

Abbreviated Randolph Elementary School

FEASIBILITY STUDY



September 8, 2025



TABLE OF CONTENTS

PROJECT TEAM

PROJECT TIMELINE

EXECUTIVE SUMMARY

INTRODUCTION & EXISTING CONDITIONS

Background & History7

Precedents & Prior Studies9

Site Analysis13

Zoning Analysis.....16

Existing Building Analysis.....17

Constraints & Opportunities21

ANALYSIS & DESIGN STUDIES

Options Summary.....24

Suggested Phasing25

Current Ed Spec Program.....26

Option 1: Overview28

Option 2: Overview36

Option 3: Overview45

SUMMARY & RECOMMENDATIONS

Summary & Recommendations.....55

Summary & Recommendations.....56

Cost Summary & Comparison57

GFA Comparison.....58

APPENDICES

Appendix A: Zoning Report

Appendix B: Site Existing Conditions Report

Appendix C: Traffic Observation Report

Appendix D: Structural & Building Systems Report

Appendix E: Survey Drawing

Appendix F: Relocatable Classrooms Diagram

Appendix G: Cost Estimate Summaries



PROJECT TEAM

Arlington County Public Schools

Facilities & Operations

Jeffrey Chambers

Director, Design & Construction

Matthew Williams, PE, CCM

Senior Project Manager

Randolph Elementary School

Mr. Carlos Ramirez

Principal

Architecture / Engineering Team

MTFA Architecture | Architecture, Project Management

Michael T. Foster, FAIA, AICP, LEED AP

Principal

Braden L. Field, AIA, LEED AP

Associate Principal

Thomas P. McManus, LEED AP

Project Manager

Sarah Zaso

Project Designer

Bowman Consulting | Civil Engineering

Brad Glatfelter, PE

Principal

Kendall Blandings

Project Manager

CMTA, Inc. | MEP Engineering

Donald Yaste, EIT, WELL AP

Project Manager

Austin Boone, PE

Mechanical Engineer

Bennett & Pless (formerly Linton) | Structural Engineering

Robert Schottler, PE

Sr. Associate Engineer

Downey & Scott | Cost Estimating

Joe Adams

VP of Estimating

Gorove/Slade | Traffic Engineering

Robert B. Schiesel, PE

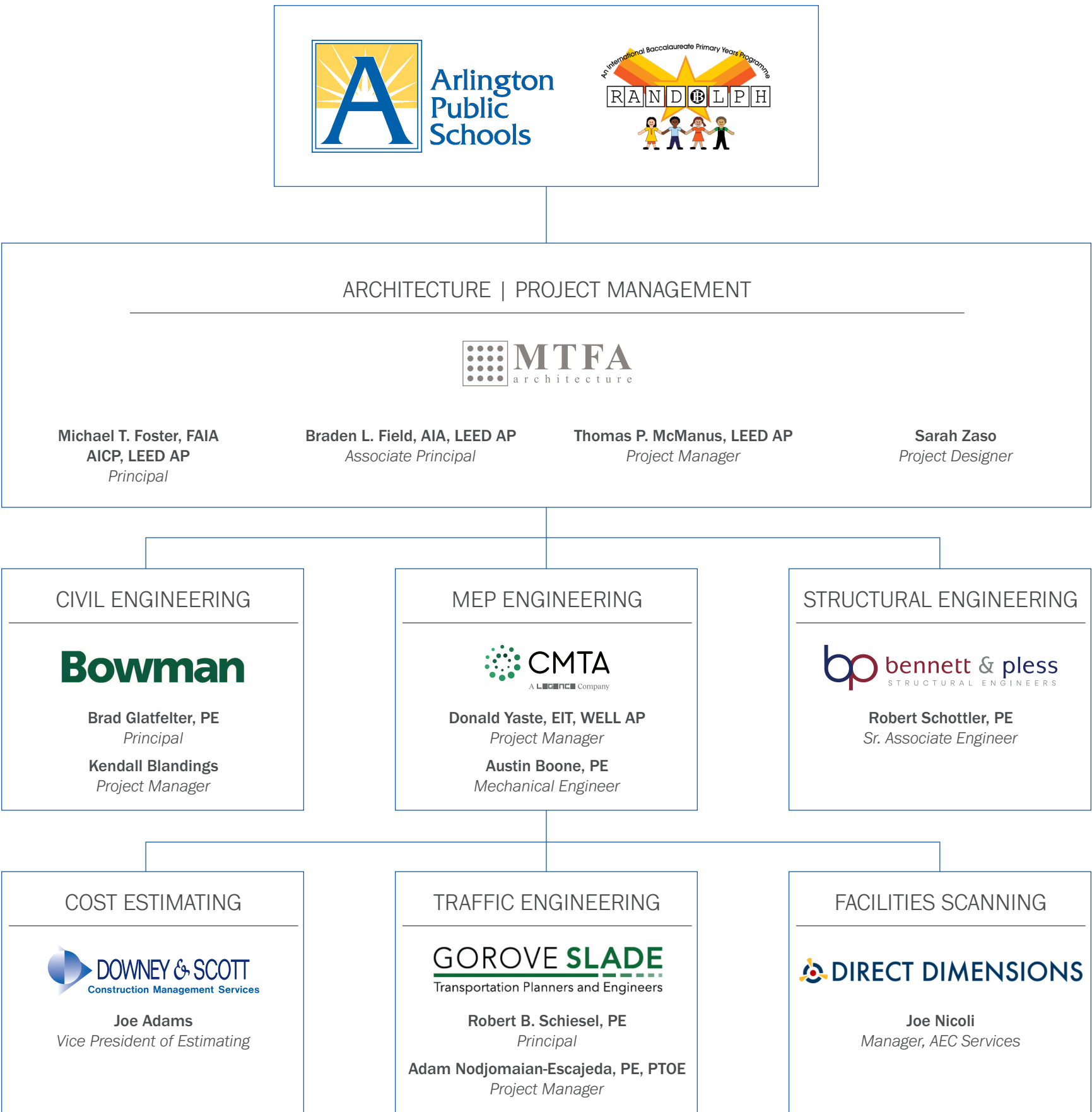
Adam Nodjomaian-Escajeda, PE, PTOE

Project Manager

Direct Dimensions | Existing Facilities Scanning

Joe Nicoli

Manager, AEC Services

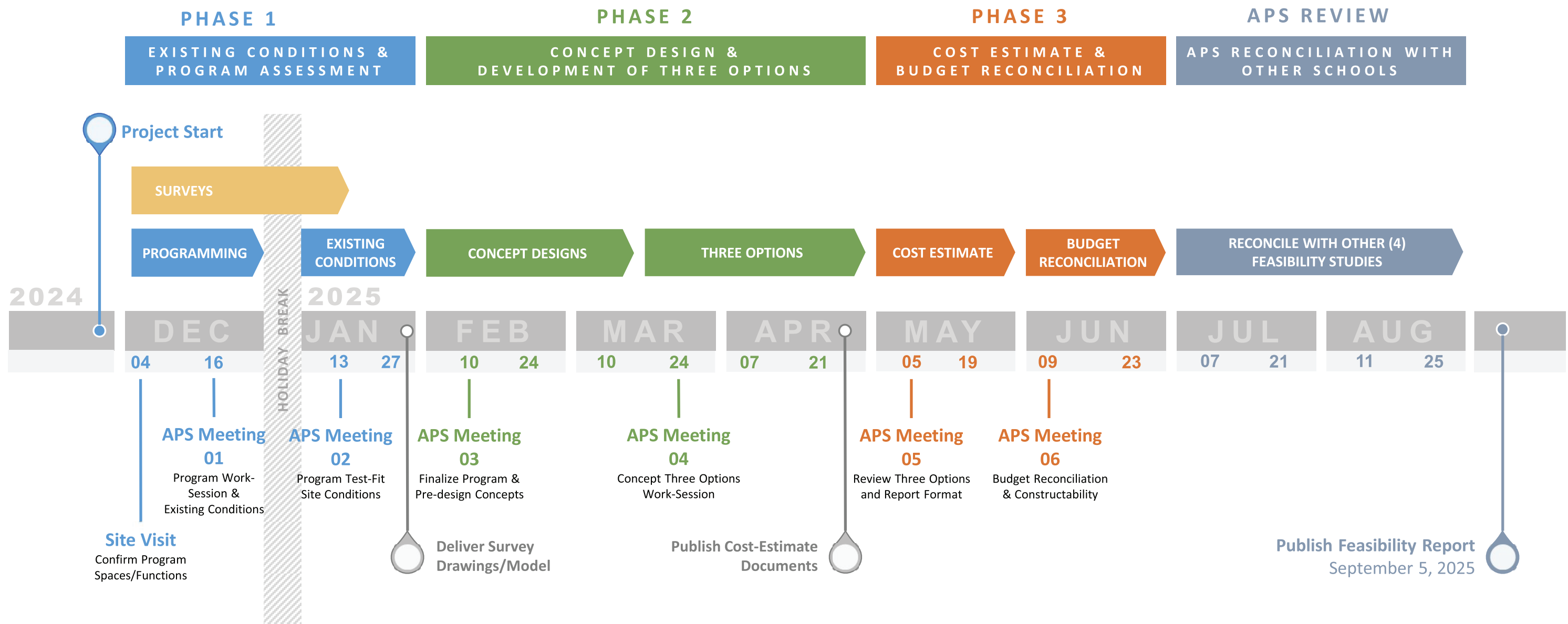


PROJECT TIMELINE

The feasibility study was awarded in November of 2024. To start **Phase 1**, The design team began the study with a review of the existing conditions at the Randolph Elementary School building. In order to avoid disruptions to the school’s activities, the more invasive building and site surveys were conducted over the holiday break. Throughout the month of December, the traffic observations were conducted, the site utilities and site topography were surveyed, and the existing building was surveyed by 3D digital scanning. The month of January was spent documenting the surveys and doing research on the zoning and building code data, as well documenting the school’s construction history and the programmatic data of the existing school. The 3D digital model of the existing school was also developed

at this time. The next three months that comprised **Phase 2** were spent developing the design concepts for the *Three Options*. While various schemes were considered and analyzed, the three options presented in this study represent the ones deemed most feasible. The design team also met with the *Arlington County Fire Chief* and the county’s *Building Code Officials* during this phase. The programmatic layouts of the three options were also evaluated and refined during this time, and compared to the current Arlington Public Schools (APS) Ed Spec. The concept designs were published at the end of April, and delivered to the cost estimators for their review. During the cost estimating and budget reconciliation phase, **Phase 3**, the design team worked closely with APS and the cost estimators

to reconcile the budgets, as well as refine the proposed scope of work for each of the *Three Options*. The design team produced several reports to accompany the feasibility study, including; Site Existing Conditions Report, Site Design Summary Report, Structural Design Narrative of the proposed *Three Options*, and Building Systems Narrative for the proposed *Three Options*. The design team began to develop the feasibility report, and populated the pages of the report with the data and graphics that were developed throughout the earlier phases. During the summer months of July and August, APS began the arduous task of reconciling this feasibility report with the other (4) schools that were also being studied, **APS Review**.





EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

Project Team

Acknowledgments

The design team would to express their gratitude and acknowledge the contributions of many others who have helped inform this report.

Roles & Responsibilities

Following the completion of a Long-Range Renovation Study in 2023, MTFA Architecture and their team of consultants, working with Arlington Public Schools (APS), was tasked with developing a feasibility study for Randolph Elementary School to determine the most viable options for bringing the school in-line with current APS education specifications. The architectural and engineering team’s roles and responsibilities are outlined below.

MTFA Architecture

Lead by principal **Michael T. Foster, FAIA**, the architecture team gathered existing building information, including documents from MTFA’s recent assessment, and developed concept designs for three options that would address the current and future needs of Randolph Elementary School. Technical, financial, regulatory, and community-focused analysis provided guidance during the development of these options.

Associate principal **Braden L. Field, AIA, LEED AP** acted as the primary point of contact for this project, coordinating not only with APS but also with consultants to ensure that goals remain aligned – focusing on design and technical content. **Thomas P. McManus, LEED AP** served as Project Manager, ensuring that the entire process ran smoothly, remained on budget, and met the client’s strategic objectives. Thomas worked closely with project designer **Sarah Zaso** to further develop and execute the options by providing data, floor plans, and renderings for the final document.

Bowman Consulting

Brad Glatfelter, PE, Principal and **Kendall Blandings**, Project Manager provided civil engineering consulting. The civil engineers focused on evaluating the site’s suitability for development or expansion. Their analysis helped to determine if the proposed project is physically and legally feasible based on land conditions, infrastructure, and regulatory constraints. This work included topography review, soil and drainage evaluations, and the availability and capacity of water, sewer, stormwater, electric, and gas services.

CMTA, Inc.

The team’s MEP engineering firm, represented by **Donald Yaste, EIT, WELL AP**, Project Manager and **Austin Boone, PE**, Mechanical Engineer, evaluated the existing building systems to determine whether they can support current needs, renovations, and additions. Their analysis identified infrastructure limitations, opportunities for energy efficiency, and potential costs associated with system improvements or replacement.

Bennet & Pless (formerly Linton Engineering)

As the team’s structural engineer, **Robert Schottler, PE** assessed the integrity, capacity, and adaptability of the existing structural systems—as well as the feasibility of constructing new ones. His input helped to determine whether the current building can support the proposed renovations and expansions, as well as any structural limitations that would affect design options and costs.

Gorove/Slade

Traffic planning and engineering was provided by **Robert B. Schiesel, PE** and **Adam Nodjomaian-Escajeda, PE, PTOE** of Gorove/Slade. Robert and Adam evaluated how the proposed project will affect—and be affected by—vehicular, pedestrian, and bus circulation. Their analysis helped to determine how the proposed designs safely and efficiently handle school-related traffic. Enrollment projections were taken into consideration and used to estimate future traffic volume and site circulation demand.

Direct Dimensions

Joe Nicoli performed an extensive building scan, which was then used to produce 2D AutoCAD drawings. The laser scan produced a detailed point cloud that was manipulated in Autodesk Recap for dimensioning and detailing. MTFA has worked with Direct Dimensions on many projects and found that laser scanning technologies offer the most comprehensive and accurate detail of existing conditions.

Downey & Scott

Joe Adams, VP of Estimating for Downey & Scott, has provided comprehensive order-of-magnitude estimates based on the proposed options. These estimates provide a realistic view of total project cost, reduce surprises later in the design process, and assist in option comparison.

Process

Addressing the Needs of Arlington Public Schools

Arlington Public Schools (APS) is undergoing a transition to prioritize renovations and maintenance of existing facilities due to a reduced need for new construction. In October of 2023, the MTFA team conducted a Facility Condition Assessment (FCA) to evaluate 41 APS buildings, focusing on their age and current condition. The assessment utilized a Facility Condition Index (FCI) to quantify the condition of each facility and projected capital needs over the next decade.

- Evaluated 41 buildings totaling over 5 million gross square feet
- Overall FCI of 0.129 indicates “good” facility condition
- Schools with “fair” FCI ratings include Claremont ES, Gunston MS, and others
- Williamsburg MS received a “poor” rating with an FCI of 0.342

The evaluation framework developed by MTFA includes three major categories: Major Building Systems, Common Space Adequacy, and Educational Space Adequacy. This framework provides guidance to APS when prioritizing facilities based on their current and projected conditions. The FCA revealed that while many building systems are in good condition, there are significant deferred maintenance needs that require attention. The final report included capital needs forecasted over a 10-year period, emphasizing the importance of ongoing maintenance and funding strategies. The Randolph Elementary School Feasibility Study is an important next step in bringing Randolph up to APS’ education specifications.

EXECUTIVE SUMMARY

Project Methodology

The team began the study with a review of the existing Randolph Elementary School building. The project team conducted site visits, gathered information from APS and the school, and studied the site and building conditions, as well as other pertinent information such as the existing structural, architectural, and topographical drawings. This was followed by the development and review of various possible options, and then the determination with APS of the most viable options to further explore. The most viable options were developed in concept and vetted with the school division to ensure alignment with the school's program and Ed Spec. Considering the school system's requirements, three (3) total options were identified as most likely to accommodate the school's needs, these options have been further developed.

At a programmatic level, the options were laid out in plan and studied from both an architectural and structural perspective to determine constructability, efficiency, and viability. As part of the conceptual options, the team developed for each option: a scope of work, a location plan, a site access plan, a structural review, a conceptual budget, and a construction schedule. A summary of pros and cons, schedule, and project budget analysis have been developed for comparison purposes (see Appendix) to assist the school division with analyzing the options and developing a conclusion. The estimates included throughout the report contain hard construction costs, approximate escalation, construction and owner's contingency, and project soft costs for information.

Education Program (Ed Spec)

References throughout this document to the current APS Educational Specifications (Ed Spec) are based on the APS ED Spec from the Elementary at Walter Reed Site, dated June 8, 2018.

The system-wide Facility Condition Assessment (FCA) from 2023 evaluated the physical conditions of APS's schools as well as the programmatic space(s) allocations. The FCA evaluation indicated that there were (5) schools that contained the most programmatic deficiencies amongst the entire school system, one of which was Randolph Elementary School.

Many functional elements of the existing Randolph building were found to be sufficient, particularly the HVAC system replaced in 2018, the roof replaced in 2020, and the newly renovated kitchen in 2024. The majority of the deficiencies were determined to be the sizing of various program elements.

MTFA was provided with the APS Ed Spec report developed for the new elementary school at Reed-Westover (Cardinal Elementary School), a recent project completed by APS. The floor area allotted to each existing program element was compared to the Ed Spec as a baseline square footage (see [page 17](#) for program data). The majority of classrooms, the cafeteria, and the gym were undersized, and several classrooms did not have exterior windows. In addition, the Ed Spec calls for a number of flexible learning spaces such as small group instruction (SGI) rooms, extended learning areas (ELA), and itinerant teacher classrooms that were not present in the existing building. To make up for the lack of these flexible learning spaces, the school has converted severely undersized rooms and sectioned off areas in the corridor to be used for small group instruction.

There are several program elements in the existing building not included in the Reed Ed Spec that were noted by Randolph to be important to their day-to-day operations. These included a designated Spanish classroom, and self-containment rooms (SPED-SC) for the special education program. The team included these program elements in their updated Ed Spec for Randolph, basing their sizing off a typical classroom area.

Goals for the Feasibility Study

The feasibility study team will deliver a Long-Term Feasibility Study which will include an evaluation of existing facility and site conditions, development of an Educational Specifications for Randolph ES based on recent APS elementary school standards, concept design for the three options listed below, and development of phasing plan to include any required swing-space. The feasibility study will also evaluate the potential for geothermal and solar-ready systems. The project will target Energy Use Intensity (EUI) in the low to mid 20's, with an option to be non-dependent on fossil fuels.

Long-Term Feasibility Study - Three Options:

Option 1: Concept for Renovation Only

Establish target student capacity based on renovating the existing facility to current Educational Specifications (328). Some programmatic deficiencies will remain, see asterisks on plans.

Option 1A: Concept for Renovation + Small Addition

Small classroom addition to existing school to bring the student capacity back to current level (484). Some programmatic deficiencies will remain, see asterisks on plans.

Option 2: Concept for Renovation and Addition(s)

Renovation of the existing facility to current Educational Specifications, with a target capacity to remain at current level (484). This scheme will allow the school to remain in continuous operation, while the new construction proceeds. Portions of the existing facility will be demolished to create a moderate amount of additional outdoor play area. The addition also includes structured parking with (80) parking spaces.

Option 2A: Concept for Addition Expansion to Full-Capacity Renovation and Addition(s)

This additional expansion area for Option 3A can be included to build-out the addition to bring the facility up to full-capacity (725-750).

Option 3: Concept for Substantial Renovation and Addition(s)

In lieu of a complete replacement, this option shows a substantial renovation plus addition(s), with a target capacity to remain at current level (484). This scheme will allow the school to remain in continuous operation, while the new construction proceeds. Substantial portions of the existing facility will be demolished to create a large amount of additional outdoor play area. The addition also includes structured parking with (80) parking spaces.

Option 3A: Concept for Addition Expansion to Full-Capacity

This additional expansion area for Option 3A can be included to build-out the addition to bring the facility up to full-capacity (764).



INTRODUCTION & EXISTING CONDITIONS

BACKGROUND & HISTORY

Randolph Elementary is a public elementary school, serving the children of Douglas Park neighborhood, in Arlington, VA. The building was constructed in phases with the original two-story portion completed in 1947. Single story additions in 1950, 1962 and 1975 expanded the original building and a wing was later added to provide a gymnasium. The facility is a single 70,880 SF building located on 7.3 acres and serves primarily as a local, walking school. The site is adjacent to parkland under the jurisdiction of the Arlington County Parks and Recreation Department.

Students attending Randolph represent 41 different countries and 20 different languages. The school's mission is to develop critical and compassionate thinkers who embrace global diversity and take action to make the world a better place for all.

Randolph Elementary's Namesake



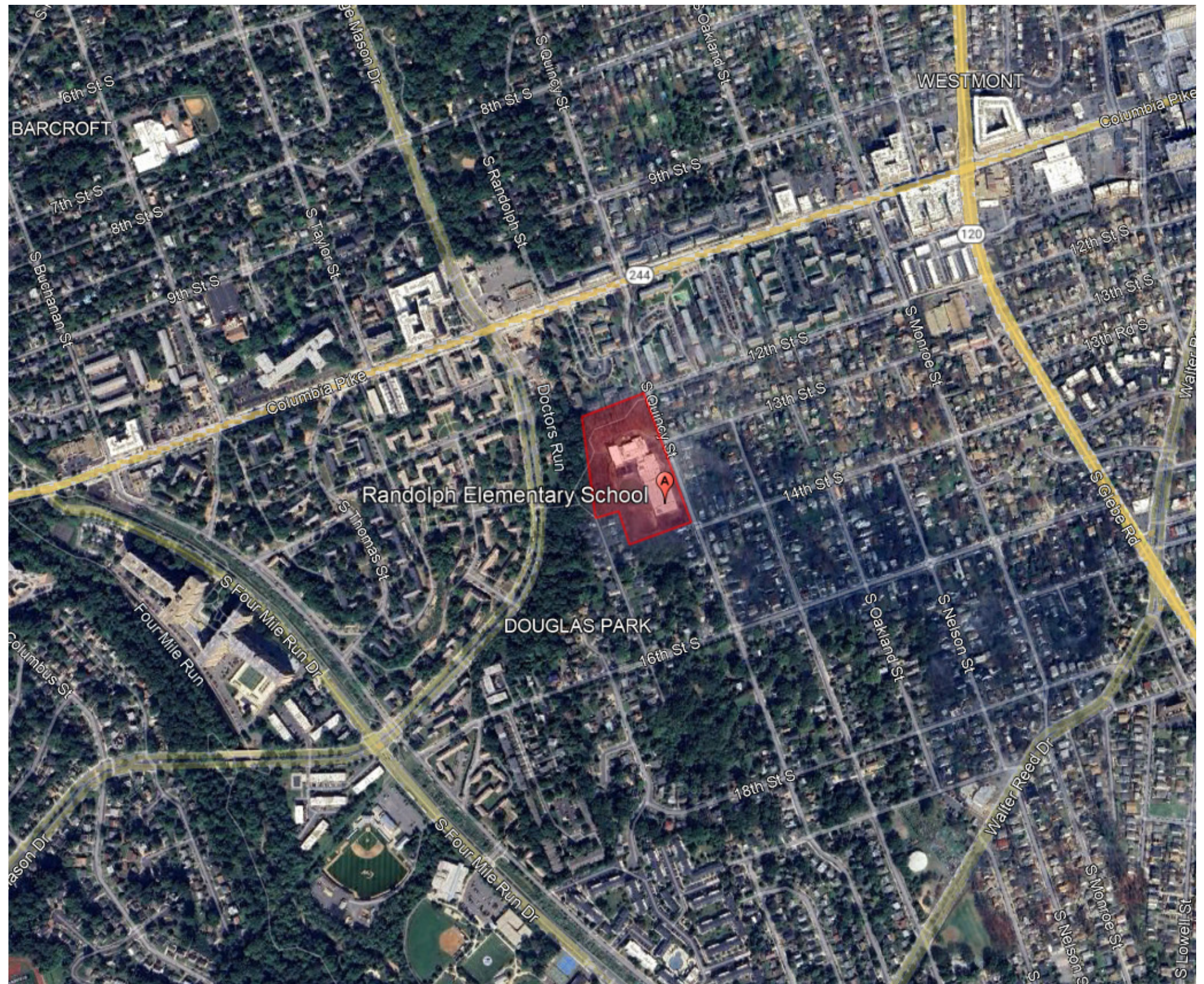
Wollaston, John. Peyton Randolph, eighteenth century, Virginia Historical Society, oil on canvas.

Randolph Elementary is named for Peyton Randolph, an important figure in early Virginia history. Peyton Randolph was born in Williamsburg, Virginia, on September 10, 1721, to a wealthy Virginian family. He was a close friend of George Washington and the only native colonial Virginian ever knighted by a king of England.

A portrait of John Peyton Randolph, an 18th-century Virginia statesman. He is shown from the chest up, wearing a dark coat and a white cravat. The background is dark and indistinct.

Wollaston, John. Peyton Randolph, eighteenth century, Virginia Historical Society, oil on canvas.

Randolph attended the College of William and Mary and was a successful attorney in Williamsburg. He served as the Speaker of the Virginia House of Burgesses and President of the First Continental Congress and Second Continental Congress. Before his election to the House of Burgesses, Randolph was appointed Virginia's Attorney General and served during the British imperial crisis that led to the American Revolution. Peyton Randolph House in Colonial Williamsburg is a National Historic Landmark.



EXISTING BUILDING CONSTRUCTION HISTORY DIAGRAM

1947



Original Building - 1947

The original building was constructed in 1947 and was a two-story split-level entry design with a lower-level that included a multipurpose room, two restrooms and two playrooms, and an upper-level that included five classrooms, a library and an office. The original site was approximately two-fifths the size of the current property, and the building was placed on top of a hill that sloped down-away from the school in all directions, except towards the front of the school which was relatively flat.

1950



**First Addition - 1950
(Classrooms)**

Not long after the school had opened, a one-story addition was added to the back of the school and extending to the south. The addition included six classrooms, two restrooms, and one teacher breakroom/workroom. Although the addition was built just a few feet above the lower-level of the original school, the foundations had to be extended down an approximately fifteen additional feet where the site had sloped away from the original building. A substantial amount of fill dirt was added to the south (left-side) and west (rear) of the building to create more play area.

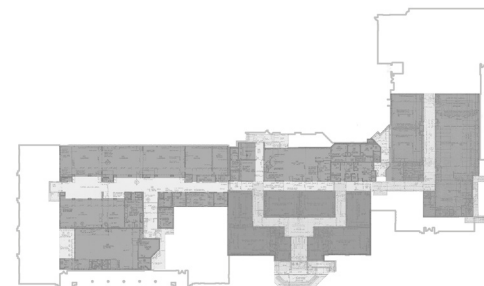
1962



**Second Addition - 1962
(Kitchen & Cafeteria)**

As the community continued to grow, the school was expanded once again with a one-story addition to the back of the school and extending to the north. The addition included a kitchen, a multipurpose room (cafeteria), stage, two classrooms, two restrooms, and some offices. The property was expanded during this time to its current size, and new stormwater and sanitary service lines were built. More fill dirt was added to the west (rear) and north (right-side) of the school. A parking area and a loading drive were added to the east (front) and north (right-side) of the addition.

1975



**Third Addition(s) - 1975
(Media Center & Classrooms)**

In 1975, several small additions were built to expand the school's classrooms and amenities. A two-story addition was added to the rear of the original school which also connected the two previous additions from 1950 and 1962, and included a media center, group common room, teacher lounge, a clinic, and a reception suite, along with a new elevator. In a separate addition, a one-story kindergarten and quiet room were added in front of the 1950 addition. Also, a small two-story extension was added to the face of the original entry, with the main entry area being relocated to the north. There were also extensive renovations throughout the existing school as well. New stormwater and electrical services were added, including an emergency generator. Some additional fill dirt was added to the west (rear) of the school to flatten-out enough area for a small softball field. Fill dirt was also added to the north (right-side) of the building where another small parking area was added.

1993



**Fourth Addition(s) - 1993
(Gymnasium & Classrooms)**

The 1993 additions consisted of two separate one-story additions. A one-story gymnasium was built to the west (rear) of the school behind the cafeteria and stage area of the 1962 addition. The kindergarten and quiet room addition from 1975 was demolished and a new L-shaped one-story structure was built along the east (front) and south (left-side) of the school. Although the gymnasium addition was constructed two feet lower than the cafeteria, the foundations still had to be extended an approx. twelve additional feet where the site slopes away from the school, and the foundations for the L-shaped addition were built on top of approx. twenty-foot-deep concrete caissons. New stormwater (including stormwater vaults), sanitary, gas, electrical, and telephone services were added. A parking lot was added to the south (left-side) of the school. A small bus loop was also added in front of the school.

PRECEDENTS & PRIOR STUDIES

(2014) Conceptual Additions & Renovations

In 2014, VMDO Architects prepared a concept package for a classroom addition with a parking garage.

(2019) Conceptual Additions & Renovations

In 2019, APS Superintendent conducted a series of concept plans and cost estimates for renovation and / or expansion of (11) schools, one of which was Randolph Elementary School.

(2023) Recent System-Wide Long-Range Renovation Study

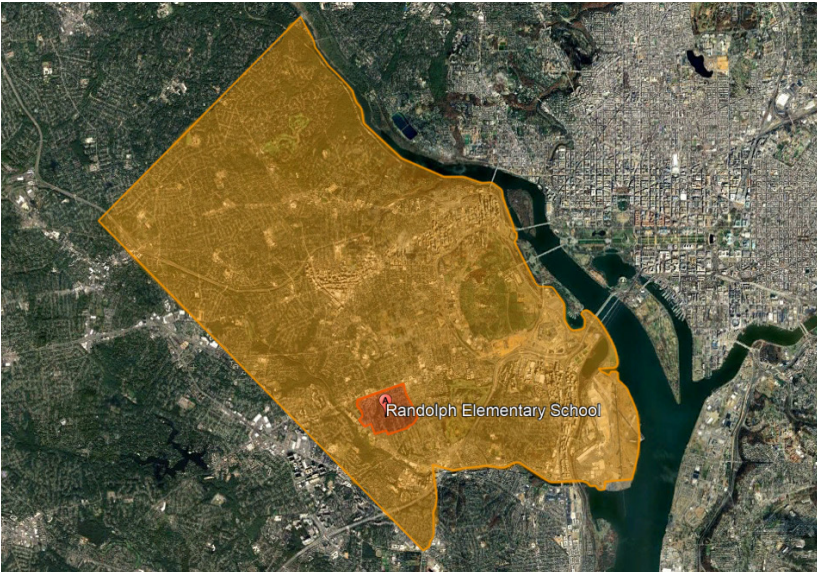
In 2023, MTFA Architects partnered with Arlington Public Schools (APS) to conduct a system-wide study of all the educational facilities across the entire county. Randolph Elementary was identified as one of the five most deficient facilities, in terms of the current Ed Spec standards.

Randolph Elementary School, located at 1306 S Quincy St, is a two-story structure with a crawl space below a portion of the building, but it was unclear to what extent (presumed to be approximately half of the building footprint). The building was originally constructed in 1947 with a renovation in 1993 with additional refreshing in 2016.

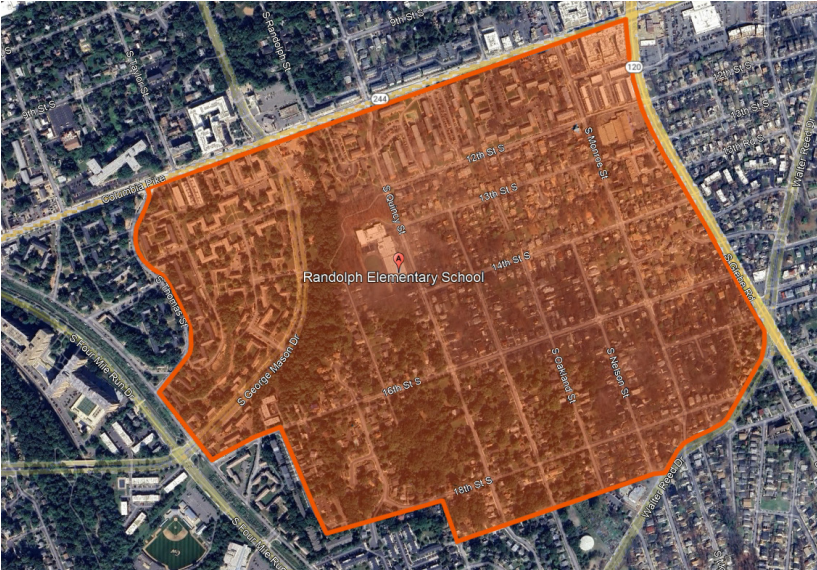
Randolph ES primarily serves the Douglas Park neighborhood in southern Arlington County. The attendance boundary is bordered by Columbia Pike to the north, S Glebe Road to the east, 19th Street S to the south, and S Thomas Street to the west. The area includes a mix of single family homes and apartment residences and the majority of students can walk to school.



