fluorescent fixtures.

Proposed Response: Replace all the lighting in the building with LED lighting.

Feasibility: There does not appear to be anything from a technical standpoint that would make this improvement infeasible. The potential energy savings are likely to be minimal and would not offset the cost for the labor to change the system in the anticipated life span of the fixtures, even when taking into consideration the current labor for bulb replacement.

PRES-F11: Digital Intercom

The current intercom system is functional and should be for a number of years more but the district would like to convert all of the intercom systems in their facilities to a digital system.

Proposed Response: Replace the existing intercom with a digital system.

Feasibility: There does not appear to be anything from a technical standpoint that would make this improvement infeasible. It would not be particularly impactful on the building and could be done over a summer.

Haller Middle School

The ideas that were provided by the district for functional improvements at Haller Middle School did not include any programmatic changes or issues. They are all related to systems improvements.

Site

HMS-F1: Complete Site Fencing

The existing fencing system does not entirely enclose the playgrounds. For site safety the district would like to extend the fence so it does.

Proposed Response: Install fencing for those portions of the site that are not currently enclosed.

Feasibility: There does not appear to be any technical challenges with implementing this idea.

Building

HMS-F2: ADA Deficiencies in the Gym Building

When the school was rebuilt/remodeled in 2006 portions of the original Arlington HS were kept and renovated. Those areas, specifically the Gym building, do not meet current ADA accessibility requirements. There is insufficient clearance at many doors and toilet facilities. Although the building code does not require the district to correct these deficiencies they are impediments for disabled students.

Proposed Response: Complete a detailed assessment of accessibility in the original areas of the building and develop architectural responses to correct the deficiencies.

Feasibility: The work required to resolve the deficiencies cannot be determined until the extent and nature of the deficiencies themselves is documented. Some of the conditions may be very easy to address. Some may take more extensive intervention. Some may be infeasible given the existing conditions.

HMS-F3: Instructional Technology

The school would like to see the addition of Smartboards and Voice Amplification Systems to aid in instruction added to all the classrooms. A significant amount of curriculum is delivered digitally and having the appropriate technology to display that content is beneficial. Voice systems for all instructors to be heard uniformly across the room without having to strain their voices.

Proposed Response: Provide both Smartboards and Voice Amplification Systems.

Feasibility: Both systems would be relatively easy to add to all the classrooms.

Systems

HMS-F4: Interior Power

Receptacles in areas that are accessible by students are not tamper-proof. They met code at the time of installation, but do not meet the current national Electrical Code or WAC.

Proposed Response: Provide tamper resistant outlets in all student areas.

Feasibility: There does not appear to be anything from a technical standpoint that would make this improvement infeasible. This would only involve replacing the outlets themselves. It would not require any new wiring or circuits.

HMS-F5: Interior Lighting

The light fixtures in this school are all fluorescent except for the fixtures in the gym. The gym fixtures have had LED replacement bulbs installed in lieu of fluorescent or HID bulbs, but they are installed in fixtures that are designed for fluorescent/HID bulbs. The district would like to change the lighting system to a complete LED system. LED bulbs in fluorescent fixtures do not provide the full benefit of LED lighting. LED fixtures have very long lifespans and cut down on labor associated with changing bulbs, provide higher quality light, and use far less energy than fluorescent fixtures.

Proposed Response: Replace all the lighting in the building with LED lighting.

Feasibility: There does not appear to be anything from a technical standpoint that would make this improvement infeasible. The potential energy savings are likely to be minimal and would not offset the cost for the labor to change the system in the anticipated life span of the fixtures, even when taking into consideration the current labor for bulb replacement.

HMS-F6: Gym Lighting

The lighting level in the gymnasium is too low. It meets code and does not present a safety issue but it is lower than typical for a gymnasium function.

Proposed Response: Replace the lighting in the gym with higher performance LED lighting.

Feasibility: There does not appear to be anything from a technical standpoint that would make this improvement infeasible.

HMS-F7: Wood Shop Smoke Detectors

The amount of sawdust in the wood shop quickly clogs the smoke detectors. That requires a high level of regular maintenance. The district would like to swap them out for heat detectors which are less susceptible to problems related to dust.

Proposed Response: Replace the smoke sensors in the wood shop with heat sensors.

Feasibility: There does not appear to be anything from a technical standpoint that would make this improvement infeasible. It would not be particularly impactful and could be done over a summer.

HMS-F8: Digital Intercom

The current intercom system is functional and should be for a number of years more but the district would like to convert all of the intercom systems in their facilities to a digital system.

Proposed Response: Replace the existing intercom with a digital system.

Feasibility: There does not appear to be anything from a technical standpoint that would make this improvement infeasible. It would not be particularly impactful on the building and could be done over a summer.

Post Middle School

Post Middle School is the oldest of the district's current school facilities. It was built to respond to a very different approach to education than it is currently serving. It was also built to be as cost efficient as possible. As a result the building does not support the curriculum well and the systems, equipment and finishes throughout the building are failing. Repair and replacement of systems that are failing is discussed in another chapter of this study. So is the idea of a full modernization or replacement of Post. This chapter is focused on those ideas proposed by school staff that can reasonably be achieved in the existing facility and provide benefit to the current operations.

The site does have room for additions to address some of the deficiencies but the floor plan does not lend itself to anything other than another free-standing addition that would add to an already disjointed campus. The largest challenge with an addition is the impact it would have on any future replacement of the school. It would have to be placed in a location that worked for the school in its current layout and would then become an anchor around which any future replacement would have to be designed.

Site

PMS-F1: Playfield Drainage

The grass playfields do not drain properly. During wet times of the year they are unusable.

Proposed Response: Install an underdrain system for the fields. This would likely include removal of the base material that forms the field and replacing it with more free-flowing soil.

Feasibility: There does not appear to be any technical challenges with implementing this idea.

Building

PMS-F2: Meeting and Group Work Spaces

The school has very limited space for meeting rooms or group work either for students or staff. There is a need to add more meeting space.

Proposed Response: Identify locations in the building that could be converted to serve this function.

Feasibility: This idea would be relatively easy to accommodate if there were space in the school that could be repurposed. At the time of this study the school's enrollment was below its calculated capacity, but the school is utilizing every available space for instruction. A small addition somewhere on the perimeter of the building might be technically feasible but it would likely be cost prohibitive.

PMS-F3: Specialized OT/PT Space

The school does not currently have a space(s) that is appropriately outfitted to support OT/PT services. The need is there to create such a space.

Proposed Response: Remodel/repurpose an existing space in the building to serve as an OT/PT suite.

Feasibility: This idea would be relatively easy to accommodate if there were space in the school that could be repurposed. At the time of this study the school's enrollment was below its calculated capacity, but the school is utilizing every available space for instruction. A small addition somewhere on the perimeter of the building might be technically feasible but it would likely be cost prohibitive.

PMS-F4: Updated Special Education Facilities

The school's current facilities for special education are not appropriately outfitted for the need of the programs they serve.

Proposed Response: Remodel the existing Special Education rooms. This may require more space than the current rooms offer. It may also benefit from being somewhere else in the building. Additional study of the deficiencies in the current space and the goals for a remodeled space would be required.

Feasibility: If the new configuration can fit within the footprint of the existing space(s) this would be a relatively easy improvement to achieve. If not it would be dependent on finding space elsewhere in the building.

PMS-F5: Larger IDF Rooms

The school was constructed before data and technology was as prevalent in education as it is today. The building did not have IDF Rooms. That function has been squeezed into closets where possible. Those spaces are too small to allow the school to expand its use of technology.

Proposed Response: Expand the size of the IDF Rooms (closets) where they current exist or find new locations.

Feasibility: Expanding them where they currently are would limit the amount of cables that need to be replaced or rerun. But it may not be feasible depending on the adjacent spaces. Relocating them would require rewiring all the spaces they serve. It would also be dependent on finding a space(s) that are available to be repurposed and are located in logical areas in the building relative to the spaces they serve.

PMS-F5: Relocate the Nurses Office

Currently the Nurse's office is detached from the health room which makes it difficult for the Nurse to supervise the health room when they need to be in their office.

Proposed Response: Remodel the Admin area to relocate the nurses office so that it is directly adjacent to the health room.

Feasibility: Implementing this idea may require a large remodel of the Admin area but initial indications suggest this is feasible.

PMS-F6: Instructional Technology

The school would like to see the addition of Smartboards and Voice Amplification Systems to aid in instruction added to all the classrooms. A significant amount of curriculum is delivered digitally and having the appropriate technology to display that content is beneficial. Also beneficial are voice systems for all instructors to be heard uniformly across the room without having to strain their voices.

Proposed Response: Provide both Smartboards and Voice Amplification Systems.

Feasibility: Both systems would be relatively easy to add to all the classrooms. However, the existing data backbone in the building may not be adequate to fully support a higher dependence on technology.

PMS-F7: Eliminate Roof Access

The design of the school makes it relatively easy for trespassers to access the roof. That presents a safety concern and a vandalism problem.

Proposed Response: There are more than one location where people can access the roof. The solution to each will be different. The easiest solution may be fencing more of the site to keep people away from the building when school is not in session. Additional security cameras may also be beneficial both as a deterrent and to identify trespassers.

Feasibility: The feasibility of resolving this issue will depend on how the roof is being accessed. More study will be required to determine if it would be feasible to eliminate all access points.

Systems

PMS-F8: Fire Sprinklers

The school is not currently equipped with a full automatic fire sprinkler system.

Proposed Response: Install a fire sprinkler system.

Feasibility: Installing a sprinkler system would be technically feasible but it would be a very expensive retrofit. Given the campus layout of the school it would require either multiple sprinkler riser rooms or piped connections between the buildings. The overhangs would require a dry system. It would be very impactful on the existing school. All of the ceilings would have to be removed to provide access. Given the age of the ceilings and lighting that would likely mean new ceilings and lighting throughout the facility. It would not be feasible to do the entire school in one summer. It would likely take three or four summers to compete all the work which would also increase the cost.

PMS-F9: Enlarge the Kitchen

The kitchen facilities at Post are far too small for the number of students that they serve. All aspects of the kitchen need to be expanded including food prep, storage, coolers and freezers.

Proposed Response: Remodel and expand the kitchen.

Feasibility: Although the need is great this idea is likely infeasible given the location of the kitchen and the Commons. The kitchen is completely land locked by other rooms. The only way to expand it where it is currently located would be to expand into the Admin area which would in turn require that portion of the building to be enlarged. That could be accomplished but it would be very costly and would involve the demo and reconstruction of the entire Admin suite. The Commons is also land locked so there is no logical place to relocate the kitchen and maintain its connection to the Commons, where food is served.

PMS-F10: Energy Efficient Windows

The majority of the windows in the building are single pane. They are not energy efficient and make it difficult to keep the classrooms warm in very cold weather.

Proposed Response: Replace all the single pane windows with double pane.

Feasibility: This improvement is technically feasible. It could be achieved in a single summer.

PMS-F11: Standalone Primary Transformer

The primary energy transformer that serves the school also sub-feeds the transformer at Eagle Creek School. That presents the potential that problems with the transformer at Post would cause disruptions at both Post and ECES.

Proposed Response: Replace the transformer with a new direct feed transformer that is not connected to the transformer at ECES.

Feasibility: There does not appear to be anything from a technical standpoint that would make this improvement infeasible.

PMS-F12: Interior Power

Receptacles in areas that are accessible by students are not tamper-proof. They met code at the time of installation, but do not meet the current national Electrical Code or WAC.

Proposed Response: Provide tamper resistant outlets in all student areas.

Feasibility: There does not appear to be anything from a technical standpoint that would make this improvement infeasible. This would only involve replacing the outlets themselves. It would not require any new wiring or circuits.

PMS-F13: Interior Lighting

The light fixtures in this school are all fluorescent. The District would like to change the lighting system to a complete LED system. LED fixtures have very long lifespans and cut down on labor associated with changing bulbs, the provide higher quality light, and they use far less energy than fluorescent fixtures.

Proposed Response: Replace all the lighting in the building with LED lighting.

Feasibility: There does not appear to be anything from a technical standpoint that would make this improvement infeasible. The potential energy savings are likely to be minimal and would not offset the cost for the labor to change the system in the anticipated life span of the fixtures, even when taking into consideration the current labor for bulb replacement.

PMS-F14: Digital Intercom

The current intercom system is functional and should be for a number of years more but the District would like to convert all of the intercom systems in their facilities to a digital system.

Proposed Response: Replace the existing intercom with a digital system.

Feasibility: There does not appear to be anything from a technical standpoint that would make this improvement infeasible. Although, the existing data backbone in this building may not be robust enough to support the added demand.

Arlington High School

The classroom addition and Admin remodel at Arlington HS that was completed in 2022/ 2023 addressed a number of functional and capacity issues at the school. However, the staff at the school did identify some additional ideas that would improve the learning environment.

Site

AHS-F1: Grandstand Water Supply

The domestic water supply for the stadium comes from an extension of the irrigation system. There is a backflow preventor so it is not a health concern, but whenever there is a problem with a sprinkler head on that portion of the system and it needs to turned off to repair it also cuts off water service to the stadium.

Proposed Response: Provide a dedicated water service for the stadium.

Feasibility: This improvement is feasible. There are no particular technical challenges with it. It would however be very costly. A new line would have to be run through existing paved surfaces, at least to the point where the stadium branches off the irrigation line. That would either require large areas of paving to be removed and replaced or cutting a smaller trench line that would be very visible at the surface. An additional water meter would also likely be required.

AHS-F2: Bird Netting at the Grandstands

The school has a continual problem with birds nesting in the roof structure of the grandstand and visitors bleachers. The District would like to add bird netting to the underside of those roofs, similar to what is at main school entries, to eliminate that possibility.

Proposed Response: Install bird netting on both structures.

Feasibility: There does not appear to be any technical challenges with implementing this idea.

Building

AHS-F3: Broadcast and Recording Studio

The school would like to update the journalism spaces to provide for recording and broadcast. They would like the capability to do a broadcast news show or record podcasts.

Proposed Response: Remodel the journalism space to add this capability.

Feasibility: This idea is technically feasible. The challenge will be with creating enough space. The designated spaces for filming and recording would presumably be in addition to the space for student instruction and working with technology for editing and production. That added space is not current available near the Journalism room so other programs would also need to be displaced.

AHS-F4: Student / Family Support Center

The school would like to add facilities to support a greater focus on students' wellbeing, which in turn could greatly improve teaching and learning. The space could include services such as increased psychological, relational, and grief-based counseling services, a dedicated student laundry area, a kitchen accessible to low-income students that would allow them to prepare food items for post-school consumption, on-site showers, on-site childcare, and a number of other items that are often challenges for low-income students and their families.

Proposed Response: Identify a space that could be repurposed for this function and remodel it accordingly.

Feasibility: There is nothing to suggest this idea is not feasible from a facilities standpoint. The only challenge would be identifying space in the building that could be repurposed. That would require an intentional programing phase to determine how broad of a program is intended and how much area it would require.

AHS-F5: Digital Displays for Student Work

The school would like more capability/opportunity to display AHS students and their academic work.

Proposed Response: Provide digital screens and other display medium throughout the facility

Feasibility: This idea would be relatively easy to accommodate. It would simply be a matter of identifying the appropriate locations in the building for display and determining the nature of that display – digital, display cases, tackable surfaces, etc.

AHS-F6: Remove Lockers

The corridors in the classroom wings have hundreds of lockers that are mostly unused. If they were removed they would free up space that could potentially be used for some other purpose, like small group study. It would also free up wall space for more display of student work as noted above.

Proposed Response: Remove the existing lockers. Keep a small number for those limited number of students who still use them.

Feasibility: This would be a simple project to complete. However, it should be noted that the lockers are only 12" deep and they are located in exit corridors that have required minimum clear widths. In most cases that width extends to the front of the lockers. Removing them would free up wall space but it would not free up sufficient space to add any furniture or programed use without impeding the required exit width.

AHS-F7: Toilet Room in the CTE Shop Building

Currently there is no toilet room in the CTE Shop. The closest toilet facility is in the Commons. When students need to use the facilities during class they have to travel a long ways and they are away from class for a long time.

Proposed Response: Add a single, gender neutral toilet room in the shop.

Feasibility: The CTE Shop has domestic water and sanitary sewer services so the utilities are there to support a new toilet room. The largest challenge will be space. The shop is already relatively small for the programs it houses. Something would have to be eliminated to make space for the new facilities. It could conceivably be built as a small addition to the building. That would make the work far less impactful on the existing programs but would also drive the costs up significantly.

AHS-F8: Larger Kitchen Cooler and Freezer

The current student capacity is larger than the school's core facilities were originally designed for. As a result there is currently insufficient capacity in both the freezer and cooler in the kitchen.

Proposed Response: Replace the existing cooler and freezer with larger units.

Feasibility: The cooler and freezer are on the outside of the building so enlarging them would be relatively easy. The challenge is in the space available. There are a lot of other building services in the same area that would potentially be impacted, including underground utilities. The amount of area that could be gained may not be worth the cost. Further investigation would be required.

AHS-F9 Two Additional Chemistry Rooms

The school would like two of the current general science rooms to be converted the Chemistry rooms. They would not always be needed but having the capability would provide more flexibility in scheduling science classes.

Proposed Response: Remodel two general science rooms to equip them as chemistry rooms.

Feasibility: It would be relatively simple to convert the two rooms. They would be relatively invasive remodels assuming that sinks would need to be added and/or relocated. But it is a scale of work that could be achieved in a single summer.

Systems

AHS-F10: Interior Lighting

The majority of the light fixtures in this school are LED bulbs in fluorescent fixtures. They are more energy efficient than fluorescent bulbs but do not as efficient as LED lights nor do they have the lifespan of LED lights. The district would like to change the lighting system to a complete LED system. LED fixtures have very long lifespans and cut down on labor associated with changing bulbs, the provide higher quality light, and they use far less energy than fluorescent fixtures.

Proposed Response: Replace all the lighting in the building with LED lighting.

Feasibility: There does not appear to be anything from a technical standpoint that would make this improvement infeasible. The potential energy savings are likely to be minimal and would not offset the cost for the labor to change the system in the anticipated life span of the fixtures, even when taking into consideration the current labor for bulb replacement.

AHS-F11: Digital Intercom

The current intercom system is functional and should be for a number of years more but the district would like to convert all of the intercom systems in their facilities to a digital SIP system.

Proposed Response: Replace the existing intercom with a SIP system.

Feasibility: There does not appear to be anything from a technical standpoint that would make this improvement infeasible. It would not be particularly impactful on the building and could be done over a summer.

Weston High School

Weston High School is housed in a facility that was not originally constructed to be a school. It has also been remodeled several times in its life time, both before and while the school occupied the building. There are a number of challenges that are inherent in adapting the school program to work with the existing building that would be infeasible to address in this facility. The district does not own the building, they lease it. Enlarging the building may not be possible given the lease arrangement but also would likely not be in the district's best interest long term. The ideas listed here are based on the assumption that the school will continue to be housed in the current facility for the foreseeable future and continue to adapt to the limitations of the building.

Site

WHS-F1: PE Space

The school currently does not have any accommodations for physical education. If it is to stay in this location long term they would like to add some form of PE space to the site.

Proposed Response: Explore alternatives for PE facilities that are appropriate for the location and nature of the site and develop those that are feasible.

Feasibility: The site seems to have ample space to carve out some area for PE, although not large playfields. The feasibility will depend entirely on the accommodations that are proposed.

WHS-F2: Site Fencing

The site is not currently fully fenced. The chain link fence on the north side is often damaged by trespassers cutting through the property. The school would like a more secure perimeter fence.

Proposed Response: Complete the fencing around the north, west, and south sides of the building. Consider a more durable fence for the north side where vandalism of the chain link fence has been an issue.

Feasibility: There does not appear to be any technical challenges with implementing this idea.

Building

WHS-F3: Improved Toilet Facilities

The toilet facilities in the building are inadequate for the size of the student and staff population. The district is doing a small project to improve the toilet rooms in the summer of 2023 but they are not addressing capacity. The school would like more facilities.

Proposed Response: Add additional toilet rooms. Remodel those that exist.

Feasibility: This improvement should be feasible in the building. One challenge will be identifying where there is space that can be repurposed to allow for more/larger toilet facilities. The building is currently fully utilized for instruction. Access to sanitary sewer connection may prove to be a challenge depending on where in the facility new toilet rooms are added relative to where the existing sanitary sewer connection is.

Systems

WHS-F4: Ductwork

The ductwork in the building is poorly organized, poorly documented, and difficult to maintain. It was built and modified over the years in a piecemeal fashion as the building's use changed. The performance of the HVAC systems is compromised due to poor layout of the ductwork and when issue arise it is sometimes difficult to diagnose the cause because ductwork cannot easily be traced. The remedy would be to replace all the ductwork in the building in an intentional and documented way.

Proposed Response: Replace all the existing ductwork.

Feasibility: This improvement is technically feasible. The greatest challenge will be the cost vs. the return. To reconstruct the entire ductwork system will require removal of all the ceilings in the building. That is too large of a scope to achieve in a single summer so it would likely need to be done in at least two phases over two summers. At the end of the project the result would be a clean and organized ductwork system that is easier to maintain but only offers minimal improvement in terms of occupant comfort.

WHS-F5: Digital Intercom

The building does not currently have an intercom system. The district would like to add a digital system with digital speakers.

Proposed Response: Provide a new digital intercom system.

Feasibility: There does not appear to be anything from a technical standpoint that would make this improvement infeasible. It could be accomplished in a single summer.

WHS-F6: Clock System

The building does not currently have an integrated clock system. The district would like to add one.

Proposed Response: Provide a new clock system.

Feasibility: There does not appear to be anything from a technical standpoint that would make this improvement infeasible. It could be accomplished in a single summer.

Stillaguamish Valley Learning Center

There were only two functional improvement ideas that was suggested by the district. The rest of the improvements to this campus are included in the Systems Repair and Replacement chapter of this report.

SVLC-F1: Inclusive Playground

The current playground equipment is functional but inadequate. It also does not have accommodations for disabled students. The school would like to replace it with equipment that provides universal access.

Proposed Response: Replace the existing equipment for new equipment in the same location. Verify that the current location has ADA compliant access.

Feasibility: This would be a relatively easy improvement to implement. It may involve some regrading of the playground to provide ADA access and expanding the area of the playground but otherwise the existing equipment could simply be removed and new equipment provided.

SVLC-F2: Digital Intercom

The campus does not currently have an intercom system. The district would like to add a digital system.

Proposed Response: Install a digital intercom system.

Feasibility: There does not appear to be anything from a technical standpoint that would make this improvement infeasible.

The French House

The French House currently houses the District's Transitions program. It serves that program well and there were limited suggestions for functional improvements.

FH-F1: Interior Lighting

The light fixtures in this building are all fluorescent. The district would like to change the lighting system to a complete LED system. LED fixtures have very long lifespans and cut down on labor associated with changing bulbs, the provide higher quality light, and they use far less energy than fluorescent fixtures.

Proposed Response: Replace all the lighting in the building with LED lighting.

Feasibility: There does not appear to be anything from a technical standpoint that would make this improvement infeasible. The potential energy savings are likely to be minimal and would not offset the cost for the labor to change the system in the anticipated life span of the fixtures, even when taking into consideration the current labor for bulb replacement.

FH-F2: Fire Alarm

The building does not currently have a fire alarm system. It has standalone smoke detectors. The district would like to add a monitored fire alarm system.

Proposed Response: Install a fire alarm system.

Feasibility: There does not appear to be anything from a technical standpoint that would make this improvement infeasible.

District Office

The building that houses the District Office was originally a school building and it was built long before ADA accessibility was a consideration. The layout is not ideal for the office functions that the building now houses and ADA access is poor. However, remedying those particular deficiencies would require a major renovation of the building. The improvements proposed here are limited to systems improvements.

DO-F1: Hallway Ceilings / Lighting

The lighting in the hallways in this building is inadequate. It could be greatly improved by adding suspended ceilings and new, LED light fixtures.

Proposed Response: Provide new ceilings and lighting at the hallways.

Feasibility: There is nothing from a technical standpoint that would make this idea infeasible.

DO-F2: Interior Lighting

The light fixtures in this building are all fluorescent. The district would like to change the lighting system to a complete LED system. LED fixtures have very long lifespans and cut down on labor associated with changing bulbs, the provide higher quality light, and they use far less energy than fluorescent fixtures.

Proposed Response: Replace all the lighting in the building with LED lighting.

Feasibility: There does not appear to be anything from a technical standpoint that would make this improvement infeasible. The potential energy savings are likely to be minimal and would not offset the cost for the labor to change the system in the anticipated life span of the fixtures, even when taking into consideration the current labor for bulb replacement.

DO-F3: Digital Intercom / Public Address System

The building does not currently have an intercom or public address systems. The district would like to add a digital system.

Proposed Response: Install a digital intercom system.

Feasibility: There does not appear to be anything from a technical standpoint that would make this improvement infeasible.

The "A" Building (houses Support Services)

Building A is the orginial building that comprised the old Arlington High School. Currently the upper two floors are vacant. The lower floor houses the district's Support Services Department. There was only one functional improvement idea that was suggested by the district. The rest of the improvements to this facility are included in the Systems Repair and Replacement chapter of this report.

BA-F1: Digital Intercom / Public Address System

The building does not currently have an intercom or public address systems. The district would like to add a digital SIP system.

Proposed Response: Install a digital SIP intercom system.

Feasibility: There does not appear to be anything from a technical standpoint that would make this improvement infeasible.

The Transportation Center

There were only two functional improvement ideas that was suggested by the district. The rest of the improvements to this campus are included in the Systems Repair and Replacement chapter of this report.

TC-F1: Interior Lighting

The light fixtures in this building are all fluorescent. The district would like to change the lighting system to a complete LED system. LED fixtures have very long lifespans and cut down on labor associated with changing bulbs, the provide higher quality light, and they use far less energy than fluorescent fixtures.

Proposed Response: Replace all the lighting in the building with LED lighting.

Feasibility: There does not appear to be anything from a technical standpoint that would make this improvement infeasible. The potential energy savings are likely to be minimal and would not offset the cost for the labor to change the system in the anticipated life span of the fixtures, even when taking into consideration the current labor for bulb replacement.

TC-F2: Fire Alarm

The building does not currently have a fire alarm system. It has standalone smoke detectors. The district would like to add a monitored fire alarm system.

Proposed Response: Install a fire alarm system.

Feasibility: There does not appear to be anything from a technical standpoint that would make this improvement infeasible.

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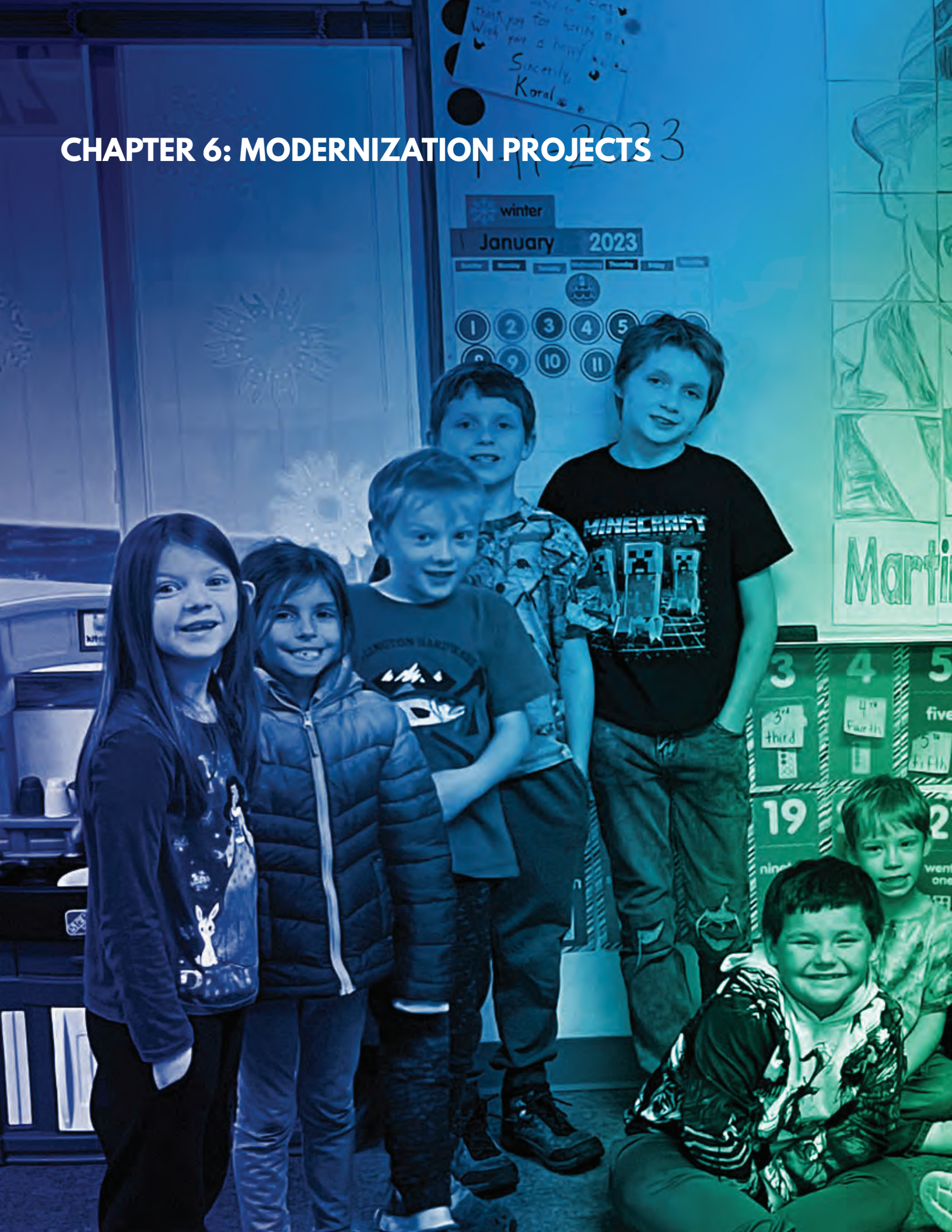
CHAPTER 6: MODERNIZATION PROJECTS



DREAM
weather
foggy
cloudy
six
seven

CHAPTER 6: MODERNIZATION PROJECTS

A previous chapter of this report discussed periodic repair and scheduled replacement of major building systems. That chapter considers each system in isolation, evaluating the timing of repair or replacement based solely on the life span of that particular system. It does not take into account the cumulative effect of multiple systems being replaced at the same time or in close proximity to one another. When replacement of several major systems are overlapping in time the district may want to consider doing them simultaneously. If there are enough systems that overlap, the building may be a good candidate for a holistic modernization. The term "modernization" refers to the intentional renovation of an older building to update its systems and layout to meet contemporary standards.

For example, let's assume we have a school that needs new carpets in one year, the lighting system replaced a year or two after that, the heating system updated two years later, and in the next year the roof replaced and the data wiring updated. Add to that list two or three small remodels to address functional improvements. All of those projects will be disruptive to the school. If they played out in that sequence the school would be under construction for several summers in a row. There would be a cost to the district to move furniture and equipment to accommodate construction in each of those summers. Many of the projects will require the same areas of the building (ceilings, walls, etc.) to be torn out and replaced several times to make way for new work; each time throwing away previously completed work. If instead some of the earlier projects could be delayed a year or two and the later projects accelerated they could all be addressed simultaneously as a single project, avoiding many of the repetitive costs that come from sequential projects.

A single, larger project also presents an opportunity to address functional deficiencies in a building. When the building is being opened up for major systems replacements it is a great time to remodel any areas where the use or function has changed, as well as refreshing the finishes and equipment in the building.

Considerations

When evaluating if a particular building is a good candidate for a modernization the first consideration is the age of the building and the systems within. Have enough of the systems in this building reached the end of their anticipated life to warrant simultaneous replacement? If too many systems are being replaced while they still have significant life left the building may not be a good candidate.

The second consideration is the existing building itself. Does the configuration of the building suit the district's current and projected needs? If not, could it with some internal reconfiguration and/or an addition? If the building's structure and general layout are effective and only non-bearing walls would need to be reconfigured then a modernization of the systems and finishes could be a very good investment, and much less expensive than a new school. On the other hand, if the configuration does not meet the district's needs and would require extensive remodeling, then replacing all the systems would only result in a refreshed school that does not effectively serve the educational mission of the district. That would not be a wise investment.

The third consideration is the impact on school operations. A major modernization would require the school to be unoccupied. It would be technically challenging and economically infeasible to do a major modernization in a piecemeal approach over several summers. Work of that scale, even on the district's smallest schools, would take at least a year. The district would have to find an alternative location for the population of the school for that time. If it were a middle school or high school it would likely be two years. Most school district's do not have unused facilities to move students to. Arlington is no exception.

One potential solution is to build a new school and use it as a swing school. For example, if Arlington wanted to modernize their oldest elementary schools, Eagle Creek and Kent Prairie, and at the same time add elementary school capacity, they could build a new elementary school. During its first year of use it could house the students from Eagle Creek while that school is modernized. In its second year Kent Prairie would move in while Kent Prairie is modernized. Its third year would be the first year that it would operate as a new school. The same logic could apply to any school in the district but it only makes sense to the extent that the district anticipates growth. Building a school that ultimately is not needed would be economically infeasible.

There is also nothing to say that the swing space has to be new or originally built for that program. It would be infeasible for Arlington High School to move to an empty elementary school while its modernized. The scale and nature of programs at AHS are incompatible with an elementary school layout. But the programs at Weston conceivably could. It might require some changes to the elementary to accommodate the programs but in general the space would work, temporarily.

Similarly, if the district were to replace Post MS, once that school moved to the new location the current building and site could conceivably be used as a swing school for an elementary modernization. That sequence would assume that the elementary modernization would occur soon after the construction of a new Post MS.

Candidates for Modernization

Each of the district's current facilities were evaluated for the potential of a major modernization.

Arlington High School, Haller Middle School, Pioneer Elementary and Presidents Elementary: All of these school are too new and would not be good candidates for a modernization for another 20 or more years. The will each need systems replaced before then but not enough to warrant gutting the buildings and replacing everything. They all also generally serve their program well.

Eagle Creek and Kent Prairie: These two schools may be candidates for modernization. They will both have a number of major systems that need to be replaced in 5-12 years. Doing them all at once, rather than one at a time, summer after summer, would significantly reduce the overall construction cost for the district. The layout of the building is the same at both schools and generally serves the district's curriculum well. Each school would benefit from some minor remodel to address functional short comings but they would not require major changes to their structure or form. The largest challenge for both would be where to house students during construction.

Post Middle School: This is the oldest school in the district and it is not a good candidate for modernization. Post is in need of repair or replacement of almost every major system in the building. The school is too large for most of the systems to be replaced in the limited window of a summer break so even individual system replacements will be difficult on this campus.

Unfortunately the layout of Post does not serve the district's educational goals well. Many of the classrooms are too small. Most of the circulation between rooms is outdoors. The core facilities (commons, kitchen, admin, etc.) are too small to accommodate the current student population. The infrastructure is inadequate (there are not enough IDF rooms, custodial spaces are lacking, toilet facilities are too small, access to data is inadequate). The school lacks meeting and office space. The building needs structural upgrades. The school also lacks adequate facilities for specialized programs such as science, technology and art and has no accommodation for small group work or presentation space outside of the Commons.

If all the major systems and finishes were replaced at the same time the district would have a fully modernized facility that does not serve their education goals. Because the systems that need to be replaced include the exterior envelope (roof, windows, doors, insulation), not just interior systems, very little of the current building would be retained. The cost of modernization would likely be 80-90% of the cost of a new school. Adding in a remodel of the building to address the deficiencies in program would require substantial reconfiguration of the structure of the building and would likely result in a project that is more expensive than building a new school.

Post is not a good candidate for modernization. Replacing the school with a new school would be more cost effective when compared to a modernization. It would allow the district to create a learning environment that serves their current educational model and would avoid the challenge of displacing students while the building is modernized.

Weston High School: Weston is a unique consideration. The current facility is large enough for the program but it was not built to serve that program. Many of the systems have been modified in a piecemeal fashion over many different remodels. Enough of those systems will need to be replaced in the next 4-12 years to consider redoing them all at once and perhaps at that time remodeling the whole space to better serve the program. But the district does not own this building. They lease it. The value of investing in a large scale modernization would depend on the district's long term plans for that program.

Stillaguamish Valley Learning Center: SVLC is a campus that is comprised of several, individual modular buildings. The school would benefit from a holistic modernization but the nature of the facilities lend themselves well to changing individual systems building by building as they reach the end of their useful lives. The buildings vary in age and will not all need improvements at the same time. The systems in each building are small enough that they can easily be replaced over a summer. Portables are only so flexible in terms of supporting curriculum so the potential for a remodel to address function is limited. This campus is not a good candidate for modernization.

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APPENDIX 1: ROOF OBSERVATIONS & ASSESSMENTS AT 10 PROPERTIES

ARLINGTON PUBLIC SCHOOLS
EDUCATE • PREPARE • INSPIRE

ARLINGTON PUBLIC SCHOOLS MASTER FACILITIES PLANNING – ROOF OBSERVATIONS & ASSESSMENTS AT 10 PROPERTIES

Photo: Haller Middle School

LOCATION: VARIOUS LOCATIONS THROUGH-OUT ARLINGTON SCHOOL DISTRICT

NOVEMBER & DECEMBER 2022

Cornerstone
ARCHITECTURAL GROUP

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Prepared by:
Cornerstone Architectural Group

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- EAGLE CREEK ELEMENTARY SCHOOL SHINGLE WARRANTY
- KENT PRAIRIE ELEMENTARY SCHOOL SHINGLE WARRANTY
- POST MIDDLE SCHOOL SINGLE PLY ROOF COATING WARRANTY
- HALLER MIDDLE SCHOOL MODIFIED BITUMEN MEMBRANE WARRANTY (GYM)
- ARLINGTON HIGH SCHOOL SHINGLE WARRANTY

EXECUTIVE SUMMARY

This combined report seeks to pull together roof surveys and assessments at ten school district properties, inclusive of twenty-eight separate buildings and roofs, as well as various types of roofing systems.

The roof systems included three-tab shingles; laminated shingles; coated single ply membranes and multiple-ply modified bitumen systems. Roof cuts were not conducted, so verification of thermal and fire ratings cannot be substantiated.

Our team was onsite for two complete days, Monday November 14, and Tuesday November 15. Roof surveys were conducted in accordance with industry standards by a Registered Architect and Registered Roof Consultant.

Following is a list of properties with high-level determinations of the roof systems.

1. Post Middle School
   Steep Slope Shingle Roof Areas = Moderate| Medium Slope Shingle Roof Areas = Failing Condition| Low Slope Roof Areas = Failing Coating| General Areas between Shingle & Flat Areas = Failing
   Areas of shingle steep slope roofs and coated single ply membrane flat roof areas
   Determination: Provide a reroof project in the next 3 years at the flat roof areas
   Recommended Budget: $7,178,000

2. Eagle Creek Elementary School
   Shingle Roof Areas = Good | Flat Roof = Fair
   Predominantly shingle roofs with a small flat roof mechanical well
   Determination: Provide a maintenance project to extend the life of the roof system and increase drainage flow
   Recommended Budget: $346,000

3. Stillaguamish Valley Learning Center
   (6) Shingle Roofs = Good | (1) Shingle Roofs = Fair | (4) Shingle Roofs = Failing
   Eleven medium slope shingle roofs in various conditions
   Determination: Provide a combination reroof and a maintenance project at five roofs
   Recommended Budget: $517,000

4. Presidents Elementary School
   Shingle Roof Areas = Failing to Failed
   Area of steep slope shingles with what appears to be a single ply membrane cricket
   Determination: Provide a reroof project within the next year
   Recommended Budget: $2,960,000

5. Haller Middle School
   Shingle Roof Areas = Fair to Failing | Flat Roof Areas = Failing
   Areas of steep slope shingles along with multiple ply bituminous flat roof areas
   Determination: Provide a reroof project within the next year at all roof areas
   Recommended Budget: $5,942,000

6. French House Building
   Shingle Roof Areas = Good
   Areas of steep slope shingles
   Determination: Provide a maintenance project to repair the chimney
   Recommended Budget: $56,000

7. Kent Prairie Elementary School
   Shingle Roof Areas = Good | Flat Roof = Fair
   Predominantly shingle roofs with a small flat roof mechanical well
   Determination: Provide a maintenance project to repair various deficiencies observed
   Recommended Budget: $140,000

8. Pioneer Elementary School
   Shingle Roof Areas = Failed
   Areas of steep slope shingles
   Determination: Replace the shingle roofs within the next year
   Recommended Budget: $2,200,000

9. Weston High School
   Main Building Roof - Single Ply Membrane = Fair
   Portable 1 Roof – Single Ply Membrane = Failing| Portable 2 Roof – Shingles = Failing
   Portable 3 - Shingle Roof = Good
   Determination: Provide a maintenance project for all roofs
   Recommended Budget: $2,473,000

10. Arlington High School: (Excluding the new addition roofs)
    Shingle Roof Areas = Failed
    Areas of medium slope shingles
    Determination: Replace the shingle roofs within the next two years
    Recommended Budget: $8,135,000

Based on our team's observations, we recommend that roof replacement and repair projects be enacted as outlined above.

Finally, our total estimated cost for the recommended scope of work is $29.95 million dollars, excluding: Escalation, Washington State Sales Tax and Soft Cost.

Respectfully,

André Coppin, Registered Architect | Registered Roof Consultant
Principal & Project Manager
Cornerstone Architectural Group
www.cornerstonearch.com

A. EXISTING CONDITION SURVEY

Date of Investigation:	November 14th, 2022, | 10:00 am to 5:30 pm November 15th, 2022, | 9:00 am to 2:00 pm
Weather:	High of 51°, Clear Sky [November 14th] High of 50°, Clear Sky [November 15th]
Areas of Observation:	Roof Areas
Investigation Team:	Andre Coppin, Architect | RRC, Building Envelope Consultant Nicholas Page, Building Envelope Technologist

Synopsis of Observations:

Cornerstone arrived at the first site – Post Middle School, located at 1220 East 5th Street, Arlington, WA at around 10am on November 14. The team was photographed and scanned into the system and badged for access. The following schools were visited in the order outlined below.

- Post Middle School
- Eagle Creek Elementary School
- Stillaguamish Learning Center
- Presidents Elementary School
- Haller Middle School
- The French House

On the second day, November 15, the team arrived at Kent Prairie around 9am. The following schools were visited in the order outlined below on the date.

- Kent Prairie Elementary School
- Pioneer Elementary School
- Weston High School

A site visit was conducted at Arlington High School a few months prior to this survey. Those results will be included into this report.

The following section will outline the salient observations from each property, provide a recommended scope of work, and estimate of probable cost.

Roof areas and systems are classified into four categories as follows

Good:	10+ years of service life remaining
Fair:	5+ years of service life remaining
Failing:	2 – 3 years of service life remaining
Failed:	1 year or less remaining

B. ROOF OBSERVATIONS

1a. Post Middle School – 1220 East 5th Street, Arlington, WA 982223 – Observations

The various roof systems observed includes a low slope coated single ply membrane, steep slope shingle roof and medium slope shingle roof

I. Roof Material Observations

Shingles	: Laminated Shingles with Metal Valleys
Shingle Roof Drainage	: Internal Gutter to Downspouts
Flat Roofs	: Coated Single Ply Membrane
Copings	: Prefinished Metal with Butt Seams with Backup Plate
Flat Roof Drainage	: Internal Drains with Overflow Scuppers
Flashings	: Prefinished Metal

II. Condition Observations

*Steep Slope Shingle Roof Areas – **[MODERATE]***

- Shingles appear in moderate conditions with a level of installation craftmanship that is commensurate with an experienced installation contractor.
- Gutters were filled with water and ice indicative of a lack of drainage. This could be caused by the large buildup of leaves in the gutters; however, some older buildings can have sagging gutters that hold water.
- Minimal trade damage

*Medium Slope Shingle Roof Areas – **[FAILING]***

- Wind damage [shingles broken off due to wind uplift]
- Degranulation at lower slope roofs
- Downspouts empty directly onto shingle roofs below
- Damaged penetrations
- Inadequate or non-industry transitions
- Fastener back-out at flashing

*Low Slope Roof Areas **[FAILING]***

- The roof coating appears to be of the elastomeric type and is showing signs of degradation. We observed some areas of peeling.
- An attempt was made to remove a heavy buildup of moss and algae growth from the roof surface by pressure washing, which could have added to damage of the coating.
- Ponds of various sizes, with some over an inch deep
- Many areas of coating repair
- Damaged vents from vandalism
- Open penetrations & degraded penetration sealants
- Degraded scupper flashings

*General Areas between Shingle & Flat Roof Areas **[FAILING]***

- Rotted timber facias
- Degraded sealant joints
- Open flashing seams
- Non-watertight flashing transitions

1b. Post Middle School – 1220 East 5th Street, Arlington, WA 982223 – Selected Photos

Photo #1: Very Steep Slope Shingle Roof on Left

Photo #2: Medium Shingle Roof

Photo #3: Ponding Water in Gutter (Typical)

Photo #4: Metal Valley at Shingle Roof

Photo #5: Damaged Scupper Flashings

Photo #6: Wind Damage at Ridge (Missing Shingles)

Photo #7: Large Pond at Low Slope Roof (Typical many locations)

Photo #8: Debris at Drain with Overflow Scupper

Photo #9: Open Flashing

Photo #10: Damaged Drain Strainer

Photo #11: Damaged Vent (Vandalism typical at vents) & Low Slope Roof (Typical)

Photo #12: Non-Industry Standard Flashings

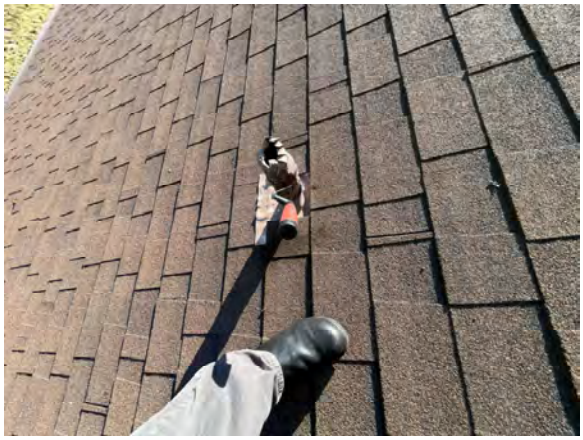


Photo #13: Open Lead Flashing

Photo #14: In-adequate Flashing Repair

Photo #15: Some Granule Loss Observed

Photo #16: Coating Failure (Typical)

Photo #17: Downspout Empty onto Shingles

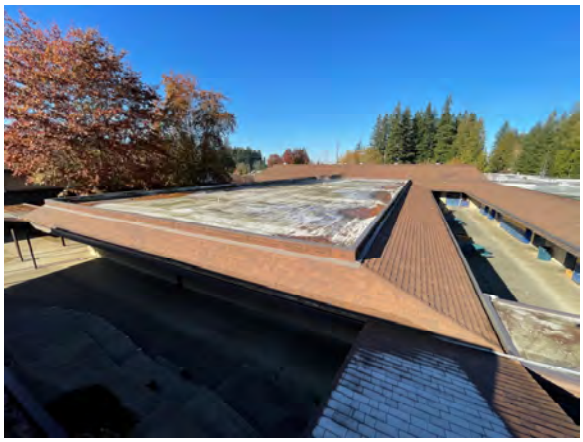


Photo #18: Overview of Low Slope Roof (Typical)

1c. Post Middle School – 1220 East 5th Street, Arlington, WA 982223 – Determination & Recommendation

Based on our onsite review the roof systems are categorized at "**Failing**" with 2 to 3 years of remaining service life left. Provide a project to replace all roof systems. We recommend a complete tear-off of the existing low slope roof system; installation of insulation, coverboard, with a bituminous base sheet and grey roof single ply membrane. At the existing shingle system, we recommend complete tear-off and installation of a new laminated shingle over one or two layers of underlayment, with all flashings and gutters.

1d. Post Middle School – 1220 East 5th Street, Arlington, WA 982223 –

Budget of Probable Project Cost

1. Low Slope Roof Replacement: 65,000 SF @ $50.00/SF =$3,250,000
   Assumptions
   i. *Removal of the existing roof system*
   ii. *Installation of R-38 Flat Stock insulation + roof board*
   iii. *Installation of single ply membrane over mod bit base sheet*
   iv. *Coping and flashing replacement*

2. Shingle Roof Replacement: 50,000 SF @ $25.00/SF =$1,250,000
   Assumptions
   i. *Removal of existing shingles and underlayment*
   ii. *Installation of new shingles*
   iii. *Replacement of gutters, valleys, and flashings*

3. Subtotal: =$4,500,000

4. OH&P w/ Logistics & Supply Chain Issues @ 25% of Line 3: =$1,125,000

5. Contingency @ 20% of Line 3 (design & rot and repairs): =$900,000

6. Total Construction Budget: = $6,525,000

7. Consultant Fee Estimate @ 10% of Line 6: =$652,500

8. PROJECT BUDGET TOTAL: (Line 6 + Line 7) =$7,177,500

2a. Eagle Creek Elementary School – 1216 East 5th Street, Arlington, WA 982223 – Observations

This roof is predominantly compromised of a recently installed laminated shingle roof system. We have determined that this roof was installed in 2016 from the warranty provided. (See Appendix B)

I. Roof Material Observations

Shingles	: Laminated Shingles with Metal Valleys
Shingle Roof Drainage	: External Gutters to Downspouts
Flat Roof	: Single Ply Membrane
Flashings	: Prefinished Metal

II. Condition Observations

*Shingle Roof Areas **[GOOD]***

- Shingles appear in good condition with a level of installation craftmanship that is at a high level as indicated by the manufacturer warranty.
- Minimal shingle damage
- Minimal degranulation
- Some algae growth
- Solar panels structural supports directly through roof
- Higher roof downspouts empty directly onto shingle roofs below causing degranulation
- Exposed fasteners at ridge shingles
- Overhanging tree over roof causing a reduction of drainage
- Leaves collected in gutters at some locations causing a lack of drainage
- Loose gutter fasteners
- Shingle fastener back-out at some locations
- Riveted crickets with open seams
- Open gutter seams
- Failed flashing sealant
- Open flashing at fall protection anchor

*Flat Roof Areas **[MODERATE]***

- Buildup of debris and dirty
- Surface mounted termination bars

2b. Eagle Creek Elementary School – 1216 East 5th Street, Arlington, WA 982223 – Selected Photos

Photo #1: Overall Roof Section

Photo #2: Fall Protection Anchor & Smoke Hatches

Photo #3: Open Sealant at FP Anchor

Photo #4: Shingle Damage (Typical)

Photo #5: Riveted Cricket w/ Open Seam

Photo #6: Multiple Exposed Fasteners

Photo #7: “W” Metal Valley

Photo #8: Un-tooled Sealant

Photo #9: Open Gutter Seam

Photo #10: Solar Panel Fastener Direct into Roof

Photo #11: Tree Hangs Over Roof

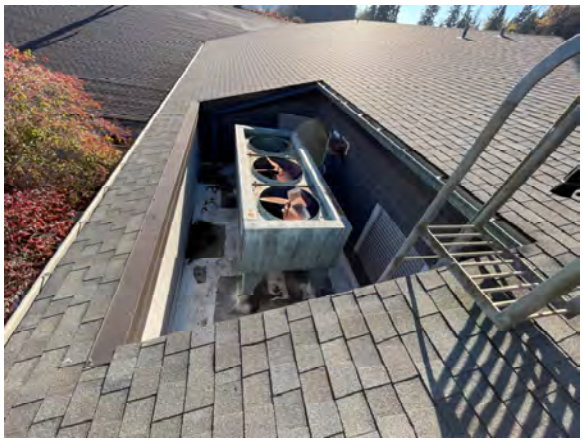


Photo #12: Mechanical Well – Single Ply Roof

2c. Eagle Creek Elementary School – 1216 East 5th Street, Arlington, WA 982223 –
Determination & Recommendation

Based on our onsite review and the existing warranty the roof systems are categorized at **"GOOD"** with 10+ years of remaining service life left, if maintenance is enacted. Provide a maintenance project to repair deficiencies observed.

2d. Eagle Creek Elementary School – 1216 East 5th Street, Arlington, WA 982223 –
Budget of Probable Project Cost

1.	Clean + Repair Low Slope Roof:	200 SF @ $20.00/SF	=$4,000
2.	Shingle Roof Maintenance:	85,000 SF @ $2.50/SF	=$212,500
3.	Subtotal:		=$216,500
4.	OH&P w/ Logistics & Supply Chain Issues @ 25% of Line 3:		=$54,125
5.	Contingency @ 20% of Line 3 (rot and repairs):		=$43,300
6.	Total Construction Budget:		= $313,925
7.	Consultant Fee Estimate @ 10% of Line 6:		=$32,000
8.	PROJECT BUDGET TOTAL: (Line 6 + Line 7)		=$346,000

3a. Stillaguamish Valley Learning Center – 1215 East 5th Street, Arlington, WA 982223 – Observations

This complex is made up of eleven different buildings of varying sizes and roof conditions. All the roofs are comprised of shingles in various conditions which drain to the longitudinal edges at relatively low slopes. There are seven roofs that are in good shape and appear to have been recently replaced.

I. Roof Material Observations

Shingles : 3 Tab + Laminated Shingles with Metal Valleys
Shingle Roof Drainage : External Gutters to Downspouts

II. Condition Observations

*Shingle Roofs – [6 in **GOOD** Condition]*

- Laminated shingles appear in good condition
- Minimal shingle damage
- Minimal degranulation
- Pine needles collected in gutters at some locations causing a lack of drainage
- Exposed fasteners at ridge
- Cracking at ridge shingles (one location)

*Shingle Roofs – [5 in **FAILED or FAILING** Condition]*

- 3-Tab Shingles appear in good condition
- Shingle damage
- Exposed shingle scrim
- Excessive degranulation
- Pine needles collected in gutters at some locations causing a lack of drainage
- Exposed fasteners at ridge
- Algae growth
- Shingle curl (embrittlement)
- Shingle fastener backout

III. Roof Condition by Building

Building 1 (Classroom):	Laminated Shingles (grey) -	Good
Building 2 (Classroom):	Laminated Shingles (brown) -	Failed
Building 3 (Classroom):	Laminated Shingles (grey) -	Good
Building 4 (Classroom):	3-Tab Shingles (grey) -	Failed
Building 5 (Classroom):	Laminated Shingles (grey) -	Good
Building 6 (Classroom):	Laminated Shingles (grey) -	Good
Building 7 (Classroom):	Laminated Shingles (grey) -	Good
Building 8 (Classroom):	Laminated Shingles (brown) -	Failed
Building 9 (Classroom):	Laminated Shingles (grey) -	Good
Building 10 (Admin):	Laminated Shingles (brown) -	Failed
Building 11 (Restrooms):	3-Tab Shingles (brown) –	Moderate/Failing

3b. Stillaguamish Valley Learning Center – 1215 East 5th Street, Arlington, WA – Selected Photos

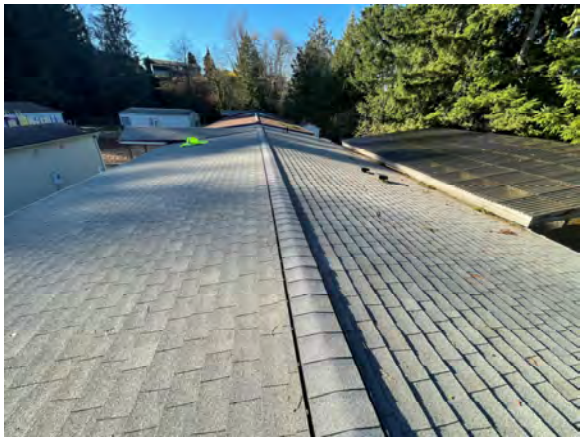


Photo #1: Building 1 Roof [Good]

Photo #2: Building 2 Roof – Metal Valley + Ridge

Photo #3: Building 2 Roof [Failed]

Photo #4: Building 2 Scrim Exposure

Photo #5: Building 3 Roof [Good]

Photo #6: Building 3 Roof

Photo #7: Building 4 Roof [Failed] with Surface Fastened Ridge Vent

Photo #8: Building 4 Roof Excessive Granule Loss

Photo #9: Building 5 Roof [Good]

Photo #10: Building 5 Roof Static Vent

Photo #11: Building 6 Roof [Good]

Photo #12: Building 6 Roof Penetration + Static Vent

Photo #7: Building 7 Roof [Good]
(Building 6 in background)

Photo #8: Building 8 Roof [Failed]
(Building 9 in background + Building 6 in foreground)

Photo #9: Building 8 Shingle Curl

Photo #10: Building 9 Roof [Good]

Photo #11: Building 10 Roof [Failed]

Photo #12: Building 10 Roof [Failed]

3c. Stillaguamish Valley Learning Center – 1215 East 5th Street, Arlington, WA – Determination & Recommendation

We recommend that a maintenance and replacement project be enacted to provide maintenance at the seven "**Good**" roofs to prolong the service life and replacement of the four other roofs, deemed to be at the "**Failed**" stage. Replacement should include a complete tear-off of the existing shingle system and installation of a new laminated shingle over two layers of underlayment, with all flashings and gutters.

