

# SECTION 6: *APPENDICES*

Appendix A: Process for Developing Options

Appendix B: Civil and Mechanical Electrical Plumbing (MEP) Recommendations

Appendix C: Educational Specifications and Program Space Summary

Appendix D: Community Engagement

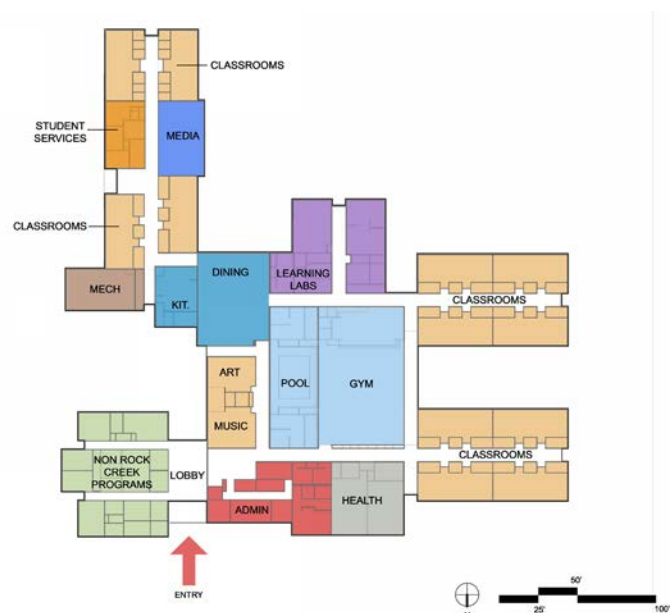
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## APPENDIX A: PROCESS FOR DEVELOPING OPTIONS

The feasibility study process included several iterations of unique schemes for each of the four options presented in Section 4. These schemes were presented to the feasibility study team, then critiqued and refined to help develop final schemes that endeavor to deliver on as many aspects of the project goals and requirements as possible. The schemes included in this Appendix are intended to demonstrate the range of ideas and planning approaches that were considered for each option. Multiple schemes were explored, not only to test different approaches of how to deliver the required program spaces, but also to test the viability of how these approaches work within the various constraints of each particular site. Within the exploration of each option, there were aspects of each scheme that were typically considered advantageous; consequently, the final versions of each option strive to incorporate the most beneficial virtues and qualities of each scheme investigated during the process. Appendix A provides a record of the design process and sampling of the iterative schemes that lead to the final scheme represented for each option in Section 4.

### OPTION 1

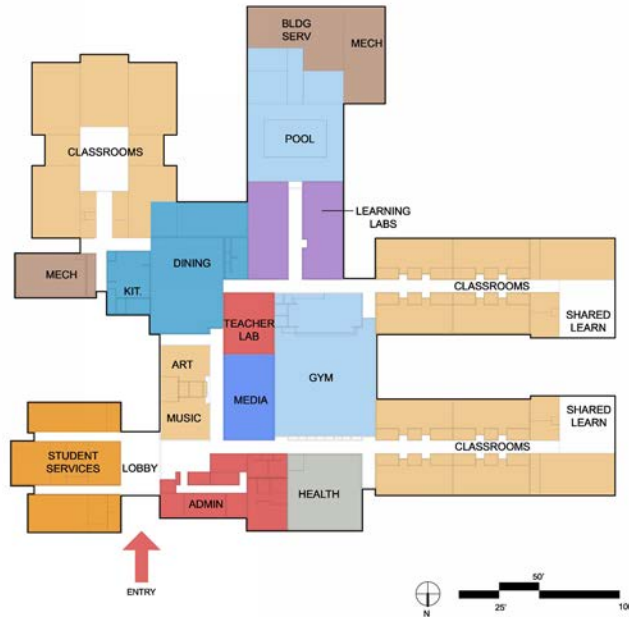
The scope of Option 1 includes the modernization of the existing Rock Creek School, without any building additions that would increase the current 55,214 sf footprint. Modernization strategies will focus on enhanced interior finishes upgrades, updated building systems and technology upgrades. Additionally, this option does not include the relocation of the interior walls of the existing building. Since the existing floor plan essentially remains unchanged from its current state, multiple design schemes were not required for consideration. Option 1 involves the most limited scope of work among the options, and serves as the baseline scenario by which the other options will be measured and evaluated.



