FREDERICK COUNTY PUBLIC SCHOOLS

Frederick, Maryland

Urbana Elementary School Feasibility Study

November 19, 2014

Crabtree, Rohrbaugh & Associates Architects

Baltimore, MD · Mechanicsburg, PA
Charlottesville, VA · White Sulphur Springs, WV
866-458-0272

TABLE OF CONTENTS PAGE

1.0 FEASIBILITY STUDY REPORT TEAM

Crabtree, Rohrbaugh & Associates would like to express its appreciation for the hard work, resourcefulness, and insight of those involved in the development of this document. We are indebted to those whom gave freely of their time and professional knowledge in helping us gather and review the material presented herein.

Feasibility Study Steering Committee

Brad Ahalt	FCPS Construction - Senior Project Manager
Ray Barnes	FCPS Executive Director of Facilities Services
Roger Fritz	FCPS Director of Construction
Jan Hollenbeck	Urbana Elementary School Principal
Robert Johnson	FCPS Supervisor Cluster Maintenance Program
Gloria Mikolajczyk	MSDE Schools Facilities Architect Supervisor
Beth Pasierb	FCPS Facilities Planner
Kathy Prichard	FCPS Elementary Instructional Director
Emily Reedy	FCPS Communications
Brett Stark	FCPS Director of Curriculum
Karen Wills	Urbana Elementary School Teacher

Architects and Engineers

Jeff Alban	Gipe Associates, Inc (Mechanical and Plumbing)
Dennis Cross	Crabtree Rohrbaugh & Associates, Architects
Dina Dixon	Gipe Associates, Inc. (Electrical)
Dan Hartlaub	Gipe Associates, Inc (Mechanical and Plumbing)
Kirby Hartle	Adtek Engineers, Inc. (Structural)
Michael Lambert	KCI Technologies, Inc (Civil)
Larry Levato	Crabtree Rohrbaugh & Associates, Architects
John Pryor	Crabtree Rohrbaugh & Associates, Architects
Rob Nyikos	Nyikos, Inc. (Food Service)
Lori Walls	Crabtree Rohrbaugh & Associates, Architects
Jim Wright	Wright Engineering, LLC, Technology

Urbana Elementary School Staff and Students

Urbana Area Community Members

1.0 EXECUTIVE SUMMARY

Building

The Urbana Elementary School was originally constructed in 1960, with building additions in 1965 and 1975. The 1975 addition brought with it "open" classrooms with no walls, doors and specified corridors. Corridors were formed with classroom furniture. The fact that the educational delivery model has changed significantly in an increasingly technological society, has created the need for an evaluation of the physical space and a determination of the educational adequacy and appropriateness of the existing facility.

The School is a one-story building with an enclosed mechanical penthouse. The facility as it exists today does not provide an optimum teaching and learning environment for the students of the Urbana community. As it exists, the facility does not meet the current Educational Specifications requirements for a standard Frederick County elementary school in several categories of program and core support spaces. Overall, the physical learning environment at Urbana Elementary is deficient due to a lack of space, inefficient layout of an "open plan concept" where classrooms are not separated by permanent walls and doors; lack of natural daylight to the majority of teaching spaces, and aging building systems. In addition, there are currently 14 portable classrooms on site that provide classroom space for the educational program. As with any portable classrooms, students must travel back and forth to the building for special programs and cafeteria use.

<u>The major challenges at the current building include:</u>

- accessibility and building code issues;
- the need for additional classroom space to meet the increases in enrollment;
- space for support programs that meet educational specifications requirements;
- an undersized cafeteria with stage and undersized gymnasium;
- an undersized kitchen with outdated equipment;
- lack of faculty planning areas;
- outdated and inefficient physical plant and operational systems.

Site

The current Urbana Elementary School is in close proximity to Urbana Pike and is clearly a community based school. The site is rectangular shaped and borders the Urbana Volunteer Fire Department to the West, Interstate I-270 to the south and along the eastern border is an extraordinary outdoor education area known as the Great Heron Wetland, which was originally constructed in 2000 and is monitored by Frederick County. The school's service yard is located along the western side of the building and fourteen (14) portable classrooms are located immediately behind the building. Hard and soft surface play areas are scattered throughout the site. The remainder of the site (located behind the building and portable classrooms) is open grass area that contains space for a multi-purpose/soccer field, a skinned softball field and a skinned baseball field.

Site vehicular circulation is difficult to manage as there is currently only a dedicated bus drop off lane located immediately in front of the school with parent drop off occurring on the adjacent Urbana Volunteer Fire Department property. Parking is located between the bus loop and Urbana Pike and along the western side of the site immediately adjacent the Urbana Volunteer Fire Department property.

1.0 EXECUTIVE SUMMARY

This study was commissioned to assist the Board of Education in assessing its options to improve Urbana Elementary School's facility to meet the proposed Educational Specifications. Several possibilities were evaluated and four options emerged:

Option 1 – Phased Additions/Renovations While Occupying Existing Building
Option 2 – Replacement School While Occupying Existing Building
Option 3A – Replacement School While Relocated to Sugarloaf Elementary School
Option 3B – Replacement School While Relocated to Portables

The following facility options have been explored in order to address the identified needs at the current Urbana Elementary School:

Option 1 – Phased Additions/Renovations While Occupying Existing Building

This option provides approximately 82,200 square feet of space additions and major renovations to all portions of the building (41,200 square feet) while occupying the building during construction. The proposed new additions include new mechanical spaces, enlarged Kitchen and Cafeteria spaces, and a new Gymnasium and a two story educational wing. This option will consist of the complete demolition of the 1975 addition, (infill portion between classroom wings from original 1960 building and 1965 addition) and demolition of miscellaneous portions of the existing building at the northwest corner of the building. Approximately 36% of the existing building will be demolished as part of this option. Renovations throughout the building will include new interior partitions and complete replacement of the mechanical, electrical and plumbing systems as well as new exterior windows, doors and roof. This will be a phased construction project over forty four (44) months.

Construction Duration: 44 months
Total Project Cost: $54,165,520

Option 2 – Replacement School While Occupying Existing Building

This option provides a replacement school constructed adjacent to the existing building using the FCPS elementary prototype design. This option uses the existing building and portables while the new building is being constructed and then demolishing the existing building and relocating the portable classrooms to another site at the end of the project.

Construction Duration: 28 months
Total Project Cost: $41,433,200

Option 3A – Replacement School While Relocated to Sugarloaf Elementary School

This option provides a replacement school constructed in place of the existing building using the FCPS elementary prototype, and relocating the faculty and students to the new Sugarloaf Elementary School while the new building is being built. In this option the existing building is demolished prior to beginning construction on the new building.

Construction Duration: 24 months
Total Project Cost: $40,128,436

Option 3B – Replacement School While Relocated to Portables

This option provides a replacement school constructed in the area of the existing building using the FCPS elementary prototype, and relocating the faculty and students to temporary portables on the adjacent site while the new building is being built. In this option the existing building is demolished prior to beginning construction on the new building.

Construction Duration: 28 months
Total Project Cost: $45,875,476

1.0 EXECUTIVE SUMMARY

Summary

Today's students should learn in an environment that mirrors their lives, and their perception of the future – one that seamlessly integrates today's digital tools and mobile lifestyle, and one that encourages collaboration and teamwork, in both physical and virtual spaces.

The exploration of the facility options presented within this study is intended to provide a range of possible alternatives to address the physical plant and program needs at the existing Urbana Elementary School. As indicated previously, these options have ranged from a complete modernization with additions and major renovations of the existing school, to more evolutionary approaches to facility improvements that will enhance the existing facility and to serve 21st century learning needs designed to meet a set of educational specifications developed by Frederick County Public Schools.

The intent is that the information presented herein will allow for informed discussion and decision making concerning the future disposition of the Urbana Elementary School.

RECOMMENDATION

It is the recommendation of this steering committee and supported by the majority of the Urbana community comments received by on-line survey, that Option 3A is preferred method to modernize Urbana Elementary School. The committee makes this recommendation with the following assumptions:

1. Sugarloaf Elementary School will be used as temporary swing space during construction. This will affect the timing of planned redistricting in the Urbana community.

2. Construction funding for the Urbana Elementary School modernization will be awarded as requested by the Board of Education in their current Educational Facilities Master Plan.

- Further discussion of the committee's reason for recommending this Option 3A can be found in Section 6 Development of Facility Options.

2.0 INTRODUCTION

Background

The Feasibility study was conducted for Frederick County Public Schools. The steering committee included FCPS staff and educators, architects, engineers, a member from the Maryland State Department of Education and the Urbana community and students, who were involved in various meetings, charrettes/visioning events.

The current State Rated Capacity is 511 students and the current equated enrollment is 685 as of September 2014. Per Board of Education Policy 202, currently elementary schools are being planned for PK-5 with an SRC (student rated capacity) of no more than 700.

- For nearly 20 years Urbana ES has hosted part of the county's Advanced Academics program for grades 3-5. Students enrolled in this program are included in the enrollment for the school as well as the enrollment projections.

- Urbana ES also has an inclusive special education Pre-K program.

Purpose

The purpose of the feasibility study is to identify school facility renovation/modernization needs, the cost of meeting these needs for Urbana ES, and the plan for meeting the needs with each option. This study will consider all available options including additions and renovations to the existing school including partial demolition; complete demolition and replacement of school on site while occupying he existing facility and while the site is un-occupied. Included in the consideration will be the ability to meet the educational program, physical condition of the existing school, constructability of each option, local and state regulations, cost of each option, length of construction time, and the available space for relocating students during each option Unique features of Urbana ES site and facility will be given attention with regards to the ability to retain, reuse or replace those unique features. An example of a unique feature is the Great Heron Wetlands located on the South eastern side of the property. These dedicated wetlands serve the Urbana community as well as various schools in educating people about the effects on the physical environment.

It is expected that the information presented in this study will assist the Board of Education in determining the most appropriate solution that satisfies the Educational Specification and optimizes the delivery of a contemporary instructional program at a reasonable cost.

Methodology/Process

The feasibility Steering Committee completed multiple tasks in development of this feasibility study. The various meetings identified various goals and outlined and evaluated the various options. In addition, field investigations of the site and the entire building were conducted by the Architecture/Engineering team to determine the viability and impacts of various systems on the building and site. Building and Life Safety as well as accessibility analysis and review of the existing documentation of the building were also evaluated.

2.0 INTRODUCTION

Based on the above analysis, the steering committee developed opportunities and challenges as well as reviewed costs associated with each of the concept options prior to formalizing their recommendation.

Urbana Elementary School Vision Statement

Urbana Elementary School (UES) is committed to preparing all students to be able to successfully meet the ever-changing needs of a global, technologically savvy society.

To meet this goal, we will provide effective educational opportunities that are inclusive and challenging, using a learner-friendly environment that stimulates critical thinking, risk-taking and a deep understanding of the curriculum.

We will engage all staff in relevant professional development opportunities to analyze data, implement instructional programs and collaborate with peers to determine best practices for student learning.

As a UES learning community, we will actively partner with families, PTA and business partners to provide a safe, culturally responsive and respectful school, utilizing Character Counts and PBS ideals, so that Urbana Elementary is a place that welcomes and celebrates all students and families.

School Motto: We believe our students will be "learning today, leading tomorrow."

3.0 FACILITY HISTORY AND COMMUNITY DESCRIPTION

Facility History and Community Growth

The Urbana Elementary School was originally constructed in 1960, with building additions in 1965 and 1975. The School is a one-story building with an enclosed mechanical penthouse. Structurally the building is in good condition with the exception of the serpentine wall screening the service area which will need to be replaced.

The 1975 addition brought with it "open" classrooms with no walls, doors and specified corridors. Corridors were formed with classroom furniture and moveable partitions. The educational delivery model has changed significantly since 1975, and in an increasingly technological society, the need for an evaluation of the physical space and a determination of the educational adequacy and appropriateness of the existing facility has developed. As educational delivery and technology continue to change and affect the way schools are utilized, it is to be expected that in addition to the physical plant upgrades required, that educational program needs will dictate significant changes as well as adjacencies, in order to effectively update the facility to deliver a twenty first century education.

The school currently utilizes 14 portable classrooms to accommodate its current population and educational program. This is further explained in the Building Capacity summary.

❖ Construction History

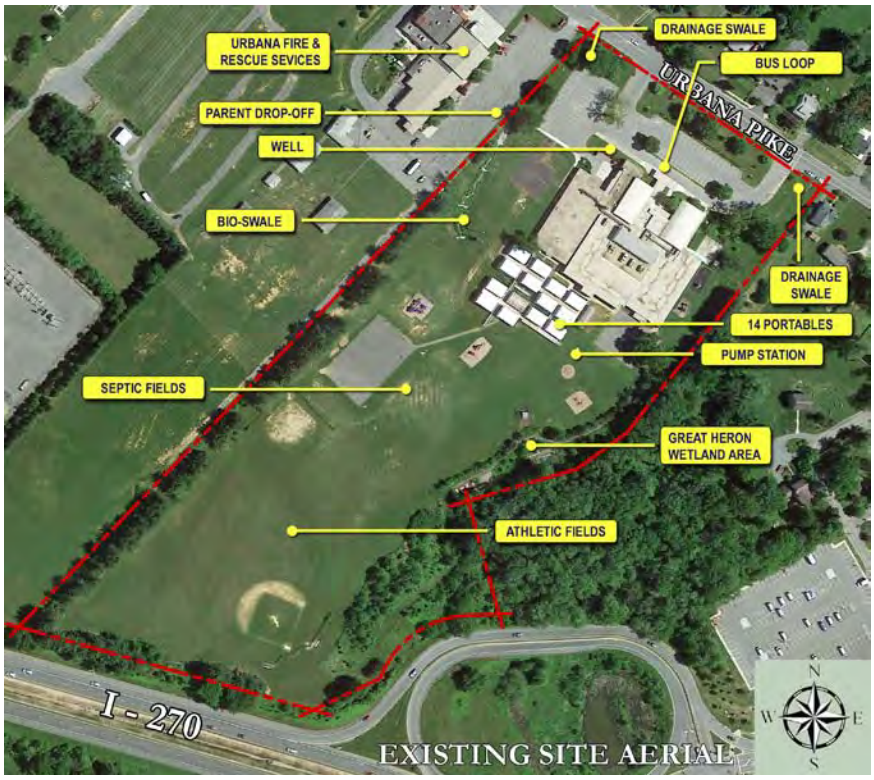
The majority of the finishes and materials of the school are original to the building and 1975 addition. Some upgrades have been made in recent years to provide a secure entry to the school as well as minor upgrades to a set of accessible toilets within the facility. The building systems are also mostly original to the 1975 addition and are beyond their normal expected life cycles with exception of the fire alarm system that was recently installed. The roof is a built up roof completed in 2003 with the exception of the areas over the Media Center and area over the

3.0 FACILITY HISTORY AND COMMUNITY DESCRIPTION

west classrooms, Art Room, Mechanical Room and Kitchen. The building is presently served by on site private well, and private septic system with distribution fields to the southern portion of the site. There is a current project in design to extend public water and sewer along Urbana Pike and all options in the study are expected to extend and tie into these public services.

Site

The site is located along Urbana Pike adjacent to the Urbana Volunteer Fire Department on 19.87 acres. The site was purchased by the Board of Education prior to the construction of the school in 1959. There is currently only a dedicated bus drop off lane located immediately in front of the school with parent drop off occurring on the adjacent Urbana Volunteer Fire Department property. Parking is located between the bus loop and Urbana Pike (34 total, 3 of which are handicap parking) and along the western side of the site immediately adjacent the Urbana Volunteer Fire Department property (32 total) for a total of 66 spaces, which is insufficient for the current number of faculty (82). In addition, the site contains the Great Herons Wetlands area as well as various gas easements along the east and west borders. The following facilities are on site: softball field, baseball field, hardscape play areas as well as apparatus playground areas.



The Frederick County Public School System is a three-layer school district with instruction organized into an elementary division, middle level division, and high school division. Urbana Elementary School as well as Centerville and the proposed Sugarloaf Elementary school are three elementary schools that are “feeders” to Urbana High School.

3.0 FACILITY HISTORY AND COMMUNITY DESCRIPTION

In review of Frederick county Public Schools equated enrollment projections, Urbana ES projections indicate a steady increase in student's enrollment in the next 8 years. Currently, enrollment is 685 students with an SRC of 511 and the school is currently at 134% capacity.

The Urbana community was first settled in the 1730's and has had a long and varied history. Today the community is one of the fastest growing in Frederick County. It is located at the junction of Route 80 and I-270, which is the Technology Corridor in Frederick County, just southeast of Frederick City According to the Frederick County Community Development Division, the county's population is expected to increase by more than 60,000 over the next twenty years. The majority of new developments have been in and around Frederick City as well as to the east along I-70 and I-270 corridors. There are presently five (5) active residential developments within the Urbana area that will add approximately 1,200 dwelling units to the community. As with any growth in Frederick County, it is difficult to determine when approved units will begin construction, however, FCPS is monitoring the housing starts within this community and its potential impacts. Per the Comprehensive Plan, enrollment projections anticipated that housing developments will be at a moderate rate over the next five years.

Summary

As outlined in the current Board of Education approved Educational Facilities Master Plan, Urbana Elementary School was identified as the next elementary school in need of modernization.