Randolph Elementary School in 1956

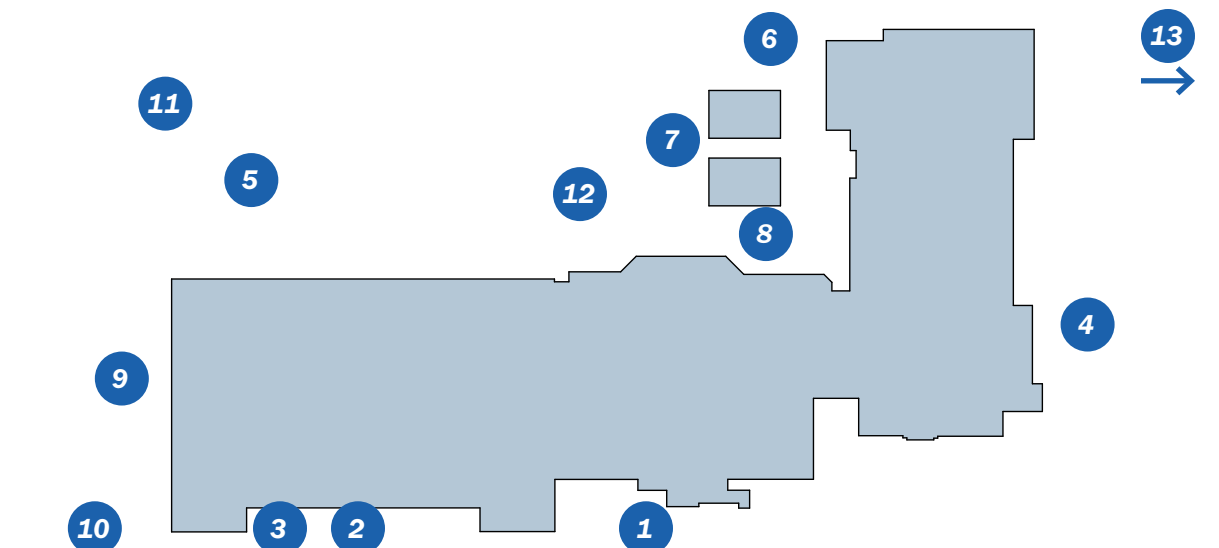
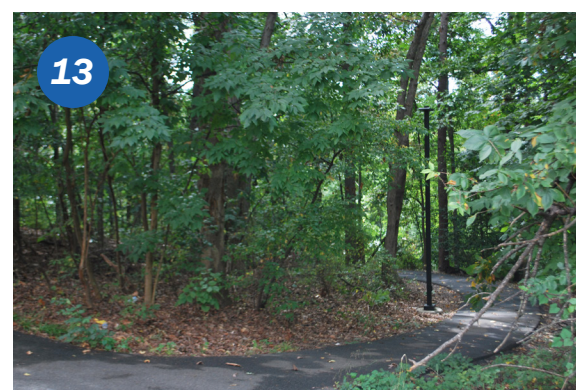


Arlington County Boundary

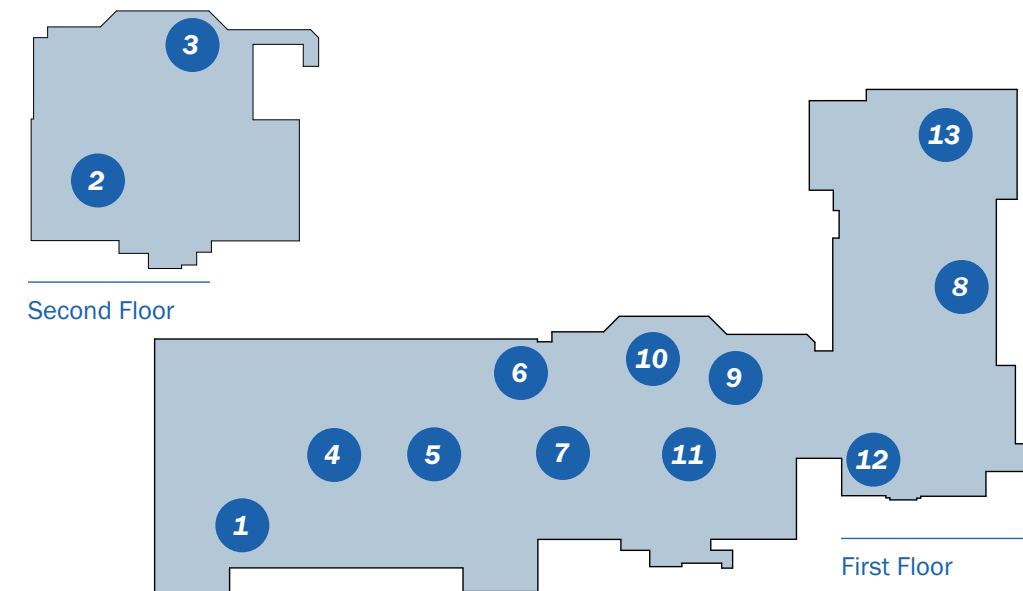


Randolph ES Boundary

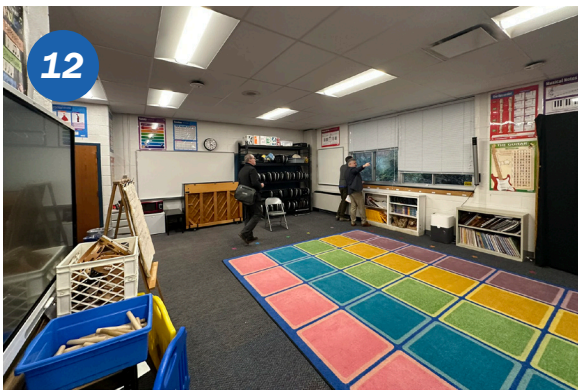
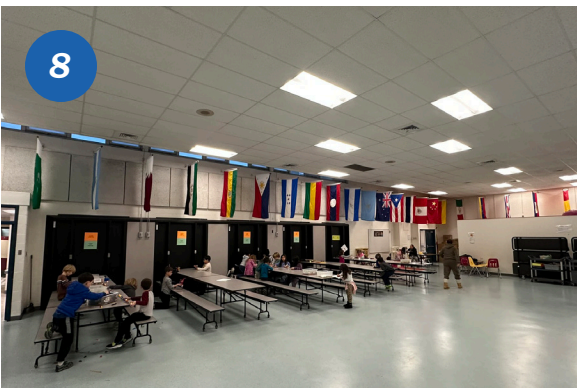
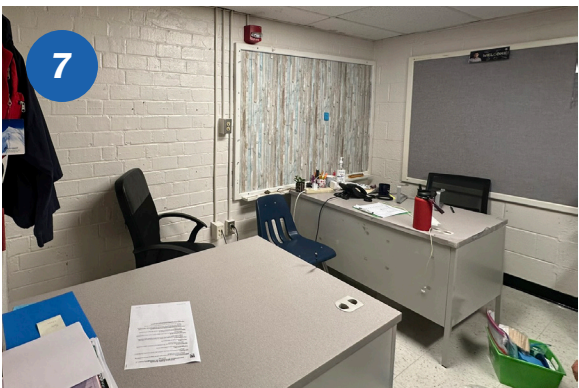
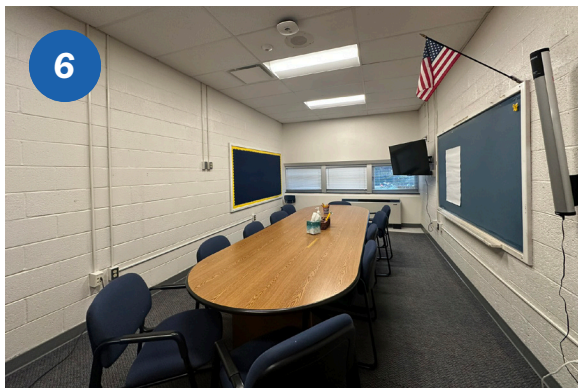
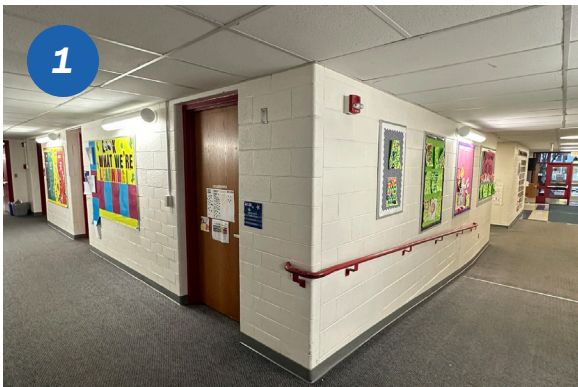
Randolph Elementary Today, Exterior



- | | | |
|------------------------------|----------------------------------|------------------|
| 1. East Entrance | 5. Playground | 9. South Façade |
| 2. East Façade Drop-Off | 6. Basketball Court, Play Fields | 10. South Façade |
| 3. East Façade and Garden | 7. Relocatable Trailers | 11. West Façade |
| 4. North Façade Loading Dock | 8. Relocatable Trailers | 12. West Façade |
| | | 13. Walking Path |



- | | | |
|---------------------|--------------------|--------------------|
| 1. A103B Corridor B | 6. A124 Conference | 11. B134 Math |
| 2. B200 Corridor | 7. A128 Office | 12. B136 Music |
| 3. B208 GR-5 | 8. B101 Cafeteria | 13. C110 Gymnasium |
| 4. A114 GR-1 | 9. B115 Reading | |
| 5. A116 STEM | 10. B116 Library | |

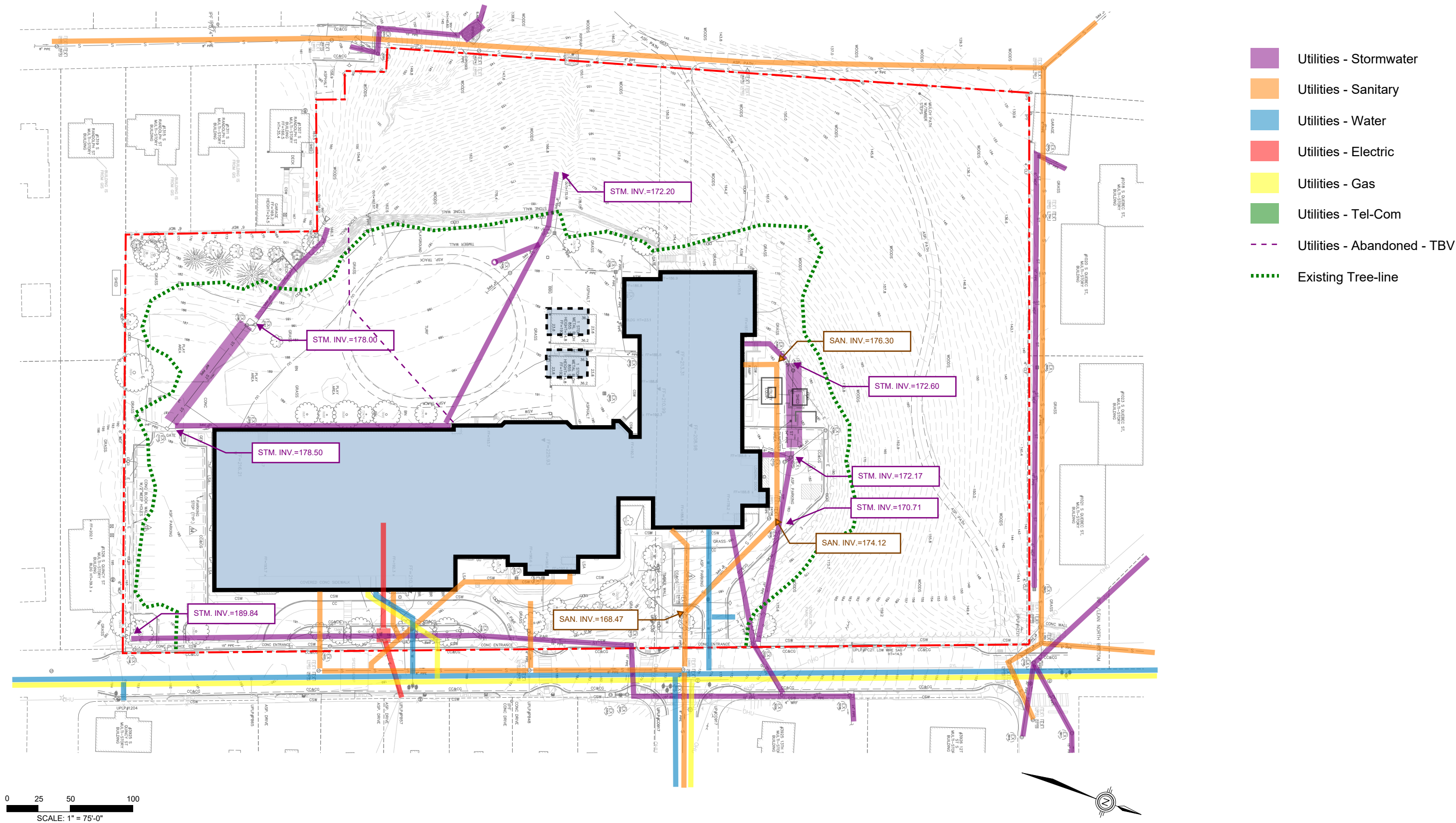


SITE ANALYSIS



Traffic diagrams are from Site Observations by Gorove Slade.

EXISTING UTILITY ANALYSIS

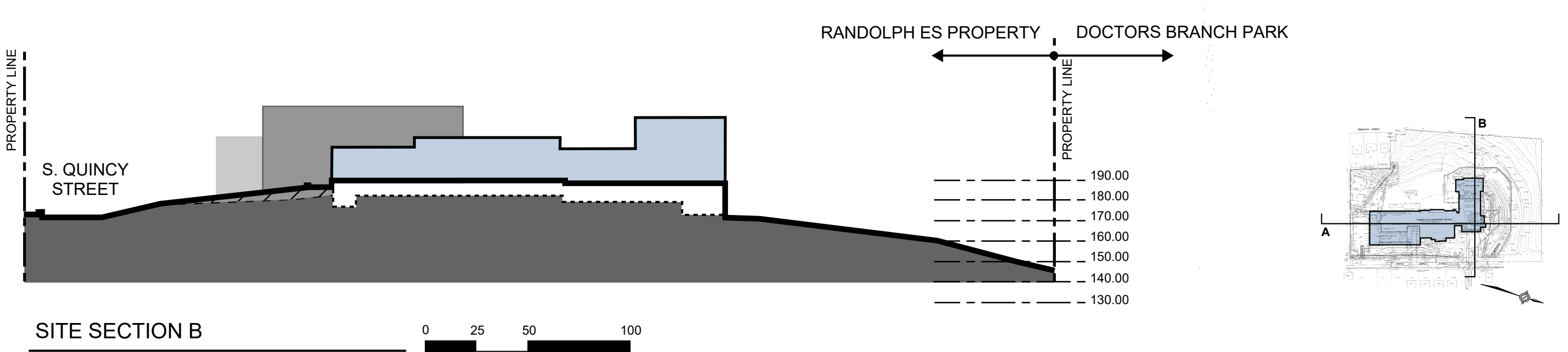
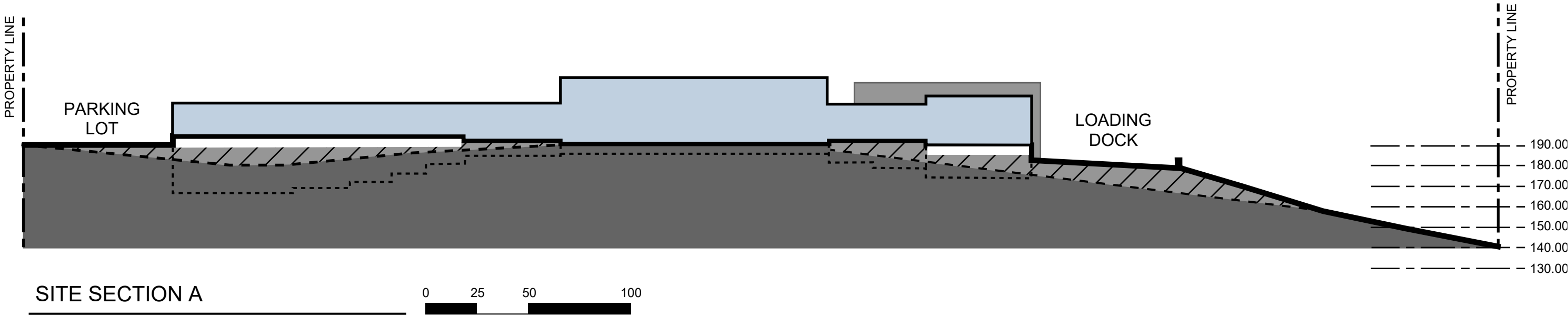


EXISTING SITE SECTION DIAGRAMS

The diagrams below are a graphic representation of the existing site conditions (site sections). Section cuts are both east-west and north-south. See the key plan below for approximate locations. The relatively flat buildable area of the site is mostly already taken-up with the existing building or outdoor play area. The remainder of the site is steeply sloped to the north and to the west, presenting some challenges to building

additions at the same floor height as the existing building. The site sections also indicate the areas where fill soils have been added over the years, to build-up the site around the existing building. The areas where the foundations are extended below the typical wall-footing depth are also indicated with a dashed line.

The information shown for below grade soils and extended foundations is included to the best of our knowledge, and is based on the available historic documents. This information was not confirmed with any test-pits or other investigations, and should be verified independently via field investigations, prior to the commencement of any new work.



ZONING ANALYSIS

Randolph Elementary School, Long-Term Feasibility Study
Zoning Data & Building Code Data – Updated: August 28, 2025

ITEM	EXISTING CONDITIONS	MIN. / MAX. REQUIRED	ALLOWED BY SPECIAL EXCEPTION	PROVIDED BY PROPOSED CONSTRUCTION	VARIANCE FROM ZONING
Lot Area (sq.ft.)	7.23 Acres	6,000 SF (Min.)	6,000 SF (Min.)		
Lot Width (ft.)	60 FT (Min.)	60 FT (Min.)	60 FT (Min.)		
Height (ft.)	32 FT (Est.)	45 FT (Max.)	45 FT (Max.)		
Lot Occupancy (building area/lot area)					
Floor Area Ratio (FAR) (floor area/lot area)					
Parking Spaces (number)	30 sp. (2 HC sp.)	1 per ea. 7.5 student (employee) + 1 per ea. 40 student (visitors) ¹	May be reduced by Special Exception	(With 484 Ds.Cp.), 65 + 13 = 78 sp.; (With 750 Ds.Cp.), 100 + 19 = 119 sp.	
Loading (number and size in ft.)		1-Loading sp.			
Front Yard Setback (ft.)		The larger of; 50 ft. from centerline of street, or 25 ft. from any street R.O.W.	May be reduced by Modified Exception	50 ft. from centerline of street	
Rear Yard Setback (ft.)		25 ft. min., or 10ft. plus 1 ft. for each 2.5 ft. above building height	May be reduced by Modified Exception	25 ft.	
Side Yard Setback (ft.)		10 ft. plus 1 ft. for each 2.5 ft. above building height (18 ft. max.)	May be reduced by Modified Exception	18 ft.	
Court, Open (width by depth in ft.)					
Court, Closed (width by depth in ft.)					

Note ¹ – Parking shall be provided in accordance with the requirements of §14.3.

EXISTING BUILDING ANALYSIS

Program Data, First Floor

First Floor						
Room Number	Current Use	Program Usage	Existing SF (RES)	ED Spec (Reed)	Delta SF	Delta %
A101	Boiler	Utility/Building Core	699	---	---	---
A101A	Vestibule	Utility/Building Core	95	---	---	---
A102	Vestibule	Utility/Building Core	76	---	---	---
A103	Corridor	Utility/Building Core	---	---	---	---
A104	Kindergarten	Classroom	988	1040	-52	-5
A105	Kindergarten	Classroom	994	1040	-46	-4
A107	Vestibule	Utility/Building Core	56	---	---	---
A108A	VPI	Classroom	838	1040	-202	-19
A108B	VPI	Classroom	828	1040	-212	-20
A109	VPI (SPED)	Classroom	834	1040	-206	-20
A110	MIPA	Additional Existing Program	833	---	---	---
A111	MIPA	Additional Existing Program	831	---	---	---
A114	GR-1	Classroom	861	1040	-179	-17
A115	GR-1	Classroom	853	1040	-187	-18
A116	STEM (SGI)	SGI	418	500	-82	-16
A116A	Toilet	Utility/Building Core	137	---	---	---
A117	Toilet (Boys)	Utility/Building Core	191	---	---	---
A117A	Storage	Utility/Building Core	105	---	---	---
A119	Kindergarten	Classroom	1096	1040	56	5
A120	SPED-SC	Additional Existing Program	731	---	---	---
A121	GR-2	Classroom	706	825	-119	-14
A122	GR-1	Classroom	712	1040	-328	-32
A122B	Toilet	Utility/Building Core	36	---	---	---
A123	GR-2	Classroom	682	825	-143	-17
A124	Conference	Teacher Support	301	250	51	20
A124A	Storage	Utility/Building Core	28	---	---	---
A125	Toilet (Girls)	Utility/Building Core	138	---	---	---
A125A	Custodial	Utility/Building Core	16	---	---	---
A126	OT/PT	Student Services	132	500	-368	-74
A127	Sensory Room	Additional Existing Program	131	---	---	---
A128	Shared Office	Student Services	140	150	-10	-7
A129	Electrical	Utility/Building Core	231	---	---	---
A130	Counselor	Student Services	147	---	---	---
A131	Testing/Office	Student Services	188	150	38	25
A132	Clinic	Administration	508	480	28	6
A132A	Rest	Administration	included			
A132B	Rest	Administration	included			
A132C	Nurse Office	Administration	included			
A132D	Toilet	Administration	69	75	-6	-8
A133	Main Office	Administration	505	600	-95	-16

First Floor						
Room Number	Current Use	Program Usage	Existing SF (RES)	ED Spec (Reed)	Delta SF	Delta %
A133A	IB Coordinator	Additional Existing Program	105	---	---	---
A133B	Assistant Principal	Administration	106	120	-14	-12
A133C	Principal	Administration	184	200	-16	-8
A133D	Workroom (Storage)	Administration	72	90	-18	-20
A133E	Storage	Utility/Building Core	7			
A133F	Office	Administration	68	150	-82	-55
A133G	Toilet	Administration	49	55	-6	-11
A134	Corridor	Utility/Building Core	---	---	---	---
B101	Cafeteria	Food Services	2403	3500	-1097	-31
B101A	Extended Day Storage	Extended Day	457	200	257	129
B102	Art	Art	870	1350	-480	-36
B103	Corridor	Utility/Building Core	---	---	---	---
B244	Storage	Utility/Building Core	10	---	---	---
B106	Kitchen	Food Services	1857	1790	67	4
B138	Kitchen Office	Food Services	included	---	---	---
B139	Pot wash	Food Services	included	---	---	---
B141	Storage	Food Services	included	---	---	---
B142	Refrigerator	Food Services	included	---	---	---
B143	Freezer	Food Services	included	---	---	---
B144	Custodial	Utility/Building Core	N/A	---	---	---
B145	Custodial Office	Utility/Building Core	N/A	---	---	---
B146	Toilet	Utility/Building Core	N/A	---	---	---
B107	Music	Music	825	950	-125	-13
B107A	Storage	Utility/Building Core	75	---	---	---
B108	Toilet (Boys)	Utility/Building Core	127	---	---	---
B109	Toilet	Utility/Building Core	23	---	---	---
B110	Toilet (Girls)	Utility/Building Core	136	---	---	---
B111	Extended Day Office	Extended Day	134	200	-66	-33
B113	Reading/SGI	SGI	357	500	-143	-29
B113A	Storage	Utility/Building Core	20	---	---	---
B114	Book Storage	Teacher Support	330	300	30	10
B115	Reading/SGI	SGI	640	500	140	28
B115A	Storage	Utility/Building Core	71	---	---	---
B116	Library	Library	2119	2800	-681	-24
B116A	Library Office	Library	141	150	-9	-6
B116B	Storage	Utility/Building Core	51	---	---	---
B117	Workroom	Teacher Support	257	180	77	43
B249	Elevator Equipment	Utility/Building Core	151	---	---	---
B120	Mechanical	Utility/Building Core	131	---	---	---
B121	Teacher Lounge	Teacher Support	525	---	---	---

First Floor						
Room Number	Current Use	Program Usage	Existing SF (RES)	ED Spec (Reed)	Delta SF	Delta %
B121A	Toilet	Utility/Building Core	50	---	---	---
B122	GR-3	Classroom	992	825	167	20
B123	GR-2	Classroom	708	825	-117	-14
B124	GR-3	Classroom	677	825	-148	-18
B127	Toilet (Boys)	Utility/Building Core	80	---	---	---
B128	Toilet (Girls)	Utility/Building Core	65	---	---	---
B128	Testing/Office (School Store)	Student Services	83	N/A	N/A	N/A
B129	SGI	SGI	88	N/A	N/A	N/A
B130	Office/SGI	SGI	397	N/A	N/A	N/A
B133A	Social Worker	Student Services	183	N/A	N/A	N/A
B133B	Custodial	Utility/Building Core	24	---	---	---
B132	GR-3	Classroom	677	825	-148	-18
B133	GR-3	Classroom	745	825	-80	-10
B134	Math Office (Itinerant Teacher)	Teacher Support	362	350	12	3
B136	Instrumental Music	Music	805	825	-20	-2
B137	Storage	Utility/Building Core	102	---	---	---
C101	Art Storage	Art	208	150	58	39
C102	Corridor	Utility/Building Core	---	---	---	---
C103	Vestibule	Utility/Building Core	58	---	---	---
C104	Storage	Utility/Building Core	90	---	---	---
C106	Storage	Utility/Building Core	60	---	---	---
C107	Toilet	Utility/Building Core	42	---	---	---
C108	Art	Art	637	1350	-713	-53
C109	Stage	Physical Education	196	900	-704	-78
C110	Gym	Physical Education	3476	7000	-3524	-50
C110A	Corridor	Utility/Building Core	---	---	---	---
C111	Electrical	Utility/Building Core	35	---	---	---
C112	Custodial	Utility/Building Core	21	---	---	---
C113	Storage	Utility/Building Core	29	---	---	---
C114	PE Office	Physical Education	97	150	-53	-35
C116	Toilet (Boys)	Utility/Building Core	36	---	---	---
C117	Toilet (Girls)	Utility/Building Core	78	---	---	---
C118	Gym Storage	Physical Education	329	200	129	65

Notes:

APS Ed Spec Standards are based on the APS Education Specification from the Elementary at Walter Reed Site (now Cardinal Elementary School), dated June 2, 2018.

Highlighted items are those program functions that might not have a direct correlation to the APS Ed Spec, and need further clarification.

Bold text indicates a classroom (Capacity-Generating) space.

Second Floor						
Room Number	Current Use	Program Usage	Existing SF (RES)	ED Spec (Reed)	Delta SF	Delta %
B202	Speech	Student Services	241	---	---	---
B203	GR-4	Classroom	735	825	-90	-11
B204	Psychologist	Student Services	154	---	---	---
B219	SPED-SGI	SGI	140	500	-360	-72
B205	SPED-SC	Additional Existing Program	729	---	---	---
B206	GR-4	Classroom	696	825	-129	-16
B207	GR-2	Classroom	697	825	-128	-16
B208	GR-5	Classroom	988	825	163	20
B221	Toilet (Boys)	Utility/Building Core	179	---	---	---
B222	Toilet (Girls)	Utility/Building Core	71	---	---	---
B200	Corridor	Utility/Building Core	---	---	---	---
B218	SGI	SGI	272	500	-228	-46
B216	Network Closet	Utility/Building Core	123	---	---	---
B217	Office	Student Services	214	150	64	43
B217A	Toilet	Utility/Building Core	45	---	---	---
B247	Custodial	Utility/Building Core	21	---	---	---
B210	GR-5	Classroom	901	825	76	9
B224	Storage	Utility/Building Core	83	---	---	---
B225	Storage	Utility/Building Core	50	---	---	---
B212	GR-4	Classroom	699	825	-126	-15
B209	SPED-SGI/Office	SGI	710	500	210	42
B200A	Custodial	Utility/Building Core	21	---	---	---
B200B	Toilet	Utility/Building Core	28	---	---	---
B200C	Toilet	Utility/Building Core	29	---	---	---
B211	SPED-SGI/Office	SGI	480	500	-20	-4
B213	GR-5	Classroom	930	825	105	13

Relocatables (Trailers)						
Room Number	Current Use	Program Usage	Existing SF (RES)	ED Spec (Reed)	Delta SF	Delta %
R501	IB Spanish	Additional Existing Program	789	---	---	---
R502	Testing/SGI	SGI	789	500	289	58

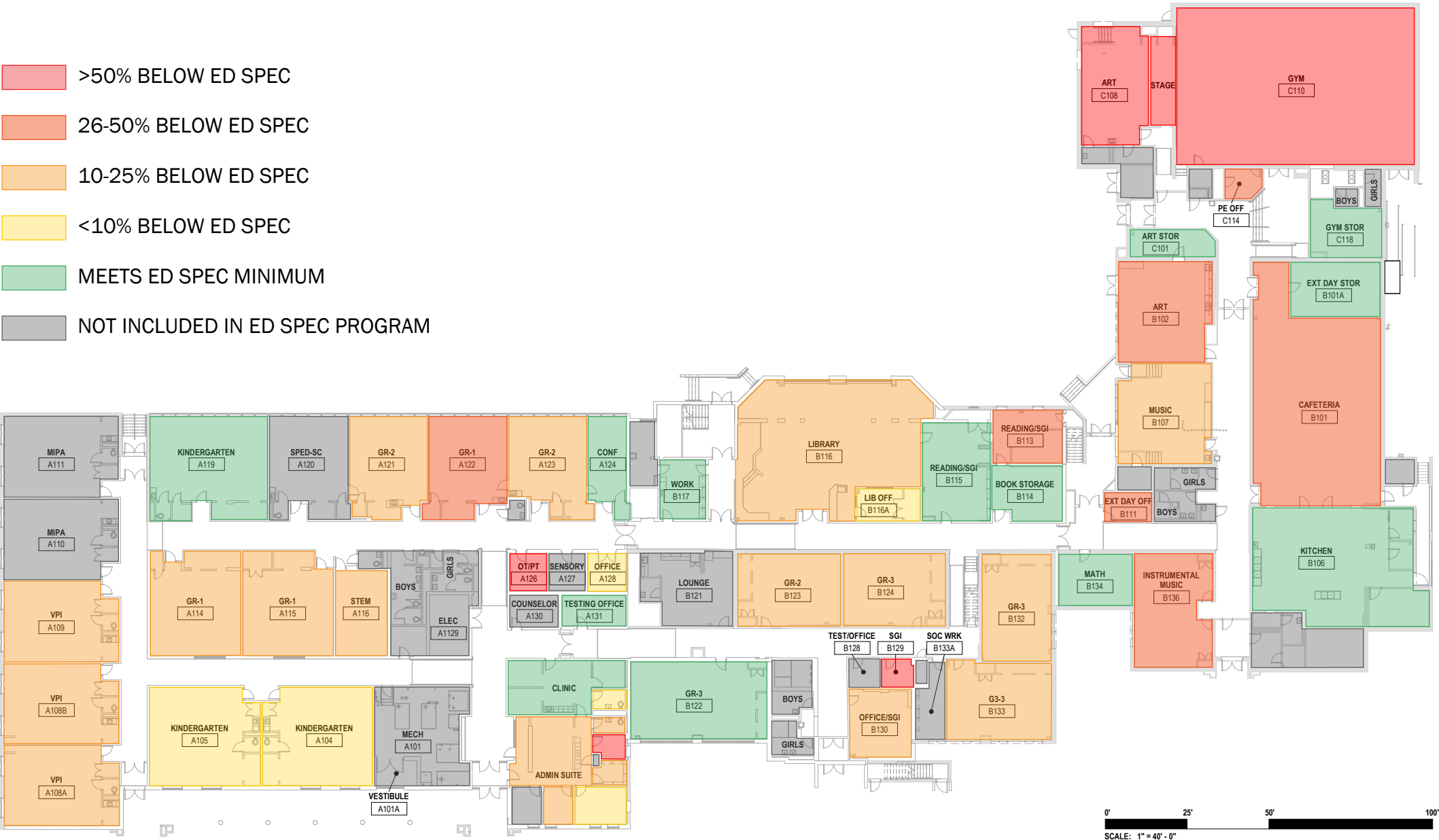
Notes:
APS Ed Spec Standards are based on the APS Education Specification from the Elementary at Walter Reed Site (now Cardinal Elementary School), dated June 2, 2018.