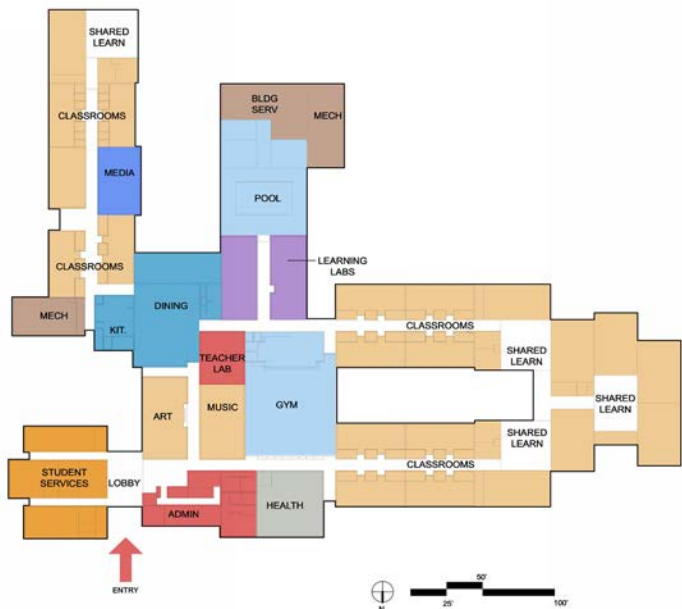
Option 1: Floor Plan

## OPTION 2

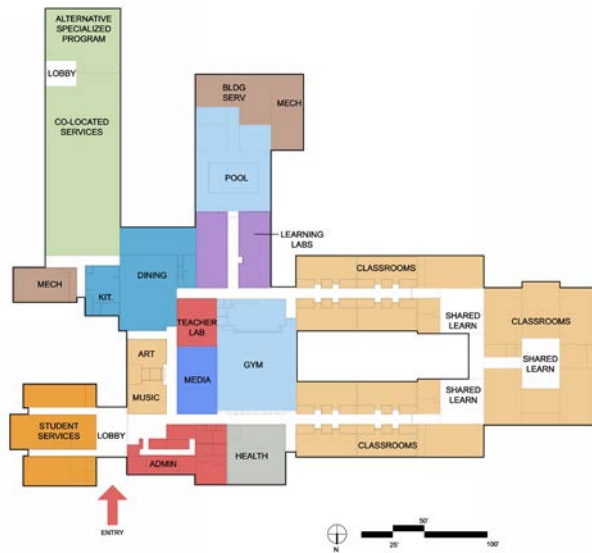
The consultant team investigated four schemes for a Modernization + Addition Option. The goal for Option 2 was to explore multiple scenarios that utilize equivalent scopes of demolition and building additions in order to keep all four schemes comparable. The schemes were also intended to test how various new building additions would work within the constraints of the existing Rock Creek School site. The feasibility study team then provided feedback and a modified scheme was chosen for this document. The following are the four schemes initially presented to the team:



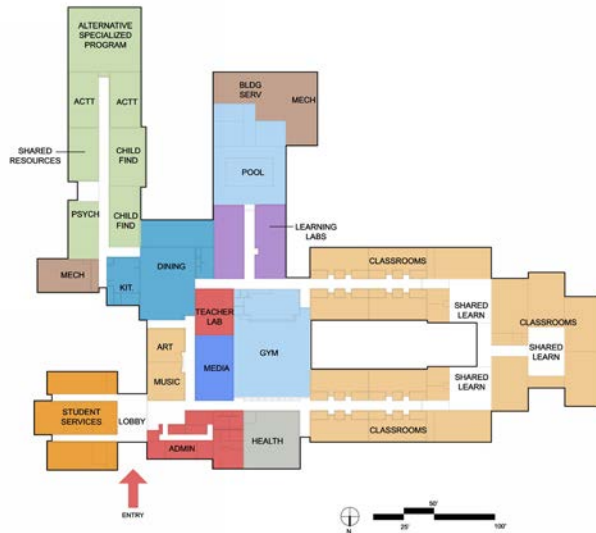
Option 2: Scheme 1A



Option 2: Scheme 1B



**Option 2: Scheme 2A**

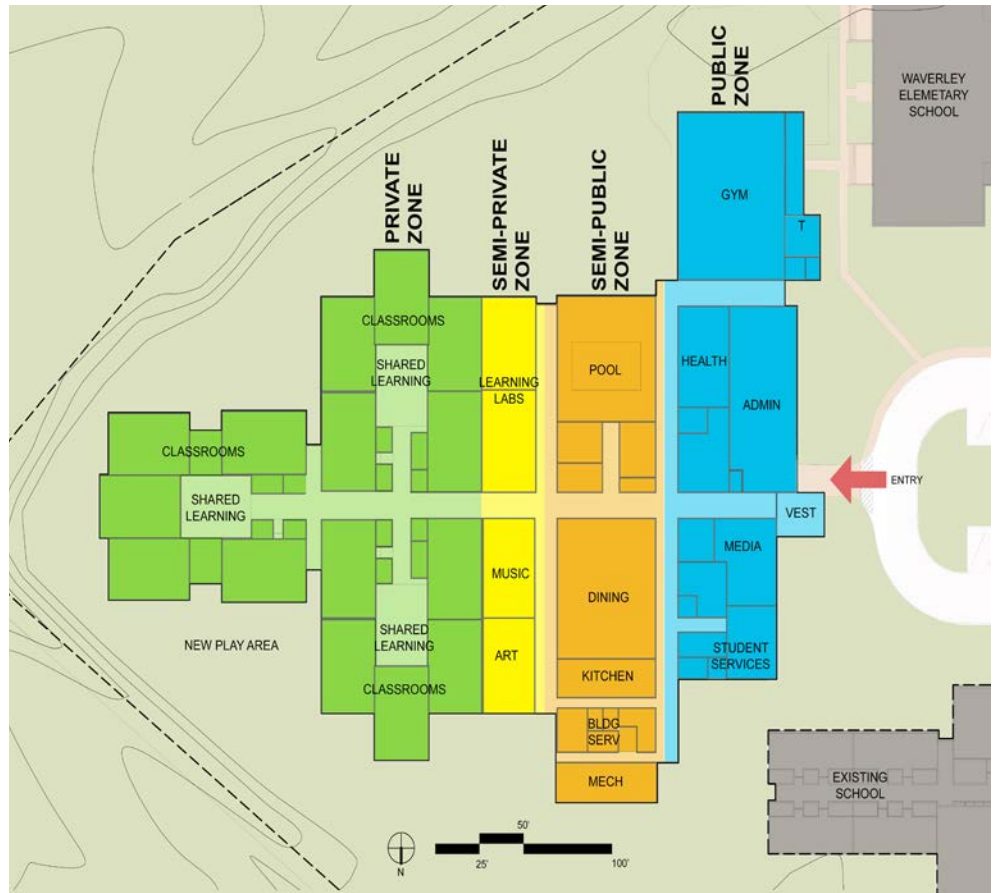


**Option 2: Scheme 2B**

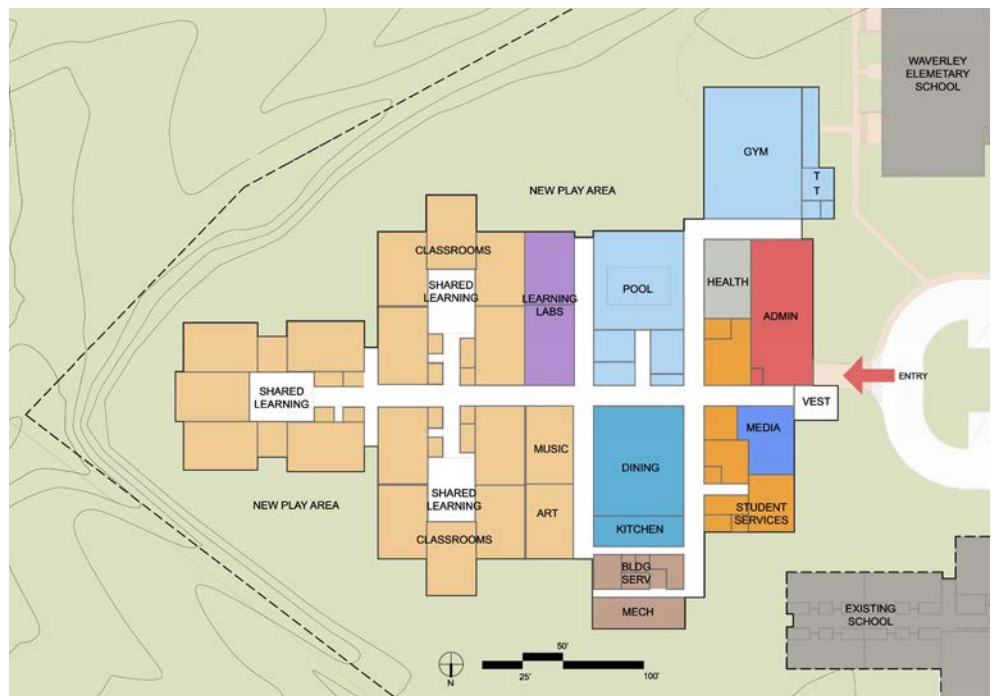
### OPTION 3

Given the challenging constraints of the existing Rock Creek School site, the consultant team developed schemes that all divide the building into four major zones: public spaces, semi-public spaces, semi-private spaces, and private spaces (see the Option 3 diagram). The only feasible public access to the building is from the east, requiring all of the public program elements to be located near the main entrance for easy access by visitors, vendors, community members, etc. This resulted in the consultant team exploring three schemes that fit within the buildable area located between the existing Rock Creek School and Waverley ES. The feasibility study team then provided feedback and a modified scheme was chosen for this document. The following are the three schemes initially presented to the feasibility study team:

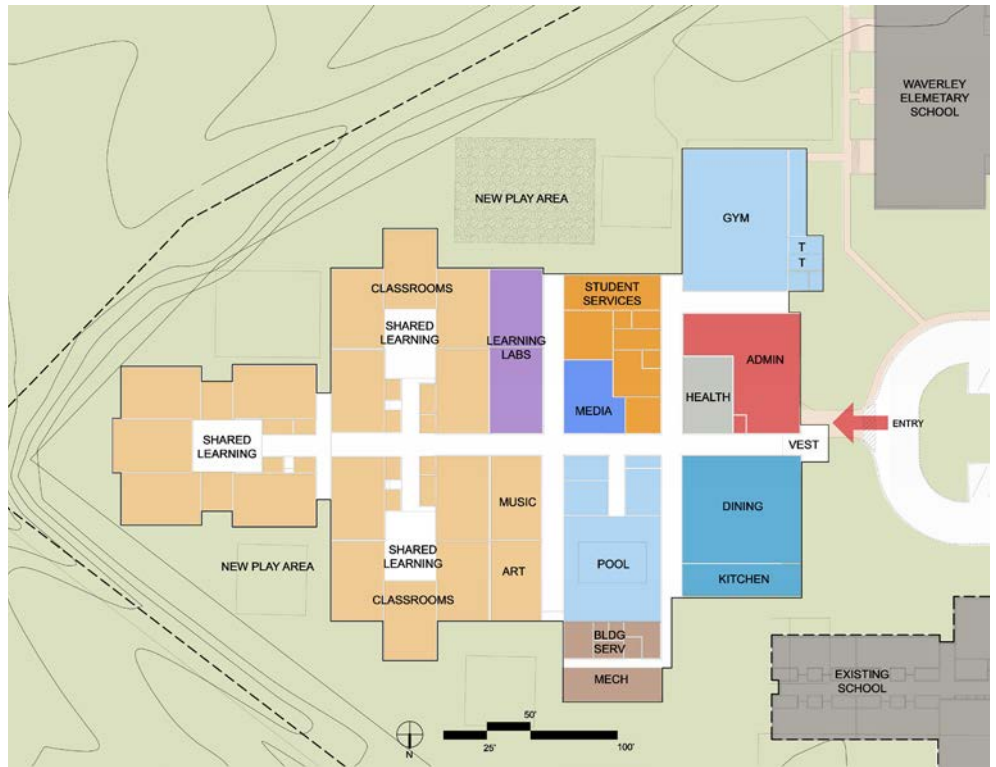




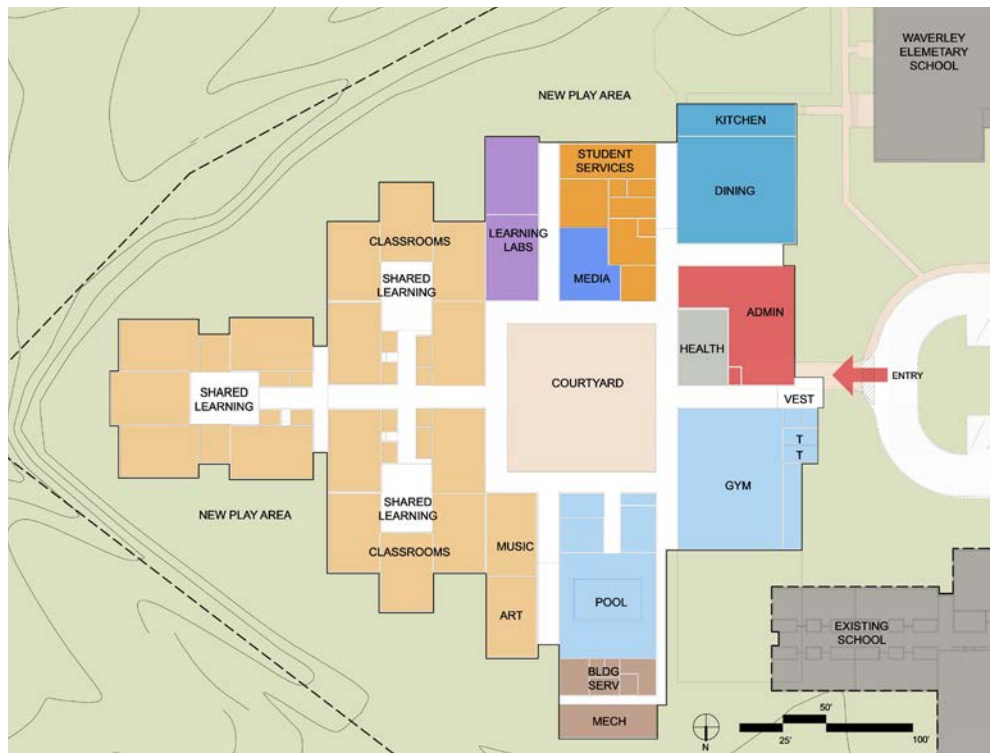
**Option 3: Diagram of Public, Semi-Public, Semi-Private, Private Zones**



**Option 3: Scheme 1**



**Option 3: Scheme 2**



**Option 3: Scheme 3**

## OPTION 4

The scope of Option 4 began with the comprehensive study of several potential project sites located throughout Frederick County to test the viability of co-locating a new Rock Creek School with an existing FCPS school. The process initially involved the identification of over 80 sites by FCPS' Facilities Planning department for consideration. These sites were then reviewed through a series of evaluative criteria to arrive at a group of five potential sites to be considered for a new Rock Creek School building. Each of these five sites were then investigated for their ability to meet the program requirements for the replacement school. This Appendix includes the following data collected and explored during the Option 4 site selection and review process:

### Off-Site Rubric (pages 85 - 86)

This table shows the evaluative criteria considered for each site to help in focusing the investigation on the sites best-suited to meet the needs of the Rock Creek School community. Criteria includes the following categories: proximity to FCPS Central Offices, property size/buildable area, priority funding area status, utility access, and opportunities for access and equity.