4.1 EDUCATIONAL FACILITIES EVALUATION SUMMARY

Building	Construction Date	Size	Grade Level
Urbana Elementary School	1960 Original Building	36,646 SF	PK-5
	1965 (Building Addition)	4,800 SF	
	1975 (Building Addition)	22,687 SF	

Code Occupancy Group- Group B Educational
Code Construction Type- Type IIB

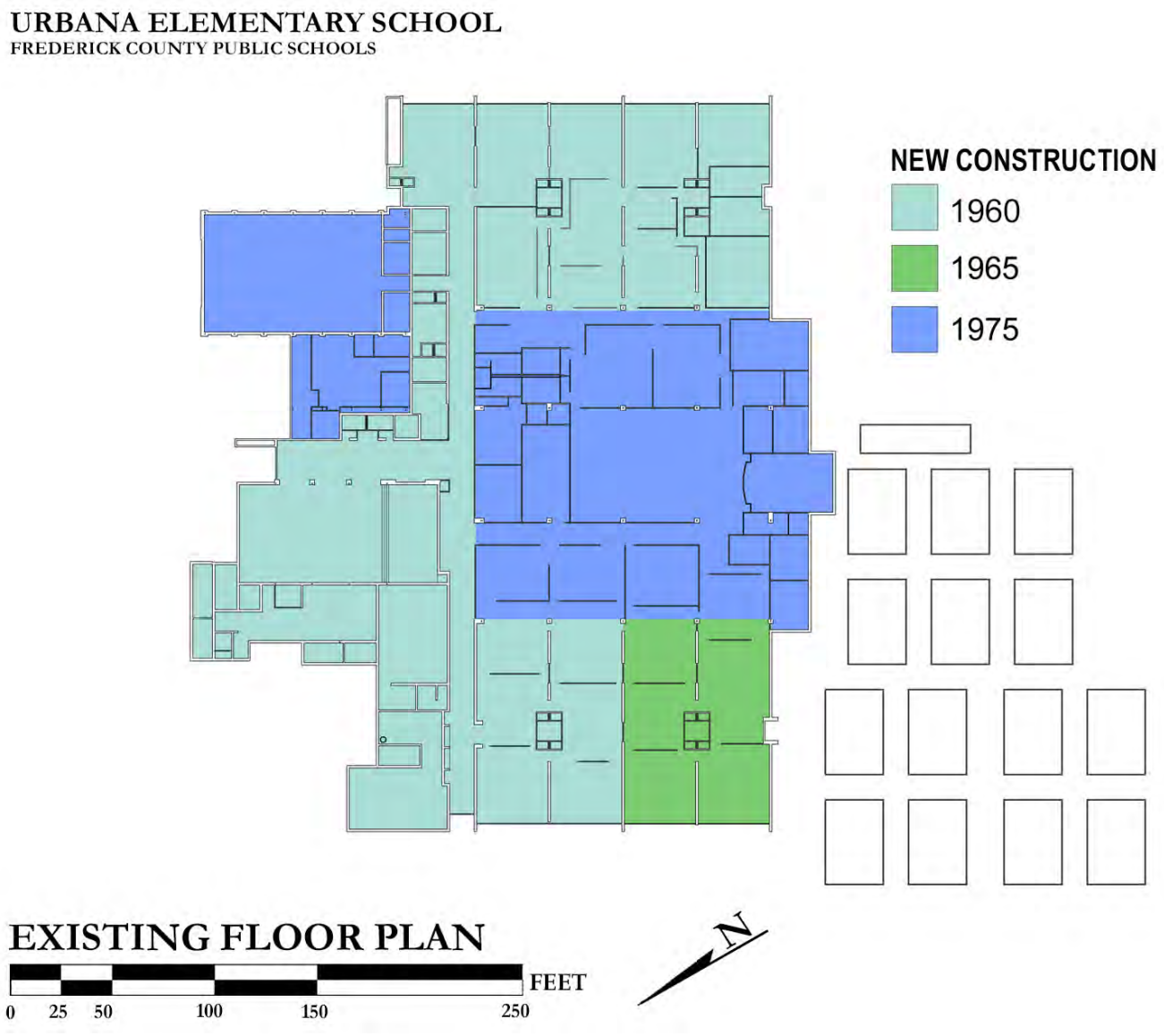
Location:	3554 Urbana Pike Frederick, MD 21704
Site Size:	19.87 acres
Building Square Footage	64,133 SF
State Rated Capacity (SRC)	511 (as of September 2014)
Student Enrollment	685 (equated)
Municipal Jurisdiction:	Frederick County, MD

4.1 EDUCATIONAL FACILITIES EVALUATION SUMMARY

Existing Overall Floor Plan

4.1 EDUCATIONAL FACILITIES EVALUATION SUMMARY

Existing Facility Inventory (Year Originally Constructed, Year(s) Renovation/Additions)



4.2 EDUCATIONAL FACILITIES EVALUATION OVERVIEW

Building

The Urbana Elementary School was originally constructed in 1960, with building additions in 1965 and 1975. The School is a one-story building with an enclosed mechanical penthouse. The building structural system is a combination of masonry load bearing and structural steel framing, with exterior brick veneer. Structurally the building is in good condition with the exception of the serpentine wall screening the service area which will need replaced. The existing structure is not designed to accommodate a future second floor.

The Urbana Elementary School, since the last significant work on the building was completed during the 1975 addition, has had minimal facility upgrades. Some of the large group toilet rooms were renovated in 2003 with some ADA upgrades along with toilet partition and plumbing fixture replacement and new finishes. In addition, some of the roof areas were replaced in 2003. In 2010 the existing Music Room adjacent to the main entrance was renovated into an extension of the Administration area with a security vestibule being installed between this area and the exterior of the building. This became the main entrance to the building during school hours; however, the existing main entrance continues to be used when students arrive in the morning and leave in the afternoon. Because of this, it is difficult for someone approaching the school during school hours to determine which is the main entrance. With the office renovations there is no clear vision from the office area to the bus drop-off area, nor the parent drop-off area which is on the other side of the building. The facility is showing signs of age and all major mechanical, electrical and life-safety systems are in need of replacement.

Site

The Urbana Elementary School resides at 3554 Urbana Pike, Frederick, MD 21704. The property is rectangular in shape and is 19.87 acres. The property was purchased by the Board of Education of Frederick County in December of 1958.

The front portion of the site, located along Urbana Pike, generally slopes in a southwesterly direction towards the building. The site also slopes behind the building, falling in a southwesterly direction to an easterly direction. The sites high point is located along the front of the property along Urbana Pike and the low point is located within the Great Heron Wetland Area along the east side of the property.

There is currently only a dedicated bus drop off lane located immediately in front of the school with parent drop off occurring on the adjacent Urbana Volunteer Fire Department property. Parking is located between the bus loop and Urbana Pike (34 total, 3 of which are handicap parking) and along the western side of the site immediately adjacent the Urbana Volunteer Fire Department property (32 total).

The school's service yard is located along the western side of the building and fourteen (14) portable classrooms are located immediately behind the building. An extraordinary outdoor education area is located along the eastern property line known as the Great Heron Wetland was originally constructed in 2000.

Hard and soft surface play areas are scattered throughout the site. Hard surface play areas consist of a 65'x65' area located adjacent to the service yard, a 40'x46' area located along the front eastern side of the building, a 89'x82' area located along the rear east side of the building, and a 158'x98'

4.2 EDUCATIONAL FACILITIES EVALUATION OVERVIEW

area located within the open grass area along the western property line. Soft surface play areas range in size and shape with two (2) being located along the eastern side of the building and the remaining four (4) being located behind the portable classrooms. The remainder of the site (located behind the building and portables is open grass area that contains space for a multi-purpose/soccer field, a skinned softball field and a skinned baseball field.

In summary, the site is a challenging rectangular site with construction access restrictions and a narrow frontage that do not accommodate separate bus and parent drop off areas and contains onsite private well and septic systems. The existing portable classrooms, wetlands area and two gas easements reduce site access even further. Parking is undersized for current staff levels. Expansion of the current building is possible but, given all of the current site constraints, it will be extremely difficult to renovate the existing building while also occupying the existing building.

Program Spaces

The 1975 addition brought with it "open" classrooms with no walls, doors and specified corridors. In most cases, corridors are formed using classroom furniture and non-permanent demountable partitions. All educational spaces are undersized compared to current FCPS educational specifications and open classrooms affect clear circulation paths with access to some classrooms through adjacent spaces. Open classrooms also provide distractions to learning and are challenges to emergency/lockdown procedures and leaving everyone at risk. It's difficult for students to get across the building due to confusing traffic flow without defined corridors. Classrooms are without individual toilets and the ones available to the classrooms are undersized and are not ADA compliant. The 1975 addition also brought with it a lack of natural daylight in majority of teaching spaces including the Media Center. As 21st Century educational delivery and technology continue to change and affect the way schools are utilized, it is to be expected that physical plant and educational program needs will dictate significant changes as well.

Codes and Constraints

The facility was designed to comply with the building codes that were in effect at the time of the original construction and subsequent building additions. The following are the major code related issues to be addressed:

- ADA (accessibility)
- Life-Safety Systems
- Ventilation System

Building Systems

HVAC:

- The existing HVAC system is at the end of its useful life and is inefficient. The system has limited ability to control temperature and does not have any controls to maintain indoor relative humidity conditions. The systems and equipment do not meet current state and applicable code requirements.

4.2 EDUCATIONAL FACILITIES EVALUATION OVERVIEW

Plumbing:

- The existing piping systems are starting to fail. The plumbing fixtures are not the water conserving type. The existing system is served by private water wells, buried holding tank and onsite septic system. County water and sewer are available to serve the building and will be installed on any future project. The plumbing systems do not meet current State and code requirements.

Electrical:

- The existing electrical distribution system is antiquated and ongoing maintenance is an increasing issue. Distribution equipment, wiring and receptacles original to the building should be replaced/upgraded as part of any future project. Lighting and associated controls should be upgraded to be compliant with current energy codes.

Technology:

- The existing technology system infrastructure and wiring are outdated and will not meet the future instructional technology requirements. Upgrades are required to keep pace with educational programming needs and developments in technology.

Summary

The existing Urbana Elementary School is in need of life-safety and building code upgrades, as well as physical plant improvements to the building and replacement of the major operational systems. The facility is outdated from an educational point of view and is inadequate to meet the needs of a 21st century elementary school. Comprehensive renovations/additions or a replacement school are recommended, in concert with the FCPS educational program specifications, which should be the framework for educational program-driven building improvements, building additions or a replacement school.

4.3 EDUCATIONAL FACILITIES EVALUATION ANALYSIS

ACCESSIBILITY, LIFE SAFETY AND BUILDING CODE ANALYSIS

Site

- The current site has an accessible route from the existing parking areas into the school. Handicap parking spaces are provided (3) along with handicap curb cuts/ramps to get from the parking areas onto the sidewalks. More curb cuts and spaces should be added with parking modifications/re-routing.
- There is not currently an ADA compliant passenger loading area.
- There is not an ADA compliant path to the rear play fields.

Building

- The existing facility is not in compliance with current accessibility guidelines. Required accessibility upgrades include:

  - ✓ Room identification and interior signage
  - ✓ Door size
  - ✓ Door hardware
  - ✓ Water coolers
  - ✓ Toilet fixtures
  - ✓ Ramps

- Doors into existing toilet rooms in classroom areas do not meet the required width for ADA compliance nor do they meet the required height for code compliance. These doors and frames will have to be replaced and the openings reconfigured for compliance.

- The toilet rooms are very small and do not have the correct turn around clearances nor do they have the required clearances at the plumbing fixtures and door. Rooms will have to be renovated to be larger and ADA compliant.

❖ The main entrance to the building is accessible to someone in a wheel chair and includes an accessible curb cut along the main bus drop off area.

4.3 EDUCATIONAL FACILITIES EVALUATION ANALYSIS

- Some of the existing group toilet rooms were renovated in 2003 for ADA compatibility. Although they met the guidelines in place in 2003 they no longer meet today's standards. The handicap stall in each of these rooms would have to be reconfigured to be 5'x5'. The remainder of the toilet rooms not renovated in 2003 are not ADA compliant and would have to be updated.

- Fire extinguishers and drinking fountains are not mounted at ADA heights.

- The ramp from the corridor up to the stage is not ADA compliant. Recommend extending the ramp as required to achieve the correct slope, however, this will take up room on stage. Another alternative is providing steps and handicap lift at steps. The school does have a mobile lift that could be used for this approach.

- There is no ADA accessibility from the cafeteria to the stage. Ramp to existing stage is non-compliant; however, a portable lift is stored on site for access to the stage when needed.

- Most of the door hardware throughout the school, except for door hardware in the renovated administration area, have knobs versus levers. Recommend providing levers at all doors that do not currently have them.

- The current building does not have walls separating the classrooms and designated corridors accessing the classrooms. It is recommended as part of any major building project that the classrooms receive walls extending full height and sealed along the roof and/or floor deck and the existing building and new additions be fully sprinklered. In addition, because of the size of the building, the building will have to be split up into separate fire areas and separated with two hour fire walls. The separations will occur at transitions between the existing building and new additions and if required, within the existing building where additions were added through the years. In fully sprinklering the building, existing corridors will not have to be fire rated.

- Accessible signage with visible, tactile and Braille characters should be provided at the following locations:
    - New and altered exterior exit doors.
    - New and altered toilet rooms.
    - Existing toilet rooms that are not ADA compliant should include directions to accessible toilet rooms.
    - Where signage is provided to identify interior rooms and spaces.

4.3 EDUCATIONAL FACILITIES EVALUATION ANALYSIS

SURVEY OF EXISTING SITE AND PHYSICAL PLANT

SITE

Concrete and Asphalt Paving

- Some repair / replacement of damaged sidewalk and curbing needed.
- Asphalt generally in fair condition, but is showing signs of cracking that will lead to compromise of the base course and foundation if not addressed. Paved parking and drive aisles should be milled and resurfaced at a minimum.


❖ Concrete and Asphalt Paving Conditions on Site

Water

- The site is served by a private water system. There are currently two (2) private well's on-site that are located within the grassy area between the bus loop and service area. One well was installed during the original building construction and the second was installed in 1975. An underground tank is also at the same location as the original well. The ongoing maintenance requires testing and monitoring.
- There are no dedicated fire tanks installed on-site.
- Any new design will include connection to a new 8" public waterline located within Urbana Pike, final extensions to the site and at the building will be part of the design solution. The new water meter will be located along the front of the property approximately 110' from the western property line immediately adjacent to the existing paved entry.

Sanitary Sewer

- The site is served by a private linear trench septic system. The private system was originally installed in 1960. The 1960 system was abandoned and a new system installed in 1975 in conjunction with the addition project.
- The existing system leaves the rear of the building at various points. The system also contains a 13,000 gallon septic tank located behind the building adjacent to the hard surface play area. From this location the effluent flows in a southerly direction to a pump station located adjacent to the tank. Effluent is pumped to two (2) separate areas both located adjacent to the softball field and hard surface play area;

4.3 EDUCATIONAL FACILITIES EVALUATION ANALYSIS

- The existing system was designed for 750 students and faculty.
- Any new design will include connection to a new 8" public sanitary sewer line located within Urbana Pike being installed by Frederick County. The new system will flow in a south to north direction from the rear of the existing building to the front northeast corner of the property to a manhole and then will flow along Urbana Pike in an easterly to westerly direction.

Stormwater Management/Grading

- The site currently contains a bio-swale that is located between the school and the volunteer fire department. The bio-swale was installed in 2011 as a part of a watershed wide effort to improve water quality within the Bennett Creek watershed.
- The bio-swale currently treats stormwater run-off from a portion of the building, paved areas, and off-site drainage.
- The site also contains the "Great Heron Wetlands" which is located along the east side of the site between the building and the eastern property line.
- The wetlands were created in 2000 to improve the environment and help educate the students. Two (2) ponds measuring approximately 50' x 30' also contain approximately two (2) acres of native plants. The wetland area is one of eleven (11) that are monitored by Frederick County.Based on additional research performed relating to the on-site environmental features, it appears that the installation of the bio-swale, and wetland area may have all been initiated back in the late 1990's when a small spring was discovered between the school and the volunteer fire station. All of the stormwater flows through and across the site in a southerly direction then west to east towards the location of what is now the "Great Heron Wetland".
- Any new construction that occurs will be required to meet the requirements established by the Maryland Stormwater Act of 2007 and chapter 1-15.2 of the Frederick County Ordnance. These guidelines establish a process by which new construction needs to utilize sustainable or environmental site design (ESD) to the maximum extent possible to satisfy water quality requirements. ESD's include but are not limited to micro-bioretention, dry and/or wet swales, rain gardens, etc. Attempts should be made to provide for impervious disconnects and to allow for adequate open space to construct multiple smaller facilities throughout the site to satisfy these requirements.

4.3 EDUCATIONAL FACILITIES EVALUATION ANALYSIS

- Any new construction should also honor the existing Great Heron Wetlands and incorporate this extraordinary outdoor educational facility for continued use for future students and faculty.

❖ Great Heron Wetlands

Site Access/Circulation/Parking

- On-site parking is currently inadequate, with a total of sixty six (66) parking spaces between two (2) separate parking lots. One lot located west of the main entry and the second located immediately off of the bus loop. School faculty is currently at 82, which equates to a shortage of 16 parking spaces on site plus additional visitor spaces.
- This does not include the overflow area on west side of school. Current zoning requires 145 spaces based on classroom count making the site approximately 79 spaces deficient.
- There is no defined and separated bus and parent drop off loops. Twelve (12) buses currently drop off along the front of the building within the main drive but parent drop-off has to occur on the adjacent volunteer fire station site because of lack of on-site stacking and mixture of cars and buses if all drop-off's did occur on-site.
- There are currently twelve (12) buses serving the school but four (4) of those buses perform "double duty" so there is a total of sixteen (16) bus drop offs occurring during the day based on the current schedule.
- The current parent drop off occurring on the adjacent site compromises student safety, because students are forced to cross a paved traffic area to reach the front door.