Highlighted items are those program functions that might not have a direct correlation to the APS Ed Spec, and need further clarification.

Bold text indicates a classroom (Capacity-Generating) space.

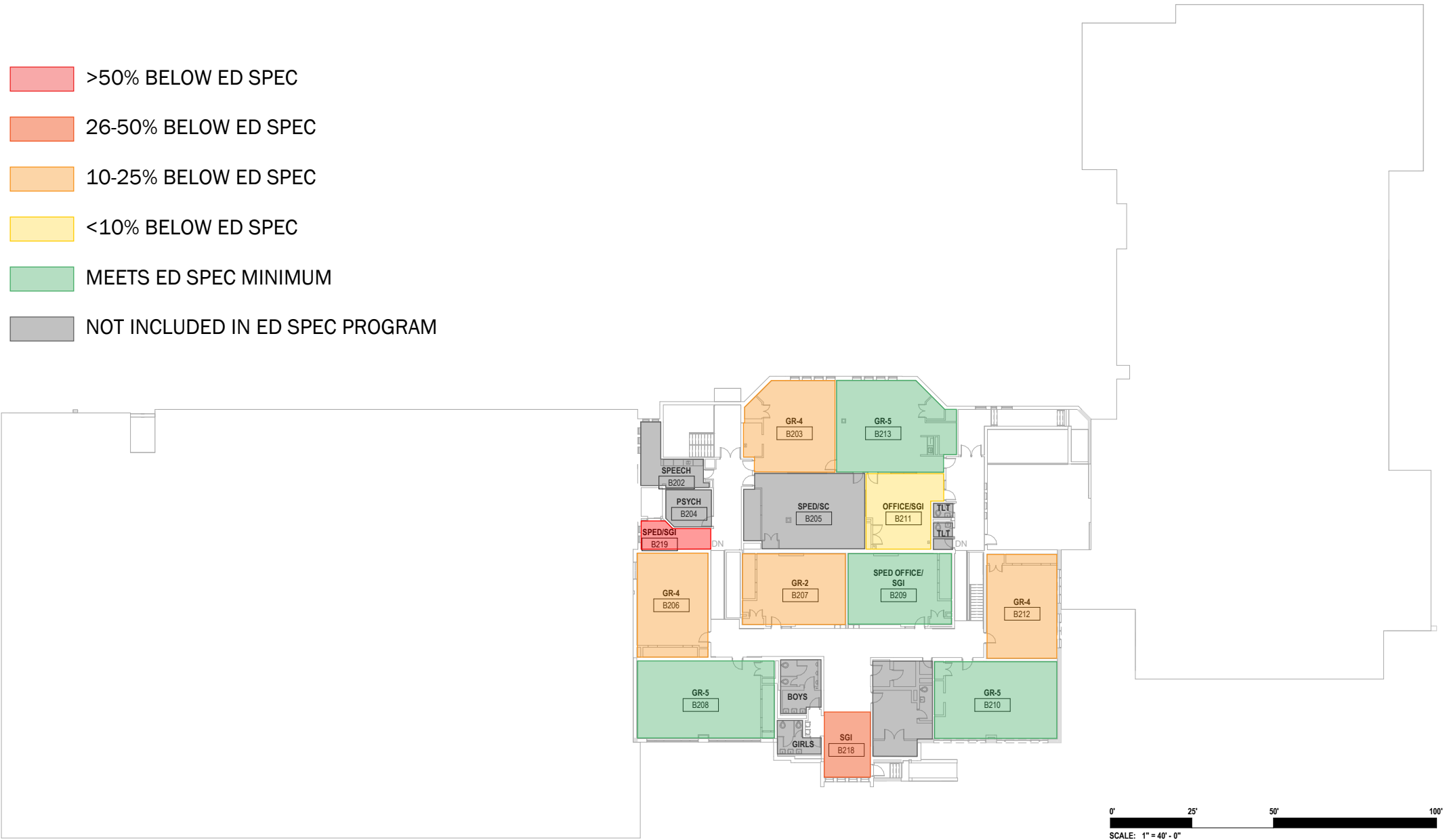
EXISTING BUILDING ANALYSIS - FIRST FLOOR

- >50% BELOW ED SPEC
- 26-50% BELOW ED SPEC
- 10-25% BELOW ED SPEC
- <10% BELOW ED SPEC
- MEETS ED SPEC MINIMUM
- NOT INCLUDED IN ED SPEC PROGRAM



EXISTING BUILDING ANALYSIS - SECOND FLOOR

- >50% BELOW ED SPEC
- 26-50% BELOW ED SPEC
- 10-25% BELOW ED SPEC
- <10% BELOW ED SPEC
- MEETS ED SPEC MINIMUM
- NOT INCLUDED IN ED SPEC PROGRAM



CONSTRAINTS & OPPORTUNITIES



Randolph Elementary School Existing Site

Site Conditions

Randolph Elementary School is located on a 7.33-acre lot along South Quincy Street, within the Douglas Park Neighborhood. The property is bounded by Doctors Run Park to the West, Garden Apartments to the North, and Single Family Residential to the South and to the East (across South Quincy Street). The site is the location of an existing elementary school building with a parking lot to the south, a drop-off loop on the east, and a small, utility access and parking area to the North. There are several large areas of open space, including a centralized track, synthetic turf field, playground and existing forested areas around the building. A walking/ biking path traverses the site from the northeast corner to the northwest corner, connecting to trails from Doctors Branch Park.

The portion of the site where the existing building and outdoor play area are located is relatively level. The site contour falls steeply away from the existing building to the north and to the west. This steeply-sloped area also has significant tree coverage, and soils conditions will have to be evaluated prior to commencement of any work in these areas. There is an

approximate 60-foot change in height from the high-point at the southeast corner to the low-point at the northwest corner.

Other than the steeply-sloped portions of the site, the property has limited area for further build-out without demolishing some of the existing structure(s). The south-side of the property has limited buildable area, with only about 60 feet between the school building and the property-line. There is currently a small parking lot (30 spaces) in this area. It might be possible to expand the parking lot to the west as the grade starts to drop-off, but it would require building-up the grade slightly and the school would have to give-up one of its outdoor play areas. The school also has limited buildable area to the east, where the school is approximately 40 feet from South Quincy Street, and there is a bus-loop, entry step, drive aisle, and site landscaping already occupying this area. To the north and to the west, the site is steeply-sloped and heavily forested, as noted above.

Thus, in order to maintain continuous operations, the only available buildable area is to the north and to the west. However, since the west side is land-locked and difficult to access, the property area to the north of the existing building was chosen for any proposed major additions.

Although the steeply-sloped portions of the site present challenges for the foundations of the building and are generally more expensive to build upon, there are some advantages to building new structures on sloped hillsides. The parking garage included with Option-2 and Option-3 can be partially buried into the hillside, and the drive-aisle access to the garage will be relatively flat and take-up less area of the site / building. The concepts for Option-2 and Option-3 also take advantage of the level terraced area surrounding the addition, which is elevated above the sidewalk level, thus providing secure small / medium sized outdoor gathering spaces.

Patchwork School Building

Overall, the current school building functions admirably, in spite of the physical shortcomings. One of the primary reasons for the spatial challenges is just due to the nature of having a facility that has been built in several stages over many decades.

The building represents a time-capsule of the various design philosophies from differing generations. The original building built in 1947 represents the traditional small schoolhouse layout, just two stories with a small

footprint and minimal amenities. The early addition from 1950 echoed this bare-bones approach and mostly just added classrooms. The early sixties addition introduced a kitchen and multi-purpose room and (2) larger specialty classrooms, as well as utilities and back of house areas. In the mid-seventies, there were several small additions to expand the building and connect some of the former additions. This time period also experienced the introduction of more creative building shapes, including 45-deg angled walls and an exit stair at the front of the building when the main entrance was relocated. This is also the only 2-story addition. The early-nineties addition demolished some of the previous addition from 1975, and replaced it with more classrooms. A larger addition was also added to introduce a Gymnasium to the school.

Although the building functions as well as can be expected, all of these renovations and additions combine over the last eighty years to make for some awkward layout conditions. Each addition has had to work within the constraints of the former building floorplans, creating less than optimal spatial layouts, which in turn has led to more non-standard sizes and layouts than a complete and thoughtfully-designed new building would provide. The ceiling heights are also quite low, even compared to buildings from similar time periods, and even the one-story portions of the building do not incorporate taller ceilings. The gymnasium, for example, is only 30-years old, but only has an interior clear-height of 18 feet, which is 7 feet lower than the current standard height for elementary school gymnasiums.

The patchwork of building structures has also led to some interior classrooms without any windows. The school program attempts to utilize these spaces as much as possible for break-out areas or other special instruction. But even for those purposes, these areas are quite small and awkwardly-shaped, and unfortunately the school has no choice but to use some of these areas for regular classrooms. As identified in the existing floor plan analysis “heat map” diagrams, many of the educational classroom spaces are below or significantly below the targeted ed spec area.

The site conditions are further compounding the challenges to the patchwork of buildings as well. According to the original documents, the school building sat on a high-point which sloped steeply away from the building in all directions, except for the entrance towards the street. The various additions over the decades have attempted to resolve these steeply sloping conditions, for some of the site areas, by adding layers of dirt to build-up

CONSTRAINTS & OPPORTUNITIES

the grade around the school. It appears that the additions attempted to be as cost-effective as possible in accomplishing this task, which has led to the existing building having (5) different floor elevations for the ground floor, depending on which area of the site supports the structure. The changes in height also contribute to the awkward spatial layouts. And in at least one instance, it appears that the corridor is sloping more steeply than would be acceptable per the contemporary accessibility regulations.

The general approach contained in these three options has taken into consideration all these factors and proposed solutions that address the shortcomings of the existing school while proposing to maintain continuous operations. None of the concepts proposed in the subsequent pages require the school to entirely close-down or relocate.

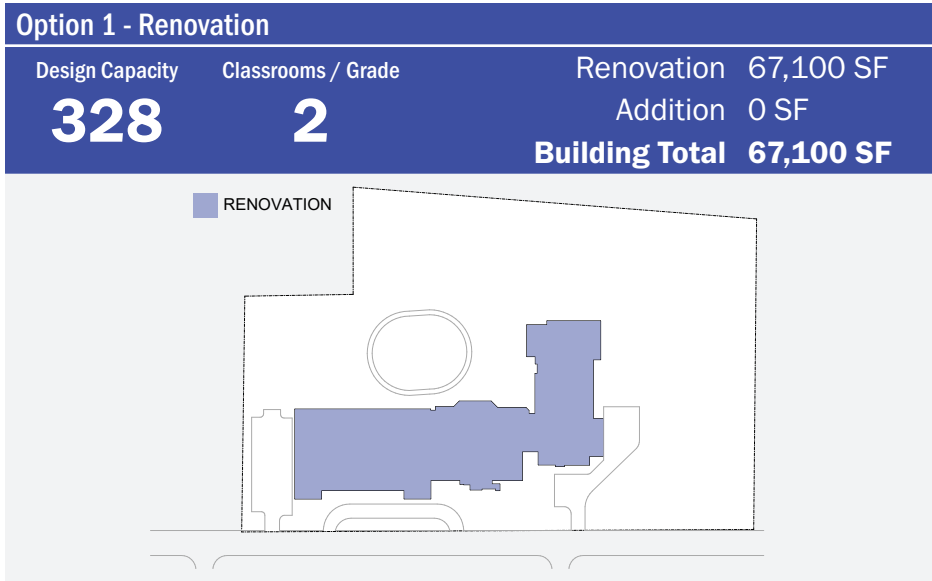


ANALYSIS & DESIGN STUDIES

OPTIONS SUMMARY

Options 1 & 1A

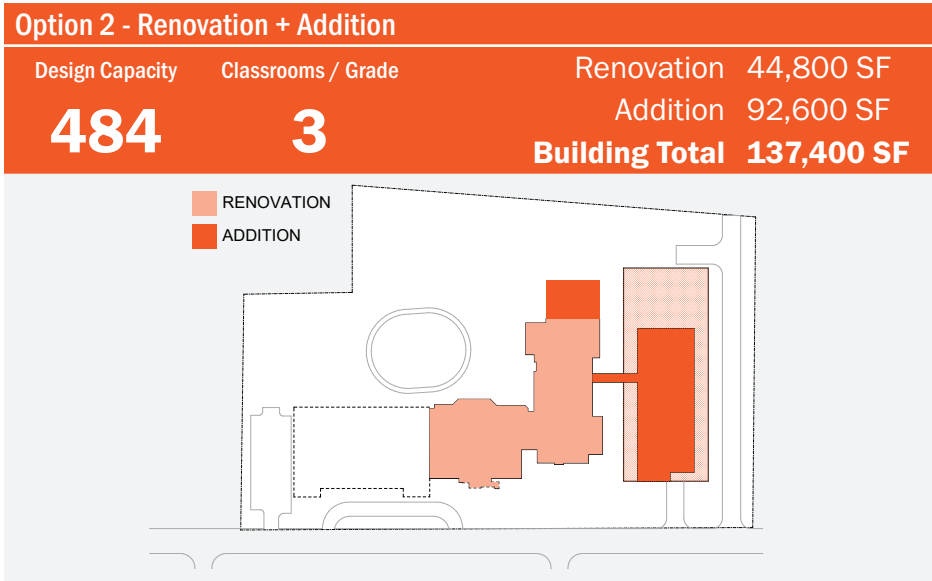
Option 1 demonstrates how the reduced-Design Capacity (328) will fit within the existing building footprint using current design standards. Some spaces within this option do not meet the Ed Spec (e.g. the gym). Option 1A includes a future addition could be added to increase the student population back to current design capacity.



This option contains program spaces that are non-compliant with current APS ED Spec.

Options 2 & 2A

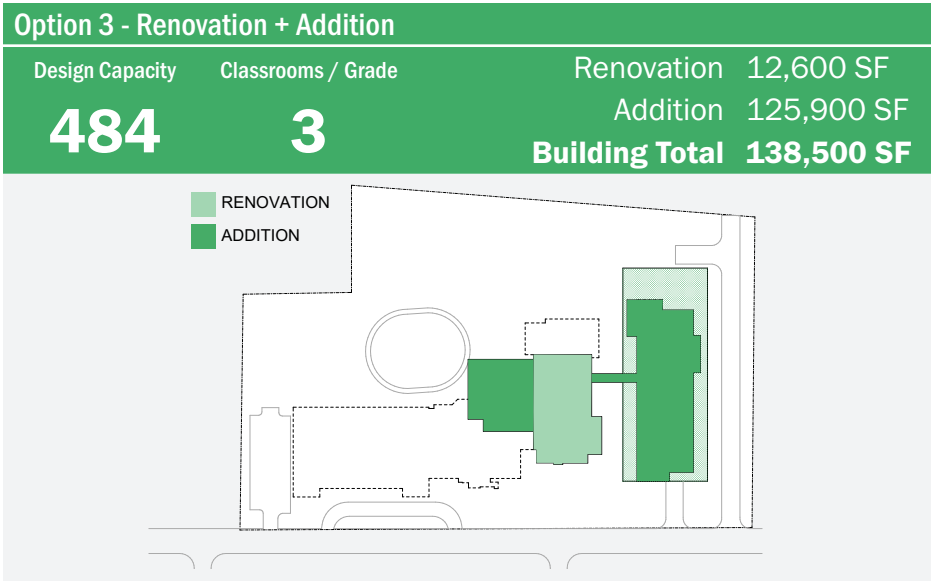
This option includes a renovation of the existing building plus an addition to create a facility to house the existing building Design Capacity (484). Option 2A shows where a future addition could be added to increase population to full Design Capacity (725-750) for an elementary school. It also incorporates structured parking and consolidates the building footprint to optimize site use.



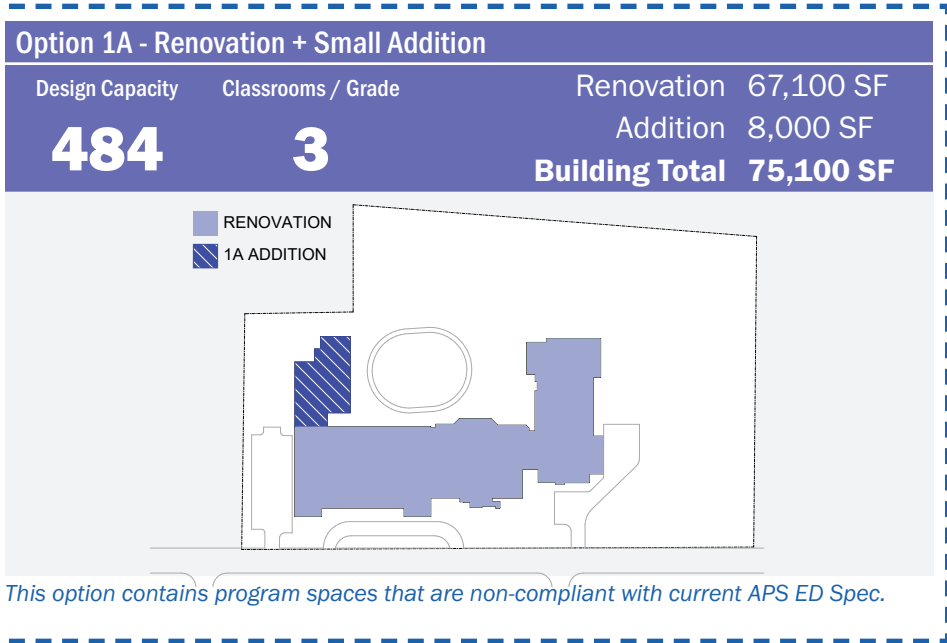
This option contains program spaces that are non-compliant with current APS ED Spec.
Note 1: Building Total SF includes 37,800 SF of structured garage.

Options 3 & 3A

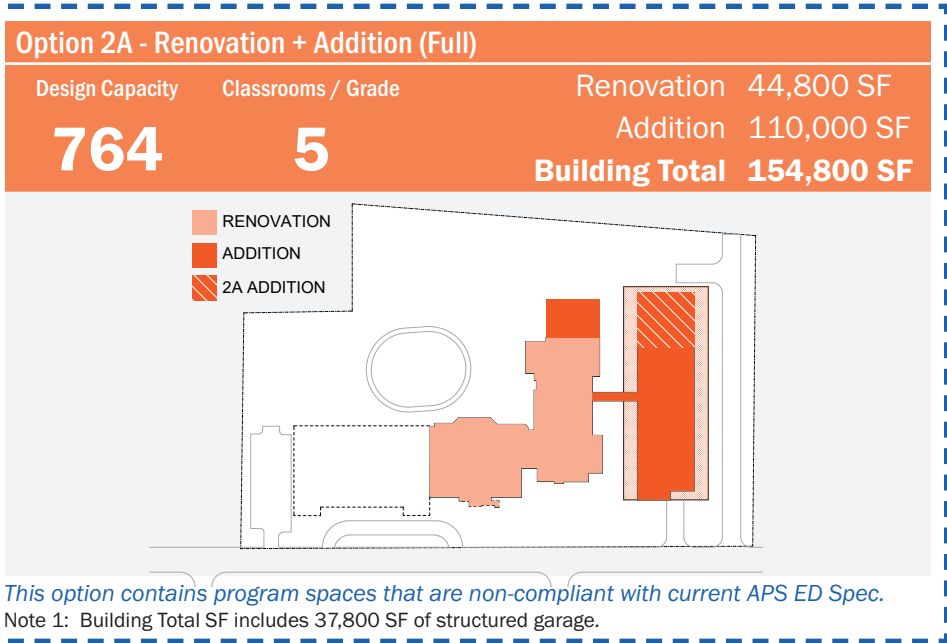
An addition combined with a limited renovation provides a facility to house an elementary school at existing building Design Capacity (484) per current Ed Spec Design Standards. Option 3A shows where a future addition could be added to increase population to full-Design Capacity (764) for an elementary school. It also incorporates structured parking and consolidates the building footprint to optimize site use.



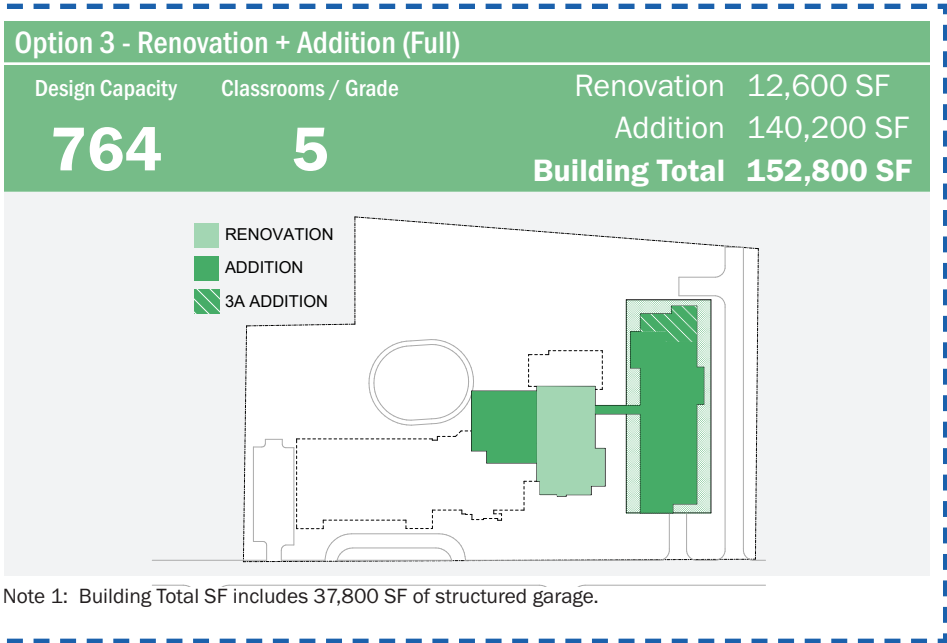
Note 1: Building Total SF includes 37,800 SF of structured garage.



This option contains program spaces that are non-compliant with current APS ED Spec.



This option contains program spaces that are non-compliant with current APS ED Spec.
Note 1: Building Total SF includes 37,800 SF of structured garage.

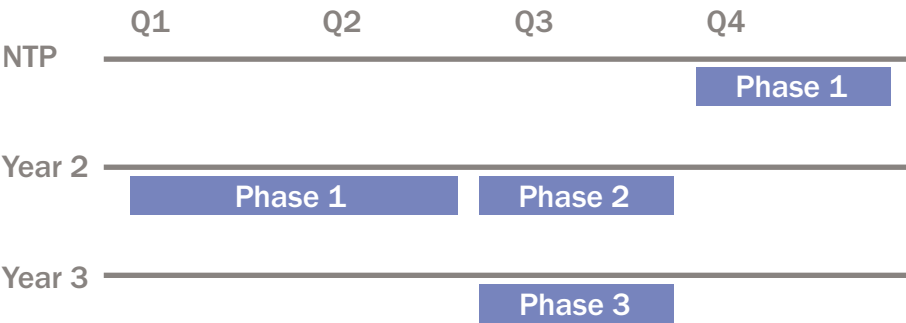


Note 1: Building Total SF includes 37,800 SF of structured garage.

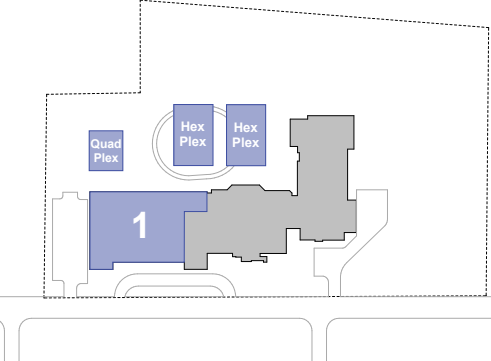
Capacity numbers may vary slightly from previously published numbers based on how many students were used per classroom.

SUGGESTED PHASING

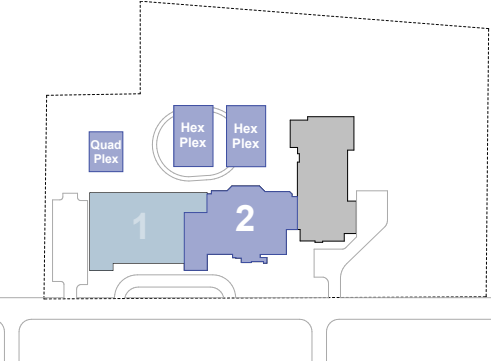
Option 1 (Renovation Only)



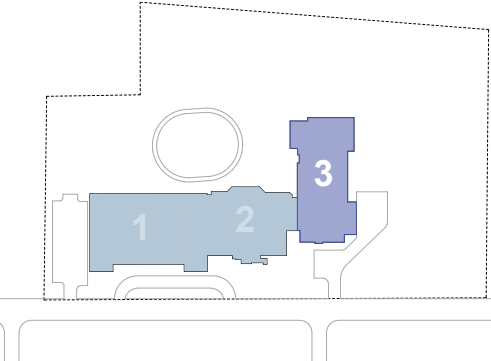
Phase 1
19,000 SF Renovation
Renovate classrooms in the south wing of the existing building. Relocate classes to one quad-plex and two hex-plex trailers during construction.



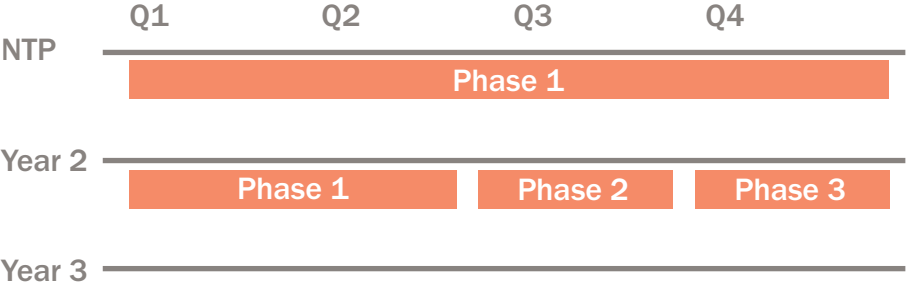
Phase 2
31,150 SF Renovation
Renovate admin suite, library, and classrooms on first and second floors of existing building over Summer 2, utilizing double shifts.
Retain trailers through Year 2.



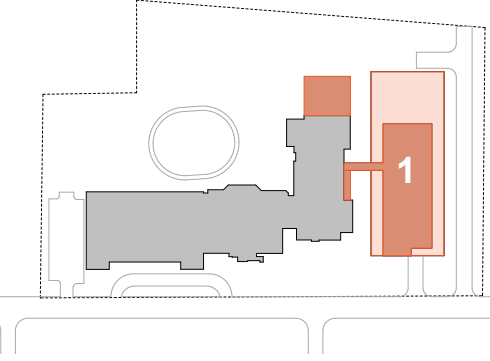
Phase 3
17,000 SF Renovation
Renovate gym, cafeteria, and classrooms in north wing of the existing building over Summer 3.



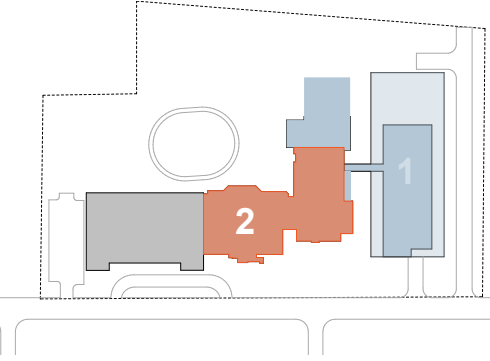
Option 2 (Renovation + Addition to Current Capacity)



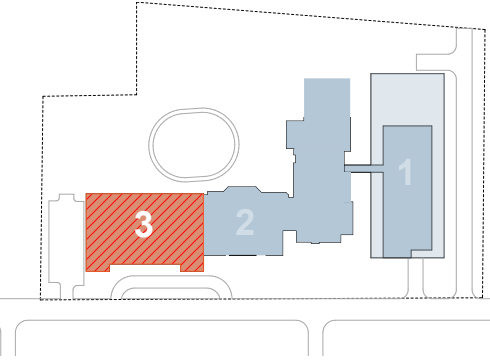
Phase 1
92,600 SF Addition/ New Construction
Build three story addition over parking to the north. Provide dust-proof, sound proof barriers while school is in session.
Expand gym to the west and cafeteria to the north.



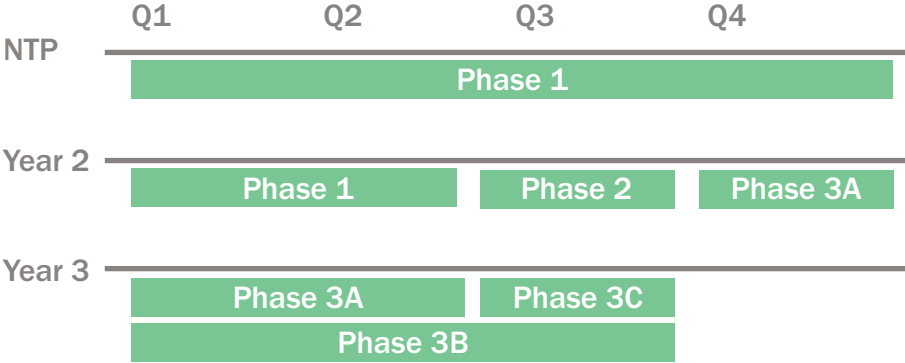
Phase 2
44,800 SF Renovation
Renovate cafeteria and classrooms on existing first and second floors over Summer 2.
Demolish stair at front of existing building.



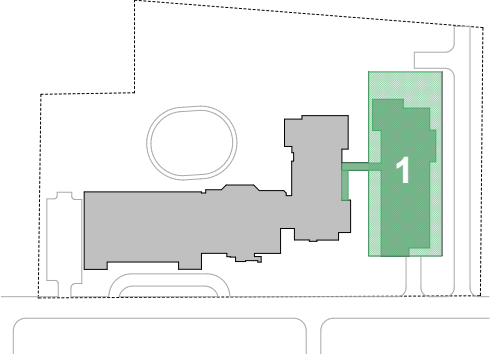
Phase 3
22,300 SF Demolition/ Site Work
Demolish the south wing of the building.
Create new play fields after demolition.



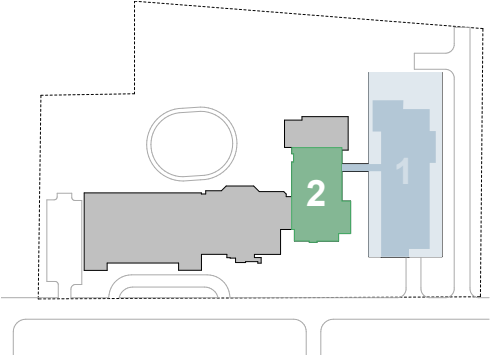
Option 3 (Renovation + Addition to Full Capacity)



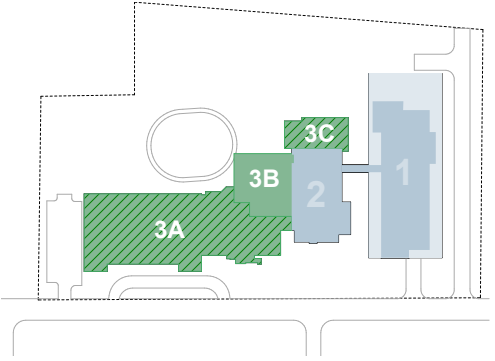
Phase 1
116,900 SF Addition/ New Construction
Build four story addition over parking to the north. Provide dust-proof, sound proof barriers while school is in session.
Expand cafeteria to the north.



Phase 2
12,600 SF Renovation
Renovate cafeteria and classrooms in existing building over Summer 2.



Phase 3
63,600 SF Demolition/ Addition/ Site Work
3A - Partial demolition.
3B - Build new gym Provide dust-proof, sound proof barriers while school is in session.
3C - Demolish old gym. Create new play fields after demolition.



