CN / REFERENDUM SUPPORT ASSESSMENT 2019

August 2019







Fearn Clendaniel Architects Inc

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Section I Introduction

Project Intent

As part of Smyrna School District's long-range planning effort and referendum preparation, SSD identified buildings in the District inventory that may be due for remedial repairs, major maintenance, or general renovation. The buildings under consideration are:

- Clayton Elementary School (CES)
- SSD Central Office (DCO)
- John Basset Moore Intermediate School (JBM)
- North Smyrna Elementary School (NES)
- Smyrna Elementary School (SES)
- Smyrna Middle School (SMS)
- Smyrna High School (SHS)
- Sunnyside Elementary School (SSE)

The intent of this project is to evaluate the current condition of the subject buildings, identify and prioritize the work items required, and generate a preliminary cost estimate for each building. This information is used to determine the scope and cost of required work, in support of SSD's Certificate of Need application(s) and future referendum requests. Smyrna SD retained Fearn-Clendaniel Architects to conduct a physical condition survey of the identified facilities. The results of that survey are compiled in this report.

Scope of Assessment

The field survey / assessment methodology began with a visual inspection of the general physical condition and overall architectural arrangement of each existing building:

- Building envelope including roof, exterior walls, windows, and doors.
- Interior walls, floors, ceilings, doors, door hardware, and windows.
- Security of access to the building.
- General compliance with current ADA accessibility requirements.

Architectural inspection was non-invasive and included a visual surface inspection of occupiable spaces only. We did not survey above ceilings or in concealed areas. No physical testing of construction materials was performed. Mechanical, plumbing, and electrical systems were assessed by an independent engineering contract, and are reported under separate cover.

Each identified task was identified by item number, location, and type. Estimated quantities were determined both in the field and by analysis of existing building drawings and other documents. Estimated unit prices are assigned to each task based on a variety of sources. Tasks are prioritized by the Architects and Engineers based upon severity of need, with input from the Owner. Overall costs are calculated by combining quantities and unit prices, with an escalation factor determined by the assigned priority. More detail on these criteria is included below.

Mechanical, plumbing, electrical, and technology systems improvement work is identified and quantified in detail in the engineer's assessment report. The estimated total M/P/E project costs (and related architectural work) are included as a lump sum line item for each building in this report in order to capture the total anticipated renovation costs in one document. Certain District-wide security and IT needs are included here as well.

Notes On The Capital Needs Report

The pages that follow contain an overview of the general conditions and required funding, in a brief summary illustrating the selected buildings' needs for the next 7+ fiscal years (through FY25+). Each building's section includes a narrative describing typical conditions, with illustrations. Line item details and estimated costs for each building's comprehensive task list are included in Appendix A.

Categories

Detailed task item lists are divided into various categories based on location and/or improvement type. These projects are work that is required within the existing facilities in order to repair existing issues, refresh general appearance, replace aging components, or improve services and amenities. They are identified by various subcategories such as ADA compliance, walls, floors, ceilings, doors and hardware, mechanical / plumbing / electrical, etc.

Improvement tasks are broken into two groups:

- **Action** – items that are extensive or specialized enough that they would normally be contracted from an outside vendor. These items are assigned a cost value based upon estimated quantities and unit prices.
- **Maintenance** – items of routine maintenance or replacement that are typically handled by District personnel on an ongoing basis. These items are not assigned a cost value since they are normally included in the District's operating budget. They appear in the Appendix for informational purposes, but not in the Executive Summary narrative.

This assessment only includes improvement items as described above. Projects involving new school construction or new expansion of existing buildings are discussed under separate cover.

Priorities

Work items are also prioritized by immediacy of need, as follows:

- **P-01** **Immediate Need** – items that are currently overdue or that should be completed within the next 1-2 years (FY20-21)
- **P-02** **Short-term Need** – items that should be completed within the next 3-4 years (FY22-FY23)
- **P-03** **Mid-term Need** – items that should be completed within the next 5-6 years (FY24-FY25)
- **P-04** **Long-term Need** – items that should be completed 7-10 years in the future (FY26+)

The assigned priority for each task takes into account various factors such life safety concerns, accessibility, deferred or anticipated maintenance requirements, remaining service life expectancy, and general importance of the item in question.

Estimating

The task outline shows the total estimated project cost for each work item. Estimated costs have been determined using a variety of input: past experience with similar work, published estimating information, unit costs, vendor proposals, plus current and historic data from contractors. Each total project cost is comprised of the following:

- **Construction Cost** – the raw value of labor and materials, at the vendor / subcontractor level.
- **Construction Contingency** – a percentage applied to Construction Cost, to allow for unforeseen conditions and other changes incurred during the construction work.
- **Overhead / Profit / General Conditions** – a percentage applied to the combined Construction and Contingency amounts for General Contractor or Construction Manager costs. This includes expenses such as insurance, bonding, general conditions, overhead, and profit for the GC/CM that are not included in the raw cost.
- **Soft Costs** – A percentage applied to the subtotal of all costs above; this includes Architect/Engineer fees, furniture, fixtures, and equipment (FFE), and Owner's Contingency (to allow for incidental project work the District may wish to add during construction).

Current Costs

The Executive Summary and each school's Task List in Appendix A list estimated costs at both current fiscal year amounts and with our estimated inflation factor applied. The State's Certificate of Need form

requires costs to be submitted in current fiscal year dollars, with escalation applied according to their own formulas.

Inflation / Future Costs

In the Task List estimates, costs are given including several levels of escalation depending upon the anticipated completion date of the task in question.

- **Unit Price** – this column indicates the estimated current labor and materials costs in current fiscal year dollars, per unit of measure.
- **Estimated Cost FY20** – this column shows the total cost of the work (Unit Price x Quantity) in current fiscal year dollars. All Priority P-01 items fall into this category.
- **Estimated Cost Future** – this column shows the weighted cost of the same work, including our estimated inflation, that can be expected based upon the Priority level assigned to each particular task.

The cost escalation factor represents an average of **5% inflation** per annum, compounded yearly. Escalation is calculated based upon the assumed completion date of construction, as recommended by the Delaware Department of Education guidelines. This is a reasonably accurate approximation based on historic data. However, the construction industry is based on variable commodity prices and prevailing wage rates for labor. Long term cost predictions are challenging.

Please note that the State may apply a different inflation factor, so the estimated future costs given in these documents could differ from the amount calculated by the DoE Certificate of Necessity forms.

Tariffs

Trade developments and tariffs applied at a national level over the last year have resulted in an increase in construction materials costs for affected items. This fallout of the trade policies is approximately 10%, applied to these materials only. Labor costs are not affected, but increased materials costs affect hard and soft costs throughout the project. At the Executive Summary level, we have included a last-order markup of **2.5%** to account for this effect.

Section II Executive Summary

District Inventory

The majority of the Smyrna School District buildings selected for review were built in the 1950s through the 1970s, with various renovations and expansions throughout their service lives:

Facility	Originally Built	Most Recent Major Work
Clayton Elementary School	1930	2014
District Central Office	1962	2008
JB Moore Intermediate School	1883	2016
North Smyrna Elementary School	1964	2016
Smyrna Elementary School	1952	2016
Smyrna Middle School	2002	2006
Smyrna High School	1970	2012
Sunnyside Elementary School	2006	--

In general, SSD's building stock is well maintained and in full service. However, in each subject building, there are significant instances of aging, weathering, wear and tear, and systems at (or beyond) their expected service life. Predominantly, work below consists of miscellaneous repairs and renovations to buildings (interior and exterior), including roof replacements, exterior repair programs, and interior finish or fixture updates. Replacement of outdated, worn out, or undersized mechanical and electrical systems is detailed under separate cover.

Items appearing here are large-scale and / or specialized tasks that would typically be designed and solicited as a capital improvement project (major or minor) due to the scope of the work involved. Estimated costs for these improvements – **including required mechanical / plumbing / electrical projects** – are indicated in the Capital Program Needs Executive Summary overleaf. Incidental repair tasks and maintenance to be performed by District personnel do not appear in this summary and are not included in the estimated costs.

Each building is highlighted in an individual section after the Capital Needs summary, illustrated with typical examples of the required work. These examples are linked by Item Number to the detailed Task List Summaries found in Appendix A.