4.3 EDUCATIONAL FACILITIES EVALUATION ANALYSIS

- With a one way traffic pattern (one way in and one way out); the current traffic flow from the western parking lot requires vehicles to use the bus drop off lane to exit the site.
- Any modernization project should include additional parking and attempt to provide both separated bus and parent drop off on-site that would allow student to access the front door of the school safely without having to cross any paved areas.

Site Access/Impacts to Options

There are several restrictions and impediments to the Urbana site that impact site access for construction of all options developed in the study. There include utility easements and pipelines, storm water management (outlined above), site topography, and acoustic impacts from I-270.

- Easements and Pipelines
  - There is a wide Gas Pipeline easement along the entire eastern and southern boundaries that further restricts access to the rear of the property.
  - There is a ten feet wide (10') gas easement along the fire department property with Frederick Gas company.

❖ Gas Line Easements

4.3 EDUCATIONAL FACILITIES EVALUATION ANALYSIS

SURVEY OF EXISTING BUILDING SYSTEMS

Exterior

- The exterior of the building is mostly mulit-wythe face masonry and is generally in good condition, but with no insulation. There are some miscellaneous masonry repairs required and caulking necessary around windows and in masonry control joints. This work should be done in the short term in order to mitigate the possibility of water infiltration in these areas. In addition with any building project the masonry should be cleaned and sealed.

- There are various cracks in the concrete loading dock that should be repaired as part of any building project.

❖ The serpentine brick enclosure wall screening the loading dock area should be replaced as it is deteriorating due to moisture penetration and cracking. This would not meet today's code standards for construction based on when it was built and should be replaced.

- The exterior windows are original aluminum frame, non-insulated units. The windows, although in pretty good condition, are non-insulated and are thermally inefficient. The windows should be considered for replacement as part of a major building project.

- The exterior doors and hardware are a combination of aluminum entrance doors and hollow metal doors and frames. The glass in the doors is non-insulated and is thermally inefficient. The exterior doors and frames are showing the signs of the many years of continual use. In some cases, replacement parts are difficult and even impossible to get. Additionally, not all exterior doors meet current accessibility guidelines for width. The doors, frames and hardware should be replaced and openings reconfigured if required for ADA compliance.

4.3 EDUCATIONAL FACILITIES EVALUATION ANALYSIS

Roof

- Most of the existing roofs were re-roofed in 2003 with a built-up roofing system and are also in good condition. The roofs that were not part of that project, which include the areas over the Media Center and area over the west classrooms, Art Room, Mechanical Room and Kitchen, are in poor condition from water ponding on the roof. These areas should be replaced with any building project. The 2003 re-roofing projects should be evaluated at the time of the project to determine if they should also be replaced.

- The metal flashing, gutters and downspout systems appear to be in good condition.

- Leaks are common in nearly all weather events.

- There is a great deal of roof-top duct work on the west side of the building making repairs difficult. This is also the area where most ponding occurs.

4.3 EDUCATIONAL FACILITIES EVALUATION ANALYSIS

Interior

- The interior doors are in fair condition and do not meet accessibility requirements for width (and height) in many cases. The hardware (except for the renovated administration area) is non ADA compliant. It is recommended that new interior doors and hardware be provided throughout.

- The existing vinyl composition tile (VCT) is in fair condition and should be replaced as part of the project.

- Interior Partitions

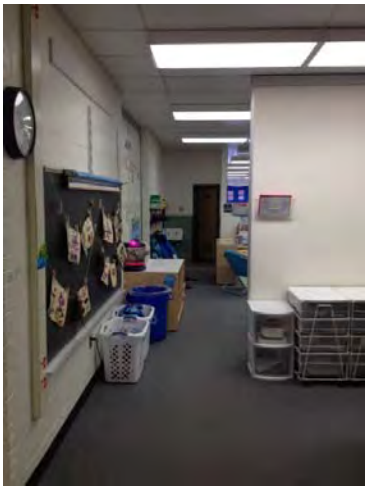
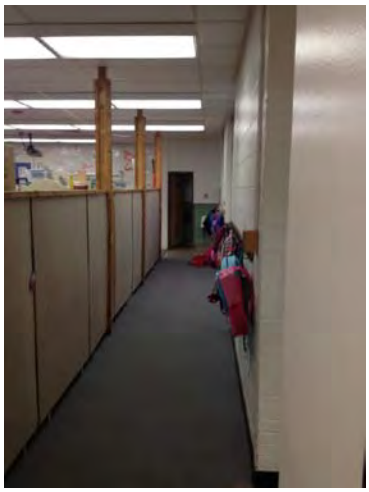
  - Large majority of Interior partitions are demountable walls that can be and are reconfigured on an as-needed basis. Additionally, interior spaces are also separated by movable storage/shelving units and low height permanently installed partitions.

  - Although flexible, these systems are poor acoustically, and do not have associated doors to control access to individual spaces. In many instances, students and staff walk through adjacent spaces to gain access to other areas. The majority of the interior educational spaces have no direct natural daylight.

  - Some partitions are permanent and either masonry construction or painted gypsum wall board.

  - Routes of egress are maintained, but MEP systems are not controlled individually but by zone. There are numerous issues with varied temperatures, lack of access to lighting controls and limited plumbing fixtures at the individual toilets.

  - Although demountable partitions systems provide some flexibility to accommodate layout changes, the open space classrooms have inherent acoustic and visual distractions as well as safety implications during emergencies.

❖ Variety Of Interior Partition Materials And Passageways

4.3 EDUCATIONAL FACILITIES EVALUATION ANALYSIS

- Interior Finishes
  - Replace existing carpet in office areas and where located throughout.
  - In the toilet rooms that were not renovated in 2003, the ceramic tile flooring is outdated and the grout joints retain dirt and odors. The floor tile, which may be damaged as part of plumbing and general renovations, should be considered for replacement.
  - The majority of the ceilings in Urbana ES are suspended acoustic ceiling tile systems that the demountable partitions tie into. The critical element of these ceilings is typical height above finish floor and the limited availability of space above these ceilings for various systems. In Option 1, many of these same issues would be present due to the limited floor to structure bearing height limitations
  - In the main corridor area, ceiling heights are 7'-10" with lights being surface mounted to accommodate building systems above the ceiling.
  - In the classroom areas, ceiling heights are 9'-0", but the systems are located in perimeter bulkheads that are 7'-8" high and vary on width. Each time a partition or series are partitions are reconfigured, there is difficulty coordinating these systems with newly formed spaces, further affecting air exchange rates and temperature variations. .
  - In conjunction with mechanical and electrical improvements, the existing suspended ceiling tile and grid system should be replaced with a highly reflective tile in order to enhance and brighten the lighting quality. Provide "special" ceiling tiles in the Kitchen area where exposed to humid or damp conditions and where required by the Health Department. The ceiling heights throughout the classroom areas are fairly low and the light fixtures in these areas are surface mounted, as there is minimal space between the ceiling and bottom of roof structure. The recommendation is to recess the light fixtures, however, the challenge is that this would further decrease the ceiling heights.
  - The existing school should be repainted in a color coordinated interior scheme. The use of lighter, reflective materials and surface will serve to enhance the minimal amount of exterior light available and provide a unified color scheme throughout.
  - There is very minimal (if any) instructional casework in the existing classrooms. In some instances the casework is used to provide the "border" of the rooms. Casework throughout is original to their installation, are in fair to poor condition, and should be replaced with any building project. Additional storage is needed within the classrooms.
  - Consideration should be given to replacing all chalkboards with white marker boards in instructional classrooms. In addition, existing tack boards should be replaced.

4.3 EDUCATIONAL FACILITIES EVALUATION ANALYSIS

- In the group toilet rooms that were not renovated in 2003 the original metal toilet partitions should be replaced as part of the toilet room accessibility modifications. New units should be solid, more durable phenolic plastic material.

- The existing gymnasium and cafeteria spaces are very noisy. Sound absorbing panels should be added to the walls.

- The existing VCT floor in the gymnasium has recently been patched and repaired in order to repair a crack in the concrete sub-floor. The VCT floor should be replaced throughout as part of a project or another appropriate floor finish should be used.

- The existing window treatments in the classrooms are original to when they were installed, are discolored and deteriorating, and should be replaced.

- **Kitchen**

The Urbana Elementary School kitchen contains approximately 1,800 square feet and operates as a full-service prep/production facility equipped to produce and serve meals to the students and staff. The majority of the equipment is original to the 1960's building. Much of the equipment, although well-maintained, is old, outdated, inefficient, non-compliant with current codes and has seen its useful life.

Finishes

- Floors in Kitchen and serving areas are a combination of terrazzo and thick-set quarry tile with a coved base. Most tiles appear in sound condition. Due to smooth surface, the quarry tiles and terrazzo tiles are very slippery when wet or laden with grease. Tile base is cracked and broken in various areas.
- Walls are glazed block up to finished ceiling appear in good shape. The existing color does not provide an inviting atmosphere.
- Ceilings are lay-in 2'x4' suspended ceiling tiles throughout kitchen, dry storage, serving and dishwashing. The tiles are porous-type in violation of health code requirements. Ceiling appears to have been replaced within the last 5 years.
- Lighting is recessed 2'x4' twin-tube light fixtures were replaced with ceiling. Light level throughout space appears adequate with current code standards, however inconsistent.

Areas Description

- Receiving: A single 3'-0" door. Door is not wide enough to accept palletized merchandise for deliveries.
- Dry Storage: Product stored on galvanized 4-tier high shelving. Walls are painted block. Floor is sealed concrete. Light fixtures are twin-tube with exposed bulbs. Electrical panels take-up approximately 6-feet of storage space.

4.3 EDUCATIONAL FACILITIES EVALUATION ANALYSIS

- Walk-in Cooler and Freezer Storage: Located on opposite end of receiving area. Appears original to the kitchen with galvanized walls and ceilings. Low ceiling height minimizing storage capability.
- Kitchen: Area is poorly ventilated and extremely hot during warmer months, cold during winter months, adding to worker stress and fatigue. Additional cooking equipment needed to properly prepare current menu items. (1) Hand washing sink to cover entire kitchen space in violation of health code.
- Serving: Serving area consists of one straight-line "institutional looking" cafeteria counter with provisions for hot food items only. Cold food is placed on counter with no refrigeration and a dedicated cashier. Area is uninviting and extremely plain resulting in an unpleasant dining experience. Area lacks necessary quantity of pass-thru hot and cold cabinets to support serving operation. A second line serving cold food items and milk is located in the cafeteria.
- Dishwashing: A full dishwashing operation with soiled and clean dishtables, disposer and conveyor-type hi-temp dishwashing machine appears adequately sized and equipped. A pot & pan washing sink is located on the opposite end of the kitchen All equipment appears original.
- Janitor Closet: Insufficient space to adequately store cleaning supplies.
- Office: Manager's area exists in corner of kitchen. Not an isolated office to properly store desk, chair, file cabinet and safe.

Equipment Description

- Exhaust Hood. Painted exterior, galvanized metal interior with baffle- type filters. Exhaust air-volumes do not conform to current mechanical code; galvanized metal in violation of health code. Insufficient light levels.
- Fire Protection System. Meets current NFPA UL300 standards.
- Current Cooking Equipment.
- (1) Double-deck convection oven
- (1) Double-deck 6-pan steamer
- Serving Counter. Original to building. Stainless tops, galvanized bases. Various hot food wells don=t maintain even heat. Very institutional looking.
- Worktables, Prep Sinks, Pot Sinks. Original to building. Stainless tops, painted galvanized bases badly scratched and rusting. Painted finishes require high maintenance.

Conclusions/ Recommendations

- The kitchen finishes are worn, the space is stuffy, labor-intensive, poorly ventilated presenting an uncomfortable and difficult working environment. The majority of the equipment has either seen its' useful life or is in violation of current health codes. Replace all outdated inefficient equipment with new energy saving appliances according to FCPS current selections. Student participation is lacking due partly to inefficient organization, however, mainly to an uninviting and uncomfortable dining experience. Select bright colorful attractive finishes to promote friendly inviting atmosphere. Improve lighting and ventilation throughout space. The total square footage of the existing foodservice area(s) is below County and State recommendations. The areas are poorly laid out with wasted space, resulting in increased labor to perform

4.3 EDUCATIONAL FACILITIES EVALUATION ANALYSIS

basic tasks. The recommendation is to increase size and reconfigure overall kitchen and serving areas to better maximize space.

Structural

Existing Structures

- The Urbana Elementary School was originally constructed in 1960, with building additions in 1965 and 1975. The School is a one story building with a two story area at the central mechanical room. The majority of building structural system is a combination of exterior multi-wythe brick load bearing walls with interior steel columns supporting the steel joist and deck roof system. The second floor of the mechanical penthouse is a concrete slab on metal deck supported by composite steel beams and steel columns. The Cafetorium and Gymnasium are high bay structures with custom steel bents supporting a tectum roof and concrete masonry infill between the steel bents.
- Structural floor to roof height is low and affects interior duct work and systems installation above ceiling. Additional systems cannot be placed in this area and in any modernization/renovation option, exposed ductwork on the roof and lower ceiling heights will be common. The lower heights will be close to the lowest acceptable FCPS standard.
- The current structural system is not sufficient to support a second story option.
- To improve the energy efficiency of a modernization/renovation project, the interior face of the multi-wythe masonry walls should be lined with new metal stud framing and insulation, but this would add additional costs to the option.

Recommended Repairs

- The serpentine brick enclosure wall screening the loading dock should be replaced as it would not meet current code requirements.
- Various cracks in the concrete loading dock should be repaired.

❖ Space Above Typical Ceiling

4.3 EDUCATIONAL FACILITIES EVALUATION ANALYSIS

Existing Mechanical Systems/Evaluation

- Heating System
    - The heating plant consists of a single cast iron boiler. The boiler is a 440 Mills, 18 section cast iron, dual fuel type as manufactured by H.B. Smith and has the capacity of approximately 110 BHP. The boiler is oil and natural gas fired and utilizes a Peabody burner. An underground fuel oil storage tank was replaced approximately ten (10) years ago. The UST is equipped with a leak detection and monitoring system Model TLS 3000 by Veeder Root. A base mounted end suction pump and standby pump distribute heating water overhead to the building. The pumps were manufactured by Taco.
- Cooling System
    - Remote air cooled condensing units provide the cooling to direct expansion evaporator coils located in the air handling units. The air cooled condensing units were installed in 1975. Two of the six units have been replaced.
- Air Distribution System
    - Six (6) indoor heating air conditioning and ventilation air handling units serve the classrooms, office and cafeteria areas. These units are located in a mechanical penthouse, are single zone constant volume units controlled by return air temperature. These units consist of a mixing box, filter, supply fan and DX cooing coil connected to a remote air cooled condensing unit. In-Line type return air fans located in the penthouse were used. All air handling units were manufactured by Trane and were installed in 1975. Similarly the return air fans were manufactured by Twin City and installed in 1975. The units are 40 years old and are at/beyond their median life expectancy according to AHSRAE.
    - The air distribution system consists of duct mains located exposed on the roof or in bulkheads, branch ducts located in bulkheads and run out ducts located between the structure to serve minimal air devices. The physical restrictions compromise the effectiveness of the air distribution system.
    - A small heating and ventilating unit hung above a storage room serves the gymnasium.
- Automatic Temperature Controls
    - All automatic temperature controls are local pneumatic type as manufactured by Barber Coleman Controls. There is no interface to the county wide energy management system (EMS).

4.3 EDUCATIONAL FACILITIES EVALUATION ANALYSIS

Existing Plumbing Systems/Evaluation

- The campus utilizes private water well for domestic water and an onsite septic disposal system.

❖ Existing Boilers and Water Service

- Domestic Water
  - Two (2) private water wells are located in front of the building. The well supply lines enter a vault in front of the main building which is the head room for both the domestic water tank. A single hatch and ships ladder is the means to access this confined space. The domestic water tank is hydro-pneumatic (pressurized by an air compressor) type. It is original to the 1965 construction and connects to the building via an underground galvanized pipe. Domestic hot water is generated by the boiler utilizing a storage tank with integral tank heat exchanger. The water lines are original and in failing conditions requiring on-going repairs/partial replacement.

  - Sanitary
    - The sanitary collection system is original (40 years old) and utilizes pumps on the discharge side of the septic tank to serve the drain fields located behind the building.

  - Storm Water
    - The existing storm water collection system is original and ties into the onsite storm water management system.

  - Natural Gas
    - Natural gas is provided to the building and serves the existing boiler.

  - Fire Protection
    - The building currently is not sprinklered.

4.3 EDUCATIONAL FACILITIES EVALUATION ANALYSIS

Existing Electrical Systems Evaluation

- Summary
  - The existing electrical distribution system is antiquated and ongoing maintenance is an increasing issue. Distribution equipment, wiring and receptacles original to the building should be replaced/upgraded as part of a building project. Lighting and associated controls should be upgraded to be compliant with current energy codes.

- Existing Systems
  - Electrical Service
    - The electric service is 2000A, 480/277 volt, 3-phase, 4-wire via a utility pad-mount transformer. The meter is located on the exterior of the building outside the Boiler Room. The main switchboard, located in the Boiler Room, is manufactured by Federal Pacific (FPE) and dates to 1976.
    - An overhead three phase utility primary feeder extends from the street to a pole directly across the parking area from the pad-mount transformer. The primary feeder extends from the pole underground to the transformer. A single phase feeder continues overhead to a 167kVA, 120/240V single phase pole mounted utility transformer serving the portable classrooms behind the building.

- A 2000A, 208/120V, 3-phase, 4-wire FPE switchboard is located immediately adjacent to the main switchboard, served by a 500kVA dry type transformer in the room directly behind wall. This switchboard serves local lighting and receptacle panelboards throughout the building. The building lighting, as well as the kitchen equipment, are fed from the 208/120V distribution system. HVAC equipment is fed at 480/277V.