3d. Stillaguamish Valley Learning Center – 1215 East 5th Street, Arlington, WA – Budget of Probable Project Cost

1.	Clean + Repair Shingle Roofs: *Building 1: 1,800 sf* *Building 3: 900 sf* *Building 5: 900 sf* *Building 6: 900 sf* *Building 7: 900 sf* *Building 9: 1,800 sf*	7,200 SF @ $20.00/SF	=$144,000
2.	Replace Shingle Roofs: *Building 2: 1,800 sf* *Building 4: 900 sf* *Building 8: 1,800 sf* *Building 10: 1,800 sf* *Building 11: 900 sf*	7,200 SF @ $25.00/SF	=$180,000
3.	Subtotal:		=$324,000
4.	OH&P w/ Logistics & Supply Chain Issues @ 25% of Line 3:		=$81,000
5.	Contingency @ 20% of Line 3 (rot and repairs):		=$64,800
6.	Total Construction Budget:		= $469,800
7.	Consultant Fee Estimate @ 10% of Line 6:		=$46,980
8.	PROJECT BUDGET TOTAL: (Line 6 + Line 7)		=$516,780

4a. Presidents Elementary School – 505 East 3rd Street, Arlington, WA 982223 – Observations

The two-story building is capped with a brown 3-tab shingle roof system that vents from the eaves to the ridge, with gutters along the longitudinal sides and a single ply mechanically attached internal cricket.

I. Roof Material Observations

Shingles	: 3-Tab Shingles with Metal Valleys
Shingle Roof Drainage	: External Gutters to Downspouts
Internal Roof Cricket	: Single Ply Membrane
Flashings	: Prefinished Metal
Walls Above Roof	: Fibrous Cementitious Siding

II. Condition Observations

*Shingle Roof Areas **[FAILING]***

- Medium degranulation of shingles
- Trade damage of shingles
- Active leak(s)
- Exposed fasteners
- Fastener Backout
- Damaged and missing shingles from wind blow-off
- Mold algae growth
- Degrading siding above the roof plane
- Drainage path along shingle roof surface (causing scour)
- Degraded fall protection anchor penetration flashing
- Open riveted flashing seams at mechanical curbs
- Incorrect flashings and transitions
- Downspouts dump water onto roof surfaces from upper roofs

*Cricket Areas **[MODERATE]***

- Buildup of debris and dirty
- Surface mounted termination bars

4b. Presidents Elementary School – 505 East 3rd Street, Arlington, WA 982223 – Selected Photos

Photo #1: Overall Roof Area (Looking East)

Photo #2: Fastener Backout

Photo #3: Ridge Vent w/ Fastener Backout

Photo #4: Exposed Ridge Fasteners

Photo #5: Damage Shingles & Cricket Transition

Photo #6: "W" Sheet Metal Valleys

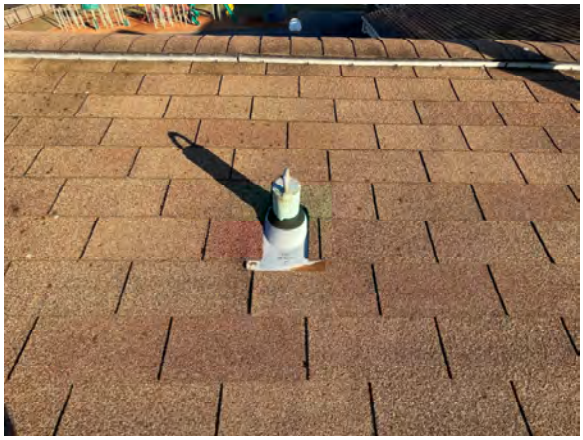


Photo #7: Failed Penetration Flashing

Photo #8: Shingle Damage

Photo #9: Open Riveted Seam

Photo #10: Shingle Damage – Wind Blowoff

Photo #11: Siding Damage due to Drainage

Photo #12: Drainage onto Lower Roof

4c. Presidents Elementary School – 505 East 3rd Street, Arlington, WA 982223 –
Determination & Recommendation

No singular issue is a large issue that would cause failure of the roof system, however, when all the separate items are brought together, along with an active leak, the result is a roof system that is at the beginning stages of **"Failing"** with 2-3 years of remaining service life left, prior to increased failure occurrences. We recommend a complete tear-off of the existing shingle system and installation of a new laminated shingle over two layers of underlayment, with all flashings and gutters.

4d. Presidents Elementary School – 505 East 3rd Street, Arlington, WA 982223 –
Budget of Probable Project Cost

1.	Replace shingle roof complete:	70,000 SF @ $25.00/SF	=$1,750,000
2.	Allowance to replace siding:	1 @ $100,000	=$100,000
3.	Subtotal:		=$1,850,000
4.	OH&P w/ Logistics & Supply Chain Issues @ 25% of Line 3:		=$462,500
5.	Contingency @ 20% of Line 3 (rot and repairs):		=$370,000
6.	Total Construction Budget:		=$2,682,500
7.	Consultant Fee Estimate @ 10% of Line 6:		=$268,250
8.	PROJECT BUDGET TOTAL: (Line 6 + Line 7)		=$2,950,750

5a. Haller Middle School – 600 East 1st Street, Arlington, WA 982223 – Observations

This building is comprised of multiple roof areas with two main system types: three - tab asphaltic shingles at steep slope areas and coated multiple ply bituminous roofs are flat roof areas.

I. Roof Material Observations

Steep Slope	: 3-Tab Shingles with Metal and Bituminous Valleys
Shingle Roof Drainage	: External Gutters to Downspouts
Low Slope	: Granulated Multiple Ply Bituminous System
Low Slope Drainage	: Internal Drains and Overflow Scuppers
Flashings	: Prefinished Metal
Walls Above Roof	: Fibrous Cementitious Siding

II. Condition Observations

*Shingle Roof Areas **[FAILING]***

- Medium degranulation of shingles
- Minor trade damage of shingles
- Exposed fasteners
- Fastener backout
- Shingle cracking & embrittlement
- Damaged and missing shingles from wind blow-off
- Degrading siding above the roof plane
- Drainage path along shingle roof surface (causing scour)
- Degraded penetration flashings
- Downspouts dump water onto roof surfaces from upper roofs
- Inadequate sealant repair at ridge
- Ridging in shingles
- Missing shingles due to wind blow-off
- Degranulation of bituminous valleys

*Low Slope Roof Areas **[FAILING]***

- Medium degranulation of cap sheet
- Open field seams
- Open base flashing seams
- Algae growth
- Damaged metal base flashing
- Blisters
- Large ponds
- Temporary repairs with bituminous flashing
- Remnants of bird nests

Walls Above Roof

- Cracked and damaged siding
- Open sealant joints

5b. Haller Middle School – 600 East 1st Street, Arlington, WA 982223 – Selected Photos

Photo #1: Open Lead Flashing

Photo #2: Fastener Backout

Photo #3: Shingle Ridging

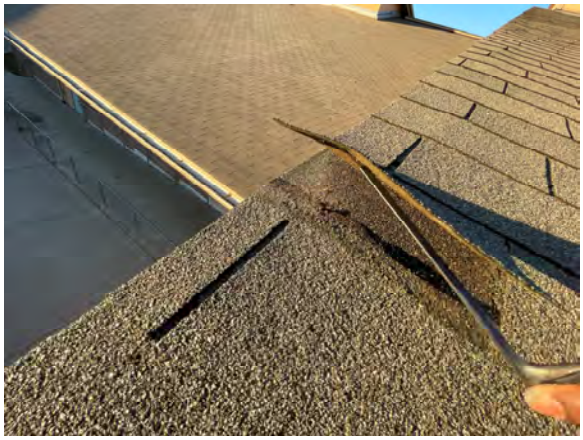


Photo #4: Fastener Backout

Photo #5: Degranulation at Bituminous Valley

Photo #6: Non-effective Sealant Repair at Ridge

Photo #7: Exposed Fasteners

Photo #8: Wind Damage

Photo #9: Open Seam

Photo #10: Damaged Sheet Metal Base Flashing

Photo #11: Blister

Photo #12: Open Sealant Joint

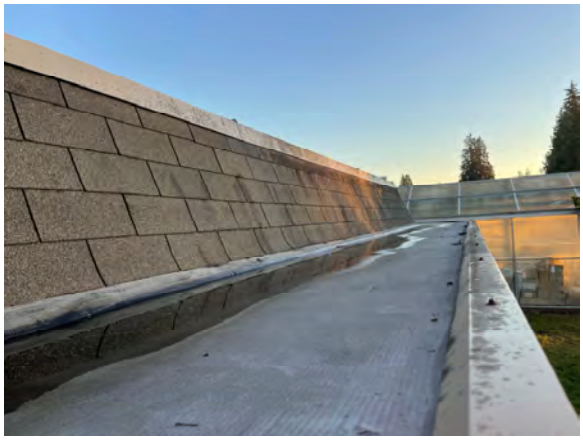


Photo #13: Large Ponding

Photo #14: Large Pond

Photo #15: Central Valley Pond

Photo #16: Remnants of Bird Nest

Photo #17: Open Lead Flashing

Photo #18: Drainage onto Lower Roof

5c. Haller Middle School – 600 East 1st Street, Arlington, WA 982223, WA 982223 –
Determination & Recommendation

Our initial review determined that the roofs could be designated in the Moderate to Failing category, however, upon further review and analysis, we have concluded that the roofs together should be rated at **"Failing"**. The shingle ridging, although not a large item currently, can develop into large failure mechanism over the next 3-5 years. We recommend a complete tear-off of the existing shingle system and installation of a new laminated shingle over two layers of underlayment, with all flashings and gutters. At the low slope roof, we recommend a single ply overlay be installed.

5d. Haller Middle School – 600 East 1st Street, Arlington, WA 982223, WA 982223 –
Budget of Probable Project Cost

1.	Replace shingle roofs complete:	95,000 SF @ $25.00/SF	=$2,375,000
2.	Provide low slope roof replacement:	25,000 SF @ $ 50.00/SF	=$1,250,000
3.	Allowance for siding & sealant:	1 @ $100,000	=$100,000
4.	Subtotal:		=$3,725,000
5.	OH&P w/ Logistics & Supply Chain Issues @ 25% of Line 3:		=$931,250
6.	Contingency @ 20% of Line 3 (design and rot and repairs):		=$745,000
7.	Total Construction Budget:		=$5,401,250
8.	Consultant Fee Estimate @ 10% of Line 6:		=$540,125
9.	PROJECT BUDGET TOTAL: (Line 6 + Line 7)		=$5,941,375

6a. French House – 215 South French Ave, Arlington, WA 982223 – Observations

This converted residential building has been converted to serve as offices for the Transitions Program for the Arlington School District. The roofing appears to be new!

I. Roof Material Observations

Steep Slope	: Laminated Shingles
Shingle Roof Drainage	: External Gutters to Downspouts
Flashings	: Prefinished Metal
Walls Above Roof	: Existing "CAB" Type Siding
Chimney	: Brick

II. Condition Observations

*Shingle Roof Areas **[GOOD]***

- Flashing at chimney not to industry standards
- Debris in gutters
- Damage to chimney & lack of cap flashing

6b. French House – 215 South French Ave, Arlington, WA 982223 – Selected Photos

Photo #1: Overview of Roof

Photo #2: Chimney

Photo #3: Debris in Gutter

Photo #4: Siding & Gutter

6c. French House – 215 South French Ave, Arlington, WA 982223, WA 982223 –
Determination & Recommendation

The roof system appears to have been installed to a high standard and should last beyond 15 years with adequate maintenance. We have deemed the rating on the roof system as **"Good"**, with 10+ years of service life left. Provide a maintenance project to upgrade and reinforce the chimney, and provide gutter drainage covers.

6d. French House – 215 South French Ave, Arlington, WA 982223, WA 982223 –
Budget of Probable Project Cost

1.	Provide Maintenance:	1,800 SF @ $5.00/SF	=$9,000
2.	Allowance Chimney & Flashing:	1 @ $25,000	=$25,000
3.	Subtotal:		=$34,000
4.	OH&P w/ Logistics & Supply Chain Issues @ 25% of Line 3:		=$8,500
5.	Contingency @ 20% of Line 3 (design and rot and repairs):		=$6,800
6.	Total Construction Budget:		=$49,300
7.	Consultant Fee Estimate @ 12% of Line 6:		=$6,000
8.	PROJECT BUDGET TOTAL: (Line 6 + Line 7)		=$56,000

7a. Kent Prairie Elementary School – 8110 207th Street NE, Arlington, WA 982223 – Observations

This roof is comprised predominantly of a recently installed laminated shingle roof system. We have determined that this roof was installed in 2013 from the warranty provided. (See Appendix B)

I. Roof Material Observations

Shingles	: Laminated Shingles with Metal Valleys
Shingle Roof Drainage	: External Gutters to Downspouts
Flat Roof	: Single Ply Membrane
Flashings	: Prefinished Metal

II. Condition Observations

*Shingle Roof Areas **[GOOD]***

- Shingles appear in good condition with a high level of installation craftmanship as indicated by the manufacturer's warranty.
- Some shingle damage
- Minimal degranulation
- Algae growth
- Higher roof downspouts empty directly onto shingle roofs below causing degranulation
- Exposed fasteners at ridge shingles
- Inadequate and non-complaint sealant joints
- Failed sealant joints
- Damaged and degraded flashing boots
- Degraded lead flashings at fall protection anchors
- Stitched shingle valleys with reverse laps
- One area of degraded and degranulated shingles at the western hip area
- Fastener back out
- Inadequate roof transition flashing at valley ends to lower roofs
- Reverse laps at metal valley

*Flat Roof Areas **[MODERATE]***

- Buildup of debris and dirty
- Surface mounted counter flashing

7b. Kent Prairie Elementary School – 8110 207th Street NE, Arlington, WA 982223 – Selected Photos

Photo #1: Overview Looking East

Photo #2: Minimal Trade Damage

Photo #3: Exposed Fasteners

Photo #4: Open & Failed Flashing

Photo #5: Degraded Flashing Boot

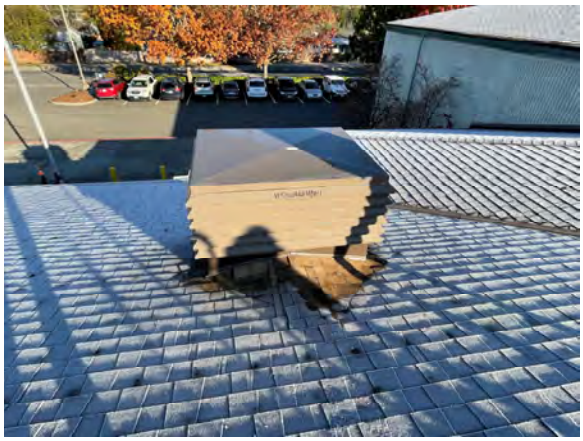


Photo #6: Reverse Lap Stitch Valley

Photo #7: Degraded Lead Flashing

Photo #8: Metal Valley

Photo #9: Degrade Lead Flashing

Photo #10: Reverse Laps at Metal Valley

Photo #11: Western Hip with Degrading Shingles

Photo #12: Degraded Shingle

7c. Kent Prairie Elementary School – 8110 207th Street NE, Arlington, WA 982223 –
Determination & Recommendation

Based on our onsite review and the existing warranty, the shingle roof system is categorized as **"Good"** with 10+ years of remaining service life left, if repairs and maintenance are enacted. Provide a repair and maintenance project to replace degrade shingles and fall protection flashings.

7d. Kent Prairie Elementary School – 8110 207th Street NE, Arlington, WA 982223 –
Budget of Probable Project Cost

1.	Clean + Repair Low Slope Roof:	200 SF @ $25.00/SF	=$5,000
2.	Shingle Replacement (Allowance):	2,500 SF @ $25/SF	=$62,500
3.	Replace FP Lead Flashings:	20 EA @ $1,000/EA	=$20,000
4.	Subtotal:		=$87,500
5.	OH&P w/ Logistics & Supply Chain Issues @ 25% of Line 3:		=$21,875
6.	Contingency @ 20% of Line 3 (rot and repairs):		=$17,500
7.	Total Construction Budget:		=$126,875
8.	Consultant Fee Estimate @ 10% of Line 6:		=$12,687
9.	PROJECT BUDGET TOTAL: (Line 6 + Line 7)		=$139,562

8a. Pioneer Elementary School – 8213 Eagle Field Drive Street, Arlington, WA 982223 – Observations

This two-story fully enclosed building is capped with a medium slope, brown 3-tab shingle roof system that vents from the eaves to the ridge, with gutters along the longitudinal sides.

I. Roof Material Observations

Shingles	: 3-Tab Shingles with Metal Valleys
Shingle Roof Drainage	: External Gutters to Downspouts
Flashings	: Prefinished Metal
Walls Above Roof	: Fiber Cement Siding

II. Condition Observations

*Shingle Roof Areas **[FAILED]***

- Excessive degranulation of shingles
- Shingle embrittlement evidenced by “curling”
- Trade damage of shingles
- Tree over roof
- Exposed fasteners
- Fastener Backout
- Damaged and missing shingles from wind blow-off
- Algae growth
- Cracked shingles
- Drainage path along shingle roof surface (causing scour)
- Incorrect transition at irregular shape roof area
- Downspouts dump water onto roof surfaces from upper roofs
- Leaking gutters
- Active leak(s)
- Shingle pitting

8b. Pioneer Elementary School – 8213 Eagle Field Drive Street, Arlington, WA 982223 – Selected Photos

Photo #1: Granules in Gutter

Photo #2: Tree over Roof

Photo #3: Previous Shingle Repair & Missing Shingle

Photo #4: Fastener Backout

Photo #5: Shingle Cracks and Repair

Photo #6: Missing Shingles

Photo #7: Shingle Embrittlement Curls

Photo #8: Drainage over Roof

Photo #9: Cracked Shingle

Photo #10: Missing Shingles – Wind Blowoff

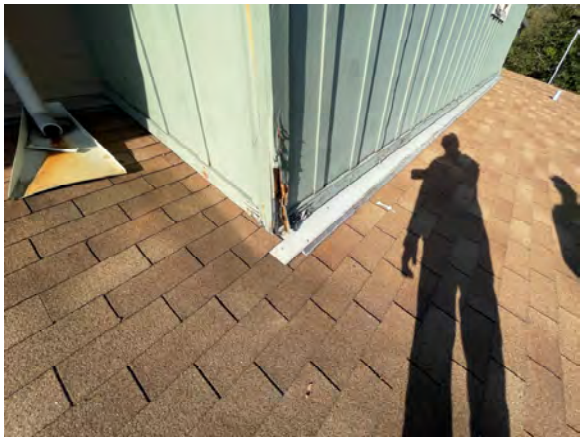


Photo #11: Rotted Trim

Photo #12: Pitting of Shingles

8c. Pioneer Elementary School – 8213 Eagle Field Drive Street, Arlington, WA 982223 – Determination & Recommendation

The level degradation observed on this brown three-tab shingle roof system is a combination of material degradation due to exposure of ultraviolet light and lower quality detailing and installation. The shingle system has **Failed** with limited-service life left. (Expect more damage during this winter). We recommend a complete tear-off of the existing shingle system and installation of a new laminated shingle over two layers of underlayment, with all flashings and gutters.

8d. Pioneer Elementary School – 8213 Eagle Field Drive Street, Arlington, WA 982223 – Budget of Probable Project Cost

1.	Replace shingle roof complete:	55,000 SF @ $25.00/SF	=$1,375,000
2.	Subtotal:		=$1,375,000
3.	OH&P w/ Logistics & Supply Chain Issues @ 25% of Line 2:		=$343,750
4.	Contingency @ 20% of Line 3 (rot and repairs):		=$275,000
5.	Total Construction Budget:		= $1,993,750
6.	Consultant Fee Estimate @ 10% of Line 6:		=$199,375
7.	PROJECT BUDGET TOTAL: (Line 6 + Line 7)		=$2,193,125

9a. Weston High School – 4407 172nd Street NE, Arlington, WA 982223 – Observations

There are 4 separate buildings on this site. The main building (MB) is a tilt-up concrete structure with a low slope single ply membrane roof system that drains to gutters. The next larger building (P1 - to the south) appears to be multiple portable units assembled into a larger building with a single ply membrane roof with internal drains. Immediately to the west is a small gable portable (P2) with a shingle roof with gutters along the longitudinal sides. Finally, the most eastern building (P3) is a portable with a gable roof covered with laminated shingles. (See Appendix A for buildings)

I. Roof Material Observations

(MB) Main Building Roof	: Single Ply Membrane
(MB) Main Building Drainage	: External Gutters to Downspouts
(P1) Roof	: Single Ply Membrane
(P1) Copings	: Prefinished Sheet Metal
(P1) Drains	: Internal Drains
(P2) Gable Portable	: Laminated Shingles with External Gutters
(P3) Gable Portable	: Laminated Shingles with External Gutters

II. Condition Observations

*(MB) Main Building Roof – **[MODERATE]***

- Open seams along the gutter edge and in field of roof
- Degraded cut edge sealant
- Ponding in gutters
- Multiple holes
- Ponding
- Fastener backout
- Broken downspout

*(P1) Building Roof – **[MODERATE]***

- Large ponds and debris blocking drains
- Lots of wrinkles
- Lack of seam sealant at copings
- Failed patch
- Penetrations that are under the NRCA recommended height

*(P2) Gable Portable Roof **[FAILING]***

- Moderate granule loss
- Debris in gutters
- Minimal embrittlement of shingles
- Excessive moss

*(P3) Gable Portable Roof **[GOOD]***

- New shingles
- Face attached vents (fasteners through shingles)
- Debris in gutters

9b. Weston High School – 4407 172nd Street NE, Arlington, WA 982223 – Selected Photos

Photo #1: (MB) Main Building Roof Looking East

Photo #2: (MB) Open Gutter Edge Seam & Gutter Ponding

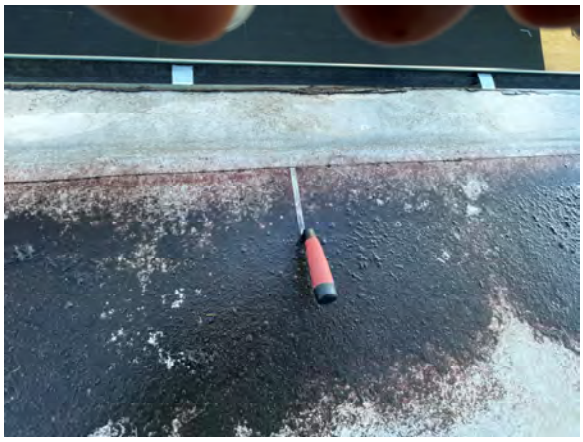


Photo #3: (MB) Open Seam

Photo #4: (MB) Open Seam

Photo #5: (MB) Hole

Photo #6: (MB) Hole

Photo #7: (MB) Fastener Backout

Photo #8: (MB) Damaged Downspout

Photo #9: (P1) Debris & Ponds

Photo #10: (P1) Internal Drains with Ponds and Debris

Photo #11: (P1) Exposed Fastener

Photo #12: (P1) Damaged Repair

Photo #13: (P2) Overview of Roof

Photo #14: (P2) Eastern Roof Area

Photo #15: (P2) Algae Growth

Photo #16: (P3) Debris in Gutter

Photo #17: (P3) Overview of Roof Looking

Photo #18: (P3) Fastener through Roof System

9c. Weston High School – 4407 172nd Street NE, Arlington, WA 982223 – Determination & Recommendation

Based on our onsite review the recommendation for each roof system is as follows:

(MB) Main Building Roof : Provide a repair and maintenance project
(P1) Roof : Provide a repair and maintenance project
(P2) Gable Portable : Replace shingle roof system
(P3) Gable Portable : Provide a repair and maintenance project

9d. Weston High School – 4407 172nd Street NE, Arlington, WA 982223 –

Budget of Probable Project Cost

1.	Low Slope Roof Repair:	(MB) 35,000 SF @ $5.00/SF	=$175,000
		(P1) 5,000 SF @ $25.00/SF	=$125,000
2.	Shingle Roof Replacement:	50,000 SF @ $25.00/SF	=$1,250,000
	Assumptions		
	iv. Removal of existing shingles and underlayment		
	v. Installation of new shingles		
	vi. Replacement of gutters, valleys, and flashings		
3.	Subtotal:		=$1,550,000
4.	OH&P w/ Logistics & Supply Chain Issues @ 25% of Line 3:		=$387,500
5.	Contingency @ 20% of Line 3 (design & rot and repairs):		=$310,000
6.	Total Construction Budget:		= $2,247,500
7.	Consultant Fee Estimate @ 10% of Line 6:		=$224,750
8.	PROJECT BUDGET TOTAL: (Line 6 + Line 7)		=$2,472,250

10a. Arlington High School – 18821 Crown Ridge Blvd, Arlington, WA 982223 – Observations

This two-story fully enclosed building is capped with a medium slope, laminated shingle roof system over a vented deck, from the eaves to the ridge, with gutters along the longitudinal sides.

Note: Excluded from this report are the low slope and shingle roofs installed in 2022 for the new additions.

I. Roof Material Observations

Medium Slope Gable Roof	: Laminated Shingles
Flashings	: Prefinished Sheet Metal
Drainage	: Prefinished Gutters to Downspouts

II. Condition Observations

*Building Roof Areas – **[FAILED]***

- Crack shingles
- Limited shingle coverage of nails (shortened top-lap which reduces the head lap)
- Nail backouts
- Water flow over lower roof surfaces (scour)
- Mis-driven nails
- Backslope at shingle "hump/ridge"
- Insufficient side lap exposure
- Water trapped under shingles
- Incorrect shingle joint offset
- Buckled shingles at horizontal plywood joints
- Saturated plywood
- Proud plywood corners
- Signs of inadequate ventilation
- Active Leaks
- Recent maintenance project to extend service life
  [Replacement of roofing over Ticket Office and Scene Shop]

10b. Arlington High School – 18821 Crown Ridge Blvd, Arlington, WA 982223 – Selected Photos

Photo #1: Cracked Shingle

Photo #2: Water Flow Over Roof Surface

Photo #3: Hump (Ridge) in Roof (Multiple Locations)

Photo #4: Over-driven Nail

Photo #5: Over-driven Nail at Back Slope

Photo #6: Water Stains over Shingles

Photo #7: Water Running Out on a Dry Day above Hump

Photo #8: Fastener Backout

Photo #9: Rotten Plywood Substrate

Photo #10: Wet Furring and Insulation

Photo #11: Nail within Drainage Zone

Photo #12: Hump/Ridge Horizontal Across Roof

Photo #13: Damaged Furring Strip

Photo #14: Apparent Mold Growth on Insulation

Photo #15: Proud Plywood Corner

10c. Arlington High School – 18821 Crown Ridge Blvd, Arlington, WA 982223 –
Determination & Recommendation

Based on our onsite review the recommendation for each roof system is as follows:

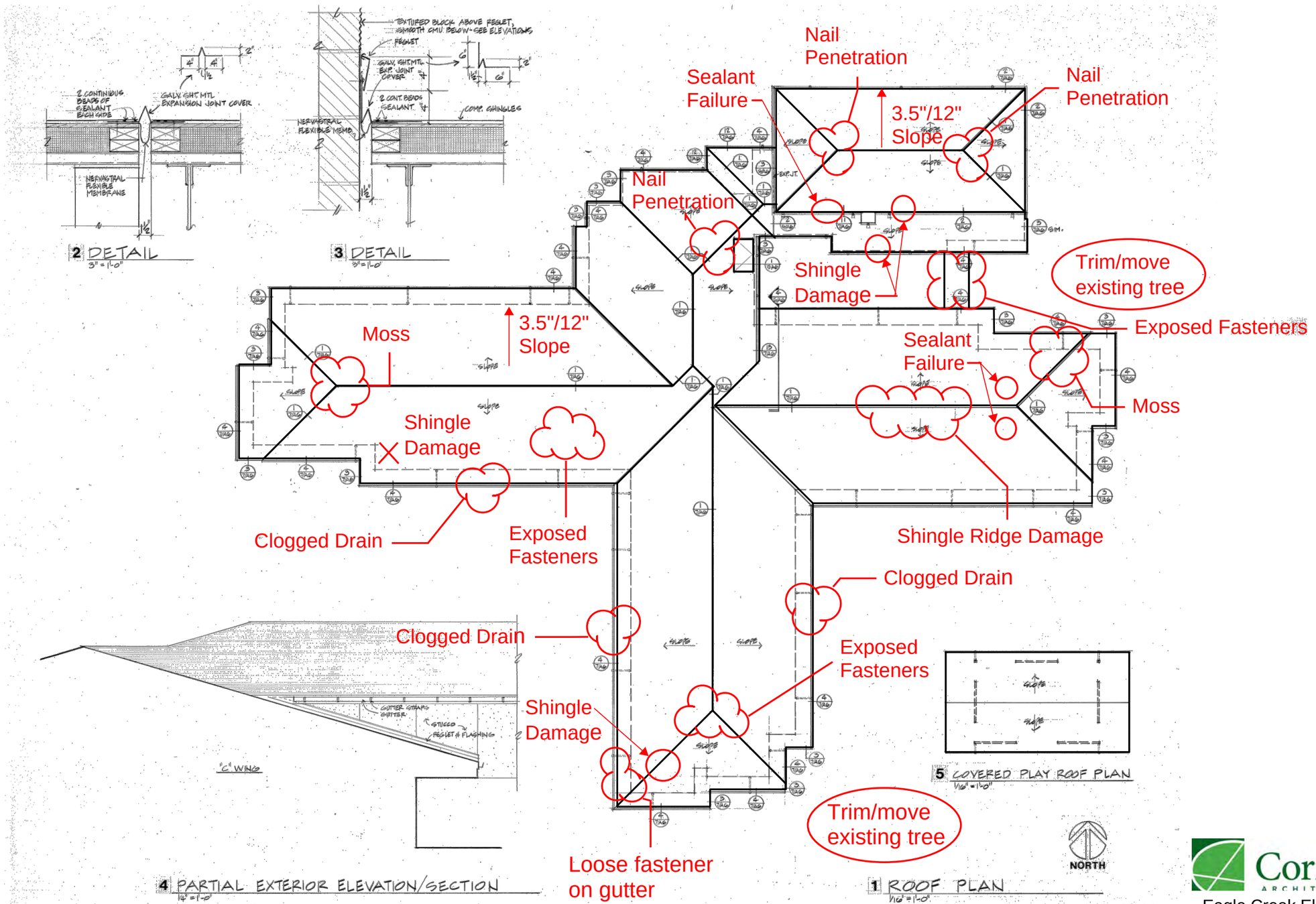
(MB) Main Building Roof : Provide a repair and maintenance project
(P1) Roof : Provide a repair and maintenance project
(P2) Gable Portable : Replace shingle roof system
(P3) Gable Portable : Provide a repair and maintenance project

10d. Arlington High School – 18821 Crown Ridge Blvd, Arlington, WA 982223 –
Budget of Probable Project Cost

1. Shingle Roof Replacement: 170,000 SF @ $25.00/SF =$4,250,000
   Assumptions
   i. *Removal of existing shingles and underlayment*
   ii. *Installation of new shingles*
   iii. *Replacement of gutters, valleys, and flashings*
2. Replacement of Sheathing: 85,000 SF @ $10.00/SF = $850,000
3. Subtotal: =$5,100,000
4. OH&P w/ Logistics & Supply Chain Issues @ 25% of Line 3: =$1,275,000
5. Contingency @ 20% of Line 3 (design & rot and repairs): =$1,020,000
6. Total Construction Budget: = $7,395,000
7. Consultant Fee Estimate @ 10% of Line 6: =$740,000
8. PROJECT BUDGET TOTAL: (Line 6 + Line 7) =$8,135,000

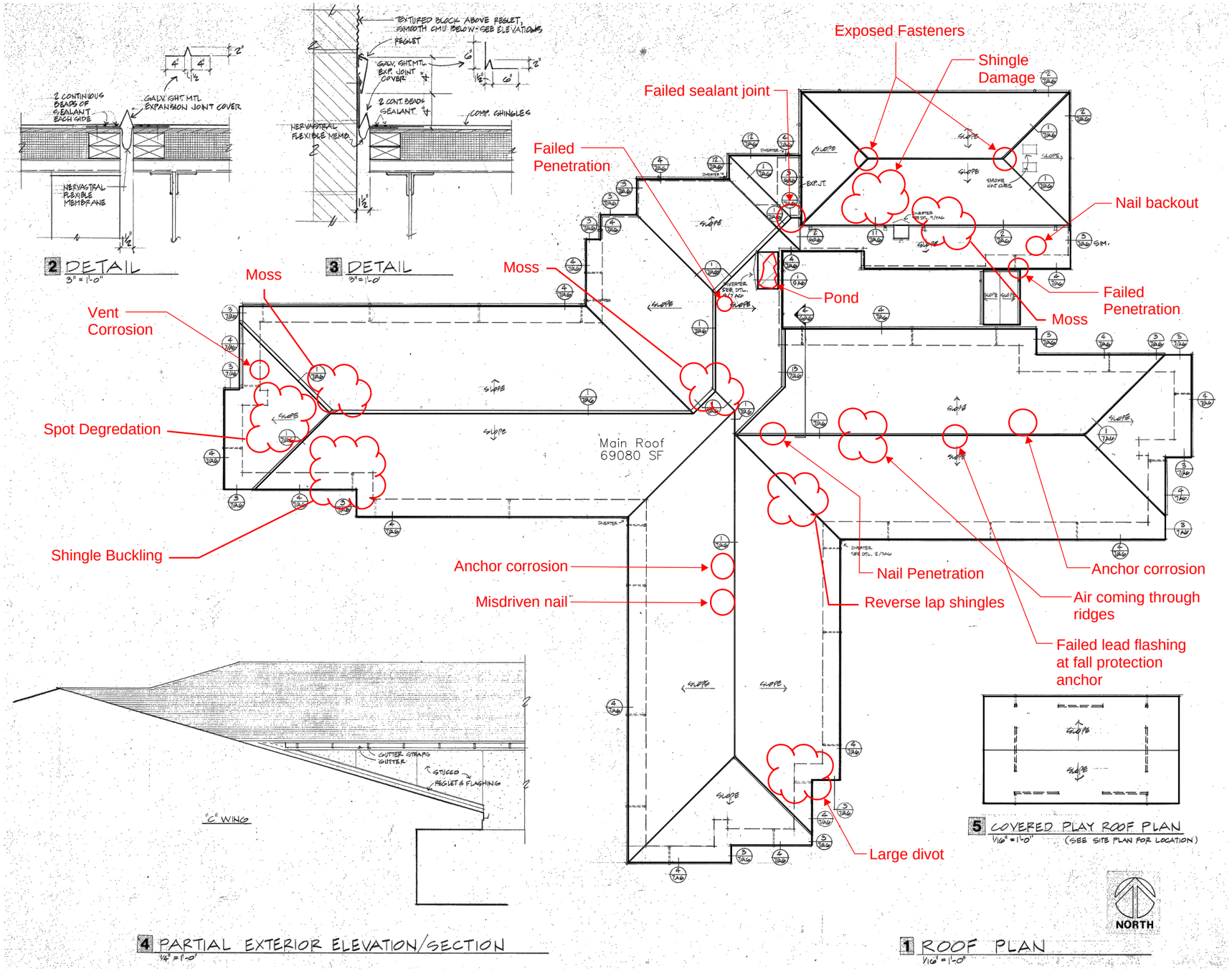
APPENDIX A

Cornerstone Architectural Group
Site Observation Notes



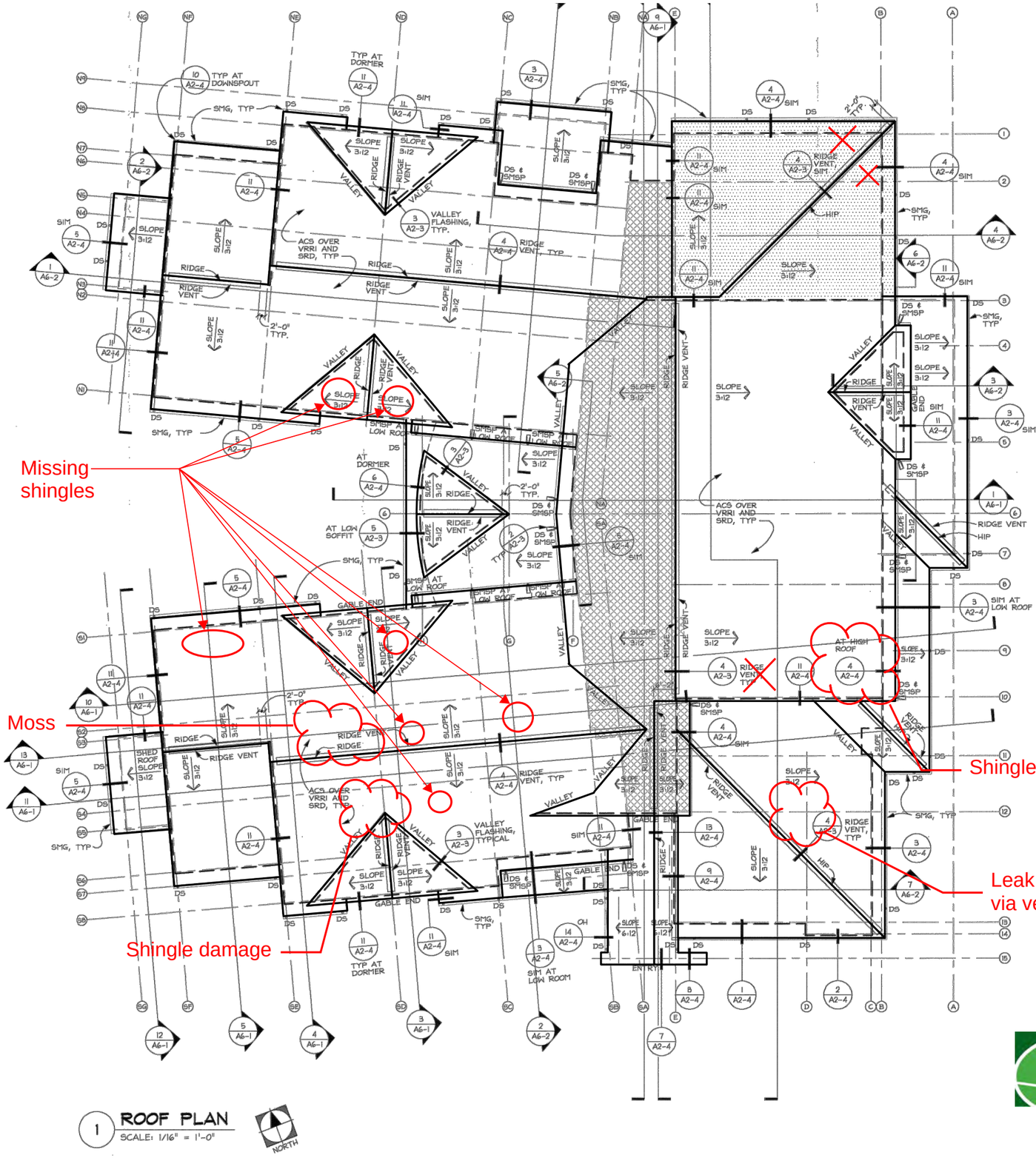
Cornerstone ARCHITECTURAL GROUP

Eagle Creek Elementary School
Site Notes



Cornerstone ARCHITECTURAL GROUP

Kent Prairie Elementary School
Site Notes



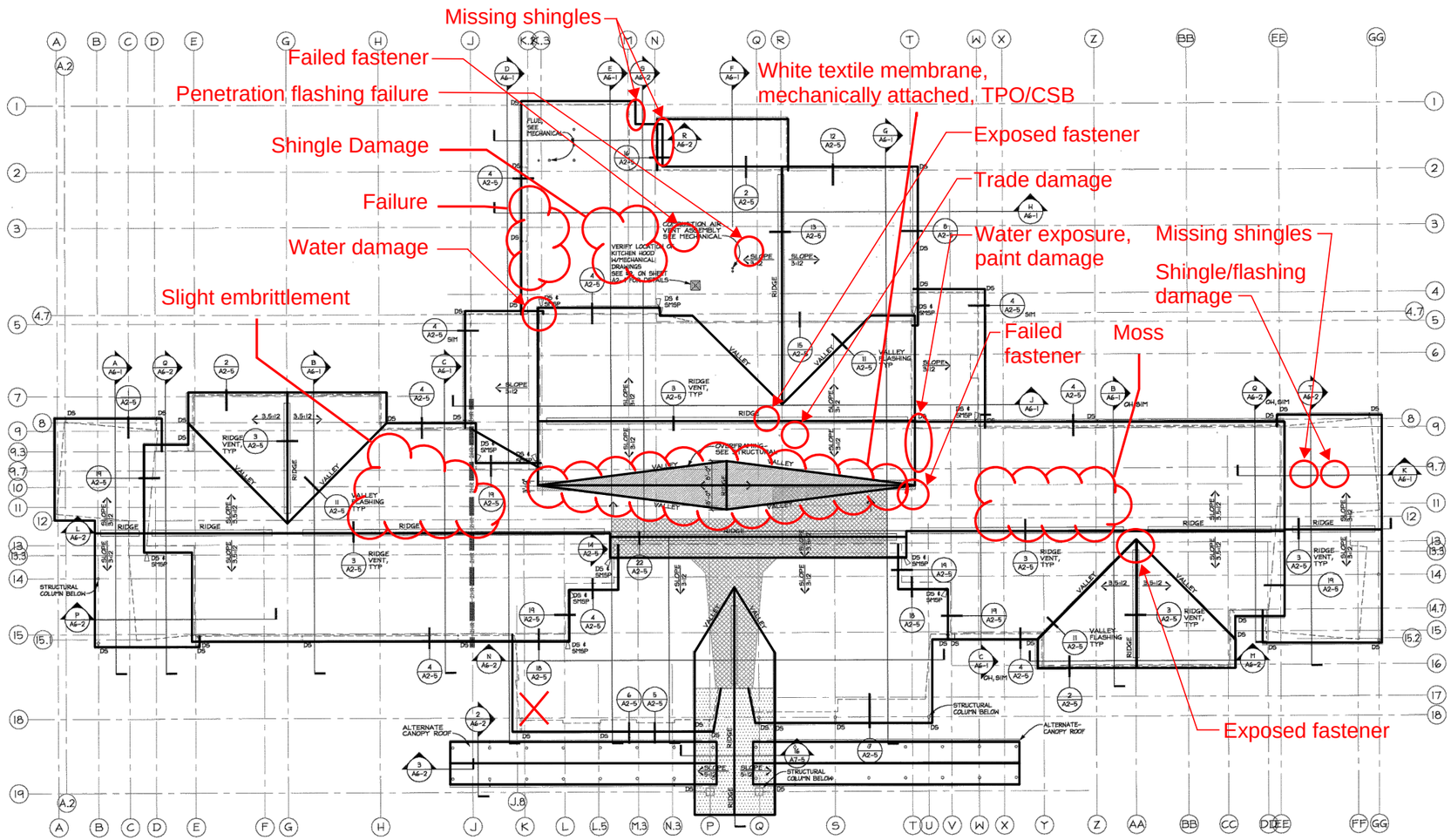
3 Tab Shingles including ridge venting:

Roof is near failure

-curling
-bird damage
-excessive granule loss
-shingle damage
-nail penetration exposure
-fastener exposure
-fasteners push through shingles
-fastener workthrough
-general damage/failure
-poor valley installation
-rotten sweeps
-shingle pitting

Cornerstone ARCHITECTURAL GROUP

Pioneer Elementary School
Site Notes



3-Tab Shingle Roof:

- Medium degranulation
- Trade damage
- Ridge shingle blowoff
- Exposed fasteners
- Cracks on shingles
- Vented ridge
- Nail exposure

Cornerstone ARCHITECTURAL GROUP

Presidents Elementary School
Site Notes

3 Tab shingles:

- Nail/fastener backout
- Modified bitumen valleys (degranulation)
- Moss

Failed sealant

Degranulation

Shingle repair

Moss

Multiply modified bitumen:

- Drain/overflow scuppers
- Moss

Missing shingles

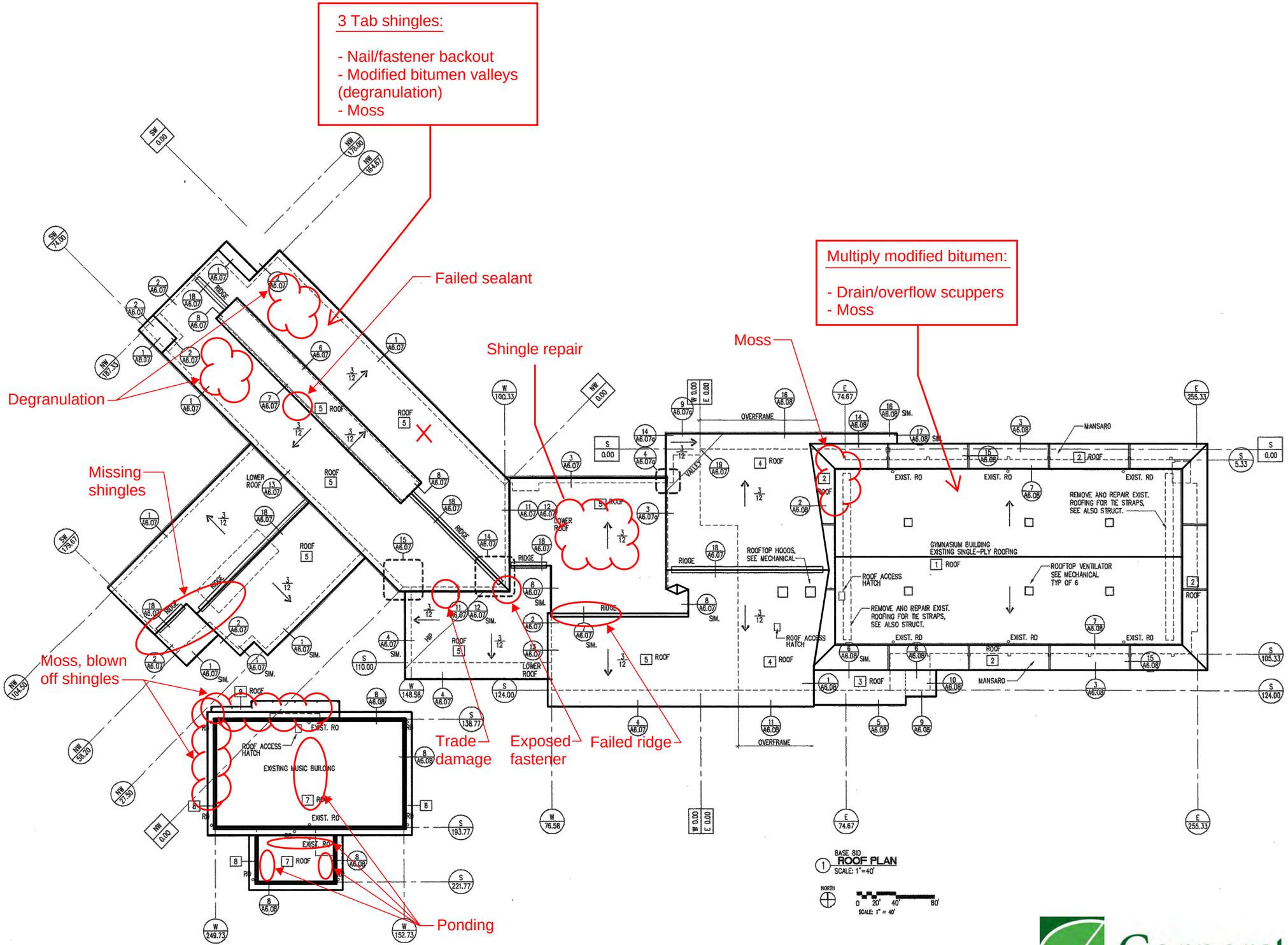
Moss, blown off shingles

Trade damage

Exposed fastener

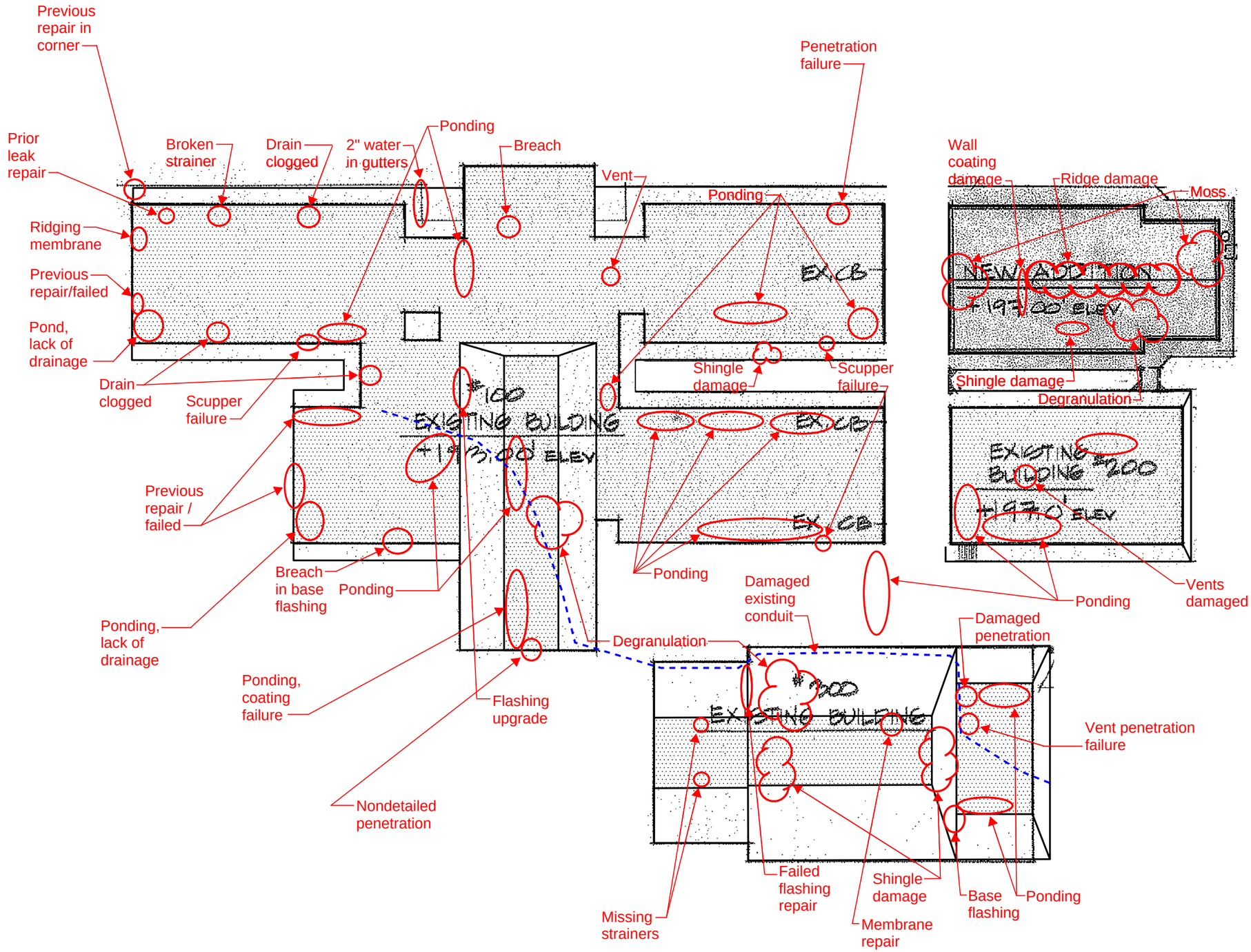
Failed ridge

Ponding



Cornerstone ARCHITECTURAL GROUP

Haller Middle School
Site Notes

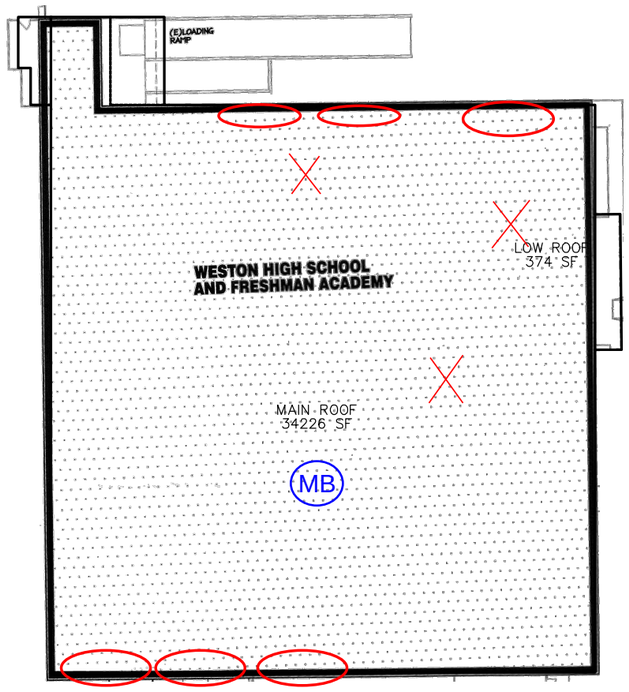


EPDM or TPO roof with coating:

- Coating beginning to fail

Cornerstone ARCHITECTURAL GROUP

Post Middle School
Site Notes



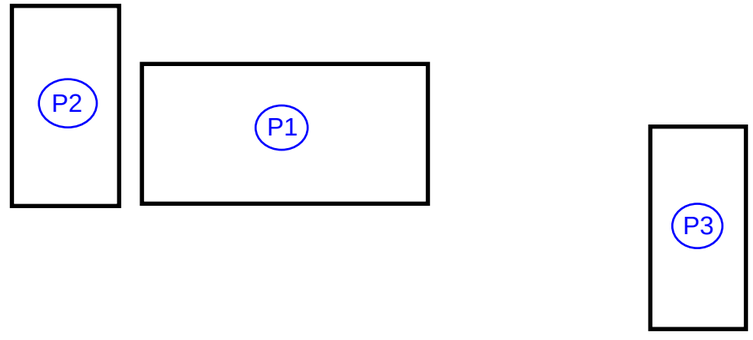
Mechanically Attached TPO:

Open seams
Sealant failure
no cricketing @ mech. units
fallen mech. unit
clogged drains/ponding
Durolast PVC (mech. attached)

Portables:

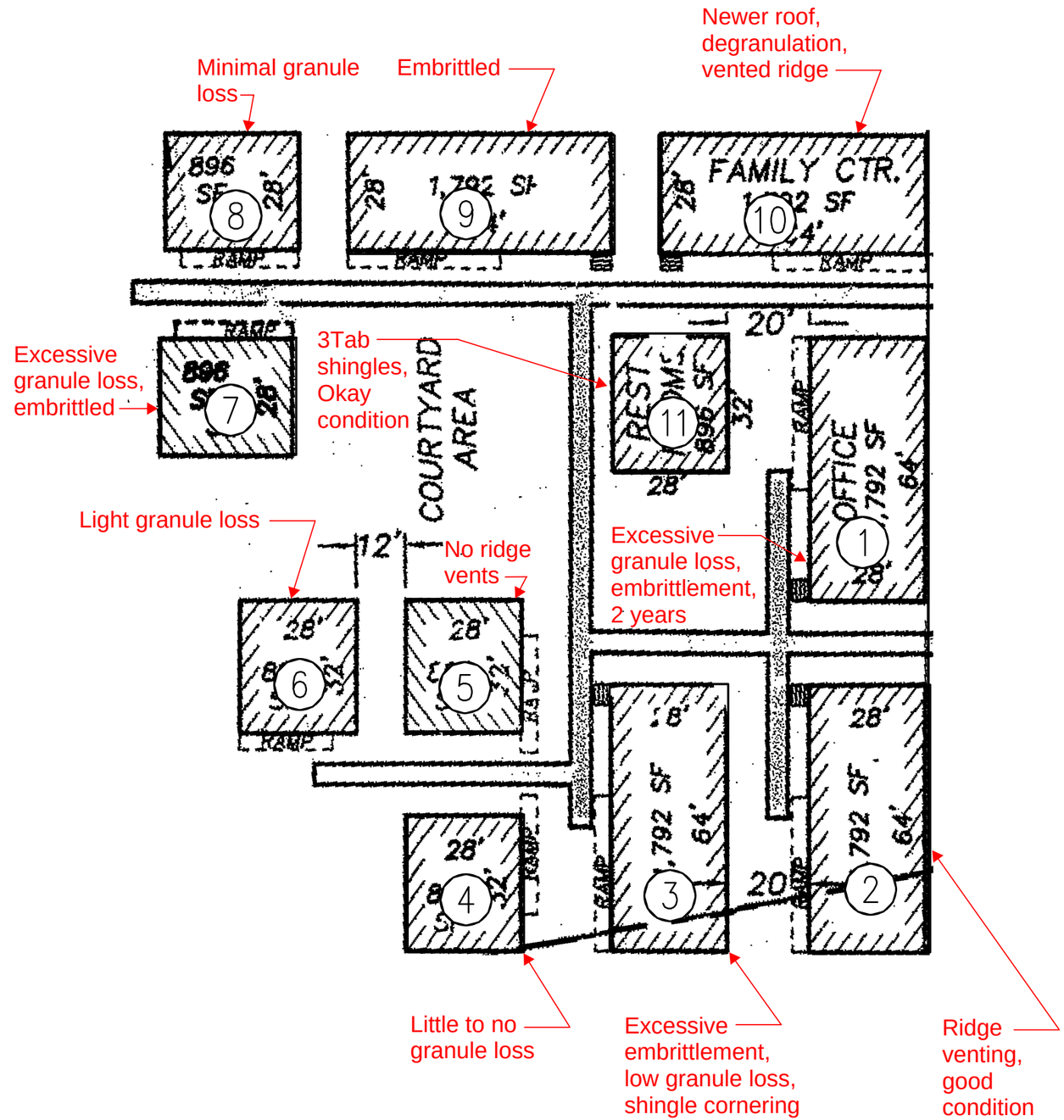
A):
- New roof
- Ridge installation (fasteners)

B):
- Excessive moss
- Clogged gutters
- Slight embrittlement



Cornerstone ARCHITECTURAL GROUP

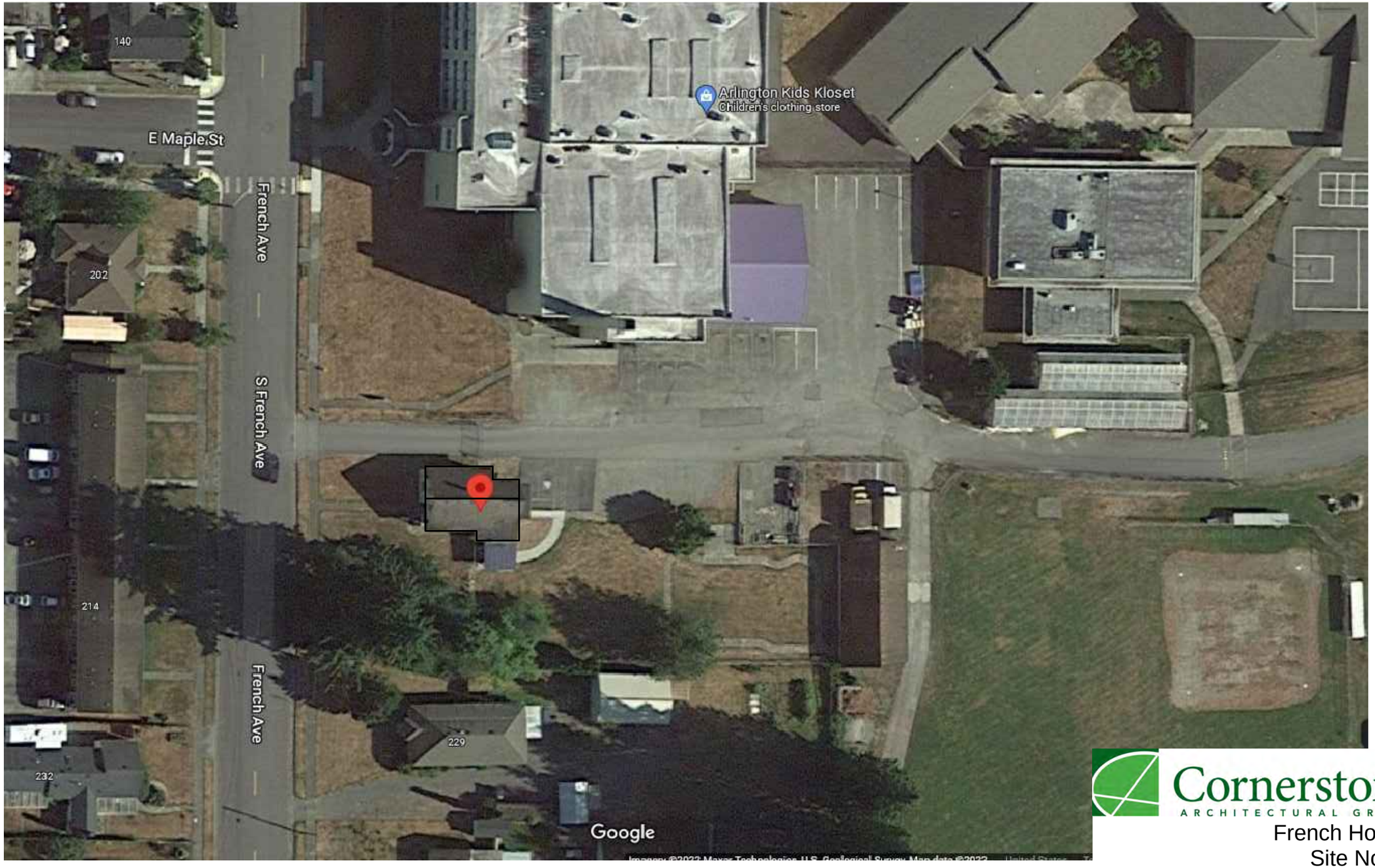
Weston High School
Site Notes



Cornerstone ARCHITECTURAL GROUP

Stillaguamish Valley LS
Site Notes

- New roof
- Little to no granule loss



Cornerstone
ARCHITECTURAL GROUP

French House
Site Notes

APPENDIX B

Warranty Information for Selected School

SureStart™ PLUS Certificate

5-STAR Coverage

– Extends standard SureStart duration and coverage to 30 years
– Fully transferrable once within 15 years
– Covers materials, labor, tear-off and disposal for 30 years after installation
– Covers the contractor's workmanship for 25 years

The components of the Integrity Roof System™, manufactured by CertainTeed, on the property below, are covered by SureStart PLUS protection. In case of a warranty claim, contact CertainTeed Roofing, Technical Services, 20 Moores Road, Malvern, PA 19355, telephone: (800) 345-1145. (See actual warranty for terms and conditions of standard SureStart warranty.)