### Off-Site Property Map (page 87)

FCPS sites plotted on an aerial map of Frederick County that identifies the location of each potential site, the school building type, and its approximate distance to FCPS Central Offices.

### Buildable Area Maps (pages 89-102)

FCPS identified 14 sites that satisfied the initial target criteria from the Off-Site Rubric. Scaled maps were generated for each site to illustrate the following site features: location of existing FCPS school, property lines, wetlands and floodplains, easements, topographic contours and the resulting location and size of buildable area potentially available for Rock Creek School replacement.

### Option 4 (Replacement School Off-Site) Schemes (Pages 103-112)

The feasibility study team selected five final sites that demonstrated the greatest potential for meeting the program needs of the new school. This Appendix includes site plans, descriptive narratives and opportunities and compromises for each of the sites investigated:

- Scheme 1: Monocacy Middle School
- Scheme 2: Hargett Farm (Butterfly Ridge Elementary School)
- Scheme 3: Valley Elementary School
- Scheme 4: Governor Thomas Johnson Middle School
- Scheme 5: Ballenger Creek Middle School

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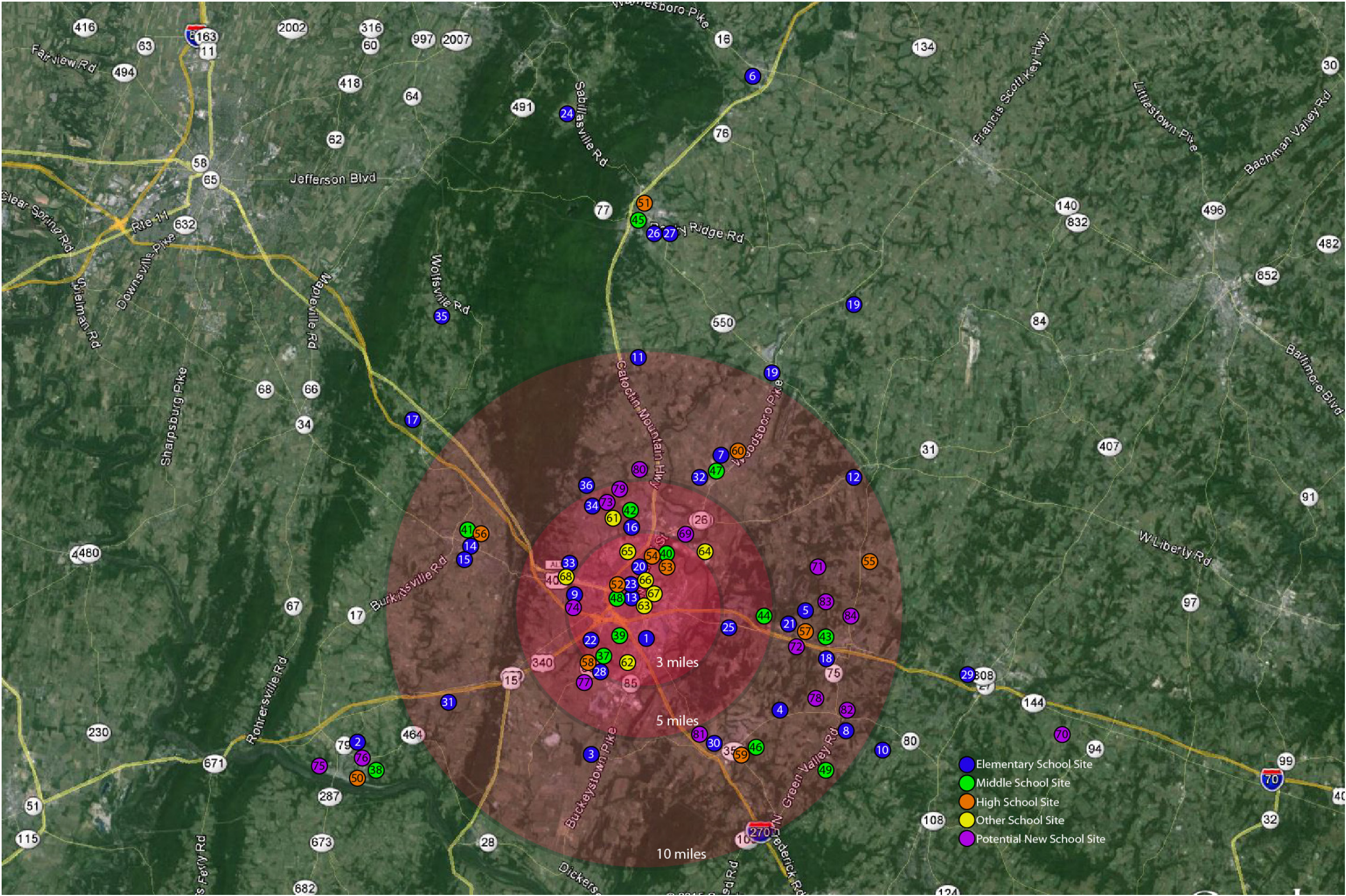
OFF-SITE RUBRIC