4.3 EDUCATIONAL FACILITIES EVALUATION ANALYSIS

- Electrical Distribution System

    - There are no dedicated electrical closets. Recess mounted panels are located in the kitchen, stage, and corridors. Surface mounted panels are located in the Boiler Room and in the Penthouse, as well as storage closets. The majority of the electrical distribution equipment is manufactured by Federal Pacific. Panels were installed in the MDF off the Media Center to serve receptacles for computer loads. These panels are manufactured by Square D and are equipped with surge protection. A 75kVA K-factor transformer is located in the penthouse to serve these panels.

    - The majority of the panelboards have limited to no capacity for additional branch circuits, and replacement parts for Federal Pacific equipment are difficult and/or expensive to obtain. Older branch circuits are generally not equipped with ground conductors. The conduit system, utilizing set-screw fittings, is the ground path. FCPS facilities personnel have noted cloth type insulation on some exit sign branch circuit wiring.

- Emergency Distribution System

    - Emergency service for egress lighting and fire alarm was originally derived ahead of the main service disconnect. This was code recognized when the building was constructed. The “emergency panel” is located adjacent to the service switchboard, fed from a step-down transformer. Local battery units have been installed in the building as a code compliant standby source.

- Lighting

    - The building lighting system consists primarily of 2’x4’ prismatic lensed fluorescent troffers. The majority of the fixtures are surface mounted due to a lack of ceiling space in classroom areas. Recessed fixtures are utilized in the Media Center area as well as some corridor areas. The 2’x4’ troffers typically have either three or four lamps, and are spaced to illuminate an open area. This layout is not efficient with the sub-divided classroom areas. Lighting control is manual only, with limited switch locations, a reflection of the original open space layout, that do not correlate to the partitions installed today.

    - Fluorescent 32 watt, T8 lamps and electronic ballasts are utilized in most fixtures throughout the facility. Strip and wrap-around fixtures are utilized in utility spaces in the building. The Cafeteria lighting consists of square metal halide recessed fixtures, with incandescent spotlights highlighting the stage area for performances. The metal halide lamps are being replaced with CFLs. Surface 1’x4’s have

4.3 EDUCATIONAL FACILITIES EVALUATION ANALYSIS

been installed for general stage lighting. The Gymnasium lighting utilizes high bay metal halide fixtures.

- Emergency egress lighting consists of dual-head battery wall units and emergency ballasts. It was noted there are no emergency egress lights in the Gym.

- HID fixtures have been installed on the building perimeter and on poles for parking areas and general security. The building mounted fixtures vary in style, and utilize either metal halide and high pressure sodium lamps. The pole mounted fixtures are cut-off type shoe boxes with high pressure sodium lamps. Exterior lighting is controlled via photocell with time clock control as a backup, rather than photocell "on"/timeclock "off" per FCPS standards. There does not appear to be emergency egress lighting at the exterior building exits.

- Fire Alarm System

  - The EST2 fire alarm control panel is located in the Boiler Room, with a graphic annunciator panel at the main entrance. The system consists of manual pull stations, ceiling mounted voice evacuation speakers and strobe lights, with smoke detectors for activation of corridor door hold open devices. The system appears to have been installed within the last couple of years.

- Technology/ Security Systems

  - The telecommunications systems infrastructure includes an overhead service via pole lines then transitions underground from the pole to underground conduits near the utility transformer. The telephone and cable television services enter the building on the same wall as the existing gas meter near the boiler room.

- Currently, there exists one (1) MDF. The MDF contains multiple 48 port patch panels. Category 5 data cabling, installed around 2000, is provided throughout the school.

4.3 EDUCATIONAL FACILITIES EVALUATION ANALYSIS

- The existing telecommunications systems have been provided and maintained in a piece meal fashion.
- The telecom spaces do not meet current EIA/TIA standards and need to be replaced with larger, secure, and environmentally controlled dedicated rooms.
- The telecommunications equipment is not currently tied into the emergency generator.

- Public Address

Summary/ Recommendations

- The existing school public address system uses a recently installed Telecor public address system. The existing Telecor micro-processor based public address system should be considered to be reused if the existing building is renovated. A new system should be provided and the existing system returned to the Owner if the new building option is selected.
- The existing public address speakers are in poor condition and should be replaced.

- Computer Network Jacks

Summary/ Recommendations

- The CAT5 data computer cabling distribution system was installed in 2000 under the TIMS project. The data system is in fair condition and should be replaced and expanded to meet the needs of the renovation and meet current technology standards. New computer network jacks will be added to cover renovated areas and other areas not currently served. The exact scope of work will be coordinated with FCPS during the design phase.

- CATV Distribution & Streaming Video System

Summary/ Recommendations

- The video distribution system was installed in 2000 under the TIMS project. These systems are all in fair condition and should be replaced and expanded to meet the needs of the renovation.

- Master Clock System

Summary/ Recommendations

- Existing Master Clocks are connected to the existing Master Clock / Bell System. A Telecor Time Control unit located in the public address cabinet.

4.3 EDUCATIONAL FACILITIES EVALUATION ANALYSIS

- Instructional Technologies

Summary/ Recommendations

- Ceiling mounted Epson projectors are provided in selected areas (conference rooms).
- Cart mounted media carts contain document cameras and projectors and printers are used in many instructional spaces. Manual pull down projection screens are used in most instructional spaces.

- Security Systems

Summary/ Recommendations

- The security system equipment is not located in a secure dedicated space. There is a need to centralize all the security system equipment in a secure, and environmentally controlled dedicated room.
- The existing security system head-end equipment and power supplies are not tied into the emergency generator power. Recommend tying the head-end equipment into the new emergency generator.
- There is no campus alert / mass notification system or visual display messaging system located in the building. Recommend one of the two options.
- There is no building wide Security Alarm system, only local individual alarm systems. Recommend a building wide system be provided with sub-systems or partitions created for the special needs spaces.
- Access control card readers are located at only selected entrances. Recommend providing a complete access control card reader system for selected exterior and interior doors.

- Intrusion Detection System

Summary/ Recommendations

- The existing Honeywell Vista 128 BP Security System is located in the Boiler room next to the fire alarm system. The main use is a combination of door contacts and motion detectors to provide perimeter protection. A Communicator Panel provides dial-up communications with the UL Monitoring Service. The existing Security System is at its maximum capacity and will need to be replaced with the current FCPS standard of a Vista 250BP.
- The intrusion detection system uses a combination of approx. 39 motion detectors and door contacts with arm/disarm keypads located at main entrances. New devices will be added to cover renovated areas and other areas not currently protected. The System should be provided with additional keypads located throughout the school to arm and disarm the alarm.

4.3 EDUCATIONAL FACILITIES EVALUATION ANALYSIS

- Access Control System

Summary/ Recommendations

- Currently, the school uses a BEST Access Control / Card Reader System. The access control panel is located in the MDF room.
- An Aiphone video intercom door entry system is used to remotely release and "buzz" people into the building from the main office.

- Surveillance Camera System

Summary/ Recommendations

- Currently the existing school has multiple security cameras that are connected to a UTC Interlogix (GE) Tru-Vision DVR 30 located in the main telecom room.
- There are multiple security surveillance cameras systems inside and outside the school powered by an Altronix power supply located in the security rack in the MDF room.
- The security camera system is backed up by a UPS (APC Smart UPS 1500).
- The exact scope of work for the surveillance camera system will be coordinated with FCPS during the design phase.

- Emergency Notification System

Summary/ Recommendations

- An existing Alertus localized emergency notification display panel is located in the main office. This alarm display is in good condition and should be reused for the renovation.

SYSTEM RECOMMENDATIONS – Refer to Appendix for Approaches

- Building Approaches

All mechanical and plumbing systems are at or are beyond their useful life and are recommended to be replaced in their entirety. There is limited infrastructure space (6" bottom of steel to top of existing ceiling construction) to locate new mechanical, electrical and fire protection systems.

Public water and sanitary systems should be extended to and into the site so that the existing water wells and septic system can be abandoned. Construction phasing of these utilities is a challenge depending on individual building recommendations.

New mechanical and plumbing systems shall be designed to meet and/or exceed the latest State of Maryland Requirements and LEED pre-requisites.

End of Facility Analysis

4.4 EDUCATIONAL FACILITIES PROGRAM ANALYSIS

EDUCATIONAL SPECIFICATIONS ANALYSIS

Existing Conditions

The most current version of the FCPS elementary school prototype educational specifications was used as a basis for evaluating the adequacy of the existing Urbana Elementary school. Comparing the existing facility to this adapted Educational Specification (a full comparison can be found in the attached summary).

As indicated on the summary, the current Urbana Elementary school is undersized by more than 19,600 sf in total net square feet. In nearly all major educational spaces, the program spaces are undersized. Due to the “open plan” classroom configuration introduced in 1975, the educational classrooms are small with some teaching spaces in makeshift areas; most classrooms must be passed through to access others, therefore, the number of actual classrooms may be a bit misleading.

Although the quantity of general learning areas is undersized by more than 8,000 sf., there are currently 14 portable classrooms in use to support educational program delivery. Pre-Kindergarten classrooms and Kindergarten classrooms are undersized by more than 2,000 square feet and 1,200 square feet each, respectively. The physical education program is undersized by more than 2,700 square feet, the Media Center is undersized by nearly 1,300 square feet and the Cafetorium is undersized by more than 1,800 square feet. These core spaces are significantly undersized, but more importantly is the impact to the educational schedule due to the limitations of these spaces.

The Kitchen area is slightly undersized and the total square footage of the existing foodservice area(s) is below County and State recommendations. The areas are poorly laid out with wasted space resulting in increased labor to perform basic tasks. The recommendation is to increase size and reconfigure overall kitchen and serving areas to better maximize space. Music is deficient by a full teaching space as during a more recent security upgrade, a music space was converted and incorporated into the administrative offices and secure lobby. The administrative space is only slightly undersized (130 square feet) as are the two computer labs (130 and 150 square feet) and the art instruction spaces (nearly 300 square feet) are also deficient.

The Custodial and Maintenance areas are severely undersized. Custodial spaces are short by nearly 50% and maintenance is non-existent as compared to today’s standards. Most often, boiler rooms and mechanical areas are used to accommodate needs in these areas. These spaces are undersized by slightly less than 2,000 square feet.

One program that is slightly larger is the Supporting Services area, but this is misleading as with the open plan configuration of the facility, spaces have been created to support programs as needed.

In total, the existing building is undersized by approximately 19,600 net square feet.
If applying a standard grossing factor of 1.4, as well as additional factors to make up for the existing building’s circulation, layout, and inefficiencies, an addition of approximately 27,440 gross square feet would be appropriate to provide the amount of space necessary to meet the adapted Educational Specification. However, as outlined in Option 1, additional square footage is required to accommodate program adjacencies and additional circulation requirements.

4.4 EDUCATIONAL FACILITIES PROGRAM ANALYSIS

Beyond square footage requirements, the existing school also falls short of complying with a contemporary elementary school Educational Specification in terms of ability of spaces to be easily supervised, secured and with grade level adjacencies, instructional technology infrastructure, and acoustical isolation between instructional spaces, and heights of ceilings.

The following are some observations noted at Urbana Elementary School that impact educational delivery. The recommendations are made in regards to a modernization project.

Site

The site contains the "Great Heron Wetlands", which are located along the east side of the site between the building and the eastern property line. The wetlands were created in 2000 to improve the environment and help educate the students and the community. Two (2) ponds measuring approximately 50' x 30' also contain approximately two (2) acres of native plants. The wetland area is one of eleven (11) that are monitored by Frederick County. It is important to the current curriculum that this area be maintained in order to support current educational programs.

Building

- Approximately 3 years ago the administration area was extended into an adjacent music room, providing much needed additional space and also added a secure vestibule between the additional space and the new entrance doors. With the new entrance doors being set back so far from the drop-off area and parking areas, it is difficult to see the entrance doors with trees and shrubs to either side of the doors. In addition, the original entrance doors are closer to the drop-off area and sidewalks, which may confuse visitors coming to the building after the students are in school. The original entrance doors are used in the morning when students arrive and after hours when students leave for the day. The administration offices are located internal to the building and as such, do not have natural daylight. There are no ADA compliant toilet rooms within the area for the administration staff and staff has to leave the area to use toilet rooms. Consideration should be given to relocate the administration offices closer to a main entrance and exterior of the building to gain natural light and also provide visual access to the drop-off areas and to create one "main" entrance and focal point from the parking area for visitors coming to the building.

- The existing Guidance Office is not centrally located among the classrooms and is not configured as an office with a desk and conference table for meetings. Consideration should be given to centrally locate this office with the classrooms and also provide a more user friendly office with room for conferencing and new casework for storage.

- The existing Health Suite is adjacent to the administration area with access through a work room. There is no confidentiality between the nurse and students waiting to be seen by the nurse and also students that are waiting to be picked up by their parents. There is a toilet room designated for the health suite but it does not include a shower nor is it ADA compliant. Consideration should be given to provide a private office for confidential meetings between the nurse and a student or parents of a student. A separate storage room should be provided as well as a room for cots. Visual access should be provided to be provided between the cot room and the office. An ADA compliant single compartment toilet room with a private shower should also be provided per the educational specifications.

4.4 EDUCATIONAL FACILITIES PROGRAM ANALYSIS

- The existing Cafeteria and Stage are undersized compared to what is required in the educational specifications and will not be large enough to handle any additional capacity to the building. There are no acoustical wall panels on the walls to absorb sound. Because of the additional student capacity being added to the building, additional space should be considered for the cafeteria. Another consideration would be to provide a new cafeteria addition with minimal (if any) structural columns within the space.

- The Media Center is centrally located in the classroom area without any natural light. In addition there are no walls separating this area from the remainder of the classrooms to provide sound, noise and visual control. There is limited technology available to this area. Consideration should be given to relocate the Media Center to an area where windows can be provided and still be centrally located to the classrooms. In addition, built-in technology should be provided that is appropriate for this room.

- The existing Art Room is slightly undersized and does not have enough casework for storage nor enough sinks for cleaning up after class. The location of the art room is remote from the remainder of the school and is not centrally located. The adjacent art storage room is open to the art room and contains a kiln. This area is also shared with the PTA. There is also not an area to display art within the school. Consideration should be given to relocate the art room to be more centrally located in the school and to provide an area or wall to display art. The room where the kiln is located should be separated from the art room with a full height wall. Another consideration would be to locate the art room adjacent to an outdoor area so that it could be used for outdoor instruction.

- The existing Music classroom room is located in a room that is adjacent to the Media Center. It is an appropriately sized space but is not located near the existing stage. Consideration should be given to relocate the music classroom in a location closer to and accessible to the stage and also in an area that the noise from the room will not affect any adjacent classrooms or Media Center. Sound absorbing wall panels should be included.

- Most of the Existing Classrooms are open to one another without walls separating them from one another and providing sound, noise and visual control. In addition, some of the classrooms are not only open to one another but also have to be accessed through an adjacent classroom. Technology and the ability to teach are also limited with these existing conditions. Because of these conditions, students and teachers are at risk from a security and life/safety standpoint as they are not protected in any way. Consideration should be given to separate the classroom spaces with walls that extend up to the roof and/or floor deck and provide doors into each space to provide the sound, noise and visual control. Technology and teaching tools in line with the educational specifications should be provided.

- The existing Gymnasium is not large enough to accommodate the size basketball court called for in the educational specifications. The adjacent office and toilet room are appropriately sized however the toilet room is not ADA compliant. The recommendation is to create a new gymnasium and support spaces that match the educational specification and utilize the existing gymnasium perhaps to house another two story space more in line with the square footage of the existing gymnasium.

- The existing computer lab is adequate in size but will need to be relocated so that is not on an outside wall for security purposes and also will need to be upgraded with current technology.

4.4 EDUCATIONAL FACILITIES PROGRAM ANALYSIS

- The existing Faculty Room and/or Lounge is centrally located within the school and has group staff toilets adjacent to the room. Consideration should be given to relocate the room to an area that would provide natural light. In addition, instead of group staff toilets, provide men and women single compartment toilets per the educational specifications.

- There are currently no Faculty Planning Rooms. Consideration should be given to providing planning rooms for each of the grade levels per the educational specification along with planned faculty toilets.

- The Urbana Elementary School Kitchen operates as a full-service prep/production facility equipped to produce and serve meals to the students and staff. The majority of the equipment is original to the 1960's building. Much of the equipment, although well-maintained, is old, outdated, inefficient, non-compliant with current codes and has seen its useful life. The kitchen is old, stuffy, labor-intensive, poorly ventilated presenting an uncomfortable and difficult working environment. The majority of the equipment has either seen its' useful life or is in violation of current health codes. Student participation is lacking due partly to inefficient organization, however, mainly to an uninviting and uncomfortable dining experience.

Function and Area Summary

The attached summary is a side-by-side comparison of the current Educational Specification discussed in this section and the room and space areas of the existing Urbana Elementary School facility. Differences between existing and proposed are shown in the right hand column. Negative numbers indicate deficiencies in the existing school; positive numbers indicate areas of the existing school that are oversized.