Funding Needs – FY20-FY26+

SMYRNA SCHOOL DISTRICT
CAPITAL NEEDS REPORT 2020-2026+

CAPITAL PROGRAM NEEDS - EXECUTIVE SUMMARY 2019/08/12

	BUILDING			Estimated Cost Current	Priority	Fiscal Year	Estimated Cost Future
CES	**Clayton Elementary School**			$ 5,810,859	P-01	FY20-21	$ 528,579
	Tariff Impact:	2.50%		$ 145,271	P-02	FY22-23	$ 3,811,732
	Current State:	77.00%	$ 4,586,220	--	P-03	FY24-25	$ 1,321,468
	Current Local:	23.00%	$ 1,369,910	--	P-04	FY26+	$ 930,601
	Future State:	77.00%	$ 5,203,036	--		Future Subtotal:	**$ 6,592,380**
	Future Local:	23.00%	$ 1,554,154	--		Future Tariff Impact:	**$ 164,810**
		CES Current Cost w/ Tariff:		**$ 5,956,130**		**Future Cost w/ Tariff:**	**$ 6,757,190**
DCO	**District Central Office**			$ 6,343,256	P-01	FY20-21	$ 972,594
	Tariff Impact:	2.50%		$ 158,581	P-02	FY22-23	$ 181,254
	State:	77.00%	$ 5,006,414	--	P-03	FY24-25	$ 6,040,132
	Local:	23.00%	$ 1,495,422	--	P-04	FY26+	$ 121,514
	Future State:	77.00%	$ 5,773,754	--		Future Subtotal:	**$ 7,315,494**
	Future Local:	23.00%	$ 1,724,628	--		Future Tariff Impact:	**$ 182,887**
		DCO Current Cost w/ Tariff:		**$ 6,501,837**		**Future Cost w/ Tariff:**	**$ 7,498,381**
JBM	**J B Moore Intermediate School**			$ 6,173,540	P-01	FY20-21	$ 40,800
	Tariff Impact:	2.50%		$ 154,338	P-02	FY22-23	$ 4,491,750
	State:	77.00%	$ 4,872,466	--	P-03	FY24-25	$ 2,381,124
	Local:	23.00%	$ 1,455,412	--	P-04	FY26+	$ 107,314
	Future State:	77.00%	$ 5,541,315	--		Future Subtotal:	**$ 7,020,988**
	Future Local:	23.00%	$ 1,655,198	--		Future Tariff Impact:	**$ 175,525**
		JBM Current Cost w/ Tariff:		**$ 6,327,878**		**Future Cost w/ Tariff:**	**$ 7,196,512**
NES	**North Smyrna Elementary School**			$ 7,386,959	P-01	FY20-21	$ 2,788,262
	Tariff Impact:	2.50%		$ 184,674	P-02	FY22-23	$ 4,631,766
	State:	77.00%	$ 5,830,158	--	P-03	FY24-25	$ 291,652
	Local:	23.00%	$ 1,741,476	--	P-04	FY26+	$ 243,132
	Future State:	77.00%	$ 6,278,336	--		Future Subtotal:	**$ 7,954,812**
	Future Local:	23.00%	$ 1,875,347	--		Future Tariff Impact:	**$ 198,870**
		NES Current Cost w/ Tariff:		**$ 7,571,633**		**Future Cost w/ Tariff:**	**$ 8,153,683**

SES	**Smyrna Elementary School**			$ 1,909,263	P-01	FY20-21	$	70,345
	Tariff Impact:	2.50%		$ 47,732	P-02	FY22-23	$	2,048,454
	State:	77.00%	$ 1,506,886	--	P-03	FY24-25	$	-
	Local:	23.00%	$ 450,109	--	P-04	FY26+	$	-
	Future State:	77.00%	$ 1,672,262	--		Future Subtotal:	**$**	**2,118,799**
	Future Local:	23.00%	$ 499,507	--		Future Tariff Impact:	**$**	**52,970**
		SES Current Cost w/ Tariff:		**$ 1,956,995**		**Future Cost w/ Tariff:**	**$**	**2,171,769**
SMS	**Smyrna Middle School**			$ 6,167,980	P-01	FY20-21	$	8,393
	Tariff Impact:	2.50%		$ 154,200	P-02	FY22-23	$	6,218,003
	State:	77.00%	$ 4,868,078	--	P-03	FY24-25	$	175,212
	Local:	23.00%	$ 1,454,101	--	P-04	FY26+	$	538,313
	Future State:	77.00%	$ 5,477,333	--		Future Subtotal:	**$**	**6,939,921**
	Future Local:	23.00%	$ 1,636,086	--		Future Tariff Impact:	**$**	**173,498**
		SMS Current Cost w/ Tariff:		**$ 6,322,180**		**Future Cost w/ Tariff:**	**$**	**7,113,419**
SHS	**Smyrna High School**			$ 13,783,990	P-01	FY20-21	$	2,134,061
	Tariff Impact:	2.50%		$ 344,600	P-02	FY22-23	$	9,645,504
	State:	77.00%	$ 10,879,014	--	P-03	FY24-25	$	2,394,908
	Local:	23.00%	$ 3,249,576	--	P-04	FY26+	$	1,209,299
	Future State:	77.00%	$ 12,141,642	--		Future Subtotal:	**$**	**15,383,772**
	Future Local:	23.00%	$ 3,626,724	--		Future Tariff Impact:	**$**	**384,594**
		SHS Current Cost w/ Tariff:		**$ 14,128,590**		**Future Cost w/ Tariff:**	**$**	**15,768,366**
SSE	**Sunnyside Elementary School**			$ 1,844,781	P-01	FY20-21	$	-
	Tariff Impact:	2.50%		$ 46,120	P-02	FY22-23	$	589,365
	State:	77.00%	$ 1,455,994	--	P-03	FY24-25	$	1,512,291
	Local:	23.00%	$ 434,907	--	P-04	FY26+	$	45,178
	Future State:	77.00%	$ 1,694,389	--		Future Subtotal:	**$**	**2,146,834**
	Future Local:	23.00%	$ 506,116	--		Future Tariff Impact:	**$**	**53,671**
		SSE Current Cost w/ Tariff:		**$ 1,890,901**		**Future Cost w/ Tariff:**	**$**	**2,200,505**
	Totals			**$ 49,420,628**		**FY20-21 Total:**	**$**	**6,543,034**
	Tariff Impact:	2.50%		**$ 1,235,516**		**FY22-23 Total:**	**$**	**31,617,829**
	State:	77.00%	**$ 39,005,231**	--		**FY24-25 Total:**	**$**	**14,116,787**
	Local:	23.00%	**$ 11,650,913**	--		**FY26+ Total:**	**$**	**3,195,350**
	Future State:	77.00%	**$ 43,782,065**	--		**Future Subtotal:**	**$**	**55,473,000**
	Future Local:	23.00%	**$ 13,077,760**	--		**Future Tariff Impact:**	**$**	**1,386,825**
		Total Current Cost w/ Tariff:		**$ 50,656,144**		**Total Future Cost w/ Tariff:**	**$**	**56,859,825**

Section III Clayton Elementary School

Overview – CES

Address:	510 West Main Street, Clayton, Delaware 19938
Floor Area:	55,320 sf
Built / Expanded:	1930 / 1953 / 1993 / 2006
Last Major Work	2016
General Exterior Condition:	Fair
General Interior Condition:	Good

Clayton Elementary School consists of an original central building, with a series of additions throughout its history. The exterior envelope is predominantly brick with extensive areas of painted wood trim in older parts of the building. In general, masonry is in good to fair condition. Remaining exposed wood trim is weathering heavily. Windows are mostly serviceable throughout, but some exterior doors are worn and require replacement.

Structural systems and roof types vary by location, with mostly pitched roofs and some low-slope areas. Most pitched roofs have been shingled with a long-life synthetic slate material. Some low slope roof areas will require replacement in the near future.

Interior finishes and fixtures are dated and worn throughout, though still serviceable. Interior renovations in the A wing (2016) have begun the process of refreshing the finishes. This program should be extended through the balance of the building.

Interior

Accessibility

CES.01, CES.02, CES.03, CES.04, CES.05, CES.06, CES.07, CES.54, CES.55, CES.56, CES.57

In general, accessibility is not a major problem, despite the school's age. Various minor accessibility issues require correction in order to be fully inclusive. This includes items like replacing non-compliant drinking fountains and sinks, installing undersink insulation or grab bars, and replacing door hardware with lever-style units.

Doors and Hardware

CES.37, CES.66, CES.67, CES.85, CES.86, CES.87, CES.100, CES.101

Most interior doors (solid core wood veneer, stained) and frames (hollow metal, painted) show typical wear and tear. All doors and frames in high-traffic areas should be refinished as part of an overall interior painting project. Some doors and hardware are damaged or worn out and should be replaced in kind.

Floors

CES.10, CES.11, CES.12, CES.38, CES.39, CES.40, CES.59

The majority of the floor finishes and base trims throughout the building are worn and dated. Classroom areas in the A Wing have been replaced recently (2016), and those in the B Wing extension are newer and remain in acceptable condition. The balance of the building should have a comprehensive floor finish replacement, including resilient tile, carpet, and resilient base trim.

Walls

CES.16, CES.18, CES.19, CES.20, CES.21, CES.23, CES.24, CES.25, CES.26, CES.27, CES.28, CES.29, CES.30, CES.32, CES.33, CES.44, CES.45, CES.46, CES.47, CES.50, CES.51, CES.53, CES.61, CES.62

Walls in classrooms and some corridors are predominantly painted plaster or gypsum wallboard. Heavy-use areas such as the cafetorium and central core area are painted masonry. Corridor

walls and select other areas should be repainted, including incidental patching as required. This work is outside the scope of typical incidental touch-up by district personnel.