Date of Registration: **8/9/2016** Property Owner(s): **Arlington School District #16**

Property Address: **1216 E 5th St**
Arlington, WA 98223-1119

Shingle Name: **Landmark**
- Increases wind warranty to 130 m.p.h. for 15 years

Squares of Shingle Installed: **834.67**

Date of Installation Completion: **7/28/2016**

Expiration of SureStart PLUS Coverage: **7/28/2046**

Flintlastic® System Installed (if applicable):

Flintlastic Squares Installed:

Expiration of SureStart PLUS coverage on Flintlastic System:

Thank you for your recent purchase of one of the fine products from CertainTeed Roofing. Since 1904, CertainTeed has been producing quality roofing products that provide long-lasting beauty and protection. For over 100 years, the basis for our name, "Quality made certain, satisfaction guaranteed," has been our ongoing philosophy and CertainTeed supports its products with the strongest warranty protection available.

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SureStart™ PLUS Certificate

5-STAR Coverage

- **Extends standard SureStart duration and coverage to 30 years**
- **Fully transferrable once within 15 years**
- **Covers materials, labor, tear-off and disposal for 30 years after installation**
- **Covers the contractor's workmanship for 25 years**

The components of the Integrity Roof System™, manufactured by CertainTeed, on the property below, are covered by SureStart PLUS protection. In case of a warranty claim, contact CertainTeed Roofing, Technical Services, 20 Moores Road, Malvern, PA 19355, telephone: (800) 345-1145. (See actual warranty for terms and conditions of standard SureStart warranty.)

Date of Registration: **9/4/2013** Property Owner(s): **Arlington School District**

Property Address: **8110 207th St NE**
Arlington, WA 98223-5933

Shingle Name: **Landmark**
- Increases wind warranty to 130 m.p.h. for 15 years

Squares of Shingle Installed: **832.33**

Date of Installation Completion: **7/18/2013**

Expiration of SureStart PLUS Coverage: **7/18/2043**

Flintlastic® System Installed (if applicable):

Flintlastic Squares Installed:

Expiration of SureStart PLUS coverage on Flintlastic System:

Thank you for your recent purchase of one of the fine products from CertainTeed Roofing. Since 1904, CertainTeed has been producing quality roofing products that provide long-lasting beauty and protection. For over 100 years, the basis for our name, "Quality made certain, satisfaction guaranteed," has been our ongoing philosophy and CertainTeed supports its products with the strongest warranty protection available.

Additional Notes: Arlington Kent Prairie Elementary

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TREMCO

WARRANTY # 157275
GEOGARD
12 YEAR LIMITED MATERIAL AND LABOR WATERPROOF WARRANTY

OWNER:	*Arlington Public Schools*
ADDRESS:	*315 N. French Avenue, Arlington, WA 98223*
BUILDING DESCRIPTION:	*Post Middle School – Main Roofs*
ADDRESS:	*1220 E. 5th Street, Arlington, WA 98223*
PROJECT AREA:	*56,300 sq. ft.*
EFFECTIVE WARRANTY PERIOD:	*August 28, 2014*
SUBSTRATE:	*Single Ply*
INSTALLATION CONTRACTOR:	*W T I - Cleveland*
INSTALLED CONTRACT PRICE:	*3735 Green Road-North Building, Beachwood, OH 44122*

The above building Owner agrees to the following warranty as part of its purchase of the Republic Restoration Systems by Tremco (hereinafter "RRSBT") defined above and understands and agrees that the liability of Tremco Incorporated (hereinafter "Tremco") relating to the RRSBT and the installation thereof shall be limited to the obligation to address warranty concerns as set forth herein.

DEFINITION: *The RRSBT shall mean all product components and accessory materials manufactured and/or supplied by Tremco.*

THE TREMCO WARRANTY

Tremco hereby warrants to the above-named Owner that the RRSBT, when applied over conventional roof or wall surfaces which are in sound condition and according to Tremco specifications, will remain free from leaks during the term of the warranty described above. Should such leaks occur in any area of the RRSBT during the warranty period, Tremco warrants that it will furnish, no-charge, sufficient material and labor to correct the affected area(s). This warranty becomes effective upon final inspection and approval of the RRSBT by Tremco; when Tremco has been paid in full for all materials, warranties, supplies and services it has furnished in connection with the RRSBT; and when the warranty has been signed below by authorized Tremco personnel.

A. OWNER'S RESPONSIBILITIES

It is agreed by the parties that Tremco, by this warranty, does not assume possession or control of any part of the RRSBT. Control and ownership of the RRSBT and all parts of the building remains solely with the Owner. The Owner is solely responsible for all requirements imposed by any federal, state or local law, ordinance or regulation, and all repair, maintenance, and other work with respect to the RRSBT and the building, except as expressly stated herein this warranty.

The Owner shall, at all times, exercise reasonable care in the use and maintenance of the RRSBT. In order to protect the investment this new RRSBT represents, the building Owner must assume responsibility for its care and maintenance as outlined in the attached OWNER'S MANUAL. NOTE: The Owner's Manual is hereby incorporated by reference, and building owner agrees to be bound to all terms and conditions stated therein.

If leaks, or alterations are being considered, the Owner must notify Tremco in writing in order for the proper authorized follow-up to be completed.

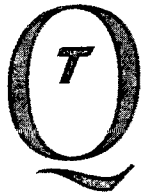
The Owner shall report all leaks which occur in the RRSBT within the warranty period in writing to Tremco Incorporated at 3735 Green Road, Beachwood, Ohio 44122, as soon as possible (however, in no event more than thirty (30) days) after any leaks are or should have been discovered. In no event is Tremco responsible for any repairs to any part of the building other than the RRSBT. The liability or expense for such repair is to be assumed and paid by the Owner. If the leak is not within the warranty coverage, Tremco shall advise the Owner, and the Owner shall have the necessary repairs performed within thirty (30) days according to Tremco specifications by a Tremco certified or approved applicator. The Owner agrees to provide Tremco with unrestricted ready access to the RRSBT and all areas of the building on which the RRSBT is located.

PLEASE BE AWARE THAT THE BUILDING OWNER'S FAILURE TO FULFILL ANY OF THE RESPONSIBILITIES ENUMERATED ABOVE SHALL RESULT IN AUTOMATIC AND EFFECTIVE CANCELLATION OF THIS WARRANTY AND SHALL RELEASE AND DISCHARGE TREMCO FROM ANY FURTHER OBLIGATION UNDER THIS WARRANTY.

B. WARRANTY EXCLUSIONS

This warranty does not cover any leaks, damage or failure of the RRSBT or any part thereof as a result of:

1. *Natural or accidental disasters including, but not limited to, damage caused by lightning, hailstorms, floods, hurricane force winds, tornadoes, earthquakes, fire, vandalism, animals, penetration of the membrane, or chemical attack by outside agents.*
2. *Use of materials not specified by Tremco.*



Quality Assurance Program

3. *Any intentional or negligent act on the part of the Owner or third party including, but not limited to, misuse, excessive traffic, storage of, or discharge of materials or effluent on the roof or building structure. Any repair of these items will be at Owner's expense.*

4. *Distortion, expansion, or contraction of the RRSBT caused by faulty original construction, design of the building or infiltration or condensation of moisture entering the roof system or building from any part of the building structure, including, but not limited to walls, copings, parapet walls, underlying components, chimneys, skylights, vents hardware or equipment.*

5. *Lack of positive, proper, or adequate drainage as defined by the National Roofing Contractors' Association (NRCA). Proper slope for drainage as defined by the NRCA is that there is no ponding water on the roof 48 hours after a rain during conditions conducive to drying.*

6. *Movement, failure or improper installation of metalwork, underlying deck and/or components not manufactured and supplied by Tremco.*

7. *Alterations, additions, core samples, construction or repairs on or to the RRSBT not approved by Tremco.*

8. *Exposure to chemicals and/or substances that are determined by Tremco to be harmful to the RRSBT.*

C. WARRANTY LIMITATIONS

Tremco shall have no responsibility or liability under this warranty until all bills for installation, supplies, and services sold in connection with the RRSBT have been paid in full.

The Owner's rights under this warranty are specific to the Owner and are not transferable.

Tremco's obligations under this warranty may be voided by Tremco based on events described in the OWNER'S RESPONSIBILITIES or WARRANTY EXCLUSIONS Sections.

D. OTHER TERMS

THIS WARRANTY IS IN LIEU OF ANY AND ALL OTHER WARRANTIES, OBLIGATIONS OR AGREEMENTS, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE, AND ANY RIGHTS OR REMEDIES AGAINST ANY PERSON OR ENTITY UNDER THE UNIFORM COMMERCIAL CODE OR OTHERWISE WITH RESPECT TO THE SALE OF GOODS AND/OR SERVICES. THE REMEDIES AND OBLIGATIONS STATED IN THIS WARRANTY ARE THE SOLE AND EXCLUSIVE REMEDIES OF AND OBLIGATIONS TO THE OWNER FOR ANY AND ALL MATTERS ARISING WITH RESPECT TO OR IN ANY WAY CONNECTED WITH THE RRSBT, OR ITS COMPONENT PRODUCTS, OR ANY GOODS OR SERVICES RELATED THERETO, REGARDLESS OF THE SOURCE OR PROVIDER OF SUCH GOODS OR SERVICES. NO REPRESENTATIVE OF TREMCO INCORPORATED, OR ANY EMPLOYEE, AGENT OR AFFILIATED COMPANY ("AFFILIATE") HAS AUTHORITY TO VARY OR ALTER THESE TERMS. IN NO EVENT SHALL TREMCO INCORPORATED OR ANY AFFILIATE BE LIABLE FOR ANY DAMAGE TO THE BUILDING ITSELF (OTHER THAN THE RRSBT), THE CONTENTS OF THE BUILDING, OR ANY OTHER SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES. THE TOTAL LIABILITY OF TREMCO INCORPORATED AND ANY AFFILIATE OVER THE LIFE OF THE WARRANTY, SHALL NOT IN ANY EVENT EXCEED IN DOLLAR VALUE THE INSTALLED CONTRACT PRICE OF THE RRSBT. NEITHER TREMCO INCORPORATED OR ANY AFFILIATE SHALL BE LIABLE FOR ANY DAMAGES WHICH ARE BASED UPON NEGLIGENCE, BREACH OF WARRANTY, STRICT LIABILITY OR ANY OTHER THEORY OF LIABILITY OTHER THAN THE EXCLUSIVE LIABILITY SET FORTH IN THIS WARRANTY.

The Owner agrees that this warranty, and the services and remedies set forth herein, are exclusive, and there are no other warranties between the Owner and Tremco or any affiliate. Any unresolved issues under this warranty shall be submitted to the exclusive jurisdiction of the courts of Cuyahoga County, Ohio, and governed by Ohio law.

TREMCO INCORPORATED

By: Joan A. Epley

Title: *Warranty Administrator*

Date: *September 16, 2014*

TREMCO

20 YEAR QA PLUS WARRANTY

WARRANTY NUMBER:	*157267*
OWNER:	*Arlington Public Schools*
ADDRESS:	*315 N French Ave, Arlington, WA 98223*
BUILDING DESCRIPTION:	*Haller Middle School - Gymnasium*
ADDRESS:	*600 E 1St St, Arlington, WA 98223*
ROOF AREA:	*15,000 sq. ft.*
DATE OF JOB COMPLETION:	*September 22, 2014*
INSTALLATION PRICE:	*$414,882.80*
ROOFING SYSTEM:	*Replacement: Powerply Standard FR*
INSTALLATION CONTRACTOR:	*Krueger Sheet Metal Co. (WTI)*
ADDRESS:	*N. 731 Superior St., Spokane, WA 99202*

Tremco Incorporated (hereinafter "Tremco") hereby warrants to the above-named Owner that, subject to the terms, conditions, and limitations stated herein, it will repair leaks in the Tremco Roofing System identified above (hereinafter "TRS") for a period of twenty (20) years from the date of job completion. The term "TRS" shall be defined as the weatherproofing assembly and its components, which includes the following: membrane, insulation, flashings, all sheet metal-related details, and termination details as specified by Tremco.

Tremco will also provide the following maintenance-related services (Services, as defined below) to the Owner during the Warranty term to assist the Owner in properly maintaining the TRS and in maximizing its useful life and performance. All Services will be performed in a good and workmanlike manner in accordance with good roofing practices. Any Services that do not meet these standards will be corrected at no charge to the Owner.

A. SERVICES: INSPECTIONS, HOUSEKEEPING AND PREVENTIVE MAINTENANCE

In year two (2), year five (5), year ten (10), and year fifteen (15) of this warranty, Tremco shall provide the following roof inspections, preventive maintenance, and limited housekeeping Services on the TRS. (If the Owner has purchased a TremCare Service Agreement in addition to this Warranty, the Services, including inspections and related-reporting, will be carried out in accordance with the TremCare Service Agreement.)

1. Roof Inspections

   A. Roof Inspections consist of the following:
      - Visual inspection of the roof membrane and roof surface conditions.
      - Visual inspection of the flashing systems including the metal edge system, base flashings on equipment and adjoining walls, counter flashing and termination details, soil stacks and vents, roofing details, and rooftop projections such as pitch pans, HVAC equipment, skylights and access hatches.

   B. Roof Inspections do not include:
      - Inspection for internal or latent water damage or mold growth.
      - Detection or identification of mold or other latent conditions.
      - Any core cuts or other testing or analysis beyond visual inspection.

Quality Assurance Program

2. Preventive Maintenance

A. Preventive Maintenance consists of the following minor repairs and maintenance to:
- Flashing components and details – Such as patching of minor flashing details and penetrations; reinforcement of open flashing laps; and sealing of open metal edge laps, coping joints, expansion joint laps, fasteners, pitch pans, storm collars and similar areas.
- Roof membrane – Such as repair of incidental splits, tears, open laps, or breaks in the membrane.
- Drains, Gutters & Scuppers – Such as tightening of accessible drain bolts and clamping rings; advising Owner of missing drain strainers; and drain details, unsecured gutters and open gutter joints.

B. Preventive Maintenance does not include:
- Repairs or maintenance of any building component other than the TRS, except as expressly stated above.
- Remediation, detection or abatement of mold.
- Recoating or other significant repair to, or replacement of, the roof membrane.

3. General Rooftop Housekeeping

A. General Rooftop Housekeeping consists of the following:
- Removal of debris (such as leaves, branches, paper and similar items) from the roof membrane and drainage areas.
- Disposal of debris will be at the Owner's approved on-site location and is the sole responsibility of the Owner.

B. General rooftop housekeeping does not include removal of items such as obsolete HVAC components, any construction materials left by other trades, or other equipment or tools left on the roof by the Owner or third parties.

The Services do not include extensive roof repairs, recoating, restoration or roof replacement unless those steps are determined by Tremco to be necessary in order to maintain compliance with the terms of the TRS Warranty. Removal of chemical or other manufacturing or industrial pollution and discharge is the sole responsibility of the Owner and is expressly excluded from coverage under the Warranty and is not within the scope of the Services. The Owner will be advised of any extensive repairs required and whether such repairs are covered under this Warranty prior to those repairs being undertaken.

B. ROOF INSPECTION REPORTS

Tremco will provide roof inspection reports to the Owner based upon the inspections as defined in Section A above. The reports shall become part of the OLI® database maintained on the TRS. Roof inspection reports will not address the presence of mold or water damage to any building components other than the TRS.

C. OWNER'S RESPONSIBILITIES

Tremco does not assume possession or control of any part of the Owner's facility (including the installed TRS) through this Warranty or otherwise. Once payment for the TRS and its installation is made in full, then such control and ownership are solely with the Owner, which is responsible for compliance with all applicable federal, state or local law, ordinances and regulations. The Owner is responsible for all repair, maintenance, and other work with respect to the TRS and the building, except as expressly stated otherwise in this Warranty. Neither this Warranty nor the Services described above eliminate or replace the building Owner's responsibility for following good roofing practices during the term of the Warranty, including keeping effluent and debris from the roof surface. The Owner shall, at all times, exercise reasonable care in the use and maintenance of the TRS including adherence to the care and maintenance responsibilities contained in the attached Owner's Manual.

Care and maintenance guidelines include, but are not limited to:

* Regular ongoing inspection by the Owner between inspections by Tremco - This will allow for implementation of

good housekeeping practices and early detection of problems such as any physical damage.

* Verification that no alterations or unauthorized repairs have been made to the TRS.

The Owner shall report all leaks which occur in the TRS within the warranty period by immediately (within 24 hours) contacting Tremco at 1-800-422-1195, followed by written notice to Tremco Incorporated at 3735 Green Road, Beachwood, Ohio 44122, as soon as possible (however, in no event more than thirty (30) days) after leakage is or should have been discovered. In no event is Tremco responsible for any repairs to any part of the building other than the TRS. The liability and expense for such repair is with the Owner. If a leak is not within the coverage of this Warranty, Tremco shall advise the Owner, and the Owner shall have repairs performed within thirty (30) days according to Tremco specifications by a Tremco certified or approved applicator. Tremco reserves the right to charge the Owner in connection with responding to and inspecting building leaks that are not covered by the Warranty, including without limitation building leaks through windows, HVAC units, walls or other building components that are not part of the TRS. Such charges will be at Tremco's standard rates then in effect and Owner agrees to pay such charges on a net 30-day basis from the date of invoice. The Owner agrees to provide Tremco with unrestricted ready access to the TRS and all areas of the building on which the TRS is located.

D. EXTENDED OR RENEWED WARRANTY OPTION

The TRS you have purchased may be eligible for Warranty extension, or renewal after expiration, beyond the Term identified on page one above. Often, extension of the existing Warranty can be a very cost effective option and may be preferable to allowing the Warranty to expire, particularly for Owners with multiple facilities who may not want those buildings coming out of warranty coverage at or about the same time. It is Tremco's practice to contact Owners regarding our Warranty and renewal options at or about sixty (60) days prior to Warranty expiration. We also invite Owners to contact their Tremco Sales Representative at any time to discuss the applicable terms, conditions and eligibility for such an extension or renewal.

E. WARRANTY EXCLUSIONS

This Warranty does not cover any leaks, damage or failure of the TRS or any part thereof caused in whole or in part by any of the following:

1. Natural or accidental disasters including, but not limited to, damage caused by lightning, hailstorms, floods, winds in excess of 74 mph, tornadoes, earthquakes, fire, vandalism, animals, penetration of the membrane, or chemical attack by outside agents.
2. Use of materials not specified by Tremco, or repairs to the TRS that are not approved in advance in writing by Tremco.
3. Any intentional or negligent act on the part of the Owner or any third party including, but not limited to, abuse, misuse, traffic, or storage of or discharge of materials or effluent on the roof.
4. Failure of building components such as parapet walls, copings, chimneys, skylights, vents or roof deck or other faulty building construction or design.
5. Lack of positive, proper, or adequate roof drainage or ponding conditions.
6. Change in building usage without prior written approval from Tremco.

F. WARRANTY LIMITATIONS

Tremco shall have no responsibility and/or liability under this Warranty until all bills for installation, supplies, and services sold in connection with the TRS have been paid in full.

The Owner's rights under this Warranty are specific to the Owner and are not assignable or transferable.

Tremco may void its obligations under this Warranty based on the occurrence of the events described in Section E or failure of the Owner to comply with its obligations described in this Warranty, including with respect to payment of all bills related to the TRS or its installation, proper TRS care and maintenance and leak reporting. Tremco makes no warranty as to appearance of the TRS or any aesthetic condition.

THIS WARRANTY IS IN LIEU OF ANY AND ALL OTHER WARRANTIES, OBLIGATIONS OR AGREEMENTS, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE, ALL OF WHICH ARE EXPRESSLY EXCLUDED. THE REMEDIES AND OBLIGATIONS STATED IN THIS WARRANTY ARE THE SOLE AND EXCLUSIVE REMEDIES OF, AND OBLIGATIONS TO, THE OWNER FOR ANY AND ALL MATTERS ARISING WITH RESPECT TO OR IN ANY WAY CONNECTED WITH THE TRS, ITS COMPONENTS OR ANY GOODS OR SERVICES RELATED THERETO, REGARDLESS OF THE SOURCE OR PROVIDER OF SUCH GOODS OR SERVICES. NO REPRESENTATIVE OF TREMCO, OR ANY EMPLOYEE, AGENT OR AFFILIATED COMPANY (COLLECTIVELY "TREMCO") HAS AUTHORITY TO VARY OR ALTER THESE TERMS, WITHOUT EXPRESS WRITTEN PERMISSION OF A TREMCO OFFICER. IN NO EVENT SHALL TREMCO BE LIABLE FOR ANY DAMAGE TO THE BUILDING ITSELF (OTHER THAN THE TRS), THE CONTENTS OF THE BUILDING, OR ANY OTHER SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES. TREMCO'S TOTAL LIABILITY OVER THE LIFE OF THE WARRANTY, SHALL NOT IN ANY EVENT EXCEED IN DOLLAR VALUE THE INSTALLED CONTRACT PRICE OF THE TRS AS IT APPEARS ABOVE. THIS TOTAL LIABILITY SHALL BE PRO-RATED ON A STRAIGHT LINE BASIS OVER THE LIFE OF THE WARRANTY, AND TREMCO'S LIABILITY SHALL NOT EXCEED SUCH PRO-RATED AMOUNT. TREMCO SHALL NOT BE LIABLE FOR ANY DAMAGES WHICH ARE BASED UPON NEGLIGENCE, BREACH OF WARRANTY, STRICT LIABILITY OR ANY OTHER THEORY OF LIABILITY OTHER THAN THE EXCLUSIVE LIABILITY SET FORTH IN THIS WARRANTY.

The Owner agrees that this Warranty, and the Services and remedies set forth herein, are sole and exclusive, and there are no other warranties between the Owner and Tremco. Any unresolved issues under this Warranty shall be submitted to the exclusive jurisdiction of the state or federal courts of Cuyahoga County, Ohio, and governed by Ohio law without regard to choice of law principles.

TREMCO INCORPORATED
ROOFING & BUILDING MAINTENANCE DIVISION

By: Robert C Nelson

Title: Warranty Administrator

Date: November 20, 2014

Malarkey Roofing Products™

YOUR CHOICE
WARRANTY PROGRAM

LEGACY®

Northwest XL™

HIGHLANDER-CS™

Malarkey Roofing Products™

Attention: Warranty Department
P.O. Box 17217
Portland, OR 97217-0217

Place
37¢
Stamp
Here

YOUR CHOICE WARRANTY PROGRAM
MALARKEY LAMINATED SHINGLE WARRANTYS

LIMITED PRODUCT WARRANTY:

Malarkey Roofing Products warrants to the original home/building owner that the Malarkey shingles ins[illegible]d upon their roof carry a limited pro-rated warranty that the shingles are free from manufacturing d[illegible] subject to the conditions and limitations listed below.

RIGHT START PERIOD:

If, during the Right Start Period as listed in Table 1, the shingles are found to have manufacturing defects, Malarkey shall at its option repair, replace or provide payments (which can, at Malarkey's option, be fulfilled by providing replacement materials) to the owner of the roof of the defective material. The maximum liability shall be equal to the dollar limit expressed in Table 1, plus reasonable installation costs as defined by RS Means.

After the Right Start Period, the maximum repair, replacement or payment (which can, at Malarkey's option be fulfilled by providing replacement materials only), for defective materials which cause leaks shall be an amount not to exceed the maximum dollar liability expressed in Table 1, less a percentage based on the number of months elapsed in the warranty period divided by the number of months of the Limited Product Warranty, set forth in Table 1, less all sums previously paid under this warranty.

LIMITED WIND WARRANTY:

Malarkey warrants that for up to five years from the date of installation the Malarkey shingles will resist damage from winds up to the wind speed listed in Table 1, subject to the terms and limitations listed below.

Malarkey's wind warranty applies only if the shingles are sealed, whether by hand sealing or by activation of the self sealing strips. Hand sealing is strongly recommended when the average daytime temperature is not sufficient for the shingles to self-seal during installation. Malarkey's liability under this section is, at its option to repair or replace the defective shingles, or to pay to the owner an amount not exceeding the dollar limits expressed in Table 1. In high wind areas as listed by the National Weather Service, Malarkey strongly recommends that the shingles be attached with six (6) nails as per Malarkey's printed instructions.

LIMITED ALGAE BLOCK WARRANTY:

Should the shingles you purchased be equipped with the 3M Algae Block System, Malarkey warrants that the shingles will resist discoloration or staining due to algae growth, which causes an obvious and unsightly appearance on the granules, for a period of fifteen (15) years from the date of installation subject to the c[illegible]ons and limitations listed below.

Malarkey's sole liability under this section is to, at its option, repair or replace the defective shingles or to pay to the owner an amount not exceeding the dollar limits expressed in Table 1, and reasonable installation costs as defined by RS Means.

For the first twelve (12) months from the date of installation, the payment to the owner for those shingles which exhibit discoloration due to algae will be an amount not exceeding the dollar limits expressed in Table 1 plus reasonable installation costs as defined by RS Means for your area. During the remaining 14 year (168 months) warranty period, the maximum repair or replacement payment will be an amount not to exceed the maximum dollar liability expressed in Table 1, less a percentage which is based on the number of months elapsed in the warranty period divided by the fifteen (15) years (180 months) warranty period. Any costs in excess of the pro-rated adjustment are the owner's responsibility.

TRANSFERABILITY:

During the Right Start period the warranty may be transferred to the subsequent owner, after notification to Malarkey as described below.

Once the transfer of the warranty has taken place, the new owner's warranty period shall be for 10 years from the date of transfer, and shall be limited to the standard Limited Product Warranty, Limited Wind Warranty and Limited Algae Block Warranty (if the product is equipped with 3M's Algae Block Copper Granule system).

To transfer the warranty, the current holder of the warranty must notify Malarkey in writing within tl (30) days from the date of title to the property has changed. The following information must be provided; the name and address of the current holder of the warranty, the date of the original completed installation, proof of purchase, the Malarkey warranty number, the address on which the shingles are installed, the name and address of the new owner, and date of title transfer.

If Malarkey is not notified of the transfer as outlined above, the warranty shall not transfer and Malarkey will have no further liability.

TABLE 1

Shingle	Term	Wind	Right Start Period	Dollar limit/Sq.
Highlander-CS	360 months	60 mph	3 years	$30
Northwest-XL	480 months	80 mph	5 years	$40
Legacy	600 months	110 mph	10 years	$55
Legacy w/AB	600 months	110 mph	10 years	$60

EXCLUSIONS:

This warranty covers only manufacturing defects in Malarkey shingles. It does not cover other products such as flashing and metal work or damages to shingles which is attributable in whole or in part to other causes including, but not limited to:

1. Improper installation or installation not in accordance with Malarkey's written instructions.
2. Improper ventilation. At minimum, ventilation must comply with FHA Minimum property standards.
3. Improper storage.
4. Traffic on the roof.
5. Defects in or failure of flashing or metal work or material used as a roof face over which the shingles are applied.
6. Equipment installations, structural changes or other alterations to the roof after application of the shingles.
7. Settlement, distortion, failure or cracking to the roof decks, walls or foundations of the buil
8. Variation in color (shading), which may occur from the positioning of colored granules on the shingles.
9. Granule sloughing due to excessive granules on the shingles.
10. Impact of foreign objects.
11. Violent or unusual weather conditions, such as flood and other acts of God.
12. Fire and other casualties.

All shingles, which contain a factory applied self sealing strip must be subjected to sunlight for several days before full sealing will occur. Shingles installed in the fall or winter may not seal until the following spring; consequently, the shingles should be hand sealed. Shingles which do not receive direct sunlight or which are not exposed to adequate surface temperatures may never seal. This is the nature of the shingles and failure to seal down under such circumstances is not a manufacturing defect. If any self sealing shingles that have been exposed to adequate temperatures and direct sunlight fail to activate the self sealing strips during the first year after application, Malarkey will have no liability under this warranty for such defects unless proper written notification has been made and Malarkey has been allowed the opportunity to hand seal any non-sealed shingles at its own expense.

CLAIMS PROCEDURE:

1. Claims made under the listed warranties shall be made in writing by certified or registered mail within 30 days of discovery and prior to any repairs being made and accompanied by proof of purchase.
2. Malarkey will be given the opportunity to inspect the roof and to be provided with samples before any steps are taken to repair the roof. Any repairs made prior to or during the investigation period without Malarkey's prior written approval, will be at the owner's expense.
3. After verification that the shingles are defective, Malarkey will perform its obligations under these warranties within forty-five (45) days of receipt of notice, unless performance is delayed by causes beyond Malarkey's control. Any cost in excess of the prorated adjustment will be the owner's responsibility.

THE ABOVE LISTED LIMITED PRODUCT WARRANTY, LIMITED WIND WARRANTY AND LIMITED ALGAE RESISTANCE WARRANTY ARE THE ONLY EXPRESSED WARRANTIES MADE BY MALARKEY IN CONNECTION WITH THE SALE OF ITS PRODUCT. NO PERSON IS AUTHORIZED TO ALTER THESE LIMITED WARRANTIES EITHER ORALLY OR IN WRITING. MALARKEY WILL NOT BE LIABLE FOR DAMAGE TO ANY BUILDING OR CONTENTS OR INJURY TO PERSONS OR FOR ANY CONSEQUENTIAL DAMAGES RESULTING FROM BREACH OF THE WARRANTY OR ANY OTHER WARRANTY OR CONDITION IMPLIED BY LAW OR OTHERWISE, INCLUDING ANY IMPLIED WARRANTY OR MERCHANTABILITY OR FITNESS. SOME STATES OR PROVINCES DO NOT ALLOW THESE EXCLUSIONS OR LIMITATIONS OR INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THIS EXCLUSION MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE AND FROM PROVINCE TO PROVINCE.

Malarkey reserves the right to discontinue or modify any of its products, including the color blend of said shingles, without notice to the owner and shall not be liable to the owner as a result of this modification or discontinuance.

This warranty will not be valid until the owner of the roof completes the attached selection and activation form and returns it to Malarkey at the address specified below within thirty (30) days of installation. Failure to comply with this condition shall void all warranties, express or implied, and the product shall be sold as is and without warranty.

The owner should retain all documents and proofs of purchase of Malarkey products for submission to Malarkey for validation of their claim.

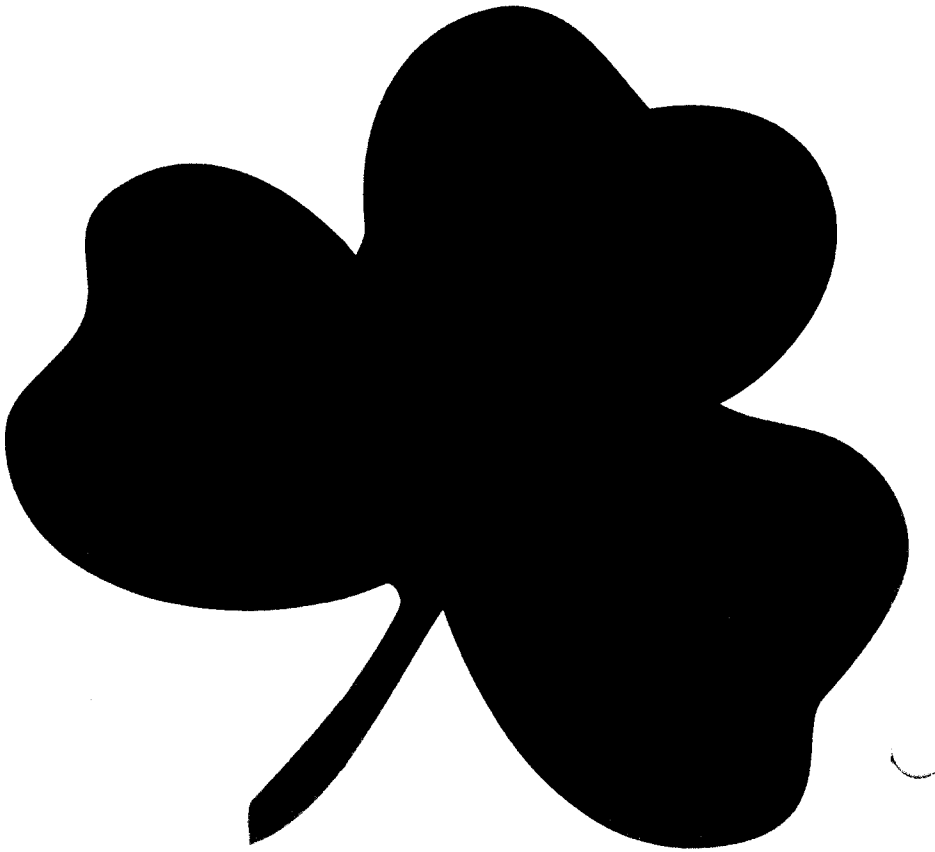
YOUR CHOICE WARRANTY SELECTION AND ACTIVATION:

Please fill out the attached WARRANTY SELECTION AND ACTIVATION FORM and send to Malarkey Roofing, Warranty Activation Service, PO Box 17217, Portland, OR 97217, within 30 days of the installation of the shingles.

Within 10 business days of receipt of this form, Malarkey will send you confirmation of your warranty selection and activation.

IF YOU DO NOT RECEIVE CONFIRMATION, PLEASE CONTACT MALARKEY AS YOUR WARRANTY COVERAGE MAY NOT BE ACTIVATED AND YOU MAY NOT HAVE WARRANTY PROTECTION.

*Note, should you have a Malarkey shingle equipped with 3M's Algae Block Copper Granule system, and the warranty you select does not offer warranty protection for Algae resistance, then the Malarkey Algae Block Warranty offered with your product will be the default warranty.



WARRANTY SELECTION AND ACTIVATION FORM PLEASE PRINT OR TYPE

Number of Squares installed 1760 **Installation Date** April 22, 2003

Your Name: Arlington High School

Address upon which the roofing is installed: 18811 Crown Ridge Blvd. Arlington Wa. 98223

The name & address of installer/firm Masterwork Roofing, Inc 2415 40th St. Everett, Wa. 98201

Color Midnight Black

Product Installed (please select one) Highlander-CS Northwest-XL (Legacy)

YOUR CHOICE WARRANTY PROGRAM: YOU MUST SELECT UNDER WHICH WARRANTY YOU WOULD LIKE COVERAGE. FAILURE TO MAKE A SELECTION WILL RESULT IN NO WARRANTY COVERAGE. DO NOT MAKE MULTIPLE SELECTIONS, SHOULD YOU MAKE MULTIPLE SELECTIONS IT WILL RESULT IN NO WARRANTY COVERAGE.

IF HIGHLANDER-CS IS INSTALLED ON YOUR ROOF, PLEASE SELECT ONE (1) OF THESE LISTED WARRANTIES FOR YOUR COVERAGE.

Mfg.	Product	Mfg.	Product
Malarkey	HIGHLANDER-CS	GAF	Timberline 30
Atlas	Pinnacle 35	IKO	Cambridge 30
Certainteed	Landmark 30	Owens Corning	Oakridge Pro 30
Elk	Prestique	Pabco	Premier 30
Emco	Harmony 30	Tamko	Heritage 30

IF NORTHWEST-XL IS INSTALLED ON YOUR ROOF, PLEASE SELECT ONE (1) OF THESE LISTED WARRANTIES FOR YOUR COVERAGE.

Mfg.	Product	Mfg.	Product
Malarkey	NORTHWEST-XL	GAF	Timberline Select 40
[illegible]	Pinnacle 45	IKO	Cambridge 40
[illegible]nteed	Landmark 40	Owens Corning	Oakridge Pro 40
Elk	Prestique I	Pabco	Premier 40
Emco	Harmony 40	Tamko	Heritage 40

IF LEGACY IS INSTALLED ON YOUR ROOF, PLEASE SELECT ONE (1) OF THESE LISTED WARRANTIES FOR YOUR COVERAGE.

Mfg.	Product	Mfg.	Product
Malarkey	(LEGACY)	IKO	Cambridge 50
Atlas	Stormmaster	Owens Corning	Dynasty
Certainteed	Landmark 50	Pabco	Oakridge Pro 50
Elk	Architect 80		Premier 50
Emco	Prestique Plus		Premier Advantage
GAF	Harmony 50	Tamko	Precise
	Timberline Ultra		Heritage 50

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APPENDIX 2: PORTABLE CLASSROOM FEASIBILITY STUDY

ARLINGTON
Public Schools

ARLINGTON PUBLIC SCHOOLS

Portable Classroom Feasibility Study

29 JANUARY 2021

McGRANAHAN architects

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PROJECT TEAM LIST

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RC Cost Group

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EXECUTIVE SUMMARY

Project Description & Scope

To accommodate projected student growth within the boundary of Arlington Public Schools, the District is looking for opportunities to add classroom space in 2021. To assess viable locations for portable classroom buildings, McGranahan Architects, Harmsen Engineering, and BCE Engineering were tasked to conduct a Portable Classroom Feasibility Study to look at five different school sites; Eagle Creek Elementary, Kent Prairie Elementary, Pioneer Elementary, Presidents Elementary, and Stillaguamish Valley Learning Center.

For the purpose of this study we assumed that each portable unit will:

- Have two classrooms where a double unit (roughly 64 feet by 28 feet) can be accommodated;
- Include one toilet room per classroom;
- Be set on permanent, concrete foundations; and
- Be modular and built off site, wood construction, without fire sprinklers, Construction Type VB.

Each of the five sites were evaluated to determine potential locations where a portable could physically fit and then each potential location was evaluated regarding:

- Relationship to the existing school;
- ADA Accessibility;
- Building and Municipal Codes;
- Availability and access to power, water, and sanitary sewer;
- Location of existing utility easements that must remain clear; and
- Impacts on existing playgrounds and play fields, drive aisles, and parking areas.

A site diagram is provided for each site showing each studied location and are accompanied by a narrative stating the pros and cons of placing a portable in that location, as well as a cost estimate based on installation of the portables beginning June 2021. The potential sites shown in this report were also vetted by the Principals at each school for their potential operational benefits or challenges.

Applicable Codes

2015 International Building Code (IBC) in Education (E) Occupancies:

- Chapter 6 Types of Construction, Table 602 Fire-Resistance Rating Requirements for Exterior Walls Based on Fire Separation Distance: Construction Type VB may have zero fire rated walls if the portables are separated a minimum of 10 feet apart.
- Chapter 9 Fire Protection and Life Safety Systems: Section 903.2.3 states an automatic sprinkler system is not required in fire areas less than 12,000 square feet in area or if there is a direct exit to the exterior from each classroom at ground level.

Arlington Municipal Code:

- Table 20.72-1 Parking Requirement: 5.110 states 1.75 parking spaces are required per classroom for elementary schools.

Feasibility Study Cost Estimate

Each option on all five school sites was estimated as a separate construction project, including purchase and placement of the portable(s) and water/sewer/power routing and connections. In addition to direct construction costs, we have assumed an allowance of 36.85% for indirect costs including sales tax, equipment, furniture, technology, design fee, permitting and construction contingency. A design/bid/build project delivery was assumed, as well as the modular unit purchase through KCDA, and a construction start date of June 2021.

The construction and total project estimates for each site are as follows:

	Construction Costs	36.85% Indirect Costs	Total Costs
Eagle Creek Elementary			
Option A - two double portables	$882,711	$325,279	$1,207,990
Option B - two double portables	$889,968	$327,953	$1,217,921
Option C - two double portables in addition to Option B	$904,983	$333,486	$1,238,469
Kent Prairie Elementary			
Option A - two double portables	$879,535	$324,109	$1,203,644
Option B- two double portables	$803,135	$295,955	$1,099,090
Pioneer Elementary			
Option A- two double portables	$776,234	$286,042	$1,062,276
Option B- two double portables	$845,790	$311,673	$1,157,463
Option C- one single & one double portable	$655,040	$241,382	$896,422
Presidents Elementary			
Option A- two double portables	$885,175	$326,187	$1,211,362
Option B- two double portables in addition to Option A	$737,731	$271,854	$1,009,585
Option C- two double portables in addition to Options A & B	$708,739	$261,170	$969,909
Stillaguamish Valley Learning Center			
Option A- one double portable	$440,924	$162,480	$603,404
Option B- one double portable in addition to Option A	$419,571	$ 154,612	$574,183

All construction costs include a 12.5% estimating and design contingency and a 3.75% escalation factor.

EAGLE CREEK ELEMENTARY

Campus Information

1216 East 5th Street, Arlington, WA 98223
Snohomish County
Tax parcel No.: 31051200200300

Existing Main Building Classrooms: 34
Existing Portable Classrooms: 2
Existing Parking Stalls Required: 36 x 1.75 = 63
Existing Parking Stalls Provided 77

Eagle Creek Elementary is located immediately south of Post Middle School and east of Stillaguamish Valley Learning Center. All three campuses share an entrance off East 5th Street, one lane in each direction. The elementary school's existing parking count is 77 but has the capability of overflowing into the gravel lot in the power and light right-of-way that separates Eagle Creek from the Learning Center, or in the Learning Center's paved parking lot.

The sewer main is on the west side of the building with no other extension. Water is available around the building. Fire hydrant coverage appears to be adequate; there are four on site. Both the sewer and water mains have easements that buildings cannot cover. The fire lane also circles the main building and cannot be impacted by construction.

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Option A

Option A places two double portables southwest of the main building, between the west parking lot and the existing hardscape play area. This location is desirable because of its proximity to the sewer main and allows a gravity feed system, water is readily available. The arrangement also provides an edge to the playground without interfering with security sight lines from the main building across the west half of the playground, and does not impact the existing fire lane. The structures would replace existing paving and add additional impervious area. The challenge to this location is the loss of hardscape play area.

The units straddle the existing playground's west edge fence and cover one lane of parking in the west lot in order to minimally reduce the quantity of the hardscape play area. Entry ramps would be located at the classroom main entrances facing west. Portables would be placed on concrete foundations and require the removal of the existing asphalt and regrading of the area to make a level building pad. Both structures must be located outside the water easement and outside the power and light 55 foot setback from the large power poles. A two lane sliding or swing gate south of the portables will secure the playground during school hours. The diagram also shows a concept to restripe the west lot to accommodate a second queuing line for parents. This will help reduce the number of cars backing up on to East 5th Street.

With the addition of 4 new classrooms, 70 total parking stalls are required for the site. This portable placement and the west lot restriping for queuing deletes 27 stalls from the existing 77, leaving 50; 20 additional stalls are required. If the adjacent Stillaguamish Valley Learning Center maximizes their portable classroom build out, they will require 25 parking stalls where 51 are provided. Eagle Creek would count 20 of SVLC's remaining 26 stalls toward their parking totals. The alternative is to extend and permit SVLC's existing parking lot in the power right-of-way which is not included in the study estimate.

The existing power service is located in the southeast corner of the Gymnasium wing and routing power to the southwest corner would incur substantial costs due to the extreme distance from the existing service. If **Option A** is selected, an alternative power source, a 480V feeder with transformer, is required. Routing low voltage systems to this location is viable.

In **Option A**, a new water meter and service line would be provided to serve both portables from the existing water main immediately to the northeast. Sanitary sewer service to the existing elementary building is from the northwest so a manhole would saddle over existing sewer main and a new pipe extended to the south at minimum grade, terminating in a second manhole by the proposed portables. Side sewers would extend from the new main to serve the facilities. Placing the portables on the existing impervious paving does not currently require additional storm drainage controls for detention. There is the possibility that infiltration might be required as a Low Impact Development regulation. At present, roof drains are proposed to be discharged onto the existing pavement surface to drain into the current storm collection system.

Option A Estimate Summary

Site Preparation: $35,579
Site Improvements: $438,265
Site Mechanical Utilities:$59,630
Site Electrical Utilities: $78,160
Subtotal: $611,634
Estimating/Design Contingency: $76,456
Gen. Conditions, Fee, Bonds & Insurance: $181,187
Escalation: $13,437
Total Construction Costs: **$882,711**

In addition to the cost of purchasing and placing portables, the estimate includes demolition of asphalt,regrading, asphalt patching, routing water/sewer/power to the building site, a 480V feeder with transformer, restriping of the west parking lot, and chain link fencing with a sliding gate.

Option B

Option B includes scope to demolish the two existing single room portables and wood ramps, and replace them with two double portables with a shared landing and ramp between. This location was considered as it is already home to portables, does not decrease the hardscape play area, water is readily available, and placement does not impact the existing fire lane. Connecting to the sewer main is slightly more difficult than **Option A** as it requires a pump to move discharge to the northwest corner of the site. Additional

storm drainage is also required as the portables create more impervious area to the campus.

Option B portables sit across the fire lane from the main building's east wing exit and will be placed on concrete foundations requiring clearing and stripping of the ground surface. Both buildings must sit outside the water easement which sets the west elevation of the portables roughly 9'-6" off the fire lane curb.

With the deletion of 2 portable classrooms and the addition of 4 new classrooms shown in **Option B**, 67 parking stalls would be required for the site, 77 are provided assuming there are no changes to the west lot. If the west lot were restriped to accommodate three lanes, 17 stalls in the Learning Center's parking lot, from their excess of 26, would be dedicated to Eagle Creek.

As power is located in the southeast corner of the Gymnasium wing, routing power to the east side of the site is feasible and has been done for the two existing portables proposed to be demolished. New feeds from the sub-distribution panel in the main electrical room is required. Low voltage systems cabling could be routed to this location with minimal effort.

Work includes a new water meter and service line to serve both portables from the existing water main immediately to the west in the fire lane. There is no sanitary service on the east side of the main building so a sewer pump would be installed with a force main that runs around the north side of the building to the administration courtyard and the pump system would be sized to handle additional portables. A 2 foot wide by 1.5 foot deep drain rock filled trench will infiltrate collected roof drains. The length of the trench will be determined by geotechnical testing performed as part of the permit process with the City of Arlington, assuming infiltration in the local soils is viable.

Option B Estimate Summary

Site Preparation: $45,499
Site Improvements: $419,663
Site Mechanical Utilities:$118,080
Site Electrical Utilities: $33,420
Subtotal: $616,662
Estimating/Design Contingency: $77,083
General Conditions, Fee, Bonds and Insurance: $182,676
Escalation: $13,547
Total Construction Costs: **$889,968**

In addition to the cost of purchasing and placing portables, the estimate includes demolition of two existing portables, stubbing off the adjacent water line, routing a sewer line with pump around the north side of the main building, connecting power to the main electrical room, and constructing a drainage trench for storm water.

Option C

Option C proposes two additional double portables are added to Option B at the same time, or at a later date. Similar to **Option B**, a shared landing and ramp would be located between the units, and to avoid game time accidents, the chain link baseball backstop to the south would be demolished an rebuilt shifted to the east.

With the addition of 4 classrooms to **Option B**, 74 parking stalls are required for the site, 77 are provided assuming there are no changes to the west lot. If the west lot were restriped, 24 stalls in SVLC's parking lot, from their excess of 26, would be dedicated to Eagle Creek.

Similar to Option B, power for the two new portables would be connected to the sub-distribution panel in the main electrical room. If the existing service cannot accommodate four additional classrooms, a new service could be derived from the existing service transformer.

The additional two portable structures would utilize the sewer and water infrastructure installed for **Option B**. Additional storm infiltration trenches would be provided at the time of installation, similar to **Option B**.

Option C Estimate Summary

Site Preparation: $38,505
Site Improvements: $432,766
Site Mechanical Utilities:$118,080
Site Electrical Utilities: $37,715
Subtotal: $627,065
Estimating/Design Contingency: $78,383
General Conditions, Fee, Bonds and Insurance: $185,758
Escalation: $13,776
Total Construction Costs: **$904,983**

If the location of **Option C** were selected in lieu of **Option B**, the costs for **C** are assumed to be the same as for **B**.

5' BUILDING SETBACK
MULTIPURPOSE ROOM
REST-ROOMS
ADMIN.
10' UTILITY EASEMENT
WATER LINE
SANITARY SEWER
EAGLE CREEK ELEMENTARY
NEW SEWER LINE WITH PUMP FOR OPTIONS B AND C
EXISTING TRANSFORMER
B
B
C
C
NEW FORCE MAIN SEWER LINE FOR OPTION A
NEW STRIPING TO CREATE DOUBLE QUEUING LINE
PROPOSED NEW TRANSFORMER
A
A
55' SETBACK
55' SETBACK
100' PUGET SOUND POWER & LIGHT CO. EASEMENT (BAKER RIVER TRANSMISSION LINE)
THE PORTABLES WILL BE SUBDIVIDED TO BE 2 CLASSROOMS AT 850 SF EACH. ONLY ONE EXIT FROM EACH ROOM WILL BE REQUIRED.
NEW FENCE AND GATE
EXISTING WATER LINE AND EASEMENT
RELOCATED BACKSTOP IN OPTION C
APPROXIMATE FUTURE EDGE OF PAVING TO BE EXPANDED
PROJECT NORTH
5' BUILDING SETBACK
APPROXIMATE 20' EMERGENCY ACCESS EASEMENT

View from the southwest corner of the Eagle Creek Campus toward the proposed portable locations in Option A.

View from the west wing of the main building toward the proposed portable locations in Option A.

View from the southeast corner of the Eagle Creek Campus toward the proposed portable locations in Options B and C.

View from the northeast corner of the Eagle Creek Campus toward the proposed portable locations in Options B and C.