Frederick County Public Schools
Urbana Elementary School
Program Assessment

rev 10/23/2014

Instructional Area	Space Name	FCPS ED SPEC'S # Rooms	FCPS ED SPEC'S Square Feet	FCPS ED SPEC'S Total Square feet	EXISTING URBANA ES # Rooms	EXISTING URBANA ES Square Feet	EXISTING URBANA ES Total Square feet	DIFFERENCE Square Feet
MEDIA CENTER								
	Open Resource Area (w/informal reading area)	1	3,350	3,350	1	2,830	2,830	-520
	Media Office	1	110	110	1	219	219	109
	Small Group Instruction Room	1	450	450	0	0	0	-450
	Equipment storage/workroom	1	350	350	1	273	273	-77
	Conference Room (w/door off main hallway)	1	150	150	0	0	0	-150
	Computer, TV, Communications MDF	1	110	110	0	0	0	-110
	TV Station - Broadcast TV	1	100	100	0	0	0	-100
	Sub-Total			**4,620**			**3,322**	**-1,298**
GENERAL LEARNING AREAS								
	General Classrooms	25	800	20,000	0	0	0	-20,000
	Classroom	0	0	0	1	806	806	806
	Classroom	0	0	0	1	855	855	855
	Classroom	0	0	0	1	953	953	953
	Classroom	0	0	0	1	918	918	918
	Classroom	0	0	0	1	917	917	917
	Classroom	0	0	0	1	645	645	645
	Classroom	0	0	0	1	861	861	861
	Classroom	0	0	0	1	797	797	797
	Classroom	0	0	0	1	549	549	549
	Classroom	0	0	0	1	602	602	602
	Classroom	0	0	0	1	835	835	835
	Classroom	0	0	0	1	673	673	673
	Classroom	0	0	0	1	863	863	863
	Classroom	0	0	0	1	576	576	576
	Classroom	0	0	0	1	710	710	710
	Classroom	0	0	0	1	869	869	869
	Classroom	0	0	0	1	734	734	734
	Classroom	0	0	0	1	875	875	875
	Classroom	0	0	0	0	0	0	0
	Classroom	0	0	0	0	0	0	0
	General Classroom bathrooms	25	40	1,000	10	14	140	-860
	Storage Rooms	1	150	150	0	0	0	-150
	Classroom Storage Rooms	0	0	0	1	77	77	77
	Classroom Storage Rooms	5	300	1,500	3	80	240	-1,260
	Sub-Total			**22,650**			**14,495**	**-8,155**
PRE-KINDERGARTEN								
	Pre-Kindergarten classrooms	1	1,100	1,100	1	762	762	-338
	Pre-Kindergarten classrooms	1	1,100	1,100	0	0	0	-1,100
	Pre-Kindergarten bathrooms	1	40	40	1	14	14	-26
	Pre-Kindergarten bathrooms	1	40	40	0	0	0	-40
	Pre-Kindergarten storage rooms	1	100	100	0	0	0	-100
	Pre-Kindergarten storage rooms	1	100	100	0	0	0	-100
	Planning Room combined with K	1	300	300	0	0	0	-300
	Sub-Total			**2,780**			**776**	**-2,004**
KINDERGARTEN								
	Kindergarten classroom	1	1,100	1,100	1	948	948	-152
	Kindergarten classroom	1	1,100	1,100	1	1,174	1,174	74
	Kindergarten classroom	1	1,100	1,100	1	891	891	-209
	Kindergarten classroom	1	1,100	1,100	1	913	913	-187
	Kindergarten classroom	1	1,100	1,100	1	732	732	-368
	Kindergarten bathroom	5	40	200	5	14	70	-130
	Indoor/Outdoor storage rooms	1	200	200	1	80	80	-120
	Indoor/Outdoor storage rooms	1	200	200	0	0	0	-200
	Sub-Total			**6,100**			**4,808**	**-1,292**
SUPPORTING SERVICES AREA								
	Speech/Language and Itinerant Service, OT/PT	1	360	360	1	278	278	-82
	Special Education Resource Rooms	1	400	400	1	368	368	-32
	Special Education Resource Rooms	1	400	400	1	779	779	379
	Special Education Resource Rooms	1	400	400	1	293	293	-107
	Special Education Resource Room Bathroom	1	60	60	2	285	570	510
	ELL office/teaching space/storage with bathroom	1	840	840	1	194	194	-646
	Math Intervention Planning/teaching/storage w/bathroom	1	840	840	1	435	435	-405
	Reading Intervention Planning/teaching/storage w/bathroom	1	840	840	1	335	335	-505
	Reading	0	0	0	1	559	559	559
	Reading Office/teacher space/storage (literacy specialist)	1	400	400	1	649	649	249
	Individual Testing and speech room	1	120	120	1	359	359	239
	Reading	0	0	0	1	310	310	310
	Community Liaison Office/storage	1	500	500	1	425	425	-75
	Guidance Offices (clustered)	2	200	400	1	240	240	-160
	Sub-Total			**5,560**			**5,794**	**234**

		FCPS ED SPEC'S			EXISTING URBANA ES			DIFFERENCE
Instructional Area	**Space Name**	**# Rooms**	**Square Feet**	**Total Square feet**	**# Rooms**	**Square Feet**	**Total Square feet**	**Square Feet**
	`							
ART INSTRUCTION								
	Art Studio A	1	1,000	1,000	1	1,001	1,001	1
	Storage for Studio A	1	200	200	0	0	0	-200
	Art Studio B	1	1,000	1,000	1	987	987	-13
	Storage for Studio B (w/separate kiln)	1	200	200	1	135	135	-65
	Sub-Total			**2,400**			**2,123**	**-277**
MUSIC INSTRUCTION								
	Vocal/Instrumental Music Room	1	1,100	1100	1	846	846	-254
	Instrumental Music Room	1	350	350	1	0	0	-350
	Music Storage Room	1	75	75	0	0	0	-75
	Sub-Total			**1,525**			**846**	**-679**
COMPUTER INSTRUCTION								
	Computer lab	1	900	900	1	766	766	-134
	Computer lab	1	900	900	1	747	747	-153
	Telecommunications Equipment Room	1	150	150	1	70	70	-80
	Sub-Total			**1,950**			**1,583**	**-367**
PHYSICAL EDUCATION								
	Gym, full basketball court (64'x98')	1	6,272	6,272	1	3,546	3,546	-2,726
	Indoor/Outdoor equipment storage	1	400	400	1	76	76	-324
	Storage	0	0	0	1	172	172	172
	Bathrooms Area - Boys and Girls	1	120	120	0	0	0	-120
	Teacher office/bathroom/shower/dressing	1	150	150	1	167	167	17
	M Group Toilet	0	0	0	1	116	116	116
	W Group Toilet	0	0	0	1	139	139	139
	Sub-Total			**6,942**			**4,216**	**-2,726**
FOOD SERVICE								
	Kitchen - Serving/Food prep/Transport	1	1,200	1,200	1	1,145	1,145	-55
	Dry Food Storage	1	300	300	1	175	175	-125
	Non-Food Storage	1	60	60	0	0	0	-60
	Refrigerated Storage - walk-in	1	130	130	1	83	83	-47
	Frozen Food Storage - walk-in	1	120	120	1	129	129	9
	Office	1	80	80	1	45	45	-35
	Locker/restroom/washer & dryer area	1	120	120	1	70	70	-50
	Dishwashing area	1	220	220	1	96	96	-124
	Inside receiving area	1	60	60	0	0	0	-60
	Covered outside unloading area (100 sf, 18" tailgate ht.)	0	0	0	1	128	128	128
	Sub-Total			**2,290**			**1,871**	**-419**
CAFETORIUM								
	Dining Area (3 lunch shifts or 250@16sf per student)	1	4,000	4,000	1	2,333	2,333	-1,667
	Stage	1	850	850	1	920	920	70
	Chair Storage	1	150	150	1	165	165	15
	Table Storage	1	200	200	0	0	0	-200
	Custodial room	1	30	30	0	0	0	-30
	Sub-Total			**5,230**			**3,418**	**-1,812**
ADMINISTRATION OFFICE								
	Secretarial/Reception Waiting Area	1	450	450	1	781	781	331
	Workroom	1	200	200	1	140	140	-60
	Workroom	0	0	0	1	213	213	213
	Principal Office	1	180	180	1	159	159	-21
	Assistant Principal Office @ 150 SF each	1	150	150	1	124	124	-26
	Assistant Principal Office @ 150 SF each	1	150	150	1	67	67	-83
	Conference Room	1	200	200	1	295	295	95
	Administrative Bathroom	1	60	60	0	0	0	-60
	Nurse's Office in Health Suite	1	100	100	0	0	0	-100
	Health Room w/small shower	1	500	500	1	243	243	-257
	Nurse Storage	0	0	0	1	38	38	38
	Student Bathroom	1	300	300	1	22	22	-278
	Teachers Lounge w/bathroom in lounge	1	400	400	1	480	480	80
	School Store	1	60	60	0	0	0	-60
	Testing Storage	0	0	0	1	89	89	89
	Closet	0	0	0	1	23	23	23
	Adult Toilet (2nd Floor)	1	60	60	0	0	0	-60
	Sub-Total			**2,810**			**2,674**	**-136**
CUSTODIAL OPERATIONS								
	Custodial Office	1	150	150	1	70	70	-80
	Locker room/shower/bathroom, women	1	90	90	0	0	0	-90
	Locker room/shower/bathroom, men	1	90	90	0	0	0	-90
	Central Indoor Storage (adjacent to loading area)	1	300	300	0	0	0	-300
	Indoor Satellite storage rooms	1	50	50	1	52	52	2
	Indoor Satellite storage rooms	1	50	50	1	17	17	-33
	Indoor Satellite storage rooms	1	50	50	0	0	0	-50
	Indoor Satellite storage rooms	1	50	50	1	118	118	68
	Outdoor storage	0	0	0	1	140	140	140
	Outdoor storage	1	350	350	1	157	157	-193
	Sub-Total			**1,180**			**554**	**-626**
GROUP TOILETS								
	B Group toilet	0	0	0	1	63	63	63
	G Group toilet	0	0	0	1	58	58	58
	B Group Toilet	0	0	0	1	161	161	161
	G Group toilet	0	0	0	1	161	161	161
				0			**443**	**443**
MAINTENANCE								
	Maintenance Office	1	120	120	0	0	0	-120
	Maintenance Storage Area	1	400	400	0	0	0	-400
	Sub-Total			**520**			**0**	**-520**
TOTAL	**Total Net Square Feet**			**66,557**			**46,923**	**-19,634**
	Times 1.4 Net to Gross Ratio			**1.4**			**N/A**	
	Total Gross Square Feet with 1.4 Gross Ratio			**93,180**			**64,123**	
		FCPS ED SPEC'S			**EXISTING URBANA ES**			**DIFFERENCE**

5.0 COMMUNITY ENGAGEMENT

Introduction of the Feasibility Study Process

During an early meeting with the Steering Committee, CRA provided an outline for the Community Engagement portion of the study. The recommended process included various communications tools to solicit community, staff, faculty and student feedback throughout the study. The information and ideas developed by the students, staff and community were used in development of the options of the study and in the development of the recommendation of the steering committee to the Board of Education.

The Urbana Community was invited to attend any and all Steering committee meetings held at the Board of Education Offices. FCPS Communications department provided project updates on the FCPS website as well as established an email account specific to the project (UES.Study@fcps.org), and a community survey regarding the modernization of Urbana Elementary School.

The following outline provides a summary of the various engagement tools utilized to obtain feedback in the development of the feasibility study, followed by the summary of the results of the engagement process.

- April 28, 2014 - Urbana Elementary School Staff Charrette
- May 8, 2014 - Urbana PTA and Community Charrette
- October 7, 2014 - Urbana PTA and Community Input Meeting
- October 20, 2014 - Urbana Elementary School Staff Input Meeting
- October 2014 - Urbana Elementary School Modernization Survey

At the April and May staff and community charrette meetings, CRA provided an overview of the goals of the feasibility study process with a comprehensive assessment and evaluation of the Urbana Elementary School facility, including identification of facility deficiencies and recommendations for improvement. In the following months, a variety of options to modernize the facility, taking into account long term needs, would be developed for consideration by the Board of Education of Frederick County.

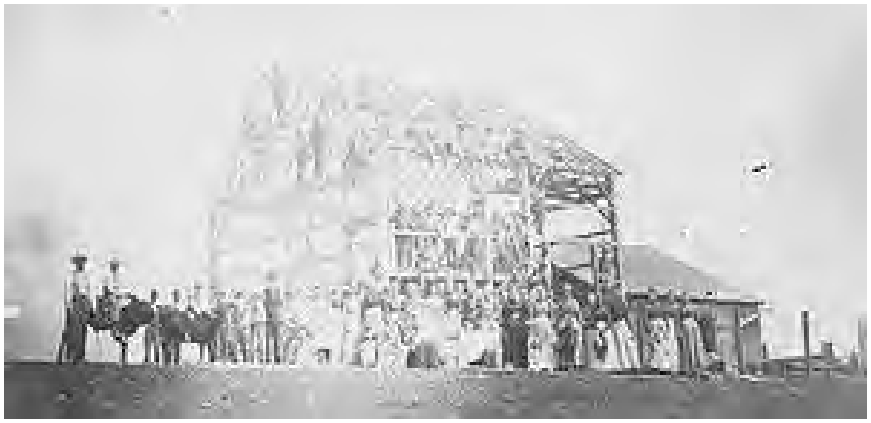
As such, this study is considered to be a benchmark report, developed to provide the Board of Education with a point of reference to be able to implement an improvement plan for facility maintenance, upgrades, renovations, additions, and/or possible future new construction.

The charrette included small group breakout sessions to obtain responses to a series of questions regarding the modernization of Urbana Elementary School. This provided the Steering Committee with critical information regarding the challenges and opportunities currently encountered at Urbana as well as goals and expectations for the future from a variety of user groups. After the small group discussions, there was a summary and presentation of the themes provided by each group.

The definition, approach and goals of the charrette were discussed to clarify the importance of student, staff and community feedback in the feasibility study process and how their feedback would be used by the Steering Committee.

5.0 COMMUNITY ENGAGEMENT

Definition: The word *charrette* may refer to any collaborative session in which a group of designers/key stakeholders draft a solution to a problem. The word charrette is French for "cart" or "chariot".



❖ Often, A Barn 'Raising' Is Thought of as a Charrette.

Goals of Charrette:

- Enthusiastic start the feasibility study process
- Establish and encourage agreement on project goals
- Provide an interactive forum for gathering ideas to create a vision for the modernization of Urbana Elementary School.
- Obtain detailed feedback on the question: **If nothing else this project must….**

The following questions were used to initiate discussions during the staff and community charrette processes conducted in April and May, 2014. **The results are found in Appendix 7.1.**

Staff Charrette Questions

1) I teach best when_____?
2) The best thing about my school is_____?
3) If I could change my space, I would_____?
4) My students learn best when_____?
5) If nothing else, I would like to see the modernized school include_____?

Community Charrette Questions

Questions for the adult group:

1) The best thing about my community is_____?
2) _____ is the most important aspect of my child's education?
3) My child learns best when _____?
4) If nothing else, I would like to see the modernized school include_____?

5.0 COMMUNITY ENGAGEMENT

Questions for the students:

1) The best thing about my community is_____?
2) The best thing about my school is _____?
3) I learn best when _____?
4) If I could change anything about my school I would change _____?

Staff and Community Update Meetings

In October, one community meeting was held for the Urbana community and one for the staff. The intent of the presentations was to update and solicit feedback from all parties involved regarding the Options being considered as part of the feasibility study process.

The community meeting was held in conjunction with an Urbana Elementary School PTA meeting and was attended by approximately 50 people. This meeting was followed a week later by a staff update meeting, held in conjunction with a staff meeting. Both presentations of the options were followed by a question and answer period. In addition, an online survey of questions was posted on the website for public comment. The following survey questions were presented, along with renderings of each option:

1) What do you like most about Option 1, 2, 3A and 3B?

2) What are the potential challenges for your child's education in Option 1, 2, 3A and 3B?

The survey was available on the FCPS website for 2 weeks and there were between 85 and 100 responses to each of the questions (8 total) on the survey. The following “themes” were apparent in the results of the survey. All comments can be found in their entirety in Appendix 7.1.

Option 1. In summary this was the least favorable option based on the comments received. The majority of the comments reflected the extreme negative impact to the education process, highest cost and longest duration as a very unfavorable environment for the students and staff. In addition there were many comments regarding student and staff safety and security in and around a construction environment, from potential health impacts from dust and noise as well as continuous distractions due to construction operations.

Option 2. The comments reflected that Option 2 is more favorable that option 1 due to shorter construction duration and cost. However, there are some concerns over the final location of the new facility being too far into the site as well as the separation of and access to the various play areas. There are also concerns over students possibly crossing parking areas to access some of the play areas as well as the play areas being located too close to Urbana Pike. There is concern regarding the proximity to construction areas and the significant impact of potential health consequences from dust and noise as well as continuous distractions due to construction operations.

5.0 COMMUNITY ENGAGEMENT

Option 3A. This Option is clearly the most favorable due to reduced construction duration and lowest cost. Relocating the students to Sugarloaf Elementary provides minimal disruption to the education process and students are removed from potential health impacts of construction as well as distractions. The minimal disruption is caused by the move to Sugarloaf and back to the new Urbana Elementary once completed, but students and staff will be in a secure facility with 21st Century program spaces developed to accommodate goals and curriculum. The concerns over this option were related to losing access to the Wetlands during the construction phase as well as impacts to the greater Urbana community by delaying the redistricting of the elementary schools. In addition, this option would prolong the effects on overcrowding at Centerville Elementary School. There were also concerns regarding the timing of the funding of this option in conjunction with the current proposed funding cycle.

Option 3B. This option was the second least favored option of the four based on the long term housing of students in a "portable classroom community". The majority of comments expressed concerns over compromises to the educational program as well as the overall physical and environmental safety of the occupants. The potential health impacts as well as distractions to the educational process if the portable classrooms are located on site are of noted concern similar to those outlined in Option 2. In addition, the cost of providing a temporary, portable school was thought to be a waste of taxpayer dollars as compared to options 2 and 3A.

Traditional Outreach Mechanisms

Traditional mechanisms as well as social media were used to start discussions and gather feedback from the community, staff and students. All news releases were posted on the FCPS website and were accompanied by a FindOutFirst (FOF) messaging system.