CURRENT ED SPEC PROGRAM

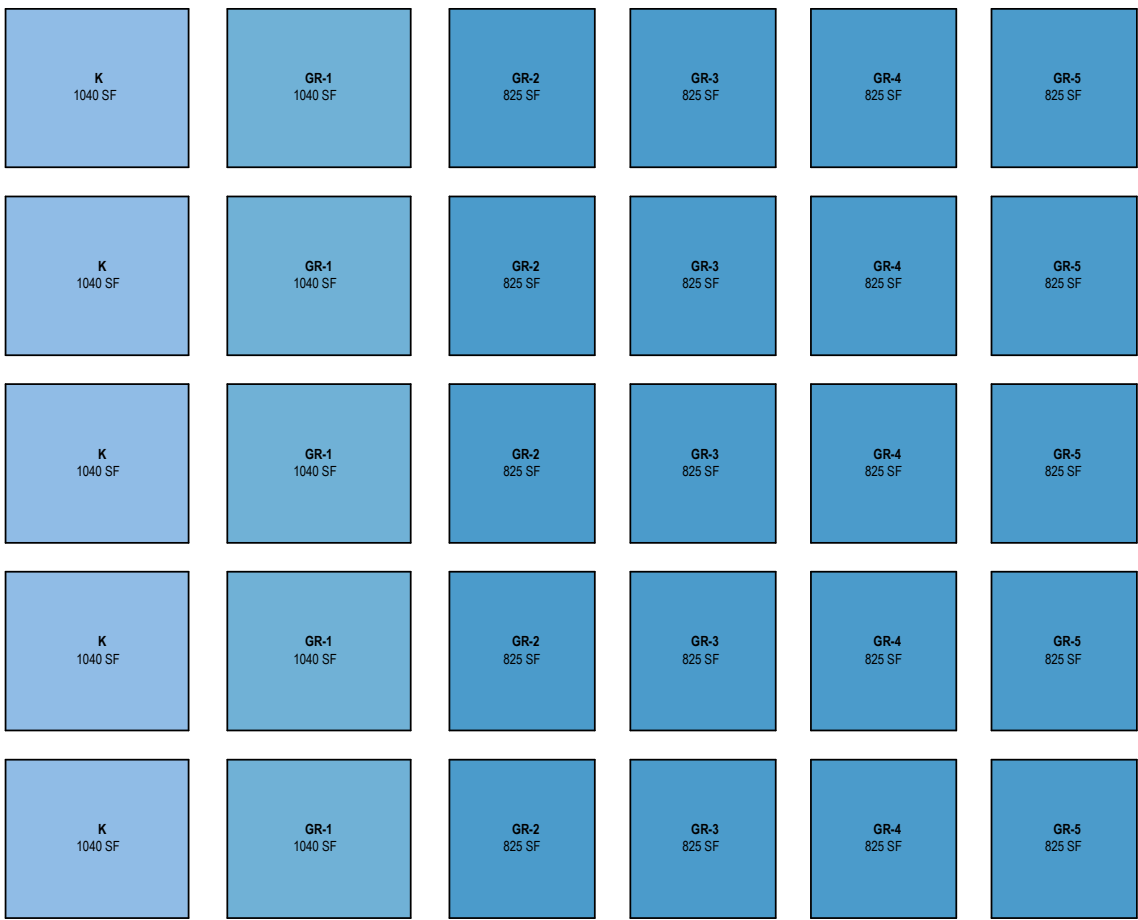
Program Type	Program Usage	ED Spec (Reed)	# of Rooms	Remarks
School-Specific Existing Program	SPED-SC	825	2	Program not included in Ed Spec
School-Specific Existing Program	IB Spanish	825	1	Program not included in Ed Spec
Administration	Reception / Clerical	600	1	
Administration	Conference	250	1	
Administration	Teacher Workroom	300	1	
Administration	Head End	200	1	
Administration	Principal	200	1	
Administration	Admin Assisstant	115	1	
Administration	Assisstant Principal	120	1	
Administration	Records	90	1	
Administration	Staff Toilet	55	1	
Administration	SRO Office	90	1	
Administration	PTA Storage	150	1	
Administration	Clinic	350	1	
Administration	Clinic Toilet	75	1	
Administration	Clinic Exam	130	1	
Art / Music	Art Classroom	1350	2	
Art / Music	Art Storage	150	1	
Art / Music	Kiln	80	1	
Art / Music	General Music	950	2	
Art / Music	General Music Storage	150	2	
Art / Music	Instrumental Music	825	1	
Art / Music	Instrumental Music Storage	200	1	
Classroom	VPI	1040	4	SF includes a single occupant toilet and changing table
Classroom	Kindergarten	1040	5	SF includes a single occupant toilet
Classroom	GR-1	1040	5	SF includes a single occupant toilet
Classroom	GR-2	825	5	
Classroom	GR-3	825	5	
Classroom	GR-4	825	5	
Classroom	GR-5	825	5	
Extended Day	Extended Day Office	200	1	
Extended Day	Extended Day Storage	200	1	
Extended Learning Area	Early Childhood	350	2	
Extended Learning Area	Primary Grade	450	2	
Extended Learning Area	Intermediate Grade	400	2	
Food Services	Kitchen / Servery	1790	1	
Food Services	Dining Commons	3500	1	

Program Type	Program Usage	ED Spec (Reed)	# of Rooms	Remarks
Library	Library	2800	1	
Library	Video Production	120	1	
Library	Office / Workroom	150	1	
Library	ITC Coordinator	120	1	
Library	Conference	250	1	
Library	IT/AV Storage	250	1	
Physical Education	Gymnasium	7000	1	
Physical Education	Platform / Stage	900	1	Can be co-located with music room
Physical Education	PE Office	150	1	
Physical Education	Chair Storage	200	1	
Physical Education	PE Storage	200	1	
Small Group Instruction	SGL	500	10	
Student Services	Office + Table w/ 4 Chairs	150	4	
Student Services	Toilet w/ Changing Table	100	2	
Student Services	OT/PT	500	1	
Student Services	OT/PT Storage	150	1	
Teacher Support	Conference	245	2	
Teacher Support	Itinerant Teacher	350	4	
Teacher Support	Workroom	180	2	
Teacher Support	Book Storage	250	1	
Utility / Building Core	-	-	-	

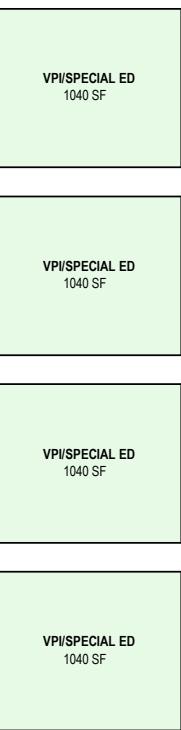
Notes:
APS Ed Spec Standards are based on the APS Education Specification from the Elementary at Walter Reed Site (now Cardinal Elementary School), dated June 2, 2018.
Bold text indicates a classroom (Capacity-Generating) space.

ED SPEC GRAPHIC PROGRAM ANALYSIS

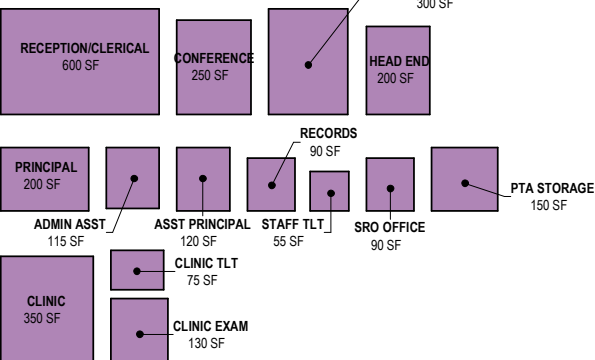
CAPACITY-GENERATING CLASSROOMS



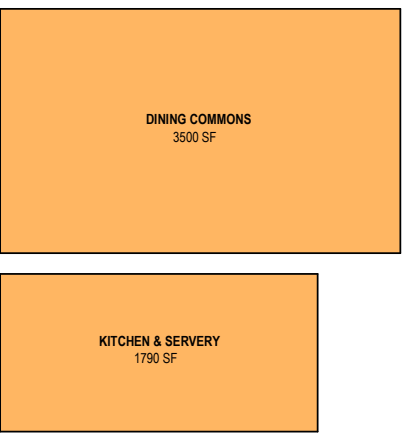
VPI / SPECIAL ED



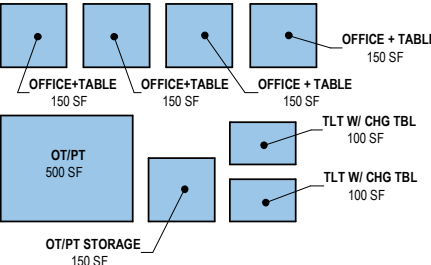
ADMINISTRATION



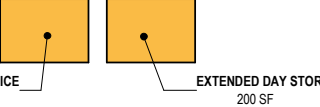
FOOD SERVICES



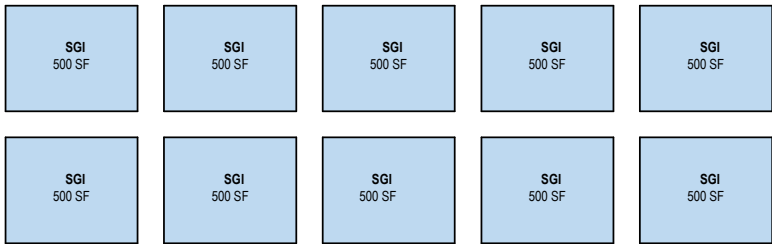
STUDENT SERVICES



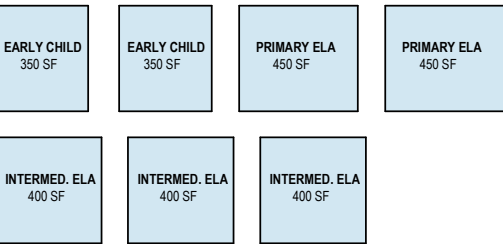
EXTENDED DAY



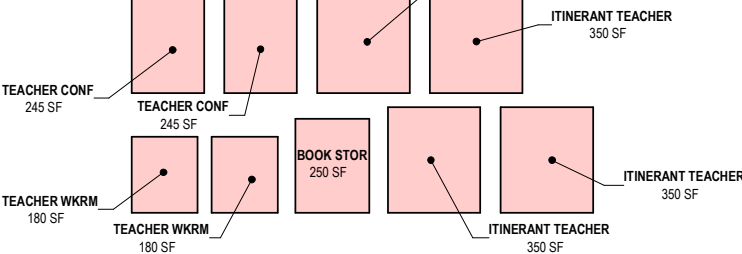
SMALL GROUP INSTRUCTION



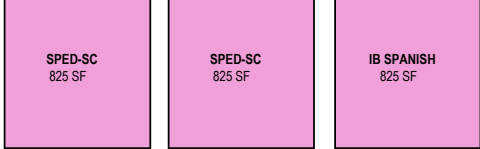
EXTENDED LEARNING AREA



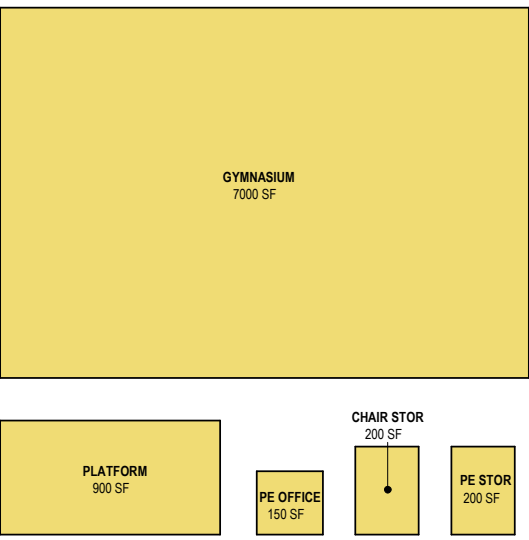
TEACHER SUPPORT



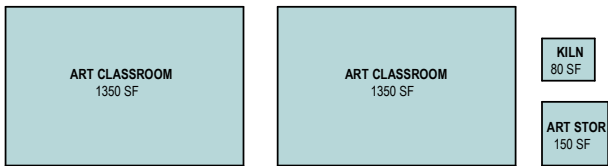
SCHOOL-SPECIFIC PROGRAMS



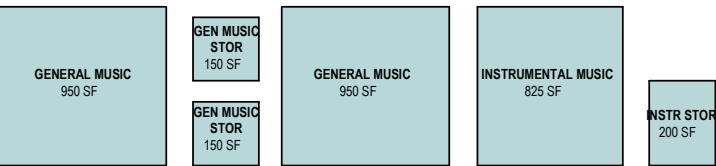
PHYSICAL EDUCATION



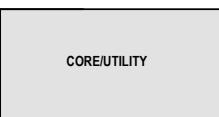
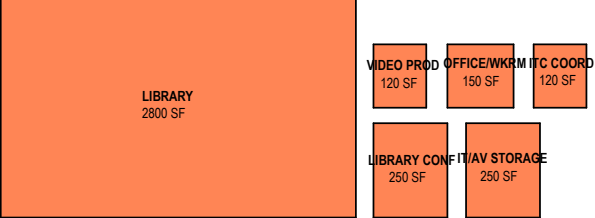
ART



MUSIC



LIBRARY



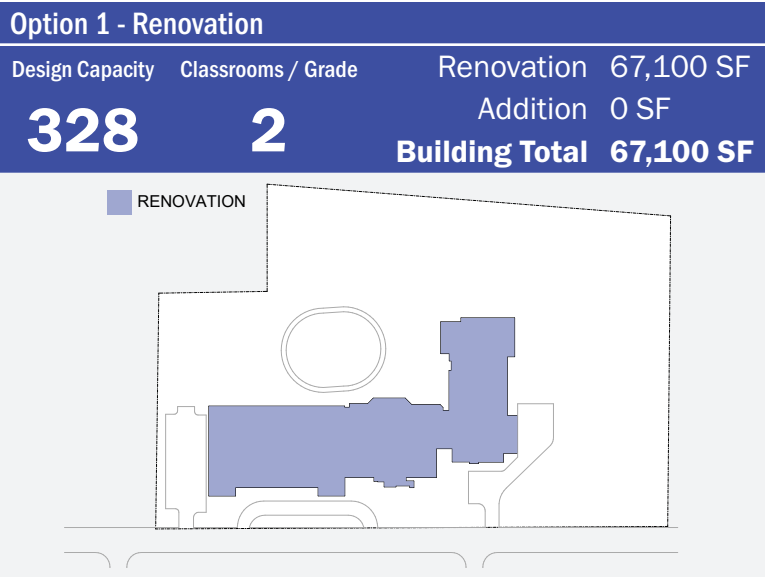
OPTION 1: OVERVIEW

Renovation Only, Complying with Ed Spec

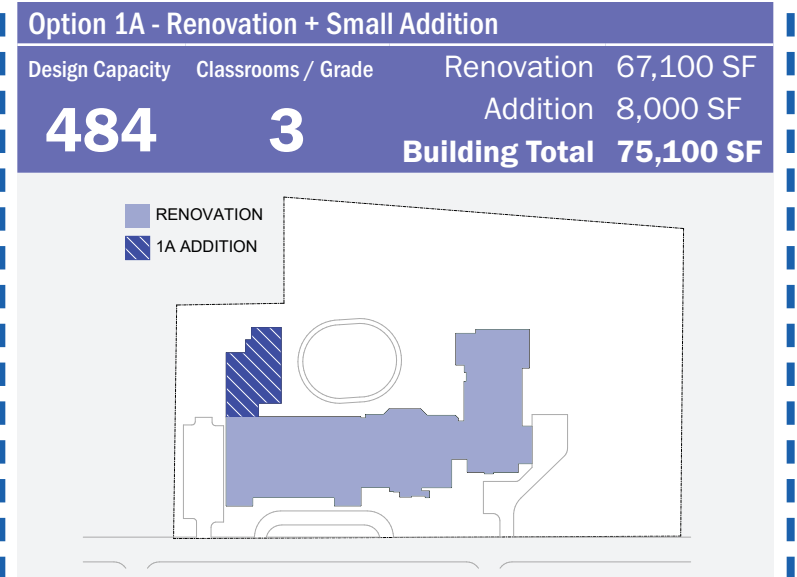
Option 1 shows how reduced-Design Capacity (328) will fit within the existing building footprint, using current design standards. Some spaces within this option do not meet the Ed Spec (e.g. the gym). Option 1A shows where a future addition could be added to increase the student population back to the current design capacity.

OPTION 1: Student Capacity following Renovation						
	Grade Level	No. of Rooms	Program SF	Program SF Net Total	Capacity Generating	Total Capacity
Early Childhood	PreK/VPI	3	1,040	3,120	16.00	48
	K	2	1,040	2,080	23.33	46.66
				5,200		94.66
Primary Grades	1 st	2	1,040	2,080	23.33	46.66
	2 nd	2	825	1,650	23.33	46.66
				3,730		93.32
Intermediate Grades	3 rd	2	825	1,650	23.33	46.66
	4 th	2	825	1,650	23.33	46.66
	5 th	2	825	1,650	23.33	46.66
				4,950		139.98
Renovated Building Capacity						328

OPTION 1A: Student Capacity of Small Addition						
	Grade Level	No. of Rooms	Program SF	Program SF Net Total	Capacity Generating	Total Capacity
Early Childhood	PreK/VPI	1	1,040	1,040	16.00	16.00
	K	1	1,040	1,040	23.33	23.33
				2,080		39.33
Primary Grades	1 st	1	1,040	1,040	23.33	23.33
	2 nd	1	825	825	23.33	23.33
				1,865		46.66
Intermediate Grades	3 rd	1	825	825	23.33	23.33
	4 th	1	825	825	23.33	23.33
	5 th	1	825	825	23.33	23.33
				2,475,950		69.99
Addition Building Capacity						156
TOTAL FUTURE BUILDING CAPACITY						484



This option contains program spaces that are non-compliant with current APS ED Spec.



This option contains program spaces that are non-compliant with current APS ED Spec.

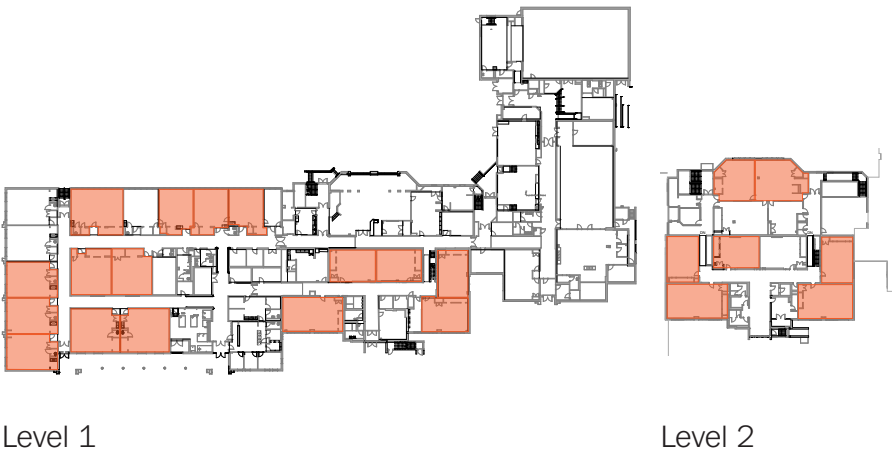
PROS

- Least impact to the existing site
- Visual impact on the neighborhood will be unchanged

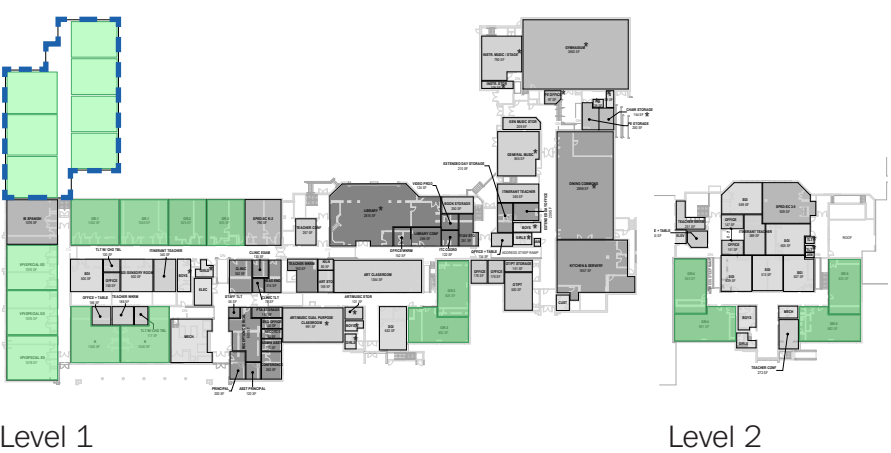
CONS

- Capacity is reduced from existing in Option 1
- Play area is decreased in Option 1A
- Many program elements remain undersized
- Construction phasing will require trailer classrooms

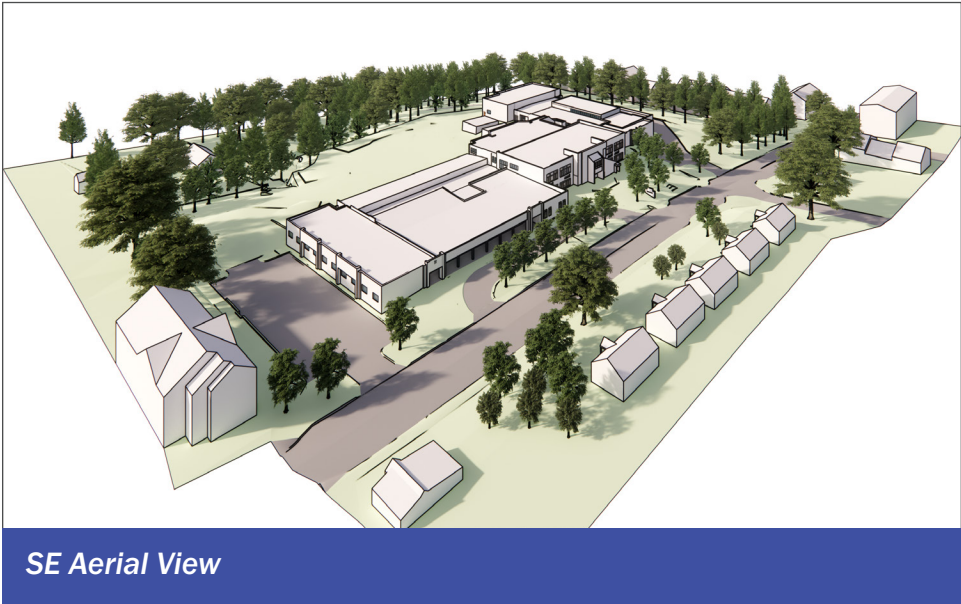
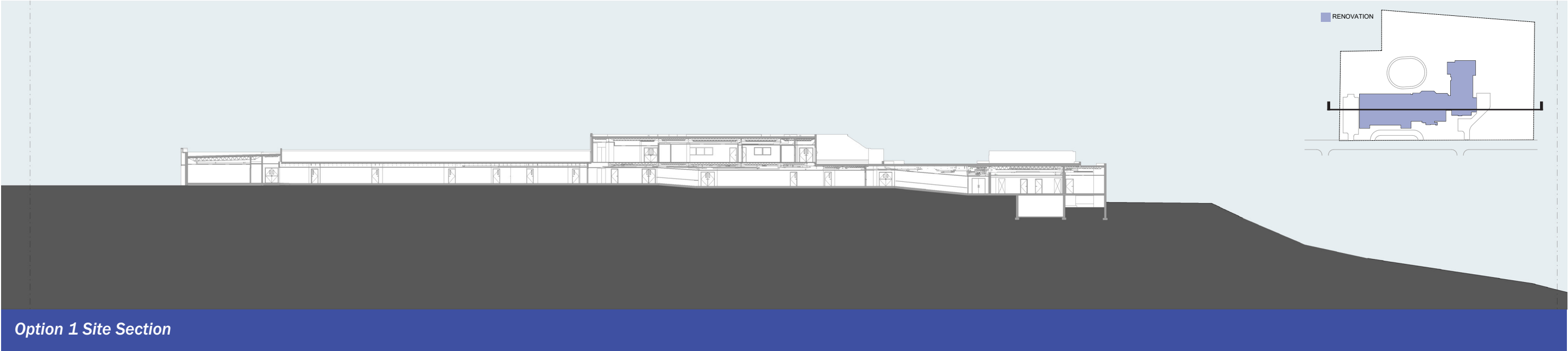
Existing Capacity Generating Classrooms



Renovation + Small Addition Capacity Generating Classrooms



OPTION 1: SECTION AND 3D VIEWS



OPTION 1: ED SPEC PROGRAM

Program Type	Program Usage	Proposed Area SF (RES)	ED Spec (Reed)	Delta SF	Delta %	Remarks
School-Specific Existing Program	SPED-SC	790	-	-	-	Program not included in Ed Spec
School-Specific Existing Program	SPED-SC	929	-	-	-	Program not included in Ed Spec
School-Specific Existing Program	IB Spanish	1076	-	-	-	Program not included in Ed Spec
Administration	Reception / Clerical	600	600	0	0	
Administration	Conference	263	250	13	5	
Administration	Teacher Workroom	380	300	80	27	
Administration	Head End	214	200	14	7	
Administration	Principal	200	200	0	0	
Administration	Admin Assisstant	115	115	0	0	
Administration	Assisstant Principal	120	120	0	0	
Administration	Records	92	90	2	2	
Administration	Staff Toilet	55	55	0	0	
Administration	SRO Office	102	90	12	13	
Administration	PTA Storage	152	150	2	1	
Administration	Clinic	352	350	2	1	
Administration	Clinic Toilet	75	75	0	0	
Administration	Clinic Exam	130	130	0	0	
Art / Music	Art / Music Dual Purpose	991	-	-	-	Program not included in Ed Spec
Art / Music	Art / Music Storage	101	-	-	-	Program not included in Ed Spec
Art / Music	Art	1354	1350	4	0	
Art / Music	Kiln	80	80	0	0	
Art / Music	Art Storage	159	150	9	6	
Art / Music	General Music	855	950	-95	-10	
Art / Music	General Music Storage	209	150	59	39	
Art / Music	Instrumental Music	790	825	-35	-4	Co-located with Stage
Art / Music	Instrumental Music Storage	109	200	-91	-46	
Classroom	VPI	1077	1040	37	4	SF includes a single occupant toilet
Classroom	VPI	1077	1040	37	4	SF includes a single occupant toilet
Classroom	VPI	1077	1040	37	4	SF includes a single occupant toilet
Classroom	VPI	1077	1040	37	4	Additional classroom gained in Option 1A, SF includes a single occupant toilet
Classroom	Kindergarten	1040	1040	0	0	SF includes a single occupant toilet
Classroom	Kindergarten	1040	1040	0	0	SF includes a single occupant toilet
Classroom	GR-1	1040	1040	0	0	SF includes a single occupant toilet
Classroom	GR-1	1040	1040	0	0	SF includes a single occupant toilet
Classroom	GR-1	1040	1040	0	0	Additional classroom gained in Option 1A, SF includes a single occupant toilet
Classroom	GR-2	825	825	0	0	
Classroom	GR-2	825	825	0	0	
Classroom	GR-2	825	825	0	0	Additional classroom gained in Option 1A

Program Type	Program Usage	Proposed Area SF (RES)	ED Spec (Reed)	Delta SF	Delta %	Remarks
Classroom	GR-3	826	825	1	0	
Classroom	GR-3	828	825	3	0	
Classroom	GR-3	828	825	3	0	Additional classroom gained in Option 1A
Classroom	GR-4	825	825	0	0	
Classroom	GR-4	891	825	66	8	
Classroom	GR-4	891	825	66	8	Additional classroom gained in Option 1A
Classroom	GR-5	825	825	0	0	
Classroom	GR-5	882	825	57	7	
Classroom	GR-5	882	825	57	7	Additional classroom gained in Option 1A
Extended Day	Extended Day Office	209	200	9	5	
Extended Day	Extended Day Storage	210	200	10	5	
Extended Learning Area	Early Childhood	-	350	-	-	Not included in Option 1 due to area constraints
Extended Learning Area	Primary Grade	-	450	-	-	Not included in Option 1 due to area constraints
Extended Learning Area	Intermediate Grade	-	400	-	-	Not included in Option 1 due to area constraints
Food Services	Kitchen / Servery	1857	1790	67	4	New renovation meets county standards
Food Services	Dining Commons	2898	3500	-602	-17	
Library	Library	2616	2800	-184	-7	
Library	Video Production	124	120	4	3	
Library	Office / Workroom	152	150	2	0	
Library	ITC Coordinator	122	120	2	0	
Library	Conference	266	250	16	6	
Library	IT/AV Storage	251	250	1	0	
Physical Education	Gymnasium	3500	7000	-3500	-50	
Physical Education	PE Office	97	150	-53	-35	
Physical Education	Chair Storage	154	200	-46	-23	
Physical Education	PE Storage	200	200	0	0	
Small Group Instruction	SGI	500	500	0	0	
Small Group Instruction	SGI (Sensory Room)	500	500	0	0	
Small Group Instruction	SGI	562	500	62	12	
Small Group Instruction	SGI	569	500	69	14	
Small Group Instruction	SGI	605	500	105	21	
Small Group Instruction	SGI	529	500	29	6	
Small Group Instruction	SGI	513	500	13	3	
Small Group Instruction	SGI	507	500	7	1	
Student Services	Office + Table w/ 4 Chairs	150	150	0	0	
Student Services	Office + Table w/ 4 Chairs	166	150	16	11	
Student Services	Office + Table w/ 4 Chairs	134	150	-16	-11	
Student Services	Office + Table w/ 4 Chairs	176	150	26	17	
Student Services	Office + Table w/ 4 Chairs	176	150	26	17	

OPTION 1: ED SPEC PROGRAM

	Program Type	Program Usage	Proposed Area SF (RES)	ED Spec (Reed)	Delta SF	Delta %	Remarks
	Student Services	Office + Table w/ 4 Chairs	153	150	3	2	
	Student Services	Office + Table w/ 4 Chairs	147	150	-3	-2	
	Student Services	Office + Table w/ 4 Chairs	151	150	1	1	
	Teacher Support	Conference	257	245	12	5	
	Teacher Support	Conference	272	245	27	11	
	Teacher Support	Itinerant Teacher	340	350	-10	-3	
	Teacher Support	Itinerant Teacher	365	350	15	4	
	Teacher Support	Itinerant Teacher	389	350	39	11	
	Teacher Support	Workroom	188	180	8	4	
	Teacher Support	Workroom	231	180	51	28	
	Teacher Support	Book Storage	250	250	0	0	
	Utility / Building Core	-		-	-		All restrooms require renovation to meet current code

Notes:
APS Ed Spec Standards are based on the APS Education Specification from the Elementary at Walter Reed Site (now Cardinal Elementary School), dated June 2, 2018.
Bold text indicates a classroom (Capacity-Generating) space.

OPTION 1: GRAPHIC PROGRAM

CAPACITY-GENERATING CLASSROOMS



SMALL GROUP INSTRUCTION



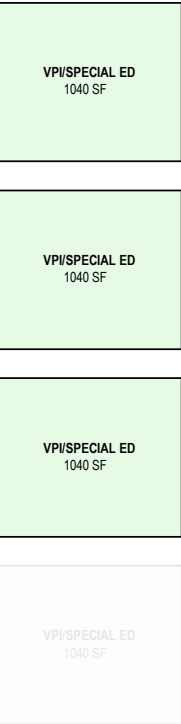
ART



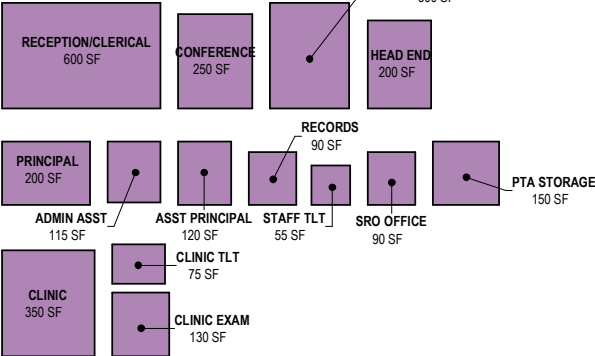
MUSIC



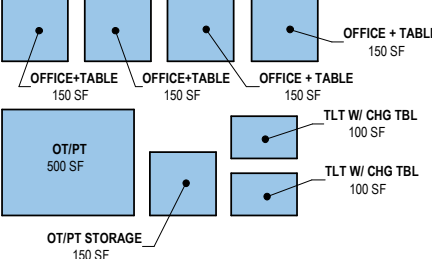
VPI / SPECIAL ED



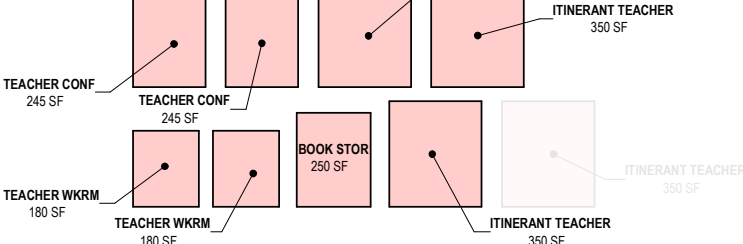
ADMINISTRATION



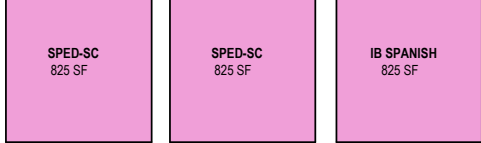
STUDENT SERVICES



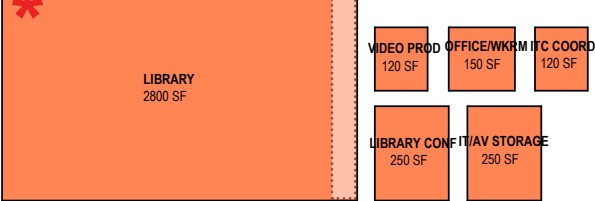
TEACHER SUPPORT



SCHOOL-SPECIFIC PROGRAMS

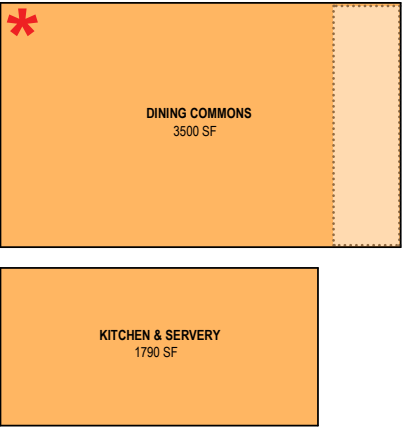


LIBRARY

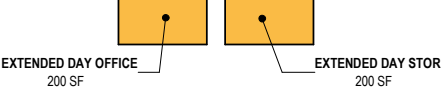


NOTE:
*Denote undersized spaces.