KENT PRAIRIE ELEMENTARY

Campus Information

1216 East 5th Street, Arlington, WA 98223
Snohomish County
Tax Parcel No: 31051200200300

Existing Main Building Classrooms:33
Existing Portable Classrooms: 4
Existing Parking Stalls Required: 37 x 1.75 = 65
Existing Parking Stalls Provided 71

Kent Prairie Elementary is lined on the west, north, and east by local roadways, and single family housing to the south. Buses enter and exit the site separate from visitors who only have one entry/exit. A study to possibly add parking and to reconfigure parent drop off/pick up traffic is being conducted separately from the portable feasibility study. If the selected option requires additional parking, it could be accommodated through the site circulation project. Parent traffic will likely enter the site from the southwest corner of the campus, therefore no portable options are proposed on the south half of the existing play fields.

The sewer main is on the west side of the building with no other extension. Water is available around the building. Fire hydrant coverage appears to be adequate; there are four on site. Both the sewer and water mains have easements that buildings cannot cover. The fire lane also circles the main building and cannot be impacted by construction.

In 2018, two double portables were placed west of the main building, across the fire lane. New power utility was brought to the site from 207th Street Northeast and no plumbing currently exists but costs have been provided in Options A and B to stub utilities for restrooms.

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Option A

Option A presents the potential of placing two double portables west of the existing portable classrooms that were installed in 2018, creating a portable cluster. This location is desirable because it does not impact the existing fire or bus lane or safety and security site lines from the main building across the playground. Water is available immediately east in the fire lane, and power and sewer connections can be made to the north at 207th Street Northeast.

Entry ramps would be located at the classroom main entrances facing east. Portables would be placed on concrete foundations and require fill to create a level building pad. The new structures would be well outside the water easement. A new t-shaped walking path would be added from the fire lane stretching to the new portable classroom ramps. The fire lane sliding gate would remain to prevent general traffic from entering the playground during school hours.

With the addition of 4 new classrooms, 72 parking stalls would be required for the site and 71 are provided. As noted above, the one additional required stall could be addressed as part of the overall site circulation improvement project.

Power to the two existing portable structures is fed from a utility separate from the main building, located just north of the portable cluster. The two new portables could be powered in the same manner. Upgrading the existing service to a 3-phase, 400A service with a new distribution panel to feed all four portables is included in the estimate.

The new portable classroom structures would be placed on concrete foundations which require clearing and stripping of the ground surface. The field descends to the west with slopes between 5 and 7 percent, so to meet ADA requirements the foundations need to be elevated with imported structural fill, with 3:1 slopes descending to the current grade. A new water meter and service line would be provided from the existing water main immediately to the east along the edge of the paved play area. It is assumed the new meter will provide potable water to both the existing and new portable structures. The existing sanitary sewer main is located north near 207th Street Northeast. A new side sewer would be connected to that main and a 6 inch PVC pipe extended south to also serve existing and new portables. Roof drains would be collected and infiltrated using a 2 foot wide by 1.5 foot deep drain rock filled trench. The length of the trench would be determined by geotechnical testing performed as part of the permit process with the City of Arlington. The 2018 portables each required 54 linear feet of trench.

Option A Estimate Summary

Site Preparation: $68,966
Site Improvements: $432,777
Site Mechanical Utilities:$47,380
Site Electrical Utilities: $60,310
Subtotal: $609,432
Estimating/Design Contingency: $76,179
General Conditions, Fee, Bonds and Insurance: $180,535
Escalation: $13,388
Total Construction Costs: **$879,535**

In addition to the cost of purchasing and placing portables, **Option A**'s estimate includes clearing and regrading of the play field for the building pad,routing water and sewer lines to the building site for both new and existing portables, adding a new power distribution panel, constructing two drainage trenches for storm water, paving from the fire lane to the portable ramps, and chain link fencing to separate the portable cluster from the field.

Option B

Option B was studied to place two new double portables between the covered play shed and the main building. This location was considered because it would not impact the fire or bus lanes, is sits outside the water easement, the structures would replace existing paving and not add additional impervious area, and it is adjacent to the main building. **Option B** is not recommended as it greatly impacts security and safety sight lines across the playground, and the positioning also takes away precious hardscape play.

Entry ramps would be located at the classroom main entrances which face each other to allow for a shared landing and ramp between. The portables will be placed on concrete foundations requiring the removal of the existing asphalt and regrading of the area to make a level building pad.

If the concept were to be developed, power would come from the southeast corner of the Gymnasium wing. Routing power to the southwest side of the site is feasible, but would incur substantial costs due to the extreme distance. A 480V service

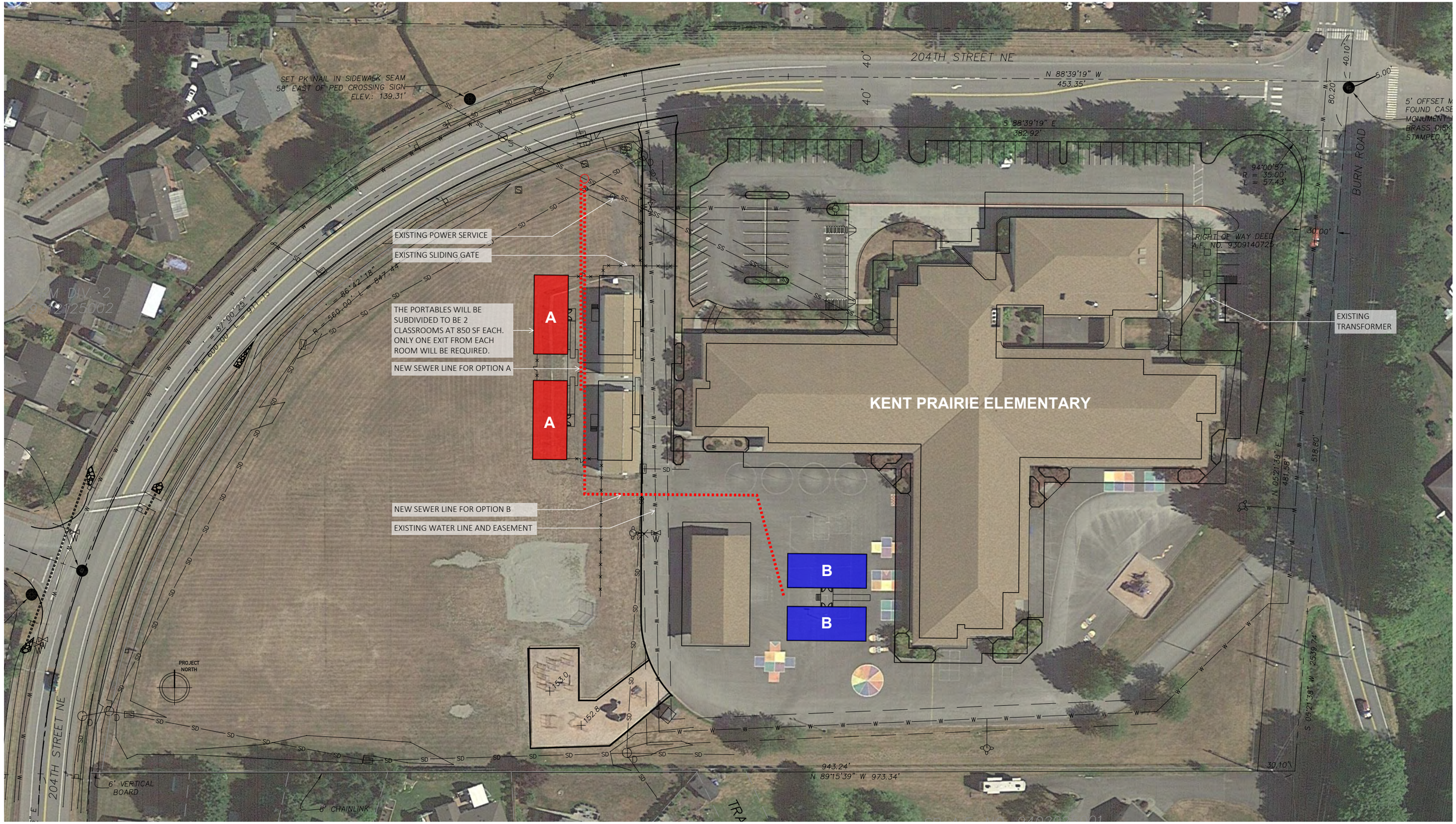
with step-down transformer to limit feeder costs is reflected in the estimate. Low voltage cables would be routed parallel to the power raceway.

If the portables were placed on concrete foundations, existing asphalt would be removed and regrading of the pad area with crushed rock would be required. To reroute runoff around the buildings, additional grading would also be required. The existing sanitary sewer main is located north near 207th Street Northeast. A new side sewer would be connected to that main and a 6 inch PVC pipe extended south to also serve existing and new portables. Placing the portables on the existing impervious paving does not currently require additional storm drainage controls for detention. There is the possibility that infiltration might be required as a Low Impact Development regulation. At present, roof drains are proposed to be discharged onto the existing pavement surface to drain into the current storm collection system.

Option B Estimate Summary

Site Preparation: $14,500
Site Improvements: $422,055
Site Mechanical Utilities:$52,580
Site Electrical Utilities: $67,410
Subtotal: $556,495
Estimating/Design Contingency: $69,562
General Conditions, Fee, Bonds and Insurance: $164,853
Escalation: $12,225
Total Construction Costs: **$803,135**

In addition to the cost of purchasing and placing portables, the estimate includes demolition of asphalt,regrading, asphalt patching, routing water and sewer lines to the building site, and power service with a step down transformer.


204TH STREET NE
SET PK NAIL IN SIDEWALK SEAM
58' EAST OF PED CROSSING SIGN
ELEV.: 139.31'
N 88°39'19" W
453.35'
S 88°39'19" E
382.92'
40'
40'
40.10'
80.20'
5.00'
BURN ROAD
30.00'
RIGHT OF WAY DEED
A.F. NO. 9309140725
Δ= 94°00'57"
R = 35.00'
L = 57.43'
EXISTING POWER SERVICE
EXISTING SLIDING GATE
THE PORTABLES WILL BE SUBDIVIDED TO BE 2 CLASSROOMS AT 850 SF EACH. ONLY ONE EXIT FROM EACH ROOM WILL BE REQUIRED.
NEW SEWER LINE FOR OPTION A
NEW SEWER LINE FOR OPTION B
EXISTING WATER LINE AND EASEMENT
EXISTING TRANSFORMER
A
A
B
B
KENT PRAIRIE ELEMENTARY
PROJECT NORTH
Δ= 87°00'29"
R = 600.00'
L = 911.13'
Δ= 86°42'18"
R = 560.00'
L = 847.44'
N 05°21'38" E
481.58'
518.80'
S 05°21'38" W
2539.74'
943.24'
N 89°15'39" W 973.34'
30.10'
6' VERTICAL BOARD
6' CHAINLINK
+153.0
+152.8

View of the existing fire lane sliding gate and the power service established with the installation of the existing portables

View from the play equipment southwest of the main building and south of the existing portable classrooms

View of the back side of the existing portable classrooms and proposed new portable locations in Option A

View of the hardscape play area studied in Option B

PIONEER ELEMENTARY

Campus Information

8213 Eaglefield Drive, Arlington, WA 98223
Snohomish County
Tax Parcel No: 00857400002100

Existing Main Building Classrooms:30
Existing Portable Classrooms: 0
Existing Parking Stalls Required: 30 x 1.75 = 53
Existing Parking Stalls Provided 166

Pioneer Elementary is surrounded by Highway 9 to the east, wetlands to the west, and private property to the north. All automobile traffic enters campus from the south and parents follow the fire lane around the building counterclockwise for drop off/pick up, while buses move northward and loop around the west parking lot. All traffic exits to the south.

Gated access to the retention pond is located in the northwest corner of the site and must remain clear of any new structures. Chiller and trash enclosures are north of the main building flanking the fire lane.

Power stubs from the electrical room are located in the existing courtyard and near the pond access marked for "future portables." Neither of these locations are viable for new portable classrooms as the buildings would sit inside utility easements and block the pond access which must remain clear. Any new structures must to be outside of utility easements nor can construction block or impact the fire lane.

The sewer main follows the west property edge. Water is available around the building. Fire hydrant coverage appears to be adequate; there are five on site.

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Option A

Option A places two double portables in the play field parking lot, south of the main building. The play fields and adjacent parking are frequently used evenings and weekends by the public so there would be a negative impact by placing portables at this location. It is also quite isolated from the playground, majority of the student population, and main building amenities. This site is desirable because there is an accessible route to the main building, water and sewer are readily available, it does not impact the fire lane, and placing portables on existing asphalt does not add additional impervious area.

Entry ramps would be located at the classroom main entrances facing the fields. The portables will be placed on concrete foundations requiring the removal of the existing asphalt and regrading of the area to make a level building pad.

With the addition of 4 new classrooms, 60 parking stalls would be required for the site. **Option A** deletes 29 of the existing 168 stalls leaving 139; no new are required to be created.

Portables are roughly 500 and 560 feet away from the existing power and systems stubs. Electrical site as-builts indicate conduit stubs to a location just north of the fields. Utilizing these, if available, would reduce distances to 230 and 290 feet and trenching to the locations should be straight-forward, however the distance from the electrical room may necessitate a 480V feeder and a transformer to reduce voltage drop.

Concrete foundations require removal of the existing asphalt and regrading the pad area with crushed rock. Grading would also be required to route upslope runoff around the pads. A new water meter and service line serving both buildings would be provided from the existing water main immediately to the west. Sanitary sewer service would be provided by new side sewers from the existing main also to the west. Placing the portables on existing impervious paving generally does not require additional storm drainage controls in this soil type. Roof drains could be collected in 6 inch PVC pipe and conveyed, along with any upstream flows, to the existing stormwater system located in the northwest corner of the parking lot.

Option A Estimate Summary

Site Preparation: $25,800
Site Improvements: $417,215
Site Mechanical Utilities:$35,790
Site Electrical Utilities: $59,050

Subtotal: $537,855
Estimating/Design Contingency: $67,232
General Conditions, Fee, Bonds and Insurance: $159,331
Escalation: $11,816
Total Construction Costs: **$776,234**

In additional to the cost purchasing and placing portables, the estimate includes demolition of asphalt, regrading, asphalt patching, and routing water/sewer/power to the building site.

Option B

Option B includes scope to locate two new double portables west of the entry drive aisle, within the wetland buffer. Conferring with a wetland consultant is advised to pursue portable placement at this location. There is no room on site to mitigate, so the District would be looking at an off-site mitigation bank. Mitigation for wetland and buffer impacts would need to be negotiated with the local and potentially state jurisdictions. This location would also negatively add new impervious surface requiring additional stormwater controls. The benefit of locating portables west of the drive aisle is parking stalls and traffic are not affected, and utilities are readily available.

Entry ramps would be located at the classroom main entrances facing west. Roughly 150 linear feet of fence would be demolished to install the structures, and a new chain link fence would separate the wetlands from the portables.

With the addition of 4 new classrooms, 60 parking stalls would be required for the site, 168 are provided.

Similar to **Option A**, the portable classrooms are roughly 290 and 340 feet from the existing power and systems stubs. Trenching to the locations should be relatively straight forward, however the distance from the electrical room may necessitate a 480V feeder and a transformer to reduce voltage drop.

Concrete foundations would require retaining walls and imported structural fill. A new water meter and service line would be provided to serve both portables from the existing water main to the east. Sanitary sewer service would be provided by new side sewers from the existing main also to the east. The proposed location would add more than 5,000 square feet of new impervious surface and would require stormwater controls outside of those already on site.

Potentially the existing detention pond could be expanded; this would require negotiation with the City of Arlington.

Option B Estimate Summary

Site Preparation: $34,247
Site Improvements: $453,263
Site Mechanical Utilities:$42,880
Site Electrical Utilities: $55,660
Subtotal: $586,050
Estimating/Design Contingency: $73,256
General Conditions, Fee, Bonds and Insurance: $173,609
Escalation: $12,875
Total Construction Costs: **$845,790**

***Total civil costs for mitigating impacts to the existing wetland buffer have not been calculated.

In addition to the cost of purchasing and placing portables, the estimate includes clearing and regrading at building pads, routing water/sewer/power to the building site, crosswalk striping across the drive aisle, a gravel path around and between the portables, and chain link fencing to separate the portable cluster from the wetlands.

Option C

Option C places one single and one double portable along the western edge of the parking lot. This location was studied because of its close proximity to sewer and water, and placing portables on existing asphalt does not add additional impervious area to the site. Both structures are located outside of the water and sewer easements, which attributes to the single unit rather than a double. To move forward with **Option C**, the exact location of the sewer main needs to be confirmed via survey for building placement and to confirm a single is required. **Option C** also requires further study to modify bus and parent movement through the site as the portables block a drive aisle where vehicles exit south. Parking lot light poles and the fire hydrant may need to be relocated.

Entry ramps would be located at the classrooms main entrances facing west. With the addition of three new classrooms, 58 parking stalls would be required for the site. **Option C** deletes a minimum of 13 stalls leaving 155 provided.

The portable classrooms are roughly 120 and 170 feet from the existing power and systems stubs. Trenching to the locations are straight forward.

Concrete foundations require the removal of existing asphalt and regrading the area using crushed rock. Grading around the buildings will also require additional asphalt removal and replacement to provide for drainage around the portables. A new water meter and service line would be provided to serve both portables from the existing water main to the east. Sanitary sewer service would be provided by new side sewers from the existing main also to the east. Placing the portables on existing impervious paving generally does not require additional storm drainage controls in this soil type, but the foundations would block existing drainage routes. A new storm system would provide for catchbasins to be placed east of the portables to collect parking lot runoff. Roof drains will be collected in 6 inch PVC pipe and conveyed to the new stormwater collector.

Option C Estimate Summary

Site Preparation: $28,300*****
Site Improvements: $347,339
Site Mechanical Utilities:$44,480
Site Electrical Utilities: $33,760
Subtotal: $453,879
Estimating/Design Contingency: $56,735
General Conditions, Fee, Bonds and Insurance: $134,454
Escalation: $9,971
Total Construction Costs: **$655,040**

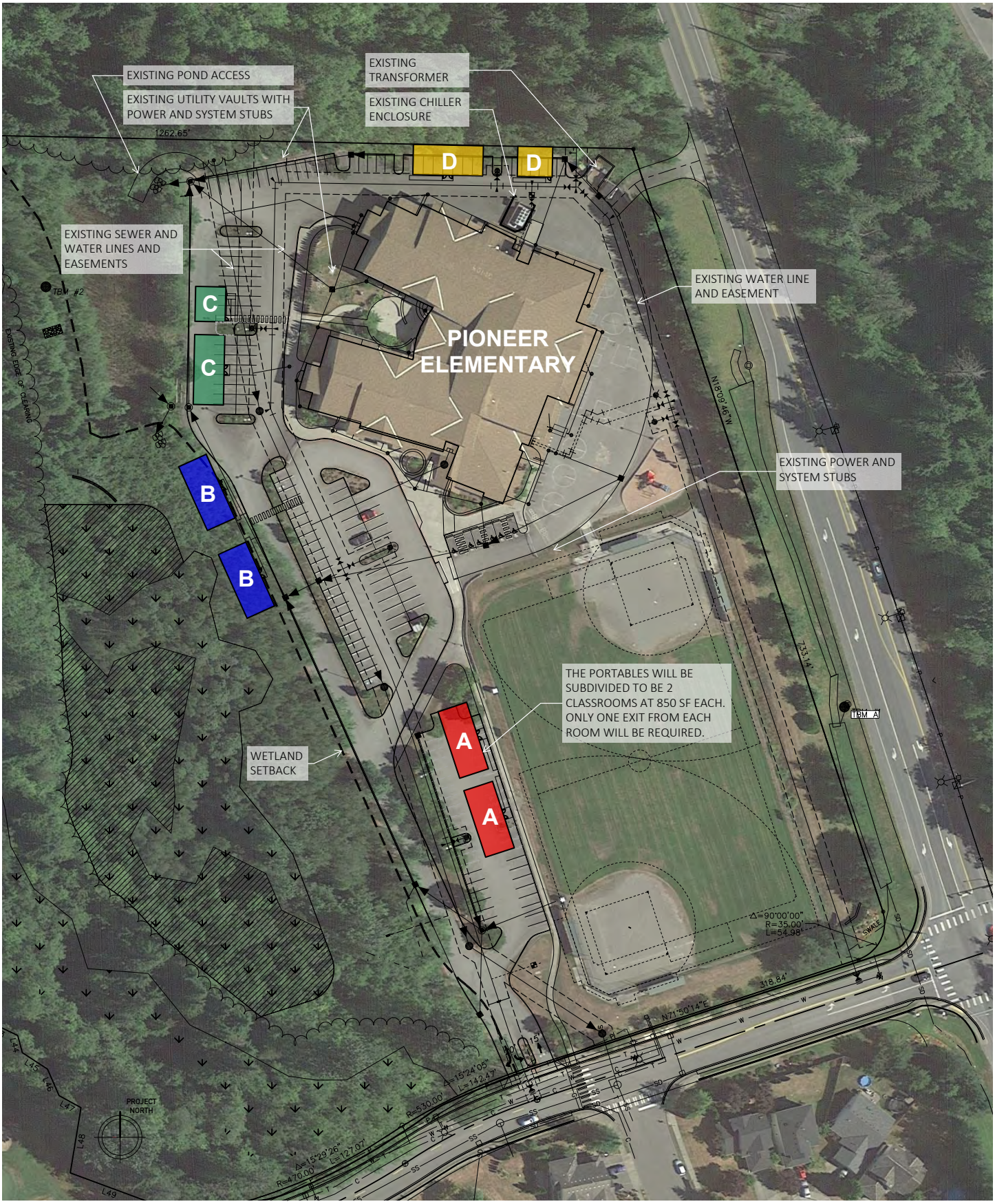
***Costs for parking lot modifications to accommodate changes in vehicle movement are not included in the estimate.

In addition to the cost of purchasing and placing portables, the estimate includes demolition of asphalt, regrading, asphalt patching, routing water and sewer to the building site, new catchbasins for storm water collection, and trenching to bring power from existing utility vaults.

Option D

Option D was briefly studied to place one single and one double portable on the north property line with the assumption a building setback variance would be approved by the City of Arlington. Neither was found to be viable locations as the structures significantly block the fire lane and encroach inside the water easement.

Option D pricing was not explored.


EXISTING POND ACCESS
EXISTING UTILITY VAULTS WITH POWER AND SYSTEM STUBS
EXISTING TRANSFORMER
EXISTING CHILLER ENCLOSURE
EXISTING SEWER AND WATER LINES AND EASEMENTS
EXISTING WATER LINE AND EASEMENT
PIONEER ELEMENTARY
EXISTING POWER AND SYSTEM STUBS
THE PORTABLES WILL BE SUBDIVIDED TO BE 2 CLASSROOMS AT 850 SF EACH. ONLY ONE EXIT FROM EACH ROOM WILL BE REQUIRED.
WETLAND SETBACK
A
A
B
B
C
C
D
D
PROJECT NORTH

View of the play field parking lot and proposed portable locations in Option A.

View of the wetland buffer along the west edge of the site and proposed portable locations in Option B.

View from the northwest corner of the site and proposed portable locations along the west edge in Option C.

View of the of the are north of the main building studied in Option D

PRESIDENTS ELEMENTARY

Campus Information

505 East 3rd Street, Arlington, WA 98223
Snohomish County
Tax Parcel No: 31050200401500

Existing Main Building Classrooms:34
Existing Portable Classrooms: 2
Existing Parking Stalls Required: 36 x 1.75 = 63
Existing Parking Stalls Provided 126, not including parking for the Arlington Public Schools Administrative Offices

Presidents Elementary is surrounded primarily by residential properties, with the exception of Arlington Public Schools Administrative Offices located immediately west of the campus. The school is located three blocks up the hill from downtown Arlington.

Power, sewer, and water for Presidents Elementary are located in the northwest corner of campus. Fire hydrant coverage appears to be adequate; there are five on site. The east half of the site was not studied for potential portable locations as it would not be cost effective to route services to the opposite side of the building and offered no tangible advantages. A double portable was recently added to campus and placed north of the fire lane, west of the main building, and adjacent to the sewer easement. Power and water were distributed to that area of the site which makes adding new portables north of the easement the most desirable and cost effective choice. The storm system adjacent to the existing portable is a City conveyance system, was previously avoided, and is unlikely the City will allow any additional structures over it. Buildings cannot cover sewer and water easements, and the fire lane circling the main building and cannot be impacted by construction.

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Option A

Option A places two double portables north of the existing portable and north of the sewer easement. Power and water were brought to this area of campus with the placement of the existing portable so branching to the new location is straight forward. The adjacent field provides room to add more than two double portables in **Option A**, or at a later date.

A shared landing and ramp would be located between the units leading to a new paved path. The path will stretch from the sidewalk to the west, to the fire lane near the rear vehicle entrance. Work would also include removing the chain link fence on the north edge of the sewer easement, and installing new fence north of the proposed portable cluster, stretching from the administrative parking lot to Gifford Avenue. Costs are included in the estimate to recreate the baseball backstop north of the portable cluster fence. To accommodate a District concern, a swing gate shall be constructed across the fire lane to prevent delivery and visitor vehicles from entering the portable area during school hours

With the addition of 4 new classrooms, 70 parking stalls would be required for the site; 126 are already provided.

Conduits and handholes were roughed-in for future portables when the existing portable was placed in 2018. The stubs are roughly 100 feet from the portable location. To accommodate these and future portables, costs for a 600A portable distribution panel are included in the estimate. Portables could be added without having to pull new power from the building.

The proposed portables would be placed on concrete foundations requiring clearing and stripping of the ground surface. A new water meter and service line would be provided from the existing water main immediately to the southeast of the existing portable. It is assumed this meter system will be used to serve all the portables shown in **Options A, B, and C**. The existing sanitary sewer line is immediately south of the proposed portable location. New side sewers will be connected to the main as needed. Due to the placement of the new concrete walk between the future portables and the sewer main, it might be advisable to install added connections for future portables prior to the installation of the walkway. Roof drains would be collected and infiltrated using a 2 foot wide by 1.5 foot deep drain rock filled trench. The length of the trench will be determined by geotechnical testing performed as a part of the permit process with the City of Arlington. Note that the existing portable required 80 linear feet of roof infiltration trench.

Option A Estimate Summary

Site Preparation: $21,024
Site Improvements: $456,249
Site Mechanical Utilities:$38,680
Site Electrical Utilities: $76,600
Subtotal: $592,554
Estimating/Design Contingency: $74,069
General Conditions, Fee, Bonds and Insurance: $175,535
Escalation: $13,018
Total Construction Costs: **$855,175**

In addition to the cost of purchasing and placing portables, the estimate includes a paved path, chain link fence north of the portable cluster, demolition of the existing fence at the sewer easement, a new baseball backstop, a swing gate across the fire lane, clearing and stripping the ground to prepare the building pads, a water meter and service line, sewer connections for **Option A, B, and C** under the proposed paved walk, infiltration trenches for storm water, and a 600A portable distribution center.

Option B

Option B provides two additional double portables west of **Option A**, adding to the portable cluster. Similar to **B**, a shared landing and ramp to the paved walk would be located between the units.

With the addition of 4 new classrooms to **Option A**, 77 parking stalls would be required for the site; 126 are provided.

Adding two more portables to **Option A** is simple with a portable distribution center already installed.

Each new portable would have its own sewer service from the main and its own roof infiltration, similar to **Option A**. The master meter installed for **Option A** would provide service for each. The proposed portables would be placed on concrete foundations requiring clearing and stripping of the ground surface.

Option B Estimate Summary

Site Preparation: $19,885
Site Improvements: $429,011
Site Mechanical Utilities:$33,680
Site Electrical Utilities: $28,600
Subtotal: $511,176
Estimating/Design Contingency: $63,897
General Conditions, Fee, Bonds and Insurance: $158,831
Escalation: $11,230
Total Construction Costs: **$737,731**

In addition to the cost of purchasing and placing portables, the estimate includes extending water/sewer/power to the two double portables, and two additional storm water infiltration trenches.

Option C

Option C provides two additional double portables east of **Option A**. Similar to **A and B**, a shared landing and ramp would be located between the units. Six portables at roughly 1,795 square feet each, spaced a minimum of 10 feet apart, still remain under the maximum threshold of 12,000 square feet allowed for non-sprinklered E Occupancy spaces.

With the addition of 4 new portables to **Options A and B**, 84 parking stalls would be required for the site; 126 are provided.

Similar to Option B, bringing the portable count up to six is simple with the previously installed 600 amp portable distribution center.

Each new portable would have it's own sewer service from the main and it's' own roof infiltration, similar to **Option A**. The master meter installed for **Option A** should provide service.

Option C Estimate Summary

Site Preparation: $18,188
Site Improvements: $413,379
Site Mechanical Utilities:$38,680
Site Electrical Utilities: $20,840
Subtotal: $491,087
Estimating/Design Contingency: $61,386
General Conditions, Fee, Bonds and Insurance: $145,477
Escalation: $10,789
Total Construction Costs: **$708,739**

In addition to the cost of purchasing and placing portables, the estimate includes extending water/sewer/power to the two new portables, and two additional storm water infiltration trenches.

THE PORTABLES WILL BE SUBDIVIDED TO BE 2 CLASSROOMS AT 850 SF EACH. ONLY ONE EXIT FROM EACH ROOM WILL BE REQUIRED.
RELOCATED BACKSTOP
NEW PAVED WALK
EXISTING SEWER LINE AND EASEMENT
EXISTING WATER LINE
PROPOSED SWING GATE
EXISTING POWER VAULTS
B
B
A
A
C
C
EXISTING PORTABLE
ARLINGTON PUBLIC SCHOOLS ADMIN. OFFICES
PRESIDENTS ELEMENTARY
GIFFORD AVE
WASHINGTON AVE
STILLAGUAMISH AVE
FRENCH AVE
4TH STREET
3RD STREET
PROJECT NORTH
N 88°00'51" E 135.00'
N 01°57'38" W 114.00'
N 01°57'38" W 410.17'
N 02°04'11" W 401.04'
N 01°57'38" W 38.00'
N 88°00'51" E 105.00'
N 86°45'32" E 853.87'
N 86°45'32" E 278.09'
N 02°15'26" W 416.09'
N 02°15'26" W 445.77'
N 01°57'38" W 439.51'
N 87°06'39" E 1009.61'
N 87°06'41" E 1089.16'
N 87°06'41" E 288.13'
8.72'

View of the existing portable from the east, the sewer main easement, the existing baseball backstop, and proposed portable site for all options.

View of the existing portable, sewer main easement, and the main building beyond from the west parking lot.

STILLAGUAMISH VALLEY LEARNING CENTER

Campus Information

1215 East 5th Street, Arlington, WA 98223
Snohomish County
Tax Parcel No: 31051200200300

Existing Main Building Classrooms:0
Existing Portable Classrooms: 10
Existing Parking Stalls Required: 10 x 1.75 = 18
Existing Parking Stalls Provided 51

Stillaguamish Learning Center is located immediately west of Eagle Creek Elementary and southwest of Post Middle School. All three campuses share one entrance off East 5th Street. The Learning Center has a 25 foot slope setback and biofiltration swale on its west edge, a 50 foot vegetative setback to the north, and a 55 foot setback from power poles in the power and light right-of-way adjacent to the east. Immediately to the south of the portable cluster is an infiltration pond and a new preschool playground. The site is comprised of a collection of eleven portable classroom buildings. Because of site constraints and existing conditions, only two potential locations were identified where additional portables could be added.

The water and sanitary sewer mains with their respective easements for both Stillaguamish Valley Learning Center and Eagle Creek Elementary cross through the northeast corner of the site and affect the location of the Option B proposed portable location. The Learning Center's single fire hydrant is located along the west edge of the parking lot.

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Option A

Option A proposes to place a new double portable in the northwest corner of the Stillaguamish Learning Center campus. An entry ramp would be located at the classroom main entrances facing east. To move the portable into place, preparations would first need to occur to clear a path including removal of the chain link fence along the west edge of the parking lot, limbing the trees along the vegetative setback, demolition of the wood deck and cover on the north side of the Multipurpose Room, and relocating two existing storage sheds. The transformer and systems pedestal north of the Multipurpose Room near the parking lot, with proper coordination, shall be temporarily removed and reinstalled to provide a clear path to the northwest corner of the site. This work is included in the estimate. Even then, moving a portable by trailer may not be feasible and a crane may be required to place it. If **Option B** were to also be implemented, the location shown in **Option A** should be installed first.

With the addition of 2 new classrooms to the existing 10, 21 parking stalls are required for the site; 51 are provided leaving a excess of 30 stalls. If restriping occurs at Eagle Creek Elementary for parent queuing, up to 24 of the 30 stalls would be dedicated to the elementary school to cover minimum parking requirements.

Each portable in the compound is individually metered. The power connection for the new portable will occur at the utility service transformer and route through a meter at the new building. An alternate solution, not included in the estimate, would be to add a new exterior rated distribution board near the service transformer and consolidate the campus on the one single meter. Having a central distribution board would also simplify the addition/subtraction of future portables with respect to utility power. Routing low voltage to the portable location can be accomplished by installing new underground conduits between Administration and the new portable location.

The portable will be placed on a concrete foundation requiring clearing and stripping of the ground surface. A concrete walk is proposed to extend to the portable ramp from the existing walkway. A new meter and service line would be provided from the existing water main with the service line running along the north edge of the existing portable compound. An extension would be provided from the existing sewer manhole within the compound. Roof drains would be collected and infiltrated using a 2 foot wide by 1.5 foot deep drain rock filled trench. The length of the trench will be determined by geotechnical testing performed as part of the permit process with the City of Arlington, assuming that infiltration in the local soils is viable.

Option A Estimate Summary

Site Preparation: $23,501
Site Improvements: $228,777
Site Mechanical Utilities:$31,380
Site Electrical Utilities: $21,860
Subtotal: $305,518
Estimating/Design Contingency: $38,190
General Conditions, Fee, Bonds and Insurance: $90,505
Escalation: $6,712
Total Construction Costs: **$440,924**

In addition to the cost of purchasing and placing the portable, the estimate includes preparations noted to clear a path to the northwest corner of the site, costs to temporarily remove and reinstall the transformer and systems pedestal, routing power from the transformer through a meter at the new building, routing low voltage from the Administrative Building, clearing and stripping of the ground surface, extending the paved walk to the new ramp, a new metered water service, extending the sewer line along the north edge of the courtyard, and a storm water infiltration trench.

Option B

Option B proposes a new double portable in the northeast corner of the Learning Center compound, immediately north of the Multipurpose Room. A custom sized landing/deck would be constructed between the new portable and the existing immediately to the south, and a new ramp would attach leading to the courtyard area. Once the portable is set, the fence between the parking lot and compound could be repaired/replaced. Costs for fence work is included in the **Option A** estimate. For accurate positioning and to not encroach into the water easement, the water main should be surveyed prior to permitting to confirm whether a double or single portable classroom is the viable option at this location. The new portable also needs to remain a minimum of 10 feet away, including overhangs, from existing structures immediately to the south.

With the addition of 2 new classrooms to **Option A,** 25 parking stalls would be required for the site; 51 are provided leaving an

excess of 26 stalls. If restriping occurs at Eagle Creek for parent queuing, up to 24 of the 26 stalls would be dedicated to the elementary school to cover minimum parking requirements.

Power and low voltage systems would be treated the same as **Option A**.

The portable will be placed on a concrete foundation requiring clearing and stripping of the ground surface. A new meter and service line would be provided from the existing water main immediately to the east. A side sewer service would be made from the sewer main located to the southeast of the portable. Roof drains would be collected and infiltrated using a 2 foot wide by 1.5 foot deep drain rock filled trench.

Option B Estimate Summary

Site Preparation: $11,148
Site Improvements: $238,014
Site Mechanical Utilities:$31,380
Site Electrical Utilities: $10,180
Subtotal: $290,722
Estimating/Design Contingency: $36,340
General Conditions, Fee, Bonds and Insurance: $86,122
Escalation: $6,387
Total Construction Costs: **$419,571**

In addition to the cost of purchasing and placing the portable, the estimate includes a shared landing/deck with the Multipurpose Room, routing power from the transformer through a meter at the new building, routing low voltage from the Administrative Building, clearing and stripping of the ground surface, a new metered water service, connecting to the adjacent sewer main to the southeast, and a storm water infiltration trench.

If the portable in **Option B** is placed in lieu of **Option A**, additional preparation costs that are currently included in the estimate for **Option A** will need to be added to the estimate for this option. Such preparation includes temporarily removing and reinstalling the transformer and systems pedestal, demolishing the wood deck and cover on the north side of the Multipurpose Room, and removing and reinstalling chain link fence along the parking lot.

If the portable in **Option B** is placed at a later date than **Option A**, additional preparation costs shall be added to the estimate for items that are currently assumed in **Option A** but are necessary for both options. Such preparation includes temporarily removing and reinstalling the transformer and systems pedestal, and to remove and reinstall chain link fence along the parking lot.

THE PORTABLES WILL BE SUBDIVIDED TO BE 2 CLASSROOMS AT 850 SF EACH. ONLY ONE EXIT FROM EACH ROOM WILL BE REQUIRED.
NEW SEWER LINE FOR OPTION A
EXISTING SEWER LINE AND EASEMENT
EXISTING TRANSFORMER
NEW SEWER LINE FOR OPTION B
EXISTING WATER LINE AND EASEMENT
EXISTING WATER METERS
A
B
50' VEGETATIVE SETBACK
25' SLOPE SETBACK
5' BUILDING SETBACK
MULTIPURPOSE ROOM
REST-ROOMS
ADMIN.
LIBRARY
10' UTILITY EASEMENT
WATER LINE
SANITARY SEWER
STILLAGUAMISH VALLEY LEARNING CENTER
APPROXIMATE FUTURE EDGE OF EXISTING POND TO BE EXPANDED
55' SETBACK
100' PUGET SOUND POWER & LIGHT CO. EASEMENT (BAKER RIVER TRANSMISSION LINE)
PROJECT NORTH

View of the landscape buffer north of Stillaguamish Valley Learning Center, the existing deck to be demolished, and proposed portable location in Option B.

View of one storage shed to be relocated, and the path to place the portable in Option A.

View from the northwest corner of the campus at the storage shed to be relocated and the proposed portable site in Option A.

View of Stillaguamish Valley Learning Center from the proposed portable location in Option A, along the west campus edge.

APPENDIX

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Arlington Portable Feasibility Study – Power and Low Voltage Systems
BCE Engineers, Inc.
1/27/21

Note: See detailed cost estimate for additional information.

Pioneer Elementary School

Power:

- Existing (6) 2-1/2", (2)1" stubs from Elec Room to 444-LA Handhole for "future portable" in the courtyard, and same sized extension to 2nd set of handholes for second portable location in the NW corner of the parking lot.
- Additional power and low voltage systems stubs are identified elsewhere on the electrical as-builts- stubbing West, South and East from the main building.
- Existing Main Distribution or Sub Distribution Board information is unknown.

Low Voltage Systems:

- Existing (3) 4", (3) 2", (3) 1" from Comm Room to 444-LA Handhole for "future portable", and same sized extension to 2nd set of handholes for second portable location.
- Intrusion Alarm:
  - Exists (Sonitrol?) – Location Unknown
- Access Control:
  - Unconfirmed/Unlikely
- Intercom
  - Exists– Location Unknown
- Audio-Visual or Voice Lift to match school:
  - Unconfirmed
- Fire Alarm
  - Notifier (addressable) – Location unknown

Analysis:

Option A
Option A is substantially further away from the school than the other options. The portables are roughly 500' and 560' from the existing power and systems stubs that were identified for the other options. The electrical site as-builts indicate conduit stubs to a location just north of the baseball field. Utilizing these, if available, would reduce distances to 230' and 290' respectively. Trenching to the locations should be relatively straight-forward, however the distance from the electrical room may necessitate a 480V feeder and a transformer to reduce voltage drop.

Option B
Option B is similar to C, but is quite a bit further away. The portables are roughly 290' and 340' from the existing power and systems stubs. Trenching to the locations should be relatively straight-forward, however the distance from the electrical room may necessitate a 480V feeder and a transformer to reduce voltage drop.

Option C
Option C is similar to D, but is slightly closer. The portables are roughly 120' and 170' from the existing power and systems stubs. Trenching to the locations should be relatively straight-forward.

Option D
The existing power and systems stubs simplify the installation process. The portables are roughly 140' and 220' from the existing power and systems stubs. Trenching to the locations should be relatively straight-forward.

Presidents Elementary School

Power:

- Existing (4) 2-1/2" from Elec Room (panel L1) to 444-LA Handhole for "future portable".
- Existing Main Distribution or Sub Distribution Board information is from 2003.

Low Voltage Systems:

- Existing (6) 2.5" from Comm Room and (2) 2" from Fire Alarm Panel and Security Panel to 444-LA Handhole for "future portable".
- One portable has been installed since the original as-builts.
- Intrusion Alarm:
  - Sonitrol - Located in the hall behind Reception
- Access Control:
  - Unconfirmed/Unlikely
- Intercom
  - Bogen Multicom 2000 - Analog Board originally located in MDF Room
- Audio-Visual or Voice Lift to match school:
  - Unconfirmed
- Fire Alarm
  - Simplex 4100U (addressable) - Located in the hall behind Reception

Analysis:

Option A
Conduits and handholes were roughed-in for future portables. The stubs are roughly 100' from the portable location. Panel L1 is rated for 1000 amps and was originally calculated at 520 amps. It should have plenty of capacity for multiple additional portables. Placing a new 600 amp portable distribution center would allow future portables to be added without having to pull new power from the building. System connection locations are easily accessible.

Option B
Adding (2) additional portables would be relatively simple with a portable distribution center already installed as part of Option A.

Option C
Bringing the portable count to (6) would be as simple as Option B with the portable distribution center that was installed as part of Option A.

Eagle Creek Elementary School

Power:

- Existing conduit infrastructure is unconfirmed
- Three structures exist on the east side of the site (one storage and two single classrooms).
- Existing 1000A 480V Main Distribution board is located on the south east side of the Gym.
- An 800A or 1000A SDB, fed from a 225kVA transformer is located in the same room.

Low Voltage Systems:

- Existing conduit infrastructure is unconfirmed.
- Telephone and fiber service appears to be located near the main electrical room on the SE side of the Gym.
- The MDF is located centrally within the building.
- Two classroom portables have been installed since the original as-builts.
- Intrusion Alarm:
  - Sonitrol – Location unconfirmed
- Access Control:
  - Unconfirmed/Unlikely
- Intercom
  - Bogen Multicom 2000 - Analog Board location unconfirmed
- Audio-Visual or Voice Lift to match school:
  - Unconfirmed
- Fire Alarm
  - Simplex 4002 zone panel – Location unconfirmed

Analysis:

Option A

Power is located in the SE corner of the Gym wing. Routing power to the south west side of the site would incur substantial costs due to the extreme distance from the existing service. If the south west side is chosen, a 480V feeder with transformer should be utilized to limit voltage drop. Routing low voltage systems to the South West location is viable.

Option B

Routing power to the East side of the site is feasible and has been done for the previous temporary buildings and should be relatively straight-forward for new buildings. New feeders would be required to accommodate the larger structures. It is reasonable to assume that new low voltage systems cabling could be routed to this location with minimal effort.

Option C

The existing service may be able to accommodate (4) double classrooms. If not, a new service could potentially be derived from the existing service transformer. A portable distribution center could also make economic sense for this quantity of classrooms if desired (cost is a wash vs 4 separate feeders). At this time, we are anticipating feeding the portables directly from the existing sub distribution board. Low voltage cabling would entail a similar effort to Option B.

Stillaguamish Valley

Power:

- The existing campus is currently a set of portables that are individually metered by the Utility.

Low Voltage Systems:

- The MDF is located centrally within Building #1 (Office Building).
- Intrusion Alarm:
  - Sonitrol – Located in Building #1
- Access Control:
  - Unconfirmed/Unlikely
- Intercom
  - Staff utilizes phone system for intercom functions.
- Audio-Visual or Voice Lift to match school:
  - Unconfirmed
- Fire Alarm
  - Fire-Lite zone panel – Location in Building #1

Analysis:

Options A and B:

Providing power connections either portable location should be relatively simple. The connection will occur at the utility service transformer and route through a meter at the new building. An alternate solution would be to add a new exterior rated distribution board near the service transformer and consolidate the campus on to one single meter. Having a central distribution board would also simplify the addition/subtraction of future portables with respect to utility power. Routing low voltage to the portable locations can be accomplished by installing new underground conduits between the Office Building and the new Portable Locations.

Kent Prairie Elementary School

Power:

- Existing conduit infrastructure is unconfirmed
- Two portables appear to exist on the west side of the site (two double classrooms).
  - These are served by the utility via a separate service to each.
- Existing 1000A 480V Main Distribution board is located on the south east side of the Gym.
- An 800A or 1000A SDB, fed from a 225kVA transformer is located in the same room (assumed based on similar floorplan to Eagle Creek).

Low Voltage Systems:

- Existing conduit infrastructure is unconfirmed.
- Telephone and fiber service appears to be located near the main electrical room on the SE side of the Gym.
- The MDF is located centrally within the building.
- Intrusion Alarm:
  - Sonitrol – Location unconfirmed
- Access Control:
  - Unconfirmed/Unlikely
- Intercom

  - Bogen Multicom 2000 - Analog Board location unconfirmed
- Audio-Visual or Voice Lift to match school:
  - Unconfirmed
- Fire Alarm
  - Thorn Autocall- Zone Panel, reception area

Analysis:

Option A
Two existing classroom portables are currently in place on the west side of the site. It is reasonable to assume that low voltage systems pathway could be routed to this location. Power could be derived from the utility- similar to the other two portables. In this case, we would recommend upgrading the existing service to a 3-phase, 400A service with a new distribution panel to feed all (4) portables.

Option B
Power is located in the SE corner of the Gym wing. Routing power to the South west side of the site is feasible, but would incur substantial costs due to the extreme distance. We would recommend a 480V service with step-down transformer to limit feeder costs. Low voltage cables would be routed parallel to the power raceway.

COST GROUP

ARLINGTON SCHOOL DISTRICT
MODULAR CLASSROOM BUILDINGS
ARLINGTON, WA
FEASIBILITY STUDY

ESTIMATE ISSUE DATE: January 28, 2021
ESTIMATE REVISION: 2

Submitted To:

KATE FRISBIE
McGRANAHAN ARCHITECTS
2111 PACIFIC AVENUE, SUITE 100
TACOMA, WA 98402

CLARIFICATIONS AND ASSUMPTIONS

RC Cost Group Estimating Team:

Lead Estimator: Andy Cluness
Architectural: Andy Cluness
Structural: Andy Cluness
Electrical: BCE Engineers
Civil: Civil Engineer
Landscape: Andy Cluness
QA/QC: Mark Richardson

Exclusions from Construction Cost:

Usage of extra material from previous project
Design fees
Owners administration costs
Building and land acquisition fees
Legal and accounting fees
Removal of unforeseen underground obstructions
Owner's furniture, furnishings and equipment
Owners supplied materials
Moving owners equipment and furniture
Compression of schedule, premium or shift work
Assessments, finance, legal and development charges
Builder's risk, project wrap-up and other owner provided insurance program
Washington State Sales Tax
AV Equipment

Assumption used in establishing the estimate:

The project will be procured utilizing the Design, Bid, Build Delivery Method
Modular Classroom Buildings will be purchased through KCDA
Open and competitive bidding among all proportions of the work
Construction Start Date: June 2021
Escalation has been included at the following to Start of Construction:
Year 1: 3.75%

Items that may affect the cost estimate:

Modifications to the scope of work included in this estimate.
Special phasing requirements other than mentioned above.
Restrictive technical specifications or excessive contract conditions.
Any non-competitive bid situations.
Bids delayed beyond the projected schedule.

OVERALL SUMMARY CONSTRUCTION COST

	$
Eagle Creek Elementary School: Option A	882,711
Eagle Creek Elementary School: Option B	889,968
Eagle Creek Elementary School: Option C	904,983
Stillaguamish Valley Learning Center: Option A	440,924
Stillaguamish Valley Learning Center: Option B	419,571
Kent Prairie Elementary School: Option A	879,535
Kent Prairie Elementary School: Option B	803,135
Presidents Elementary School: Option A	855,175
Presidents Elementary School: Option B	737,731
Presidents Elementary School: Option C	708,739
Pioneer Elementary School: Option A	776,234
Pioneer Elementary School: Option B	845,790
Pioneer Elementary School: Option C	655,040

ARLINGTON SCHOOL DISTRICT
MODULAR CLASSROOM BUILDINGS
ARLINGTON, WA
FEASIBILITY STUDY
EAGLE CREEK ELEMENTARY SCHOOL: OPTION A

DATE: January 28, 2021

COST GROUP

No.	ELEMENT DESCRIPTION		ELEMENT TOTAL		GROUP TOTAL
G10	SITE PREPARATION			$	35,579
G1010	Site Clearing		$ 2,688		
G1020	Site Demolition and Relocations		$ 29,691		
G1030	Site Earthwork		$ 3,200		
G1040	Hazardous Waste Remediation		$ -		
G20	SITE IMPROVEMENTS			$	438,265
G2010	Roadways		$ -		
G2020	Parking Lots		$ -		
G2030	Pedestrian Paving		$ 15,000		
G2040	Site Development		$ 423,265		
G2050	Landscaping		$ -		
G30	SITE MECHANICAL UTILITIES			$	59,630
G3010	Water Supply		$ 5,300		
G3020	Sanitary Sewer		$ 32,150		
G3030	Storm Sewer		$ 22,180		
G3040	Heating Distribution		$ -		
G3050	Cooling Distribution		$ -		
G3060	Fuel Distribution		$ -		
G3090	Other Site Mechanical Utilities		$ -		
G40	SITE ELECTRICAL UTILITIES			$	78,160
G4010	Electrical Distribution		$ 78,160		
G4020	Site Lighting		$ -		
G4030	Site Communications and Security		$ -		
G4090	Other Site Electrical Utilities		$ -		
	Sub-Total Direct Cost			**$**	**611,634**
	Estimating / Design Contingency	12.50%		$	76,454
	Sub-Total			**$**	**688,088**
	General Conditions/General Requirements	16.65%		$	114,567
	General Contractor's Fee, Bonds and Insurance	8.30%		$	66,620
	Sub-Total			**$**	**869,275**
	Escalation, June 2021	1.55%		$	13,437
	TOTAL CONSTRUCTION COST			**$**	**882,711**

	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
G10	**SITE PREPARATION**				
G1010	**Site Clearing**				
	G1011 Clearing and grubbing				
	Site clearance	1	LS	2,688.00	2,688
	Total For Site Clearing				**2,688**
G1020	**Site Demolition and Relocations**				
	G1022 Demolition of site components				
	Demolish and remove chain link fencing	214	LF	7.90	1,691
	ASPHALT PAVEMENT	4,900	SF	4.00	19,600
	SAWCUT ASPHALT & REPAIR	1,400	SF	6.00	8,400
	Total For Site Demolition and Relocations				**29,691**
G1030	**Site Earthwork**				
	G1031 Site grading excavation				
	TESCP AND GRADING				
	TESCP MAINTAIN & CONTROL	1	ALLOW	2,000.00	2,000
	CATCHBASIN INSERTS	4	EA	300.00	1,200
	Total For Site Earthwork				**3,200**
G1040	**Hazardous Waste Remediation**				
	No work anticipated				N/A
	Total For Hazardous Waste Remediation				
G20	**SITE IMPROVEMENTS**				
G2010	**Roadways**				
	No work anticipated				N/A
	Total For Roadways				
G2020	**Parking Lots**				
	No work anticipated				N/A
	Total For Parking Lots				
G2030	**Pedestrian Paving**				
	G2031 Paving and surfacing				
	HOT MIX AND CONC SIDEWALKS				
	CSTC	200	TON	50.00	10,000
	STRIPING & PVMT MARKINGS	1	LS	5,000.00	5,000

	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
	Total For Pedestrian Paving				**15,000**
G2040	**Site Development**				
	G2041 Fences and gates				
	Chain link fence	40	LF	45.00	1,800
	Gate at chain link fence with crash bar, single	1	EA	1,250.00	1,250
	Sliding gate	1	EA	10,500.00	10,500
	G2049 Miscellaneous structures				
	Modular classroom building, double 28'-0" x 64'-0" with (2) restrooms "KCDA"	2	EA	182,500.00	365,000
	Reinforced concrete foundation at modular classroom buildings	28	CY	875.00	24,500
	Welcome ramp and landing	370	SF	25.50	9,435
	Railings at welcome ramp	154	LF	70.00	10,780
	Total For Site Development				**423,265**
G2050	**Landscaping**				
	No work anticipated				N/A
	Total For Landscaping				
G30	**SITE MECHANICAL UTILITIES**				
G3010	**Water Supply**				
	G3010 Water Supply				
	1" PE SERVICE	130	LF	10.00	1,300
	METER & RPBA	1	EA	4,000.00	4,000
	Total For Water Supply				**5,300**
G3020	**Sanitary Sewer**				
	G3020 Sanitary Sewer				
	6" PVC, SD35, SIDE SEWER	40	LF	50.00	2,000
	8" PVC, SD35	270	LF	65.00	17,550
	OWS	1	EA	5,000.00	5,000
	CONNECT TO EXISTING	1	EA	6,000.00	6,000
	CLEANOUT	2	EA	800.00	1,600
	Total For Sanitary Sewer				**32,150**
G3030	**Storm Sewer**				
	G3030 Storm Drainage				
	6" PVC PIPE	50	LF	35.00	1,750
	12" ADS PIPE	100	LF	45.00	4,500
	CATCH BASIN-TYPE I	3	EA	1,750.00	5,250
	CATCH BASIN-TYPE II SADDLED	1	EA	6,000.00	6,000
	6" CLEANOUT	6	EA	780.00	4,680

	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
	Total For Storm Sewer				**22,180**
G3040	**Heating Distribution**				
	No work anticipated				
	Total For Heating Distribution				
G3050	**Cooling Distribution**				
	No work anticipated				N/A
	Total For Cooling Distribution				
G3060	**Fuel Distribution**				
	No work anticipated				N/A
	Total For Fuel Distribution				
G3090	**Other Site Mechanical Utilities**				
	No work anticipated				N/A
	Total For Other Site Mechanical Utilities				
G40	**SITE ELECTRICAL UTILITIES**				
G4010	**Electrical Distribution**				
	Site Electrical				
	200A, 3W, 2P Feeder	600	LF	26.00	15,600
	480-208 Xfmr- 150kVA	1	EA	9,800.00	9,800
	2.5" Conduit (Site PVC)	230	LF	17.00	3,910
	Power Handholes	1	EA	1,500.00	1,500
	Power Terminations	1	EA	4,500.00	4,500
	Trenching	200	LF	7.00	1,400
	(2) 2", (1) 1" Conduits	230	LF	15.00	3,450
	Cables	800	LF	5.00	4,000
	Cable Terminations and Programming	1	LS	4,000.00	4,000
	LV Handholes	1	EA	1,500.00	1,500
	Asphalt Sawcut and Repair	200	LF	20.00	4,000
	2.5" EMT through Building	410	LF	18.00	7,380
	(2) 2", (1) 1" EMT Conduits in Bldg	170	LF	36.00	6,120
	400A Portable Dist Panel and Xfmr Disconnect	1	LS	11,000.00	11,000
	Total For Electrical Distribution				**78,160**
G4020	**Site Lighting**				
	No work anticipated				N/A
	Total For Site Lighting				

	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
G4030	**Site Communications and Security**				
	No work anticipated				N/A
	Total For Site Communications and Security				
G4090	**Other Site Electrical Utilities**				
	No work anticipated				N/A
	Total For Other Site Electrical Utilities				

ARLINGTON SCHOOL DISTRICT
MODULAR CLASSROOM BUILDINGS
ARLINGTON, WA
FEASIBILITY STUDY
EAGLE CREEK ELEMENTARY SCHOOL: OPTION B