Web Pages: Dedicated Web pages with a URL code (www.fcps.org/UESModernization) provided UES renovation/modernization details including project background, project timeline, answers to frequently asked questions, a calendar of events and direct access to social media sites. The email was set up specifically for community members to ask questions and provide input. Questions were answered by the FCPS Facilities Planner.

❖ Community & Student Charrette

5.0 COMMUNITY ENGAGEMENT

- PTA and Community Meeting

- Staff Meeting

6.0 – DEVELOPMENT OF FACILITY OPTIONS

Introduction

The information presented in this section details two options that the Board of Education of Frederick County can take to address the facility needs for the Urbana Elementary School. The information, as outlined in this section, has been developed to:

- Address the facility needs as identified within the study, with the ultimate goal of making recommendations that would serve to update the facility and its operational systems.
- Address the present and foreseeable continued enrollment increases.
- Provide options that reflect the educational specifications of the Board of Education.
- Provide preliminary construction and project cost information relative to recommendations.

There are four options presented in this section. The first option is an additions/renovations project while occupying the existing building while the other three options are replacement schools on the existing site. The second option while it is a replacement school, faculty and students will occupy the existing building while the new school is being built. The third and fourth options are replacement schools while not occupying the existing school. All of the options have their opportunities and challenges which are listed later in this section.

Project Costs

Construction costs for new construction are based on the bid packages (for building only) for the new North Frederick Elementary School Replacement bid in 2010 equated to approximately $210 per square foot. In reviewing the historical cost indexes in the 2014 RS Means Square Foot Costs book, overall from 2010 to 2014, there was an approximate 10.5% increase in construction cost. There was an approximate 3% increase from 2010 to 2011, 4% increase from 2011 to 2012, 1% increase from 2012 to 2013 and a 2.5% increase from 2013 to 2014. Adding the 10.5% of $210 ($22) to $210 (2010 square foot cost) equates to $232 per square foot if the same building were bid in 2014. It was also discussed that the site costs for North Frederick Elementary School totaled approximately $5,000,000 and since the replacement school options for this study would have the same site amenities (parking, play areas, play fields, drop-off areas, etc.) as North Frederick that the same site number was to be used for the replacement school options for this study. Soft costs such as AE and CM fees, movable fixtures and equipment, permits and fees, costs associated with temporary portable classrooms are also included as part of the project costs. Refer to Appendix 7.3 for cost analysis and detailed costs associated with construction and soft costs for each option.

Renovations/ Additions Versus Building New

It is assumed that the replacement school will be built in 24-28 months. The additions/ renovations project will last approximately 44 months and have to be phased to allow the building to be occupied while construction is taking place. Because of the longer duration, costs associated with additional general conditions such as costs for having a construction trailer and job superintendent on site, utilities for trailer, bonding, builder's risk insurance and temporary construction and/or facilities need to be included. In addition, phasing costs

6.0 – DEVELOPMENT OF FACILITY OPTIONS

associated with portable classrooms used for swing space, and in this case to relocate the existing modular classrooms where the new additions are to be located, also need to be included. See Option 1 this section for a detailed phasing and site plan. Phasing costs would not typically be associated with new construction unless demolition of the existing building was required in order to build the new building. This applies for Options 2, 3A and 3B where replacement schools are planned.

The Feasibility Study Steering Committee utilized several tools and sources of information for selecting a preferred option. Discussion of opportunities and challenges of individual options as (Section 6), existing facility analysis (Section 4), cost estimates (Appendix 7.2), life-cycle cost analysis (Appendix 7.3), and feedback from community engagement (Appendix 7.1) were all taken into consideration when making the selection. In all Options, limiting disruption to the educational program, maintaining the safety and security of the students, and the desire to maintain the Great Heron Wetlands was of significant importance.

Options in which students would need to be housed in an entire complex of portable classrooms, onsite or offsite at some other location were thought to be impractical and to have too many potential impacts upon instruction and the cohesiveness of the student body as well as concerns over the security of such a temporary facility. All committee members felt strongly that the only viable options were those in which a new building could be constructed in full while students remained in the existing facility or at Sugarloaf Elementary for the duration of construction. As a result, Options 1 and 3B were rejected by the committee.

Among the remaining Options 2 and 3A, Option 2's potential disruptions on the students and staff during construction and its relocation of the building to the "center" of the site made it significantly less desirable to the committee than Option 3A. Committee members expressed a preference for Option 3A, stating they felt this was the best possible use of the site, least cost to the tax payers, least impact to the education process and the shortest duration of construction.

The majority of committee members agreed that Option 3A provides a good balance between the instructional mission of the school, the history of the site to its surroundings, and the comments and concerns of the Urbana community.

Therefore, the committee recommends replacing the existing building on the existing site while the students and staff are temporarily relocated to Sugarloaf Elementary School.

6.0 – DEVELOPMENT OF FACILITY OPTIONS

Option Summary

Option 1 – Phased Additions/Renovations While Occupying Existing Building

This option provides approximately 82,200 square feet of space additions and major renovations to all portions of the building (41,200 square feet) while occupying the building during construction. The proposed new additions include new mechanical spaces, enlarged Kitchen and Cafeteria spaces, and a new Gymnasium and a two story educational wing. This option will consist of the complete demolition of the 1975 addition, (infill portion between classroom wings from original 1960 building and 1965 addition) and demolition of miscellaneous portions of the existing building at the northwest corner of the building. Approximately 36% of the existing building will be demolished as part of this option. Renovations throughout the building will include new interior partitions and complete replacement of the mechanical, electrical and plumbing systems as well as new exterior windows, doors and roof. This will be a phased construction project over forty four (44) months.

Construction Duration: 44 months
Total Project Cost: $54,165,520

Option 2 – Replacement School While Occupying Existing Building

This option provides a replacement school constructed adjacent to the existing building using the FCPS elementary prototype design. This option uses the existing building and portables while the new building is being constructed and then demolishing the existing building and relocating the portable classrooms to another site at the end of the project.

Construction Duration: 28 months
Total Project Cost: $41,433,200

Option 3A – Replacement School While Relocated to Sugarloaf Elementary School

This option provides a replacement school constructed in place of the existing building using the FCPS elementary prototype, and relocating the faculty and students to the new Sugarloaf Elementary School while the new building is being built. In this option the existing building is demolished prior to beginning construction on the new building.

Construction Duration: 24 months
Total Project Cost: $40,128,436

Option 3B – Replacement School While Relocated to Portables

This option provides a replacement school constructed in the area of the existing building using the FCPS elementary prototype, and relocating the faculty and students to temporary portables on the adjacent site while the new building is being built. In this option the existing building is demolished prior to beginning construction on the new building.

Construction Duration: 28 months
Total Project Cost: $45,875,476

6.0 – DEVELOPMENT OF FACILITY OPTIONS

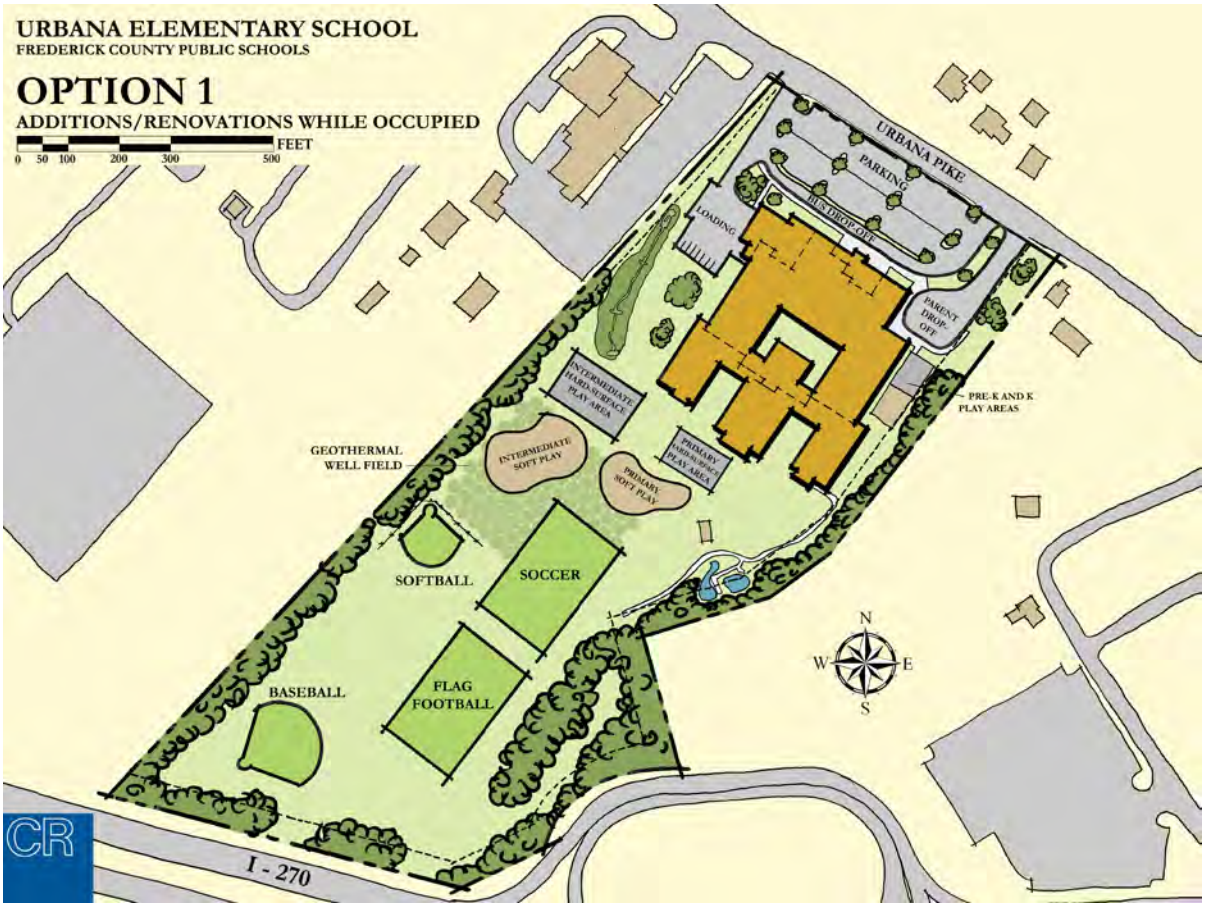
Option 1 – Phased Additions/Renovations While Occupying Existing Building

Description: This option provides additions and major renovations to all portions of the building while occupying the building during construction. It is the most disruptive option to faculty and students, has the longest construction duration and is the most expensive of all of the options. The option includes complete demolition of a portion of the 1975 addition (infill portion between classroom wings from original 1960 building and 1965 addition) and demolition of miscellaneous portions of the existing building at the northwest corner of the building. A large new addition out the back of the building towards the playfields will house a new Gymnasium as well as a two story educational wing. A smaller addition at the northwest corner of the existing building will house new mechanical spaces, an enlarged Kitchen and Cafeteria spaces with Stage. The square footage for this option exceeds the square footage of the educational specifications and FCPS elementary school prototype design by approximately 27,500 square feet as additional corridors are required to access all of the spaces.

Site Description: In this option a separate bus and parent drop-off are being provided. The parking is being expanded and the new parent drop-off is being added at the northeast corner of the site. The service area is approximately in the same location as it currently exists. Play areas and playfields are adjacent to the building and to the rear of the site but are reconfigured to meet the educational specifications. The existing on site wells and septic system will be abandoned and water and sewer will be tied into the County systems. The existing bio-swale to the west of the building and Great Heron Wetland Area to the south of the existing building will be retained.

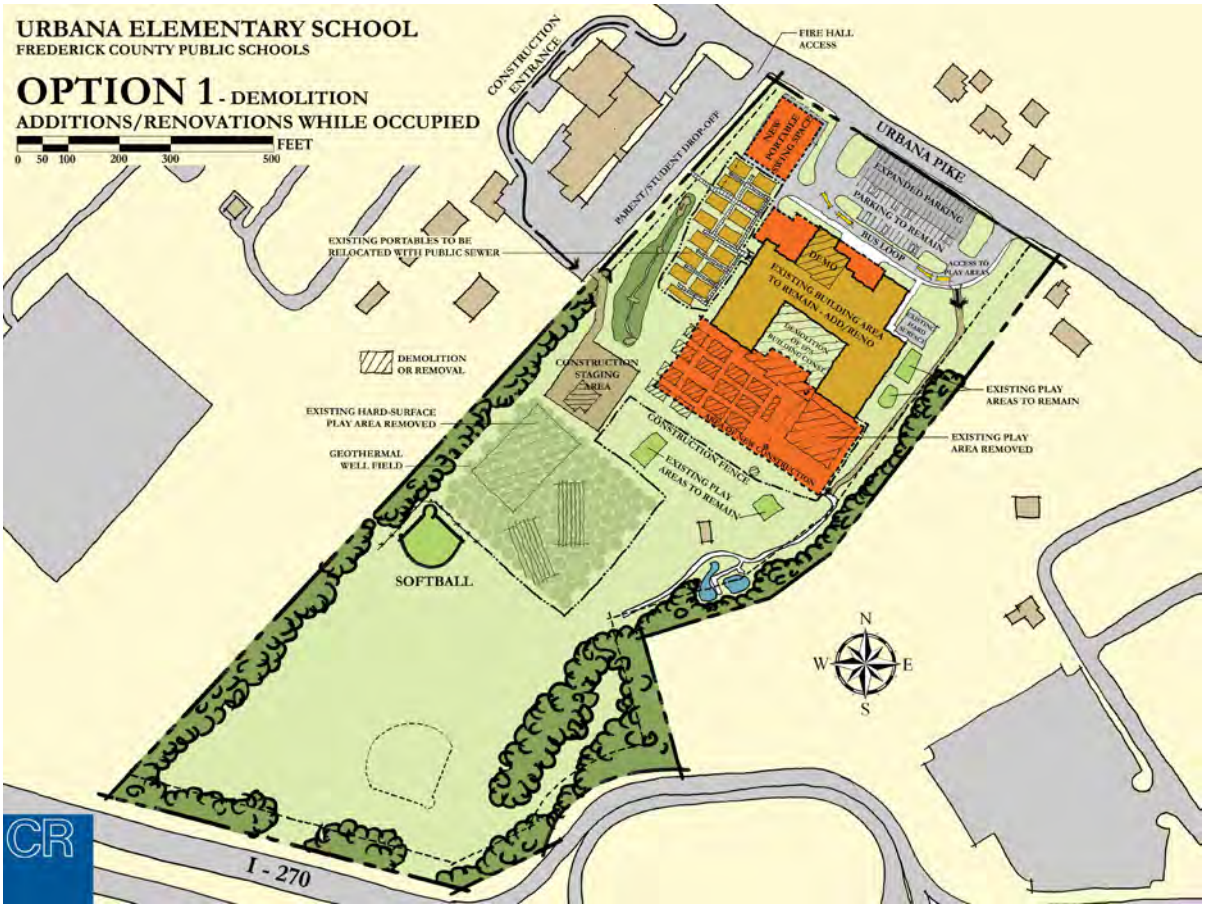
State Rated Capacity (SRC): 725

6.0 – DEVELOPMENT OF FACILITY OPTIONS



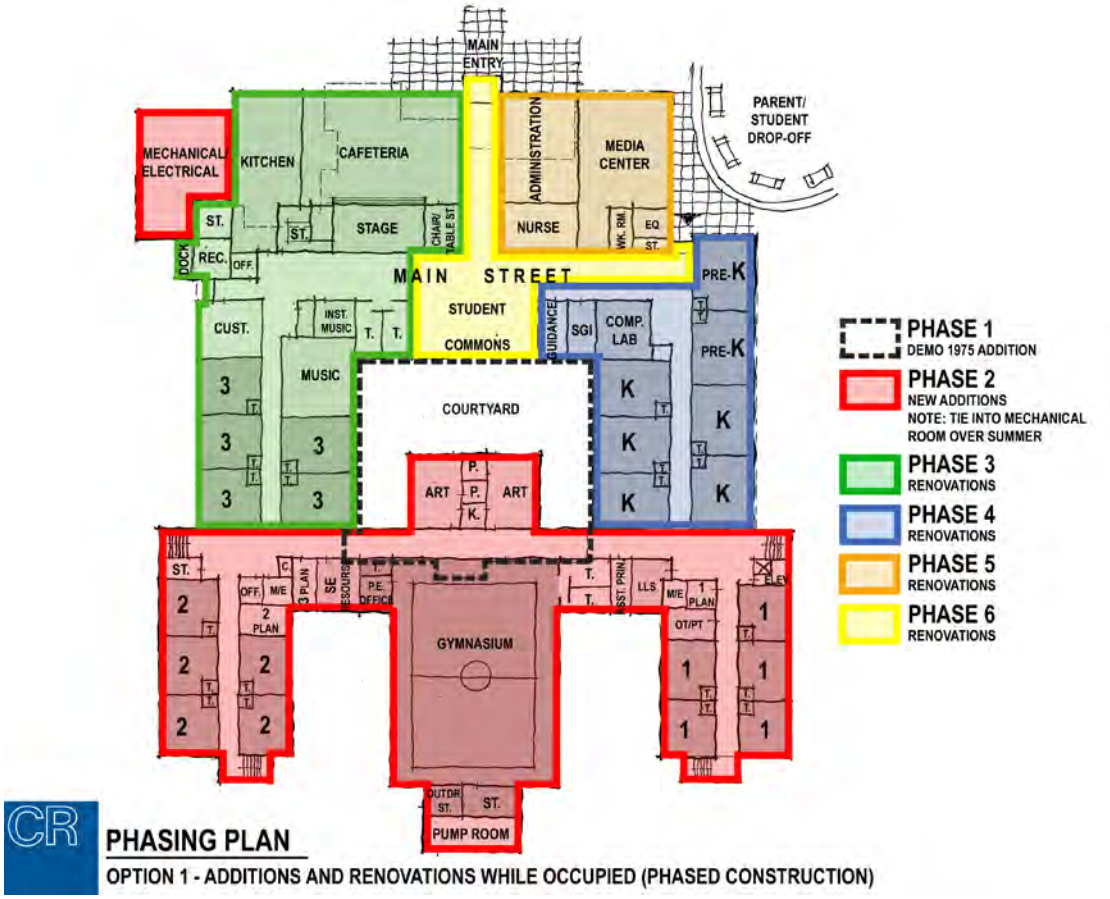
6.0 – DEVELOPMENT OF FACILITY OPTIONS

The site plan below shows how the site will look during construction. The existing portables will have to be relocated to the western side of the building along with adding additional portables to make up for the loss of space after the portion of the 1975 addition (infill portion between classroom wings from original 1959 building and 1965 addition) is demolished. Also, additional parking needs to be added to make up for the loss of parking taken up by the new portables. Note that construction traffic will be coming into the site via the existing access drive that wraps around the adjacent Fire Station. Permission will need to be provided by the Fire Station to use the access drive. In using this access drive for construction traffic allows the existing parent drop-off on the Fire Station property to continue being used. The existing play fields to the rear of the site can continue to be used during construction however because of the distance to access the fields they may not be able to be used during school hours. Minimal play areas adjacent to the building will be available during construction.