Casework

CES.14, CES.41, CES.42, CES.43, CES.60

Casework (cabinets, countertops, and shelving) in older, unrenovated rooms is aged, worn, damaged, and non-accessible. These fixtures should be replaced with a new suite of casework including wardrobe, upper and lower wall cabinets, and worksurface countertops.

Ceilings

Ceilings are predominantly lay-in acoustical panel suspended grid systems, with areas of painted gypsum wallboard or exposed structure. Localized areas throughout the building show evidence of minor water infiltration or leaks. These must be investigated by District personnel, the water sources corrected as required, and damaged materials replaced.

Exterior

Doors and Hardware

CES.66, CES.67, CES.85, CES.86, CES.87, CES.100, CES.101

Exterior doors / frames (mostly hollow metal or metal-clad insulated core), and hardware are aged and wearing. All require paint in the near future to prevent further weathering. Some exterior doors are rusting out or damaged and should be replaced in the moderate future.

Exterior Wood Cupola

CES.68

The existing wood cupola structure is subject to continual weathering. While it is structurally sound and fundamentally in good condition, it is maintenance-intensive and requires regular painting and other upkeep. This will keep the cupola, railings, and other items in service for the moderate future. As part of a long term plan, the

District should consider future replacement with weatherproof construction, such as fiberglass or aluminum.

Exterior Wood Trim

CES.89, CES.92, CES.94, CES.97, CES.99, CES.103

The existing wood cornices and other trims on older parts of the building are subject to continual weathering and maintenance-intensive. Numerous areas are showing signs of rot and water infiltration. In the near term, this requires painting to prevent further deterioration. If funding is available, we recommend this trim should be clad with or replaced by prefinished aluminum trims. Cost will vary by size and complexity of the trim profile.

Exterior Masonry Walls

CES.71, CES.72, CES.74, CES.75, CES.77, CES.78, CES.80, CES.82, CES.83, CES.93

The existing brick walls are in good to fair condition throughout the building, despite the age of older portions. Cracking and settlement are minimal and localized. Some weathering of mortar joints has occurred, particularly around stone windowsills. A program of masonry cleaning and repointing in the mid-term future will help preserve strength and appearance. One item requires priority attention: an existing chimney on the east of B wing shows significant cracking. At a minimum, the cracks require repair and repointing. This chimney is believed to be abandoned and could be demolished to eliminate future problems.

Exterior Ceiling

CES.65

Finishes at the existing soffit ceilings at the main entrance canopy and other door / entry locations are weathered. Repaint / refinish these areas for proper appearance and to prevent deterioration.

Exterior Ramps / Walks

CES.69, CES.70

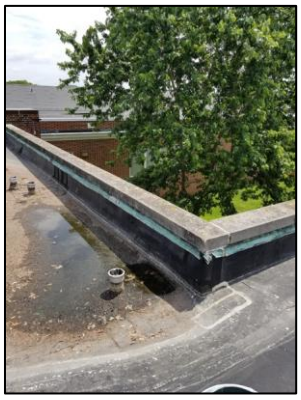
Existing concrete walk areas are in generally good to fair condition. Regular maintenance with replacement of individual sections as necessary will keep them in service. On the exterior of A Wing, cracks in the accessibility ramp and main entrance stairs should be corrected before further damage occurs.

Roof

Shingle Roofs (Sloped)

Shingle roofs are typically in very good to good condition. Most have been installed as or replaced with a long-life synthetic slate shingle, with a service life of 40-50 years. These will only require routine inspection and light maintenance to serve for the foreseeable future.

Membrane Roofs (Low Slope / Flat)



CES.123, CES.124, CES.126, CES.129, CES.131, CES.132

Original built-up roofs were replaced by EPDM membrane roof systems in the early 1990s. These in turn have reached the end of their expected service life and should be replaced within the next 3-4 years. Areas of delamination and deteriorated flashings were observed throughout low-slope areas. Ponding is a problem in some places. Timely roof replacement is critical to avoid the expense of additional interior water damage. As part of this program, remaining cast stone copings should be covered with new prefinished aluminum copings to improve water integrity of the roof / exterior wall connection.

Other

M/P/E Renovations

CES.136, CES.137

Detailed information concerning mechanical systems is included in a separate report. However, due to age, the school requires a significant amount of replacement and remedial work to plumbing and HVAC systems throughout older portions of the building.

Security

CES.138, CES.139

The building is relatively secure thanks to operational policy and existing systems. There is immediate need for additional card readers and video cameras for access control and monitoring at selected locations. In the moderate future term, the District should consider additional protective measures such as ballistic window film or other hardpoint retrofits.

Child Nutrition Program

CES.140

Food service facilities are in generally good condition and sized appropriately for the current population. Selected kitchen equipment has reached or exceeded expected service life and should be replaced with modern appliances.

Section IV District Central Office

Overview – DCO

Address:	510 82 Monrovia Avenue, Smyrna, Delaware 19977
Floor Area:	16,200 sf
Built / Expanded:	1962
Last Major Work	2008
General Exterior Condition:	Fair
General Interior Condition:	Fair

The District Central Office was originally a school before conversion to the district's administrative center. The building exterior is predominantly brick / CMU composite walls, which show significant weathering and deterioration. Moisture infiltration in / through exterior walls is problematic in numerous areas. Aluminum windows are aged but remain in service; long-range plans should include eventual replacement.

Structural systems vary by location, with low-slope / flat roofs throughout. All low slope roof areas are a ballasted modified bitumen or built-up roof system, which may be original. These are well past their expected service life and will require replacement in the near future.

Interior finishes and fixtures are dated and worn throughout, with the exception of the reception area and adjacent administrative offices.

Interior

Accessibility

DCO.01, DCO.02, DCO.03, DCO.19, DCO.22

The building is generally accessible, comprising a single story. Ground floor elevation is relatively near grade level. Several ramps offer access to the building, though these vary in condition and compliance and should be replaced as priority indicates. Due to the date of original construction, some interior elements such as doorways are non-compliant. Various accessibility issues require correction in order to be fully inclusive. These include items like replacing non-compliant drinking fountains and sinks, and installing undersink insulation or grab bars.

Doors and Hardware

DCO.20, DCO.21

Most interior doors (solid core wood veneer, stained) and frames (hollow metal, painted) show typical wear and tear. All doors and frames in high-traffic areas should be refinished as part of an overall interior painting project. Many interior door panels are damaged or worn out and should be replaced in kind, reusing existing hardware where possible.

Floors

DCO.10

The majority of the floor finishes and base trims throughout the building are in serviceable condition. Public areas such as corridors and the large training room will need floor finish replacement in the moderate future, including resilient tile and base trim.

Walls

DCO.12, DCO.14, DCO.16, DCO.17, DCO.18

Walls in offices, work areas, and corridors are predominantly painted or glazed masonry. Some cracking was observed in varying areas, and should be repaired. There is also evidence

of water penetration in the Large Training Room 116. Once that situation is resolved, the affected walls will require cleaning, preparation, and repainting.

Ceilings

Ceilings are predominantly lay-in acoustical panel suspended grid systems, with areas of painted gypsum wallboard or exposed structure. Localized areas throughout the building show evidence of minor water infiltration or leaks. These must be investigated by District personnel, the water sources corrected as required, and damaged materials replaced.

Exterior

Doors and Hardware

DCO.23, DCO.24

Exterior hollow metal doors / frames and hardware are aged. All require paint in the near future to prevent further weathering. Some exterior doors are rusting or damaged and should be replaced in the near future. Storefront at main building entrance is in very good condition and needs only routine maintenance.

Exterior Masonry Walls

DCO.28, DCO.29, DCO.30, DCO.31, DCO.32, DCO.33, DCO.34, DCO.35

The existing brick / CMU walls are in fair to poor condition throughout the building. Cracking and settlement has occurred in several areas and requires repair. Extensive weathering of mortar joints has occurred, particularly around stone copings and windowsills. Walls show evidence of chronic wetness around downspout and overflow locations. A program of masonry cleaning and repointing in the mid-term future will help preserve strength and appearance.

Of particular concern is the upper stone trim around the Large Training Room 116 (*image above*). Mortar and sealant joints at this trim have eroded almost completely, exposing structural steel to the weather and creating numerous water infiltration points. Evidence of water infiltration is visible inside this room. This area requires immediate attention.

Another area showing problems is the exterior corner of Office 109, with substantial cracking. This has been stabilized with through-bolted steel sandwich plates, but requires permanent structural correction.

At the exterior end wall of the 100 wing, masonry piers are eroding due to water overflow from the roof immediately above. Top sections of these piers should be rebuilt and capped with metal trim to promote water deflection.

Exterior Ramps / Walks

DCO.22

Walks are minimal on site, but landings and ramps at each exterior door are in generally poor condition. Although the main entrance is ADA compliant, most other doors are not. Considering their poor condition, these landings and adjoining ramps should be replaced with accessible, ADA-compliant features.