DATE: January 28, 2021

COST GROUP

No.	ELEMENT DESCRIPTION		ELEMENT TOTAL		GROUP TOTAL
G10	SITE PREPARATION			$	45,499
G1010	Site Clearing		$ 2,688		
G1020	Site Demolition and Relocations		$ 21,691		
G1030	Site Earthwork		$ 21,120		
G1040	Hazardous Waste Remediation		$ -		
G20	SITE IMPROVEMENTS			$	419,663
G2010	Roadways		$ -		
G2020	Parking Lots		$ -		
G2030	Pedestrian Paving		$ 12,663		
G2040	Site Development		$ 407,000		
G2050	Landscaping		$ -		
G30	SITE MECHANICAL UTILITIES			$	118,080
G3010	Water Supply		$ 6,300		
G3020	Sanitary Sewer		$ 92,600		
G3030	Storm Sewer		$ 19,180		
G3040	Heating Distribution		$ -		
G3050	Cooling Distribution		$ -		
G3060	Fuel Distribution		$ -		
G3090	Other Site Mechanical Utilities		$ -		
G40	SITE ELECTRICAL UTILITIES			$	33,420
G4010	Electrical Distribution		$ 33,420		
G4020	Site Lighting		$ -		
G4030	Site Communications and Security		$ -		
G4090	Other Site Electrical Utilities		$ -		
	Sub-Total Direct Cost			**$**	**616,662**
	Estimating / Design Contingency	12.50%		$	77,083
	Sub-Total			**$**	**693,745**
	General Conditions/General Requirements	16.65%		$	115,508
	General Contractor's Fee, Bonds and Insurance	8.30%		$	67,168
	Sub-Total			**$**	**876,421**
	Escalation, June 2021	1.55%		$	13,547
	TOTAL CONSTRUCTION COST			**$**	**889,968**

	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
G10	**SITE PREPARATION**				
G1010	**Site Clearing**				
	G1011 Clearing and grubbing				
	Site clearance	1	LS	2,688.00	2,688
	Total For Site Clearing				**2,688**
G1020	**Site Demolition and Relocations**				
	G1022 Demolition of site components				
	SITE DEMOLITION				
	SAWCUT ASPHALT & REPAIR	1,500	SF	6.00	9,000
	CONCRETE CURB REMOVE	200	SF	20.00	4,000
	Existing portables and ramps	1	LS	8,691.20	8,691
	Total For Site Demolition and Relocations				**21,691**
G1030	**Site Earthwork**				
	G1031 Site grading excavation				
	TESCP AND GRADING				
	TESCP MAINTAIN & CONTROL	1	ALLOW	2,000.00	2,000
	CONST FENCE	200	LF	3.00	600
	CLEAR AND GRUB	0.25	AC	10,000.00	2,500
	STRIPPINGS/UNCLX	130	CY	4.00	520
	CATCHBASIN INSERTS	2	EA	300.00	600
	EXPORT MATERIAL	130	CY	30.00	3,900
	SUBGRADE FILL	200	CY	5.00	1,000
	IMPORT STRUCTURAL	200	CY	50.00	10,000
	Total For Site Earthwork				**21,120**
G1040	**Hazardous Waste Remediation**				
	No work anticipated				N/A
	Total For Hazardous Waste Remediation				
G20	**SITE IMPROVEMENTS**				
G2010	**Roadways**				
	No work anticipated				N/A
	Total For Roadways				
G2020	**Parking Lots**				
	No work anticipated				N/A
	Total For Parking Lots				
G2030	**Pedestrian Paving**				

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
G2031 Paving and surfacing				
HOT MIX AND CONC SIDEWALKS				
CSTC	200	TON	50.00	10,000
Asphalt paving and base	549	SF	4.85	2,663
Total For Pedestrian Paving				**12,663**
G2040 Site Development				
G2049 Miscellaneous structures				
Modular classroom building, double 28'-0" x 64'-0" with (2) restrooms "KCDA"	2	EA	182,500.00	365,000
Reinforced concrete foundation at modular classroom buildings	28	CY	875.00	24,500
Welcome ramp and landing	420	SF	25.50	10,710
Railings at welcome ramp	97	LF	70.00	6,790
Total For Site Development				**407,000**
G2050 Landscaping				
No work anticipated				N/A
Total For Landscaping				
G30 SITE MECHANICAL UTILITIES				
G3010 Water Supply				
G3010 Water Supply				
WATER-DOMESTIC & FIRE		JOB		
1" PE SERVICE	130	LF	10.00	1,300
METER & RPBA	1	EA	5,000.00	5,000
Total For Water Supply				**6,300**
G3020 Sanitary Sewer				
G3020 Sanitary Sewer				
SANITARY SEWER		JOB		
6" PVC, SD35, SIDE SEWER	40	LF	50.00	2,000
8" PVC, SD35	600	LF	20.00	12,000
OWS	1	EA	75,000.00	75,000
CONNECT TO EXISTING	1	EA	2,000.00	2,000
CLEANOUT	2	EA	800.00	1,600
Total For Sanitary Sewer				**92,600**
G3030 Storm Sewer				
G3030 Storm Drainage				
STORM SEWER				
6" PVC PIPE	200	LF	35.00	7,000
CATCH BASIN-TYPE I	2	EA	1,750.00	3,500

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
6" CLEANOUT	6	EA	780.00	4,680
DRAIN ROCK	60	TONS	50.00	3,000
GEOTEXTILE	100	SY	10.00	1,000
Total For Storm Sewer				**19,180**

G3040 Heating Distribution

No work anticipated

Total For Heating Distribution

G3050 Cooling Distribution

No work anticipated N/A

Total For Cooling Distribution

G3060 Fuel Distribution

No work anticipated N/A

Total For Fuel Distribution

G3090 Other Site Mechanical Utilities

No work anticipated N/A

Total For Other Site Mechanical Utilities

G40 SITE ELECTRICAL UTILITIES

G4010 Electrical Distribution

Site Electrical				
200A, 3W, 2P Feeder	300	LF	21.00	6,300
2.5" Conduit	280	LF	17.00	4,760
Power Terminations	1	LS	2,000.00	2,000
Trenching and Backfill	205	LF	7.00	1,435
(2) 2", (1) 1" Conduits PVC	95	LF	15.00	1,425
Cables	600	LF	5.00	3,000
Cable Terminations and Programming	1	LS	4,000.00	4,000
LV Handholes	1	EA	1,500.00	1,500
Asphalt Sawcut and Repair	90	LF	20.00	1,800
(2) 2", (1) 1" Conduits EMT in Bldg	200	LF	36.00	7,200
Total For Electrical Distribution				**33,420**

G4020 Site Lighting

No work anticipated N/A

Total For Site Lighting

	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
G4030	**Site Communications and Security**				
	No work anticipated				N/A
	Total For Site Communications and Security				
G4090	**Other Site Electrical Utilities**				
	No work anticipated				N/A
	Total For Other Site Electrical Utilities				

ARLINGTON SCHOOL DISTRICT
MODULAR CLASSROOM BUILDINGS
ARLINGTON, WA
FEASIBILITY STUDY
EAGLE CREEK ELEMENTARY SCHOOL: OPTION C

DATE: January 28, 2021

No.	ELEMENT DESCRIPTION		ELEMENT TOTAL		GROUP TOTAL
G10	SITE PREPARATION			$	38,505
G1010	Site Clearing		$ 2,688		
G1020	Site Demolition and Relocations		$ 14,697		
G1030	Site Earthwork		$ 21,120		
G1040	Hazardous Waste Remediation		$ -		
G20	SITE IMPROVEMENTS			$	432,766
G2010	Roadways		$ -		
G2020	Parking Lots		$ -		
G2030	Pedestrian Paving		$ 12,663		
G2040	Site Development		$ 420,103		
G2050	Landscaping		$ -		
G30	SITE MECHANICAL UTILITIES			$	118,080
G3010	Water Supply		$ 6,300		
G3020	Sanitary Sewer		$ 92,600		
G3030	Storm Sewer		$ 19,180		
G3040	Heating Distribution		$ -		
G3050	Cooling Distribution		$ -		
G3060	Fuel Distribution		$ -		
G3090	Other Site Mechanical Utilities		$ -		
G40	SITE ELECTRICAL UTILITIES			$	37,715
G4010	Electrical Distribution		$ 37,715		
G4020	Site Lighting		$ -		
G4030	Site Communications and Security		$ -		
G4090	Other Site Electrical Utilities		$ -		
	Sub-Total Direct Cost			**$**	**627,065**
	Estimating / Design Contingency	12.50%		$	78,383
	Sub-Total			**$**	**705,449**
	General Conditions/General Requirements	16.65%		$	117,457
	General Contractor's Fee, Bonds and Insurance	8.30%		$	68,301
	Sub-Total			**$**	**891,207**
	Escalation, June 2021	1.55%		$	13,776
	TOTAL CONSTRUCTION COST			**$**	**904,983**

	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
G10	**SITE PREPARATION**				
G1010	**Site Clearing**				
	G1011 Clearing and grubbing				
	Site clearance	1	LS	2,688.00	2,688
	Total For Site Clearing				**2,688**
G1020	**Site Demolition and Relocations**				
	G1022 Demolition of site components				
	SITE DEMOLITION				
	SAWCUT ASPHALT & REPAIR	1,500	SF	6.00	9,000
	CONCRETE CURB REMOVE	200	SF	20.00	4,000
	Demolish and remove chain link backstop	101	LF	16.80	1,697
	Total For Site Demolition and Relocations				**14,697**
G1030	**Site Earthwork**				
	G1031 Site grading excavation				
	TESCP AND GRADING				
	TESCP MAINTAIN & CONTROL	1	ALLOW	2,000.00	2,000
	CONST FENCE	200	LF	3.00	600
	CLEAR AND GRUB	0	AC	10,000.00	2,500
	STRIPPINGS/UNCLX	130	CY	4.00	520
	CATCHBASIN INSERTS	2	EA	300.00	600
	EXPORT MATERIAL	130	CY	30.00	3,900
	SUBGRADE FILL	200	CY	5.00	1,000
	IMPORT STRUCTURAL	200	CY	50.00	10,000
	Total For Site Earthwork				**21,120**
G1040	**Hazardous Waste Remediation**				
	No work anticipated				N/A
	Total For Hazardous Waste Remediation				
G20	**SITE IMPROVEMENTS**				
G2010	**Roadways**				
	No work anticipated				N/A
	Total For Roadways				
G2020	**Parking Lots**				
	No work anticipated				N/A
	Total For Parking Lots				
G2030	**Pedestrian Paving**				

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
G2031 Paving and surfacing				
Asphalt paving and base	549	SF	4.85	2,663
HOT MIX AND CONC SIDEWALKS				
CSTC	200	TON	50.00	10,000
Total For Pedestrian Paving				**12,663**
G2040 Site Development				
G2041 Fences and gates				
Chain link backstop	101	LF	172.00	17,372
G2049 Miscellaneous structures				
Modular classroom building, double 28'-0" x 64'-0" with (2) restrooms "KCDA"	2	EA	182,500.00	365,000
Reinforced concrete foundation at modular classroom buildings	28	CY	875.00	24,500
Welcome ramp and landing	302	SF	25.50	7,701
Railings at welcome ramp	79	LF	70.00	5,530
Total For Site Development				**420,103**
G2050 Landscaping				
No work anticipated				N/A
Total For Landscaping				
G30 SITE MECHANICAL UTILITIES				
G3010 Water Supply				
G3010 Water Supply				
WATER-DOMESTIC & FIRE		JOB		
1" PE SERVICE	130	LF	10.00	1,300
METER & RPBA	1	EA	5,000.00	5,000
Total For Water Supply				**6,300**
G3020 Sanitary Sewer				
G3020 Sanitary Sewer				
SANITARY SEWER		JOB		
6" PVC, SD35, SIDE SEWER	40	LF	50.00	2,000
8" PVC, SD35	600	LF	20.00	12,000
OWS	1	EA	75,000.00	75,000
CONNECT TO EXISTING	1	EA	2,000.00	2,000
CLEANOUT	2	EA	800.00	1,600
Total For Sanitary Sewer				**92,600**
G3030 Storm Sewer				
G3030 Storm Drainage				

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
STORM SEWER				
6" PVC PIPE	200	LF	35.00	7,000
CATCH BASIN-TYPE I	2	EA	1,750.00	3,500
6" CLEANOUT	6	EA	780.00	4,680
DRAIN ROCK	60	TONS	50.00	3,000
GEOTEXTILE	100	SY	10.00	1,000
Total For Storm Sewer				**19,180**

G3040 Heating Distribution

No work anticipated

Total For Heating Distribution

G3050 Cooling Distribution

No work anticipated N/A

Total For Cooling Distribution

G3060 Fuel Distribution

No work anticipated N/A

Total For Fuel Distribution

G3090 Other Site Mechanical Utilities

No work anticipated N/A

Total For Other Site Mechanical Utilities

G40 SITE ELECTRICAL UTILITIES

G4010 Electrical Distribution

Site Electrical				
200A, 3W, 2P Feeder	510	LF	21.00	10,710
2.5" Conduit	490	LF	17.00	8,330
Power Terminations	1	LS	2,000.00	2,000
Trenching and Backfill	150	LF	7.00	1,050
(2) 2", (1) 1" Conduits PVC	95	LF	15.00	1,425
Cables	600	LF	5.00	3,000
Cable Terminations and Programming	1	LS	4,000.00	4,000
(2) 2", (1) 1" Conduits EMT in Bldg	200	LF	36.00	7,200
Total For Electrical Distribution				**37,715**

G4020 Site Lighting

No work anticipated N/A

Total For Site Lighting

	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
G4030	**Site Communications and Security**				
	No work anticipated				N/A
	Total For Site Communications and Security				
G4090	**Other Site Electrical Utilities**				
	No work anticipated				N/A
	Total For Other Site Electrical Utilities				

ARLINGTON SCHOOL DISTRICT
MODULAR CLASSROOM BUILDINGS
ARLINGTON, WA
FEASIBILITY STUDY
STILLAGUAMISH VALLEY LEARNING CENTER: OPTION A

DATE: January 28, 2021

RC COST GROUP

No.	ELEMENT DESCRIPTION		ELEMENT TOTAL		GROUP TOTAL
G10	SITE PREPARATION			$	23,501
G1010	Site Clearing		$ 5,500		
G1020	Site Demolition and Relocations		$ 9,541		
G1030	Site Earthwork		$ 8,460		
G1040	Hazardous Waste Remediation		$ -		
G20	SITE IMPROVEMENTS			$	228,777
G2010	Roadways		$ -		
G2020	Parking Lots		$ -		
G2030	Pedestrian Paving		$ 3,700		
G2040	Site Development		$ 225,077		
G2050	Landscaping		$ -		
G30	SITE MECHANICAL UTILITIES			$	31,380
G3010	Water Supply		$ 8,000		
G3020	Sanitary Sewer		$ 9,100		
G3030	Storm Sewer		$ 14,280		
G3040	Heating Distribution		$ -		
G3050	Cooling Distribution		$ -		
G3060	Fuel Distribution		$ -		
G3090	Other Site Mechanical Utilities		$ -		
G40	SITE ELECTRICAL UTILITIES			$	21,860
G4010	Electrical Distribution		$ 21,860		
G4020	Site Lighting		$ -		
G4030	Site Communications and Security		$ -		
G4090	Other Site Electrical Utilities		$ -		
	Sub-Total Direct Cost			**$**	**305,518**
	Estimating / Design Contingency	12.50%		$	38,190
	Sub-Total			**$**	**343,707**
	General Conditions/General Requirements	16.65%		$	57,227
	General Contractor's Fee, Bonds and Insurance	8.30%		$	33,278
	Sub-Total			**$**	**434,212**
	Escalation, June 2021	1.55%		$	6,712
	TOTAL CONSTRUCTION COST			**$**	**440,924**

	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
G10	**SITE PREPARATION**				
G1010	**Site Clearing**				
	G1011 Clearing and grubbing				
	Site clearance and limbing trees back for access	1	LS	5,500.00	5,500
	Total For Site Clearing				**5,500**
G1020	**Site Demolition and Relocations**				
	G1022 Demolition of site components				
	Demolish and remove chain link fencing	65	LF	7.90	514
	Demolish and remove deck, cover and ramp	650	SF	4.35	2,828
	Relocate storage sheds	2	EA	600.00	1,200
	Temporarily remove transformer and systems pedestal	1	LS	5,000.00	5,000
	Total For Site Demolition and Relocations				**9,541**
G1030	**Site Earthwork**				
	G1031 Site grading excavation				
	TESCP AND GRADING				
	TESCP MAINTAIN & CONTROL	1	ALLOW	2,000.00	2,000
	CLEAR AND GRUB	0	AC	20,000.00	2,000
	STRIPPINGS/UNCLX	40	CY	4.00	160
	CATCHBASIN INSERTS	2	EA	300.00	600
	EXPORT MATERIAL	40	CY	30.00	1,200
	SUBGRADE CUT	100	CY	10.00	1,000
	SUBGRADE FILL	100	CY	15.00	1,500
	Total For Site Earthwork				**8,460**
G1040	**Hazardous Waste Remediation**				
	No work anticipated				N/A
	Total For Hazardous Waste Remediation				
G20	**SITE IMPROVEMENTS**				
G2010	**Roadways**				
	No work anticipated				N/A
	Total For Roadways				
G2020	**Parking Lots**				
	No work anticipated				N/A
	Total For Parking Lots				
G2030	**Pedestrian Paving**				

	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
	HOT MIX AND CONC SIDEWALKS				
	CSTC	10	TON	50.00	500
	CONC WALK	400	SF	8.00	3,200
	Total For Pedestrian Paving				**3,700**
G2040	**Site Development**				
	G2041 Fences and gates				
	Chain link fence, reinstallation	65	LF	20.00	1,300
	G2049 Miscellaneous structures				
	Modular classroom building, double 28'-0" x 64'-0" with (2) restrooms "KCDA"	1	EA	182,500.00	182,500
	Logistics complexity of installation of modular classroom	1	LS	16,500.00	16,500
	Reinforced concrete foundation at modular classroom buildings	14	CY	875.00	12,250
	Gravel below modular classroom buildings	1,792	SF	1.35	2,419
	Welcome ramp and landing	185	SF	25.50	4,718
	Railings at welcome ramp	77	LF	70.00	5,390
	Total For Site Development				**225,077**
G2050	**Landscaping**				
	No work anticipated				N/A
	Total For Landscaping				
G30	**SITE MECHANICAL UTILITIES**				
G3010	**Water Supply**				
	G3010 Water Supply				
	WATER-DOMESTIC & FIRE				
	1" PE SERVICE	200	LF	15.00	3,000
	METER & RPBA	1	EA	5,000.00	5,000
	Total For Water Supply				**8,000**
G3020	**Sanitary Sewer**				
	G3020 Sanitary Sewer				
	SANITARY SEWER		JOB		
	6" PVC, SD35, SIDE SEWER	110	LF	50.00	5,500
	CONNECT TO EXISTING	1	EA	2,000.00	2,000
	CLEANOUT	2	EA	800.00	1,600
	Total For Sanitary Sewer				**9,100**
G3030	**Storm Sewer**				
	G3030 Storm Drainage				
	STORM SEWER				
	6" PVC PIPE	110	LF	35.00	3,850

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
CATCH BASIN-TYPE I	1	EA	1,750.00	1,750
6" CLEANOUT	6	EA	780.00	4,680
DRAIN ROCK	60	TONS	50.00	3,000
GEOTEXTILE	100	SY	10.00	1,000
Total For Storm Sewer				**14,280**

G3040 Heating Distribution

No work anticipated

Total For Heating Distribution

G3050 Cooling Distribution

No work anticipated N/A

Total For Cooling Distribution

G3060 Fuel Distribution

No work anticipated N/A

Total For Fuel Distribution

G3090 Other Site Mechanical Utilities

No work anticipated N/A

Total For Other Site Mechanical Utilities

G40 SITE ELECTRICAL UTILITIES

G4010 Electrical Distribution

Site Electrical				
Utility Service	1	LS	5,000.00	5,000
2.5" Conduit	220	LF	17.00	3,740
Power Terminations	1	LS	1,000.00	1,000
Trenching and Backfill	310	LF	7.00	2,170
(2) 2", (1) 1" Conduits	320	LF	15.00	4,800
Cables	330	LF	5.00	1,650
Cable Terminations and Programming	1	LS	2,000.00	2,000
LV Handholes	1	EA	1,500.00	1,500
Total For Electrical Distribution				**21,860**

G4020 Site Lighting

No work anticipated N/A

Total For Site Lighting

G4030 Site Communications and Security

	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
	No work anticipated				N/A
	Total For Site Communications and Security				
G4090	**Other Site Electrical Utilities**				
	No work anticipated				N/A
	Total For Other Site Electrical Utilities				

ARLINGTON SCHOOL DISTRICT
MODULAR CLASSROOM BUILDINGS
ARLINGTON, WA
FEASIBILITY STUDY
STILLAGUAMISH VALLEY LEARNING CENTER: OPTION B

DATE: January 28, 2021

RC COST GROUP

No.	ELEMENT DESCRIPTION		ELEMENT TOTAL		GROUP TOTAL
G10	SITE PREPARATION			$	11,148
G1010	Site Clearing		$ 2,688		
G1020	Site Demolition and Relocations		$ -		
G1030	Site Earthwork		$ 8,460		
G1040	Hazardous Waste Remediation		$ -		
G20	SITE IMPROVEMENTS			$	238,014
G2010	Roadways		$ -		
G2020	Parking Lots		$ -		
G2030	Pedestrian Paving		$ 3,700		
G2040	Site Development		$ 234,314		
G2050	Landscaping		$ -		
G30	SITE MECHANICAL UTILITIES			$	31,380
G3010	Water Supply		$ 8,000		
G3020	Sanitary Sewer		$ 9,100		
G3030	Storm Sewer		$ 14,280		
G3040	Heating Distribution		$ -		
G3050	Cooling Distribution		$ -		
G3060	Fuel Distribution		$ -		
G3090	Other Site Mechanical Utilities		$ -		
G40	SITE ELECTRICAL UTILITIES			$	10,180
G4010	Electrical Distribution		$ 10,180		
G4020	Site Lighting		$ -		
G4030	Site Communications and Security		$ -		
G4090	Other Site Electrical Utilities		$ -		
	Sub-Total Direct Cost			**$**	**290,722**
	Estimating / Design Contingency	12.50%		$	36,340
	Sub-Total			**$**	**327,062**
	General Conditions/General Requirements	16.65%		$	54,456
	General Contractor's Fee, Bonds and Insurance	8.30%		$	31,666
	Sub-Total			**$**	**413,184**
	Escalation, June 2021	1.55%		$	6,387
	TOTAL CONSTRUCTION COST			**$**	**419,571**

	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
G10	**SITE PREPARATION**				
G1010	**Site Clearing**				
	G1011 Clearing and grubbing				
	Site clearance	1	LS	2,688.00	2,688
	Total For Site Clearing				**2,688**
G1020	**Site Demolition and Relocations**				
	G1022 Demolition of site components				
	Demolish and remove chain link fencing, included in Option A				N/A
	Demolish and remove chain link fencing, included in Option A	650	SF	4.35	N/A
	Total For Site Demolition and Relocations				
G1030	**Site Earthwork**				
	G1031 Site grading excavation				
	TESCP AND GRADING				
	TESCP MAINTAIN & CONTROL	1	ALLOW	2,000.00	2,000
	CLEAR AND GRUB	0	AC	20,000.00	2,000
	STRIPPINGS/UNCLX	40	CY	4.00	160
	CATCHBASIN INSERTS	2	EA	300.00	600
	EXPORT MATERIAL	40	CY	30.00	1,200
	SUBGRADE CUT	100	CY	10.00	1,000
	SUBGRADE FILL	100	CY	15.00	1,500
	Total For Site Earthwork				**8,460**
G1040	**Hazardous Waste Remediation**				
	No work anticipated				N/A
	Total For Hazardous Waste Remediation				
G20	**SITE IMPROVEMENTS**				
G2010	**Roadways**				
	No work anticipated				N/A
	Total For Roadways				
G2020	**Parking Lots**				
	No work anticipated				N/A
	Total For Parking Lots				

	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
G2030	**Pedestrian Paving**				
	HOT MIX AND CONC SIDEWALKS				
	CSTC	10	TON	50.00	500
	CONC WALK	400	SF	8.00	3,200
	Total For Pedestrian Paving				**3,700**
G2040	**Site Development**				
	G2041 Fences and gates				
	Chain link fence, reinstallation, included in Option A				N/A
	G2049 Miscellaneous structures				
	Modular classroom building, double 28'-0" x 64'-0" with (2) restrooms "KCDA"	1	EA	182,500.00	182,500
	Logistics complexity of installation of modular classroom	1	LS	10,000.00	10,000
	Reinforced concrete foundation at modular classroom buildings	14	CY	875.00	12,250
	Gravel below modular classroom buildings	1,792	SF	1.35	2,419
	Custom ramp and landing	650	SF	25.50	16,575
	Railings at welcome ramp and landing	151	LF	70.00	10,570
	Total For Site Development				**234,314**
G2050	**Landscaping**				
	No work anticipated				N/A
	Total For Landscaping				
G30	**SITE MECHANICAL UTILITIES**				
G3010	**Water Supply**				
	G3010 Water Supply				
	WATER-DOMESTIC & FIRE				
	1" PE SERVICE	200	LF	15.00	3,000
	METER & RPBA	1	EA	5,000.00	5,000
	Total For Water Supply				**8,000**
G3020	**Sanitary Sewer**				
	G3020 Sanitary Sewer				
	SANITARY SEWER				
	6" PVC, SD35, SIDE SEWER	110	LF	50.00	5,500
	CONNECT TO EXISTING	1	EA	2,000.00	2,000
	CLEANOUT	2	EA	800.00	1,600
	Total For Sanitary Sewer				**9,100**

	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
G3030	**Storm Sewer**				
	G3030 Storm Drainage				
	STORM SEWER				
	6" PVC PIPE	110	LF	35.00	3,850
	CATCH BASIN-TYPE I	1	EA	1,750.00	1,750
	6" CLEANOUT	6	EA	780.00	4,680
	DRAIN ROCK	60	TONS	50.00	3,000
	GEOTEXTILE	100	SY	10.00	1,000
	Total For Storm Sewer				**14,280**
G3040	**Heating Distribution**				
	No work anticipated				
	Total For Heating Distribution				
G3050	**Cooling Distribution**				
	No work anticipated				N/A
	Total For Cooling Distribution				
G3060	**Fuel Distribution**				
	No work anticipated				N/A
	Total For Fuel Distribution				
G3090	**Other Site Mechanical Utilities**				
	No work anticipated				N/A
	Total For Other Site Mechanical Utilities				
G40	**SITE ELECTRICAL UTILITIES**				
G4010	**Electrical Distribution**				
	Site Electrical				
	Utility Service	1	LS	2,500.00	2,500
	2.5" Conduit	50	LF	17.00	850
	Power Terminations	1	LS	1,000.00	1,000
	Trenching and Backfill	140	LF	7.00	980
	(2) 2", (1) 1" Conduits	140	LF	15.00	2,100
	Cables	150	LF	5.00	750
	Cable Terminations and Programming	1	LS	2,000.00	2,000
	Total For Electrical Distribution				**10,180**
G4020	**Site Lighting**				
	No work anticipated				N/A

	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
	Total For Site Lighting				
G4030	**Site Communications and Security**				
	No work anticipated				N/A
	Total For Site Communications and Security				
G4090	**Other Site Electrical Utilities**				
	No work anticipated				N/A
	Total For Other Site Electrical Utilities				

ARLINGTON SCHOOL DISTRICT
MODULAR CLASSROOM BUILDINGS
ARLINGTON, WA
FEASIBILITY STUDY
KENT PRAIRIE ELEMENTARY SCHOOL: OPTION A

DATE: January 28, 2021

COST GROUP

No.	ELEMENT DESCRIPTION		ELEMENT TOTAL		GROUP TOTAL
G10	SITE PREPARATION			$	68,966
G1010	Site Clearing		$ 2,688		
G1020	Site Demolition and Relocations		$ 198		
G1030	Site Earthwork		$ 66,080		
G1040	Hazardous Waste Remediation		$ -		
G20	SITE IMPROVEMENTS			$	432,777
G2010	Roadways		$ -		
G2020	Parking Lots		$ -		
G2030	Pedestrian Paving		$ 11,099		
G2040	Site Development		$ 421,678		
G2050	Landscaping		$ -		
G30	SITE MECHANICAL UTILITIES			$	47,380
G3010	Water Supply		$ 6,950		
G3020	Sanitary Sewer		$ 19,300		
G3030	Storm Sewer		$ 21,130		
G3040	Heating Distribution		$ -		
G3050	Cooling Distribution		$ -		
G3060	Fuel Distribution		$ -		
G3090	Other Site Mechanical Utilities		$ -		
G40	SITE ELECTRICAL UTILITIES			$	60,310
G4010	Electrical Distribution		$ 60,310		
G4020	Site Lighting		$ -		
G4030	Site Communications and Security		$ -		
G4090	Other Site Electrical Utilities		$ -		
	Sub-Total Direct Cost			**$**	**609,432**
	Estimating / Design Contingency	12.50%		$	76,179
	Sub-Total			**$**	**685,611**
	General Conditions/General Requirements	16.65%		$	114,154
	General Contractor's Fee, Bonds and Insurance	8.30%		$	66,381
	Sub-Total			**$**	**866,146**
	Escalation, June 2021	1.55%		$	13,388
	TOTAL CONSTRUCTION COST			**$**	**879,535**

	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
G10	**SITE PREPARATION**				
G1010	**Site Clearing**				
	G1011 Clearing and grubbing				
	Site clearance	1	LS	2,688.00	2,688
	Total For Site Clearing				**2,688**
G1020	**Site Demolition and Relocations**				
	G1022 Demolition of site components				
	Demolish and remove chain link fencing	25	LF	7.90	198
	Total For Site Demolition and Relocations				**198**
G1030	**Site Earthwork**				
	G1031 Site grading excavation				
	TESCP AND GRADING				
	TESCP MAINTAIN & CONTROL	1	ALLOW	2,000.00	2,000
	TESCP FENCE	300	LF	5.00	1,500
	CLEAR AND GRUB	0	AC	10,000.00	2,500
	STRIPPINGS/UNCLX	270	CY	4.00	1,080
	SUBGRADE FILL	1,000	CY	8.00	8,000
	IMPORT STRUCTURAL	1,000	CY	50.00	50,000
	MULCHING	20	CY	25.00	500
	HYDROSEEDING	1	LS	500.00	500
	Total For Site Earthwork				**66,080**
G1040	**Hazardous Waste Remediation**				
	No work anticipated				N/A
	Total For Hazardous Waste Remediation				
G20	**SITE IMPROVEMENTS**				
G2010	**Roadways**				
	No work anticipated				N/A
	Total For Roadways				
G2020	**Parking Lots**				
	No work anticipated				N/A
	Total For Parking Lots				
G2030	**Pedestrian Paving**				
	G2031 Paving and surfacing				
	HOT MIX AND CONC SIDEWALKS		JOB		

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
CSTC	25	TON	60.00	1,500
CONC WALK	830	SF	8.00	6,640
Asphalt paving and base	610	SF	4.85	2,959
Total For Pedestrian Paving				**11,099**
G2040 Site Development				
G2041 Fences and gates				
Chain link fence	75	LF	45.00	3,375
Gate at chain link fence with crash bar, single	3	EA	1,250.00	3,750
G2049 Miscellaneous structures				
Modular classroom building, double 28'-0" x 64'-0" with (2) restrooms "KCDA"	2	EA	182,500.00	365,000
Reinforced concrete foundation at modular classroom buildings	28	CY	875.00	24,500
Gravel below modular classroom buildings	3,584	SF	1.35	4,838
Welcome ramp and landing	370	SF	25.50	9,435
Railings at welcome ramp	154	LF	70.00	10,780
Total For Site Development				**421,678**
G2050 Landscaping				
No work anticipated				N/A
Total For Landscaping				
G30 SITE MECHANICAL UTILITIES				
G3010 Water Supply				
G3010 Water Supply				
WATER-DOMESTIC & FIRE		JOB		
1" PE SERVICE	130	LF	15.00	1,950
METER & RPBA	1	EA	5,000.00	5,000
Total For Water Supply				**6,950**
G3020 Sanitary Sewer				
G3020 Sanitary Sewer				
SANITARY SEWER		JOB		
6" PVC, SD35, SIDE SEWER	250	LF	50.00	12,500
CONNECT TO EXISTING	1	EA	2,000.00	2,000
CLEANOUT	6	EA	800.00	4,800
Total For Sanitary Sewer				**19,300**
G3030 Storm Sewer				
G3030 Storm Drainage				
STORM SEWER				
6" PVC PIPE	220	LF	35.00	7,700

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
CATCH BASIN-TYPE I	2	EA	1,750.00	3,500
6" CLEANOUT	6	EA	780.00	4,680
DRAIN ROCK	75	TONS	50.00	3,750
GEOTEXTILE	150	SY	10.00	1,500
Total For Storm Sewer				**21,130**

G3040 Heating Distribution

No work anticipated

Total For Heating Distribution

G3050 Cooling Distribution

No work anticipated — N/A

Total For Cooling Distribution

G3060 Fuel Distribution

No work anticipated — N/A

Total For Fuel Distribution

G3090 Other Site Mechanical Utilities

No work anticipated — N/A

Total For Other Site Mechanical Utilities

G40 SITE ELECTRICAL UTILITIES

G4010 Electrical Distribution

Site Electrical				
200A, 4W, 3P Feeder	100	LF	26.00	2,600
200A, 3W, 2P Feeder	320	LF	21.00	6,720
2.5" Conduit (Site PVC)	480	LF	17.00	8,160
Power Handholes	1	EA	1,500.00	1,500
Power Terminations	1	EA	8,500.00	8,500
Trenching	260	LF	7.00	1,820
(2) 2", (1) 1" Conduits PVC	120	LF	15.00	1,800
Cables	750	LF	5.00	3,750
Cable Terminations and Programming	1	LS	4,000.00	4,000
LV Handholes	1	EA	1,500.00	1,500
Asphalt Sawcut and Repair	30	LF	20.00	600
(2) 2", (1) 1" EMT Conduits in Bldg	260	LF	36.00	9,360
400A Portable Dist Panel	1	LS	10,000.00	10,000
Total For Electrical Distribution				**60,310**

G4020 Site Lighting

No work anticipated — N/A

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
Total For Site Lighting				
G4030 Site Communications and Security				
No work anticipated				N/A
Total For Site Communications and Security				
G4090 Other Site Electrical Utilities				
No work anticipated				N/A
Total For Other Site Electrical Utilities				

ARLINGTON SCHOOL DISTRICT
MODULAR CLASSROOM BUILDINGS
ARLINGTON, WA
FEASIBILITY STUDY
KENT PRAIRIE ELEMENTARY SCHOOL: OPTION B

DATE: January 28, 2021

COST GROUP

No.	ELEMENT DESCRIPTION		ELEMENT TOTAL	GROUP TOTAL
G10	SITE PREPARATION			$ 14,500
G1010	Site Clearing		$ -	
G1020	Site Demolition and Relocations		$ 10,000	
G1030	Site Earthwork		$ 4,500	
G1040	Hazardous Waste Remediation		$ -	
G20	SITE IMPROVEMENTS			$ 422,005
G2010	Roadways		$ -	
G2020	Parking Lots		$ -	
G2030	Pedestrian Paving		$ 19,000	
G2040	Site Development		$ 403,005	
G2050	Landscaping		$ -	
G30	SITE MECHANICAL UTILITIES			$ 52,580
G3010	Water Supply		$ 9,500	
G3020	Sanitary Sewer		$ 38,400	
G3030	Storm Sewer		$ 4,680	
G3040	Heating Distribution		$ -	
G3050	Cooling Distribution		$ -	
G3060	Fuel Distribution		$ -	
G3090	Other Site Mechanical Utilities		$ -	
G40	SITE ELECTRICAL UTILITIES			$ 67,410
G4010	Electrical Distribution		$ 67,410	
G4020	Site Lighting		$ -	
G4030	Site Communications and Security		$ -	
G4090	Other Site Electrical Utilities		$ -	
	Sub-Total Direct Cost			**$ 556,495**
	Estimating / Design Contingency	12.50%		$ 69,562
	Sub-Total			**$ 626,057**
	General Conditions/General Requirements	16.65%		$ 104,238
	General Contractor's Fee, Bonds and Insurance	8.30%		$ 60,615
	Sub-Total			**$ 790,910**
	Escalation, June 2021	1.55%		$ 12,225
	TOTAL CONSTRUCTION COST			**$ 803,135**

	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
G10	**SITE PREPARATION**				
G1010	**Site Clearing**				
	G1011 Clearing and grubbing				
	Included in site demolition				N/A
	Total For Site Clearing				
G1020	**Site Demolition and Relocations**				
	G1022 Demolition of site components				
	SAWCUT ASPHALT AND REPAIR	1	LS	10,000.00	10,000
	Total For Site Demolition and Relocations				**10,000**
G1030	**Site Earthwork**				
	G1031 Site grading excavation				
	TESCP AND GRADING				
	TESCP MAINTAIN & CONTROL	1	ALLOW	2,000.00	2,000
	TESCP FENCE	300	LF	5.00	1,500
	MULCHING	20	CY	25.00	500
	HYDROSEEDING	1	LS	500.00	500
	Total For Site Earthwork				**4,500**
G1040	**Hazardous Waste Remediation**				
	No work anticipated				N/A
	Total For Hazardous Waste Remediation				
G20	**SITE IMPROVEMENTS**				
G2010	**Roadways**				
	No work anticipated				N/A
	Total For Roadways				
G2020	**Parking Lots**				
	No work anticipated				N/A
	Total For Parking Lots				
G2030	**Pedestrian Paving**				
	G2031 Paving and surfacing				
	HOT MIX AND CONC SIDEWALKS				
	HMA	100	TON	130.00	13,000
	CSTC	100	TON	60.00	6,000
	Total For Pedestrian Paving				**19,000**

	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
G2040	**Site Development**				
	G2041 Fences and gates				
	No work anticipated				N/A
	G2049 Miscellaneous structures				
	Modular classroom building, double 28'-0" x 64'-0" with (2) restrooms "KCDA"	2	EA	182,500.00	365,000
	Reinforced concrete foundation at modular classroom buildings	28	CY	875.00	24,500
	Welcome ramp and landing	310	SF	25.50	7,905
	Railings at welcome ramp	80	LF	70.00	5,600
	Total For Site Development				**403,005**
G2050	**Landscaping**				
	No work anticipated				N/A
	Total For Landscaping				
G30	**SITE MECHANICAL UTILITIES**				
G3010	**Water Supply**				
	G3010 Water Supply				
	WATER-DOMESTIC & FIRE				
	1" PE SERVICE	300	LF	15.00	4,500
	METER & RPBA	1	EA	5,000.00	5,000
	Total For Water Supply				**9,500**
G3020	**Sanitary Sewer**				
	G3020 Sanitary Sewer				
	SANITARY SEWER		JOB		
	6" PVC, SD35, SIDE SEWER	600	LF	50.00	30,000
	CONNECT TO EXISTING	1	EA	2,000.00	2,000
	CLEANOUT	8	EA	800.00	6,400
	Total For Sanitary Sewer				**38,400**
G3030	**Storm Sewer**				
	G3030 Storm Drainage				
	STORM SEWER				
	6" CLEANOUT	6	EA	780.00	4,680
	Total For Storm Sewer				**4,680**
G3040	**Heating Distribution**				
	No work anticipated				

	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
	Total For Heating Distribution				
G3050	**Cooling Distribution**				
	No work anticipated				N/A
	Total For Cooling Distribution				
G3060	**Fuel Distribution**				
	No work anticipated				N/A
	Total For Fuel Distribution				
G3090	**Other Site Mechanical Utilities**				
	No work anticipated				N/A
	Total For Other Site Mechanical Utilities				
G40	**SITE ELECTRICAL UTILITIES**				
G4010	**Electrical Distribution**				
	Site Electrical				
	200A, 4W, 3P Feeder	500	LF	26.00	13,000
	480-208 Xfmr- 150kVA	1	EA	9,800.00	9,800
	2.5" Conduit (Site PVC)	60	LF	17.00	1,020
	Power Handholes	1	EA	1,500.00	1,500
	Power Terminations	1	EA	4,500.00	4,500
	Trenching	60	LF	7.00	420
	(2) 2", (1) 1" Conduits PVC	60	LF	15.00	900
	Cables	550	LF	5.00	2,750
	Cable Terminations and Programming	1	LS	4,000.00	4,000
	LV Handholes	1	EA	1,500.00	1,500
	Asphalt Sawcut and Repair	50	LF	20.00	1,000
	2.5" EMT through Building	450	LF	18.00	8,100
	(2) 2", (1) 1" EMT Conduits in Bldg	220	LF	36.00	7,920
	400A Portable Dist Panel and Xfmr Disconnect	1	LS	11,000.00	11,000
	Total For Electrical Distribution				**67,410**
G4020	**Site Lighting**				
	No work anticipated				N/A
	Total For Site Lighting				
G4030	**Site Communications and Security**				
	No work anticipated				N/A
	Total For Site Communications and Security				
G4090	**Other Site Electrical Utilities**				

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
No work anticipated				N/A
Total For Other Site Electrical Utilities				

ARLINGTON SCHOOL DISTRICT
MODULAR CLASSROOM BUILDINGS
ARLINGTON, WA
FEASIBILITY STUDY
PRESIDENTS ELEMENTARY SCHOOL: OPTION A

DATE: January 28, 2021

COST GROUP

No.	ELEMENT DESCRIPTION		ELEMENT TOTAL	GROUP TOTAL
G10	SITE PREPARATION			$ 21,024
G1010	Site Clearing		$ 2,688	
G1020	Site Demolition and Relocations		$ 2,836	
G1030	Site Earthwork		$ 15,500	
G1040	Hazardous Waste Remediation		$ -	
G20	SITE IMPROVEMENTS			$ 456,249
G2010	Roadways		$ -	
G2020	Parking Lots		$ -	
G2030	Pedestrian Paving		$ 18,059	
G2040	Site Development		$ 438,190	
G2050	Landscaping		$ -	
G30	SITE MECHANICAL UTILITIES			$ 38,680
G3010	Water Supply		$ 6,950	
G3020	Sanitary Sewer		$ 10,600	
G3030	Storm Sewer		$ 21,130	
G3040	Heating Distribution		$ -	
G3050	Cooling Distribution		$ -	
G3060	Fuel Distribution		$ -	
G3090	Other Site Mechanical Utilities		$ -	
G40	SITE ELECTRICAL UTILITIES			$ 76,600
G4010	Electrical Distribution		$ 76,600	
G4020	Site Lighting		$ -	
G4030	Site Communications and Security		$ -	
G4090	Other Site Electrical Utilities		$ -	
	Sub-Total Direct Cost			**$ 592,554**
	Estimating / Design Contingency	12.50%		$ 74,069
	Sub-Total			**$ 666,623**
	General Conditions/General Requirements	16.65%		$ 110,993
	General Contractor's Fee, Bonds and Insurance	8.30%		$ 64,542
	Sub-Total			**$ 842,157**
	Escalation, June 2021	1.55%		$ 13,018
	TOTAL CONSTRUCTION COST			**$ 855,175**

	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
G10	**SITE PREPARATION**				
G1010	**Site Clearing**				
	G1011 Clearing and grubbing				
	Site clearance	1	LS	2,688.00	2,688
	Total For Site Clearing				**2,688**
G1020	**Site Demolition and Relocations**				
	G1022 Demolition of site components				
	Demolish and remove chain link fencing	359	LF	7.90	2,836
	Total For Site Demolition and Relocations				**2,836**
G1030	**Site Earthwork**				
	G1031 Site grading excavation				
	TESCP AND GRADING				
	TESCP MAINTAIN & CONTROL	1	ALLOW	2,000.00	2,000
	TESCP FENCE	300	LF	5.00	1,500
	CLEAR AND GRUB	0	AC	10,000.00	3,000
	STRIPPINGS/UNCLX	150	CY	4.00	600
	EXPORT MATERIAL	150	CY	30.00	4,500
	SUBGRADE FILL	50	CY	8.00	400
	IMPORT STRUCTURAL	50	CY	50.00	2,500
	MULCHING	20	CY	25.00	500
	HYDROSEEDING	1	LS	500.00	500
	Total For Site Earthwork				**15,500**
G1040	**Hazardous Waste Remediation**				
	No work anticipated				N/A
	Total For Hazardous Waste Remediation				
G20	**SITE IMPROVEMENTS**				
G2010	**Roadways**				
	No work anticipated				N/A
	Total For Roadways				
G2020	**Parking Lots**				
	No work anticipated				N/A
	Total For Parking Lots				
G2030	**Pedestrian Paving**				
	G2031 Paving and surfacing				

	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
	HOT MIX AND CONC SIDEWALKS				
	CSTC	25	TON	60.00	1,500
	CONC WALK	530	SF	8.00	4,240
	Asphalt paving and base	2,540	SF	4.85	12,319
	Total For Pedestrian Paving				**18,059**
G2040	**Site Development**				
	G2041 Fences and gates				
	Chain link fence	300	LF	45.00	13,500
	Gate at chain link fence with crash bar, single	3	EA	1,250.00	3,750
	G2049 Miscellaneous structures				
	Modular classroom building, double 28'-0" x 64'-0" with (2) restrooms "KCDA"	2	EA	182,500.00	365,000
	Reinforced concrete foundation at modular classroom buildings	28	CY	875.00	24,500
	Gravel below modular classroom buildings	3,584	SF	1.35	4,838
	Welcome ramp and landing	604	SF	25.50	15,402
	Railings at welcome ramp	160	LF	70.00	11,200
	Total For Site Development				**438,190**
G2050	**Landscaping**				
	No work anticipated				N/A
	Total For Landscaping				
G30	**SITE MECHANICAL UTILITIES**				
G3010	**Water Supply**				
	G3010 Water Supply				
	WATER-DOMESTIC & FIRE				
	1" PE SERVICE	130	LF	15.00	1,950
	METER & RPBA	1	EA	5,000.00	5,000
	Total For Water Supply				**6,950**
G3020	**Sanitary Sewer**				
	G3020 Sanitary Sewer				
	SANITARY SEWER				
	6" PVC, SD35, SIDE SEWER	100	LF	50.00	5,000
	CONNECT TO EXISTING	2	EA	2,000.00	4,000
	CLEANOUT	2	EA	800.00	1,600
	Total For Sanitary Sewer				**10,600**
G3030	**Storm Sewer**				
	G3030 Storm Drainage				
	STORM SEWER				

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
6" PVC PIPE	220	LF	35.00	7,700
CATCH BASIN-TYPE I	2	EA	1,750.00	3,500
6" CLEANOUT	6	EA	780.00	4,680
DRAIN ROCK	75	TONS	50.00	3,750
GEOTEXTILE	150	SY	10.00	1,500
Total For Storm Sewer				**21,130**

G3040 Heating Distribution

No work anticipated

Total For Heating Distribution

G3050 Cooling Distribution

No work anticipated — N/A

Total For Cooling Distribution

G3060 Fuel Distribution

No work anticipated — N/A

Total For Fuel Distribution

G3090 Other Site Mechanical Utilities

No work anticipated — N/A

Total For Other Site Mechanical Utilities

G40 SITE ELECTRICAL UTILITIES

G4010 Electrical Distribution

Site Electrical				
200A, 3W, 2P Feeder	120	LF	21.00	2,520
600A, 4W, 3P Feeder	300	LF	78.00	23,400
2.5" Conduit	340	LF	17.00	5,780
Power Handholes	1	EA	1,500.00	1,500
Power Terminations	1	LS	4,500.00	4,500
Trenching and Backfill	300	LF	7.00	2,100
(2) 2", (1) 1" Conduits	300	LF	15.00	4,500
Cables	1,120	LF	5.00	5,600
Cable Terminations and Programming	1	LS	4,000.00	4,000
LV Handholes	1	EA	1,500.00	1,500
Asphalt Sawcut and Repair	20	LF	20.00	400
600A Portable Dist Panel	1	LS	15,800.00	15,800
Low Voltage Distribution Box	1	LS	5,000.00	5,000
Total For Electrical Distribution				**76,600**

G4020 Site Lighting

	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
	No work anticipated				N/A
	Total For Site Lighting				
G4030	**Site Communications and Security**				
	No work anticipated				N/A
	Total For Site Communications and Security				
G4090	**Other Site Electrical Utilities**				
	No work anticipated				N/A
	Total For Other Site Electrical Utilities				

ARLINGTON SCHOOL DISTRICT
MODULAR CLASSROOM BUILDINGS
ARLINGTON, WA
FEASIBILITY STUDY
PRESIDENTS ELEMENTARY SCHOOL: OPTION B

DATE: January 28, 2021

COST GROUP

No.	ELEMENT DESCRIPTION		ELEMENT TOTAL		GROUP TOTAL
G10	SITE PREPARATION			$	19,885
G1010	Site Clearing		$ 2,688		
G1020	Site Demolition and Relocations		$ 1,697		
G1030	Site Earthwork		$ 15,500		
G1040	Hazardous Waste Remediation		$ -		
G20	SITE IMPROVEMENTS			$	429,011
G2010	Roadways		$ -		
G2020	Parking Lots		$ -		
G2030	Pedestrian Paving		$ 4,000		
G2040	Site Development		$ 425,011		
G2050	Landscaping		$ -		
G30	SITE MECHANICAL UTILITIES			$	33,680
G3010	Water Supply		$ 1,950		
G3020	Sanitary Sewer		$ 10,600		
G3030	Storm Sewer		$ 21,130		
G3040	Heating Distribution		$ -		
G3050	Cooling Distribution		$ -		
G3060	Fuel Distribution		$ -		
G3090	Other Site Mechanical Utilities		$ -		
G40	SITE ELECTRICAL UTILITIES			$	28,600
G4010	Electrical Distribution		$ 28,600		
G4020	Site Lighting		$ -		
G4030	Site Communications and Security		$ -		
G4090	Other Site Electrical Utilities		$ -		
	Sub-Total Direct Cost			**$**	**511,176**
	Estimating / Design Contingency	12.50%		$	63,897
	Sub-Total			**$**	**575,073**
	General Conditions/General Requirements	16.65%		$	95,750
	General Contractor's Fee, Bonds and Insurance	8.30%		$	55,678
	Sub-Total			**$**	**726,501**
	Escalation, June 2021	1.55%		$	11,230
	TOTAL CONSTRUCTION COST			**$**	**737,731**

	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
G10	**SITE PREPARATION**				
G1010	**Site Clearing**				
	G1011 Clearing and grubbing				
	Site clearance	1	LS	2,688.00	2,688
	Total For Site Clearing				**2,688**
G1020	**Site Demolition and Relocations**				
	G1022 Demolition of site components				
	Demolish and remove chain link backstop	101	LF	16.80	1,697
	Total For Site Demolition and Relocations				**1,697**
G1030	**Site Earthwork**				
	G1031 Site grading excavation				
	TESCP AND GRADING				
	TESCP MAINTAIN & CONTROL	1	ALLOW	2,000.00	2,000
	TESCP FENCE	300	LF	5.00	1,500
	CLEAR AND GRUB	0	AC	10,000.00	3,000
	STRIPPINGS/UNCLX	150	CY	4.00	600
	EXPORT MATERIAL	150	CY	30.00	4,500
	SUBGRADE FILL	50	CY	8.00	400
	IMPORT STRUCTURAL	50	CY	50.00	2,500
	MULCHING	20	CY	25.00	500
	HYDROSEEDING	1	LS	500.00	500
	Total For Site Earthwork				**15,500**
G1040	**Hazardous Waste Remediation**				
	No work anticipated				N/A
	Total For Hazardous Waste Remediation				
G20	**SITE IMPROVEMENTS**				
G2010	**Roadways**				
	No work anticipated				N/A
	Total For Roadways				
G2020	**Parking Lots**				
	No work anticipated				N/A
	Total For Parking Lots				
G2030	**Pedestrian Paving**				
	G2031 Paving and surfacing				

	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
	HOT MIX AND CONC SIDEWALKS		JOB		
	CSTC	25	TON	60.00	1,500
	CONC WALK REMOVE / REPLACE	1	LS	2,500.00	2,500
	Total For Pedestrian Paving				**4,000**
G2040	**Site Development**				
	G2041 Fences and gates				
	Chain link backstop	101	LF	172.00	17,372
	G2049 Miscellaneous structures				
	Modular classroom building, double 28'-0" x 64'-0" with (2) restrooms "KCDA"	2	EA	182,500.00	365,000
	Reinforced concrete foundation at modular classroom buildings	28	CY	875.00	24,500
	Gravel below modular classroom buildings	3,584	SF	1.35	4,838
	Welcome ramp and landing	302	SF	25.50	7,701
	Railings at welcome ramp	80	LF	70.00	5,600
	Total For Site Development				**425,011**
G2050	**Landscaping**				
	No work anticipated				N/A
	Total For Landscaping				
G30	**SITE MECHANICAL UTILITIES**				
G3010	**Water Supply**				
	G3010 Water Supply				
	WATER-DOMESTIC & FIRE		JOB		
	1" PE SERVICE	130	LF	15.00	1,950
	Total For Water Supply				**1,950**
G3020	**Sanitary Sewer**				
	G3020 Sanitary Sewer				
	SANITARY SEWER		JOB		
	6" PVC, SD35, SIDE SEWER	100	LF	50.00	5,000
	CONNECT TO EXISTING	2	EA	2,000.00	4,000
	CLEANOUT	2	EA	800.00	1,600
	Total For Sanitary Sewer				**10,600**
G3030	**Storm Sewer**				
	G3030 Storm Drainage				
	STORM SEWER				
	6" PVC PIPE	220	LF	35.00	7,700
	CATCH BASIN-TYPE I	2	EA	1,750.00	3,500
	6" CLEANOUT	6	EA	780.00	4,680

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
DRAIN ROCK	75	TONS	50.00	3,750
GEOTEXTILE	150	SY	10.00	1,500
Total For Storm Sewer				**21,130**

G3040 Heating Distribution

No work anticipated

Total For Heating Distribution

G3050 Cooling Distribution

No work anticipated N/A

Total For Cooling Distribution

G3060 Fuel Distribution

No work anticipated N/A

Total For Fuel Distribution

G3090 Other Site Mechanical Utilities

No work anticipated N/A

Total For Other Site Mechanical Utilities

G40 SITE ELECTRICAL UTILITIES

G4010 Electrical Distribution

Site Electrical				
200A, 3W, 2P Feeder	320	LF	21.00	6,720
2.5" Conduit	320	LF	17.00	5,440
Power Terminations	1	LS	4,500.00	4,500
Trenching and Backfill	220	LF	7.00	1,540
(2) 2", (1) 1" Conduits	220	LF	15.00	3,300
Cables	320	LF	5.00	1,600
Cable Terminations and Programming	1	LS	4,000.00	4,000
LV Handholes	1	EA	1,500.00	1,500
Total For Electrical Distribution				**28,600**

G4020 Site Lighting

No work anticipated N/A

Total For Site Lighting

G4030 Site Communications and Security

No work anticipated N/A

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
Total For Site Communications and Security				
G4090 Other Site Electrical Utilities				
No work anticipated				N/A
Total For Other Site Electrical Utilities				

ARLINGTON SCHOOL DISTRICT
MODULAR CLASSROOM BUILDINGS
ARLINGTON, WA
FEASIBILITY STUDY
PRESIDENTS ELEMENTARY SCHOOL: OPTION C

DATE: January 28, 2021

No.	ELEMENT DESCRIPTION		ELEMENT TOTAL		GROUP TOTAL
G10	SITE PREPARATION			$	18,188
G1010	Site Clearing		$ 2,688		
G1020	Site Demolition and Relocations		$ -		
G1030	Site Earthwork		$ 15,500		
G1040	Hazardous Waste Remediation		$ -		
G20	SITE IMPROVEMENTS			$	413,379
G2010	Roadways		$ -		
G2020	Parking Lots		$ -		
G2030	Pedestrian Paving		$ 5,740		
G2040	Site Development		$ 407,639		
G2050	Landscaping		$ -		
G30	SITE MECHANICAL UTILITIES			$	38,680
G3010	Water Supply		$ 6,950		
G3020	Sanitary Sewer		$ 10,600		
G3030	Storm Sewer		$ 21,130		
G3040	Heating Distribution		$ -		
G3050	Cooling Distribution		$ -		
G3060	Fuel Distribution		$ -		
G3090	Other Site Mechanical Utilities		$ -		
G40	SITE ELECTRICAL UTILITIES			$	20,840
G4010	Electrical Distribution		$ 20,840		
G4020	Site Lighting		$ -		
G4030	Site Communications and Security		$ -		
G4090	Other Site Electrical Utilities		$ -		
	Sub-Total Direct Cost			**$**	**491,087**
	Estimating / Design Contingency	12.50%		$	61,386
	Sub-Total			**$**	**552,473**
	General Conditions/General Requirements	16.65%		$	91,987
	General Contractor's Fee, Bonds and Insurance	8.30%		$	53,490
	Sub-Total			**$**	**697,950**
	Escalation, June 2021	1.55%		$	10,789
	TOTAL CONSTRUCTION COST			**$**	**708,739**