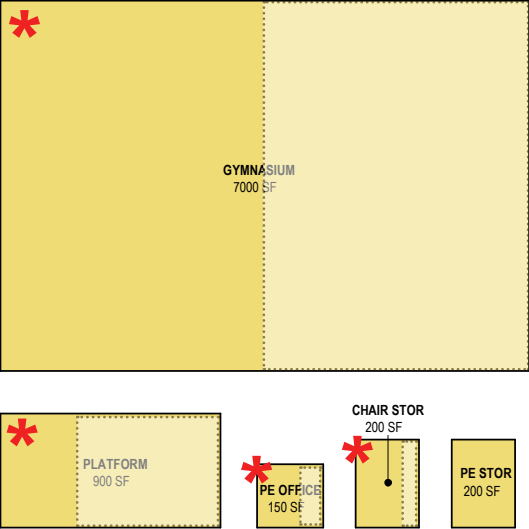
FOOD SERVICES



EXTENDED DAY

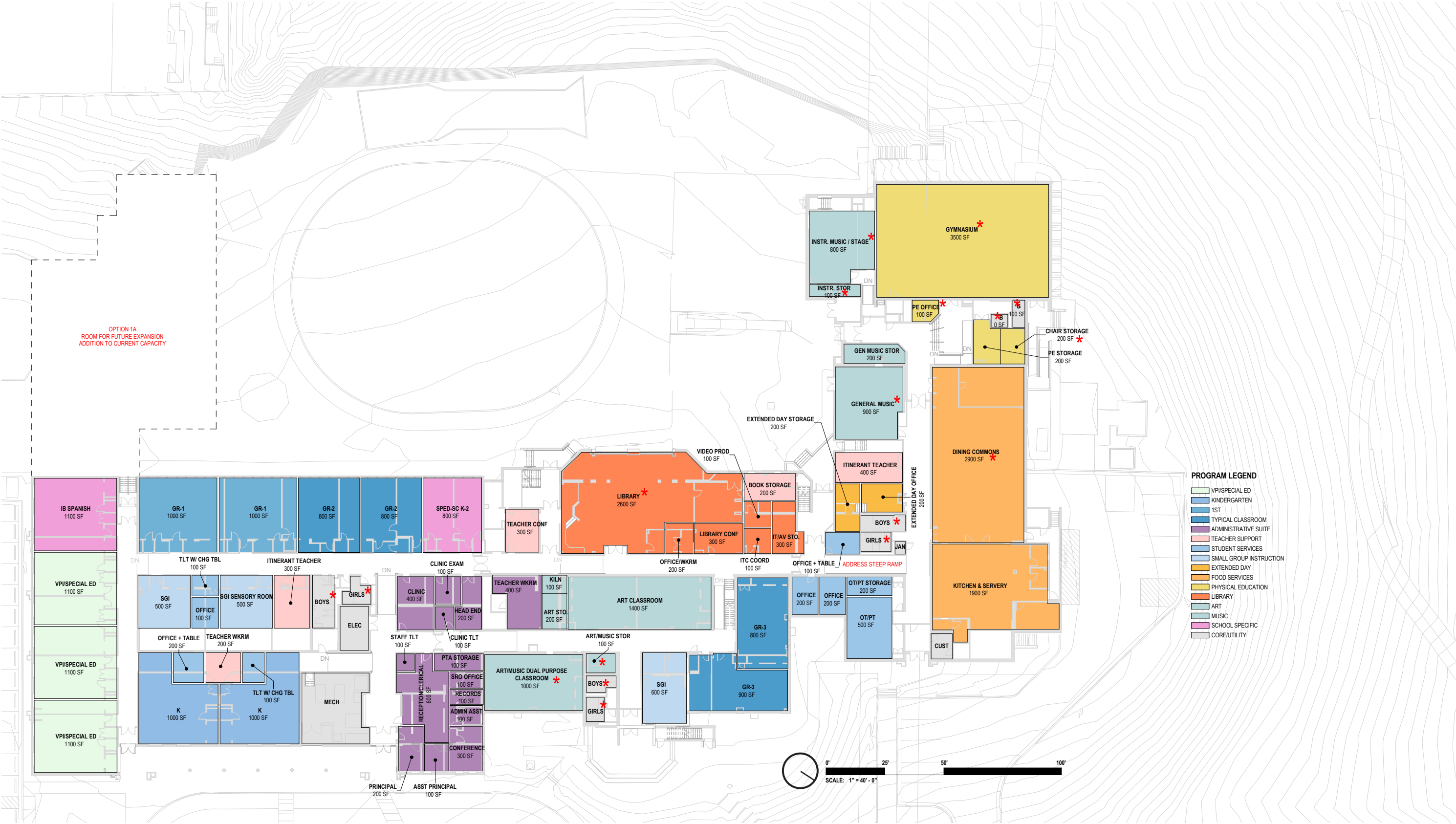


PHYSICAL EDUCATION



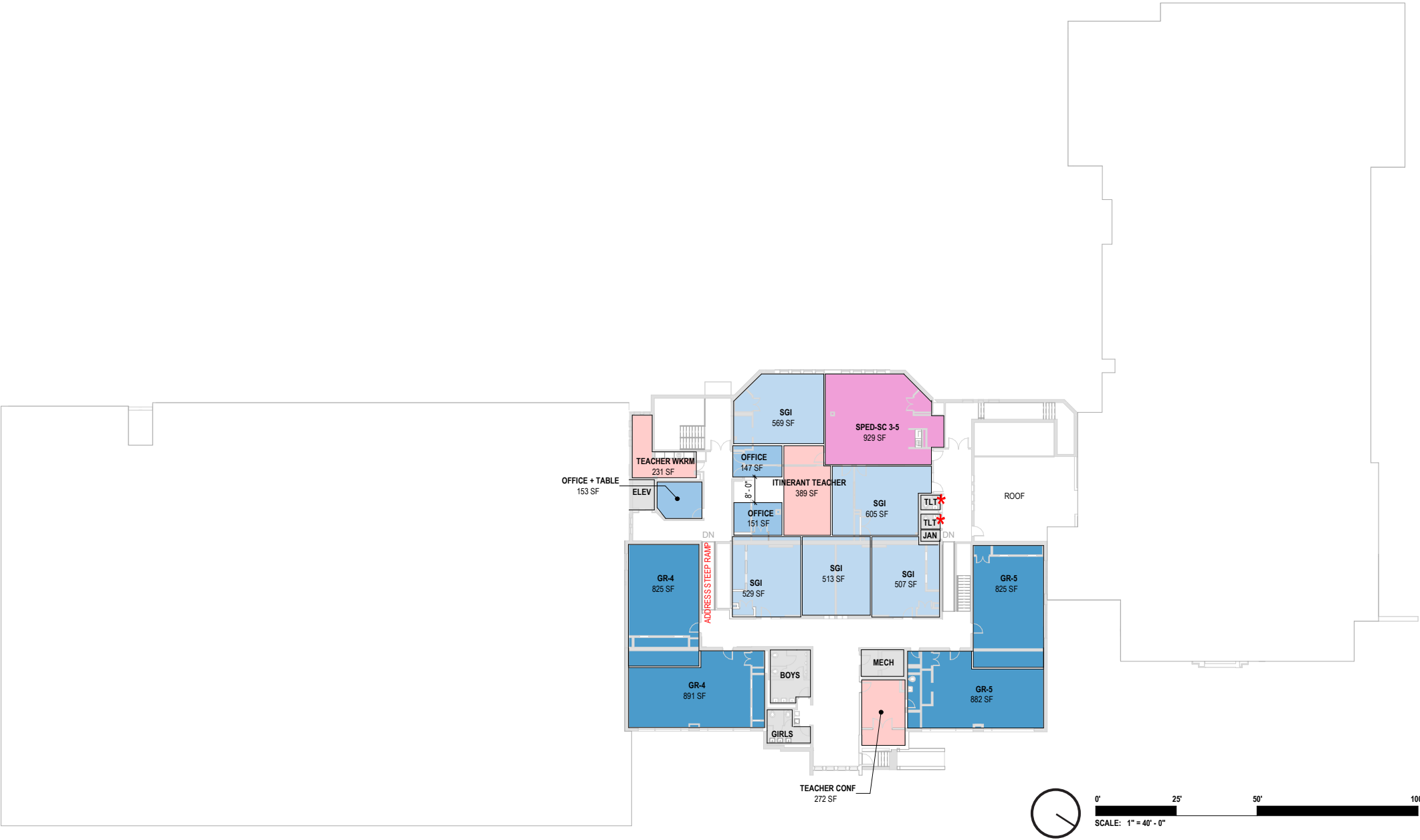
OPTION 1: LEVEL 1 FLOOR PLAN

NOTE:
The drawings are shown here for the purposes of a test-fit of the program elements. The drawings are not to be construed as concept design. Concept designs will be developed further after approval of the program.

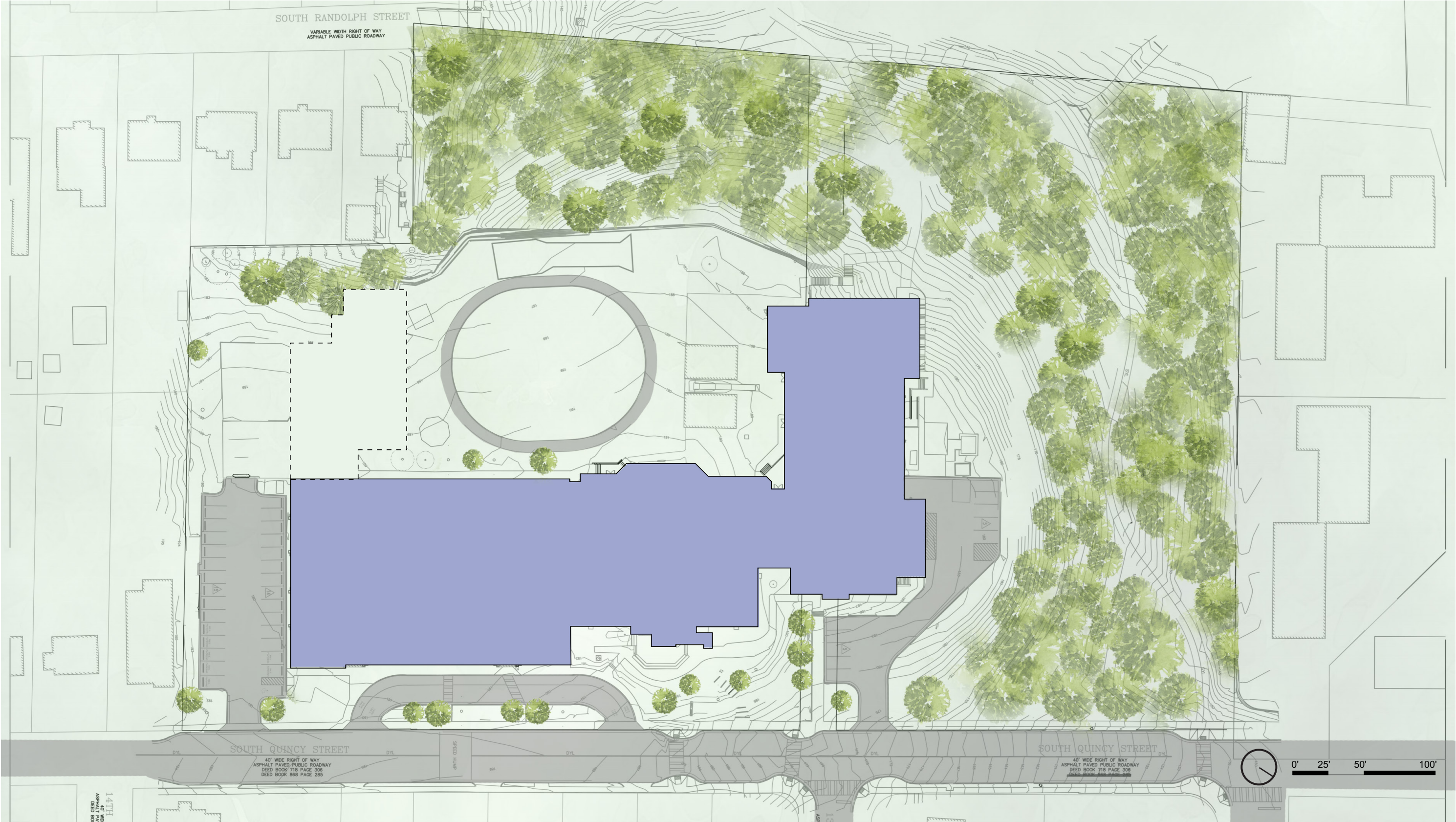


OPTION 1: LEVEL 2 FLOOR PLAN

NOTE:
The drawings are shown here for the purposes of a test-fit of the program elements. The drawings are not to be construed as concept design. Concept designs will be developed further after approval of the program.



OPTION 1: SITE LAYOUT



OPTION 2: OVERVIEW

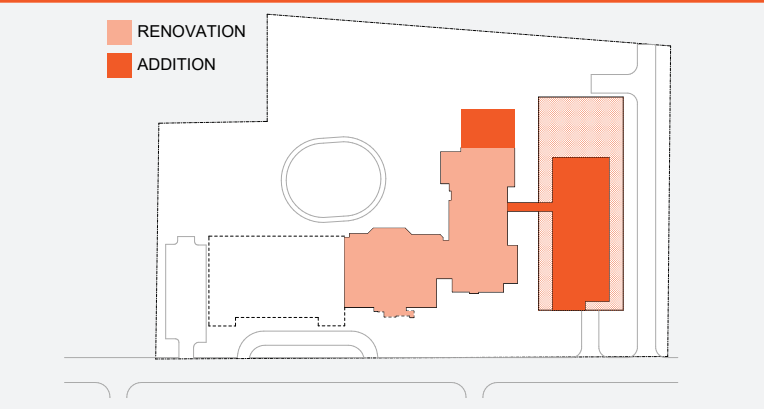
Renovation and Addition to Current Capacity

Option 2 will include a renovation of the existing building plus an addition, to create a facility to house the existing building Design Capacity (484). Option 2A shows where an expanded addition could be added to increase population to a full Design Capacity of (725-750) for an elementary school.

OPTION 2: Student Capacity following Renovation						
	Grade Level	No. of Rooms	Program SF	Program SF Net Total	Capacity Generating	Total Capacity
Early Childhood	PreK/VPI	4	1,040	4,160	16.00	64
	K	3	1,040	3,120	23.33	69.99
				7,280		133.99
Primary Grades	1 st	3	1,040	3,120	23.33	69.99
	2 nd	3	825	2,475	23.33	69.99
				5,595		139.98
Intermediate Grades	3 rd	3	825	2,475	23.33	69.99
	4 th	3	825	2,475	23.33	69.99
	5 th	3	825	2,475	23.33	69.99
				7,425		209.97
Renovation Building Capacity						484

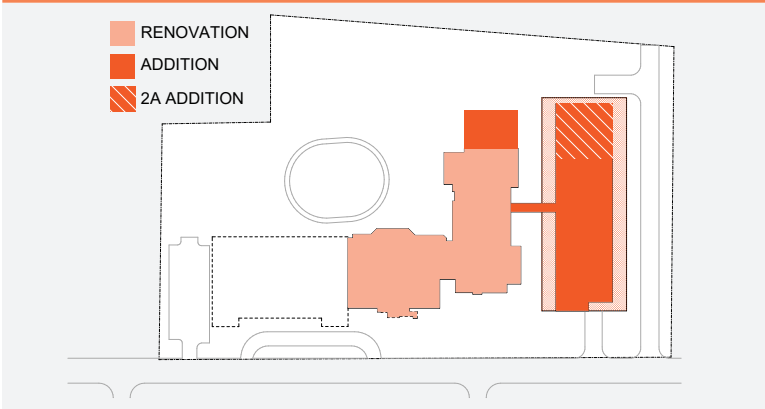
OPTION 2A: Student Capacity of Future Addition						
	Grade Level	No. of Rooms	Program SF	Program SF Net Total	Capacity Generating	Total Capacity
Early Childhood	PreK/VPI	0	1,040	1,040	16.00	0
	K	2	1,040	1,040	23.33	46.66
				2,080		46.66
Primary Grades	1 st	2	1,040	1,040	23.33	46.66
	2 nd	2	825	1,650	23.33	46.66
				2,690		93.32
Intermediate Grades	3 rd	2	825	1,650	23.33	46.66
	4 th	2	825	1,650	23.33	46.66
	5 th	2	825	1,650	23.33	46.66
				4,950		139.98
Addition Building Capacity						280
TOTAL FUTURE BUILDING CAPACITY						764

Option 2 - Renovation + Addition				
Design Capacity	Classrooms / Grade	Renovation	44,800 SF	
484	3	Addition	92,600 SF	
		Building Total	137,400 SF	



This option contains program spaces that are non-compliant with current APS ED Spec.
Note 1: Building Total SF includes 37,800 SF of structured garage.

Option 2A - Renovation + Addition (Full)				
Design Capacity	Classrooms / Grade	Renovation	44,800 SF	
764	5	Addition	110,000 SF	
		Building Total	154,800 SF	



This option contains program spaces that are non-compliant with current APS ED Spec.
Note 1: Building Total SF includes 37,800 SF of structured garage.

PROS

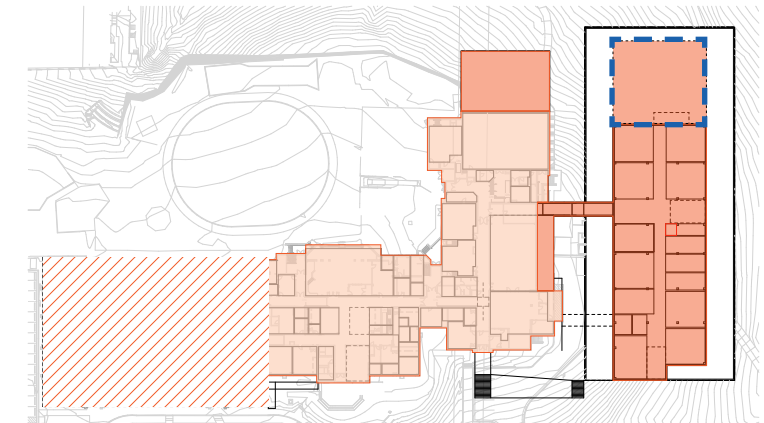
- Increased outdoor play area
- Increased on-site parking
- Students can remain in classrooms during phased construction

CONS

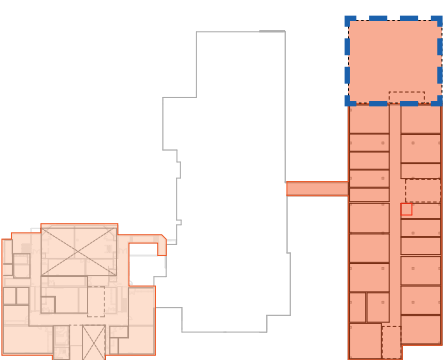
- Addition to existing gym will be difficult to construct
- Some program elements remain undersized in the renovated areas

Breakdown of Renovation vs Addition per Floor

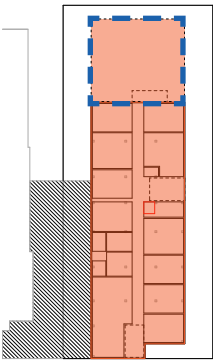
RENOVATION ADDITION



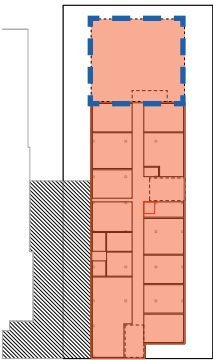
Level 1



Level 2A

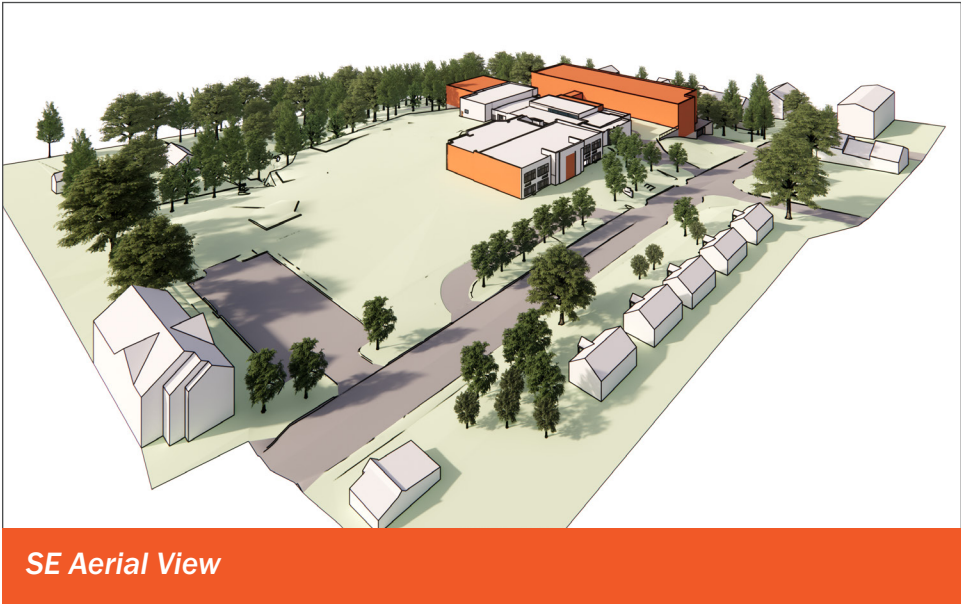
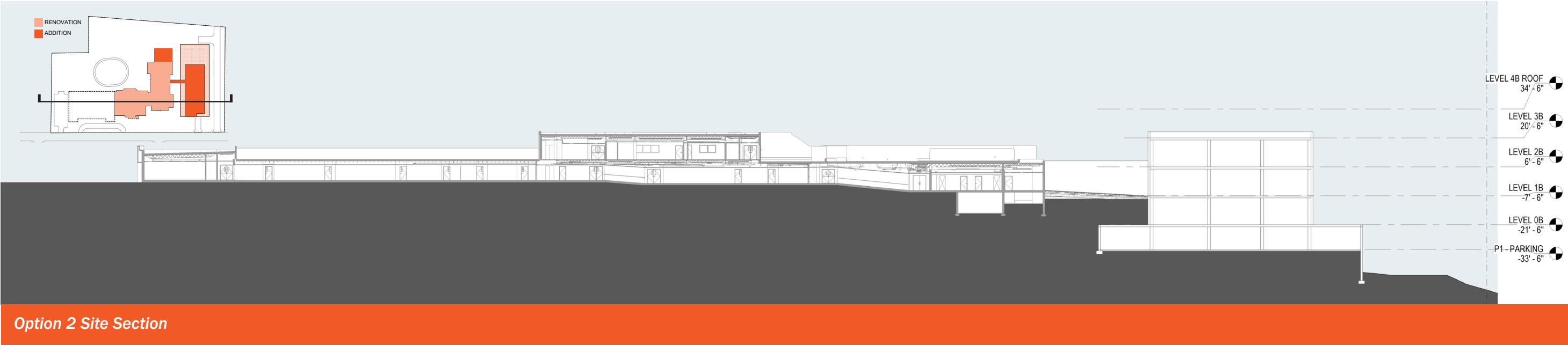


Level 2B



Level 0

OPTION 2: SECTION AND 3D VIEWS



OPTION 2: ED SPEC PROGRAM

Program Type	Program Usage	Proposed Area SF (RES)	ED Spec (Reed)	Delta SF	Delta %	Remarks
School-Specific Existing Program	SPED-SC	825	-	-	-	Program not included in Ed Spec
School-Specific Existing Program	SPED-SC	825	-	-	-	Program not included in Ed Spec
School-Specific Existing Program	IB Spanish	825	-	-	-	Program not included in Ed Spec
Administration	Reception / Clerical	600	600	0	0	
Administration	Conference	250	250	0	0	
Administration	Teacher Workroom	300	300	0	0	
Administration	Head End	204	200	4	2	
Administration	Principal	200	200	0	0	
Administration	Admin Assisstant	115	115	0	0	
Administration	Assisstant Principal	126	120	6	5	
Administration	Records	91	90	1	1	
Administration	Staff Toilet	55	55	0	0	
Administration	SRO Office	90	90	0	0	
Administration	PTA Storage	152	150	2	1	
Administration	Clinic	350	350	0	0	
Administration	Clinic Toilet	76	75	1	1	
Administration	Clinic Exam	130	130	0	0	
Art / Music	Art	1373	1350	23	2	
Art / Music	Art	1350	1350	0	0	
Art / Music	Art Storage	150	150	0	0	
Art / Music	Kiln	97	80	17	21	
Art / Music	General Music	1069	950	119	13	
Art / Music	General Music Storage	157	150	7	5	
Art / Music	General Music	855	950	95	10	
Art / Music	General Music Storage	209	150	59	39	
Art / Music	Instrumental Music	733	825	-92	-11	
Art / Music	Instrumental Music Storage	179	200	-21	-11	
Classroom	VPI	1040	1040	0	0	SF includes a single occupant toilet
Classroom	VPI	1040	1040	0	0	SF includes a single occupant toilet
Classroom	VPI	1040	1040	0	0	SF includes a single occupant toilet
Classroom	VPI	1040	1040	0	0	SF includes a single occupant toilet
Classroom	VPI	1156	1040	116	11	SF includes a single occupant toilet
Classroom	Kindergarten	1040	1040	0	0	SF includes a single occupant toilet
Classroom	Kindergarten	1040	1040	0	0	SF includes a single occupant toilet
Classroom	Kindergarten	1040	1040	0	0	SF includes a single occupant toilet
Classroom	Kindergarten	1040	1040	0	0	Additional classroom gained in Option 2A SF includes a single occupant toilet
Classroom	Kindergarten	1040	1040	0	0	Additional classroom gained in Option 2A SF includes a single occupant toilet

Program Type	Program Usage	Proposed Area SF (RES)	ED Spec (Reed)	Delta SF	Delta %	Remarks
Classroom	GR-1	1040	1040	0	0	SF includes a single occupant toilet
Classroom	GR-1	1040	1040	0	0	SF includes a single occupant toilet
Classroom	GR-1	1040	1040	0	0	SF includes a single occupant toilet
Classroom	GR-1	1040	1040	0	0	Additional classroom gained in Option 2A SF includes a single occupant toilet
Classroom	GR-1	1040	1040	0	0	Additional classroom gained in Option 2A SF includes a single occupant toilet
Classroom	GR-2	825	825	0	0	
Classroom	GR-2	825	825	0	0	
Classroom	GR-2	825	825	0	0	
Classroom	GR-2	825	825	0	0	Additional classroom gained in Option 2A
Classroom	GR-2	825	825	0	0	Additional classroom gained in Option 2A
Classroom	GR-3	825	825	0	0	
Classroom	GR-3	825	825	0	0	
Classroom	GR-3	825	825	0	0	
Classroom	GR-3	825	825	0	0	Additional classroom gained in Option 2A
Classroom	GR-3	825	825	0	0	Additional classroom gained in Option 2A
Classroom	GR-4	825	825	0	0	
Classroom	GR-4	825	825	0	0	
Classroom	GR-4	825	825	0	0	
Classroom	GR-4	825	825	0	0	Additional classroom gained in Option 2A
Classroom	GR-4	825	825	0	0	Additional classroom gained in Option 2A
Classroom	GR-5	825	825	0	0	
Classroom	GR-5	825	825	0	0	
Classroom	GR-5	825	825	0	0	
Classroom	GR-5	825	825	0	0	Additional classroom gained in Option 2A
Classroom	GR-5	825	825	0	0	Additional classroom gained in Option 2A
Extended Day	Extended Day Office	286	200	86	43	
Extended Day	Extended Day Storage	195	200	-5	-3	
Extended Learning Area	Early Childhood	720	350	370	106	
Extended Learning Area	Primary Grade	518	450	68	15	
Extended Learning Area	Primary Grade	450	450	0	0	
Extended Learning Area	Intermediate Grade	436	400	36	9	
Extended Learning Area	Intermediate Grade	479	400	79	20	
Food Services	Kitchen / Servery	1857	1790	67	4	New renovation meets county standards
Food Services	Dining Commons	3500	3500	0	0	
Library	Library	2820	2800	20	1	
Library	Video Production	121	120	1	1	
Library	Office / Workroom	206	150	56	37	
Library	ITC Coordinator	120	120	0	0	

OPTION 2: ED SPEC PROGRAM

Program Type	Program Usage	Proposed Area SF (RES)	ED Spec (Reed)	Delta SF	Delta %	Remarks
Library	Conference	260	250	10	4	
Library	IT/AV Storage	254	250	4	2	
Physical Education	Gymnasium	7292	7000	292	4	
Physical Education	Platform / Stage	790	900	-110	-12	
Physical Education	PE Office	129	150	-21	-14	
Physical Education	Chair Storage	216	200	16	8	
Physical Education	PE Storage	200	200	0	0	
Small Group Instruction	SGI	489	500	-11	-2	
Small Group Instruction	SGI	488	500	-12	-2	
Small Group Instruction	SGI	500	500	0	0	
Small Group Instruction	SGI	500	500	0	0	
Small Group Instruction	SGI	500	500	0	0	
Small Group Instruction	SGI	500	500	0	0	
Small Group Instruction	SGI	500	500	0	0	
Small Group Instruction	SGI	500	500	0	0	
Small Group Instruction	SGI	500	500	0	0	
Small Group Instruction	SGI	500	500	0	0	
Student Services	Office + Table w/ 4 Chairs	150	150	0	0	
Student Services	Office + Table w/ 4 Chairs	150	150	0	0	
Student Services	Office + Table w/ 4 Chairs	150	150	0	0	
Student Services	Office + Table w/ 4 Chairs	153	150	3	2	
Student Services	Toilet w/ Changing Table	101	-	-	-	Program not included in Ed Spec
Student Services	Toilet w/ Changing Table	102	-	-	-	Program not included in Ed Spec
Student Services	OT/PT	500	500	0	0	
Student Services	OT/PT Storage	150	150	0	0	

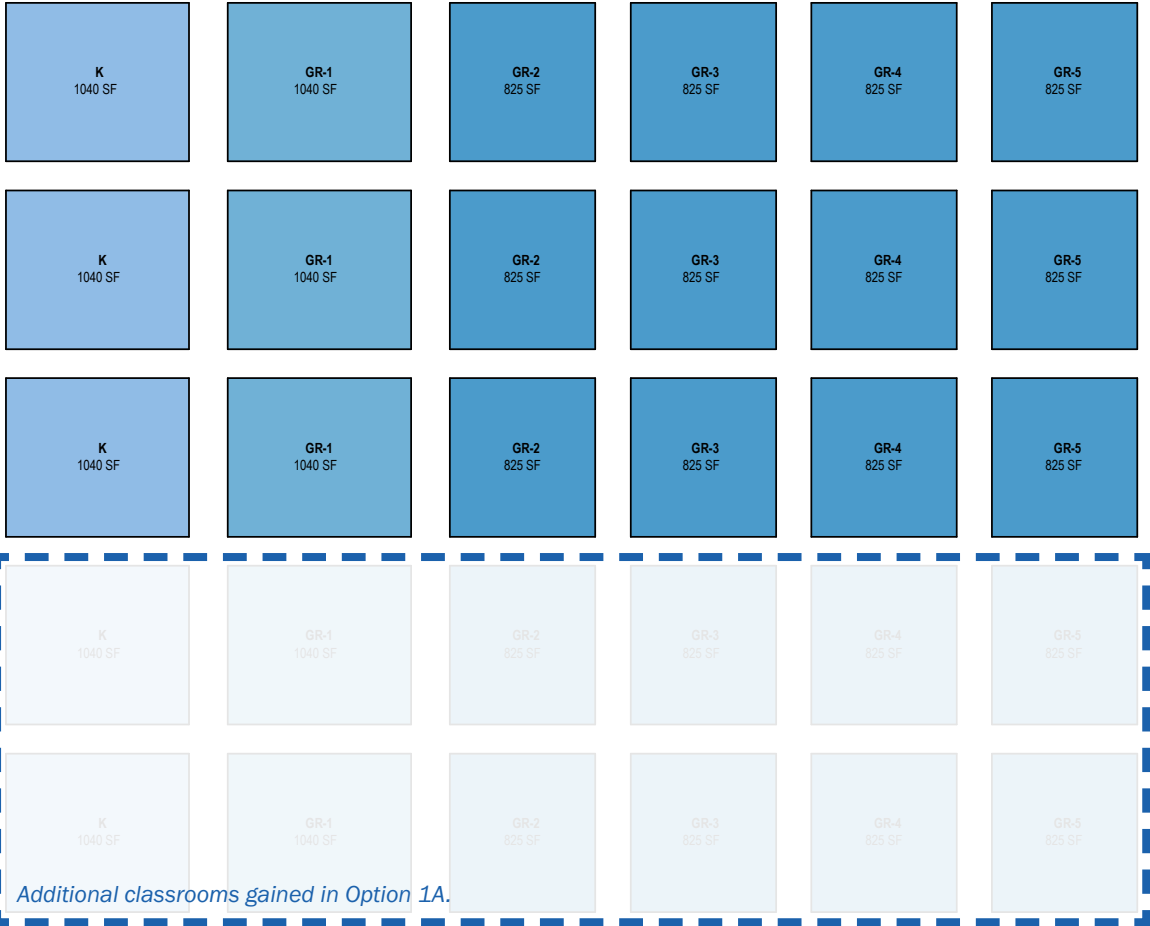
Program Type	Program Usage	Proposed Area SF (RES)	ED Spec (Reed)	Delta SF	Delta %	Remarks
Teacher Support	Conference	255	245	10	4	
Teacher Support	Conference	289	245	44	18	
Teacher Support	Itinerant Teacher	399	350	49	14	
Teacher Support	Itinerant Teacher	392	350	42	12	
Teacher Support	Itinerant Teacher	350	350	1	1	
Teacher Support	Itinerant Teacher	351	350	1	0	
Teacher Support	Workroom	209	180	29	16	
Teacher Support	Workroom	185	180	5	3	
Teacher Support	Book Storage	250	250	0	0	
Utility / Building Core	-	-	-	-	-	Restrooms in existing building require renovation to meet current code

Notes:
APS Ed Spec Standards are based on the APS Education Specification from the Elementary at Walter Reed Site (now Cardinal Elementary School), dated June 2, 2018.
Bold text indicates a classroom (Capacity-Generating) space.