Roof

Membrane Roofs (Low Slope / Flat)

DCO.40, DCO.41, DCO.42, DCO.43, DCO.44, DCO.45

Gravel-ballasted built-up roofs across the building may be original, and have exceeded their expected service life. Drains and scuppers show evidence of chronic water overflow onto walls below. Ballast / topping erosion and deteriorated flashings were observed throughout low-slope areas. Ponding is a problem in some places. To avoid the expense of additional water damage, both interior and exterior, all roofs should be replaced within the next 3-4 years, or earlier if feasible. Timely roof replacement is critical. As part of this program, all metal roof edge trims, scuppers, and downspouts should be replaced. Remaining cast stone copings should be covered with new prefinished aluminum trim to improve water integrity of the roof / exterior wall connection.

Canopy Roofs

DCO.27

Exterior canopy roofs and related structures at Large Training Room 116 are deteriorated. These canopies should be demolished and replaced with similar construction.

Other

M/P/E Renovations

DCO.46, DCO.47

Detailed information concerning mechanical systems is included in a separate report. However, simply due to age, the administration building requires a significant amount of replacement and remedial work to plumbing and HVAC systems throughout older portions of the building.

Security

DCO.48

The building is relatively secure thanks to operational policy and existing systems. There are no immediate needs for additional equipment. In the moderate term, the District should consider additional protective measures such as ballistic film and other hardpoint retrofits at primary entrances.

Section V J B Moore Intermediate School

Overview – JBM

Address:	20 West Frazier Street, Smyrna, Delaware 19977
Floor Area:	81,402 sf
Built / Expanded:	1881 / 1922 /
Last Major Work	2016
General Exterior Condition:	Good
General Interior Condition:	Fair

John Bassett Moore Intermediate School was originally built in 1881 as Smyrna High School, with several additions beginning in 1922. The building exterior is constructed brick / masonry walls with significant quantities of limestone trim. The school includes several accessory buildings, including the Gymnasium (across Frazier Street), Classroom Building A, and the adjacent services building.

Structural systems and roof types vary by location, with low-slope / flat roofs in most areas. Most original roofs in low-slope areas have been replaced with EPDM membrane roofing systems, some in 2014 and some prior. However, some roofing issues require attention, particularly in the older replacements. The Auditorium roof is a sloped structure and is shingled; shingles show sign of weathering. The Gymnasium has a barrel vaulted roof with an adhered EPDM membrane roofing system.

Interior wall finishes are predominantly plaster or gypsum wallboard, painted. There are areas of glazed interior masonry as well. Interior finishes are clean but comprehensively showing their age. Cracks, dents, and moisture damage are common on plaster / GWB walls and ceilings. Glazed masonry walls are cracked or chipped in many areas. Doors and frames in high traffic areas are worn and / or damaged.

Although fundamentally sound and well maintained, the historic main school building is well over 100 years old at this point and is showing its age outside and in.

Interior

Accessibility

JBM.01, JBM.02, JBM.03, JBM.13, JBM.14, JBM.32, JBM.33, JBM.34, JBM.35, JBM.37, JBM.38

Given the age and configuration of the building, some interior and exterior elements are non-compliant. However, the building has been adapter to provide accessibility to all floors and public areas. Various accessibility issues require correction in order to be fully inclusive. These include items like replacing non-compliant drinking fountains, reconfiguring toilet stalls, modifying casework, and installing undersink insulation or grab bars.

Doors and Hardware

JBM.07, JBM.19, JBM.41, JBM.42

Most interior doors and frames show typical wear and tear, but are in operable condition. All doors and frames in high-traffic areas should be refinished as part of an overall interior painting project. One interior door, frame, and hardware should be replaced in entirety (located in the kitchen area).

Floors

JBM.08, JBM.09, JBM.21, JBM.43

The majority of the floor finishes and base trims in classrooms and corridors throughout the building are in serviceable condition. These are predominantly terrazzo or resilient tile, which has been refreshed in a regular replacement program. Carpet and base trim in administrative areas, library, and various other rooms are worn out and should be replaced in the moderate future.

Walls

JBM.11, JBM.12, JBM.24, JBM.25, JBM.26, JBM.27, JBM.28, JBM.29, JBM.45, JBM.46, JBM.47

Walls in offices, work areas, and classrooms are predominantly painted plaster of gypsum wallboard. Cracking and damage was observed in varying areas, and should be repaired. Masonry and glazed masonry walls in high traffic areas show cracking and damage. Where repair is possible it should be performed. Where repair is not feasible, regular inspection is necessary to monitor future deterioration.

Ceilings

JBM.17

Plaster ceilings throughout the 2nd floor area show moisture and other damage. These require repair to avoid further deterioration, and repainting throughout. Localized areas throughout the building show evidence of minor water infiltration or leaks in acoustical panel or other ceilings. These must be investigated by District personnel, the water sources corrected as required, and damaged materials replaced.

Exterior

Doors and Hardware

Exterior doors, frames and hardware are in generally good condition and need only routine maintenance.

Exterior Masonry Walls

The existing brick / masonry walls are in generally sound condition. However, at more than 100 years old, brick in certain areas is showing surface erosion. Limestone trim is weathering as well. These items will require routine

inspection and care. A program of masonry preservation in the long-term future will help preserve strength and appearance.

Exterior Ramps / Walks

JBM.74

Walks, stairs, and ramps are in generally good condition. The main entrance ramp and stairs were newly constructed in 2016 as part of the new vestibule addition. Other exterior concrete / brick stairs were renovated at the same time. These should just require general maintenance and replacement of individual sections on an as-needed basis.

At the rear of the Gymnasium building, 2 exit doors are not accessible. These require reconfiguration / replacement of exterior landings with new ramps and other features.

Campus Improvements

JBM.75

The JBM campus amenities are aged and inadequate for athletics and recreation. Required improvements include renovation and reorganization to provide a new tennis court, soccer field, outdoor basketball court, and playground area.

Roof

Membrane Roofs (Low Slope / Flat)

JBM.62, JBM.63, JBM.64, JBM.65, JBM.67

At this point in the building's history, all original roofs have been replaced with EPDM membrane systems throughout low-slope areas. Although still within expected service life, some of these replacements show signs of age or imperfect workmanship. Older areas show numerous wrinkles, delaminations, or raised fasteners. Ponding is a problem in some places. Flashings, both metal and membrane, require attention. In particular, vertical membrane flashings were installed to cover and protect weathered brick parapets. Many of these are beginning to un-adhere and delaminate from the substrate. These should be repaired or reinstalled with additional fastenings and termination bars.

Membrane roofs will require a replacement program in the long-term future as older replacements reach the end of their own service cycles. This is expected to begin approximately 8-10 years from date of this writing.

Shingle Roofs (Sloped)

The sloped shingle roof of the Auditorium is in good condition. In the past it was replaced with a long-life synthetic slate shingle, with a service life of 40-50 years. This shows evidence of weathering and repair, but has remaining service life exceeding the timeline of this assessment. This roof requires routine inspection and maintenance, but should serve for the next decade at least.

Other

M/P/E Renovations

JBM.68, JBM.69, JBM.73

Detailed information concerning mechanical systems is included in a separate report. JBM and its supporting buildings require a significant amount of near-future replacement and remedial work to plumbing and HVAC systems. Basement HVAC also requires work with significant architectural and structural support required.

Security

JBM.70, JBM.71

As part of recent renovations, JBM received a new vestibule addition offering a security airlock and controlled access point. The building is relatively secure thanks to operational policy and existing systems. The alarm system currently lacks an intruder alert / emergency button for immediate manual activation. This should be added in the immediate future for improved security. In the moderate term, the District should consider additional protective measures such as ballistic film or other hardpoint retrofits at primary entrances.

Child Nutrition Program

JBM.72

Food service facilities are aged but serviceable condition and sized appropriately for the current population. A significant fraction of the existing kitchen equipment has reached or exceeded expected service life. These fixtures should be replaced in the near future to improve efficiency and reliability, and reduce maintenance costs.

Section VI North Smyrna Elementary School

Overview – NES

Address:	365 North Main Street, Smyrna, Delaware 19977
Floor Area:	48,300 sf
Built / Expanded:	1964 / 1993 / 2005
Last Major Work	2016
General Exterior Condition:	Fair
General Interior Condition:	Good

North Smyrna Elementary School is a single-story 1960s building with classroom additions attached to the rear via a long breezeway. The original central building houses common areas and administration, with the original classroom wing extending to the east. The exterior envelope is predominantly brick with large aluminum storefront windows. In general, masonry is in good condition, but metal wall panels and soffits are aging. Windows and exterior doors are mostly serviceable throughout.