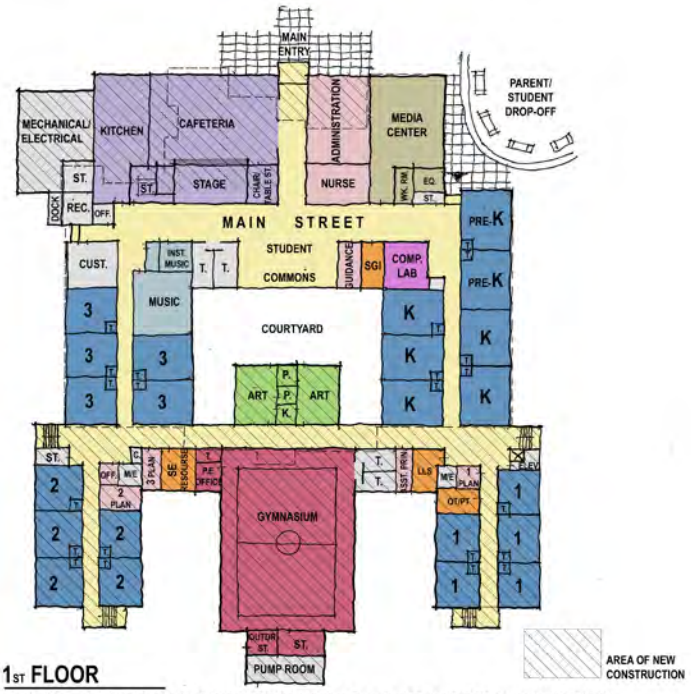
6.0 – DEVELOPMENT OF FACILITY OPTIONS

The floor plan below indicates the phasing that would have to occur to be able to occupy the building during construction. Note that there are six phases that would last over 44 months.



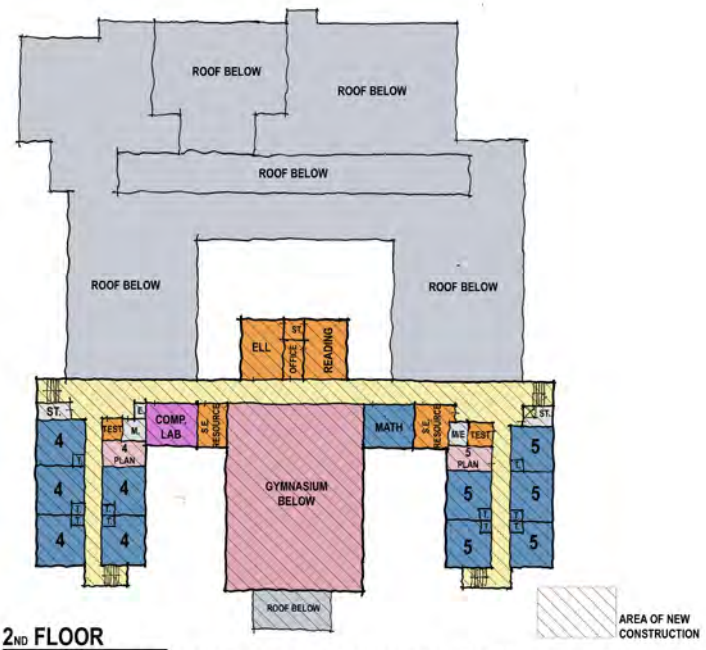
The floor plans on the next page indicate the completed floor plans for Option 1. The spaces indicated meet the educational specifications for size, etc. but do not necessarily meet the educational specifications for adjacencies. This is because in reusing existing spaces for the new, the existing spaces are where they are and may not be exactly where you want them to be to meet the adjacencies. For example, the existing gymnasium is being used for the new Media Center as the existing square footage meets the requirements for the Media Center and ancillary spaces. The Cafeteria and Kitchen areas are being expanded to meet the educational specifications but will remain in the same general area as the location works from a site standpoint to provide deliveries to the Kitchen. The music area is somewhat adjacent to the stage but not directly adjacent to the stage per the educational specifications. The plan does meet most other adjacencies. The square footage for this option exceeds the square footage of the educational specifications by approximately 27,500 square feet as additional corridors are required to access all of the spaces.

6.0 – DEVELOPMENT OF FACILITY OPTIONS



1ST FLOOR

OPTION 1 - ADDITIONS AND RENOVATIONS WHILE OCCUPIED (PHASED CONSTRUCTION)



2ND FLOOR

OPTION 1 - ADDITIONS AND RENOVATIONS WHILE OCCUPIED (PHASED CONSTRUCTION)

6.0 – DEVELOPMENT OF FACILITY OPTIONS

+ Opportunities

- ✓ Parent drop-off and bus loading areas will be separated and located onsite.
- ✓ Meets the current Frederick County educational specifications; all school programs will have adequate space and equipment; does not meet adjacency requirements.
- ✓ Provides a secure environment.
- ✓ Meets current building codes, handicap compliance and current air quality standards.
- ✓ Great Herons Wetland is preserved.
- ✓ All educational spaces will have interior walls and doors.
  - ✓ All educational spaces will have natural daylight.

- Challenges

- ✓ Longest construction duration of all options; phased over four (4) years.
- ✓ Most disruption of all options to the educational program, during construction.
- ✓ Most expensive option.
- ✓ No summer programs will be held at Urbana Elementary during construction.
- ✓ Existing building will still have low ceiling heights and roof top mechanical systems.
- ✓ Portable classrooms will be relocated and increased during construction.
- ✓ Access to existing play area and fields will be severely impacted throughout construction.
- ✓ Maintaining all existing and new building systems during construction phasing.
- ✓ Proposed Option has approximately 27,500 additional square feet than the FCPS elementary school prototype plan.
- ✓ Greater risk for construction change orders due to unforeseen conditions.
- ✓ Option requires negotiations with adjacent Fire Department for construction access.
- ✓ Existing portable classrooms must be relocated due to new construction.
- ✓ Programming adjacencies will be impacted by existing conditions.
- ✓ Portions of the existing building shell remain multi-wythe masonry requiring additional construction to meet energy codes.

$ Estimated Costs

CONSTRUCTION COST SUB-TOTAL (Building + Site)	
123,451 SF	$35,240,734
Contingencies/ Escalation	9,514,998
Soft Costs	9,409,788
TOTAL PROJECT COST	**$54,165,520**

6.0 – DEVELOPMENT OF FACILITY OPTIONS

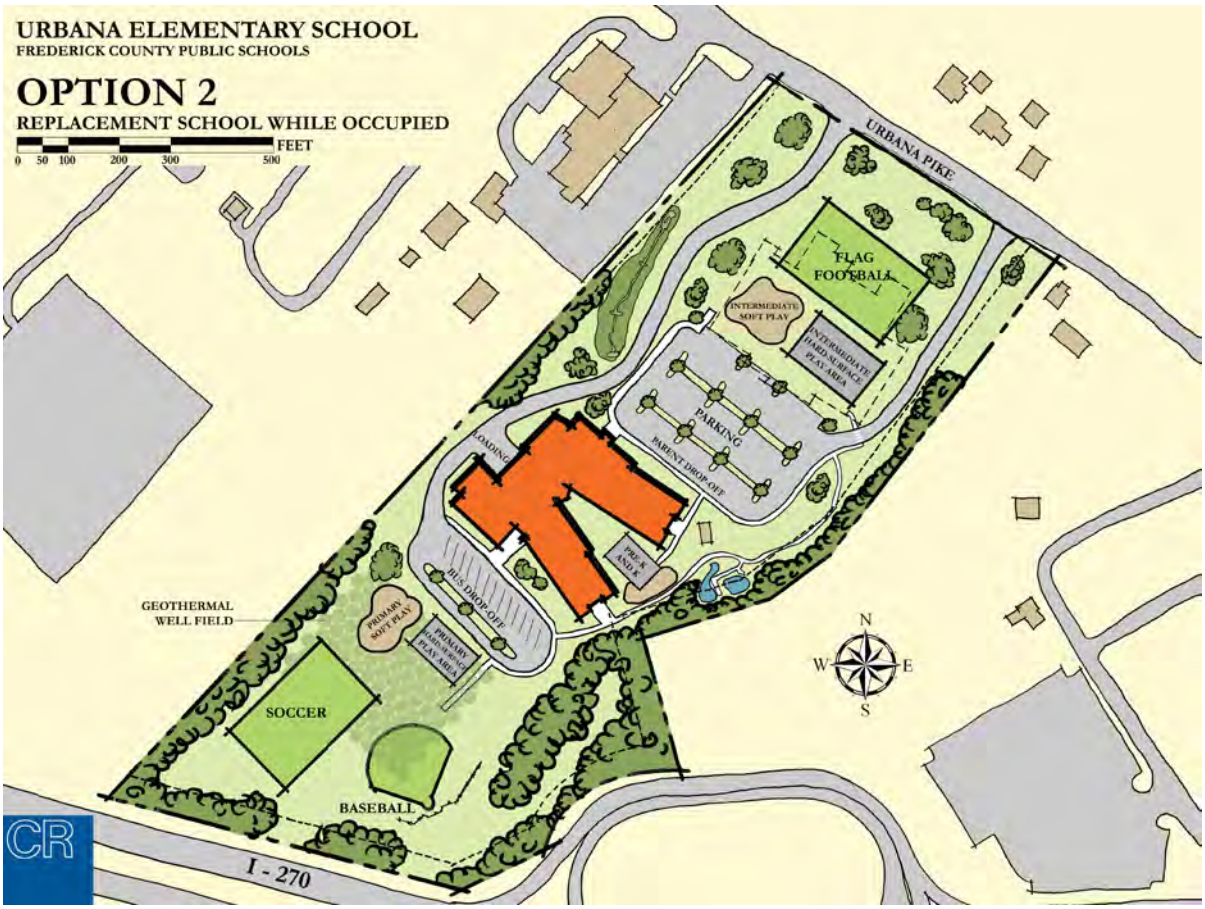
Option 2 – Replacement School While Occupying Existing Building

Description: This option is less disruptive to faculty and students than Option 1, has a shorter construction duration than Option 1 and comparable construction duration as Option 3B, and is comparable in cost to Options 3A and 3B. Being a replacement school this option utilizes the FCPS elementary school prototype design. In this option, because the existing building and portables are being occupied during construction great care must be taken for construction to take place on the opposite side of the existing building from Urbana Pike and minimize disruption to faculty and students. See Option 2 – Demolition Site Plan below for additional information during construction.

Site Description: In this option a separate bus and parent drop-off are being provided. Because the existing building and portables are being occupied during construction the new building must be located further back on the site. In pushing the building further back on the site the play areas and playfields are now split and are located to the front and rear of the site and are reconfigured to meet the educational specifications. In addition, because the site is narrow the bus and parent drop-off areas are also split to the front and back on the site. The prototype floor plan is orientated so that the Gymnasium is on the side of the bus drop-off area and the Administration area is on the side of the parent drop-off area. The service area is located off of the access drive for the bus drop-off area and pointing towards the adjacent Fire Station property. The existing on site wells and septic system will be abandoned and water and sewer will be tied into the County systems. The existing bio-swale to the west of the building and Great Heron Wetland Area to the south of the existing building will be retained.

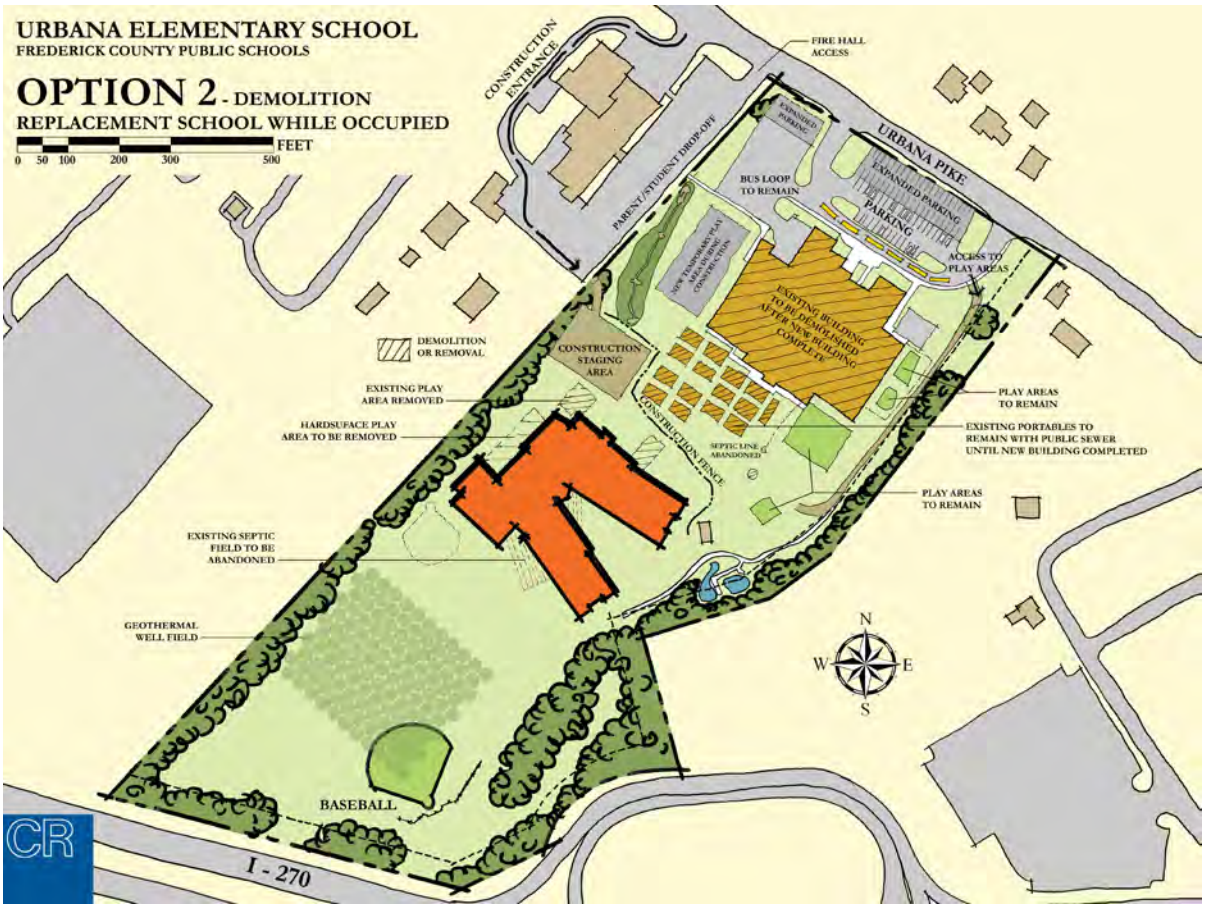
State Rated Capacity (SRC): 725

6.0 – DEVELOPMENT OF FACILITY OPTIONS



6.0 – DEVELOPMENT OF FACILITY OPTIONS

The site plan below shows how the site will look during construction. The existing portables and building pretty much remain and operate as they currently are. Additional parking and a play area are added during construction to provide enough play areas for all students. Note that construction traffic will be coming into the site via the existing access drive that wraps around the adjacent Fire Station similar to Option 1. Permission will need to be provided by the Fire Station to use the access drive. In using this access drive for construction traffic allows the existing parent drop-off on the Fire Station property to continue being used. The existing play fields to the rear of the site will not be available during construction. Note that the construction fence cuts the site in half and keeps the school (and activities) separate from construction.



6.0 – DEVELOPMENT OF FACILITY OPTIONS

+ Opportunities

- ✓ Parent drop-off and bus loading areas will be separated and located onsite.
- ✓ Meets the current Frederick County educational specifications; all school programs will have adequate space and equipment; and meets adjacency requirements.
- ✓ Provides a secure environment.
- ✓ Meets current building codes, handicap compliance and current air quality standards.
- ✓ Great Herons Wetland is preserved.
- ✓ All educational spaces will have interior walls and doors.
- ✓ All educational spaces will have natural daylight.
- ✓ Less disruption to educational program than Option 1.
- ✓ Reduced construction time frame from Option 1.
- ✓ No additional portables are required for construction.
- ✓ Construction access will have minimal impact on daily vehicular/bus access of site.