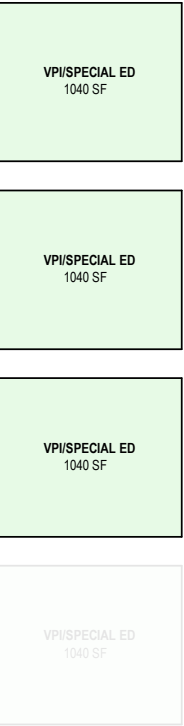
OPTION 2: GRAPHIC PROGRAM

NOTE:
*Denote undersized spaces.

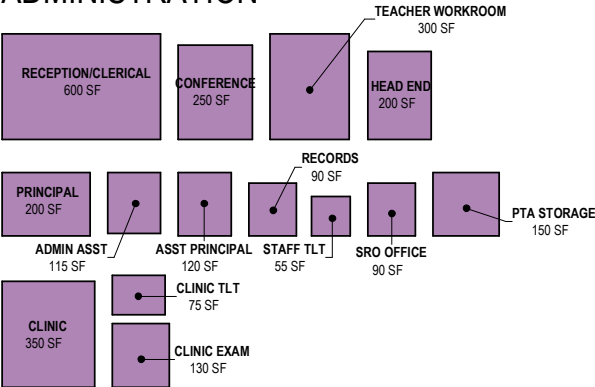
CAPACITY-GENERATING CLASSROOMS



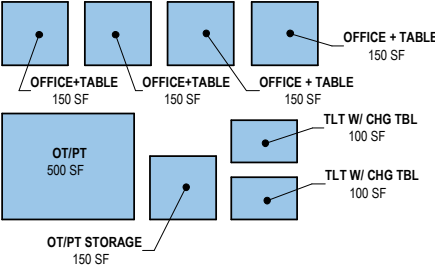
VPI / SPECIAL ED



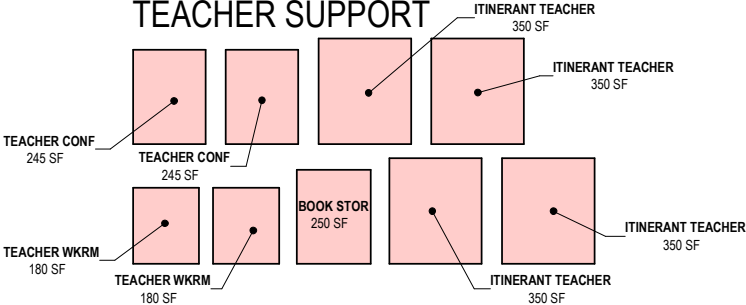
ADMINISTRATION



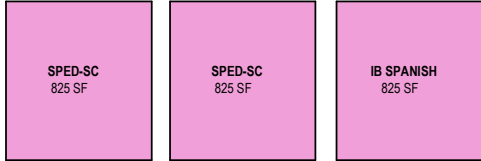
STUDENT SERVICES



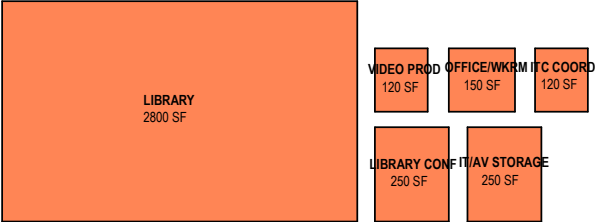
TEACHER SUPPORT



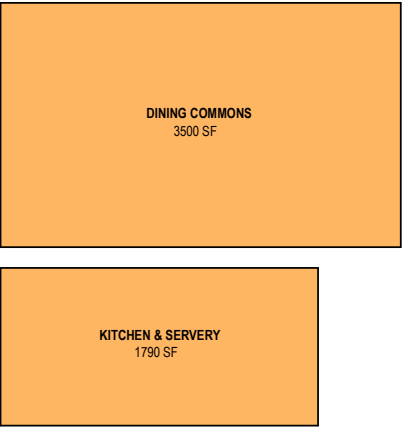
SCHOOL-SPECIFIC PROGRAMS



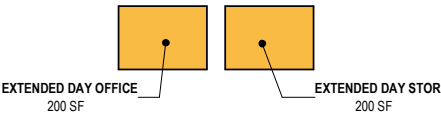
LIBRARY



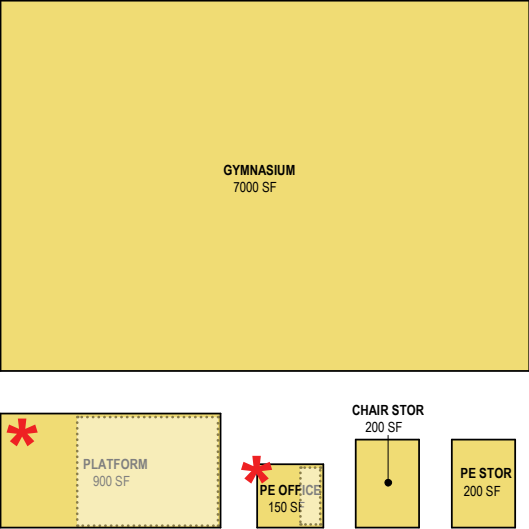
FOOD SERVICES



EXTENDED DAY



PHYSICAL EDUCATION



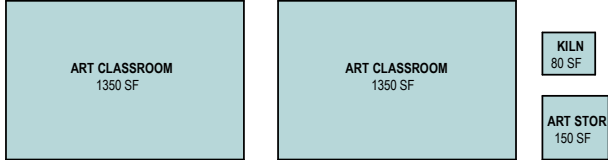
SMALL GROUP INSTRUCTION



EXTENDED LEARNING AREA



ART

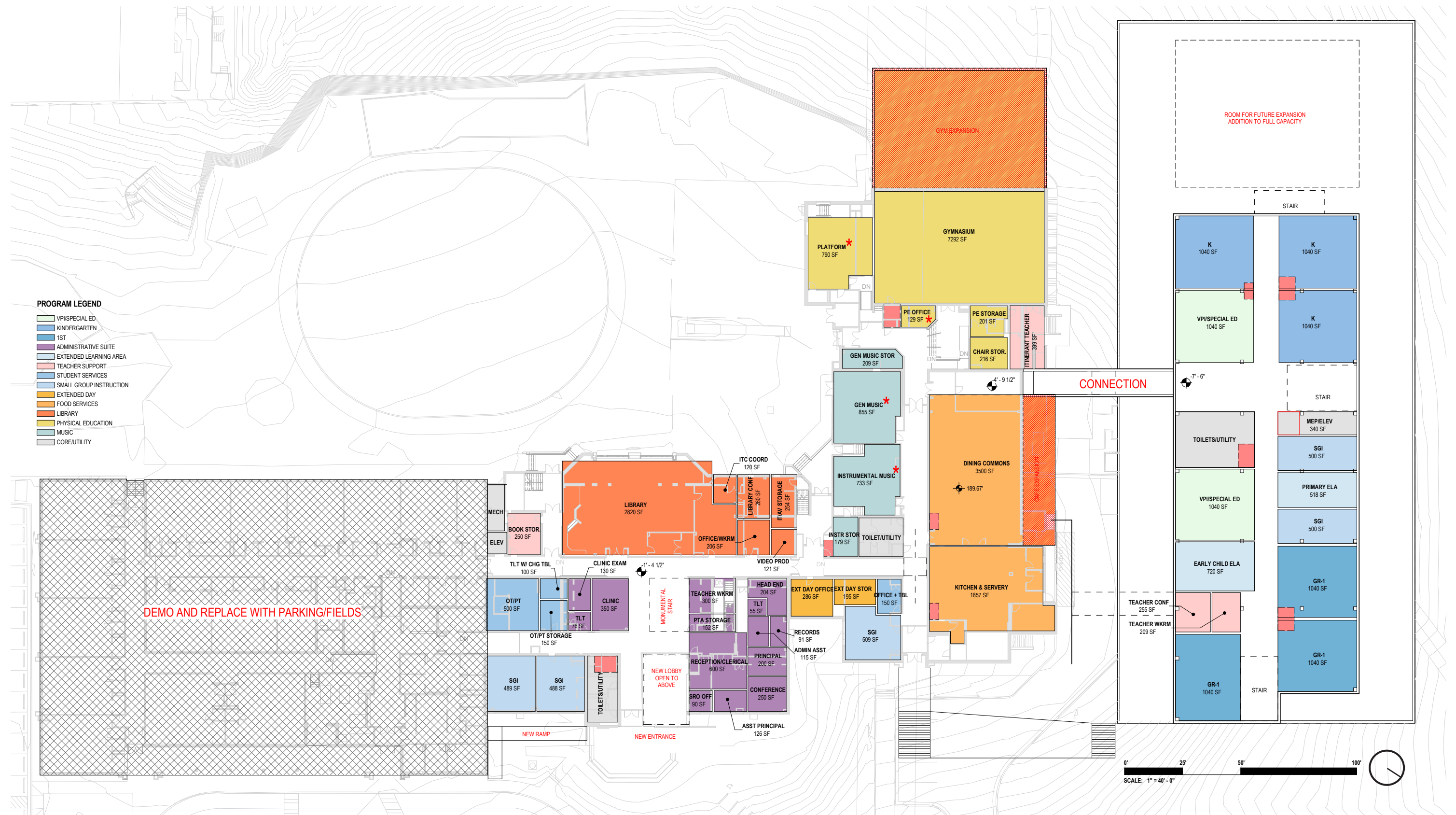


MUSIC



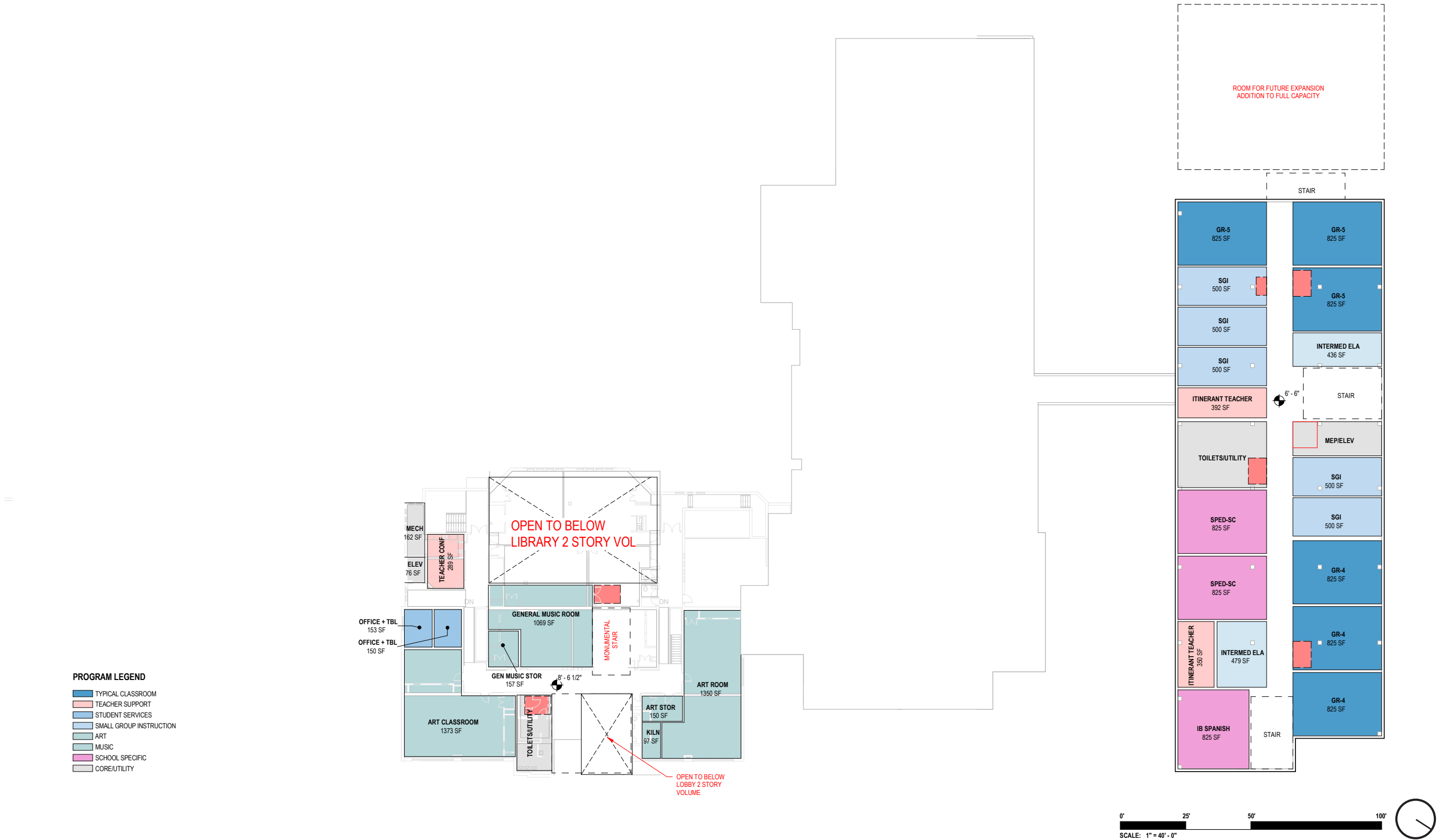
OPTION 2: EXISTING LEVEL 1 FLOOR PLAN

The drawings are shown here for the purposes of a test-fit of the program elements. The drawings are not to be construed as concept design. Concept designs will be developed further after approval of the program.



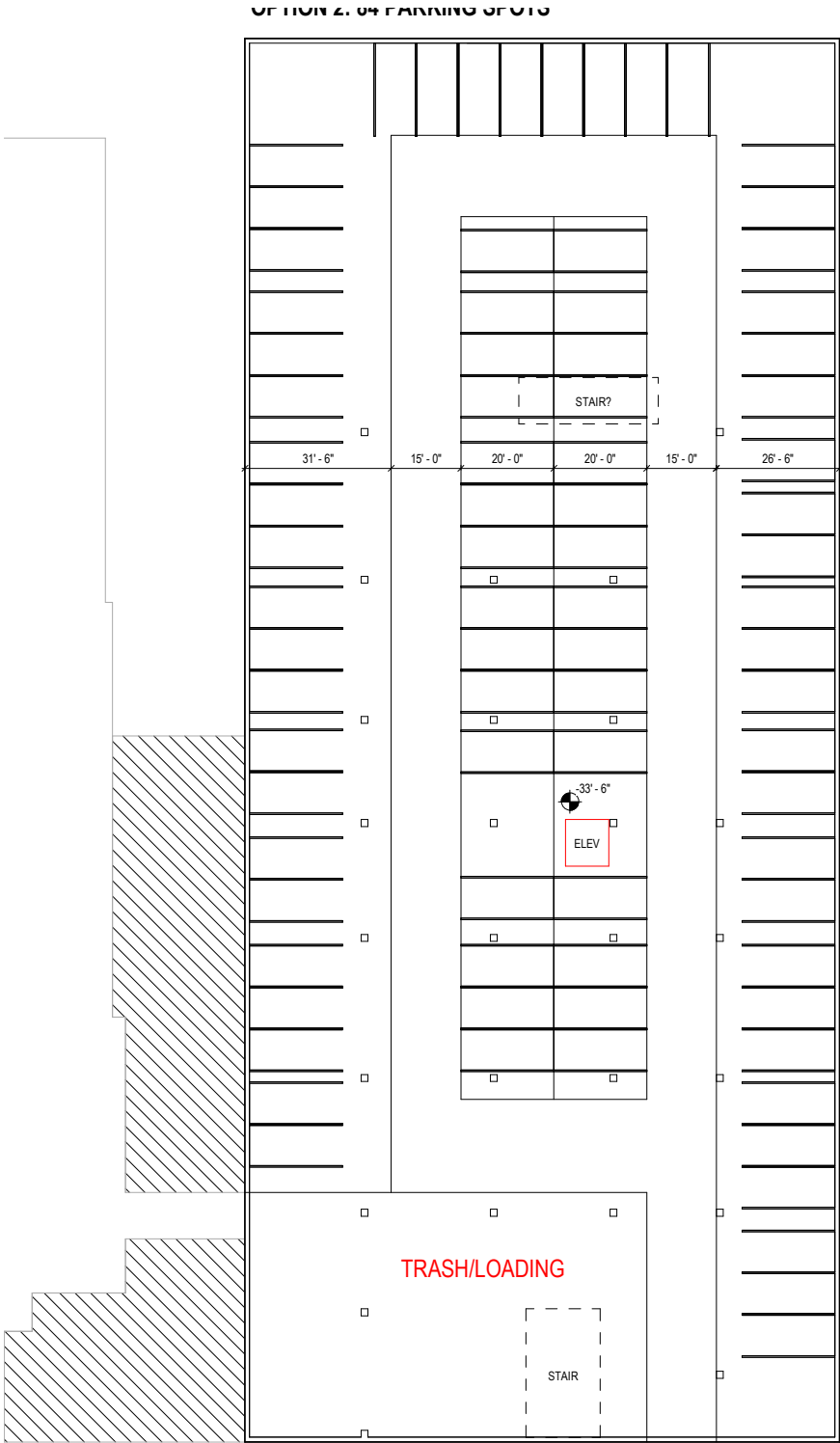
OPTION 2: EXISTING LEVEL 2A, LEVEL 2B FLOOR PLANS

NOTE:
The drawings are shown here for the purposes of a test-fit of the program elements. The drawings are not to be construed as concept design. Concept designs will be developed further after approval of the program.

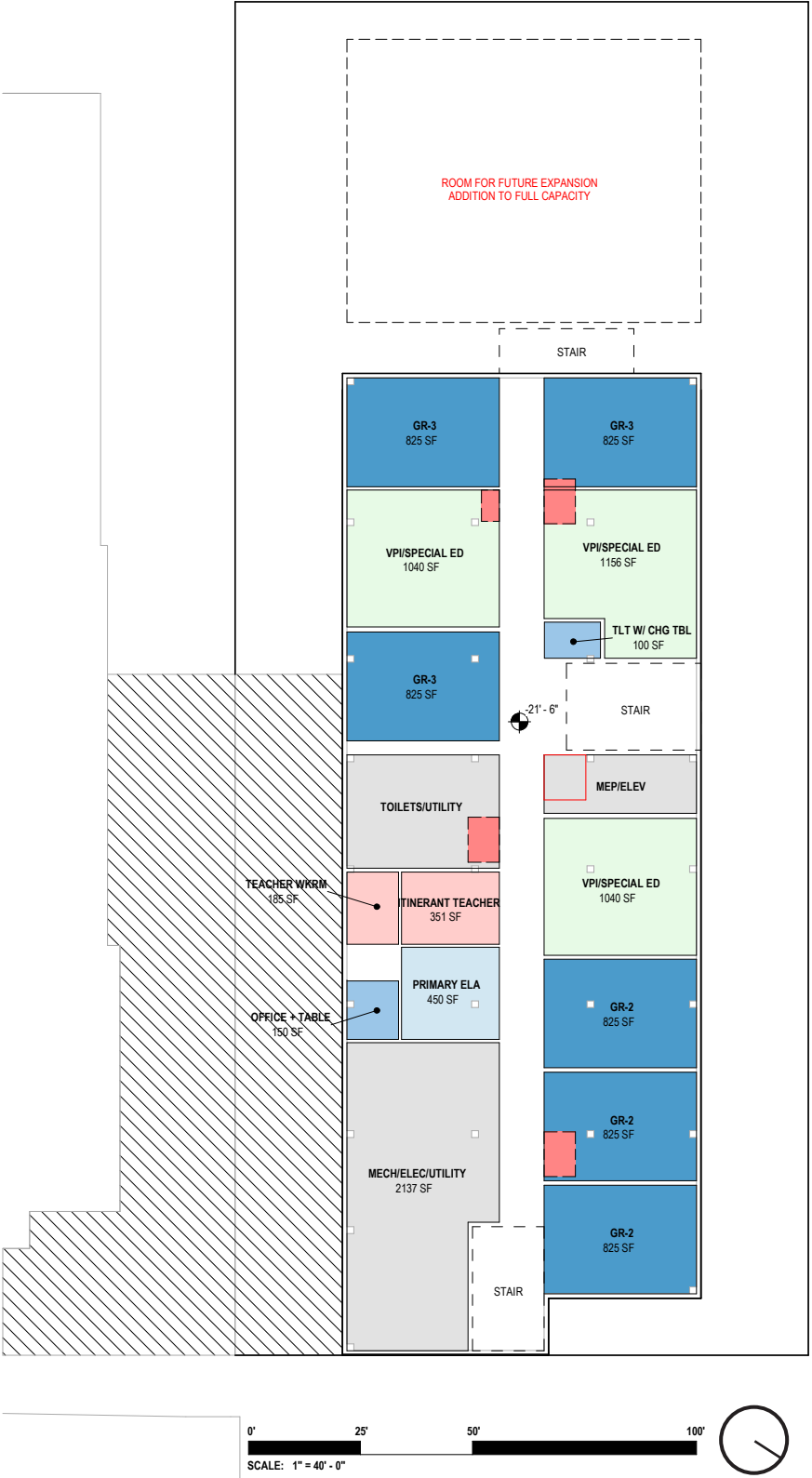


OPTION 2: PARKING LEVEL, LEVEL 0 FLOOR PLANS

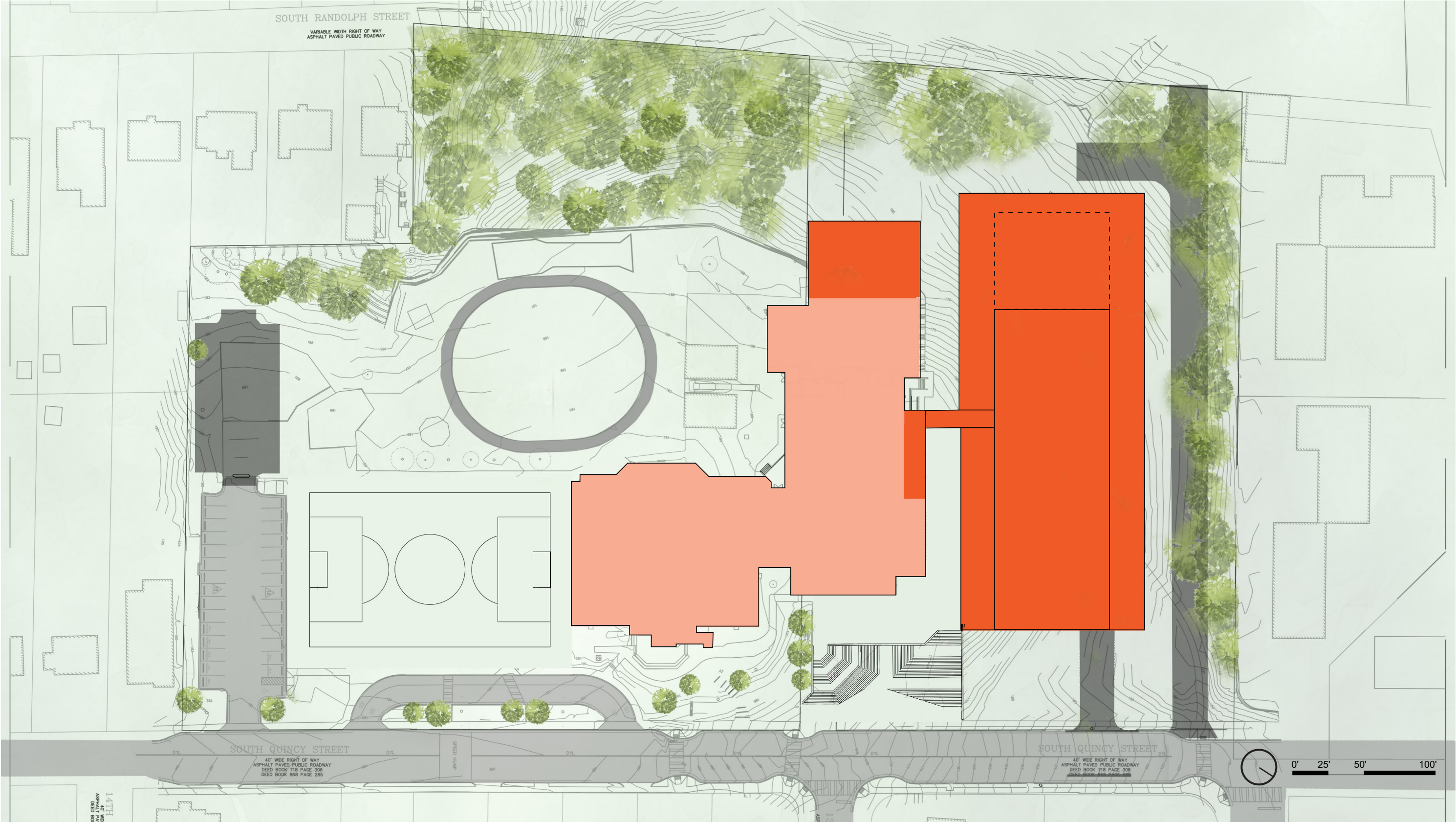
- PROGRAM LEGEND
- VPI/SPECIAL ED
 - TYPICAL CLASSROOM
 - TEACHER SUPPORT
 - STUDENT SERVICES
 - CORE/UTILITY



NOTE:
The drawings are shown here for the purposes of a test-fit of the program elements. The drawings are not to be construed as concept design. Concept designs will be developed further after approval of the program.



OPTION 2: SITE LAYOUT



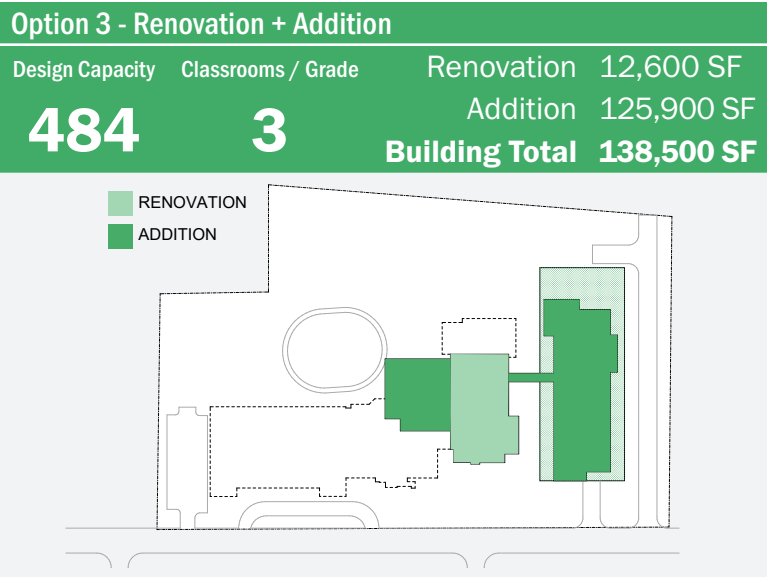
OPTION 3: OVERVIEW

Addition or Replacement to Full-Capacity

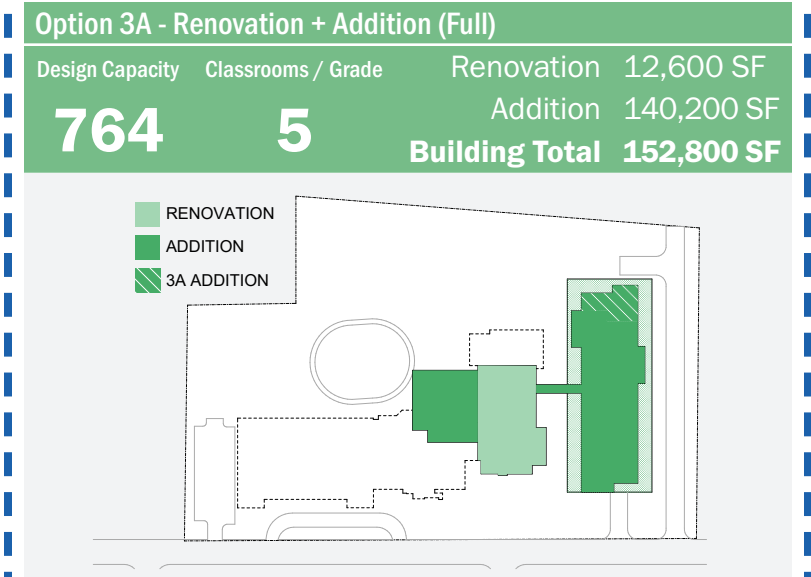
Option 3 combines new construction and limited existing building renovation to create a facility to house an elementary school at the current existing building Design Capacity (484) and per current Ed Spec Design Standards. Option 3A shows where an expanded addition could be added to increase population to a full-Design Capacity of (764) for an elementary school.

OPTION 3: Student Capacity following Renovation + Addition						
	Grade Level	No. of Rooms	Program SF	Program SF Net Total	Capacity Generating	Total Capacity
Early Childhood	PreK/VPI	4	1,040	4,220	16.00	64
	K	5	1,040	5,280	23.33	116.65
				9,500		180.65
Primary Grades	1 st	5	1,040	5,280	23.33	116.65
	2 nd	5	825	4,125	23.33	116.65
				9,405		233.3
Intermediate Grades	3 rd	5	825	4,125	23.33	116.65
	4 th	5	825	4,125	23.33	116.65
	5 th	5	825	4,125	23.33	116.65
				12,375		349.95
Building Capacity						764

OPTION 3A: Student Capacity of Full Addition						
	Grade Level	No. of Rooms	Program SF	Program SF Net Total	Capacity Generating	Total Capacity
Early Childhood	PreK/VPI	0	1,040	1,040	16.00	0
	K	2	1,040	1,040	23.33	46.66
				2,080		46.66
Primary Grades	1 st	2	1,040	1,040	23.33	46.66
	2 nd	2	825	1,650	23.33	46.66
				9,405		93.32
Intermediate Grades	3 rd	2	825	1,650	23.33	46.66
	4 th	2	825	1,650	23.33	46.66
	5 th	2	825	1,650	23.33	46.66
				4,950		139.98
Building Capacity						280
TOTAL FUTURE BUILDING CAPACITY						764



Note 1: Building Total SF includes 37,800 SF of structured garage.



Note 1: Building Total SF includes 37,800 SF of structured garage.