Structural systems vary by location, but all are flat / low-slope areas with varying roof systems. Some low slope roof areas have been installed as or replaced with EPDM membrane systems, which are in very good condition and have plenty of remaining service life. However, the majority of the building has a modified bitumen roof system. The older roofs are in poor to very poor condition, and have long exceeded their service lives. All MBR areas will require replacement with new membrane in the immediate to near future. Given the age of the building, it would be highly cost-effective to increase the insulation thickness as part of this process.

Interior finishes and fixtures are dated and worn in areas, though still serviceable. District personnel have been refreshing interior finishes. This program should be extended through the balance of the building. Casework is operational, but aging and worn. Recent toilet room modifications and other renovations have improved accessibility, but additional compliance issues remain to be corrected.

Interior

Accessibility

NES.01, NES.02, NES.03, NES.04, NES.18, NES.20, NES.21, NES.22, NES.23, NES.24, NES.25, NES.26

Vertical and horizontal circulation are not significant problems in this 1-story school. Recent modifications have addressed the most critical issues concerning access to restrooms and the stage area. Several remaining toilet rooms require modification or replacement of existing stall configurations. Casework in classrooms, including sinks, are worn and not accessible. These areas should be replaced with new, compliant items. Various other minor accessibility issues require correction in order to be fully inclusive. This includes items like replacing non-compliant drinking fountains, and installing undersink insulation or grab bars.

Doors and Hardware

NES.29

Most interior doors (solid core wood veneer, stained) and frames (hollow metal, painted) show typical wear and tear. All doors and frames in high-traffic areas should be refinished as part of an overall interior painting project.

Floors

NES.30, NES.31

The majority of resilient floor finishes throughout the building are in acceptable condition. Occasional areas of damage or cracking should be corrected. Base trims, however, are worn, damaged, and dated in color (see Walls below for more information). Areas of carpet in Wings A and C-D are worn, stained, and damaged. They are past their expected service life, and should be replaced with new carpet and resilient base trim.

Walls

NES.06, NES.07, NES.14, NES.16, NES.17, NES.32, NES.33, NES.34

Walls between classrooms are predominantly painted gypsum wallboard. Most other interior walls, including corridors, toilet rooms, core areas, and inside face of exterior walls are painted masonry. Interior walls are in good to fair condition. Corridor walls and select other areas should be repainted, including incidental patching as required. This work is outside the scope of typical incidental touch-up by district personnel. Resilient base trim throughout Wing A should be replaced.

Casework

NES.12, NES.15

Casework (cabinets, countertops, and shelving) is worn and damaged. Most rooms are still serviceable. Selected areas of damaged casework in Wing A and throughout Wing B should be repaired or replaced in kind. See also Accessibility segment above for non-compliant casework modifications.

Ceilings

Ceilings are predominantly lay-in acoustical panel suspended grid systems, with areas of painted gypsum wallboard or exposed structure. Localized areas throughout the building show evidence of minor water infiltration or leaks. In particular, skylights / light wells require prompt attention. These must be investigated by District personnel, the water sources corrected as required, and damaged materials replaced.

Exterior

Doors and Hardware

Exterior doors, frames, and hardware are in good condition and require only routine maintenance. Hollow metal doors and frames should receive regular painting to protect against rust.

Exterior Walls

NES.35, NES.36, NES.37

The existing brick / CMU walls are in good condition. Cracking and settlement are mostly confined to Wings A / B. At a minimum, the cracks require repair and repointing.

Exterior metal siding and soffit panels on Wings A, C, and D are aged, deteriorating, and have been previously painted. Paint is peeling and mildewed. These should be replaced with new prefinished metal wall panels and soffits to match 2005 addition and provide a coherent exterior appearance.

Exterior Ramps / Walks

Existing concrete walk areas are in generally good to fair condition. Regular maintenance with replacement of individual sections as necessary will keep them in service.

Roof

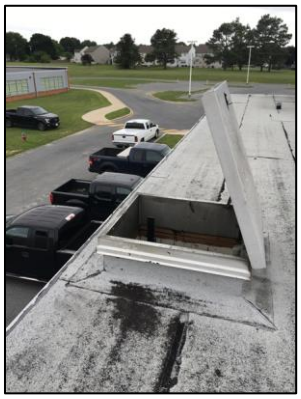
Membrane Roofs (Low Slope / Flat)

NES.38, NES.39, NES.41, NES.42, NES.44

Original built-up roofs were replaced by a modified bitumen roof (MBR) system in approximately 2002. These in turn have reached the end of their expected service life and should be replaced within the next year if possible. Deteriorated insulation and flashings were observed throughout. Ponding is a major problem in most places, and evidence of water infiltration is visible in various interior locations. Timely roof replacement is critical to avoid the expense of additional interior water damage. As part of this program, existing cast stone copings should be covered with new prefinished aluminum copings to improve water integrity of the roof / exterior wall connection. During roof

replacement, the District should strongly consider installing additional insulation depth where feasible rather than simply replacing in kind.

The existing areas of EPDM membrane roofing vary in condition. The kitchen and 6 classroom wing addition are in very good to good condition at the kitchen and 6 classroom wing addition, and require only routine maintenance. They should have a remaining service life in excess of the timeframe of this assessment. The older addition adjacent the c6 classroom wing has reached is lifespan and is requiring patching. We recommend this be replaced when replacing the Modified -Bit roofing noted above.



The roof access hatch is located immediately adjacent to the exterior wall and opens directly onto a significant sheer drop. This is a critical safety hazard and is not code compliant. A wall-mounted guard rail must be installed to provide fall protection for personnel using the hatch.

Other

M/P/E Renovations

NES.47, NES.48

Detailed information concerning mechanical systems is included in a separate report. However, due to age, the school requires a significant amount of replacement and remedial work to plumbing and HVAC systems throughout all portions of the building.

Security

NES.49

The building is relatively secure thanks to operational policy and existing systems. There are no immediate needs for additional measures. In the moderate future term, the District should consider additional protective measures such as ballistic window film or other hardpoint retrofits.

Child Nutrition Program

NES.50

Food service facilities are aged but serviceable condition and sized appropriately for the current population. The kitchen received an expansion as part of the 2005 additions project. A significant fraction of the existing kitchen equipment has reached or exceeded expected service life. These fixtures should be replaced in the near future to improve efficiency and reliability, and reduce maintenance costs.

Section VII Smyrna Elementary School

Overview – SES

Address:	121 South School Lane, Smyrna, Delaware 19977
Floor Area:	59,860 sf
Built / Expanded:	1952 / / 2005
Last Major Work	2016
General Exterior Condition:	Good
General Interior Condition:	Very Good

Smyrna Elementary School is a single-story building with several classroom wings and other additions. The original central building houses common areas and administration, with a basement mechanical room and crawl space. The exterior envelope is predominantly brick with large aluminum framed windows. In general, masonry is in good condition, but limestone / cast stone trim is weathering and some corrective action is required. Windows and exterior doors are mostly serviceable throughout. The building recently underwent an extensive interior renovation, including an addition to the kitchen / loading area.

Structural systems vary by location, but all are flat / low-slope roofs with EPDM membrane systems. The majority are white membrane, but older replacements are black. All roofs have been replaced as of this writing, and all are in new to very good condition with remaining service life far in excess of the projected timeline. Roofs only require typical maintenance.

Interior finishes, doors, hardware, and other fixtures have recently been comprehensively renovated. The D Wing is of newer construction (2006) and renovations were limited in this area. Recent toilet room modifications and other renovations have improved accessibility, and the kitchen was fully renovated and expanded in the 2016 project.

Interior

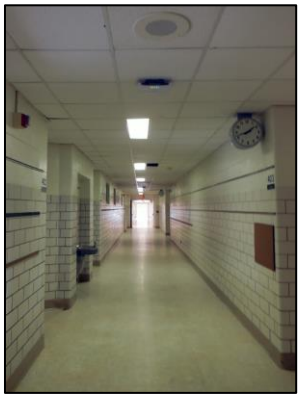
Accessibility

Vertical and horizontal circulation are not significant problems in this 1-story school, despite several level changes. Recent modifications have addressed issues concerning access to restrooms and the stage area. New casework in renovated areas, including sinks in all full-height counters, is accessible.

Doors and Hardware

Most interior doors (solid core wood veneer, stained) and hardware were replaced as part of recent renovations. Typical routine maintenance is required, but no significant work.

Floors



SES.01

The majority of carpet and resilient floor finishes throughout the building are in good condition. Occasional areas of damage or cracking should be corrected on an as-needed basis.

Walls

SES.06

Most interior partitions such as classrooms and offices are painted gypsum wallboard. Most other interior walls, including corridors, toilet rooms, core areas, and inside face of exterior walls are glazed or painted masonry. Interior walls are in very good to good condition. Select walls and should be repainted, including incidental patching, on an as-needed maintenance basis. Minor replacement of ceramic tile is required in Restroom S06.

Casework

Casework (cabinets, countertops, and shelving) has been replaced in most classrooms and administrative areas (except D Wing) as part of the recent renovations. This is in new to very good condition and no further action is required at this time.