	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
G10	**SITE PREPARATION**				
G1010	**Site Clearing**				
	G1011 Clearing and grubbing				
	Site clearance	1	LS	2,688.00	2,688
	Total For Site Clearing				**2,688**
G1020	**Site Demolition and Relocations**				
	G1022 Demolition of site components				
	No work anticipated				N/A
	Total For Site Demolition and Relocations				
G1030	**Site Earthwork**				
	G1031 Site grading excavation				
	TESCP AND GRADING				
	TESCP MAINTAIN & CONTROL	1	ALLOW	2,000.00	2,000
	TESCP FENCE	300	LF	5.00	1,500
	CLEAR AND GRUB	0	AC	10,000.00	3,000
	STRIPPINGS/UNCLX	150	CY	4.00	600
	EXPORT MATERIAL	150	CY	30.00	4,500
	SUBGRADE FILL	50	CY	8.00	400
	IMPORT STRUCTURAL	50	CY	50.00	2,500
	MULCHING	20	CY	25.00	500
	HYDROSEEDING	1	LS	500.00	500
	Total For Site Earthwork				**15,500**
G1040	**Hazardous Waste Remediation**				
	No work anticipated				N/A
	Total For Hazardous Waste Remediation				
G20	**SITE IMPROVEMENTS**				
G2010	**Roadways**				
	No work anticipated				N/A
	Total For Roadways				
G2020	**Parking Lots**				
	No work anticipated				N/A
	Total For Parking Lots				
G2030	**Pedestrian Paving**				
	G2031 Paving and surfacing				

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
HOT MIX AND CONC SIDEWALKS		JOB		
CSTC	25	TON	60.00	1,500
CONC WALK	530	SF	8.00	4,240
Total For Pedestrian Paving				**5,740**
G2040 Site Development				
G2049 Miscellaneous structures				
Modular classroom building, double 28'-0" x 64'-0" with (2) restrooms "KCDA"	2	EA	182,500.00	365,000
Reinforced concrete foundation at modular classroom buildings	28	CY	875.00	24,500
Gravel below modular classroom buildings	3,584	SF	1.35	4,838
Welcome ramp and landing	302	SF	25.50	7,701
Railings at welcome ramp	80	LF	70.00	5,600
Total For Site Development				**407,639**
G2050 Landscaping				
No work anticipated				N/A
Total For Landscaping				
G30 SITE MECHANICAL UTILITIES				
G3010 Water Supply				
G3010 Water Supply				
WATER-DOMESTIC & FIRE		JOB		
1" PE SERVICE	130	LF	15.00	1,950
METER & RPBA	1	EA	5,000.00	5,000
Total For Water Supply				**6,950**
G3020 Sanitary Sewer				
G3020 Sanitary Sewer				
SANITARY SEWER		JOB		
6" PVC, SD35, SIDE SEWER	100	LF	50.00	5,000
CONNECT TO EXISTING	2	EA	2,000.00	4,000
CLEANOUT	2	EA	800.00	1,600
Total For Sanitary Sewer				**10,600**
G3030 Storm Sewer				
G3030 Storm Drainage				
STORM SEWER				
6" PVC PIPE	220	LF	35.00	7,700
CATCH BASIN-TYPE I	2	EA	1,750.00	3,500
6" CLEANOUT	6	EA	780.00	4,680
DRAIN ROCK	75	TONS	50.00	3,750
GEOTEXTILE	150	SY	10.00	1,500

	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
	Total For Storm Sewer				**21,130**
G3040	**Heating Distribution**				
	No work anticipated				
	Total For Heating Distribution				
G3050	**Cooling Distribution**				
	No work anticipated				N/A
	Total For Cooling Distribution				
G3060	**Fuel Distribution**				
	No work anticipated				N/A
	Total For Fuel Distribution				
G3090	**Other Site Mechanical Utilities**				
	No work anticipated				N/A
	Total For Other Site Mechanical Utilities				
G40	**SITE ELECTRICAL UTILITIES**				
G4010	**Electrical Distribution**				
	Site Electrical				
	200A, 3W, 2P Feeder	170	LF	21.00	3,570
	2.5" Conduit	170	LF	17.00	2,890
	Power Terminations	1	LS	4,500.00	4,500
	Trenching and Backfill	140	LF	7.00	980
	(2) 2", (1) 1" Conduits	170	LF	15.00	2,550
	Cables	170	LF	5.00	850
	Cable Terminations and Programming	1	LS	4,000.00	4,000
	LV Handholes	1	EA	1,500.00	1,500
	Total For Electrical Distribution				**20,840**
G4020	**Site Lighting**				
	No work anticipated				N/A
	Total For Site Lighting				
G4030	**Site Communications and Security**				
	No work anticipated				N/A
	Total For Site Communications and Security				

	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
G4090	**Other Site Electrical Utilities**				
	No work anticipated				N/A
	Total For Other Site Electrical Utilities				

ARLINGTON SCHOOL DISTRICT
MODULAR CLASSROOM BUILDINGS
ARLINGTON, WA
FEASIBILITY STUDY
PIONEER ELEMENTARY SCHOOL: OPTION A

DATE: January 28, 2021

No.	ELEMENT DESCRIPTION		ELEMENT TOTAL		GROUP TOTAL
G10	SITE PREPARATION			$	25,800
G1010	Site Clearing		$ -		
G1020	Site Demolition and Relocations		$ 22,600		
G1030	Site Earthwork		$ 3,200		
G1040	Hazardous Waste Remediation		$ -		
G20	SITE IMPROVEMENTS			$	417,215
G2010	Roadways		$ -		
G2020	Parking Lots		$ -		
G2030	Pedestrian Paving		$ 7,500		
G2040	Site Development		$ 409,715		
G2050	Landscaping		$ -		
G30	SITE MECHANICAL UTILITIES			$	35,790
G3010	Water Supply		$ 6,950		
G3020	Sanitary Sewer		$ 11,600		
G3030	Storm Sewer		$ 17,240		
G3040	Heating Distribution		$ -		
G3050	Cooling Distribution		$ -		
G3060	Fuel Distribution		$ -		
G3090	Other Site Mechanical Utilities		$ -		
G40	SITE ELECTRICAL UTILITIES			$	59,050
G4010	Electrical Distribution		$ 59,050		
G4020	Site Lighting		$ -		
G4030	Site Communications and Security		$ -		
G4090	Other Site Electrical Utilities		$ -		
	Sub-Total Direct Cost			**$**	**537,855**
	Estimating / Design Contingency	12.50%		$	67,232
	Sub-Total			**$**	**605,087**
	General Conditions/General Requirements	16.65%		$	100,747
	General Contractor's Fee, Bonds and Insurance	8.30%		$	58,584
	Sub-Total			**$**	**764,418**
	Escalation, June 2021	1.55%		$	11,816
	TOTAL CONSTRUCTION COST			**$**	**776,234**

	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
G10	**SITE PREPARATION**				
G1010	**Site Clearing**				
	G1011 Clearing and grubbing				
	Included in site demolition				N/A
	Total For Site Clearing				
G1020	**Site Demolition and Relocations**				
	G1022 Demolition of site components				
	SITE DEMOLITION				
	ASPHALT PAVEMENT	5,700	SF	3.00	17,100
	SAWCUT ASPHALT & REPAIR	1	LS	5,000.00	5,000
	CONCRETE CURB REMOVE	100	LF	5.00	500
	Total For Site Demolition and Relocations				**22,600**
G1030	**Site Earthwork**				
	G1031 Site grading excavation				
	TESCP AND GRADING				
	TESCP MAINTAIN & CONTROL	1	ALLOW	2,000.00	2,000
	CATCHBASIN INSERTS	4	EA	300.00	1,200
	Total For Site Earthwork				**3,200**
G1040	**Hazardous Waste Remediation**				
	No work anticipated				N/A
	Total For Hazardous Waste Remediation				
G20	**SITE IMPROVEMENTS**				
G2010	**Roadways**				
	No work anticipated				N/A
	Total For Roadways				
G2020	**Parking Lots**				
	No work anticipated				N/A
	Total For Parking Lots				
G2030	**Pedestrian Paving**				
	G2031 Paving and surfacing				
	HOT MIX AND CONC SIDEWALKS				
	HMA	1	LS	5,000.00	5,000
	CSTC	50	TON	50.00	2,500

	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
	Total For Pedestrian Paving				**7,500**
G2040	**Site Development**				
	G2041 Fences and gates				
	No work anticipated				N/A
	G2049 Miscellaneous structures				
	Modular classroom building, double 28'-0" x 64'-0" with (2) restrooms "KCDA"	2	EA	182,500.00	365,000
	Reinforced concrete foundation at modular classroom buildings	28	CY	875.00	24,500
	Welcome ramp and landing	370	SF	25.50	9,435
	Railings at welcome ramp	154	LF	70.00	10,780
	Total For Site Development				**409,715**
G2050	**Landscaping**				
	No work anticipated				N/A
	Total For Landscaping				
G30	**SITE MECHANICAL UTILITIES**				
G3010	**Water Supply**				
	G3010 Water Supply				
	WATER-DOMESTIC & FIRE				
	1" PE SERVICE	130	LF	15.00	1,950
	METER & RPBA	1	EA	5,000.00	5,000
	Total For Water Supply				**6,950**
G3020	**Sanitary Sewer**				
	G3020 Sanitary Sewer				
	SANITARY SEWER				
	6" PVC, SD35, SIDE SEWER	80	LF	50.00	4,000
	CONNECT TO EXISTING	2	EA	3,000.00	6,000
	CLEANOUT	2	EA	800.00	1,600
	Total For Sanitary Sewer				**11,600**
G3030	**Storm Sewer**				
	G3030 Storm Drainage				
	STORM SEWER				
	6" PVC PIPE	200	LF	35.00	7,000
	12" ADS PIPE	50	LF	45.00	2,250
	CATCH BASIN-TYPE I	1	EA	1,750.00	1,750
	6" CLEANOUT	8	EA	780.00	6,240
	Total For Storm Sewer				**17,240**

	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
G3040	**Heating Distribution**				
	No work anticipated				
	Total For Heating Distribution				
G3050	**Cooling Distribution**				
	No work anticipated				N/A
	Total For Cooling Distribution				
G3060	**Fuel Distribution**				
	No work anticipated				N/A
	Total For Fuel Distribution				
G3090	**Other Site Mechanical Utilities**				
	No work anticipated				N/A
	Total For Other Site Mechanical Utilities				
G40	**SITE ELECTRICAL UTILITIES**				
G4010	**Electrical Distribution**				
	Site Electrical				
	200A, 3W, 2P Feeder	560	LF	21.00	11,760
	100A, 3W, 2P Feeder	610	LF	13.00	7,930
	2.5" Conduit	520	LF	17.00	8,840
	Power Handholes	1	EA	1,500.00	1,500
	Power Terminations	1	LS	2,000.00	2,000
	Trenching and Backfill	310	LF	7.00	2,170
	(2) 2", (1) 1" Conduits	350	LF	15.00	5,250
	Cables	1,040	LF	5.00	5,200
	Cable Terminations and Programming	1	LS	4,000.00	4,000
	LV Handholes	2	EA	1,500.00	3,000
	Asphalt Sawcut and Repair	370	LF	20.00	7,400
	Total For Electrical Distribution				**59,050**
G4020	**Site Lighting**				
	No work anticipated				N/A
	Total For Site Lighting				
G4030	**Site Communications and Security**				
	No work anticipated				N/A
	Total For Site Communications and Security				

	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
G4090	**Other Site Electrical Utilities**				
	No work anticipated				N/A
	Total For Other Site Electrical Utilities				

ARLINGTON SCHOOL DISTRICT
MODULAR CLASSROOM BUILDINGS
ARLINGTON, WA
FEASIBILITY STUDY
PIONEER ELEMENTARY SCHOOL: OPTION B

DATE: January 28, 2021

COST GROUP

No.	ELEMENT DESCRIPTION		ELEMENT TOTAL		GROUP TOTAL
G10	SITE PREPARATION			$	34,247
G1010	Site Clearing		$ 2,688		
G1020	Site Demolition and Relocations		$ 26,759		
G1030	Site Earthwork		$ 4,800		
G1040	Hazardous Waste Remediation		$ -		
G20	SITE IMPROVEMENTS			$	453,263
G2010	Roadways		$ -		
G2020	Parking Lots		$ -		
G2030	Pedestrian Paving		$ 29,260		
G2040	Site Development		$ 424,003		
G2050	Landscaping		$ -		
G30	SITE MECHANICAL UTILITIES			$	42,880
G3010	Water Supply		$ 6,950		
G3020	Sanitary Sewer		$ 10,000		
G3030	Storm Sewer		$ 25,930		
G3040	Heating Distribution		$ -		
G3050	Cooling Distribution		$ -		
G3060	Fuel Distribution		$ -		
G3090	Other Site Mechanical Utilities		$ -		
G40	SITE ELECTRICAL UTILITIES			$	55,660
G4010	Electrical Distribution		$ 55,660		
G4020	Site Lighting		$ -		
G4030	Site Communications and Security		$ -		
G4090	Other Site Electrical Utilities		$ -		
	Sub-Total Direct Cost			**$**	**586,050**
	Estimating / Design Contingency	12.50%		$	73,256
	Sub-Total			**$**	**659,307**
	General Conditions/General Requirements	16.65%		$	109,775
	General Contractor's Fee, Bonds and Insurance	8.30%		$	63,834
	Sub-Total			**$**	**832,915**
	Escalation, June 2021	1.55%		$	12,875
	TOTAL CONSTRUCTION COST			**$**	**845,790**

	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
G10	**SITE PREPARATION**				
G1010	**Site Clearing**				
	G1011 Clearing and grubbing				
	Site clearance	1	LS	2,688.00	2,688
	Total For Site Clearing				**2,688**
G1020	**Site Demolition and Relocations**				
	G1022 Demolition of site components				
	SITE DEMOLITION				
	ASPHALT PAVEMENT	5,700	SF	3.00	17,100
	SAWCUT ASPHALT & REPAIR	1	LS	7,500.00	7,500
	CONCRETE CURB REMOVE	100	LF	5.00	500
	Demolish and remove chain link fencing	210	LF	7.90	1,659
	Total For Site Demolition and Relocations				**26,759**
G1030	**Site Earthwork**				
	G1031 Site grading excavation				
	TESCP AND GRADING				
	TESCP MAINTAIN & CONTROL	1	ALLOW	2,000.00	2,000
	CATCHBASIN INSERTS	4	EA	300.00	1,200
	CLEANOUT	2	EA	800.00	1,600
	Total For Site Earthwork				**4,800**
G1040	**Hazardous Waste Remediation**				
	No work anticipated				N/A
	Total For Hazardous Waste Remediation				
G20	**SITE IMPROVEMENTS**				
G2010	**Roadways**				
	No work anticipated				N/A
	Total For Roadways				
G2020	**Parking Lots**				
	No work anticipated				N/A
	Total For Parking Lots				
G2030	**Pedestrian Paving**				
	G2031 Paving and surfacing				
	HOT MIX AND CONC SIDEWALKS				
	HMA	1	LS	10,000.00	10,000

	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
	CSTC	300	TON	50.00	15,000
	Painted crosswalk at drive aisle	1	LS	2,400.00	2,400
	Gravel pathways	600	SF	3.10	1,860
	Total For Pedestrian Paving				**29,260**
G2040	**Site Development**				
	G2041 Fences and gates				
	Chain link fence	210	LF	45.00	9,450
	G2049 Miscellaneous structures				
	Modular classroom building, double 28'-0" x 64'-0" with (2) restrooms "KCDA"	2	EA	182,500.00	365,000
	Reinforced concrete foundation at modular classroom buildings	28	CY	875.00	24,500
	Gravel below modular classroom buildings	3,584	SF	1.35	4,838
	Welcome ramp and landing	370	SF	25.50	9,435
	Railings at welcome ramp	154	LF	70.00	10,780
	Total For Site Development				**424,003**
G2050	**Landscaping**				
	No work anticipated				N/A
	Total For Landscaping				
G30	**SITE MECHANICAL UTILITIES**				
G3010	**Water Supply**				
	G3010 Water Supply				
	WATER-DOMESTIC & FIRE				
	1" PE SERVICE	130	LF	15.00	1,950
	METER & RPBA	1	EA	5,000.00	5,000
	Total For Water Supply				**6,950**
G3020	**Sanitary Sewer**				
	G3020 Sanitary Sewer				
	SANITARY SEWER				
	6" PVC, SD35, SIDE SEWER	80	LF	50.00	4,000
	CONNECT TO EXISTING	2	EA	3,000.00	6,000
	Total For Sanitary Sewer				**10,000**
G3030	**Storm Sewer**				
	G3030 Storm Drainage				
	STORM SEWER				
	6" PVC PIPE	100	LF	35.00	3,500
	12" ADS PIPE	100	LF	65.00	6,500
	CATCH BASIN-TYPE I	3	EA	1,750.00	5,250

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
CATCH BASIN-TYPE II SADDLED	1	EA	6,000.00	6,000
6" CLEANOUT	6	EA	780.00	4,680
Total For Storm Sewer				**25,930**

G3040 Heating Distribution

No work anticipated

Total For Heating Distribution

G3050 Cooling Distribution

No work anticipated N/A

Total For Cooling Distribution

G3060 Fuel Distribution

No work anticipated N/A

Total For Fuel Distribution

G3090 Other Site Mechanical Utilities

No work anticipated N/A

Total For Other Site Mechanical Utilities

G40 SITE ELECTRICAL UTILITIES

G4010 Electrical Distribution

Site Electrical				
200A, 3W, 2P Feeder	470	LF	21.00	9,870
100A, 3W, 2P Feeder	520	LF	13.00	6,760
2.5" Conduit	630	LF	17.00	10,710
Power Terminations	1	EA	2,000.00	2,000
Trenching	360	LF	7.00	2,520
(2) 2", (1) 1" Conduits	380	LF	15.00	5,700
Cables	1,040	LF	5.00	5,200
Cable Terminations and Programming	1	LS	4,000.00	4,000
LV Handholes	1	EA	1,500.00	1,500
Asphalt Sawcut and Repair	370	LF	20.00	7,400
Total For Electrical Distribution				**55,660**

G4020 Site Lighting

No work anticipated N/A

Total For Site Lighting

G4030 Site Communications and Security

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
No work anticipated				N/A
Total For Site Communications and Security				
G4090 Other Site Electrical Utilities				
No work anticipated				N/A
Total For Other Site Electrical Utilities				

ARLINGTON SCHOOL DISTRICT
MODULAR CLASSROOM BUILDINGS
ARLINGTON, WA
FEASIBILITY STUDY
PIONEER ELEMENTARY SCHOOL: OPTION C

DATE: January 28, 2021

COST GROUP

No.	ELEMENT DESCRIPTION		ELEMENT TOTAL	GROUP TOTAL
G10	SITE PREPARATION			$ 28,300
G1010	Site Clearing		$ -	
G1020	Site Demolition and Relocations		$ 25,100	
G1030	Site Earthwork		$ 3,200	
G1040	Hazardous Waste Remediation		$ -	
G20	SITE IMPROVEMENTS			$ 347,339
G2010	Roadways		$ -	
G2020	Parking Lots		$ 1,224	
G2030	Pedestrian Paving		$ 25,000	
G2040	Site Development		$ 321,115	
G2050	Landscaping		$ -	
G30	SITE MECHANICAL UTILITIES			$ 44,480
G3010	Water Supply		$ 6,950	
G3020	Sanitary Sewer		$ 11,600	
G3030	Storm Sewer		$ 25,930	
G3040	Heating Distribution		$ -	
G3050	Cooling Distribution		$ -	
G3060	Fuel Distribution		$ -	
G3090	Other Site Mechanical Utilities		$ -	
G40	SITE ELECTRICAL UTILITIES			$ 33,760
G4010	Electrical Distribution		$ 33,760	
G4020	Site Lighting		$ -	
G4030	Site Communications and Security		$ -	
G4090	Other Site Electrical Utilities		$ -	
	Sub-Total Direct Cost			**$ 453,879**
	Estimating / Design Contingency	12.50%		$ 56,735
	Sub-Total			**$ 510,614**
	General Conditions/General Requirements	16.65%		$ 85,017
	General Contractor's Fee, Bonds and Insurance	8.30%		$ 49,437
	Sub-Total			**$ 645,068**
	Escalation, June 2021	1.55%		$ 9,971
	TOTAL CONSTRUCTION COST			**$ 655,040**

	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
G10	**SITE PREPARATION**				
G1010	**Site Clearing**				
	G1011 Clearing and grubbing				
	Included in site demolition				N/A
	Total For Site Clearing				
G1020	**Site Demolition and Relocations**				
	G1022 Demolition of site components				
	SITE DEMOLITION				
	ASPHALT PAVEMENT	5,700	SF	3.00	17,100
	SAWCUT ASPHALT & REPAIR	1	LS	7,500.00	7,500
	CONCRETE CURB REMOVE	100	LF	5.00	500
	Total For Site Demolition and Relocations				**25,100**
G1030	**Site Earthwork**				
	G1031 Site grading excavation				
	TESCP AND GRADING				
	TESCP MAINTAIN & CONTROL	1	ALLOW	2,000.00	2,000
	CATCHBASIN INSERTS	4	EA	300.00	1,200
	Total For Site Earthwork				**3,200**
G1040	**Hazardous Waste Remediation**				
	No work anticipated				N/A
	Total For Hazardous Waste Remediation				
G20	**SITE IMPROVEMENTS**				
G2010	**Roadways**				
	No work anticipated				N/A
	Total For Roadways				
G2020	**Parking Lots**				
	G2020 Parking Lots				
	Wheelstops	12	EA	102.00	1,224
	Total For Parking Lots				**1,224**
G2030	**Pedestrian Paving**				
	G2031 Paving and surfacing				
	HOT MIX AND CONC SIDEWALKS				
	HMA	1	LS	10,000.00	10,000
	CSTC	300	TON	50.00	15,000

	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
	Total For Pedestrian Paving				**25,000**
G2040	**Site Development**				
	G2041 Fences and gates				
	No work anticipated				N/A
	G2049 Miscellaneous structures				
	Modular classroom building, double 28'-0" x 64'-0" with (2) restrooms "KCDA"	1	EA	182,500.00	182,500
	Modular classroom building, single 28'-0" x 32'-0" with (1) restrooms "KCDA"	1	EA	97,400.00	97,400
	Reinforced concrete foundation at modular classroom buildings	24	CY	875.00	21,000
	Welcome ramp and landing	370	SF	25.50	9,435
	Railings at welcome ramp	154	LF	70.00	10,780
	Total For Site Development				**321,115**
G2050	**Landscaping**				
	No work anticipated				N/A
	Total For Landscaping				
G30	**SITE MECHANICAL UTILITIES**				
G3010	**Water Supply**				
	G3010 Water Supply				
	WATER-DOMESTIC & FIRE				
	1" PE SERVICE	130	LF	15.00	1,950
	METER & RPBA	1	EA	5,000.00	5,000
	Total For Water Supply				**6,950**
G3020	**Sanitary Sewer**				
	G3020 Sanitary Sewer				
	SANITARY SEWER				
	6" PVC, SD35, SIDE SEWER	80	LF	50.00	4,000
	CONNECT TO EXISTING	2	EA	3,000.00	6,000
	CLEANOUT	2	EA	800.00	1,600
	Total For Sanitary Sewer				**11,600**
G3030	**Storm Sewer**				
	G3030 Storm Drainage				
	STORM SEWER				
	6" PVC PIPE	100	LF	35.00	3,500
	12" ADS PIPE	100	LF	65.00	6,500
	CATCH BASIN-TYPE I	3	EA	1,750.00	5,250
	CATCH BASIN-TYPE II SADDLED	1	EA	6,000.00	6,000

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
6" CLEANOUT	6	EA	780.00	4,680
Total For Storm Sewer				**25,930**

G3040 Heating Distribution

No work anticipated

Total For Heating Distribution

G3050 Cooling Distribution

No work anticipated N/A

Total For Cooling Distribution

G3060 Fuel Distribution

No work anticipated N/A

Total For Fuel Distribution

G3090 Other Site Mechanical Utilities

No work anticipated N/A

Total For Other Site Mechanical Utilities

G40 SITE ELECTRICAL UTILITIES

G4010 Electrical Distribution

Site Electrical				
200A, 3W, 2P Feeder	300	LF	21.00	6,300
100A, 3W, 2P Feeder	350	LF	13.00	4,550
2.5" Conduit	290	LF	17.00	4,930
Power Handholes	-	EA	1,500.00	
Power Terminations	1	EA	2,000.00	2,000
Trenching	190	LF	7.00	1,330
(2) 2", (1) 1" Conduits	210	LF	15.00	3,150
Cables	700	LF	5.00	3,500
Cable Terminations and Programming	1	LS	4,000.00	4,000
Asphalt Sawcut and Repair	200	LF	20.00	4,000
Total For Electrical Distribution				**33,760**

G4020 Site Lighting

No work anticipated N/A

Total For Site Lighting

G4030 Site Communications and Security

No work anticipated N/A

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
Total For Site Communications and Security				
G4090 Other Site Electrical Utilities				
No work anticipated				N/A
Total For Other Site Electrical Utilities				

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APPENDIX 3: ENROLLMENT FORECASTS REPORT

MEMORANDUM

To: Brian Lewis
Executive Director of Operations
Arlington Public Schools

Date: January 28, 2022
Project: F2116.01.001

From: Benjamin Maloney
Project Manager / Demographer

RE: 2022–23 to 2031–32 Enrollment Forecasts Report—Arlington Public Schools

At the request of the Arlington Public Schools (District/APS), FLO Analytics (FLO) has prepared forecasts of future student enrollment (2022–23 to 2031–32) for grades kindergarten (K) through 12. The study was completed through three main tasks: (1) Student Enrollment Assessment, (2) Demographic and Land Use Analyses, and (3) Student Enrollment Forecasting. The resulting forecasts are reported at various levels of geography and from different perspectives of enrollment (see Forecast Perspectives section below). Districtwide enrollment forecasts represent the total number of students living both within and outside the district boundary and attending district schools. These forecasts are provided as a district total and per grade group. More granular residence-based and building/program attendance forecasts have also been prepared, which provide the number of students by individual grade and grade group who are anticipated to reside within and attend each of the District's elementary-, middle-, and high-school attendance areas (AAs) and schools/programs. Full-Time Equivalent forecasts by grade and school are also provided.

STUDENT ENROLLMENT ASSESSMENT

To better understand recent enrollment trends, FLO analyzed historical and current fall membership P223 headcount data provided by the District and the APS October 2021–22 Student Information System (SIS), respectively. We evaluated historical grade progression ratios (GPRs), participation in special or nontraditional programs, demographic characteristics of the student body (e.g., residence in single-family [SF] or multifamily [MF] housing), and differences in enrollment based on residence versus building attendance (i.e., transfer rates). All students contained within the Monthly Enrollment Report P223 Headcount and APS SIS data sets were included in our analyses and enrollment forecasts, except for students attending preschool (PS) and the Arlington Online Program (AOP). Students attending the Open Doors program were included in all enrollment values and related figures. This task also included mapping the existing AA configurations (Figure 1) and the distribution of the student body across the district and surrounding area based on student residences (Figure 2).

Figure 3 shows the districtwide Monthly Enrollment Report P223 Headcount enrollment per individual grade, based on headcount enrollment provided to FLO by the District. Prior to the 2020–21 school year, enrollment had steadily increased, expanding by 373 students from 2016–17 to 2019–20. Primarily due to the effects of COVID-19, enrollment declined markedly between the 2019–20 and 2020–21 school years, decreasing by 483 students. Grades K–7 and 9–12 all experienced a contraction in enrollment from the prior year. Grades experiencing a decline in 2020–21 averaged 44 fewer students compared to enrollment in 2019–20. In comparison, grade 8 enrolled 46 additional

students in 2020–21; an increase over 2019–20 enrollment that can be directly attributed to a large cohort of grade 5 students in 2017–18. Districtwide enrollment expanded in 2021–22 (78 additional students) with grades K, 2–4, 6–7, 9, and 11–12 experiencing an increase. Grades experiencing an increase averaged 28 additional students compared to enrollment in 2020–21. Grades 1, 5, 8, and 10 declined in enrollment in 2021–22 (an average of 43 fewer students). However, all grades that experienced a decline in 2021–22 enrollment are associated with cohorts that experienced a relatively large contraction in 2020–21 enrollment.

Figure 4 tabulates the P223 Headcount enrollment by grade group and school. From 2016–17 to 2019–20, elementary school (ES; grades K–5) enrollment increased by 193 students, while middle schools (MS; grades 6–8) contributed 37 additional students and high school (HS; grades 9–12) enrollment expanded by 59 students. Concerns regarding COVID-19 likely contributed to enrollment declines at ES (293 fewer students), MS (51 fewer students), and HS (113 students) from 2019–20 to 2020–21. From 2016–17 to 2020–21, ES and HS enrollment decreased by 100 and 54 students, respectively. Over the same period, MS enrollment experienced a decline of 14 students. Despite the continuation of the COVID-19 pandemic, HS enrollment increased by 88 students in 2021–22 while ES and MS enrollment continued to marginally decline by 13 and 33 students, respectively. Due to the pandemic, only one ES realized growth in enrollment over the past five years as Eagle Creek ES experienced an increase of 27 students since 2016–17. At the MS grade group, Post MS enrollment increased by 49 students whereas Haller MS enrollment contracted by 96 students over the same period. Arlington HS enrollment increased by 34 students from 2016–17 to 2021–22.

Based on our analysis of districtwide transfers (Figure 5), a total of 633 students who live outside the district boundary transferred into district schools, representing 11.8 percent of enrollment. Overall, 605 students residing within the district boundary transferred to a school or program different from their residence school, which is based on the AA in which they live. This amounts to a districtwide intradistrict transfer rate of 12.8 percent. Transfer occur within all grade groups, but the largest percent of transfers occurs within the K–5 grade group, with an intradistrict transfer rate of 15.9 percent.

As depicted in the residence-attendance matrices (Figures 6 through 8) per grade group, transfer rates also differ per school/program. For instance, transfer-out rates for ES AAs range from 13.4 percent to 18.4 percent. From the perspective of building attendance, ES transfer in rates range from 18.9 percent to 27.9 percent. Schools with higher transfer-in rates are typically due to a preference in programming and/or location. These transfer rates can help reveal patterns of student choice or quantify district policies. For instance, if a particular school with a high transfer-in rate began to experience overcrowding, the District may reconsider transfer policies or programming in order to alleviate enrollment issues. Transfer-in rates at the MS level range from 15.2 percent (Post MS) to 19.7 percent (Haller MS) whereas transfer-out rates range from as 12.5 percent (Post MS) to 14.1 percent (Haller MS). At the HS level, Arlington HS experiences a transfer-in rate of 11.6 percent and a transfer-out rate of 8.5 percent.

DEMOGRAPHIC AND LAND USE ANALYSES

In order to incorporate overarching factors that underpin student enrollment, FLO reviewed and analyzed historical, current, and projected demographic characteristics of the region; trends of population change over time; current land use policies; and anticipated residential development. For these efforts, land use data (e.g., construction permits, zoning, comprehensive plans) and demographic information (e.g., births, female population of child-bearing age) are gleaned from a variety of sources, chief of which are the regional, county, and municipal planning departments that manage and track land use in the district. For more details, see the Data Sources section below.

To better understand current land use based on the aforementioned data as well as the potential for change, we conducted interviews with planners from Snohomish County and the municipality of Arlington to discuss foreseeable residential growth (or decline) in the district through the 2031–32 forecast horizon. Key development data acquired through these meetings are presented in Figures 9–11. Figure 9 reports the estimated number of housing units by single-family and multifamily categories per the next two five-year periods, based on available data from the City of Arlington and Snohomish County. Figure 10 depicts the locations of SF and MF developments that are currently in construction or are expected to be built by 2031. Figure 11 includes details of acquired residential development data, such as data source, housing unit type, anticipated number of units per time period, and assorted notes.

Generally, housing development within the District has remained steady, despite the delay of construction activities due to COVID-19 during the spring of 2020. Snohomish County and City of Arlington planners concurred that Arlington is where most of the construction activity in the area is occurring. Arlington planners expect to continue to see steady SF development throughout the city whereas residential construction within unincorporated Snohomish County will remain light with most planned projects consisting of sporadic SF infill development. Arlington planners did indicate the potential for Master Planned Neighborhood (East Hill), a 1,900 unit, primarily SF, development located in the vicinity of Tveit and Burn Road. This development was not included in the 10-year forecast as there are no firm plans as to when construction could start (likely beyond the forecast period). While there are a few larger ongoing SF developments within Arlington, planners continue to see an elevated demand for apartments, and more recently, townhouses. Arlington is also expecting to update their density and dimensional tables to allow for different types of housing to occur in SF lots.

Certified April 1, 2021 population estimates prepared by the Washington Office of Financial Management (OFM) report the City of Arlington's population to be 20,690, an increase of 15.4 percent since the 2011 OFM population estimates (17,930 people) and 4.1 percent since the 2020 decennial census (19,868 people). Based on the recent population trends (an average of 2.4 percent growth per year since 2018), our expectation is that the City of Arlington population may increase by 5,430 people by 2031. Major MF developments include: 514 units at 16612 51st Avenue (Outpost), 300 units at 8600 172nd Street, a 182-unit development at 7116 204th Street (Pilchuck Village), and a 100-unit mixed-use development at 20501 Olympic Place (The Lux). Planned MF development outpaces future known SF development (not including the 1,900 unit planned community); however, larger known SF developments include 115 units at 604 East Gilman Avenue (Gilman Walk) and 93 units at 8401 207th Place (Pioneer Point). While city planners did not indicate any proposed changes to the urban growth area (UGA) there are two annexations that are currently either being processed (the ongoing Lindsey Annexation located between 85th and 75th Avenue) or planned (the Duskin Annexation near Tveit Rd, east of 87th Avenue).

Based on overarching population and housing trends, as well as current and projected rates of development, we estimate the number of housing units by type that may be constructed within the 2021 and 2026 and 2026 and 2031 periods (Figure 9). Within the first five-year period, we anticipate residential development amounting to 1,068 units, followed by 885 units in the second five-year period. These estimates are the result of the rate of development witnessed over the past five years, forecasted population growth within the district, and sentiment conveyed by planners from the City of Arlington and Snohomish County. Although, SF housing will continue to be the largest contributor to student yields, we expect the majority of new housing development to be MF.

Housing type is an important indicator of the number of students who can be expected to be yielded from a housing unit. For instance, on average, SF housing units generate more students per unit than MF housing units. Factors that contribute to student generation rates (or yields) include the size of housing units, the number of bedrooms, housing costs, and neighborhood demographics. We

assessed residential housing units throughout the district and determined that, of students enrolled in district schools in 2021–22, 91.0 percent reside in SF housing units, 7.3 percent in MF housing units, and 1.7 percent either living outside the area of analysis (Snohomish County) or in unspecified housing units that we were unable to classify as SF or MF.

FLO defines SF and MF housing in accordance with the U.S. Census American Community Survey (ACS) Subject Definitions and other sources of demographic research and population forecasts (e.g., Portland State University Population Research Center). SF housing includes one-unit structures that are fully detached from other housing, as well as attached dwellings (e.g., row houses and townhouses). In the case of attached units, in order to be classified as a SF structure each must be separated from the adjacent unit by a ground-to-roof wall, and units must not share heating/air-conditioning systems or utilities. MF housing is defined as residential buildings containing two or more housing units that do not have a ground-to-roof wall and/or have common facilities (attic, basement, heating, plumbing, etc.). Average student generation rates vary by geographic location in the district and by housing subtypes (e.g., SF detached, townhome, duplex, multiunit apartments). We determine student generation rates for district subregions, typically U.S. Census block groups, which contribute to districtwide averages per SF and MF housing unit types. Based on currently available residential housing data, average student generation rates in the district were estimated to be 0.55 students per SF housing unit and 0.23 students per MF housing unit (Figure 12).

The number of students enrolled in a district is largely influenced by the number of school-aged children residing within the district boundary. We compare historical birth data (i.e., live births within the county) from the Washington State Department of Health (DOH) to historical K class sizes to determine annual "K percent of births" values (i.e., the number of kindergarteners who enroll with the District divided by the number of live births within the county five years prior). These values, in combination with age-group-specific population projections of childbearing-aged women residing in the county, allow us to forecast the number of anticipated births in the county, and thus the number of kindergarteners anticipated in future school years. Figure 13 depicts the number of live births within the district boundary, K class sizes that include all enrolled students, and resulting ratios of kindergarteners to births, including both historical values and our forecasts. Similar to surrounding counties, births within the County steadily increased from 2012 (9,206) to 2016 (10,014). Since then, County births have steadily declined every year through 2019 (9,638 births). Snohomish County 2020 birth data is unavailable at the time of this writing. K enrollment increased from 391 in 2017 to 430 in 2019 then declined precipitously in 2020 (332 students) in response to the effects of COVID-19 before increasing slightly (336 students) in 2021. K enrollment forecasts are further discussed in the Births to Kindergarten section.

The progression of students from one grade to the next is a significant determinant of future enrollment, and therefore plays a significant role in our forecasting process. We assess how cohort sizes change over time by calculating GPRs—the ratio of enrollment in a specific grade in a given year to the enrollment of the same age cohort in the previous year. For instance, when 150 kindergarteners in 2017 become 140 1st graders in 2018, the GPR is 0.93. GPRs quantify how cohort sizes change as students' progress to subsequent grades by considering that not all students advance to the next grade and that new students join existing cohorts. A GPR value greater than 1 indicates that the student cohort increased in size from one grade to the next. Such a result may be due to students moving into the district or students choosing to transfer into the district from other districts (public or private). Conversely, a GPR value less than 1 indicates that the student cohort decreased in size from one grade to the next. This may be due to students moving out of the district, students choosing to transfer to other districts, or students not advancing to the next grade.

Figure 14 depicts the GPRs for all students enrolled in the District from 2017–18 to 2021–22. The two- and three-year GPR averages shown incorporate the 2020-21 and 2021-22 GPRs and were not

used in the forecasting process. In order to mitigate the irregular effect of COVID-19 on the grade transitions from 2019–20 to 2020–21 and 2020–21 to 2021–22, a set of forecasted GPRs was developed. These are also included in Figure 14. From 2017–18 to 2019–20, nearly every GPR was at or above 1.00 for all grade transitions, with the exception of the grade 10–11 transition. The contraction in enrollment due to COVID-19 is the likely reason that GPRs—for all transitions K–1 through 11–12—decreased in 2020–21. The largest contractions were within the K–5 and 9-12 grade groups. As a result of new enrollments and students returning to the District, the GPRs for all transitions were higher in 2021–22 than in 2020–21, collectively looking more like pre-pandemic GPRs. As further discussed in the COVID-19 Assumptions section, the forecasted GPRs for the preferred medium-growth scenario assume a return to the pre-pandemic levels as a starting basis and were then further adjusted slightly to account for an expected increase in enrollment compared to recent years in response to an anticipated higher rate of in-migration due to new housing.

ENROLLMENT FORECASTS

Summary

- Between the 2021–22 and 2031–32 school years, districtwide enrollment (headcount) is forecasted to increase from 5,374 to 6,184, or by 18.5 percent. Figure 15 shows the annual districtwide building attendance forecasts for the low-, medium- (preferred), and high-growth scenarios. Figures 16 through 20 and 23 through 24 use the medium-growth scenario to represent future enrollment, as it represents the most likely enrollment outcomes based on currently available data and our analysis. The COVID-19 Assumptions section discusses relevant assumptions for this year's low-, medium- (preferred), and high-growth scenarios.
- Figure 16 disaggregates the districtwide building attendance forecasts by grade group.
  - K–5 enrollment from 2,265 to 2,629 (16.1 percent increase)
  - 6–8 enrollment from 1,292 to 1,524 (18.0 percent increase)
  - 9–12 enrollment from 1,817 to 2,031 (11.8 percent increase)
- In comparison to the previous two figures, Figure 17 provides annual districtwide residence-based forecasts per individual grade. These forecasts represent the number of students expected to reside in the district (for more details, see the Forecast Perspectives section below). The individual grade forecasts are summed to form grade group totals and adding the students who reside outside the district produces annual building attendance forecasts per grade group. Building attendance is expected to increase more in the first half of the forecast horizon, with 419 additional students by 2026–27. Recently declining birth rates, acting in combination with a lag in known housing construction, will slow enrollment growth in the second half of the forecast period (391 additional students), but only slightly.
- Based on the geographic distribution of students, the residence-based forecasts are aggregated to grade group AAs. Figure 18 provides annual forecasts of students residing in each of the ES, MS, and HS AAs, respectively.
- Building/program attendance forecasts are derived from the residence-based forecasts, using an analysis of the rates of intradistrict transfer for specific grades (e.g., Figures 5–8), rates of out-of-district student enrollment, and district policies concerning transfers and student placement. Figure 19 provides annual districtwide building attendance forecasts per individual

grade (for the preferred, or medium-growth, scenario). Figure 20 provides annual forecasts by individual grade of students attending each of the ES, MS, and HS buildings/programs, respectively.

- Figures 21 and 22 provide annual districtwide building attendance forecasts per individual grade for the low- and high-growth scenarios, respectively. The COVID-19 Assumptions section of this report discusses assumptions for the low-, medium- (preferred), and high-growth scenarios.

- Figures 23 and 24 provide annual districtwide Full-Time Equivalent (FTE) forecasts per individual grade (for the preferred, or medium-growth, scenario).

Detailed Results

Births to Kindergarten

As previously mentioned, the relationship between the number of births occurring in the district and future K class sizes is vitally important to forecasting student enrollment. An increasing number of births will typically correlate to increases in enrollment and vice versa. Figure 13 shows the relationship between K enrollment and related births five years prior. County births gradually increased from 2012 to 2016 (9,206 to 10,014). However, there was not a direct correlation to an increase in K enrollment in response to the increase in births. Births increased from 2012 to 2014, but the corresponding K enrollment (five years after birth) marginally declined in 2018–19 (4 fewer K students) then increased in 2019–20. While 2015 experienced 244 more births than in 2014, 2020–21 K enrollment saw 98 fewer K students than in 2019–20, a contraction that is mainly due to concerns regarding COVID-19. K enrollment was once again disrupted by COVID-19 in 2021–22, although 2016 represented a 2.8 percent increase in births over 2015, the K percent of births metric remained flat at 3.4 percent, leading to only four additional K students in 2021–22 than in 2020–21.

The steady upward trend in the number of County births regressed in 2017 (173 fewer births than in 2016) and 2018 (9,728 births). However, we are expecting a return to pre-pandemic K percent of births, leading to an increase in K enrollment (414) in 2022–23. K enrollment is expected contract slightly in 2023–24 and 2024–25, in response to a downturn in births in both 2018 and 2019. As a result of the economic uncertainty surrounding COVID-19 and the overall downward regression in births since 2016, we expect births to more steeply decline in 2021. This will likely lead to an enhanced contraction of K enrollment in 2026–27. With indications that the impacts surrounding COVID-19 may continue to gradually alleviate, along with an expanding population of women of child-bearing age, we anticipate that births will return to levels on par with 2020 (9,247 forecasted births) in 2022 (9,235 forecasted births) before steadily increasing through 2026 (by an average of 70 additional births per year). This will lead to a steady, but slight, expansion in K enrollment between 2027–28 and 2031–32.

Districtwide Enrollment Forecasts

As noted in Figures 15, 16, and 19, districtwide enrollment is forecasted to increase from 5,374 in 2021–2022 to 6,184 in 2031–32. While there is some year-to-year variation in forecasted enrollment, we do expect the enrollment increase (391 additional students) in the latter half of the forecast period (2026–27 to 2031–32) to be only slightly slower than the forecasted increase (419 additional students) between 2021–22 and 2026–27.

This growth is due in part to the expectation that the population of the City of Arlington and the surrounding area will continue to expand at recent rates for the foreseeable future. The other key underlying factor is that as the population of the area increases, the population of women of childbearing age is expected to expand as well. While age-specific fertility rates may not rebound to a significant degree, preceded by the expectation of a more marked decline in 2021, the presence of an increasing population of women of childbearing age will act to offset a tepid fertility rate to some degree and is expected lead to a gradual increase in births through 2025 and, ultimately, the aforementioned K enrollment expansion.

Over the second half of the forecast period, we expect building attendance to grow at a slightly subdued pace when compared to the first half of the forecast, from 5,793 in 2026–27 to 6,184 in 2031–32. The slower growth is primarily attributed to our projection that district births, although showing steady growth after a lull in 2021 (due to COVID-19), will remain significantly lower than 2015 to 2019 levels through the forecast horizon. Additionally, as noted in the Demographic and Land Use Analyses section (and Figure 9), we expect the housing market to moderate and for fewer units to be constructed between 2026 and 2031 (885 units) compared to between 2021 and 2026 (1,068 units). The expectation of a more robust K enrollment between 2022–23 and 2024–25, along with forecast GPRs representing a steady increase in cohort size, is expected to counteract the downturn in construction activity and smaller forecasted K classes (2025–26 through 2028–29).

From a grade group perspective, most enrollment gains over the forecast period will be realized in the ES grades (Figure 16). Much of this gain can be attributed to the expectation of a series of more robust K classes entering the District between 2022–23 and 2024–25 and a steady increase in K enrollment after the potential lull in 2025–26 through 2027–28 K enrollment. ES enrollment is expected to increase by 106 students in 2022–23 then steadily expand each subsequent year through 2027–28. After which, the expectation of a series of smaller K cohorts will act to offset growth in successive ES grades, leading to a slight downturn in enrollment through 2030–31 (42 fewer students in total) before a slight gain in 2031–32 (44 students).

Enrollment as the MS level is expected to marginally increase through 2026–27 (41 additional students), before enrolling nearly 200 additional students over the second half of the forecast (Figure 16). MS enrollment is anticipated to gradually decline between 2022–23 and 2024–25 (44 fewer students) then increase by 74 students in 2025–26 in response to a comparatively large grade 6 cohort entering the grade group. A slight enrollment increase is expected in 2026–27 before a modest decline in 2027–28 as a smaller grade 6 cohort acts to offset larger grade 7 and 8 cohorts. Subsequently, grade group enrollment is forecasted to continue to expand through 2030–31 (233 additional students) before a potential contraction in 2031–32.

The HS grade group is expected to enroll 214 additional students through the forecast period (Figure 16). This increase can be partially attributed to a relatively large 2021–22 grade 2 cohort. As this class matriculates through the system, it is expected to steadily gain students through the forecast period. By the time this cohort reaches grade 12 (2031–32), it is expected to consist of roughly 530 students. The 2022–23 K class is anticipated to have a similar, if not magnified effect, as it its forecasted to consist of nearly 560 students as the cohort enters grade 9. With the exception of 2025–26, 2027–28, and 2030–31, HS grade group is enrollment is expected to steadily increase, reaching 59 additional students over the first half of the forecast period and 156 additional students over the second half.

METHODS

Demographic Terms

While both projections and forecasts represent future enrollment, the methods of prediction differ. Enrollment projections are based on past and current patterns of change and the expectation that these trends will continue. For example, historical enrollment data for an ES shows an increase from 250 students in 2017, to 265 students in 2018, and to 275 students in 2019. The average rate of change observed over the past three years could be used to prepare a projection of enrollment in 2020, if the trend of growth is expected to continue without change or deviation. In other words, a projection does not predict future trends or what will occur, but rather indicates what would happen if the past and current trends that underpin the projection continue. In this sense, projections are strictly mathematical.

In comparison, forecasts are based on past and current patterns of change, but also incorporate predictions of how trends may change in the future. So that practitioners may evaluate a range of potential outcomes, it is common for multiple sets of projections to be prepared, which capture a range of scenarios, such as decreasing enrollment due to declining fertility rates or rapid enrollment growth due to residential development and in-migration. Sets of projections differ based on the modification of one or more variables, including birth rates, student generation/yield rates per housing type, and rates of residential housing development. Forecasts represent the set of projections that is deemed most likely to materialize, based on the analysis and decision-making of practitioners. In this sense, forecasts represent the art of the science of demography.

Forecast Perspectives

There are two basic types of student enrollment forecasts:

1. Building/program attendance forecasts represent the number of students expected to attend a specific school building or program. Districts often refer to these values as “actual” enrollments or the number of “students in desks”. Building/program attendance forecasts account for out-of-district students, intradistrict transfers, special programs, etc.
2. Residence forecasts represent the number of students expected to reside in a certain region, whether it be the district as a whole or individual AAs. Residence forecasts are generally more accurate than building/program attendance forecasts because the former are not subject to the variability of student choice, school district policies, movement of program locations, and constraints on inter- and intradistrict transfers imposed by building capacities.

Residence forecasts are rooted in student location and, therefore, with the proper granularity, can be allocated to boundaries other than the current AAs. For instance, our residence forecasts are produced at the granular geographic level of U.S. Census block group, of which there are 33 in the district. These small-area forecasts can be accurately aggregated to larger geographies, such as prospective AA boundaries. Despite these advantages, residence forecasts do not always suit district needs.

Building/program attendance forecasts are often more useful, albeit less reliable, because they reflect realized enrollment by capturing the inter- and intradistrict transfers. At the districtwide level, the building/program attendance forecasts are always higher than the forecast of students residing in the AAs. This is due to the segment of students who live outside the district boundary but attend district schools. When comparing building/program attendance and residence-based forecasts for an individual school, it is important to recognize that there will be some variation between each.

Forecasting Methodologies

Initial Steps

Our first step in preparing enrollment forecasts is to perform a detailed assessment of historical enrollment trends (i.e., 2016–17 to 2021–22), as well as the geographic distribution of the 2021–22 student body. The results of this enrollment assessment feed into our enrollment forecasts, which use a combination of the demographic cohort-component model and the enrollment rate method. In the former, the components of population change (i.e., births, deaths, and migration) are used to forecast population for the district by age and sex, while the latter advances each age cohort through successive grade levels.

Enrollment Rate Method

In terms of linking historical enrollment trends to future enrollment forecasts, the enrollment rate method is first used to assess the percentage of five-year-olds living within the district boundary in the 2021–22 school year who were enrolled in K at district schools. This is referred to as the K enrollment (or "capture") rate. Separate enrollment rates are similarly computed for each of the other age/grade cohorts present in 2021–22 (i.e., 1st through 12th grades). These cohort-specific enrollment rates—modified based on certain assumptions (e.g., dropout rates in HS)—are the primary basis for determining the rate at which each given cohort will be enrolled in the future and can be thought of as a means of calibrating the future enrollment forecasts. For example, the 2021–22 3rd-grade enrollment rate of eight-year-olds heavily informs the 8th-grade capture rate of the projected district population of 13-year-olds in 2026–27.

This is a widely prescribed forecasting method and is especially useful in one-year forecasts and districts without much year-to-year cohort variability. With minor refinements, our forecasts apply the average of the K–5 capture rates for the 2021–22 cohorts to new cohorts matriculating into K in the 2022–23 school year and later.

Projecting Net Migration

Another way historical enrollment data is used is by leveraging knowledge of the geographic distribution of the 2021–22 student population in order to calculate enrollment rates at the subdistrict level. To do this, FLO divided the district into regions, each with a sufficient number of students at each grade level to permit statistical calculations. These subdistrict, cohort-specific enrollment rates were applied as a baseline to new district school-age children projected to be added because of net in-migration over the next five years. Note that the future migration rate and population projections used, which were largely informed by Esri's 2021/2026 U.S. Demographics, were prepared at an even finer geographic resolution (U.S. Census block groups) and at units that are generally socioeconomically distinct from each other.

The Esri 2021/2026 U.S. Demographics dataset is prepared using recent growth trends derived from U.S. Census and state/local sources and, in tracking growth, accounts for regional land use and comprehensive plans, publicly available development data (e.g., permits), housing inventory, and U.S. Postal Service carrier route additions. Prior to use, FLO reviews these data and confirms proper assumptions and incorporation of local data sources, particularly with respect to any publicly available residential development data, making modifications as warranted.

The benefit of this approach is that the geographic analysis performed allows for a granular forecasting of how many of the eligible new children in the district will enroll in district schools over the next five years. This is expected to be more accurate than simply using district-level rates to predict capture.

This is key, as migration often plays a larger role in future enrollment levels than any other factor (more than gradual changes in birth rate, for example) but can vary greatly throughout a region.

At the end of each five-year period, the attendance-area numbers are modified as needed to ensure that they are consistent with districtwide numbers, which are computed using only districtwide population and historical enrollment numbers. In this way, the districtwide numbers "control" the attendance-area-level numbers.

Longer-term Forecasts (Ten-Year)

Our ten-year forecasts assume that recent trends in migration patterns, similar to those between 2021–22 and 2026–27, hold steady through the forecast period. Similar assumptions are estimated for the buildable land inventory and their build-out rates within the district boundaries.

2020–26 births, which inform K classes beginning with the 2025–26 school year, were projected based on a review of historic live births to mothers residing within the district boundary, forecasted population of females of child-bearing age throughout Snohomish County, and state trends in fertility.

In terms of capture rate, the grade-specific rates computed from the 2021–22 student enrollment assessments are used. Also, as with the shorter-term projections, a set of forecast GPRs is enforced at the district level. It is important to note that the forecast GPRs used do not incorporate 2020–21 and 2021–22 data due to the irregular effects of COVID-19.

COVID-19 Assumptions

While the effects of enrollment declines in 2020–21 and, to a lesser degree, 2021–22 have already been felt by the District, we expect additional impacts from COVID-19 to surface over the coming years (i.e., a decline in 2021 births/2026–27 K enrollment). This is addressed through our preparation of two additional forecast scenarios: a high-growth scenario and a low-growth scenario. Where the preferred (medium-growth) scenario assumes a gradual increase in births, a K percent of birth ratio that is in line with pre-pandemic trends, a moderated decline in 2021 births, and is consistent with known housing construction; the high-growth scenario assumes an accelerated pace of housing, additional births, and students that did not enroll in 2020–21 and 2021–22 gradually return to the District to some degree. The low-growth scenario assumes the opposite of the high-grwoth scenario (i.e., fewer births, a steeper 2021 birth decline, etc.). The low-growth scenario represents the least likely forecast outcome, but it still remains a possibility, especially if births continue to lag past the forecasted downturn in 2021.

One contributing factor to the overall lack of return of missing 2020–21 students may have been the absence of vaccine availability for school-age children until after October 1st. This might have been a particularly important consideration for parents at the time they were making registration decisions for the upcoming school year, as the highly contagious delta variant had been dominant in the U.S. since early July and the timeframe for vaccine rollout for children was still unknown. Vaccines were not available for children ages 5–11—representing the majority of the missing 2020–21 student population of 951—until early November.

There simply is not data available to tell us where all these students went, or why. As reported by the National Education Association (https://www.nea.org/advocating-for-change/new-from-nea/finding-lost-students-pandemic), national research estimates that as many as 3 million students disappeared between March 1st (just before most districts nationally closed school buildings and switched to remote learning) and October 1st, 2020. While comparable research has not yet been completed regarding October 1st, 2021 enrollment, based on FLO's conversations with other districts of comparable size in the Pacific Northwest, the tepid return, if at all, of 2020–21 missing students thus far is not unique.

Some of the missing students may also have been lost to alternative pathways of education. One such path is homeschooling, with the possibility that in the stress and confusion of the pandemic some parents may not have properly notified APS of this decision. Another option is online public schools that were established pre-pandemic and may have been more appealing than the Arlington Online Program (AOP) that APS has offered in response to the pandemic. One potential example is the Washington Virtual Academy (WAVA). Private schools represent yet another alternative path that families may have chosen, especially in cases where they may have returned to in-person instruction before public schools in the surrounding area.