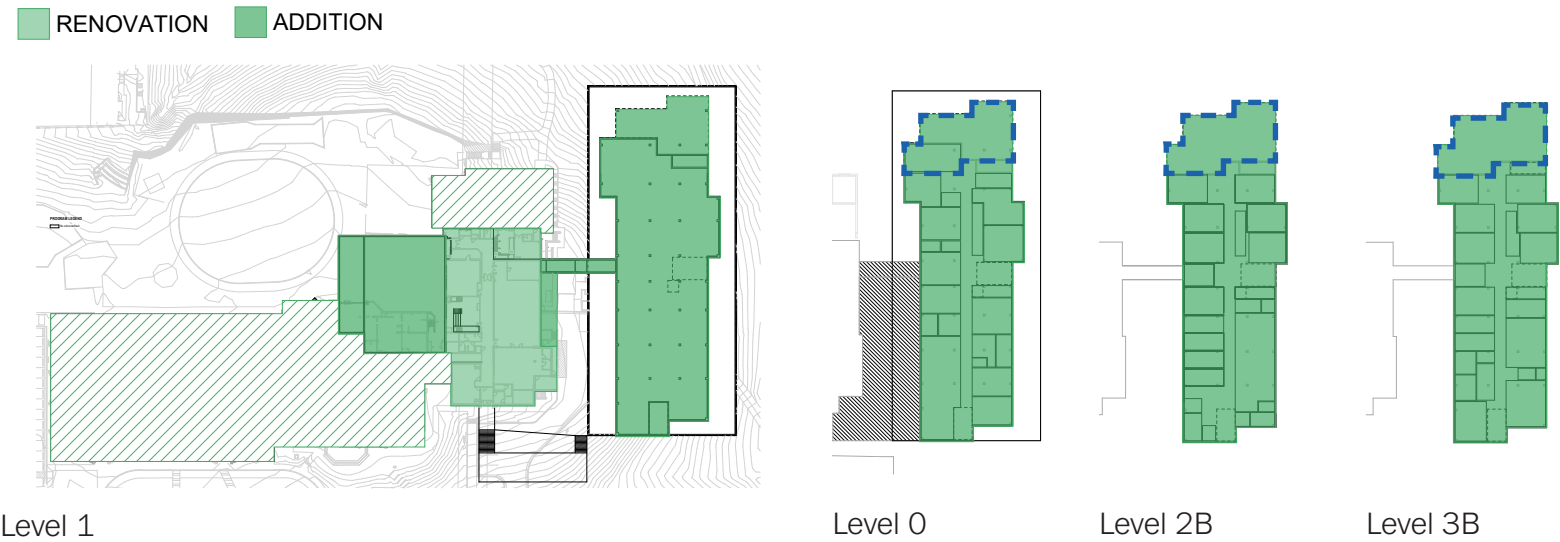
PROS

- Largest amount of outdoor play area
- Increased on-site parking
- Students can remain in classrooms during phased construction
- Designated entrance to gym for afterschool events

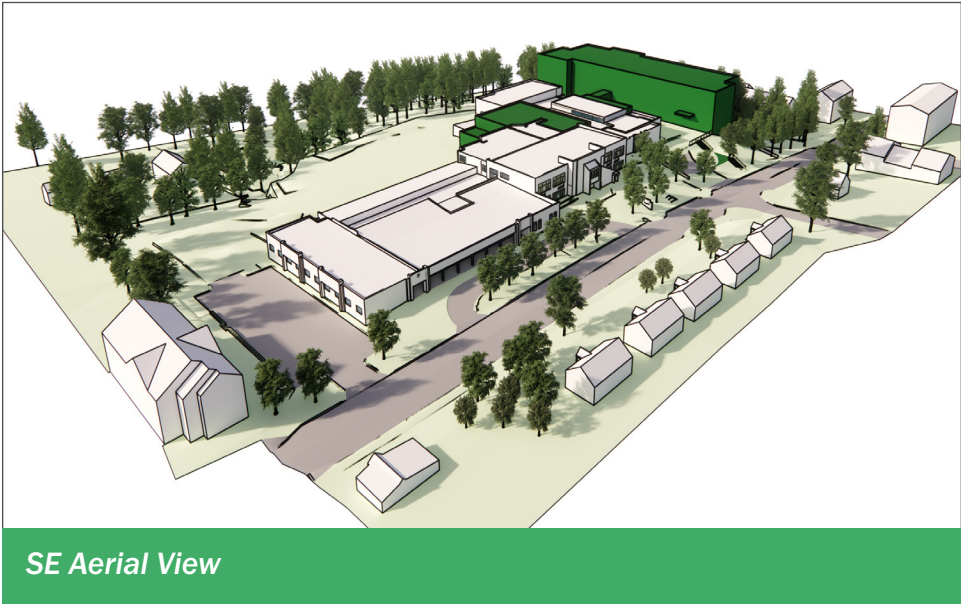
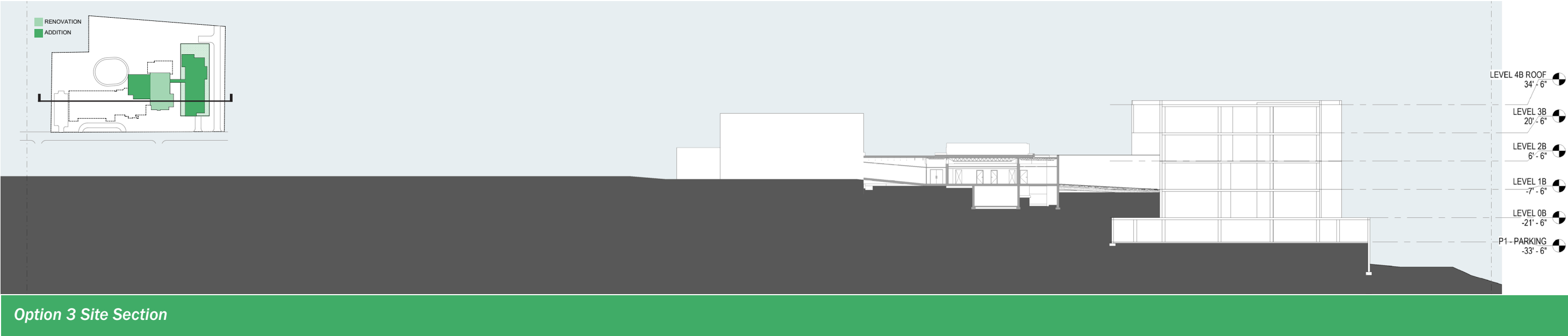
CONS

- Tallest building volume
- Largest amount of demolition and site work

Breakdown of Renovation vs Addition per Floor



OPTION 3: SECTION AND 3D VIEWS



OPTION 3: ED SPEC PROGRAM

Program Type	Program Usage	Proposed Area SF (RES)	ED Spec (Reed)	Delta SF	Delta %	Remarks
School-Specific Existing Program	SPED-SC	825	-	-	-	Program not included in Ed Spec
School-Specific Existing Program	SPED-SC	825	-	-	-	Program not included in Ed Spec
School-Specific Existing Program	IB Spanish	925	-	-	-	Program not included in Ed Spec
Administration	Reception / Clerical	600	600	0	0	
Administration	Conference	250	250	0	0	
Administration	Teacher Workroom	300	300	0	0	
Administration	Head End	200	200	0	0	
Administration	Principal	200	200	0	0	
Administration	Admin Assisstant	115	115	0	0	
Administration	Assistant Principal	120	120	0	0	
Administration	Records	129	90	39	43	
Administration	Staff Toilet	55	55	0	0	
Administration	SRO Office	90	90	0	0	
Administration	PTA Storage	150	150	0	0	
Administration	Clinic	415	350	65	19	
Administration	Clinic Toilet	75	75	0	0	
Administration	Clinic Exam	130	130	0	0	
Art / Music	Art	1441	1350	91	7	
Art / Music	Art Storage	150	150	0	0	
Art / Music	Art	1350	1350	0	0	
Art / Music	Kiln	80	80	0	0	
Art / Music	General Music	950	950	0	0	
Art / Music	General Music Storage	150	150	0	0	
Art / Music	General Music	950	950	0	0	
Art / Music	General Music Storage	152	150	2	1	
Art / Music	Instrumental Music	825	825	0	0	
Art / Music	Instrumental Music Storage	214	200	14	7	
Classroom	VPI	1040	1040	0	0	SF includes a single occupant toilet
Classroom	VPI	1040	1040	0	0	SF includes a single occupant toilet
Classroom	VPI	1040	1040	0	0	SF includes a single occupant toilet
Classroom	VPI	1040	1040	0	0	SF includes a single occupant toilet
Classroom	Kindergarten	1040	1040	0	0	SF includes a single occupant toilet
Classroom	Kindergarten	1040	1040	0	0	SF includes a single occupant toilet
Classroom	Kindergarten	1040	1040	0	0	SF includes a single occupant toilet
Classroom	Kindergarten	1040	1040	0	0	Additional classroom gained in Option 3A SF includes a single occupant toilet
Classroom	Kindergarten	1040	1040	0	0	Additional classroom gained in Option 3A SF includes a single occupant toilet

Program Type	Program Usage	Proposed Area SF (RES)	ED Spec (Reed)	Delta SF	Delta %	Remarks
Classroom	GR-1	1040	1040	0	0	SF includes a single occupant toilet
Classroom	GR-1	1040	1040	0	0	SF includes a single occupant toilet
Classroom	GR-1	1040	1040	0	0	SF includes a single occupant toilet
Classroom	GR-1	1040	1040	0	0	Additional classroom gained in Option 3A SF includes a single occupant toilet
Classroom	GR-1	1040	1040	0	0	Additional classroom gained in Option 3A SF includes a single occupant toilet
Classroom	GR-2	825	825	0	0	
Classroom	GR-2	825	825	0	0	
Classroom	GR-2	825	825	0	0	
Classroom	GR-2	825	825	0	0	Additional classroom gained in Option 3A
Classroom	GR-2	825	825	0	0	Additional classroom gained in Option 3A
Classroom	GR-3	825	825	0	0	
Classroom	GR-3	825	825	0	0	
Classroom	GR-3	825	825	0	0	
Classroom	GR-3	825	825	0	0	Additional classroom gained in Option 3A
Classroom	GR-3	825	825	0	0	Additional classroom gained in Option 3A
Classroom	GR-4	825	825	0	0	
Classroom	GR-4	825	825	0	0	
Classroom	GR-4	825	825	0	0	
Classroom	GR-4	825	825	0	0	Additional classroom gained in Option 3A
Classroom	GR-4	825	825	0	0	Additional classroom gained in Option 3A
Classroom	GR-5	825	825	0	0	
Classroom	GR-5	825	825	0	0	
Classroom	GR-5	825	825	0	0	Additional classroom gained in Option 3A
Classroom	GR-5	825	825	0	0	Additional classroom gained in Option 3A
Extended Day	Extended Day Office / Storage	519	400	119	30	
Extended Learning Area	Early Childhood	350	350	0	0	
Extended Learning Area	Early Childhood	350	350	0	0	
Extended Learning Area	Primary Grade	450	450	0	0	
Extended Learning Area	Primary Grade	450	450	0	0	
Extended Learning Area	Primary Grade	419	450	-31	-7	
Extended Learning Area	Intermediate Grade	400	400	0	0	
Extended Learning Area	Intermediate Grade	450	400	50	13	
Extended Learning Area	Intermediate Grade	349	400	-51	-13	
Extended Learning Area	ELA	248	-	-	-	
Food Services	Kitchen / Servery	1857	1790	67	4	New renovation meets county standards

OPTION 3: ED SPEC PROGRAM

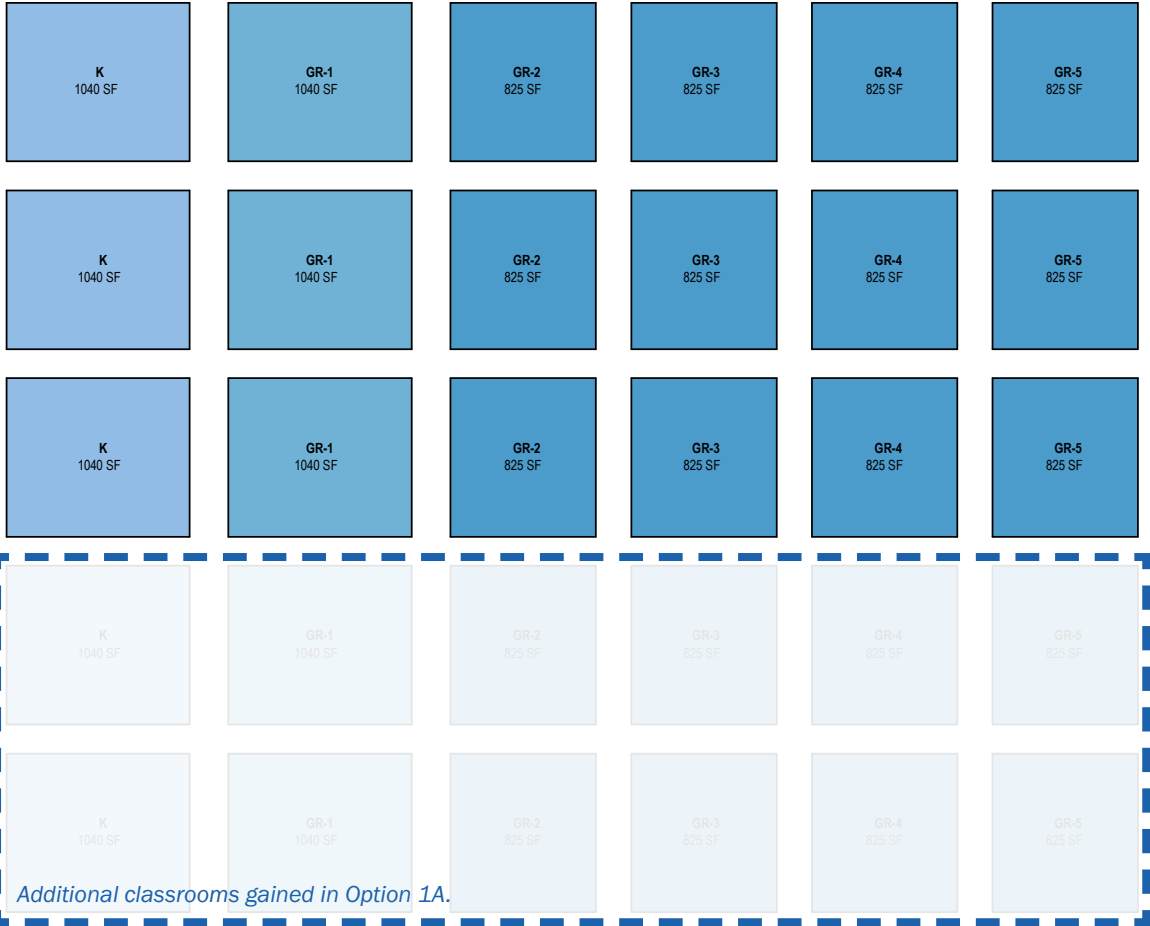
Program Type	Program Usage	Proposed Area SF (RES)	ED Spec (Reed)	Delta SF	Delta %	Remarks
Food Services	Dining Commons	3500	3500	0	0	
Library	Library	2753	2800	-47	-2	
Library	Video Production	127	120	7	6	
Library	Office / Workroom	150	150	0	0	
Library	ITC Coordinator	120	120	0	0	
Library	Conference	251	250	1	0	
Library	IT/AV Storage	250	250	0	0	
Physical Education	Gymnasium	7000	7000	0	0	
Physical Education	Platform / Stage	900	900	0	0	
Physical Education	PE Office	150	150	0	0	
Physical Education	Chair Storage	200	200	0	0	
Physical Education	PE Storage	200	200	0	0	
Small Group Instruction	SGI	502	500	2	0	
Small Group Instruction	SGI	500	500	0	0	
Small Group Instruction	SGI	500	500	0	0	
Small Group Instruction	SGI	500	500	0	0	
Small Group Instruction	SGI	500	500	0	0	
Small Group Instruction	SGI	500	500	0	0	
Small Group Instruction	SGI	500	500	0	0	
Small Group Instruction	SGI	500	500	0	0	
Small Group Instruction	SGI	529	500	29	6	
Small Group Instruction	SGI	500	500	0	0	
Student Services	Office + Table w/ 4 Chairs	180	150	30	20	
Student Services	Office + Table w/ 4 Chairs	150	150	0	0	
Student Services	Office + Table w/ 4 Chairs	150	150	0	0	
Student Services	Office + Table w/ 4 Chairs	150	150	0	0	
Student Services	Toilet w/ Changing Table	147	-	-	-	
Student Services	Toilet w/ Changing Table	100	-	-	-	
Student Services	OT/PT	500	500	0	0	
Student Services	OT/PT Storage	150	150	0	0	

Program Type	Program Usage	Proposed Area SF (RES)	ED Spec (Reed)	Delta SF	Delta %	Remarks
Teacher Support	Conference	400	245	155	63	
Teacher Support	Conference	400	245	155	63	
Teacher Support	Itinerant Teacher	400	350	50	14	
Teacher Support	Itinerant Teacher	400	350	50	14	
Teacher Support	Itinerant Teacher	400	350	50	14	
Teacher Support	Itinerant Teacher	400	350	50	14	
Teacher Support	Itinerant Teacher	400	350	50	14	
Teacher Support	Workroom	300	180	69	38	
Teacher Support	Workroom	200	180	120	67	
Teacher Support	Book Storage	300	250	50	20	
Utility / Building Core	-		-	-		

Notes:
APS Ed Spec Standards are based on the APS Education Specification from the Elementary at Walter Reed Site (now Cardinal Elementary School), dated June 2, 2018.
Bold text indicates a classroom (Capacity-Generating) space.

OPTION 3: GRAPHIC PROGRAM

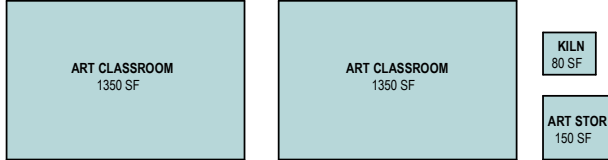
CAPACITY-GENERATING CLASSROOMS



SMALL GROUP INSTRUCTION



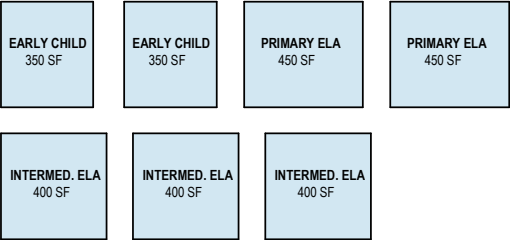
ART



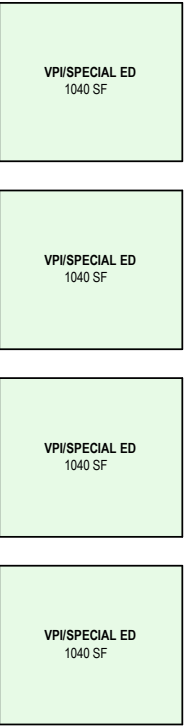
MUSIC



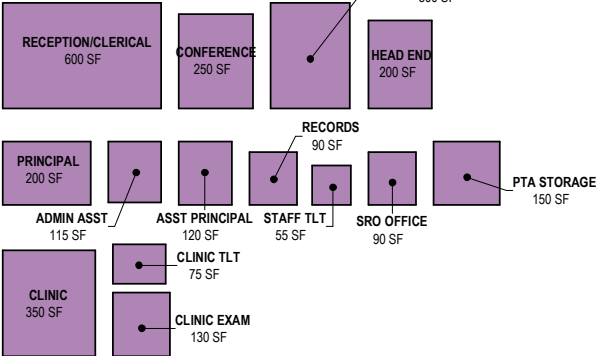
EXTENDED LEARNING AREA



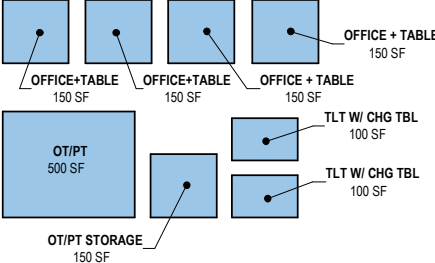
VPI / SPECIAL ED



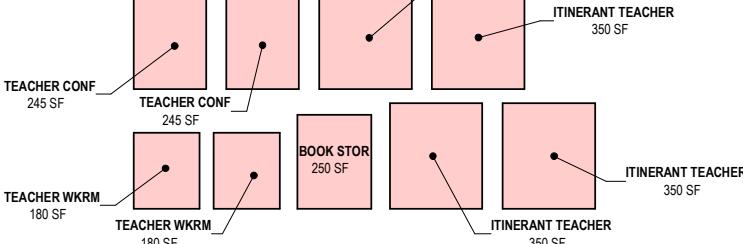
ADMINISTRATION



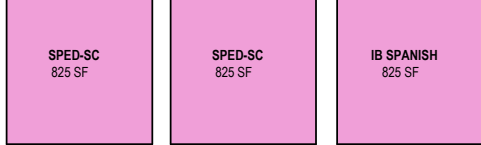
STUDENT SERVICES



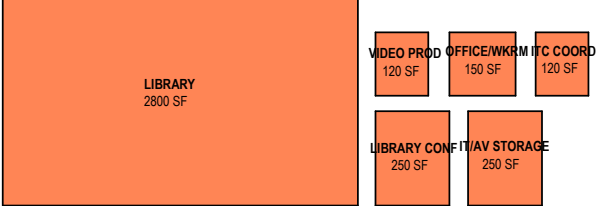
TEACHER SUPPORT



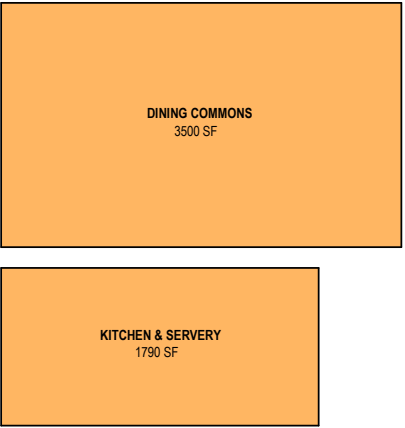
SCHOOL-SPECIFIC PROGRAMS



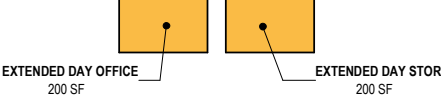
LIBRARY



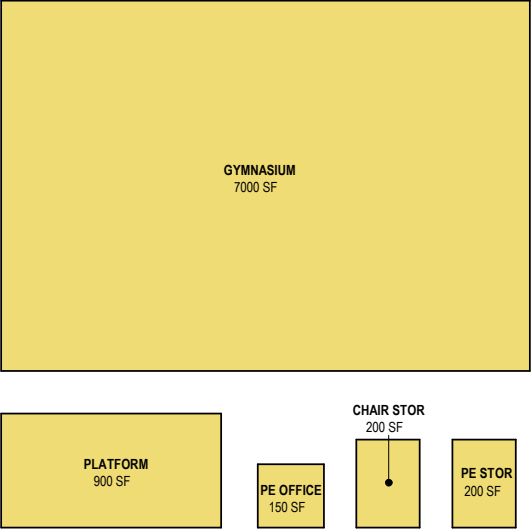
FOOD SERVICES



EXTENDED DAY

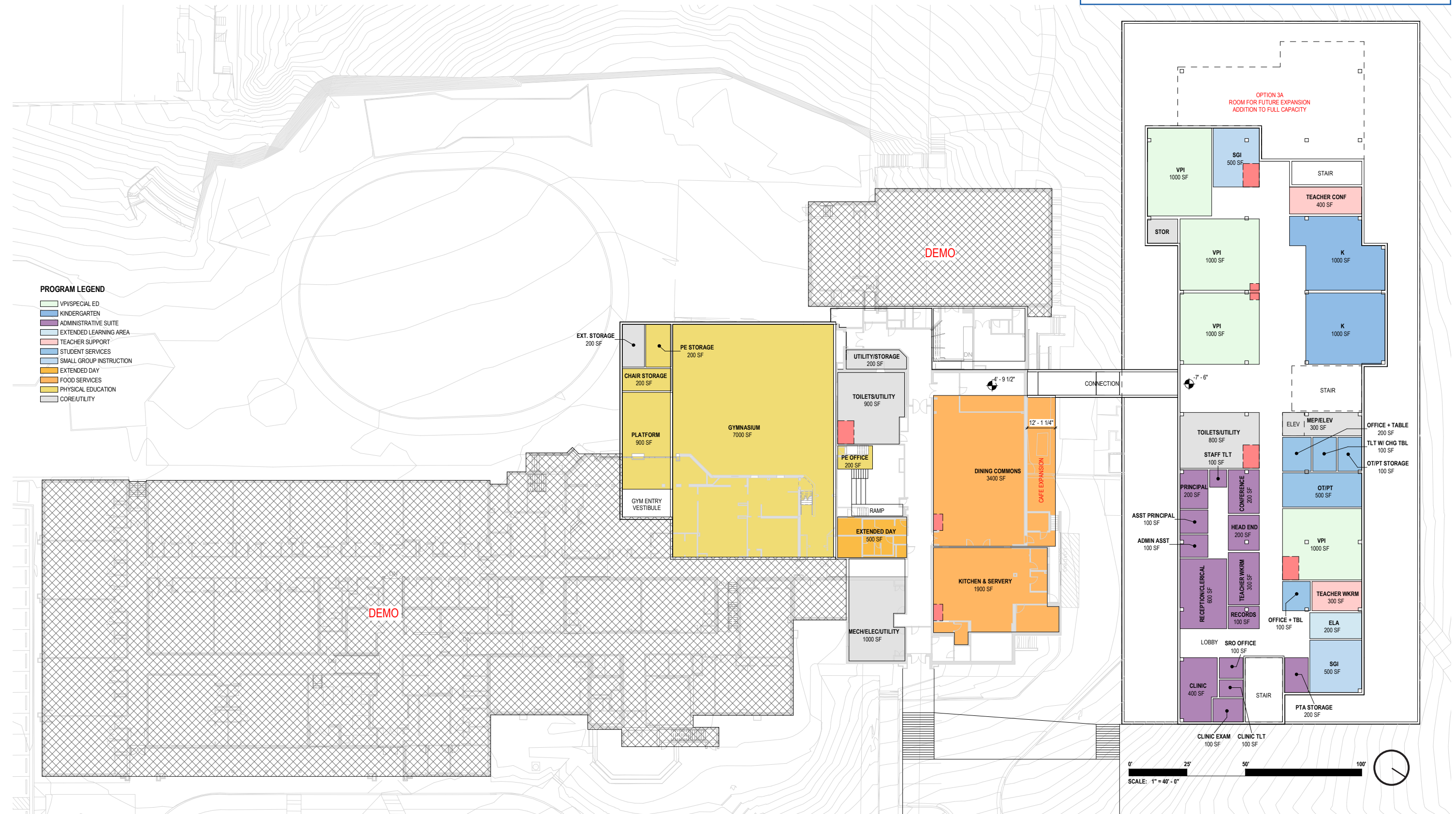


PHYSICAL EDUCATION



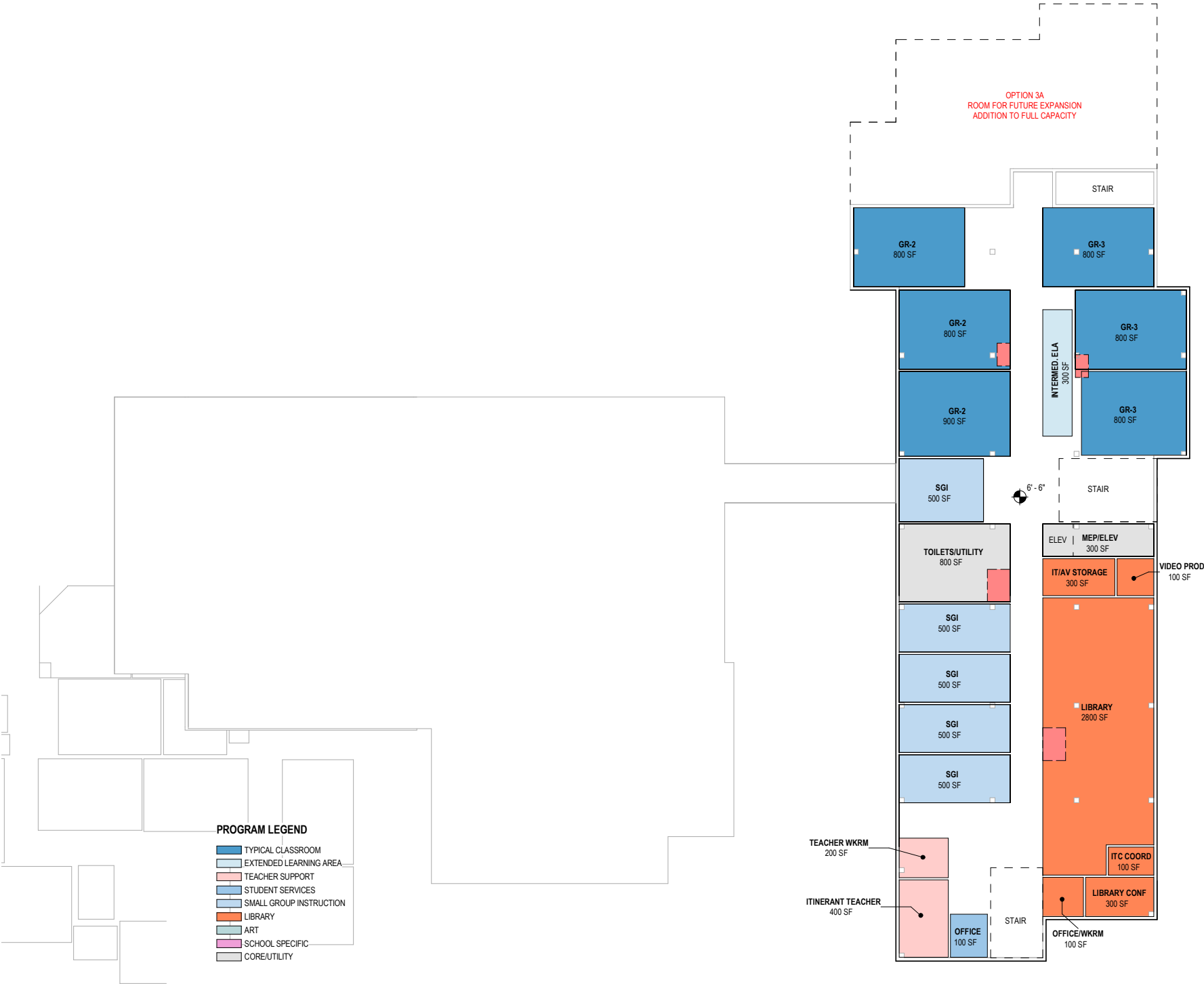
OPTION 3: LEVEL 1 FLOOR PLAN

The drawings are shown here for the purposes of a test-fit of the program elements. The drawings are not to be construed as concept design. Concept designs will be developed further after approval of the program.