Ceilings

Ceilings are predominantly lay-in acoustical panel suspended grid systems, with areas of painted gypsum wallboard or exposed structure. Most ceilings were replaced as part of recent renovations. Isolated areas throughout the building show evidence of minor water infiltration or leaks. These must be investigated by District personnel, the water sources corrected as required, and damaged materials replaced.

Exterior

Doors and Hardware

Exterior doors, frames, and hardware are in good condition and require only routine maintenance. Hollow metal doors and frames should receive regular painting to protect against rust.

Exterior Walls

SES.08

The existing brick / CMU walls are in good condition. Some weathering is apparent in select areas, and requires repair and repointing.

Sealant joints at most stone window sills and masonry control joints are failing and should be replaced as part of a routine exterior maintenance program.

Exterior Ramps / Walks

Existing concrete walk areas are in generally new to good condition. Regular maintenance with replacement of individual sections as necessary will keep them in service.

Roof

Membrane Roofs (Low Slope / Flat)

Original built-up or MBR roofs have all been replaced by EPDM membrane roofing systems. All roofs are in new to very good condition, and require only routine maintenance. D Wing roofs are oldest, but should have a remaining service life in excess of the timeframe of this assessment.

Other

M/P/E Renovations

SES.24, SES.25

Detailed information concerning mechanical systems is included in a separate report. However, due to age, the school requires a significant amount of replacement and remedial work to plumbing and HVAC systems throughout all portions of the building.

Security

SES.26

The building is relatively secure thanks to operational policy and existing systems. There are no immediate needs for additional measures. In the near future term, the District should consider additional protective measures such as ballistic window film or other hardpoint retrofits.

Section VIII Smyrna Middle School

Overview – SMS

Address:	700 Duck Creek Parkway, Smyrna, Delaware 19977
Floor Area:	120,694 sf
Built / Expanded:	2002 / 2006
Last Major Work	--
General Exterior Condition:	Fair
General Interior Condition:	Good

Smyrna Middle School is a two-story steel and masonry building with several wings. The original 2002 main building houses classrooms, common areas, and administration, with a second classroom wing extending at an angle. The building was expanded with a third classroom wing and multipurpose room additions in 2006.

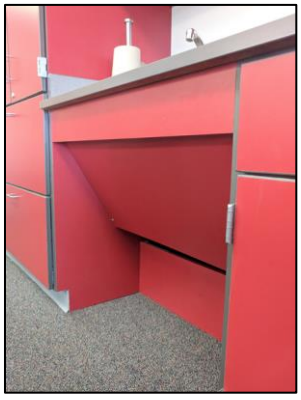
The exterior envelope is brick and split-face masonry in varying colors, with some areas of ribbed metal wall panels at upper areas. Masonry is in fundamentally good condition, but notable settlement and cracking has occurred in areas. A substantial portion of the exterior masonry is badly stained by water infiltration, chronic wetness, and efflorescence. Large aluminum storefront / curtainwall, windows, and exterior doors are in generally good condition throughout, and include insulated glazing. A few cracked panels require replacement.

The building is constructed with structural steel framing (joists and / or beams), with pitched and flat / low-slope areas. Pitched roofs are prefinished metal standing seam panels, while low-slope areas are predominantly modified bitumen roof (MBR) systems.

Interior finishes and fixtures are worn in typical high-use areas, though most are still in good condition. The interior should be refreshed on an area-by-area basis as necessary. Casework is in good condition, with normal wear and tear in specific areas. Accessibility is good in general, but some compliance issues remain to be corrected.

Interior

Accessibility



SMS.01, SMS.17, SMS.18, SMS.19, SMS.30, SMS.44, SMS.45, SMS.46, SMS.47, SMS.59, SMS.60, SMS.72

Because this school was built less than 20 years ago, accessibility is fundamentally designed into the facility. However, several items – some minor and some significant – require correction in order to be fully inclusive. Casework at many sinks, although intended to be accessible, is not compliant and does not offer proper clearance. These should be modified and / or replaced with new, compliant items. Various other minor accessibility issues include items like replacing toilet accessories and installing undersink insulation or grab bars.

Doors and Hardware

SMS.04, SMS.34

Most interior doors (solid core wood veneer, stained) and frames (hollow metal, painted) show minor wear and tear, but are in good condition. Doors and frames in high-traffic areas should be refinished as part of an ongoing interior painting program. Individual damaged doors and / or hardware should be replaced on an as-needed basis.

Floors

SMS.06, SMS.07, SMS.22, SMS.35, SMS.36, SMS.51, SMS.52, SMS.64, SMS.65, SMS.83, SMS.84, SMS.85, SMS.86

The majority of resilient floor finishes throughout the building are in good to serviceable condition. Occasional areas of damage or cracking should be corrected, including patching of concrete substrates where required. Areas of carpet in 300 and 400 Wings worn, stained, and damaged. They are past their expected service life, and should be replaced with new carpet and resilient base trim. Core area terrazzo floors are in good condition, with localized cracking that requires correction.

Walls

SMS.12, SMS.13, SMS.14, SMS.27, SMS.28, SMS.29, SMS.40, SMS.41, SMS.42, SMS.43, SMS.55, SMS.56, SMS.67, SMS.68, SMS.69, SMS.94, SMS.95, SMS.96, SMS.97

Interior walls are a mix of painted gypsum wallboard and painted masonry. Most walls in high-traffic or heavy duty areas, including corridors, toilet rooms, core amenities, and inside face of exterior walls are painted masonry. Interior walls are in good to fair condition. Select areas should be repainted, including incidental patching as required. Masonry walls and partitions show significant cracking in localized areas, which requires repair and repainting. This work is outside the scope of typical incidental touch-up by district personnel.

Casework

SMS.08, SMS.10, SMS.11, SMS.24, SMS.37, SMS.38, SMS.54, SMS.66, SMS.88, SMS.90

Casework (cabinets, countertops, and shelving) shows its age and is damaged in areas. Most rooms are still serviceable. Selected areas of damaged casework throughout the building should be repaired or replaced in kind. Vanity counters in toilet rooms are wearing and exhibit signs of water damage. See also Accessibility segment above for non-compliant casework modifications.

Ceilings

Ceilings are predominantly lay-in acoustical panel suspended grid systems, with areas of painted gypsum wallboard or exposed structure. Numerous areas throughout the building show evidence of water infiltration or leaks. These must be investigated by District personnel, the water sources corrected as required, and damaged materials replaced.

Exterior

Doors and Hardware

SMS.100, SMS.113

Exterior hollow metal doors, frames, and hardware are in generally good condition, but finishes are weathered. All exterior hollow metal doors and frames should be painted in the moderate future to protect against rust.

Aluminum storefront entrances are in very good to good condition, and require only routine maintenance for the foreseeable future.

Exterior Walls

SMS.103, SMS.104, SMS.137

Exterior brick / CMU walls are in overall fair condition, and show localized cracking, weathering, and evidence of chronic wetness. At a minimum, cracks require repair and repointing. Approximately 20% of masonry window sills are significantly weathered and need repointing to prevent further deterioration.

The primary issue with exterior walls is extensive staining from water infiltration or overflow runoff. All split face masonry walls require cleaning to return them to appropriate appearance. To correct the underlying problem and prevent recurrence, the underlying issues must be resolved. One common source of water is exposed cast stone copings at parapet walls and other areas around the building. These show signs of extensive weathering and porosity. All stone copings should be covered with a prefinished aluminum parapet cap system to improve appearance and encourage shedding of water away from wall surfaces below.

Leaking gutters are another frequent source of staining and chronic wetness on the exterior walls. This will be discussed under the Roof heading below.

Exterior Ramps / Walks

SMS.111

Existing concrete walk areas are in generally good condition. Regular maintenance with replacement of individual sections as necessary will keep them in service. Cracks in the loading dock area concrete require correction in the near future to prevent further deterioration.

Paving

SMS.112

Asphalt paving around the site is in good condition. Paving has failed in the loading dock area due to excessive weight and duty cycle. Remove the existing asphalt in this area and replace with a concrete apron designed for the traffic load.

Roof

Metal Roofs (Sloped)

Standing seam metal roofs are typically in good condition throughout the building. Ice / snow guards are present and functional. Metal finish is chipped in minor localized areas, but no corrosion is evident.

Membrane Roofs (Low Slope / Flat)

SMS.112, SMS.133

Original modified bitumen roof (MBR) systems date from 2002-2006. Low slope membrane roofs are still within their expected service life, but will require replacement in the long-term future. In the meantime, they require routine maintenance and localized areas of repair. Soft / wet spots and areas of ponding should be cut out (including insulation) and replaced in kind. Loose or missing flashings should be replaced.

Metal Gutters / Downspouts

SMS.102

Aluminum gutters around the entire building perimeter are leaking at joints and seams. Water overflow stains walls, creates infiltration issues, splashes mud on lower walls, and erodes turf and grade.

Gutters and downspouts require a comprehensive re-sealing program to eliminate these symptoms and remove the underlying source of water.