Finally, regarding 2021 births, as recently reported by the Brookings Institution (https://www.brookings.edu/research/early-evidence-of-missing-births-from-the-covid-19-baby-bust/), complete data for the year are not yet available. This is the case both nationally as well as locally in Oregon and Snohomish County. While January and February 2021 monthly totals nationally were significantly lower than the same months in 2020, the March through June 2021 monthly totals have been higher than in 2020. However, as noted by Brookings, data are not yet available on births that would have been conceived during the 2020/21 winter wave of the COVID-19 pandemic. While we forecasted a drop in district births from the forecasted total of 9,247 in 2020 to 9,069 in 2021 (2% decline), we assume little to no impact from COVID-19 on 2022 births and on. It is also more important to consider this in the context of the sustained, substantial decline in general fertility rates in Washington since the Great Recession (2008), which we have. The modest growth in annual births we forecasted is due only to our projection that the growth rate of the population of women of child-bearing age in the district will offset continued declines in fertility rate for the foreseeable future.

Data Sources

FLO used the following data sources to inform our student enrollment forecasts:

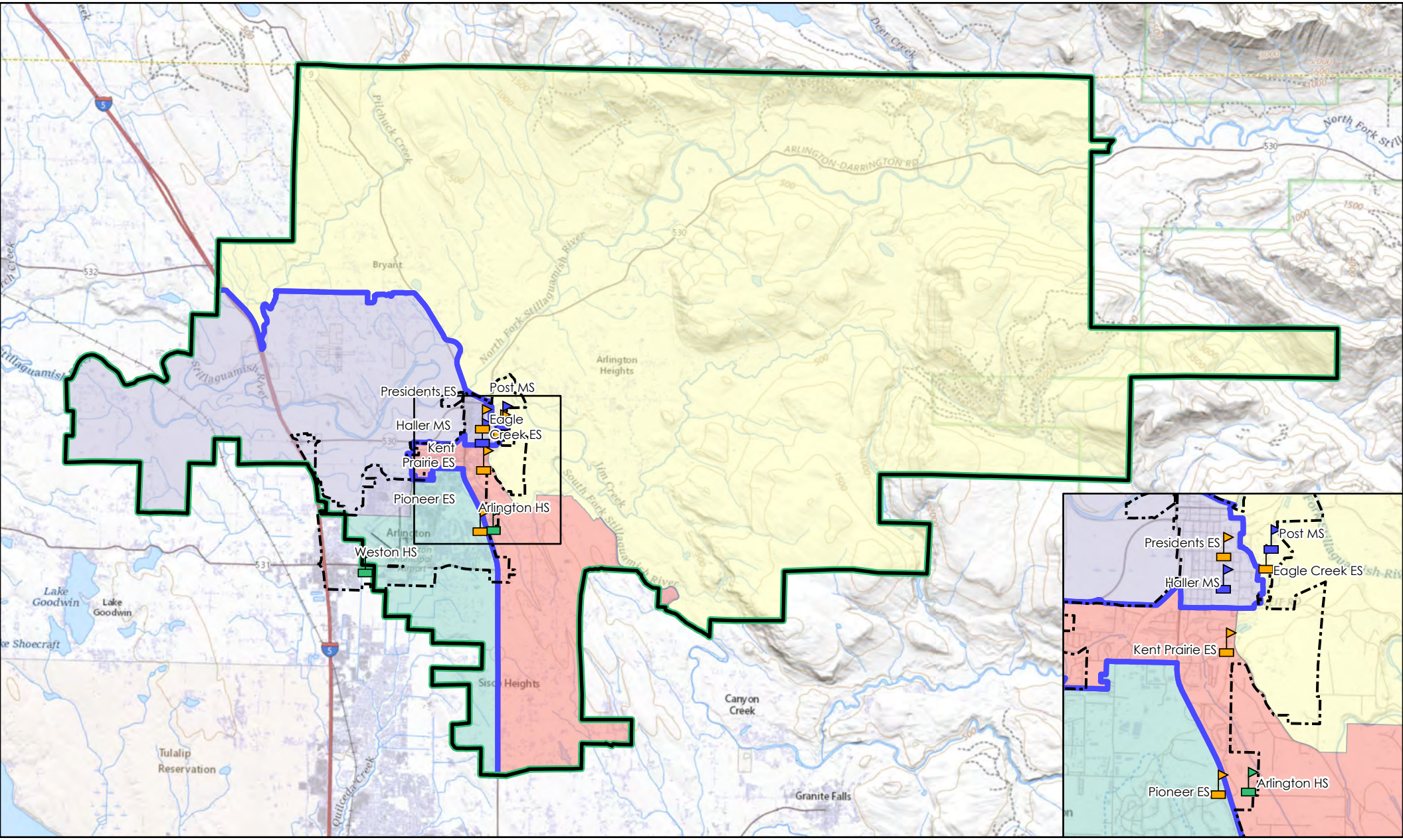
- APS SIS (October 2021), AAs, district boundary, and school locations
- APS Monthly Enrollment Report P223 Headcount (2016–2017 to 2021–22)
- Washington State Department of Health (WA DOH) birth data
- Washington State Office of Financial Management forecasts
- U.S. Census and American Community Survey (ACS) enumerations and estimates
- Esri 2021/2026 U.S. Demographics
- FLO-conducted interviews with planners from Snohomish County and the municipality of Arlington
- County and/or municipal parcels, zoning, comprehensive plans, specific area plans, and building permits
- 2020 Statewide Urban Growth Areas and 2020 City Limits from Washington State Department of Ecology

Accuracy

Enrollment projections and forecasts are expected values based on assessment of current and past data, and as such, should be considered a planning tool, rather than steadfast numbers for the allocation of future resources. Unlike measurable data, such as the results of a survey, projections and forecasts do not allow for the estimation of a confidence interval to measure accuracy. The best way to measure error is to compare actual enrollment with previously prepared projections or forecasts

that were conducted using similar data and methodologies. Finally, when considering confidence and accuracy, the appropriate use of projections and forecasts includes an understanding that there is likely to be some degree of variation from the anticipated values. It is important that stakeholders "monitor and manage" the changing conditions that will affect future populations, and that projections or forecasts be updated either at a regular frequency or when deviation of actual enrollment from the projections or forecasts is significant and/or develops into a sustained trend.

District Overview: 2021-22 School Year



FLO Analytics

N

0 0.5 1 2 Miles

School Locations
- ES
- MS
- HS

- District Boundary
- Arlington City Limits
- High School Attendance Area
- Middle School Attendance Area

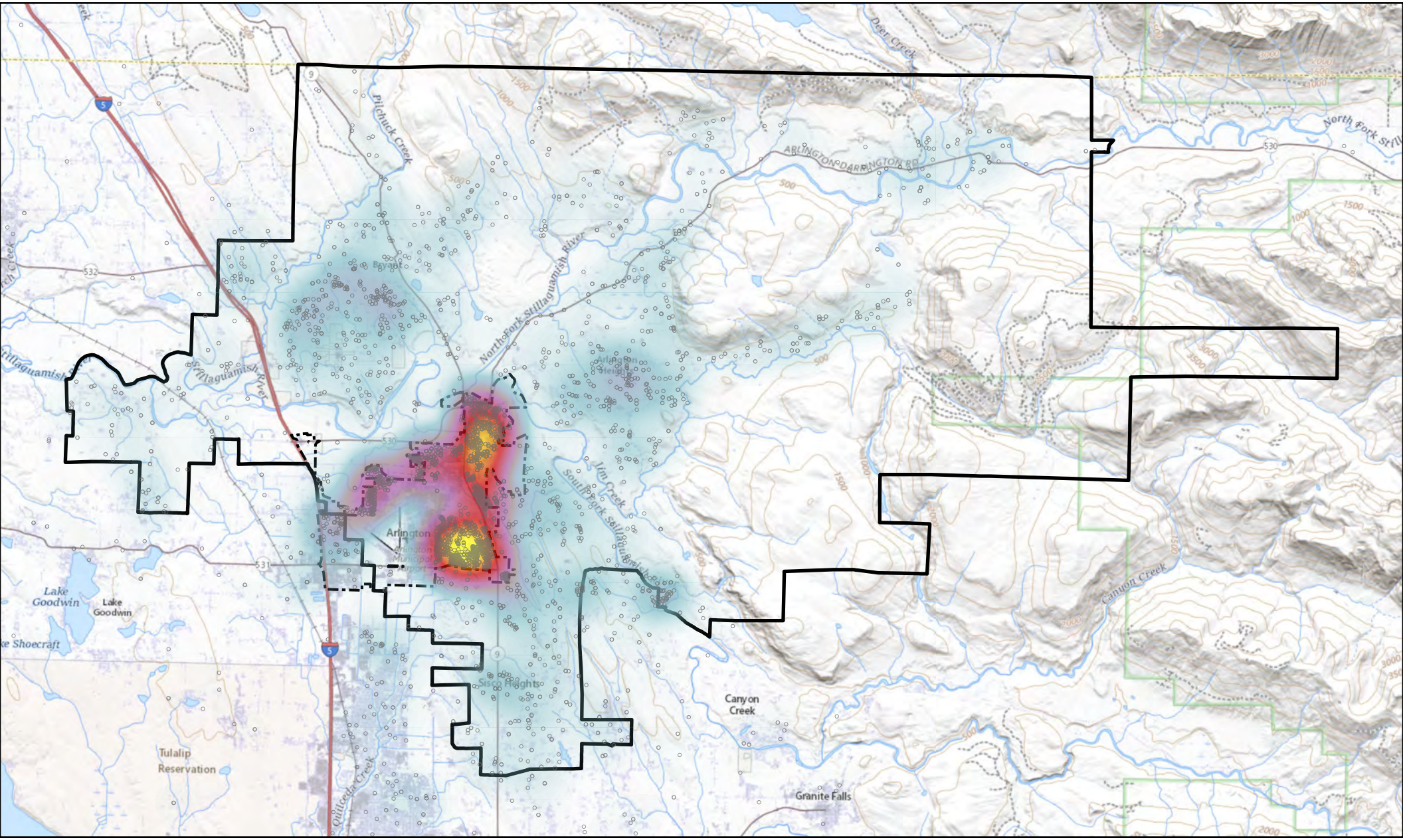
Elementary School Attendance Area
- Eagle Creek ES
- Kent Prairie ES
- Pioneer ES
- Presidents ES

Figure 1

2022-23 to 2031-32 Forecasts Report:
Based on October 2021 Enrollment

ARLINGTON PUBLIC SCHOOLS
EDUCATE · PREPARE · INSPIRE

K-12 Student Density



FLO Analytics

N

0 0.5 1 2 Miles

Arlington City Limits

District Boundary

Student Household Location

Student Density

Sparse

Dense

Figure 2

2022-23 to 2031-32 Forecasts Report:
Based on October 2021 Enrollment

Figure 3: Historical and Current Enrollment per Grade

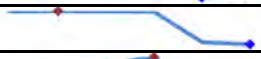
District-wide Totals

Grade	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2016-17 to 2021-22	
K	355	391	387	430	332	336		-19
1	386	375	411	405	394	357		-29
2	397	395	394	415	361	409		12
3	383	417	424	407	386	390		7
4	431	412	425	433	380	390		-41
5	383	455	424	438	408	383		0
6	430	419	478	442	427	440		10
7	448	445	420	486	415	433		-15
8	420	442	460	419	465	419		-1
9	457	427	459	494	402	497		40
10	455	445	436	471	468	405		-50
11	411	427	431	432	430	453		42
12	450	443	470	507	428	462		12
District Total	**5,406**	**5,493**	**5,619**	**5,779**	**5,296**	**5,374**		**-32**

Arlington Public School Monthly Enrollment Report (P223 Headcount) October 2016–17 to 2021–22 enrollment per grade. Enrollment values omit PS and the Arlington Online Program (AOP). The lowest and highest enrollment values per grade are highlighted blue and orange, respectively. Sparklines are colored blue, gray, or orange to illustrate 5-year decline, stasis, or growth. Abrupt changes in enrollment are likely due to deliberate student placement or attendance boundary changes.

Figure 4: Historical and Current Enrollment per School and Grade Group

Elementary School (K-5)

School Name	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2016-17 to 2021-22	
Presidents ES	504	513	506	542	470	469		-35
Eagle Creek ES	598	661	664	718	637	625		27
Kent Prairie ES	617	641	676	653	590	596		-21
Pioneer ES	578	579	578	577	500	494		-84
ES Total	**2,297**	**2,394**	**2,424**	**2,490**	**2,197**	**2,184**		**-113**

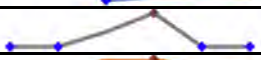
Middle School (6-8)

School Name	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2016-17 to 2021-22	
Post MS	594	625	654	671	656	643		49
Haller MS	680	663	661	640	604	584		-96
MS Total	**1,274**	**1,288**	**1,315**	**1,311**	**1,260**	**1,227**		**-47**

High School (9-12)

School Name	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2016-17 to 2021-22	
Arlington HS	1,602	1,561	1,619	1,661	1,548	1,636		34
HS Total	**1,602**	**1,561**	**1,619**	**1,661**	**1,548**	**1,636**		**34**

Non-attendance Area (AA) Schools/Programs

School Name	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2016-17 to 2021-22	
Stillaguamish K-12	117	72	84	74	166	197		80
Weston HS	117	158	90	98	102	100		-17
Weston ALE	0	0	45	102	0	0		0
Open Doors	0	10	42	43	23	30		30
Non-AA Total	**234**	**240**	**261**	**317**	**291**	**327**		**93**

Totals

School Name	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2016-17 to 2021-22	
District Total	**5,406**	**5,493**	**5,619**	**5,779**	**5,296**	**5,374**		**-32**

Arlington Public School Monthly Enrollment Report (P223 Headcount) October 2016–17 to 2021–22 enrollment per school and grade group. Enrollment values omit PS and the Arlington Online Program (AOP). The lowest and highest enrollment values per school are highlighted blue and orange, respectively. Sparklines are colored blue, gray, or orange to illustrate 5-year decline, stasis, or growth, respectively. Abrupt changes in enrollment are most likely due to deliberate student placement or attendance boundary changes. Abrupt changes in enrollment are likely due to deliberate student placement or attendance boundary changes.

Figure 5: 2021–2022 District-wide Transfer Rates

Grade Group	Enrollment In-District	Enrollment from Out-of-District	Enrollment Total	Transfers Intra-district	Transfers Total	Transfer Rate Intra-district	Transfer Rate from Out-of-District	Transfer Rate Total
K-5	1,992	273	2,265	316	589	15.9%	12.1%	26.0%
6-8	1,169	123	1,292	155	278	13.3%	9.5%	21.5%
9-12	1,580	237	1,817	134	371	8.5%	13.0%	20.4%
District-wide	**4,741**	**633**	**5,374**	**605**	**1,238**	**12.8%**	**11.8%**	**23.0%**

Arlington Public Schools October 2021–21 SIS enrollment. Enrollment values omit PS and the Arlington Online Program (AOP).

Figure 6: 2021–2022 Elementary School Enrollment Patterns
Residence-Attendance Matrix

School of Attendance / Attendance Area	Residence Count	Eagle Creek ES	Kent Prairie ES	Pioneer ES	Presidents ES	Stillaguamish Valley Learning Center	Capture Rate	Transfer Out Student Total	Transfer Out Rate
Eagle Creek ES	621	507	45	13	37	19	81.6%	114	18.4%
Kent Prairie ES	507	21	430	27	13	16	84.8%	77	15.2%
Pioneer ES	434	22	11	376	2	23	86.6%	58	13.4%
Presidents ES	430	27	19	17	363	4	84.4%	67	15.6%
K-5 Subtotals	1,992	577	505	433	415	62	84.1%	316	15.9%
Out of District	273	48	91	61	54	19	--	--	--
K-5 Totals	2,265	625	596	494	469	81	--	--	--
Transfer In Student Total	589	118	166	118	106	81	--	--	--
Transfer In Rate	26.0%	18.9%	27.9%	23.9%	22.6%	100%	--	--	--

Arlington Public Schools October 2021–22 SIS enrollment. Enrollment values omit PS and the Arlington Online Program (AOP). Residence counts are based on current attendance area boundaries, as of the 2021–22 school year.

Figure 7: 2021–2022 Middle School Enrollment Patterns
Residence-Attendance Matrix

School of Attendance / Attendance Area	Residence Count	Haller MS	Post MS	Stillaguamish Valley Learning Center	Capture Rate	Transfer Out Student Total	Transfer Out Rate
Haller MS	546	469	53	24	85.9%	77	14.1%
Post MS	623	53	545	25	87.5%	78	12.5%
6-8 Subtotals	1,169	522	598	49	86.7%	155	13.3%
Out of District	123	62	45	16	--	--	--
6-8 Totals	1,292	584	643	65	--	--	--
Transfer In Student Total	278	115	98	65	--	--	--
Transfer In Rate	21.5%	19.7%	15.2%	100%	--	--	--

Arlington Public Schools October 2021–22 SIS enrollment. Enrollment values omit PS and the Arlington Online Program (AOP). Residence counts are based on current attendance area boundaries, as of the 2021–22 school year.

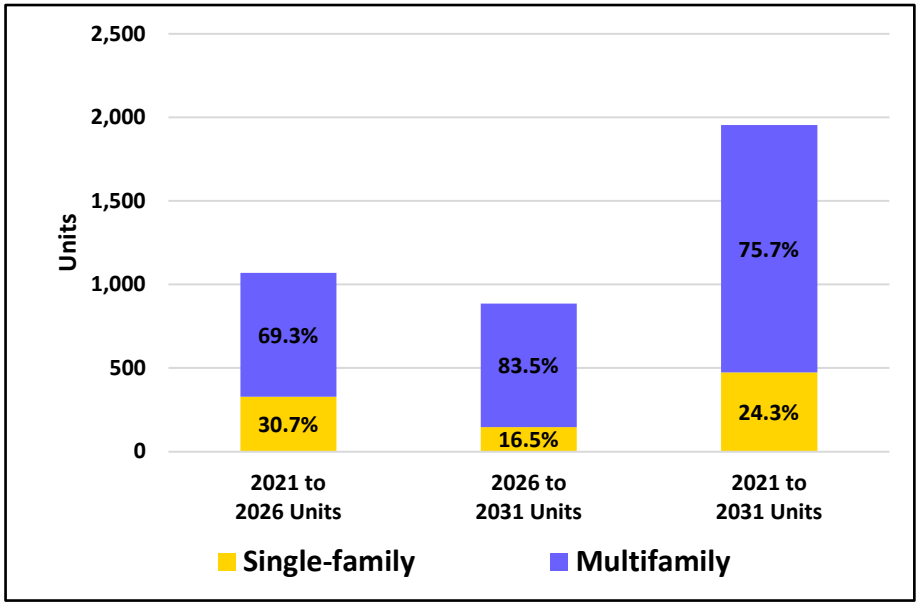
Figure 8: 2021–2022 High School Enrollment Patterns
Residence-Attendance Matrix

School of Attendance / Attendance Area	Residence Count	Arlington HS	Open Doors	Stillaguamish Valley Learning Center	Weston HS	Capture Rate	Transfer Out Student Total	Transfer Out Rate
Arlington HS	1,580	1,446	16	43	75	91.5%	134	8.5%
9-12 Subtotals	1,580	1,446	16	43	75	91.5%	134	8.5%
Out of District	237	190	14	8	25	--	--	--
9-12 Totals	1,817	1,636	30	51	100	--	--	--
Transfer In Student Total	371	190	30	51	100	--	--	--
Transfer In Rate	20.4%	11.6%	100%	100%	100%	--	--	--

Arlington Public Schools October 2021–22 SIS enrollment. Enrollment values omit PS and the Arlington Online Program (AOP).
Residence counts are based on current attendance area boundaries, as of the 2021–22 school year.

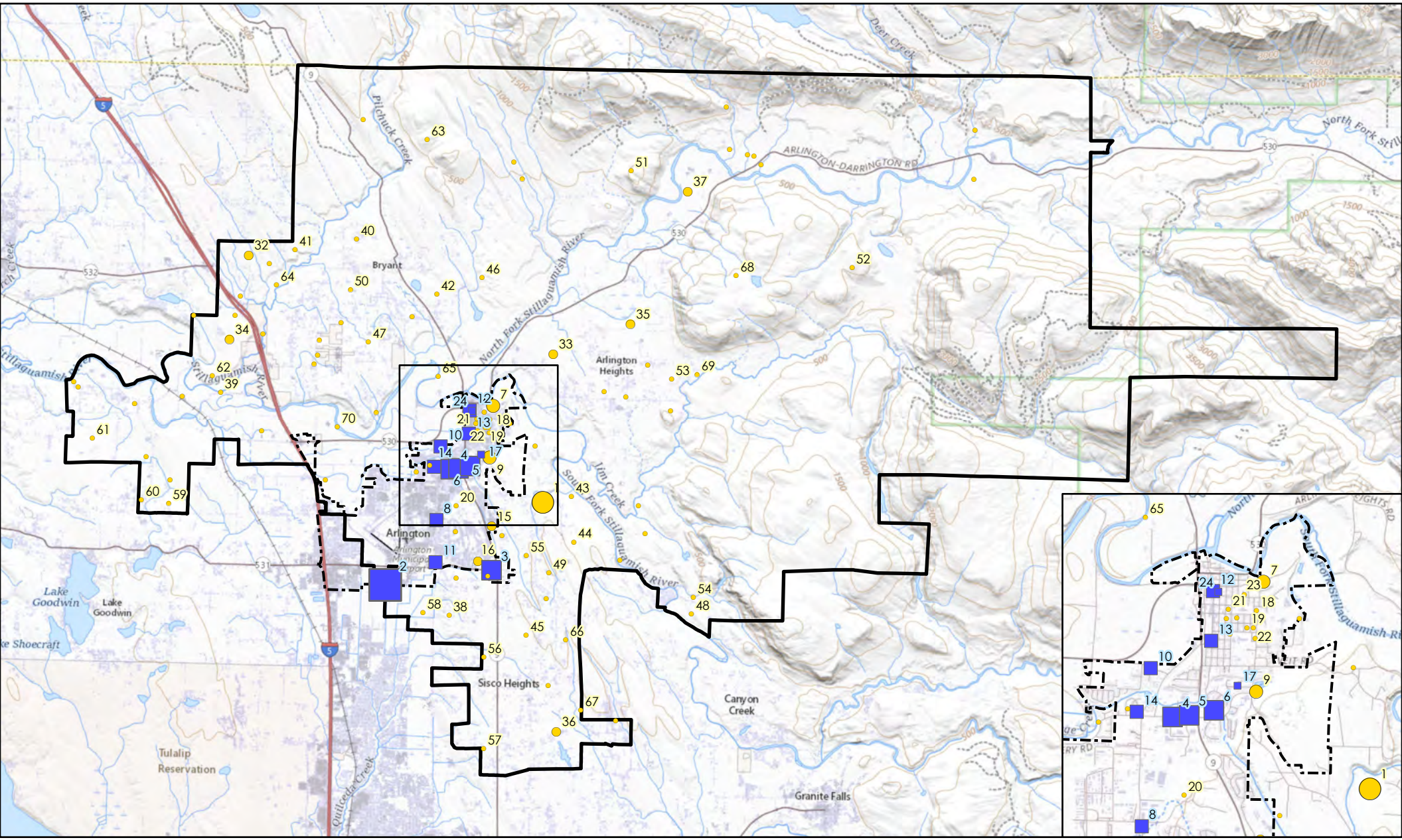
Figure 9: 2021–2031 Residential Development Totals

Housing Type	2021 to 2026 Units	2026 to 2031 Units	2021 to 2031 Units
Single-family	328	146	474
Multifamily	740	739	1,479
Total	**1,068**	**885**	**1,953**



Total number of anticipated housing units by type within the enrollment forecast horizon. Percentages represent each housing type's proportion of the total number of units.

Residential Development



Multi-Family Development

- ≤ 25
- ≤ 100
- ≤ 300
- ≥ 301

Single Family Development

- ≤ 5
- ≤ 25
- ≤ 125
- ≥ 126

Arlington City Limits

District Boundary

Label

Correspond to Map IDs on Figure 11. Residential developments with 1 unit are not labeled.

FLO Analytics

N

0 0.5 1 2 Miles

Figure 10

2022-23 to 2031-32 Forecasts Report: Based on October 2021 Enrollment

Figure 11: 2021-2031 Residential Development Details

MapID	Jurisdiction	Source	Type	Total Units	Current-year to 5-year Units	5-year to 10-year Units	Current-year to 10-year Units	Beyond 10-year Units	Notes
1	Arlington	Arlington	SF	1900	0	0	0	1900	Proposed Timeline: Unknown; Project Type: Single-Family, Duplex and Townhouse Development; Unit Type: SF - Detached and Attached; Status: Not Submitted
2	Arlington	Arlington	MF	516	258	258	516	0	Proposed Timeline: 2022 - 2024; Project Type: Mixed Use Development; Unit Type: MF Apartments; Status: Approved and Under Construction
3	Arlington	Arlington	MF	300	135	165	300	0	Proposed Timeline: < 5 years; Project Type: Mixed Use Development; Unit Type: MF Apartments and SF-Attached - ~300 MF and 23 townhouses; Status: Not Submitted
4	Arlington	Arlington	MF	182	82	100	182	0	Proposed Timeline: 2022 - 2023; Project Type: Mixed Use Development; Unit Type: MF Apartments; Status: Approved and Under Construction
5	Arlington	Arlington	MF	150	0	0	0	150	Proposed Timeline: Unknown; Project Type: Mixed Use Development; Unit Type: Affordable Senior MF Apartments; Status: Approved
6	Arlington	Arlington	MF	132	59	73	132	0	Proposed Timeline: 2022; Project Type: Mixed Use Development; Unit Type: MF Apartments; Status: Approved and Under Construction
7	Arlington	Arlington	SF	115	52	63	115	0	Proposed Timeline: 2022 - 2023; Project Type: Townhouse Development; Unit Type: SF - Attached; Status: Final Plat Approval in December 2021
8	Arlington	Arlington	MF	100	55	45	100	0	Proposed Timeline: < 5 years; Project Type: Mixed Use Development; Unit Type: MF Apartments; Status: Not Submitted
9	Arlington	Arlington	SF	93	47	47	93	0	Proposed Timeline: 2022 - 2024; Project Type: Townhouse Development; Unit Type: SF - Attached; Status: Under Permit Review (Not Approved Yet)
10	Arlington	Arlington	MF	75	34	41	75	0	Proposed Timeline: < 5 years; Project Type: Mixed Use Development; Unit Type: MF Apartments; Status: Not Submitted
11	Arlington	Arlington	MF	49	49	0	49	0	Proposed Timeline: 2022; Project Type: Mixed Use Development; Unit Type: MF Apartments; Status: Approved and Under Construction
12	Arlington	Arlington	MF	46	25	21	46	0	Proposed Timeline: < 5 years; Project Type: Mixed Use Development; Unit Type: MF Apartments; Status: Not Submitted
13	Arlington	Arlington	MF	32	18	14	32	0	Proposed Timeline: < 5 years; Project Type: Mixed Use Development; Unit Type: MF Apartments; Status: Not Submitted
14	Arlington	Arlington	MF	29	16	13	29	0	Proposed Timeline: 2022 - 2024; Project Type: Mixed Use Development; Unit Type: MF Apartments - 21 Studios and 8 1-Bedrooms; Status: Approved
15	Arlington	Arlington	SF	18	8	10	18	0	Proposed Timeline: < 5 years; Project Type: Single Family Subdivision; Unit Type: SF - Detached; Status: Under Permit Review (Not Approved Yet)
16	Arlington	Arlington	SF	17	8	9	17	0	Proposed Timeline: 2022 - 2024; Project Type: Townhouse Development; Unit Type: SF - Attached; Status: Under Permit Review (Not Approved Yet)
17	Arlington	Arlington	MF	16	7	9	16	0	Proposed Timeline: 2022 - 2024; Project Type: Multi-Family Apartments; Unit Type: MF Apartments; Status: Under Permit Review (Not Approved Yet)
18	Arlington	Arlington	SF	4	4	0	4	0	Single unit records grouped by block; point on map is block centroid
19	Arlington	Arlington	SF	4	4	0	4	0	Single unit records grouped by block; point on map is block centroid
20	Arlington	Arlington	SF	2	2	0	2	0	Single unit records grouped by block; point on map is block centroid
21	Arlington	Arlington	SF	2	2	0	2	0	Single unit records grouped by block; point on map is block centroid
22	Arlington	Arlington	SF	2	2	0	2	0	Single unit records grouped by block; point on map is block centroid
23	Arlington	Arlington	SF	2	1	1	2	0	Proposed Timeline: 2021; Project Type: Single Family Duplex; Unit Type: 1 Duplex; Status: Approved and Built
24	Arlington	Arlington	MF	2	2	0	2	0	Proposed Timeline: 2022 - 2023; Project Type: Mixed Use Development; Unit Type: MF Apartments; Status: Approved and Under Construction
25	Arlington	Arlington	SF	1	1	0	1	0	
26	Arlington	Arlington	SF	1	1	0	1	0	
27	Arlington	Arlington	SF	1	1	0	1	0	
28	Arlington	Arlington	SF	1	1	0	1	0	
29	Arlington	Arlington	SF	1	1	0	1	0	
30	Arlington	Arlington	SF	1	1	0	1	0	
31	Arlington	Arlington	SF	1	1	0	1	0	Proposed Timeline: Unknown; Project Type: Boundary Line Adjustment; Unit Type: 1 Vacant SF Lot; Status: Approved
32	Snohomish County	Snohomish County	SF	15	15	0	15	0	Single unit records grouped by block; point on map is block centroid
33	Snohomish County	Snohomish County	SF	12	9	3	12	0	Single unit records grouped by block; point on map is block centroid
34	Snohomish County	Snohomish County	SF	9	9	0	9	0	Single unit records grouped by block; point on map is block centroid
35	Snohomish County	Snohomish County	SF	9	8	1	9	0	Single unit records grouped by block; point on map is block centroid
36	Snohomish County	Snohomish County	SF	7	7	0	7	0	Single unit records grouped by block; point on map is block centroid
37	Snohomish County	Snohomish County	SF	7	7	0	7	0	Single unit records grouped by block; point on map is block centroid
38	Snohomish County	Snohomish County	SF	5	5	0	5	0	Single unit records grouped by block; point on map is block centroid
39	Snohomish County	Snohomish County	SF	5	4	1	5	0	Single unit records grouped by block; point on map is block centroid
40	Snohomish County	Snohomish County	SF	5	5	0	5	0	Single unit records grouped by block; point on map is block centroid
41	Snohomish County	Snohomish County	SF	5	5	0	5	0	Single unit records grouped by block; point on map is block centroid

Each Record represents a unique single-family (SF) or multifamily development. Map IDs correpond to labels depicted on Figure 10.
2022-21 to 2031-32 Enrollment Forecasts: Based on October 2021 Enrollment

Figure 11: 2021-2031 Residential Development Details

42	Snohomish County	Snohomish County	SF	5	2	3	5	0	Single unit records grouped by block; point on map is block centroid
43	Snohomish County	Snohomish County	SF	5	5	0	5	0	Single unit records grouped by block; point on map is block centroid
44	Snohomish County	Snohomish County	SF	5	4	1	5	0	Single unit records grouped by block; point on map is block centroid
45	Snohomish County	Snohomish County	SF	4	4	0	4	0	Single unit records grouped by block; point on map is block centroid
46	Snohomish County	Snohomish County	SF	4	4	0	4	0	Single unit records grouped by block; point on map is block centroid
47	Snohomish County	Snohomish County	SF	4	4	0	4	0	Single unit records grouped by block; point on map is block centroid
48	Snohomish County	Snohomish County	SF	4	4	0	4	0	Single unit records grouped by block; point on map is block centroid
49	Snohomish County	Snohomish County	SF	4	4	0	4	0	Single unit records grouped by block; point on map is block centroid
50	Snohomish County	Snohomish County	SF	3	3	0	3	0	Single unit records grouped by block; point on map is block centroid
51	Snohomish County	Snohomish County	SF	3	3	0	3	0	Single unit records grouped by block; point on map is block centroid
52	Snohomish County	Snohomish County	SF	3	3	0	3	0	Single unit records grouped by block; point on map is block centroid
53	Snohomish County	Snohomish County	SF	3	3	0	3	0	Single unit records grouped by block; point on map is block centroid
54	Snohomish County	Snohomish County	SF	3	3	0	3	0	Single unit records grouped by block; point on map is block centroid
55	Snohomish County	Snohomish County	SF	3	3	0	3	0	Single unit records grouped by block; point on map is block centroid
56	Snohomish County	Snohomish County	SF	2	1	1	2	0	Single unit records grouped by block; point on map is block centroid
57	Snohomish County	Snohomish County	SF	2	2	0	2	0	Single unit records grouped by block; point on map is block centroid
58	Snohomish County	Snohomish County	SF	2	2	0	2	0	Single unit records grouped by block; point on map is block centroid
59	Snohomish County	Snohomish County	SF	2	2	0	2	0	Single unit records grouped by block; point on map is block centroid
60	Snohomish County	Snohomish County	SF	2	2	0	2	0	Single unit records grouped by block; point on map is block centroid
61	Snohomish County	Snohomish County	SF	2	2	0	2	0	Single unit records grouped by block; point on map is block centroid
62	Snohomish County	Snohomish County	SF	2	2	0	2	0	Single unit records grouped by block; point on map is block centroid
63	Snohomish County	Snohomish County	SF	2	2	0	2	0	Single unit records grouped by block; point on map is block centroid
64	Snohomish County	Snohomish County	SF	2	2	0	2	0	Single unit records grouped by block; point on map is block centroid
65	Snohomish County	Snohomish County	SF	2	2	0	2	0	Single unit records grouped by block; point on map is block centroid
66	Snohomish County	Snohomish County	SF	2	2	0	2	0	Single unit records grouped by block; point on map is block centroid
67	Snohomish County	Snohomish County	SF	2	2	0	2	0	Single unit records grouped by block; point on map is block centroid
68	Snohomish County	Snohomish County	SF	2	2	0	2	0	Single unit records grouped by block; point on map is block centroid
69	Snohomish County	Snohomish County	SF	2	2	0	2	0	Single unit records grouped by block; point on map is block centroid
70	Snohomish County	Snohomish County	SF	2	2	0	2	0	Single unit records grouped by block; point on map is block centroid
71	Snohomish County	Snohomish County	SF	1	1	0	1	0	Category: Decision; Status: Under Construction
72	Snohomish County	Snohomish County	SF	1	1	0	1	0	Category: Decision; Status: Under Construction
73	Snohomish County	Snohomish County	SF	1	1	0	1	0	Category: Construction-Residential; Status: Under Construction
74	Snohomish County	Snohomish County	SF	1	1	0	1	0	Category: Construction-Residential; Status: Under Construction
75	Snohomish County	Snohomish County	SF	1	1	0	1	0	Category: Construction-Residential; Status: Under Construction
76	Snohomish County	Snohomish County	SF	1	1	0	1	0	Category: Construction-Residential; Status: Under Construction
77	Snohomish County	Snohomish County	SF	1	1	0	1	0	Category: Construction-Residential; Status: Under Construction
78	Snohomish County	Snohomish County	SF	1	1	0	1	0	Category: Decision; Status: Under Construction
79	Snohomish County	Snohomish County	SF	1	1	0	1	0	Category: Construction-Residential; Status: In Review
80	Snohomish County	Snohomish County	SF	1	1	0	1	0	Category: Construction-Residential; Status: Under Construction
81	Snohomish County	Snohomish County	SF	1	1	0	1	0	Category: Decision; Status: Under Construction
82	Snohomish County	Snohomish County	SF	1	1	0	1	0	Category: Construction-Residential; Status: Under Construction
83	Snohomish County	Snohomish County	SF	1	1	0	1	0	Category: Decision; Status: Under Construction
84	Snohomish County	Snohomish County	SF	1	1	0	1	0	Category: Construction-Residential; Status: Under Construction
85	Snohomish County	Snohomish County	SF	1	1	0	1	0	Category: Decision; Status: Under Construction
86	Snohomish County	Snohomish County	SF	1	1	0	1	0	Category: Decision; Status: Under Construction
87	Snohomish County	Snohomish County	SF	1	1	0	1	0	Category: Construction-Residential; Status: Under Construction
88	Snohomish County	Snohomish County	SF	1	1	0	1	0	Category: Construction-Residential; Status: Under Construction
89	Snohomish County	Snohomish County	SF	1	1	0	1	0	Category: Decision; Status: In Review
90	Snohomish County	Snohomish County	SF	1	1	0	1	0	Category: Construction-Residential, Decision; Status: Under Construction
91	Snohomish County	Snohomish County	SF	1	1	0	1	0	Category: Decision; Status: Under Construction
92	Snohomish County	Snohomish County	SF	1	1	0	1	0	Permit Type: Mobile/Manufactured Home; Status: Issued; Description: Installation new 2021 Clayton Patriot, 27 x 56 manufactured home, existing 2001 MH shall be removed
93	Snohomish County	Snohomish County	SF	1	1	0	1	0	Permit Type: Mobile/Manufactured Home; Status: Issued; Description: Residential Building Permit for replacing existing single wide MH(924 sq ft) with a 2021 Goldenwest double wide manufactured home (1800 sq ft) on a 2.4 acre lot that is already developed.

Each Record represents a unique single-family (SF) or multifamily development. Map IDs correpond to labels depicted on Figure 10.
2022-21 to 2031-32 Enrollment Forecasts: Based on October 2021 Enrollment

Figure 11: 2021-2031 Residential Development Details

94	Snohomish County	Snohomish County	SF	1	1	0	1	0	Permit Type: Mobile/Manufactured Home; Status: Info Requested; Description: This permit proposes the permitting of an existing manufactured home Airport Influence Disclosure Notice AFN 202103180242 Glacier Peak Volcanic Hazard Notice AFN 202103180241 CASP
95	Snohomish County	Snohomish County	SF	1	1	0	1	0	Permit Type: Mobile/Manufactured Home; Status: Info Requested; Description: New manufactured home RELATED 21-108810 LDA
96	Snohomish County	Snohomish County	SF	1	1	0	1	0	Permit Type: Mobile/Manufactured Home; Status: Issued; Description: New temporary manufactured home ADU on property
97	Snohomish County	Snohomish County	SF	1	1	0	1	0	Permit Type: Mobile/Manufactured Home; Status: Issued; Description: NEW MANUFACTURED HOME WITH PROPOSED ACCESS ON 35TH AVE.
98	Snohomish County	Snohomish County	SF	1	1	0	1	0	Permit Type: SFR-Basic; Status: Info Requested; Description: Approved Basic 18111969BP 2015 IRC 1736 1736 square single story with attached garage WRIA 5
99	Snohomish County	Snohomish County	SF	1	1	0	1	0	Permit Type: Single Family Residential; Status: Issued; Description: Permit to continue work on expired permits 17-114721 RK previously permitted under 02-105130 RK, 08-104416 RK, 11-104008 RK & 14-111075 RK
100	Snohomish County	Snohomish County	SF	1	1	0	1	0	Permit Type: Single Family Residential; Status: Info Requested; Description: Construct SFR, shop, and associated driveway on 9.44 acre parcel. RELATED 21-103216 LDA, 21-103805 D1, 21-104855 FPA & 21-106201 RBP
101	Snohomish County	Snohomish County	SF	1	1	0	1	0	Permit Type: Single Family Residential; Status: Under Review; Description: PROPOSED SFR AND DRIVEWAY
102	Snohomish County	Snohomish County	SF	1	1	0	1	0	Permit Type: Single Family Residential; Status: Info Requested; Description: New Residence.
103	Snohomish County	Snohomish County	SF	1	1	0	1	0	Permit Type: Single Family Residential; Status: Under Review; Description: NEW 2 STORY SFR
104	Snohomish County	Snohomish County	SF	1	0	1	1	0	Permit Type: Single Family Residential; Status: Issued; Description: New SFR application extension granted. application valid until July 26, 2021. jrlenz Application extended 12/24/2019 rar. Will expire June 26, 2021 okay to go to july 2, 2021 expiration
105	Snohomish County	Snohomish County	SF	1	0	1	1	0	Permit Type: Single Family Residential; Status: Issued; Description: Single family residence. 4 bedroom 3 bathroom 2580sqft **note: closest water purveyor is a private, non-expanding water system for Stilli Ridge Estates**
106	Snohomish County	Snohomish County	SF	1	0	1	1	0	Permit Type: Single Family Residential; Status: Issued; Description: Construct new single family residence adjacent to existing accessory building on newly short platted lot 2 of the Poat short plat project. RELATED 20-111044 LDA & 14-113214-D1
107	Snohomish County	Snohomish County	SF	1	0	1	1	0	Permit Type: Single Family Residential; Status: Issued; Description: Single family building with associated improvements.
108	Snohomish County	Snohomish County	SF	1	0	1	1	0	Permit Type: Single Family Residential; Status: Issued; Description: new sfr, existing home to be removed RELATED 20-114323 LDA
109	Snohomish County	Snohomish County	SF	1	0	1	1	0	Permit Type: Single Family Residential; Status: Issued; Description: Clearing and grading for construction of a new SFR with associated, driveway, drainfield and reserve, and drainage improvements. RELATED 20-115095 LDA; 20-115094 FPA; 17-112599 D1
110	Snohomish County	Snohomish County	SF	1	1	0	1	0	Category: Construction-Residential; Status: Under Construction
111	Snohomish County	Snohomish County	SF	1	1	0	1	0	Category: Construction-Residential; Status: Under Construction
112	Snohomish County	Snohomish County	SF	1	1	0	1	0	Category: Decision; Status: In Review
113	Snohomish County	Snohomish County	SF	1	1	0	1	0	Category: Decision; Status: Under Construction
114	Snohomish County	Snohomish County	SF	1	1	0	1	0	Category: Construction-Residential; Status: Under Construction
115	Snohomish County	Snohomish County	SF	1	1	0	1	0	Category: Construction-Residential; Status: Under Construction
116	Snohomish County	Snohomish County	SF	1	1	0	1	0	Category: Decision; Status: In Review

Each Record represents a unique single-family (SF) or multifamily development. Map IDs correpond to labels depicted on Figure 10.
2022-21 to 2031-32 Enrollment Forecasts: Based on October 2021 Enrollment

Figure 12: Student Generation Rates

Summary of Generation Rates Used for New Development	K-12 Students per Single-Family (SF) Unit	K-12 Students per Multifamily (MF) Unit
Overall Average Rates	***0.55***	***0.23***
Highest Rate Used for a Development	0.79	0.45
Lowest Rate Used for a Development	0.27	0.12

While overall average student generation rates used in preparing the forecasts were 0.55 K-12 students/SF unit and 0.23 K-12 students/MF unit, the specific rates used for each development were carefully determined on an individual basis. Broadly speaking, we merge as much information as possible when determining rates to apply to each development. Information considered includes:

1) existing students per housing unit for SF and MF within individual neighborhoods
2) development-specific expectations provided by planners (e.g., housing targeting families)
3) educated assumptions about new or changing housing development trends.

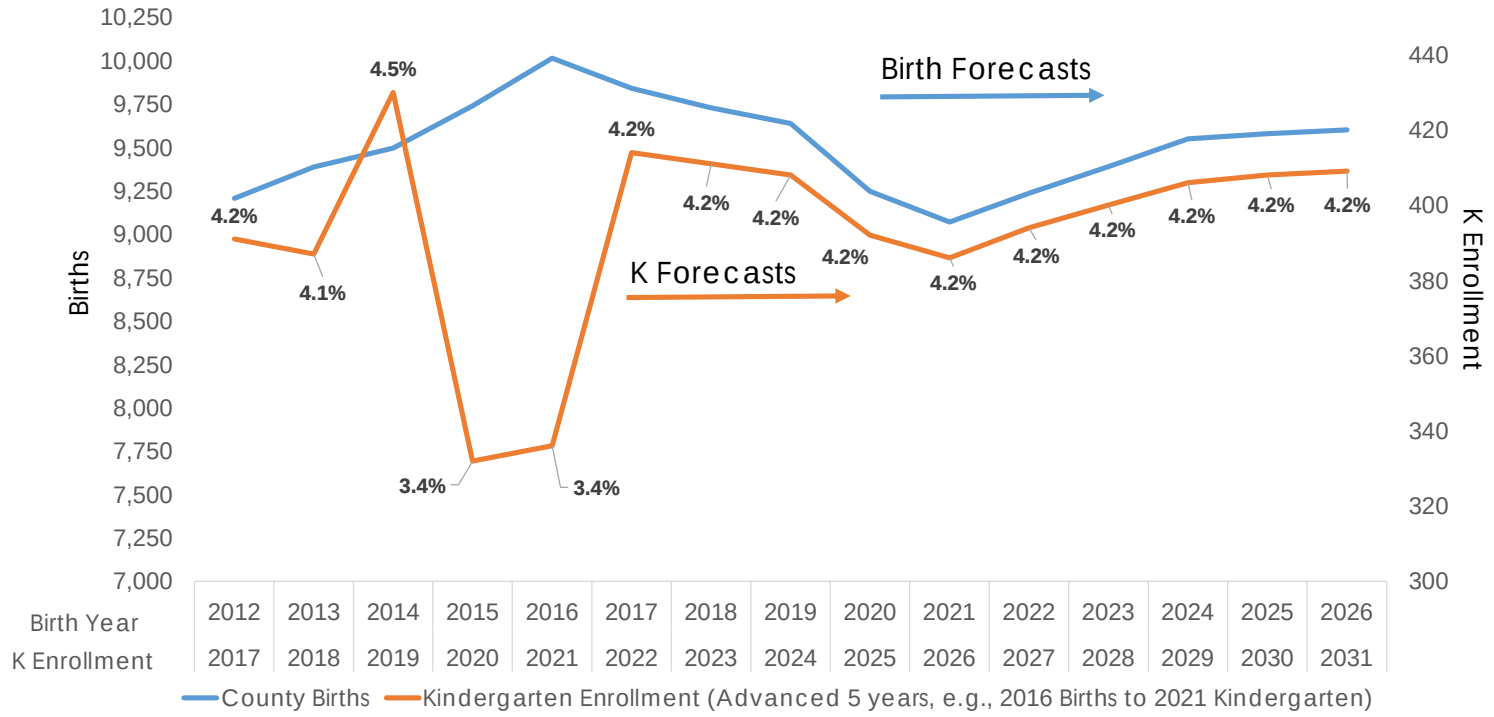
Figure 13 : County Birth Rates

Forecasts →

Birth Year	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
County Births	9,206	9,386	9,495	9,739	10,014	9,841	9,728	9,638	9,247	9,069	9,235	9,389	9,549	9,579	9,600

Forecasts →

K Year	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
K Total	391	387	430	332	336	414	411	408	392	386	394	400	406	408	409
K % of Births	4.2%	4.1%	4.5%	3.4%	3.4%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%



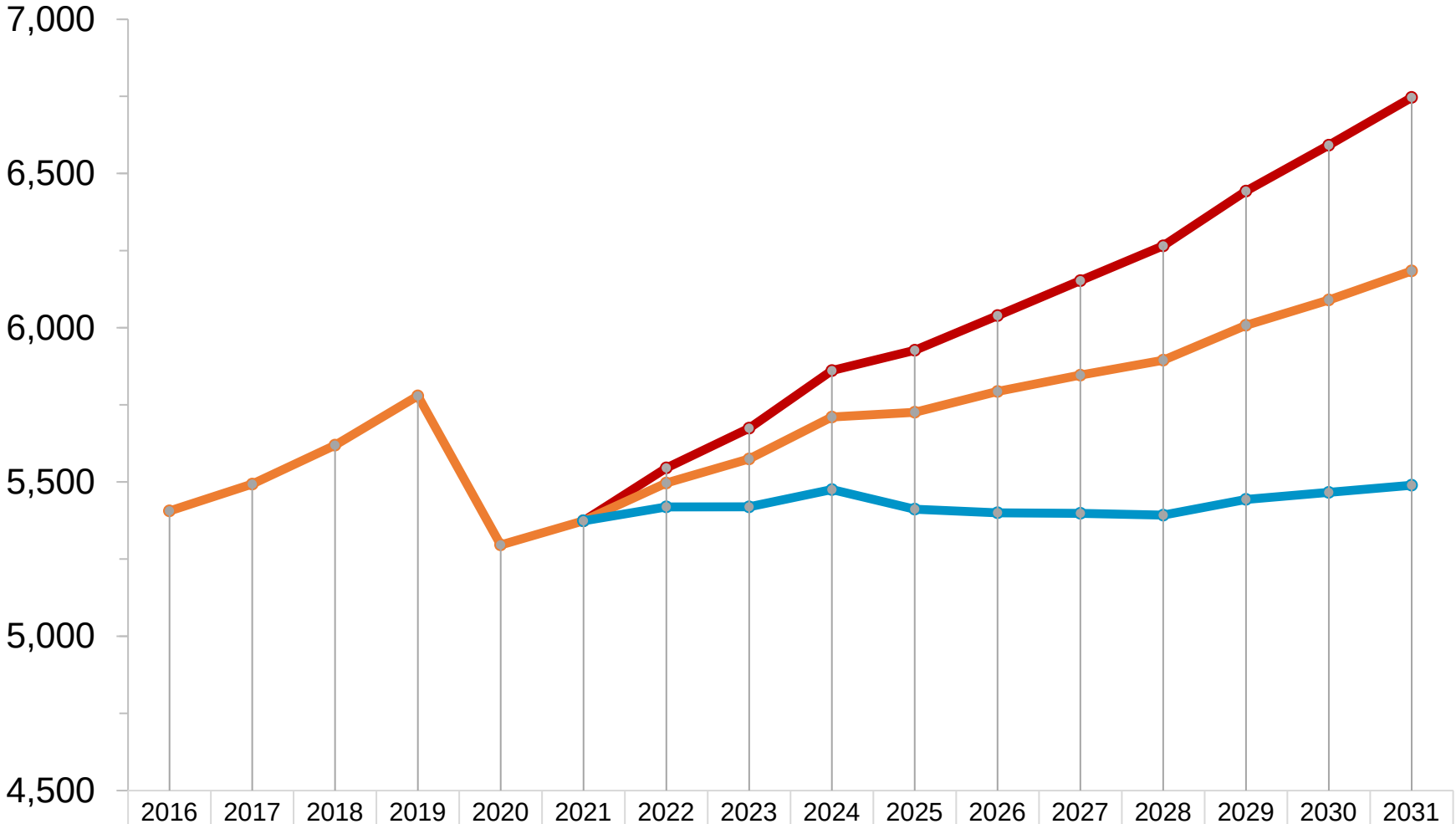
WA DOH 2012 to 2019 historical live births to mothers residing in the Snohomish County, as well as historical district K totals for the 2017–18 to 2021–22 school years. The metric "K % of Births" is calculated by dividing each K class by the live birth total five years earlier (e.g., 2019 K class divided by 2014 births). 2020–26 births, which inform K classes beginning with the 2025–26 school year, were projected based on a review of the historical birth data. Forecasts of future K class sizes were then developed by employing forecasts of trends in "K % of Births". Note that birth values reported by WA DOH represent the January 1st through December 31st calendar year, and therefore do not align directly with K enrollment 5 years later (i.e., August cutoff for being age 5 to enroll in K in the fall).

Figure 14: Grade Progression Ratios

Grade Progression	2017-18	2018-19	2019-20	2020-21	2021-22	3-year Avg	2-year Avg	Fcst GPRs
K-1	1.06	1.05	1.05	0.92	1.08	1.01	1.00	1.06
1-2	1.02	1.05	1.01	0.89	1.04	0.98	0.96	1.03
2-3	1.05	1.07	1.03	0.93	1.08	1.01	1.01	1.06
3-4	1.08	1.02	1.02	0.93	1.01	0.99	0.97	1.02
4-5	1.06	1.03	1.03	0.94	1.01	0.99	0.98	1.03
5-6	1.09	1.05	1.04	0.97	1.08	1.03	1.03	1.07
6-7	1.03	1.00	1.02	0.94	1.01	0.99	0.98	1.01
7-8	0.99	1.03	1.00	0.96	1.01	0.99	0.98	1.01
8-9	1.02	1.04	1.07	0.96	1.07	1.03	1.01	1.03
9-10	0.97	1.02	1.03	0.95	1.01	0.99	0.98	1.03
10-11	0.94	0.97	0.99	0.91	0.97	0.96	0.94	0.97
11-12	1.08	1.10	1.18	0.99	1.07	1.08	1.03	1.07

2017–18 to 2021–22 Grade Progression Ratios (GPR) based on Arlington Public Schools Headcount Enrollment. GPRs are calculated as the ratio of enrollment in a specific grade in a given year, to the enrollment of the same age cohort in the previous year. For instance, when 150 kindergarteners in 2017 become 140 first graders in 2018, a GPR of 0.93 is yielded. GPRs quantify how cohort sizes change as students progress to subsequent grades by considering that not all students advance to the next grade and new students join existing cohorts. A GPR value greater than 1.0 indicates that the student cohort increased in size from one grade to the next. Such a result may be due to students moving into the district, students choosing to transfer into the district from other districts (public or private). Conversely, a GPR value less than 1.0 indicates that the student cohort decreased in size from one grade to the next. This may be due to students moving out of the district, students choosing to transfer to other districts, or students not advancing to the next grade.

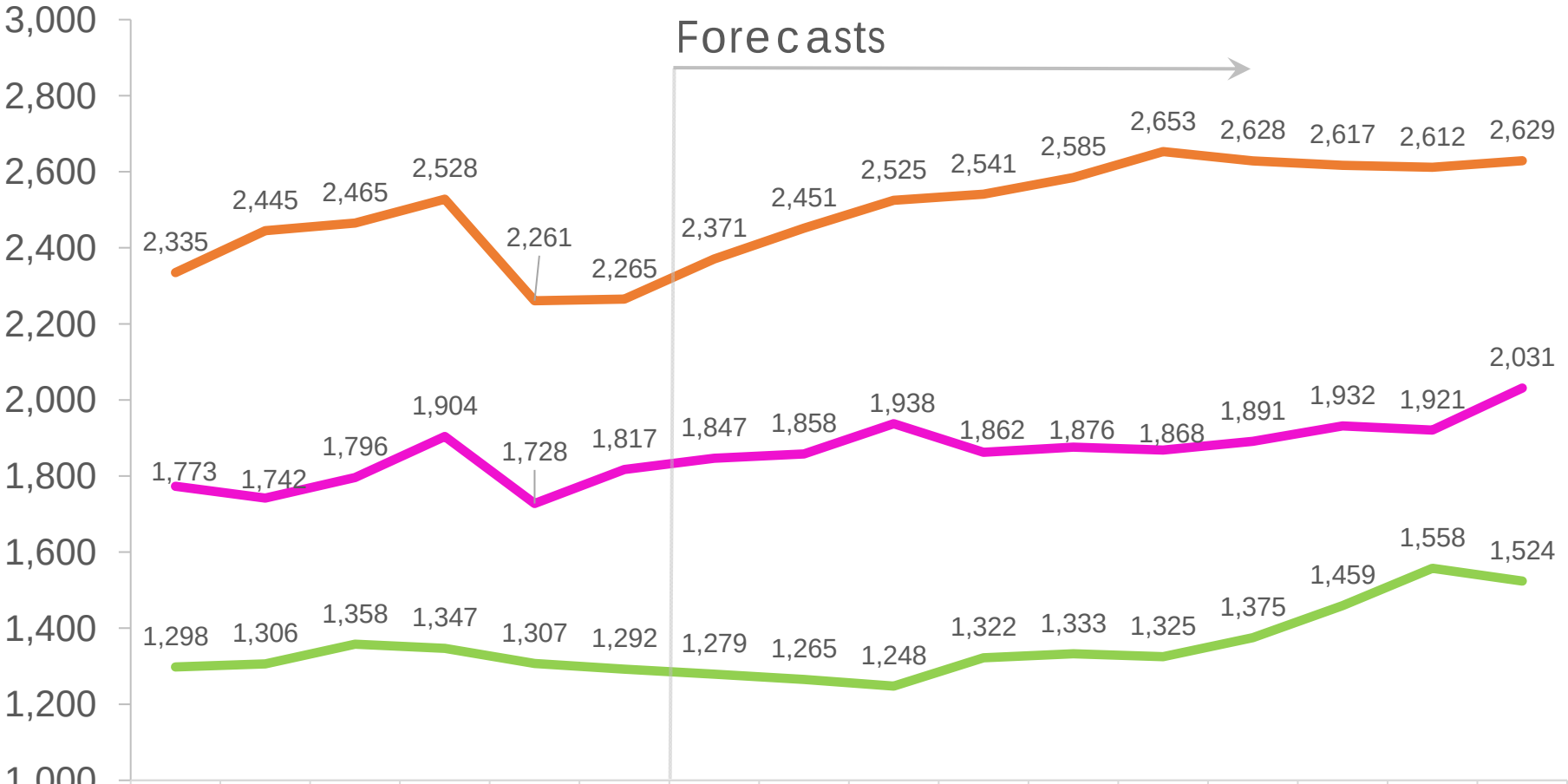
Figure 15: Districtwide Building Attendance Enrollment Forecasts: High, Perferred, and Low Scenarios



	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
High						5,374	5,545	5,674	5,861	5,927	6,039	6,153	6,265	6,443	6,592	6,746
Medium	5,406	5,493	5,619	5,779	5,296	5,374	5,496	5,575	5,711	5,726	5,793	5,846	5,895	6,008	6,090	6,184
Low						5,374	5,419	5,419	5,475	5,412	5,400	5,398	5,392	5,443	5,466	5,489

Arlington Public Schools Monthly Enrollment Report (P223 Headcount) October 2016–17 to 2021–22 and 2022–23 to 2031–32 FLO districtwide enrollment forecasts. All enrollment values include all students living within and outside the district boundary, except for students attending PS and the Arlington Online Program (AOP).