- Challenges

- ✓ Educational spaces may not have optimal orientation for natural daylight.
- ✓ Play areas may not be adjacent to the building.
- ✓ Play areas and rear playfields will not be accessible during construction.
- ✓ Potential disruption to existing daily instruction during construction.
- ✓ Requires temporary parking area for new facility during construction.
- ✓ The new facility is located in central portion of the site, further from Urbana Pike.
- ✓ Option requires negotiations with adjacent Fire Department for construction access.

$ Estimated Costs

CONSTRUCTION COST SUB-TOTAL (Building + Site)	
96,000 SF	$29,671,739
Contingencies/ Escalation	5,934,348
Soft Costs	5,827,113
TOTAL PROJECT COST	**$41,433,200**

6.0 – DEVELOPMENT OF FACILITY OPTIONS

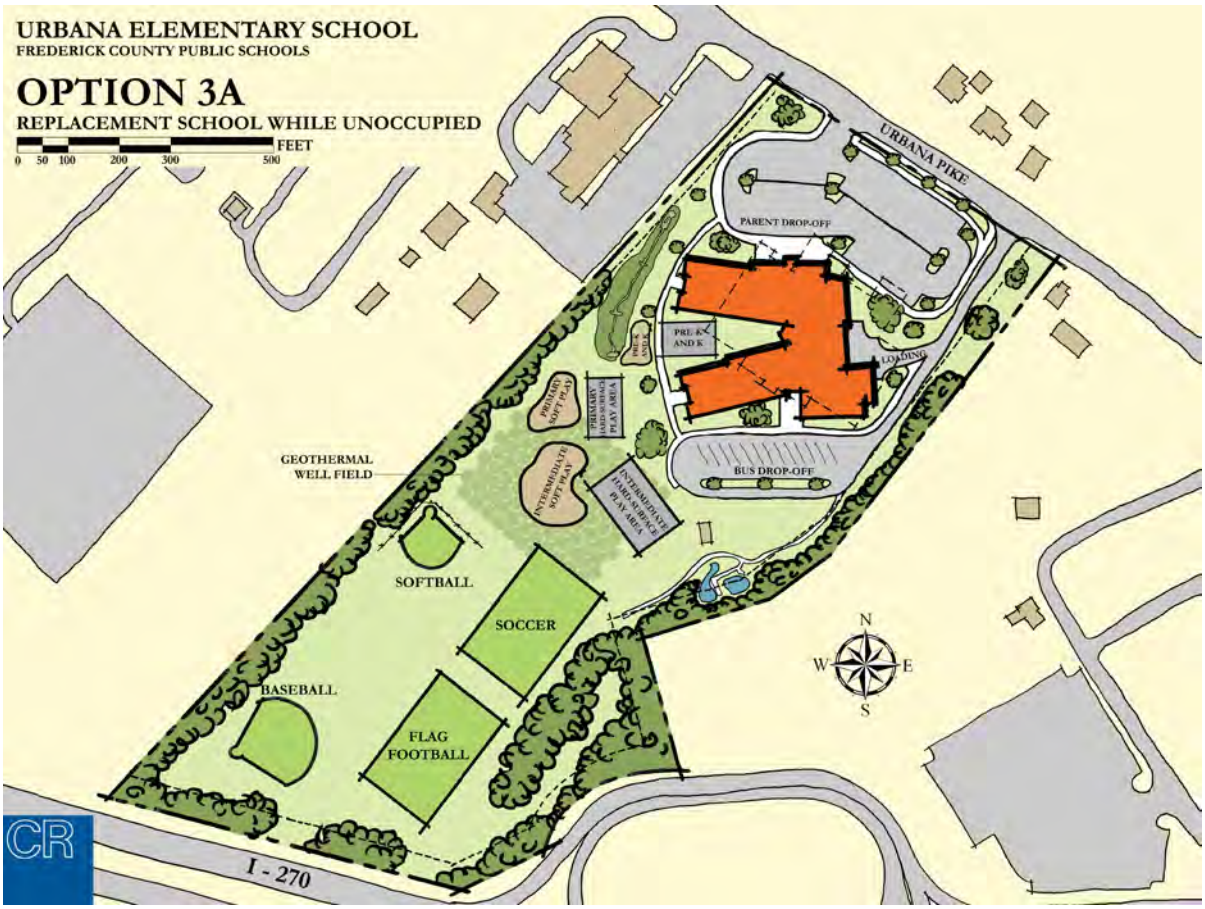
Option 3A – Replacement School While Relocated to Sugarloaf Elementary School

Description: This option is the least disruptive to faculty and students, has the shortest construction duration and is the least expensive of all of the options. Being a replacement school this option utilizes the FCPS elementary school prototype design. In this option, because the existing building and portables are being demolished and relocated off site respectively it provides us the opportunity to locate the new building on the best part of the site but also provide optimum north/south orientation for the classrooms. With everyone being relocated off site it allows the contractor full reign of the site with not having to work around anyone or anything and will aid in providing the lowest cost option.

Site Description: In this option a separate bus and parent drop-off are being provided. Because the existing building and portables are being demolished and relocated off site respectively it provides us the opportunity to locate the new building on the best part of the site and also allows us to provide an optimum north/south orientation for the classrooms. In being able to locate the new building closer to Urbana Pike it allows the opportunity to locate the parent drop-off area and parking directly off of Urbana Pike and locate the bus drop-off area behind the building to help reinforce the separation of the two areas. The prototype floor plan is also orientated so that the Gymnasium is on the side of the bus drop-off area and the Administration area is on the side of the parent drop-off area. The service area is located off of the access drive for the bus drop-off area and pointing towards the northeast corner of the property. The existing on site wells and septic system will be abandoned and water and sewer will be tied into the County systems. The existing bio-swale to the west of the building and Great Heron Wetland Area to the south of the existing building will be retained.

State Rated Capacity (SRC): 725

6.0 – DEVELOPMENT OF FACILITY OPTIONS



6.0 – DEVELOPMENT OF FACILITY OPTIONS

+ Opportunities

- ✓ Parent drop-off and bus loading areas will be separated and located onsite.
- ✓ Meets the current Frederick County educational specifications; all school programs will have adequate space and equipment; and meets adjacency requirements.
- ✓ Provides a secure environment.
- ✓ Meets current building codes, handicap compliance and current air quality standards.
- ✓ Great Herons Wetland is preserved.
- ✓ All educational spaces will have interior walls and doors.
- ✓ All educational spaces will have natural daylight.
- ✓ Has optimal north/south orientation for classrooms.
- ✓ Least disruption to educational program of all the options.
- ✓ Shortest construction time frame of all the options.
- ✓ Lowest cost of all options.
- ✓ Placement of new building is optimal on the site due to existing Urbana not being occupied.

- Challenges

- ✓ Faculty, staff and students will be relocated off-site prior to construction.
- ✓ Dependant on funding as requested by the Board of Education.
- ✓ Potential to delay the opening of Sugarloaf Elementary School by one to two (1-2) years.
- ✓ The new building displaces the majority of existing play areas, requiring the construction of new play areas.

$ Estimated Costs

CONSTRUCTION COST SUB-TOTAL (Building + Site)	
96,000 SF	$28,891,643
Contingencies/ Escalation	5,778,328
Soft Costs	5,458,465
TOTAL PROJECT COST	**$40,128,436**

6.0 – DEVELOPMENT OF FACILITY OPTIONS

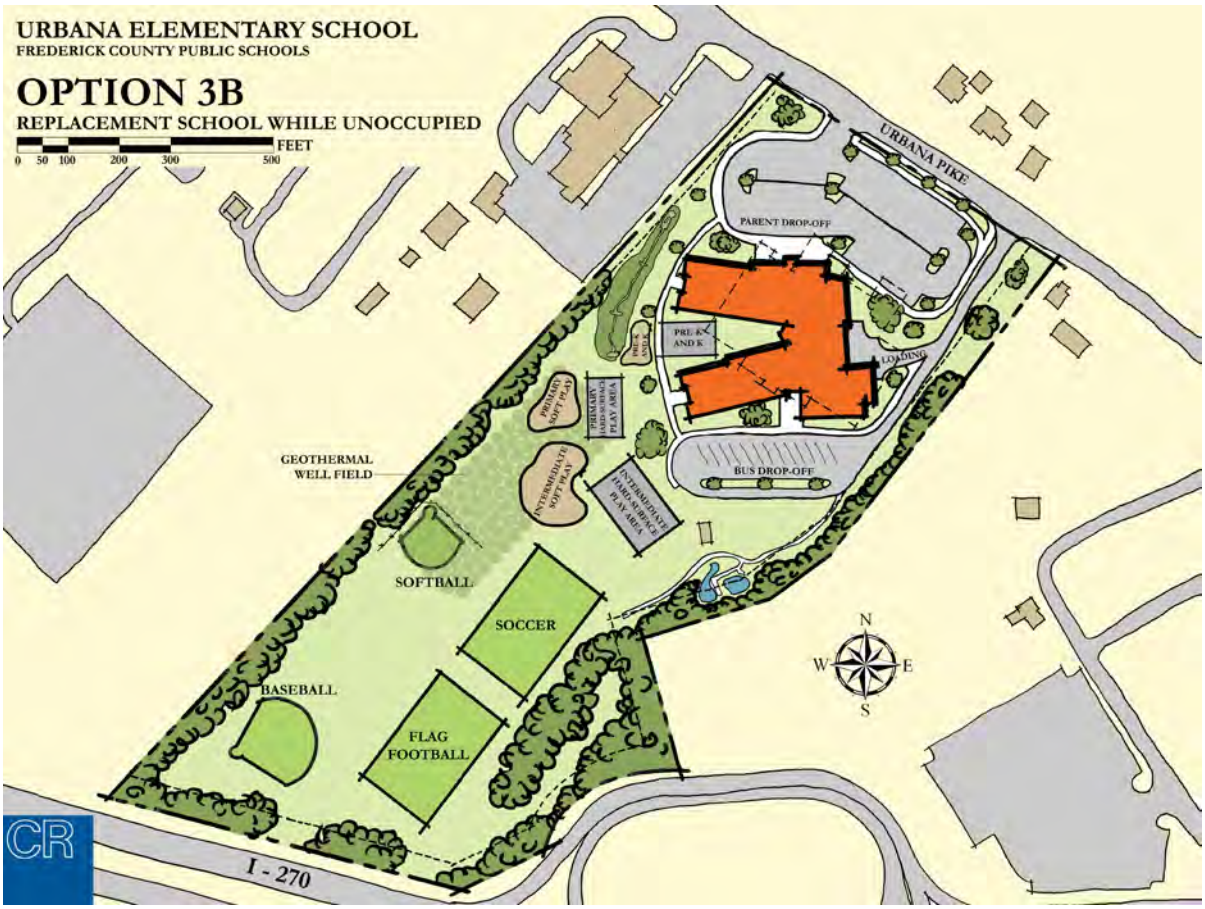
Option 3B – Replacement School While Relocated to Portables

Description: This option is the least disruptive to faculty and students, has the shortest construction duration and is the least expensive of all of the options. Being a replacement school this option utilizes the FCPS elementary school prototype design. In this option, because the existing building and portables are being demolished and relocated off site respectively it provides us the opportunity to locate the new building on the best part of the site but also provide optimum north/south orientation for the classrooms. With everyone being relocated off site it allows the contractor full reign of the site with not having to work around anyone or anything and will aid in providing the lowest cost option.

Site Description: In this option a separate bus and parent drop-off are being provided. Because the existing building and portables are being demolished and relocated off site respectively it provides us the opportunity to locate the new building on the best part of the site and also allows us to provide an optimum north/south orientation for the classrooms. In being able to locate the new building closer to Urbana Pike it allows the opportunity to locate the parent drop-off area and parking directly off of Urbana Pike and locate the bus drop-off area behind the building to help reinforce the separation of the two areas. The prototype floor plan is also orientated so that the Gymnasium is on the side of the bus drop-off area and the Administration area is on the side of the parent drop-off area. The service area is located off of the access drive for the bus drop-off area and pointing towards the northeast corner of the property. The existing on site wells and septic system will be abandoned and water and sewer will be tied into the County systems. The existing bio-swale to the west of the building and Great Heron Wetland Area to the south of the existing building will be retained. The thing that needs to be taken into account with this option versus Option 3A is that a portable school will be installed prior to beginning construction on the new building that will act as the swing space for the project. See Option 3B – Demolition Site Plan below for additional information during construction.

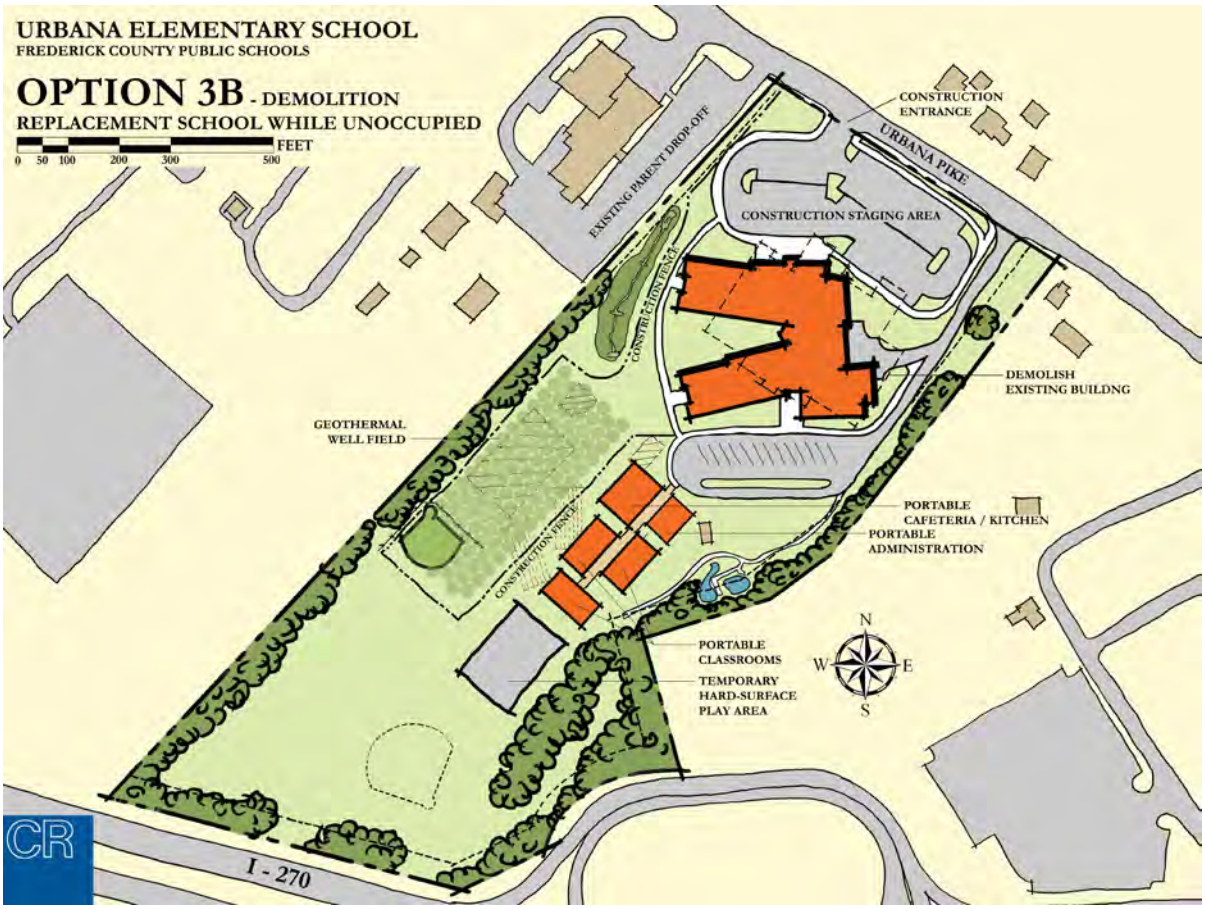
State Rated Capacity (SRC): 725

6.0 – DEVELOPMENT OF FACILITY OPTIONS



6.0 – DEVELOPMENT OF FACILITY OPTIONS

The site plan below shows how the site will look during construction. The existing building is demolished and portables relocated prior to beginning work on the new building. The difficulty in this option is site access for parent drop-off to the portable school. In addition, for this option, the new bus drop-off area must be installed along with the portable school before work can begin on the new building. Also, a temporary hard surfaced play area must be installed for use by the students during construction. Construction traffic will enter the site directly off of Urbana Pike. Construction staging will in the new parking area located in front of the new building. A portion of the existing play fields to the rear of the site will be available during construction.



6.0 – DEVELOPMENT OF FACILITY OPTIONS

+ Opportunities

- ✓ Parent drop-off and bus loading areas will be separated and located onsite.
- ✓ Meets the current Frederick County educational specifications; all school programs will have adequate space and equipment; and meets adjacency requirements.
- ✓ Provides a secure environment.
- ✓ Meets current building codes, handicap compliance and current air quality standards.
- ✓ Great Herons Wetland is preserved.
- ✓ All educational spaces will have interior walls and doors.
- ✓ All educational spaces will have natural daylight.
- ✓ Has optimal north/south orientation for classrooms.
- ✓ Minimal disruption to educational program of all the options.
- ✓ Reduced construction time frame from Option 1.
- ✓ Will allow access to rear play fields during construction.

- Challenges

- ✓ The new building displaces the majority of existing play areas, requiring the construction of new play areas.
- ✓ More disruption to the educational program during construction than Option 3A.
- ✓ Slightly longer construction time frame than Option 3A.
- ✓ Difficult site access during construction for parent drop-off access.

$ Estimated Costs

CONSTRUCTION COST SUB-TOTAL (Building + Site)	
96,000 SF	$29,471,643
Contingencies/ Escalation	5,894,328
Soft Costs	10,509,505
TOTAL PROJECT COST	**$45,875,476**