Other

M/P/E Renovations

SMS.138, SMS.139

Detailed information concerning mechanical systems is included in a separate report. However, the school requires a substantial amount of replacement and remedial work to plumbing and HVAC systems throughout all portions of the building.

Security

SMS.140

The building is relatively secure thanks to operational policy and existing systems. There are no immediate needs for additional measures. In the moderate future term, the District should consider additional protective measures such as ballistic window film or other hardpoint retrofits.

Child Nutrition Program

SMS.141

Food service facilities are aged but serviceable condition and sized appropriately for the current population. A significant fraction of the existing kitchen equipment has reached or exceeded expected service life. These fixtures should be replaced in the near future to improve efficiency and reliability, and reduce maintenance costs.

Section IX Smyrna High School

Overview – SHS

Address:	500 Duck Creek Parkway, Smyrna, Delaware 19977
Floor Area:	355,960 sf
Built / Expanded:	1971 / / 2008
Last Major Work	2012
General Exterior Condition:	Good
General Interior Condition:	Good

Smyrna High School is a large, two-story steel and masonry building with several wings. The original 1971 central building includes classrooms, common areas, and administration, with an auxiliary athletic area extending to the rear. Other additions have included vocational areas and other program spaces. The building was extensively expanded and renovated in 2008. A new front classroom / administration addition, new athletic complex, new kitchen addition, and other extensions effectively doubled the size of the existing school.

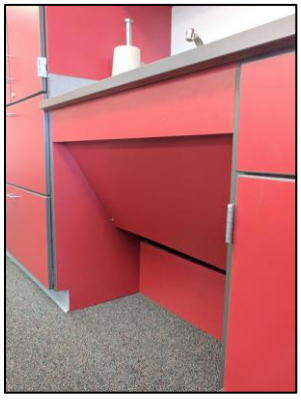
Similar to the adjacent Middle School, the exterior envelope is brick and split-face masonry in varying colors, with some areas of ribbed metal wall panels at upper areas. Masonry is in fundamentally good condition throughout. Large aluminum storefront / curtainwall, windows, and exterior doors are in generally good condition throughout, and include insulated glazing.

The building is constructed with structural steel framing (joists and / or beams), with pitched and flat / low-slope areas. Pitched roofs are prefinished metal standing seam panels, while low-slope areas are modified bitumen roof (MBR) systems or EPDM membranes according to age. Most are in good to fair condition, though some have reached the end of expected lifespan, and some newer materials are showing unexpected corrosion.

Interior finishes and fixtures are significantly worn in older areas, which were not renovated during the expansion. Areas renovated in 2008 are still in very good to good condition and only require touch up maintenance. Casework in non-renovated areas is operational, but aging badly with significant wear. Most accessibility compliance issues have been corrected.

Interior

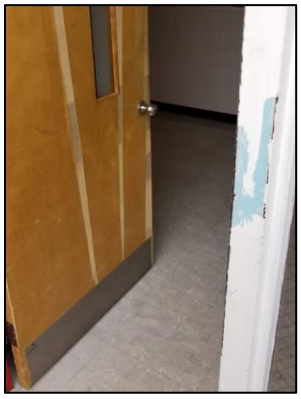
Accessibility



SHS.56

Most accessibility issues have been remediated as part of renovations and ongoing upgrades. A few unrenovated areas require modifications to toilet rooms. Various other minor accessibility issues include items like replacing toilet accessories and installing undersink insulation or grab bars. Remaining non-lever door hardware is recommended to be updated as part of a door replacement project as outlined below.

Doors and Hardware



SHS.45, SHS.46, SHS.47, SHS.48, SHS.49, SHS.62, SHS.66, SHS.73

Most interior doors (solid core wood veneer, stained) and frames (hollow metal, painted) show minor wear and tear, but are in good condition. Doors and frames in high-traffic areas should be refinished as part of an ongoing interior painting program. Worn / damaged doors, frames, and / or hardware should be replaced in unrenovated areas (areas D, E, F, and G) to bring them up to par with the balance of the school. This will also eliminate most remaining knob locksets, to be replaced with ADA-compliant lever handles.

Floors

SHS.05, SHS.18, SHS.33, SHS.36, SHS.63, SHS.97, SHS.98

The majority of resilient floor finishes throughout the building are in good to serviceable condition. Occasional areas of damage, cracking, or uneven surfaces should be corrected, including patching of concrete substrates where required. Core area terrazzo floors are in good condition, with localized cracking that requires correction.

Walls

SHS.06, SHS.22, SHS.54, SHS.70, SHS.71, SHS.80, SHS.81, SHS.90, SHS.91, SHS.92, SHS.93, SHS.94, SHS.95, SHS.99, SHS.100, SHS.101

Interior walls are a mix of painted gypsum wallboard and painted masonry. Interior classroom and support area walls are typically gypsum wallboard with paint or areas of ceramic tile. Most walls in high-traffic or heavy duty areas, including corridors, toilet rooms, core amenities, and inside face of exterior walls are painted masonry. Interior walls are in good to fair condition. Select areas should be repainted, including incidental patching as required. Masonry walls and partitions show significant cracking in localized areas, which requires repair and repainting. This work is outside the scope of typical incidental touch-up by district personnel.

Casework

SHS.55

Casework (cabinets, countertops, and shelving) in renovated areas is in good condition and accessible, with only minor maintenance required. However, casework in unrenovated areas (areas D and E) is original to the building. These fixtures are well past their expected life span, show substantial wear and damage, and are not accessible. Casework in remaining unrenovated rooms should be replaced with new suite of fixtures to match renovated areas.

Ceilings

SHS.01, SHS.58, SHS.61, SHS.65, SHS.84

Ceilings are predominantly lay-in acoustical panel suspended grid systems, with areas of painted gypsum wallboard or exposed structure. Most were replaced as part of 2008 renovations or 2012 mechanical improvements. Some remaining older ceilings will be replaced as part of future mechanical improvements. Selected other ceilings should be replaced with new to improve appearance.

Numerous areas throughout the building show evidence of water infiltration or leaks. These must be investigated by District personnel, the water sources corrected as required, and damaged materials replaced.

Exterior

Doors and Hardware

SMS.100, SMS.113

Exterior hollow metal doors, frames, and hardware are in generally good condition, but finishes are weathered. All exterior hollow metal doors and frames should be painted in the moderate future to protect against rust.

Aluminum storefront entrances are in very good to good condition, and require only routine maintenance for the foreseeable future.

Exterior Walls

SHS.102, SHS.103, SHS.104, SHS.105

Exterior brick / CMU walls are in overall good condition, but show localized cracking or weathering. Cracks require repair and limited repointing. Some wall / roof joint flashings require minor repairs.

The chimney at Roof Area 2 is in poor to bad condition. The existing door and frame are deteriorated and should filled in. This chimney is minimally used since major mechanical equipment was relocated to the new Central Plant. The District should consider demolishing it in the future to eliminate ongoing maintenance.

Exterior Ramps / Walks

Existing concrete walk areas are in generally good condition. Most walks and paving in the immediate environs were replaced during the 2008 expansion. Regular maintenance with replacement of individual sections as necessary will keep them in service.

Roof

Metal Roofs (Sloped)

SHS.106, SHS.132

Standing seam metal roofs are typically in good condition throughout the building. Ice / snow guards are present and functional.

Metal roofing at the main front and rear additions (R1 and R21 – 2008) is showing unexpected corrosion. The cause is unknown at this time, but the material should be within the specified product finish warranty. It is recommended that the District contact the contractor and manufacturer to begin the investigation / claim process

Membrane Roofs (Low Slope / Flat)

SHS.118, SHS.120, SHS.121, SHS.122, SHS.125, SHS.126, SHS.127, SHS.128

Due to the nature of the building and various expansions throughout history, the low-slope roofs are broken up into numerous areas. Many of these have been replaced with new EPDM or TPO membrane in the moderate past, and have plenty of service life left with typical routine maintenance.

Remaining modified bitumen roof (MBR) and gravel-ballasted built-up roof (BUR) systems are well past expected service lives, and require replacement. Priority varies from immediate to moderate future depending upon the condition of each area. In the meantime, they need routine maintenance and localized areas of repair.

Other

M/P/E Renovations

SHS.137, SHS.138, SHS.139, SHS.140, SHS.141

Detailed information concerning mechanical systems is included in a separate report. The District steady program of replacement and refurbishment. Remaining older areas of the school require a substantial amount of replacement and remedial work to plumbing and HVAC systems in the immediate future.

At the SHS Central Plant, serving both the Middle and High Schools, large chillers and cooling towers are coming due for mid-life refurbishment in the near future. Because of the scale and capacity of the equipment, this represents a substantial amount of work.

Security

SHS.142, SHS.143

The building is relatively secure thanks to operational policy and existing systems, but the aging security network requires immediate upgrades and additional cameras in both interior and exterior areas. In the moderate future term, the District should consider additional protective measures such as ballistic window film or other hardpoint retrofits.