Figure 16: Building Attendance Enrollment Forecasts by Grade Group: Preferred Scenario



	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
K-5	2,335	2,445	2,465	2,528	2,261	2,265	2,371	2,451	2,525	2,541	2,585	2,653	2,628	2,617	2,612	2,629
6-8	1,298	1,306	1,358	1,347	1,307	1,292	1,279	1,265	1,248	1,322	1,333	1,325	1,375	1,459	1,558	1,524
9-12	1,773	1,742	1,796	1,904	1,728	1,817	1,847	1,858	1,938	1,862	1,876	1,868	1,891	1,932	1,921	2,031

Arlington Public Schools Monthly Enrollment Report (P223 Headcount) October 2016–17 to 2021–22 and 2022–23 to 2031–32 FLO grade group enrollment forecasts. All enrollment values include all students living within and outside the district boundary, except for students attending PS and the Arlington Online Program (AOP).

Figure 17: District Grade Totals, Attendance Area Residence-Based Forecasts (Headcount)

	Grade	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
	K	296	366	361	358	341	334	341	347	354	355	356
	1	320	312	386	381	377	360	353	360	367	374	375
	2	358	329	320	398	392	388	371	363	371	377	385
	3	343	378	348	338	420	414	410	392	384	392	399
	4	342	347	383	352	342	426	420	416	398	389	397
	5	333	352	357	394	362	351	438	433	428	409	401
	6	397	356	378	382	422	388	375	469	464	459	439
	7	395	402	360	383	386	428	392	378	475	469	465
	8	377	399	407	364	387	390	432	396	382	481	475
	9	435	387	409	417	373	398	400	442	406	390	493
	10	365	449	399	421	430	385	410	412	455	419	402
	11	391	351	432	384	406	415	370	395	396	438	403
	12	389	419	376	463	410	434	444	396	423	423	468
Residing in District *(Residence-Based)*	***K-5***	*1,992*	*2,085*	*2,156*	*2,221*	*2,235*	*2,273*	*2,333*	*2,312*	*2,301*	*2,297*	*2,312*
	6-8	*1,169*	*1,157*	*1,145*	*1,129*	*1,196*	*1,206*	*1,199*	*1,244*	*1,320*	*1,409*	*1,379*
	9-12	*1,580*	*1,606*	*1,616*	*1,685*	*1,620*	*1,631*	*1,625*	*1,644*	*1,680*	*1,670*	*1,766*
	K-12	*4,741*	*4,848*	*4,916*	*5,035*	*5,051*	*5,110*	*5,157*	*5,200*	*5,302*	*5,376*	*5,457*
Out-of-District	***K-5***	*273*	*286*	*295*	*304*	*306*	*312*	*320*	*317*	*315*	*315*	*317*
	6-8	*123*	*122*	*120*	*119*	*126*	*127*	*126*	*131*	*139*	*148*	*145*
	9-12	*237*	*241*	*242*	*253*	*243*	*245*	*244*	*247*	*252*	*251*	*265*
	K-12	*633*	*648*	*658*	*676*	*675*	*683*	*690*	*694*	*706*	*714*	*727*
Total Attendance *(Building Attendance)*	***K-5***	*2,265*	*2,371*	*2,451*	*2,525*	*2,541*	*2,585*	*2,653*	*2,628*	*2,617*	*2,612*	*2,629*
	6-8	*1,292*	*1,279*	*1,265*	*1,248*	*1,322*	*1,333*	*1,325*	*1,375*	*1,459*	*1,558*	*1,524*
	9-12	*1,817*	*1,847*	*1,858*	*1,938*	*1,862*	*1,876*	*1,868*	*1,891*	*1,932*	*1,921*	*2,031*
	K-12	*5,374*	*5,496*	*5,575*	*5,711*	*5,726*	*5,793*	*5,846*	*5,895*	*6,008*	*6,090*	*6,184*

Arlington Public Schools 2021–22 SIS enrollment and 2022–23 to 2031–32 FLO enrollment forecasts (preferred scenario). All enrollment values exclude students attending PS. The summation of individual values may not exactly match stated totals; these slight differences are due to rounding of decimal places during the forecast allocation.

Figure 18: Residence-Based Enrollment Forecasts by Attendance Area (Headcount)

Attendance Area	Students Residing* → 2021	2022	2023	2024	2025	2026	2031
Eagle Creek ES	628	659	681	696	679	691	672
Kent Prairie ES	488	498	515	527	543	547	581
Pioneer ES	413	450	460	488	506	524	552
Presidents ES	462	478	500	509	507	510	507
Haller MS	560	537	534	516	553	555	651
Post MS	609	621	610	613	643	650	728
Arlington HS	1,580	1,606	1,616	1,685	1,620	1,631	1,766
K-12	***4,741***	***4,848***	***4,916***	***5,035***	***5,051***	***5,110***	***5,457***

**633 students residing out-of-district.*

Arlington Public Schools 2021–22 SIS enrollment and 2022–23 to 2031–32 FLO enrollment forecasts (preferred scenario). All enrollment values exclude students attending PS. The summation of individual values may not exactly match stated totals; these slight differences are due to rounding of decimal places during the forecast allocation.

Figure 19: Building Attendance Enrollment Forecasts by Individual Grade: Preferred Scenario

Grade	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
K	336	414	411	408	392	386	394	400	406	408	409
1	357	359	435	432	428	412	406	413	419	426	428
2	409	377	370	448	443	440	424	416	423	430	437
3	390	426	397	388	471	466	464	445	437	444	452
4	390	395	433	403	393	478	474	469	450	442	450
5	383	400	406	445	413	403	491	485	481	462	454
6	440	397	418	422	464	430	417	513	510	509	487
7	433	443	401	422	428	470	434	422	522	519	513
8	419	440	447	404	429	433	474	440	428	530	523
9	497	447	469	480	434	459	461	503	469	453	559
10	405	509	459	484	491	446	471	473	518	481	468
11	453	412	493	447	466	476	431	456	459	501	470
12	462	479	437	526	471	495	505	458	486	486	534
K-5	*2,265*	*2,371*	*2,451*	*2,525*	*2,541*	*2,585*	*2,653*	*2,628*	*2,617*	*2,612*	*2,629*
7-8	*1,292*	*1,279*	*1,265*	*1,248*	*1,322*	*1,333*	*1,325*	*1,375*	*1,459*	*1,558*	*1,524*
9-12	*1,817*	*1,847*	*1,858*	*1,938*	*1,862*	*1,876*	*1,868*	*1,891*	*1,932*	*1,921*	*2,031*
K-12	*5,374*	*5,496*	*5,575*	*5,711*	*5,726*	*5,793*	*5,846*	*5,895*	*6,008*	*6,090*	*6,184*

Total Attendance *(Building Attendance)*

Arlington Public Schools Monthly Enrollment Report (P223) October 2021–22 Headcount enrollment and 2022–23 to 2031–32 FLO enrollment forecasts (Preferred-growth scenario). All enrollment values include all students living within and outside the district boundary, except for students attending PS and the Arlington Online Program (AOP).

Figure 20: Building Attendance Enrollment Forecasts by Individual Grade: High Scenario

Grade	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
K	336	424	421	419	403	392	401	407	415	416	417
1	357	363	450	447	444	427	418	425	431	440	442
2	409	380	378	467	463	460	446	434	442	448	458
3	390	430	404	401	495	491	491	473	461	469	476
4	390	399	440	414	410	506	505	503	485	473	481
5	383	403	414	457	429	424	527	524	522	504	491
6	440	400	424	433	480	450	446	559	559	561	541
7	433	445	407	431	444	490	460	458	576	576	574
8	419	443	453	414	442	453	500	472	472	593	589
9	497	450	476	490	448	475	486	537	508	505	633
10	405	512	465	495	504	464	492	505	560	528	530
11	453	414	499	456	481	492	454	482	495	548	522
12	462	482	442	536	484	514	527	486	517	530	592
K-5	*2,265*	*2,399*	*2,507*	*2,606*	*2,644*	*2,701*	*2,788*	*2,766*	*2,756*	*2,750*	*2,765*
7-8	*1,292*	*1,289*	*1,284*	*1,278*	*1,366*	*1,393*	*1,406*	*1,489*	*1,607*	*1,731*	*1,704*
9-12	*1,817*	*1,858*	*1,883*	*1,977*	*1,917*	*1,945*	*1,959*	*2,011*	*2,080*	*2,111*	*2,277*
K-12	*5,374*	*5,545*	*5,674*	*5,861*	*5,927*	*6,039*	*6,153*	*6,265*	*6,443*	*6,592*	*6,746*

Total Attendance *(Building Attendance)*

Arlington Public Schools Monthly Enrollment Report (P223) October 2021–22 Headcount enrollment and 2022–23 to 2031–32 FLO enrollment forecasts (High-growth scenario). All enrollment values include all students living within and outside the district boundary, except for students attending PS the Arlington Online Program (AOP).

Figure 21: Building Attendance Enrollment Forecasts by Individual Grade: Low Scenario

Grade	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
K	336	351	347	344	329	322	327	331	336	337	338
1	357	351	367	363	359	344	339	344	348	353	355
2	409	368	359	376	371	367	353	348	353	357	364
3	390	417	385	376	393	388	386	372	366	372	376
4	390	386	421	389	379	396	393	392	377	372	378
5	383	390	395	430	397	387	407	404	402	388	382
6	440	395	414	419	456	421	413	434	431	429	414
7	433	461	418	436	445	483	450	441	463	462	459
8	419	459	464	420	443	448	489	455	447	470	466
9	497	445	467	475	429	449	454	499	467	458	482
10	405	508	457	481	484	440	462	469	516	481	473
11	453	411	490	443	462	468	427	450	457	501	468
12	462	477	435	522	466	489	498	455	480	486	534
K-5	*2,265*	*2,263*	*2,275*	*2,278*	*2,227*	*2,203*	*2,206*	*2,190*	*2,183*	*2,179*	*2,193*
7-8	*1,292*	*1,315*	*1,296*	*1,276*	*1,343*	*1,352*	*1,352*	*1,330*	*1,342*	*1,361*	*1,339*
9-12	*1,817*	*1,841*	*1,848*	*1,921*	*1,842*	*1,846*	*1,841*	*1,873*	*1,919*	*1,926*	*1,958*
K-12	*5,374*	*5,419*	*5,419*	*5,475*	*5,412*	*5,400*	*5,398*	*5,392*	*5,443*	*5,466*	*5,489*

Total Attendance *(Building Attendance)*

Arlington Public Schools Monthly Enrollment Report (P223) October 2021–22 Headcount enrollment and 2022–23 to 2031–32 FLO enrollment forecasts (Low-growth scenario). All enrollment values include all students living within and outside the district boundary, except for students attending PS the Arlington Online Program (AOP).

Figure 22: Building Attendance Enrollment Forecasts by School/Program (Headcount)

	Building Attendance →						
Building/Program	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2031**
Eagle Creek ES	625	664	689	706	693	706	694
Kent Prairie ES	596	603	625	641	655	660	691
Pioneer ES	494	523	536	567	582	603	630
Presidents ES	469	520	540	551	550	554	553
Haller MS	584	582	580	560	601	605	708
Post MS	643	649	637	639	672	680	767
Arlington HS	1,636	1,640	1,651	1,731	1,656	1,669	1,825
SVLC ES	81	61	61	61	61	61	61
SVLC MS	65	49	49	49	49	49	49
SVLC HS	51	53	53	53	53	53	53
Open Doors	30	41	41	41	41	41	41
Weston HS	100	113	113	113	113	113	113
K-12	***5,374***	***5,496***	***5,575***	***5,711***	***5,726***	***5,793***	***6,184***

Arlington Public Schools Monthly Enrollment Report (P223) October 2021–22 Headcount enrollment and 2022–23 to 2031–32 FLO enrollment forecasts. All enrollment values include all students living within and outside the district boundary, except for students attending PS the Arlington Online Program (AOP). Slight differences may exist between the grade group total reported above and the value reported in the "Building Attendance Enrollment Forecasts by Individual Grade" figure. This is due to rounding during the allocation of students to schools/programs.

Figure 23: Building Attendance Enrollment Forecasts by Individual Grade: Preferred Scenario - FTE Conversion

Grade	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
K	336.00	410.40	407.39	405.17	389.49	383.08	391.23	397.03	403.35	404.49	405.67
1	356.02	358.39	434.19	430.71	427.08	410.95	404.92	411.58	417.98	424.77	426.39
2	407.04	375.12	367.89	446.17	441.35	438.12	422.39	414.22	421.30	427.95	435.34
3	389.36	425.07	396.22	387.78	470.09	465.47	462.84	444.24	435.80	443.39	450.85
4	390.00	394.03	431.52	401.98	391.70	476.25	472.34	467.80	449.24	440.75	448.84
5	382.36	398.47	404.98	443.65	411.94	401.35	489.65	483.74	479.37	460.44	452.10
6	439.04	395.88	416.58	420.49	463.04	428.89	415.60	511.48	508.37	507.06	485.84
7	432.23	441.22	399.45	421.00	427.08	468.46	433.04	420.75	520.00	517.29	511.77
8	417.96	437.25	444.30	401.68	427.04	430.34	471.11	437.68	425.67	527.38	520.46
9	495.72	445.32	467.48	478.32	432.29	457.10	459.21	501.54	467.38	451.25	557.33
10	405.00	506.51	456.91	482.04	488.70	443.79	468.58	471.12	515.52	479.11	465.71
11	417.36	378.99	453.94	411.41	429.38	438.42	397.11	420.29	422.50	460.87	432.49
12	419.92	426.82	388.91	468.75	419.71	440.93	449.94	407.86	432.50	432.65	475.96
K-5	*2,260.78*	*2,361.49*	*2,442.18*	*2,515.46*	*2,531.65*	*2,575.22*	*2,643.36*	*2,618.61*	*2,607.04*	*2,601.79*	*2,619.18*
7-8	*1,289.23*	*1,274.35*	*1,260.33*	*1,243.18*	*1,317.17*	*1,327.69*	*1,319.75*	*1,369.91*	*1,454.05*	*1,551.73*	*1,518.07*
9-12	*1,738.00*	*1,757.64*	*1,767.23*	*1,840.52*	*1,770.07*	*1,780.23*	*1,774.84*	*1,800.81*	*1,837.91*	*1,823.89*	*1,931.49*
K-12	*5,288.01*	*5,393.48*	*5,469.74*	*5,599.16*	*5,618.90*	*5,683.14*	*5,737.95*	*5,789.34*	*5,899.00*	*5,977.41*	*6,068.74*

Total Attendance *(Building Attendance)*

Arlington Public Schools Monthly Enrollment Report (P223) October 2021–22 Full Time Equivalent (FTE) enrollment and 2022–23 to 2031–32 FLO FTE enrollment forecasts (Preferred scenario). All enrollment values include all students living within and outside the district boundary, except for students attending PS the Arlington Online Program (AOP).

Figure 24: Building Attendance Enrollment Forecasts by Elementary School/Program - FTE Conversion

	Building Attendance →						
Building/Program	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2031**
Eagle Creek ES	623.04	661.45	686.75	702.98	690.58	703.80	691.53
Kent Prairie ES	594.72	600.44	623.10	638.05	652.91	658.00	688.41
Pioneer ES	494.00	520.93	534.08	564.33	579.60	600.80	627.66
Presidents ES	468.02	517.90	537.47	549.31	547.78	551.84	550.80
Haller MS	581.85	579.70	577.63	558.22	599.05	602.23	705.39
Post MS	640.76	646.17	634.22	636.48	669.65	676.98	764.20
Arlington HS	1,549.88	1,567.04	1,576.63	1,649.93	1,579.48	1,589.64	1,740.89
SVLC ES	81.00	60.78	60.78	60.78	60.78	60.78	60.78
SVLC MS	65.00	48.48	48.48	48.48	48.48	48.48	48.48
SVLC HS	70.58	48.81	48.81	48.81	48.81	48.81	48.81
Open Doors	30.00	36.61	36.61	36.61	36.61	36.61	36.61
Weston HS	89.16	105.18	105.18	105.18	105.18	105.18	105.18
K-12	***5,288.01***	***5,393.48***	***5,469.74***	***5,599.16***	***5,618.90***	***5,683.14***	***6,068.74***

Arlington Public Schools Monthly Enrollment Report (P223) October 2021–22 Full Time Equivalent (FTE) enrollment and 2022–23 to 2031–32 FLO FTE enrollment forecasts. All enrollment values include all students living within and outside the district boundary, except for students attending PS the Arlington Online Program (AOP). Slight differences may exist between the grade group total reported above and the value reported in the "Building Attendance Enrollment Forecasts by Individual Grade" figure. This is due to rounding during the allocation of students to schools/programs.

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APPENDIX 4: STRUCTURAL EVALUATION FOR POST MIDDLE SCHOOL

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STRUCTURAL EVALUATION

FOR

POST MIDDLE SCHOOL
1220 E 5TH ST
ARLINGTON, WASHINGTON

PREPARED BY

PCS STRUCTURAL *SOLUTIONS*

JANUARY 25, 2023
23-199

PCS Structural Solutions

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JANUARY 2023

STRUCTURAL EVALUATION FOR
POST MIDDLE SCHOOL
ARLINGTON, WASHINGTON

A. SCOPE OF SERVICES

PCS Structural Solutions was retained to perform a structural evaluation of the existing structures that make up the Post Middle School campus located at 1220 5th St in Arlington, Washington. The scope of this evaluation included review of available construction drawings from the original construction in 1980 and from the classroom wing addition in 1992, a walk-through evaluation of the buildings to look for signs of structural distress, deterioration or differential settlement, completion of ASCE 41-17, Tier 1 evaluation checklists (without quick-check calculations), and finally, the development of a summary report of our findings and recommendations.

B. TYPE OF CONSTRUCTION/STRUCTURAL SYSTEM

Post Middle School is a conglomeration of single-story structures connected by free-standing wood frame covered walks. The 1980 structures are primarily wood framed, with use of metal stud bearing walls at the exteriors of the administration building and three classroom buildings. The gymnasium building has a wood framed roof structure with CMU bearing/shear walls throughout. The 1992 addition consisted of one classroom building that is all wood frame. The buildings are all founded on conventional shallow foundations.

1980 Construction

Vertical Load Resisting System:

The vertical load resisting system is composed of plywood roof decking that spans between a combination of plywood web and open web wood joists. The joists are supported by exterior metal stud and interior wood stud bearing walls and glulam beams for most of the buildings. Reinforced CMU walls support the framing at the exterior bearing lines of the gymnasium building. Steel pipe columns support the glulam beams throughout the campus. Bearing walls and columns are supported at the ground level with conventional shallow concrete stem walls and strip/spread type footings. The floors are conventional concrete slab on grade.

Lateral Force Resisting System:

The lateral load resisting system is made of up of plywood roof sheathing acting as a diaphragm to distribute wind and seismic loads to plywood sheathed metal stud shear walls at the administration building and the three classroom buildings and to reinforced CMU walls at the gymnasium building. The shear walls are supported at the ground level by concrete stem walls and strip footings, which transfer lateral forces to the supporting soils via friction and passive bearing pressure.

STRUCTURAL EVALUATION FOR
POST MIDDLE SCHOOL
ARLINGTON, WASHINGTON

1992 Construction

Vertical Load Resisting System:

The vertical load resisting system is composed of plywood roof decking that spans between a combination of metal plate wood trusses and solid sawn framing. The joists are supported by wood stud bearing walls and glulam beams. The beams are supported primarily by wood columns, with a few hollow square tube steel columns at exterior locations. Bearing walls and columns are supported at the ground level with conventional shallow concrete stem walls and strip/spread type footings. The floors are conventional concrete slab on grade.

Lateral Force Resisting System:

The lateral load resisting system is made of up of plywood roof sheathing acting as a diaphragm to distribute wind and seismic loads to plywood sheathed wood stud shear walls. The shear walls are supported at the ground level by concrete stem walls and strip footings, which transfer lateral forces to the supporting soils via friction and passive bearing pressure.

C. OBSERVATIONS AND COMMENTS

Overall, the buildings appear to be in a relatively good state of structural repair. There were no significant signs of distress, deterioration, or differential settlement. There were some minor issues noted related to exterior finishes that should be addressed to protect the underlying structural elements. These are as listed below.

- There are some cracks present in the exterior CMU veneer throughout the campus. The appears to be the result of a lack of control joints in the original construction. These cracks are well protected in most cases by the large roof overhangs but should be repaired/resealed to prevent further deterioration due to moisture intrusion and freeze/thaw action.
- There are several areas around the campus where there is moss or other indication of moisture damage in the fascia boards. Left unattended, the deterioration may continue, allowing moisture to affect the underlying structural components.
- On a few of the north facing roof surfaces, there is moss growth noted. Left unaddressed, the roofing may become deteriorated, leaving the underlying plywood decking susceptible to moisture damage.
- There is evidence of moisture damage in the fascia boards in numerous locations across the campus. The fascia boards should be repainted or replaced needed to protect the structure.
- There are several locations where a plaster finish is used on the exterior walls. Based on the vintage of the buildings, it is recommended that further investigation be done to determine if water intrusion has occurred. The products used during this timeframe have proven to be susceptible to moisture intrusion, which can result in deterioration of the exterior plywood sheathing and stud framing.

STRUCTURAL EVALUATION FOR
POST MIDDLE SCHOOL
ARLINGTON, WASHINGTON

D. ASCE 41-17 CHECKLIST NON-COMPLIANT ITEMS

Post Middle School was evaluated using the methodology of the ASCE 41-17 "Seismic Evaluation and Retrofit of Existing Buildings" Tier 1 evaluation, addressing the Life/Safety Performance level for the structural components of the building. The evaluation was abbreviated in the fact that the quick check calculations called for were not included in the scope of services. The checklist items asking for calculations were supplemented using our experience in evaluating and renovating similar structures in the Puget Sound region. The non-structural checklists were not performed, as that work was also beyond the scope of this evaluation. For the evaluation of Post Middle School, the basic structural checklist, the wood light frame walls (W1) checklist, the cold-formed steel light-frame bearing wall (CFS1) checklist, and the reinforced masonry bearing walls (RM1) checklist were used. The following are the items noted as being "non-compliant" with the checklists:

Basic Checklist

- The non-bearing CMU walls at the gymnasium building are not properly anchored into the roof diaphragms to resist seismic forces.
- The various buildings are built directly adjacent to each other or to the covered walk structures without adequate separation or connection to address differential movements under seismic loading conditions.
- While marked as "unknown" in the checklists, the school's location at the top of a large bluff raises concerns over the potential for landslides. To determine if this issue is a problem, additional investigation by a Geotechnical Engineer would be needed.

Wood Light Frame Checklist (W1)

- The checklists prescribe a limit of 40 feet for the horizontal span of the plywood roof diaphragms. There are numerous locations throughout the campus where diaphragms exceed this limit. Due to the relatively low level of force anticipated in the diaphragms, it is anticipated that this will not be a significant concern, but would need additional analysis to confirm.

Cold-Form Steel Light-Frame Checklist (CFS1)

- The checklists prescribe a limit of 40 feet for the horizontal span of the plywood roof diaphragms. There are numerous locations throughout the campus where diaphragms exceed this limit. Due to the relatively low level of force anticipated in the diaphragms, it is anticipated that this will not be a significant concern but would need additional analysis to confirm.

STRUCTURAL EVALUATION FOR
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ARLINGTON, WASHINGTON

Reinforced Masonry Bearing Walls Checklist (RM1)

- The reinforcing steel in the 8" walls is below the limits set by the checklists. These walls are primarily non-structural in nature in the bathroom and locker room areas and are not anticipated to be an issue in the overall performance of the structure.
- The non-bearing CMU walls at the gymnasium building are not properly anchored into the roof diaphragms to resist seismic forces. Additionally, there are not properly detailed crossties that would serve to distribute anchorage forces into the diaphragms.
- At the bearing walls at the open web wood joists, here is not a well detailed load path to deliver in-plane loads from the roof diaphragm into the shear walls.

E. RECOMMENDATIONS

The concerns noted below are generally listed in order from most critical to least and are based on both our findings from the ASCE 41 checklists, but also from our site visit observations and our experience with similar school structures. Recommendations are provided to allow for initial planning and are intended to address the noted concerns to bring the building into general compliance with the strength requirements of the current Building Code.

Structural Concern	Structural Recommendation
There is a lack of anchorage for out of plane and in plane seismic loads at most of the CMU bearing walls at the gymnasium building. In this condition, the walls may become separated from the roof structure under heavy seismic loading and may result in extensive damage throughout the structure.	The walls should be provided with proper anchors and/or blocking between joists to resist both in plane and out of plane seismic forces. This may involve adding steel strapping and adhesive anchors in the CMU walls at the non-bearing walls and additional attachment via nails or metal clips at bearing locations.
The plywood diaphragms at the gymnasium lack sufficient crossties to help distribute seismic loads to the perpendicular shear walls. This leaves the diaphragms susceptible to damage under moderate to heavy seismic loading conditions.	The diaphragms should be provided with additional blocking and strapping as needed to develop proper sub diaphragms. It would be most advantageous to consider this work at the time of the next reroofing project.
There is not adequate separation between the buildings where they are connected by the covered walkway and insufficient ties to address differential movement at re-entrant corners where the buildings are connected along one edge. This will leave the buildings susceptible to damage at the joints between structures under seismic loading due to banging of the structures against each other.	The covered walkway structured should be cut back to allow for proper seismic separation, and blocking and strapping are likely to be needed where individual building masses are connected at the roof level.

The plywood roof diaphragms exceed the limits prescribed in the ASCE 41 checklists but are not anticipated to be of significant concern due to the length of shear walls present in the structure and due to the general level of detailing of the original structure. There is a chance for damage in the diaphragms under heavy seismic loading, but under code prescribed loads, overstresses are anticipated to be minor.	Additional analysis may be warranted to verify the stress in the roof diaphragms. Should areas of overstress be discovered, the diaphragms could be strengthened by adding blocking at the panel edges that run perpendicular to the walls/framing members. This blocking would likely only be needed for short distances from the walls if at all.
There are several maintenance items noted as needing to be completed. Without the proper attention, the buildings are susceptible to damage and deterioration due to moisture intrusion.	The various items noted should be addressed through the ongoing maintenance of the campus.
While it is unclear if a problem exists, the location of the buildings next to a large bluff leaves them at risk in the event of a landslide on the adjacent bluff.	The condition should be investigated by a Geotechnical Engineer to determine the level of risk and potential mitigation measures if needed.

E. CONCLUSION

The Post Middle School buildings are currently in good state of structural repair, but do have some minor concerns noted related to the exterior finishes needing general maintenance. Seismically, there are concerns noted primarily related to the anchorage of the masonry walls to the roof diaphragms at the gym building and to the interface of the adjacent structures where inadequate separation or connection exists. There are a handful of other, less crucial, concerns noted as well. Overall, the concerns noted are common to buildings of similar age and type of construction. By mitigating the noted concerns, it is reasonable to extend the useable life of the structures well into the future.

F. APPENDIX – ASCE 41-17 CHECKLISTS

ASCE 41-17 Tier 1 Checklists

FIRM:	PCS Structural Solutions
PROJECT NAME:	Post Middle School
PROJECT NUMBER:	23-199
SEISMICITY LEVEL:	High
COMPLETED BY:	Bret M
DATE COMPLETED	1/17/23
REVIEWED BY:	
REVIEWED DATE:	

Note: C = Compliant, NC = Noncompliant, N/A = Not Applicable, and U = Unknown.

17.1 BASIC CHECKLISTS

Table 17-1. Very Low Seismicity Checklist

Status	Evaluation Statement	Comments
Structural Components		
C NC N/A U ☒ ☐ ☐ ☐	LOAD PATH: The structure contains a complete, well-defined load path, including structural elements and connections, that serves to transfer the inertial forces associated with the mass of all elements of the building to the foundation. (Commentary: Sec. A.2.1.1. Tier 2: Sec. 5.4.1.1)	
C NC N/A U ☐ ☒ ☐ ☐	WALL ANCHORAGE: Exterior concrete or masonry walls that are dependent on the diaphragm for lateral support are anchored for out-of-plane forces at each diaphragm level with steel anchors, reinforcing dowels, or straps that are developed into the diaphragm. Connections have adequate strength to resist the connection force calculated in the Quick Check procedure of Section 4.4.3.7. (Commentary: Sec. A.5.1.1. Tier 2: Sec. 5.7.1.1)	Lack of proper anchorage at non-bearing CMU walls at Gymnasium

Table 17-2. Collapse Prevention Basic Configuration Checklist

Status	Evaluation Statement	Comments
Low Seismicity		
Building System—General		
C NC N/A U ☒ ☐ ☐ ☐	LOAD PATH: The structure contains a complete, well-defined load path, including structural elements and connections, that serves to transfer the inertial forces associated with the mass of all elements of the building to the foundation. (Commentary: Sec. A.2.1.1. Tier 2: Sec. 5.4.1.1)	
C NC N/A U ☐ ☒ ☐ ☐	ADJACENT BUILDINGS: The clear distance between the building being evaluated and any adjacent building is greater than 0.25% of the height of the shorter building in low seismicity, 0.5% in moderate seismicity, and 1.5% in high seismicity. (Commentary: Sec. A.2.1.2. Tier 2: Sec. 5.4.1.2)	The building "boxes" are connected with covered walkway that are not detailed to allow differential movement of the structures.
C NC N/A U ☒ ☐ ☐ ☐	MEZZANINES: Interior mezzanine levels are braced independently from the main structure or are anchored to the seismic-force-resisting elements of the main structure. (Commentary: Sec. A.2.1.3. Tier 2: Sec. 5.4.1.3)	

Note: C = Compliant, NC = Noncompliant, N/A = Not Applicable, and U = Unknown.

Status	Evaluation Statement	Comments
Building System—Building Configuration		
C NC N/A U ☐ ☐ ☒ ☐	WEAK STORY: The sum of the shear strengths of the seismic-force-resisting system in any story in each direction is not less than 80% of the strength in the adjacent story above. (Commentary: Sec. A.2.2.2. Tier 2: Sec. 5.4.2.1)	Single story
C NC N/A U ☐ ☐ ☒ ☐	SOFT STORY: The stiffness of the seismic-force-resisting system in any story is not less than 70% of the seismic-force-resisting system stiffness in an adjacent story above or less than 80% of the average seismic-force-resisting system stiffness of the three stories above. (Commentary: Sec. A.2.2.3. Tier 2: Sec. 5.4.2.2)	Single story
C NC N/A U ☐ ☐ ☒ ☐	VERTICAL IRREGULARITIES: All vertical elements in the seismic-force-resisting system are continuous to the foundation. (Commentary: Sec. A.2.2.4. Tier 2: Sec. 5.4.2.3)	Single story
C NC N/A U ☐ ☐ ☒ ☐	GEOMETRY: There are no changes in the net horizontal dimension of the seismic-force-resisting system of more than 30% in a story relative to adjacent stories, excluding one-story penthouses and mezzanines. (Commentary: Sec. A.2.2.5. Tier 2: Sec. 5.4.2.4)	Single story
C NC N/A U ☐ ☐ ☒ ☐	MASS: There is no change in effective mass of more than 50% from one story to the next. Light roofs, penthouses, and mezzanines need not be considered. (Commentary: Sec. A.2.2.6. Tier 2: Sec. 5.4.2.5)	Single story
C NC N/A U ☐ ☐ ☒ ☐	TORSION: The estimated distance between the story center of mass and the story center of rigidity is less than 20% of the building width in either plan dimension. (Commentary: Sec. A.2.2.7. Tier 2: Sec. 5.4.2.6)	Flexible diaphragms
Moderate Seismicity (Complete the Following Items in Addition to the Items for Low Seismicity)		
Geologic Site Hazards		
C NC N/A U ☐ ☐ ☐ ☒	LIQUEFACTION: Liquefaction-susceptible, saturated, loose granular soils that could jeopardize the building's seismic performance do not exist in the foundation soils at depths within 50 ft (15.2 m) under the building. (Commentary: Sec. A.6.1.1. Tier 2: Sec. 5.4.3.1)	Unknown, but not anticipated

Note: C = Compliant, NC = Noncompliant, N/A = Not Applicable, and U = Unknown.

Status	Evaluation Statement	Comments
C NC N/A U ☐ ☐ ☐ ☒	SLOPE FAILURE: The building site is located away from potential earthquake-induced slope failures or rockfalls so that it is unaffected by such failures or is capable of accommodating any predicted movements without failure. (Commentary: Sec. A.6.1.2. Tier 2: Sec. 5.4.3.1)	Located on a bluff overlooking the south fork of the Stillaguamish River. Potential exists.
C NC N/A U ☐ ☐ ☐ ☒	SURFACE FAULT RUPTURE: Surface fault rupture and surface displacement at the building site are not anticipated. (Commentary: Sec. A.6.1.3. Tier 2: Sec. 5.4.3.1)	
High Seismicity (Complete the Following Items in Addition to the Items for Moderate Seismicity)		
Foundation Configuration		
C NC N/A U ☒ ☐ ☐ ☐	OVERTURNING: The ratio of the least horizontal dimension of the seismic-force-resisting system at the foundation level to the building height (base/height) is greater than $0.6S_a$. (Commentary: Sec. A.6.2.1. Tier 2: Sec. 5.4.3.3)	
C NC N/A U ☐ ☐ ☒ ☐	TIES BETWEEN FOUNDATION ELEMENTS: The foundation has ties adequate to resist seismic forces where footings, piles, and piers are not restrained by beams, slabs, or soils classified as Site Class A, B, or C. (Commentary: Sec. A.6.2.2. Tier 2: Sec. 5.4.3.4)	Shallow footings are restrained by soils.

Note: C = Compliant, NC = Noncompliant, N/A = Not Applicable, and U = Unknown.

ASCE 41-17 Tier 1 Checklists

FIRM:	PCS Structural Solutions
PROJECT NAME:	Post Middle School
PROJECT NUMBER:	23-199
SEISMICITY LEVEL:	High
COMPLETED BY:	Bret M.
DATE COMPLETED	1/17/23
REVIEWED BY:	
REVIEWED DATE:	

Note: C = Compliant, NC = Noncompliant, N/A = Not Applicable, and U = Unknown.

17.2 STRUCTURAL CHECKLISTS FOR BUILDING TYPES W1: WOOD LIGHT FRAMES AND W1A: MULTI-STORY, MULTI-UNIT RESIDENTIAL WOOD FRAME

Table 17-4. Collapse Prevention Structural Checklist for Building Types W1 and W1a

Status	Evaluation Statement	Comments
Low and Moderate Seismicity		
Seismic-Force-Resisting System		
C NC N/A U ☒ ☐ ☐ ☐	REDUNDANCY: The number of lines of shear walls in each principal direction is greater than or equal to 2. (Commentary: Sec. A.3.2.1.1. Tier 2: Sec. 5.5.1.1)	
C NC N/A U ☐ ☐ ☐ ☒	SHEAR STRESS CHECK: The shear stress in the shear walls, calculated using the Quick Check procedure of Section 4.4.3.3, is less than the following values: Structural panel sheathing 1,000 lb/ft (14.6 kN/m) Diagonal sheathing 700 lb/ft (10.2 kN/m) Straight sheathing 100 lb/ft (1.5 kN/m) All other conditions 100 lb/ft (1.5 kN/m) (Commentary: Sec. A.3.2.7.1. Tier 2: Sec. 5.5.3.1.1)	Beyond current scope. Anticipated to be below limits based on current loads relative to original loading.
C NC N/A U ☐ ☐ ☒ ☐	STUCCO (EXTERIOR PLASTER) SHEAR WALLS: Multi-story buildings do not rely on exterior stucco walls as the primary seismic-force-resisting system. (Commentary: Sec. A.3.2.7.2. Tier 2: Sec. 5.5.3.6.1)	
C NC N/A U ☐ ☐ ☒ ☐	GYPSUM WALLBOARD OR PLASTER SHEAR WALLS: Interior plaster or gypsum wallboard is not used for shear walls on buildings more than one story high with the exception of the uppermost level of a multi-story building. (Commentary: Sec. A.3.2.7.3. Tier 2: Sec. 5.5.3.6.1)	
C NC N/A U ☒ ☐ ☐ ☐	NARROW WOOD SHEAR WALLS: Narrow wood shear walls with an aspect ratio greater than 2-to-1 are not used to resist seismic forces. (Commentary: Sec. A.3.2.7.4. Tier 2: Sec. 5.5.3.6.1)	
C NC N/A U ☐ ☐ ☒ ☐	WALLS CONNECTED THROUGH FLOORS: Shear walls have an interconnection between stories to transfer overturning and shear forces through the floor. (Commentary: Sec. A.3.2.7.5. Tier 2: Sec. 5.5.3.6.2)	Single story.

Note: C = Compliant, NC = Noncompliant, N/A = Not Applicable, and U = Unknown.

Status	Evaluation Statement	Comments
C NC N/A U ☐ ☐ ☒ ☐	HILLSIDE SITE: For structures that are taller on at least one side by more than one-half story because of a sloping site, all shear walls on the downhill slope have an aspect ratio less than 1-to-1. (Commentary: Sec. A.3.2.7.6. Tier 2: Sec. 5.5.3.6.3)	
C NC N/A U ☐ ☐ ☒ ☐	CRIPPLE WALLS: Cripple walls below first-floor-level shear walls are braced to the foundation with wood structural panels. (Commentary: Sec. A.3.2.7.7. Tier 2: Sec. 5.5.3.6.4)	
C NC N/A U ☐ ☐ ☒ ☐	OPENINGS: Walls with openings greater than 80% of the length are braced with wood structural panel shear walls with aspect ratios of not more than 1.5-to-1 or are supported by adjacent construction through positive ties capable of transferring the seismic forces. (Commentary: Sec. A.3.2.7.8. Tier 2: Sec. 5.5.3.6.5)	
Connections		
C NC N/A U ☒ ☐ ☐ ☐	WOOD POSTS: There is a positive connection of wood posts to the foundation. (Commentary: Sec. A.5.3.3. Tier 2: Sec. 5.7.3.3)	
C NC N/A U ☒ ☐ ☐ ☐	WOOD SILLS: All wood sills are bolted to the foundation. (Commentary: Sec. A.5.3.4. Tier 2: Sec. 5.7.3.3)	
C NC N/A U ☒ ☐ ☐ ☐	GIRDER–COLUMN CONNECTION: There is a positive connection using plates, connection hardware, or straps between the girder and the column support. (Commentary: Sec. A.5.4.1. Tier 2: Sec. 5.7.4.1)	
High Seismicity (Complete the Following Items in Addition to the Items for Low and Moderate Seismicity)		
Connections		
C NC N/A U ☒ ☐ ☐ ☐	WOOD SILL BOLTS: Sill bolts are spaced at 6 ft or less with acceptable edge and end distance provided for wood and concrete. (Commentary: Sec. A.5.3.7. Tier 2: Sec. 5.7.3.3)	

Note: C = Compliant, NC = Noncompliant, N/A = Not Applicable, and U = Unknown.

Status	Evaluation Statement	Comments
Diaphragms		
C NC N/A U ☐ ☐ ☒ ☐	DIAPHRAGM CONTINUITY: The diaphragms are not composed of split-level floors and do not have expansion joints. (Commentary: Sec. A.4.1.1. Tier 2: Sec. 5.6.1.1)	
C NC N/A U ☒ ☐ ☐ ☐	ROOF CHORD CONTINUITY: All chord elements are continuous, regardless of changes in roof elevation. (Commentary: Sec. A.4.1.3. Tier 2: Sec. 5.6.1.1)	
C NC N/A U ☐ ☐ ☒ ☐	STRAIGHT SHEATHING: All straight-sheathed diaphragms have aspect ratios less than 2-to-1 in the direction being considered. (Commentary: Sec. A.4.2.1. Tier 2: Sec. 5.6.2)	
C NC N/A U ☒ ☐ ☐ ☐	SPANS: All wood diaphragms with spans greater than 24 ft (7.3 m) consist of wood structural panels or diagonal sheathing. (Commentary: Sec. A.4.2.2. Tier 2: Sec. 5.6.2)	
C NC N/A U ☐ ☒ ☐ ☐	DIAGONALLY SHEATHED AND UNBLOCKED DIAPHRAGMS: All diagonally sheathed or unblocked wood structural panel diaphragms have horizontal spans less than 40 ft (12 m) and have aspect ratios less than or equal to 4-to-1. (Commentary: Sec. A.4.2.3. Tier 2: Sec. 5.6.2)	Spans > 40 feet, but not likely to be a problem.
C NC N/A U ☒ ☐ ☐ ☐	OTHER DIAPHRAGMS: The diaphragms do not consist of a system other than wood, metal deck, concrete, or horizontal bracing. (Commentary: Sec. A.4.7.1. Tier 2: Sec. 5.6.5)	

Note: C = Compliant, NC = Noncompliant, N/A = Not Applicable, and U = Unknown.

ASCE 41-17 Tier 1 Checklists

FIRM:	PCS Structural Solutions
PROJECT NAME:	Post Middle School
PROJECT NUMBER:	23-199
SEISMICITY LEVEL:	High
COMPLETED BY:	Bret M.
DATE COMPLETED	1/17/23
REVIEWED BY:	
REVIEWED DATE:	

Note: C = Compliant, NC = Noncompliant, N/A = Not Applicable, and U = Unknown.

17.9 STRUCTURAL CHECKLISTS FOR BUILDING TYPE CFS1: COLD-FORMED STEEL LIGHT-FRAME BEARING WALL CONSTRUCTION, SHEAR WALL LATERAL SYSTEM

Table 17-18. Collapse Prevention Structural Checklist for Building Type CFS1

Status	Evaluation Statement	Comments
Low and Moderate Seismicity		
Seismic-Force-Resisting System		
C NC N/A U ☒ ☐ ☐ ☐	REDUNDANCY: The number of lines of shear walls in each principal direction is greater than or equal to 2. (Commentary: Sec. A.3.2.1.1. Tier 2: Sec. 5.5.1.1)	
C NC N/A U ☐ ☐ ☐ ☒	SHEAR STRESS CHECK: The shear stress in the shear walls, calculated using the Quick Check procedure of Section 4.4.3.3, is less than the following values: Wood structural panel sheathing 1,000 lb/ft (14.6 kN/m) Steel sheet sheathing 700 lb/ft (10.2 kN/m) All other conditions 100 lb/ft (1.5 kN/m) (Commentary: Sec. A.3.2.8.1. Tier 2: Sec. 5.5.3.1.1)	Beyond current scope. Anticipated to be below limits based on current loads relative to original loading.
C NC N/A U ☐ ☐ ☒ ☐	STUCCO (EXTERIOR PLASTER) SHEAR WALLS: Multi-story buildings do not rely on exterior stucco walls as the primary seismic-force-resisting system. (Commentary: Sec. A.3.2.8.2. Tier 2: Sec. 5.5.3.6.1)	
C NC N/A U ☐ ☐ ☒ ☐	GYPSUM WALLBOARD OR PLASTER SHEAR WALLS: Interior plaster or gypsum wallboard is not used for shear walls on buildings more than one story high with the exception of the uppermost level of a multi-story building. (Commentary: Sec. A.3.2.8.3. Tier 2: Sec. 5.5.3.6.1)	
C NC N/A U ☒ ☐ ☐ ☐	NARROW SHEAR WALLS: Narrow shear walls with an aspect ratio greater than 2-to-1 are not used to resist seismic forces. (Commentary: Sec. A.3.2.8.4. Tier 2: Sec. 5.5.3.6.1)	
C NC N/A U ☐ ☐ ☒ ☐	WALLS CONNECTED THROUGH FLOORS: Shear walls have an interconnection between stories to transfer overturning and shear forces through the floor. (Commentary: Sec. A.3.2.8.5. Tier 2: Sec. 5.5.3.6.2)	Single story.

Note: C = Compliant, NC = Noncompliant, N/A = Not Applicable, and U = Unknown.

Status	Evaluation Statement	Comments
C NC N/A U ☐ ☐ ☒ ☐	HILLSIDE SITE: For structures that are taller on at least one side by more than one-half story because of a sloping site, all shear walls on the downhill slope have an aspect ratio less than 1-to-1. (Commentary: Sec. A.3.2.8.6. Tier 2: Sec. 5.5.3.6.3)	
C NC N/A U ☐ ☐ ☒ ☐	CRIPPLE WALLS: Cripple walls below first-floor-level shear walls are braced to the foundation with wood structural panels. (Commentary: Sec. A.3.2.8.7. Tier 2: Sec. 5.5.3.6.4)	
C NC N/A U ☐ ☐ ☒ ☐	OPENINGS: Walls with openings greater than 80% of the length are braced with wood structural panel or steel sheet shear walls with aspect ratios of not more than 1.5-to-1 or are supported by adjacent construction through positive ties capable of transferring the seismic forces. (Commentary: Sec. A.3.2.8.8. Tier 2: Sec. 5.5.3.6.5)	
Connections		
C NC N/A U ☒ ☐ ☐ ☐	POSTS: There is a positive connection of posts to the foundation. (Commentary: Sec. A.5.3.3. Tier 2: Sec. 5.7.3.3)	
C NC N/A U ☒ ☐ ☐ ☐	SILLS (BASE TRACK): All sills or base tracks are bolted to the foundation. (Commentary: Sec. A.5.3.4. Tier 2: Sec. 5.7.3.3)	
C NC N/A U ☒ ☐ ☐ ☐	GIRDER–COLUMN CONNECTION: There is a positive connection using plates, connection hardware, or straps between the girder and the column support. (Commentary: Sec. A.5.4.1. Tier 2: Sec. 5.7.4.1)	
High Seismicity (Complete the Following Items in Addition to the Items for Low and Moderate Seismicity)		
Connections		
C NC N/A U ☒ ☐ ☐ ☐	SILL (BASE TRACK) BOLTS: Bolts are spaced at 6 ft (1.8 m) or less with acceptable edge and end distance provided for steel and concrete. (Commentary: Sec. A.5.3.7. Tier 2: Sec. 5.7.3.3)	

Note: C = Compliant, NC = Noncompliant, N/A = Not Applicable, and U = Unknown.

Status	Evaluation Statement	Comments
Diaphragms		
C NC N/A U ☒ ☐ ☐ ☐	DIAPHRAGM CONTINUITY: The diaphragms are not composed of split-level floors and do not have expansion joints. (Commentary: Sec. A.4.1.1. Tier 2: Sec. 5.6.1.1)	
C NC N/A U ☒ ☐ ☐ ☐	ROOF CHORD CONTINUITY: All chord elements are continuous, regardless of changes in roof elevation. (Commentary: Sec. A.4.1.3. Tier 2: Sec. 5.6.1.1)	
C NC N/A U ☒ ☐ ☐ ☐	SPANS: All diaphragms with spans greater than 24 ft (7.3 m) consist of wood structural panels. (Commentary: Sec. A.4.2.2. Tier 2: Sec. 5.6.2)	
C NC N/A U ☐ ☒ ☐ ☐	UNBLOCKED DIAPHRAGMS: All unblocked wood structural panel diaphragms have horizontal spans less than 40 ft (12.2 m) and have aspect ratios less than or equal to 4-to-1. (Commentary: Sec. A.4.2.3. Tier 2: Sec. 5.6.2)	Spans > 40 feet, but not likely to be a problem.
C NC N/A U ☒ ☐ ☐ ☐	OTHER DIAPHRAGMS: The diaphragms do not consist of a system other than wood, metal deck, concrete, or horizontal bracing. (Commentary: Sec. A.4.7.1. Tier 2: Sec. 5.6.5)	

Note: C = Compliant, NC = Noncompliant, N/A = Not Applicable, and U = Unknown.

ASCE 41-17 Tier 1 Checklists

FIRM:	PCS Structural Solutions
PROJECT NAME:	Post Middle School
PROJECT NUMBER:	23-199
SEISMICITY LEVEL:	High
COMPLETED BY:	Bret M.
DATE COMPLETED	1/17/23
REVIEWED BY:	
REVIEWED DATE:	

Note: C = Compliant, NC = Noncompliant, N/A = Not Applicable, and U = Unknown.

17.17 STRUCTURAL CHECKLISTS FOR BUILDING TYPES RM1: REINFORCED MASONRY BEARING WALLS WITH FLEXIBLE DIAPHRAGMS AND RM2: REINFORCED MASONRY BEARING WALLS WITH STIFF DIAPHRAGMS

Table 17-34. Collapse Prevention Structural Checklist for Building Types RM1 and RM2

Status	Evaluation Statement	Comments
Low and Moderate Seismicity		
Seismic-Force-Resisting System		
C NC N/A U ☒ ☐ ☐ ☐	REDUNDANCY: The number of lines of shear walls in each principal direction is greater than or equal to 2. (Commentary: Sec. A.3.2.1.1. Tier 2: Sec. 5.5.1.1)	
C NC N/A U ☐ ☐ ☐ ☒	SHEAR STRESS CHECK: The shear stress in the reinforced masonry shear walls, calculated using the Quick Check procedure of Section 4.4.3.3, is less than 70 lb/in.^{2} (0.48 MPa). (Commentary: Sec. A.3.2.4.1. Tier 2: Sec. 5.5.3.1.1)	Beyond current scope, but anticipated to be below prescribed limits.
C NC N/A U ☐ ☒ ☐ ☐	REINFORCING STEEL: The total vertical and horizontal reinforcing steel ratio in reinforced masonry walls is greater than 0.002 of the wall with the minimum of 0.0007 in either of the two directions; the spacing of reinforcing steel is less than 48 in. (1220 mm), and all vertical bars extend to the top of the walls. (Commentary: Sec. A.3.2.4.2. Tier 2: Sec. 5.5.3.1.3)	8" CMU walls are under-reinforced. 12" walls are okay.
Stiff Diaphragms		
C NC N/A U ☐ ☐ ☒ ☐	TOPPING SLAB: Precast concrete diaphragm elements are interconnected by a continuous reinforced concrete topping slab. (Commentary: Sec. A.4.5.1. Tier 2: Sec. 5.6.4)	
Connections		
C NC N/A U ☐ ☒ ☐ ☐	WALL ANCHORAGE: Exterior concrete or masonry walls that are dependent on the diaphragm for lateral support are anchored for out-of-plane forces at each diaphragm level with steel anchors, reinforcing dowels, or straps that are developed into the diaphragm. Connections have strength to resist the connection force calculated in the Quick Check procedure of Section 4.4.3.7. (Commentary: Sec. A.5.1.1. Tier 2: Sec. 5.7.1.1)	Several walls are not provided with adequate anchorage.
C NC N/A U ☒ ☐ ☐ ☐	WOOD LEDGERS: The connection between the wall panels and the diaphragm does not induce cross-grain bending or tension in the wood ledgers. (Commentary: Sec. A.5.1.2. Tier 2: Sec. 5.7.1.3)	

Note: C = Compliant, NC = Noncompliant, N/A = Not Applicable, and U = Unknown.

Status	Evaluation Statement	Comments
C NC N/A U ☐ ☒ ☐ ☐	TRANSFER TO SHEAR WALLS: Diaphragms are connected for transfer of seismic forces to the shear walls. (Commentary: Sec. A.5.2.1. Tier 2: Sec. 5.7.2)	Some areas lacking, with partial height or no blocking present between joist bearings.
C NC N/A U ☐ ☐ ☒ ☐	TOPPING SLAB TO WALLS OR FRAMES: Reinforced concrete topping slabs that interconnect the precast concrete diaphragm elements are doweled for transfer of forces into the shear wall or frame elements. (Commentary: Sec. A.5.2.3. Tier 2: Sec. 5.7.2)	
C NC N/A U ☒ ☐ ☐ ☐	FOUNDATION DOWELS: Wall reinforcement is doweled into the foundation. (Commentary: Sec. A.5.3.5. Tier 2: Sec. 5.7.3.4	
C NC N/A U ☒ ☐ ☐ ☐	GIRDER–COLUMN CONNECTION: There is a positive connection using plates, connection hardware, or straps between the girder and the column support. (Commentary: Sec. A.5.4.1. Tier 2: Sec. 5.7.4.1)	
High Seismicity (Complete the Following Items in Addition to the Items for Low and Moderate Seismicity)		
Stiff Diaphragms		
C NC N/A U ☒ ☐ ☐ ☐	OPENINGS AT SHEAR WALLS: Diaphragm openings immediately adjacent to the shear walls are less than 25% of the wall length. (Commentary: Sec. A.4.1.4. Tier 2: Sec. 5.6.1.3)	
C NC N/A U ☒ ☐ ☐ ☐	OPENINGS AT EXTERIOR MASONRY SHEAR WALLS: Diaphragm openings immediately adjacent to exterior masonry shear walls are not greater than 8 ft (2.4 m) long. (Commentary: Sec. A.4.1.6. Tier 2: Sec. 5.6.1.3)	
Flexible Diaphragms		
C NC N/A U ☐ ☒ ☐ ☐	CROSS TIES: There are continuous cross ties between diaphragm chords. (Commentary: Sec. A.4.1.2. Tier 2: Sec. 5.6.1.2)	No cross ties present at walls perpendicular to main framing.

Note: C = Compliant, NC = Noncompliant, N/A = Not Applicable, and U = Unknown.

Status	Evaluation Statement	Comments
C NC N/A U ☒ ☐ ☐ ☐	OPENINGS AT SHEAR WALLS: Diaphragm openings immediately adjacent to the shear walls are less than 25% of the wall length. (Commentary: Sec. A.4.1.4. Tier 2: Sec. 5.6.1.3)	
C NC N/A U ☒ ☐ ☐ ☐	OPENINGS AT EXTERIOR MASONRY SHEAR WALLS: Diaphragm openings immediately adjacent to exterior masonry shear walls are not greater than 8 ft (2.4 m) long. (Commentary: Sec. A.4.1.6. Tier 2: Sec. 5.6.1.3)	
C NC N/A U ☐ ☐ ☒ ☐	STRAIGHT SHEATHING: All straight-sheathed diaphragms have aspect ratios less than 2-to-1 in the direction being considered. (Commentary: Sec. A.4.2.1. Tier 2: Sec. 5.6.2)	
C NC N/A U ☒ ☐ ☐ ☐	SPANS: All wood diaphragms with spans greater than 24 ft (7.3 m) consist of wood structural panels or diagonal sheathing. (Commentary: Sec. A.4.2.2. Tier 2: Sec. 5.6.2)	
C NC N/A U ☒ ☐ ☐ ☐	DIAGONALLY SHEATHED AND UNBLOCKED DIAPHRAGMS: All diagonally sheathed or unblocked wood structural panel diaphragms have horizontal spans less than 40 ft (12.2 m) and aspect ratios less than or equal to 4-to-1. (Commentary: Sec. A.4.2.3. Tier 2: Sec. 5.6.2)	Blocking provided for defined distances in from perimeter shear walls.
C NC N/A U ☒ ☐ ☐ ☐	OTHER DIAPHRAGMS: Diaphragms do not consist of a system other than wood, metal deck, concrete, or horizontal bracing. (Commentary: Sec. A.4.7.1. Tier 2: Sec. 5.6.5)	
Connections		
C NC N/A U ☒ ☐ ☐ ☐	STIFFNESS OF WALL ANCHORS: Anchors of concrete or masonry walls to wood structural elements are installed taut and are stiff enough to limit the relative movement between the wall and the diaphragm to no greater than 1/8 in. (3 mm) before engagement of the anchors. (Commentary: Sec. A.5.1.4. Tier 2: Sec. 5.7.1.2)	Where present, anchors appear to be tightly installed.

Note: C = Compliant, NC = Noncompliant, N/A = Not Applicable, and U = Unknown.