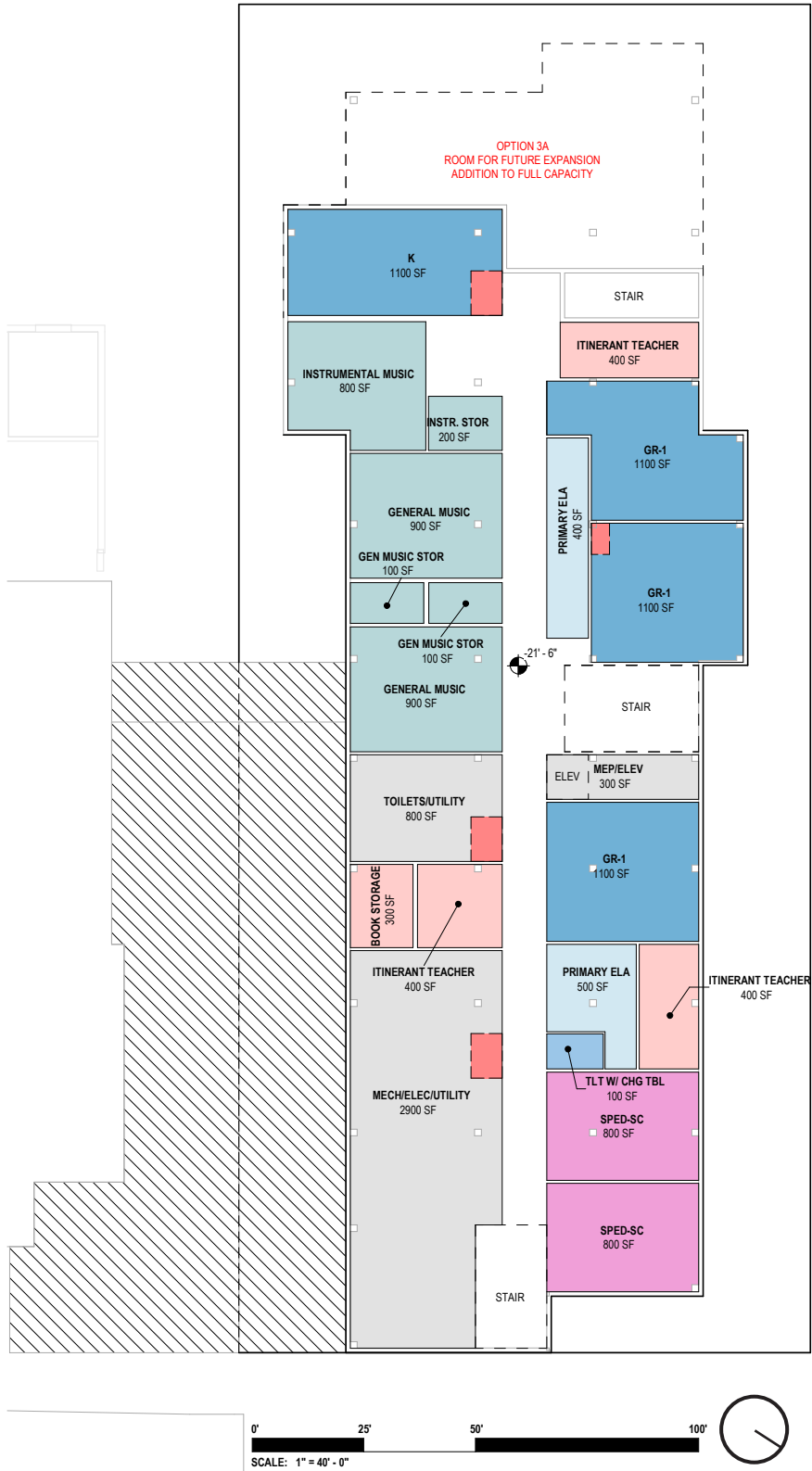
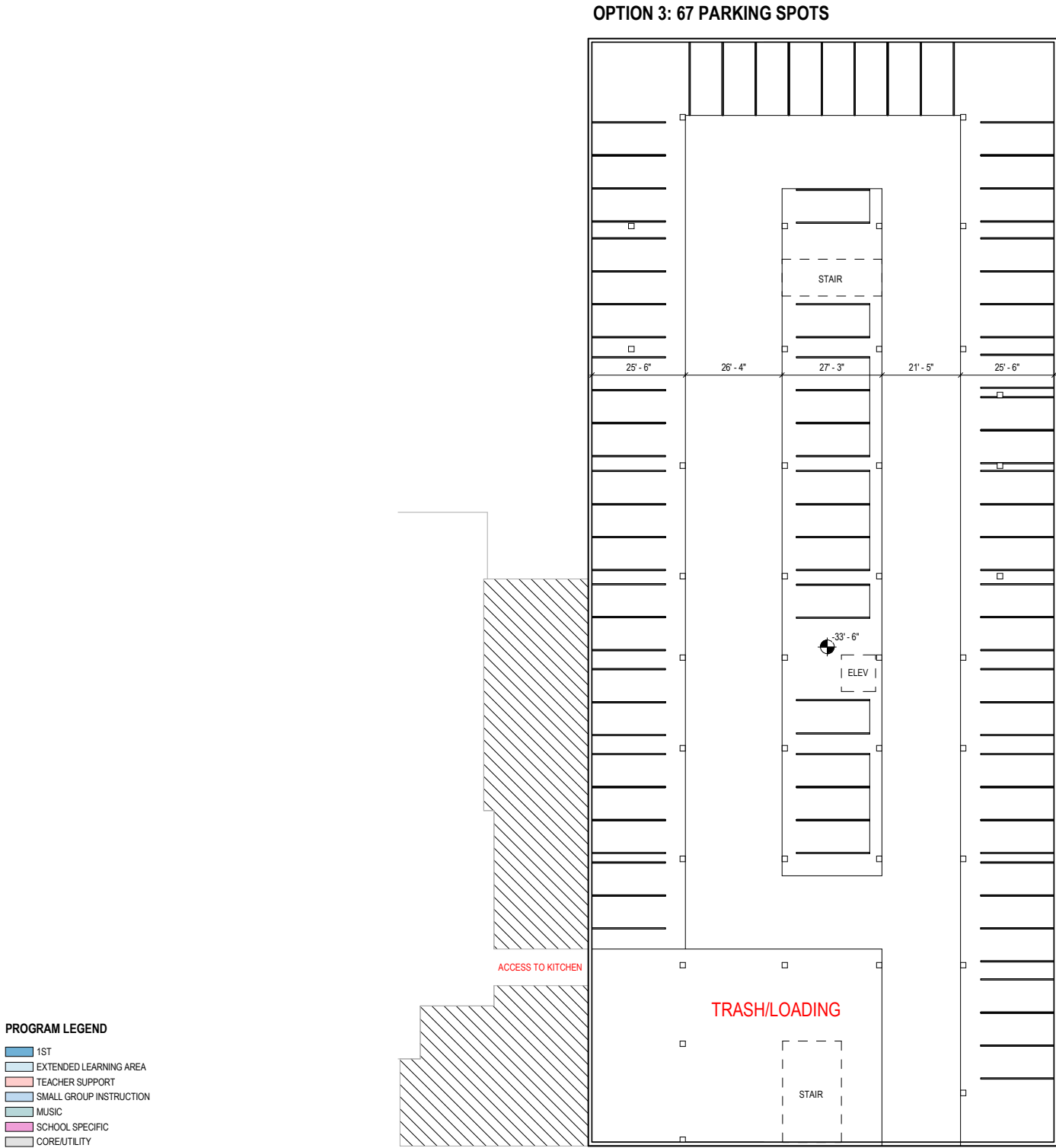
OPTION 3: LEVEL 2B, LEVEL 3 FLOOR PLANS

NOTE:
The drawings are shown here for the purposes of a test-fit of the program elements. The drawings are not to be construed as concept design. Concept designs will be developed further after approval of the program.

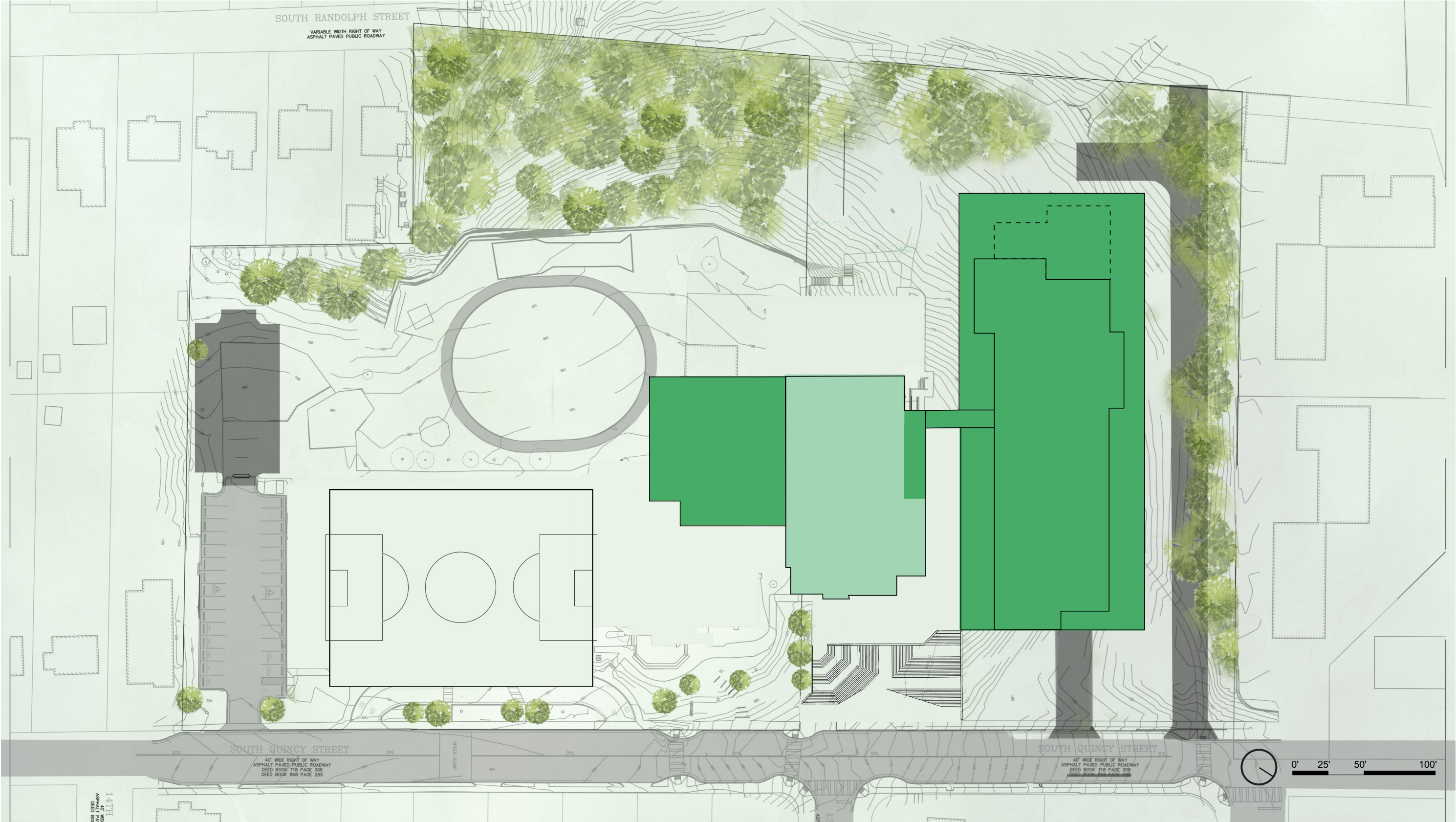


OPTION 3: PARKING LEVEL, LEVEL 0 FLOOR PLANS

NOTE:
The drawings are shown here for the purposes of a test-fit of the program elements. The drawings are not to be construed as concept design. Concept designs will be developed further after approval of the program.



OPTION 3: SITE LAYOUT





SUMMARY & RECOMMENDATIONS

SUMMARY & RECOMMENDATIONS

Current Limitations

The school operates relatively well as a neighborhood school, in spite of the physical shortcomings noted in this report. It is a warm and welcoming atmosphere, and is a very pedestrian-friendly facility, unobtrusively nestled within the residential neighborhood. When the student population was lower, the facility could compensate for some sub-standard spatial layouts because there was enough room to informally rearrange educational spaces. Now that the student population is filling-out the school, plus (2) relocatable classrooms, the physical limitations have become more apparent.

The physical limitations impose plenty of challenges at Randolph Elementary School, but there are also opportunities. The constraints of the site, with its lack of flat buildable area, and the constraints of the building, with its patchwork of structures, will continue to limit the school's ability to meet the APS Ed Spec standards. Renovations to the existing school are certainly possible. However, any renovation(s) substantial enough to correct the physical deficiencies would be disruptive to the school's operations, and would likely be more expensive, on a cost per square foot basis, than standard new construction. As long as the building remains a patchwork of additions and renovations, it will continue to be constrained by these limitations.

Incremental Approach

One approach to upgrading the educational environment at Randolph Elementary School is to employ an incremental approach, with a series of smaller discrete renovation projects, each targeted to improve certain distinct issues. To date, this has been the approach at this facility. There was an HVAC modernization and re-roofing project in 2018. The outdoor play area was upgraded in 2022 with a new oval running track and turf field, which also doubled as a subsurface stormwater retention field. And most recently, the Kitchen was completed upgraded and modernized in 2024.

This incremental approach does well to improve certain features or distinct areas, but is more disruptive when addressing the main educational environments; classrooms, group instructions, or break-out spaces. For the main educational environments, additional relocatable classrooms would likely be needed, which would take away portions of the outdoor play area. Although these temporary disruptions might only last a few

years, they would certainly further constrain a facility that is already spatially challenged, and they would further limit the usable space of the outdoor play areas.

Expanding Taller, Rather than Wider

At a certain point, the increases in student population will stretch the limits of any school, and Randolph Elementary School is already experiencing that strain and having to adapt with less-than-ideal educational environments. Although there are some two-story portions, it is mostly a single-story facility. Given the lack of flat buildable area remaining on the property, the most cost-effective growth at this site will likely be a multi-story building of two or more floors.

While it is possible to add additional stories over the existing facility, it is not recommended at this site. It is typically more expensive to build on top of an existing structure, and would be even more complex at this facility since any new second story would likely be built over structures from differing time periods, further complicating the structure and adding to the costs. It is also a somewhat flawed logic to build a new facility, which might last 80 to 100 years or more, over top of an existing structure that might already be approaching the end of its lifetime.

Given the site constraints, the patchwork of structures that comprise the school building, and the upward trend in student population, we have concluded that the most cost-effective approach to increasing the student capacity while upgrading the educational environments would likely mean building taller rather than wider. There is simply not any flat buildable area available, without diminishing the outdoor play areas. Therefore, when APS has reached the point where they decide that the incremental approach is no longer sufficient to address the school's needs, it will likely require a more substantial multi-story addition in order to accommodate growth.

Where to Expand on a Highly Constrained Site

The property simply does not have much available flat buildable area, and the flat buildable area that is available is difficult to access and/or currently being used as outdoor play area. The only sizable areas for new construction, that are not already being occupied by buildings or outdoor play areas, are the steeply-sloped and forested hillsides to the west and

to the north. The west-side is difficult to access and slopes steeply down towards Doctors Branch Park, leaving the north-side as the most logical location for new construction. Accordingly, for Options 2 & 3, the proposed addition(s) are located in this area, which; provides direct access to South Quincy Street, can accommodate a parking garage buried-into the hillside, and can also allow for construction activity to be separated from the rest of the school and be less disruptive to the school's daily operations.

Multi-Story Approach

As Arlington County is becoming more urban and more populated, there will be less undeveloped areas, which will likely lead to buildings getting taller rather than wider. This also applies to facilities within APS. As density increases throughout the region, Randolph Elementary School epitomizes a lot of the challenges that APS will confront across the entire school system.

When APS decides that it make more sense to expand a facility with a substantial addition(s), rather than continuing with incremental renovations, a multi-story solution is likely to be a more cost-effective approach, unless the property is large enough to accommodate both large single-story buildings and outdoor play area.

In the case of Randolph Elementary School, it is not a large property, just 7.33 acres, and it is further constrained in flat buildable areas by the steeply-sloping hillsides. However, building an addition on the steeply-sloping hillside with a multi-story approach can be an advantage. The building can be partially buried into the hillside, which creates an opportunity for the parking garage, and other service areas, to be out of sight and otherwise not consuming valuable site acreage. The sloping hillside also creates the opportunity to build down as well as up, making each of the stacked floors less remote, thereby making the school easier to navigate. The sloping site and street/sidewalk also create the opportunity for multiple entrances to the facility. Currently, Randolph Elementary School uses a secondary entrance for afterschool programs, and summer programs, which can help control security and access.

The multi-story approach can also help with the traffic limitations noted in the traffic report. One of the most challenging aspects of the existing site conditions for traffic management is that the bus loop, which is rather small, and the vehicular pick-up/drop-off, and the pedestrian access all take place in the same general area. One of the recommendations from

SUMMARY & RECOMMENDATIONS

the traffic report is to provide a separate pick-up/drop-off area to mitigate congestion and improve safety. By expanding the school to the north along South Qunicy Street and building into the hillside, it is also possible to improve the traffic patterns by relocating the vehicular pick-up/drop-off area, creating better separation of modes of transportation.

Continuity of Operations

Throughout the development of this report, there were many discussions regarding the sequence of renovations and/or expansions. The design team was tasked by APS to ensure that any proposed phasing of renovations and/or expansions must include provisions for the continuity of operations. If any off-site locations were anticipated to accommodate some of the school’s functions, then those locations would have to be identified and included in the estimated costs for that option.

We are pleased to state that all of the concepts included in this feasibility report are not proposing any relocation of operations or functions off-site. Option 1 has included costs for relocatable classrooms, with up to (6) classrooms to temporarily accommodate overflow during the renovation process. For all the other options, it is anticipated that new construction will happen first, before any renovation or demolition of the existing facilities commences. The new construction has also been proposed in locations where there would be minimal disruptions to the school’s operations. Option 1A might have some challenges with construction trailers and with the delivery of materials, but some space has been allocated in the concept to limit the disruptions to the school as much as possible.

Conclusions

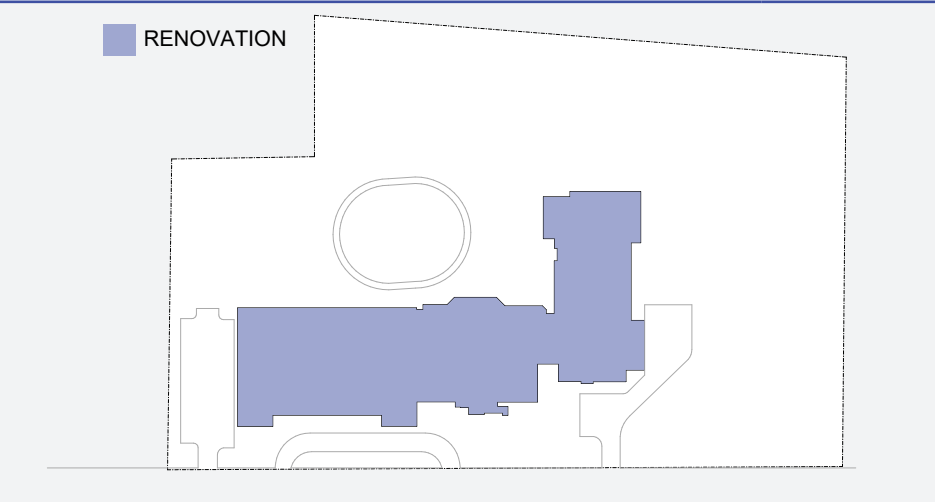
Feasibility of Expansion

APS tasked this design team with evaluating the existing conditions and demonstrating what could be feasible for the expansion of this facility, within the given parameters of the three options. This feasibility report represents the development of those concepts and provides some guidance for future direction, by providing concept plans, demonstrating the physical impact, and by providing the estimated costs, demonstrating the fiscal impact. However, it is not intended to be all-encompassing, and parts and pieces of the three options could certainly be combined into other alternate solutions. There is quite a lot of information condensed into this report, and the accompanying attachments, and it is expected that the information contained herein would provide a solid foundation in discussions for future facility improvements and expansion.

COST SUMMARY & COMPARISON

Option 1 - Renovation

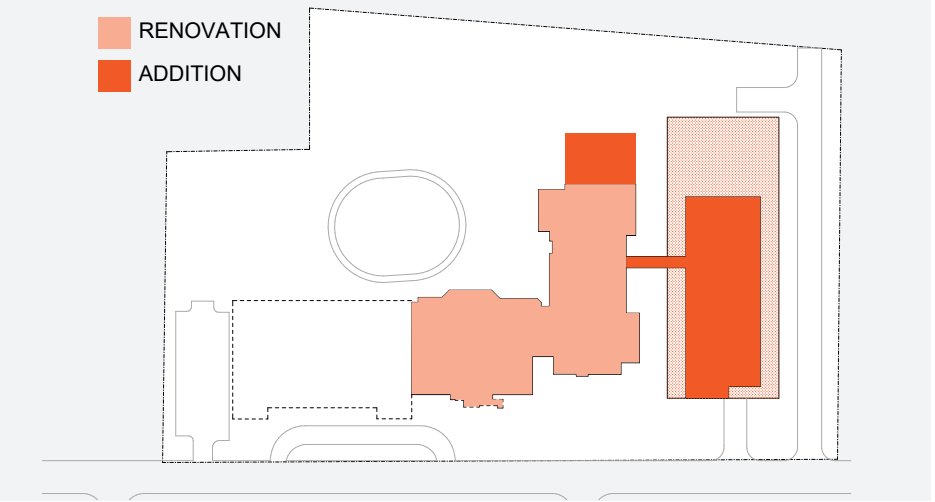
Design Capacity	Classrooms / Grade	Renovation	67,100 SF
328	2	Addition	0 SF
		Building Total	67,100 SF
Total Project Cost:		\$43,200,000	\$642/SF



This option contains program spaces that are non-compliant with current APS ED Spec.

Option 2 - Renovation + Addition

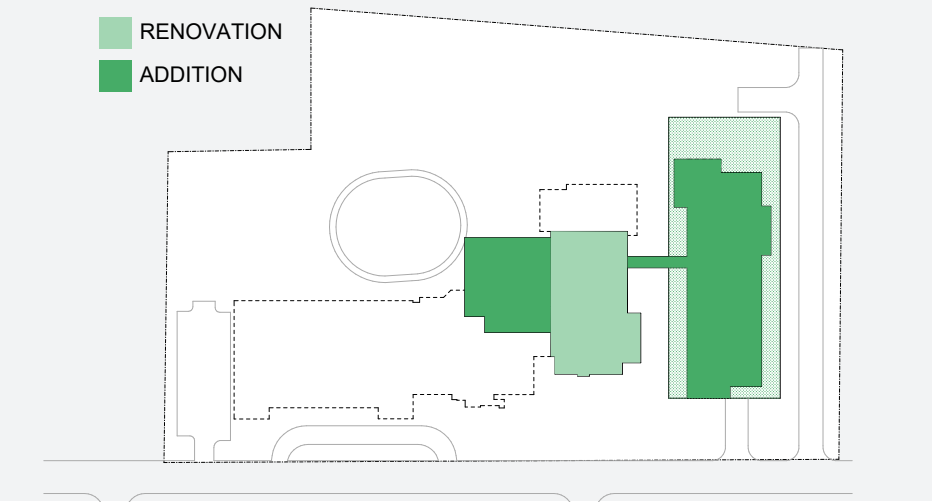
Design Capacity	Classrooms / Grade	Renovation	44,800 SF
484	3	Addition	92,600 SF
		Building Total	137,400 SF
Total Project Cost:		\$86,000,000	\$626/SF



This option contains program spaces that are non-compliant with current APS ED Spec.
Note 1: Building Total SF includes 37,800 SF of structured garage.

Option 3 - Renovation + Addition

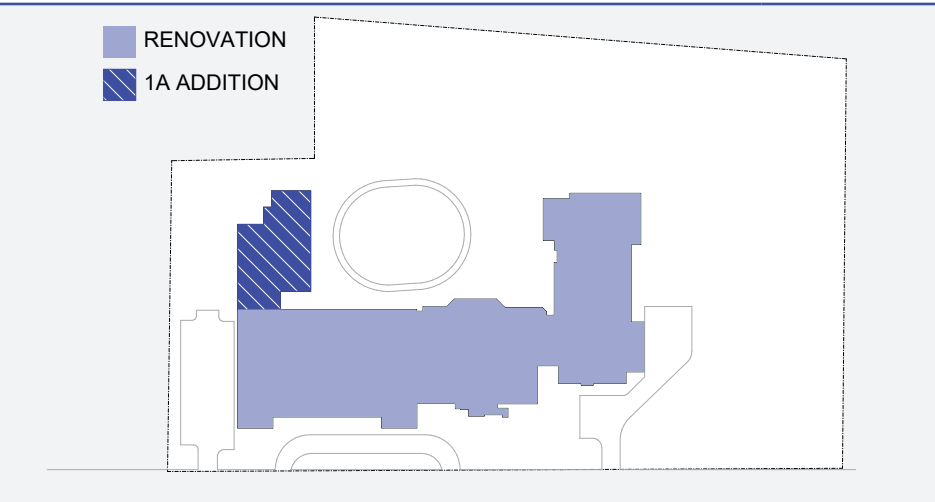
Design Capacity	Classrooms / Grade	Renovation	12,600 SF
484	3	Addition	125,900 SF
		Building Total	138,500 SF
Total Project Cost:		\$92,000,000	\$664/SF



Note 1: Building Total SF includes 37,800 SF of structured garage.

Option 1A - Renovation + Small Addition

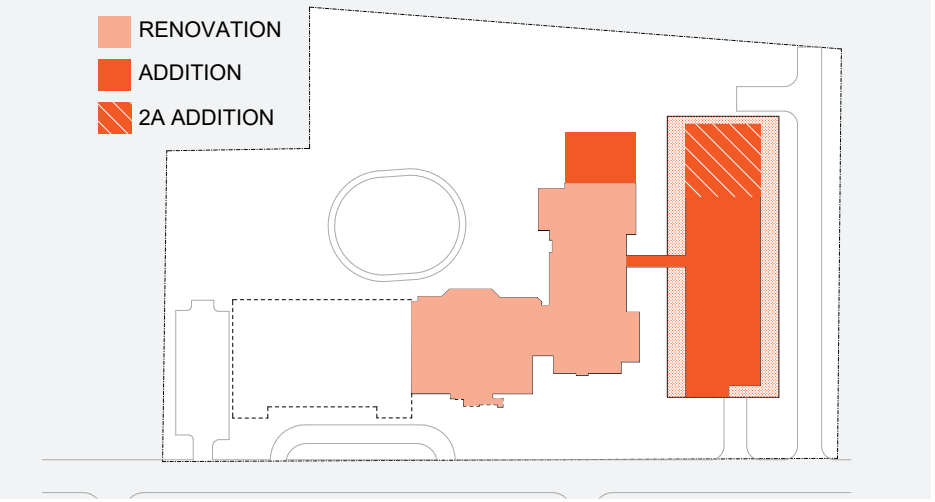
Design Capacity	Classrooms / Grade	Renovation	67,100 SF
484	3	Addition	8,000 SF
		Building Total	75,100 SF
Total Project Cost:		\$49,600,000	\$660/SF



This option contains program spaces that are non-compliant with current APS ED Spec.

Option 2A - Renovation + Addition (Full)

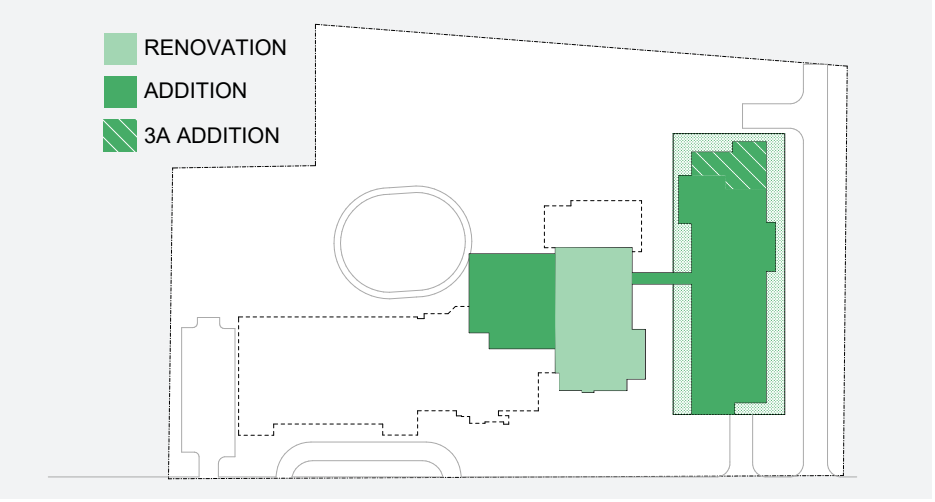
Design Capacity	Classrooms / Grade	Renovation	44,800 SF
764	5	Addition	110,000 SF
		Building Total	154,800 SF
Total Project Cost:		\$97,100,000	\$627/SF



This option contains program spaces that are non-compliant with current APS ED Spec.
Note 1: Building Total SF includes 37,800 SF of structured garage.

Option 3 - Renovation + Addition (Full)

Design Capacity	Classrooms / Grade	Renovation	12,600 SF
764	5	Addition	140,200 SF
		Building Total	152,800 SF
Total Project Cost:		\$103,300,000	\$676/SF



Note 1: Building Total SF includes 37,800 SF of structured garage.

* All totals are 2025 project costs from the reconciled estimates, excluding escalation/inflation.

GFA COMPARISON

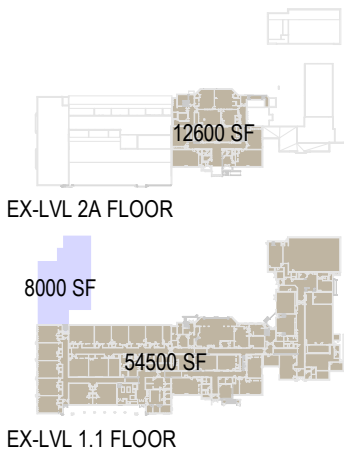
OPTION 1

AREA RENOVATION (OPT1)

AREA NO.	AREA
EX-LEVEL 1.1	
1-1.0	54500 SF
EX-LEVEL 2A	
1-2.0	12600 SF
TOTAL SF	67100 SF

AREA CURRENT-CAPACITY ALT. (OPT1-A)

AREA NO.	AREA
EX-LEVEL 1.1	
1-1.1	8000 SF
TOTAL SF	8000 SF



OPTION 2

AREA NEW CONSTRUCTION (OPT2)

AREA NO.	AREA
P1 - PARKING	
2-P.1	37800 SF
LEVEL 0B	
2-0.1	16500 SF
LEVEL 1B	
2-1.1	17200 SF
2-1.2	3800 SF
2-1.3	800 SF
LEVEL 2B	
2-2.1	16500 SF
TOTAL SF	92600 SF

AREA RENOVATION (OPT2)

AREA NO.	AREA
LEVEL 1B	
2-1.0	32200 SF
LEVEL 2B	
2-2.0	12600 SF
TOTAL SF	44800 SF

AREA DEMOLITION (OPT2)

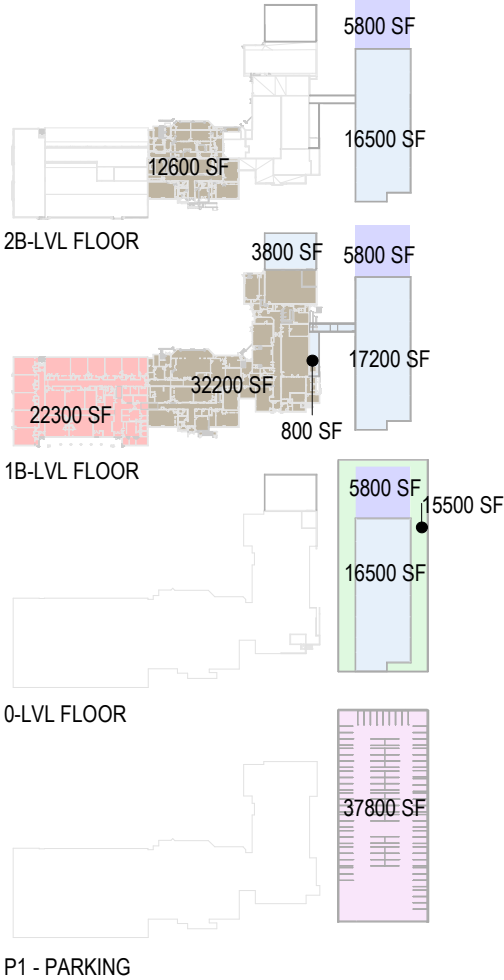
AREA NO.	AREA
LEVEL 1B	
2-D.1	22300 SF
TOTAL SF	22300 SF

AREA TERRACE (OPT2)

AREA NO.	AREA
LEVEL 0B	
2-T.1	15500 SF
TOTAL SF	15500 SF

AREA FULL-CAPACITY ALT. (OPT2-A)

AREA NO.	AREA
LEVEL 0B	
2-0.2	5800 SF
LEVEL 1B	
2-1.4	5800 SF
LEVEL 2B	
2-2.2	5800 SF
TOTAL SF	17400 SF



OPTION 3

AREA NEW CONSTRUCTION (OPT3)

AREA NO.	AREA
P1 - PARKING	
3-P.1	37800 SF
LEVEL 0B	
3-0.0	20000 SF
LEVEL 1B	
3-1.1	20700 SF
3-1.2	9000 SF
3-1.3	800 SF
LEVEL 2B	
3-2.1	18800 SF
LEVEL 3B	
3-3.1	18800 SF
TOTAL SF	125900 SF

AREA RENOVATION (OPT3)

AREA NO.	AREA
LEVEL 1B	
3-1.0	12600 SF
TOTAL SF	12600 SF

AREA TERRACE (OPT3)

AREA NO.	AREA
LEVEL 0B	
3-T.1	14800 SF
TOTAL SF	14800 SF

AREA FULL-CAPACITY ALT. (OPT3-A)

AREA NO.	AREA
LEVEL 0B	
3-0.2	3000 SF
LEVEL 1B	
3-1.4	3000 SF
LEVEL 2B	
3-2.2	4200 SF
LEVEL 3B	
3-3.2	4200 SF
TOTAL SF	14300 SF

AREA DEMOLITION (OPT3)

AREA NO.	AREA
EX-LEVEL 1.1	
3-D.1	4800 SF
3-D.2	37200 SF
EX-LEVEL 2A	
3-D.3	12600 SF
TOTAL SF	54600 SF