Child Nutrition Program

SHS.144

Food service facilities are in serviceable condition and sized appropriately for the current population. The kitchen dates from the 2008 expansion, and at 10 years old, some of the existing kitchen equipment has reached expected service life. These fixtures should be replaced in the near future to improve efficiency and reliability.

Section X Sunnyside Elementary School

Overview – SSE

Address:	123 Rabbit Chase Lane, Smyrna, Delaware 19977
Floor Area:	55,056 sf
Built / Expanded:	2008
Last Major Work	--
General Exterior Condition:	Fair
General Interior Condition:	Very Good

Smyrna High School is a T-shaped, single story steel and masonry building. The main front wings include classrooms, common areas, and administration, with a multipurpose cafetorium capping the end of a wing extending to the rear. Built in 2008, at 10 years into its service life, the building has received no major renovations to date.

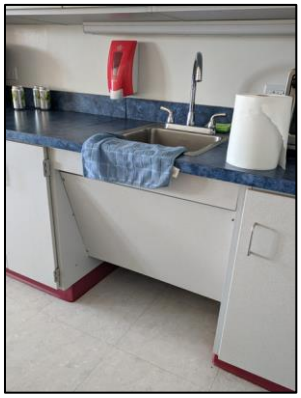
Like other recent Smyrna School District buildings, the exterior envelope is brick and split-face masonry in varying colors. Masonry is in fundamentally good condition, but shows cracking and deterioration. Aluminum storefront, windows, and exterior doors are in generally good condition throughout, and include insulated glazing.

The building is constructed with structural steel framing (joists and / or beams), with a small pitched roof at the main entry and flat / low-slope roofs elsewhere. The main entry roof is synthetic slate tile, while low-slope areas are white EPDM membrane. Membrane roofs are in very good to good condition, and are approximately half way through their expected service life. The synthetic slate tile at the main entry is a very long-lived product, and routine maintenance will keep it in service for the foreseeable future.

Interior finishes and fixtures are still in very good to good condition and only require touch up maintenance. Casework shows minor wear in selected areas. Accessibility compliance issues are minimal.

Interior

Accessibility



SSE.01

Built in the last 10 years, the building is fundamentally accessible throughout. Casework at some classroom and workroom sinks, though designed to be accessible, are not fully compliant. In the long term, these should be corrected for full inclusiveness.

Doors and Hardware

SSE.05, SSE.19, SSE.26, SSE.31

Most interior doors (solid core wood veneer, stained) and frames (hollow metal, painted) show minor wear and tear, but are in good condition. Doors and frames in high-traffic areas should be refinished as part of an ongoing interior painting program.

Floors

The majority of resilient floor finishes throughout the building are in very good to good condition. Occasional areas of damage, cracking, or uneven surfaces should be corrected, including patching of concrete substrates where required.

Walls

SSE.12, SSE.13, SSE.14

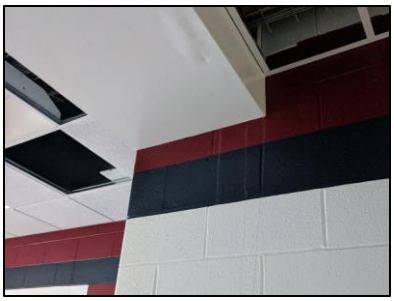
Interior walls are a mix of painted gypsum wallboard and painted masonry. Interior classroom and support area walls are typically gypsum wallboard with paint or areas of ceramic tile. Most walls in high-traffic or heavy duty areas, including corridors, toilet rooms, core amenities, and inside face of exterior walls are painted masonry. Interior walls are in good condition. Select areas should be repainted, including incidental patching as required.

Casework

SSE.07, SSE.20, SSE.27

Casework (cabinets, countertops, and shelving) is in good condition and typically accessible, with only minor maintenance required. See also Accessibility heading above for clearance issues at sinks.

Ceilings



Ceilings are predominantly lay-in acoustical panel suspended grid systems, with areas of painted gypsum wallboard or exposed structure. Most are in good condition, but localized areas throughout the building show evidence of water infiltration or leaks. These must be investigated by District personnel, the water sources corrected as required, and damaged materials replaced.

Exterior

Doors and Hardware

SSE.33, SSE.37

Exterior hollow metal doors, frames, and hardware are in generally very good condition, but finishes are beginning to weather. Selected exterior hollow metal doors and frames should be painted in the near future to protect against rust.

Aluminum storefront entrances are in very good condition, and require only routine maintenance for the foreseeable future.

Exterior Walls

SSE.38, SSE.39

Exterior brick / CMU walls are in overall good condition, but show localized cracking or weathering, particularly around stone window sills. Cracks require repair and significant repointing. Cracked masonry units must be cut out and replaced in kind.

The building shows dirt staining on split face masonry walls. As part of the repair / repointing project, washing all exterior walls will maintain appearance and prevent permanent staining.

Exterior Ramps / Walks

Existing concrete walk areas are in generally good condition. Regular maintenance with replacement of individual sections as necessary will keep them in service.

Roof

Tile Roofs (Sloped)

Standing seam metal roofs are typically in good condition throughout the building. Ice / snow guards are present and functional.

Metal roofing at the main front and rear additions (R1 and R21 – 2008) is showing unexpected corrosion. The cause is unknown at this time, but the material should be within the specified product finish warranty. It is recommended that the District contact the contractor and manufacturer to begin the investigation / claim process

Membrane Roofs (Low Slope / Flat)

At 10 years old, original EPDM membrane roofing systems are approximately halfway through their expected service life. All roofs are in very good to good condition, and require only routine maintenance to remain in service beyond the timeframe of this assessment.

Other

M/P/E Renovations

SSE.51, SSE.52

Detailed information concerning mechanical systems is included in a separate report. At 10 years old, mechanical / plumbing electrical systems require a moderate amount of replacement and remedial work in the mid-term future.

Security

SSE.53

The building is relatively secure thanks to operational policy and existing systems, and does not have any immediate need for additional measures. In the moderate future term, the District should consider adding protective measures such as ballistic window film or other hardpoint retrofits.

Child Nutrition Program

SSE.54

Food service facilities are in serviceable condition and sized appropriately for the current population. The kitchen is original from the 2008 construction, and at 10 years old, some of the existing kitchen equipment has reached expected service life. These fixtures should be replaced in the near future to improve efficiency and reliability.

Appendix A Cost Estimates

Task List Summary By Building

Following are detailed cost estimates of each work item, including Construction Cost, Contingency, General Contractor's Costs, and Soft Costs. Work items are grouped by building, tagged by Item number, prioritized by need, and categorized by type.

Estimating

The task outline shows the total estimated project cost for each work item. Each total project cost is comprised of the following:

- **Construction Cost** – the raw value of labor and materials, at the vendor / subcontractor level.
- **Construction Contingency** – a percentage applied to Construction Cost, to allow for unforeseen conditions and other changes incurred during the construction work.
- **Overhead / Profit / General Conditions** – a percentage applied to the combined Construction and Contingency amounts for General Contractor or Construction Manager costs. This includes expenses such as insurance, bonding, general conditions, overhead, and profit for the GC/CM that are not included in the raw cost.
- **Soft Costs** – A percentage applied to the subtotal of all costs above; this includes Architect/Engineer fees, furniture, fixtures, and equipment (FFE), and Owner's Contingency (to allow for incidental project work the District may wish to add during construction).

Current Costs

The Executive Summary and each school's Task List in Appendix A list estimated costs at both current fiscal year amounts and with our estimated inflation factor applied. The State's Certificate of Need form requires costs to be submitted in current fiscal year dollars, with escalation applied according to their own formulas.

Inflation / Future Costs

In the Task List estimates, costs are given including several levels of escalation depending upon the anticipated completion date of the task in question.

- **Unit Price** – this column indicates the estimated current labor and materials costs in current fiscal year dollars, per unit of measure.

- **Estimated Cost FY20** – this column shows the total cost of the work (Unit Price x Quantity) in current fiscal year dollars. All Priority P-01 items fall into this category.
- **Estimated Cost Future** – this column shows the weighted cost of the same work, including our estimated inflation, that can be expected based upon the Priority level assigned to each particular task.

The cost escalation factor represents an average of **5% inflation** per annum, compounded yearly. Escalation is calculated based upon the assumed completion date of construction, as recommended by the Delaware Department of Education guidelines. This is a reasonably accurate approximation based on historic data. However, the construction industry is based on variable commodity prices and prevailing wage rates for labor. Long term cost predictions are challenging.

Please note that the State may apply a different inflation factor, so the estimated future costs given in these documents could differ from the amount calculated by the DoE Certificate of Necessity forms.

Tariffs

Trade developments and tariffs applied at a national level over the last year have resulted in an increase in construction materials costs for affected items. This fallout of the trade policies is approximately 10%, applied to these materials only. Labor costs are not affected, but increased materials costs affect hard and soft costs throughout the project. At the Executive Summary level, we have included a last-order markup of **2.5%** to account for this effect.