SITE #	NAME OF SCHOOL/SITE	WITHIN 3 MILES OF CENTRAL OFFICE?	WITHIN 5 MILES OF CENTRAL OFFICE?	WITHIN 10 MILES OF CENTRAL OFFICE?	PROPERTY SIZE (ACRES)	REMAINING BUILDABLE AREA (ACRES)	AMENITIES IN BUILDABLE AREA	WATER/SEWER AVAILABLE?	WITHIN PRIORITY FUNDING AREA?	NUMBER OF ACCESS POINTS	REASON FOR ELIMINATION	ELIMINATION DATE	COMMENTS
49	Windsor Knolls MS	NO	NO	YES	57.00	6.93	3 baseball, 3 playfield	YES	NO		Not PFA	2/2/2016	
71	Hamptons future site	NO	NO	YES	15.00	8.56	N/A	4-6 years	NO		No water and sewer, Not PFA	2/2/2016	
8	Green Valley ES	NO	NO	YES	31.22	12.42	1 baseball	7-10 years	NO		No water and sewer, Not PFA	12/8/2015	Fire station land may become available
80	Crum Farm	NO	NO	YES	15.00	18.72	N/A	7-10 years	NO		No water and sewer, Not PFA	2/2/2016	
10	Kempton ES	NO	NO	NO	39.46				NO		Too far from population center	12/8/2015	
11	Lewistown ES	NO	NO	YES	13				NO		Too far from population center	12/8/2015	
55	Linganore High School	NO	NO	YES	50.00			NO	NO		No sewer	12/8/2015	
24	Sabillasville ES	NO	NO	NO	15.00				NO		Too far from population center	12/8/2015	
36	Yellow Springs ES	NO	NO	YES	17.00			NO	NO		Not in PFA, no water/sewer	12/8/2015	
59	Urbana HS	NO	NO	YES	59.70	5.93	2 baseball, 2 playfield	YES	YES	5			
37	Ballenger Creek MS	YES	YES	YES	25.00	6.81	2 baseball	YES	YES	2			
40	Governor Thomas Johnson MS	YES	YES	YES	25.31	6.82	1 baseball	YES	YES	2			
28	Tuscarora ES + extra land	YES	YES	YES	18.22	7.04	1 playfield	YES	YES	2			
69	Dearbought future site	NO	YES	YES	10.00	7.53	N/A	1-3 years	YES	Potential 3			Development Agreement specifies this site for an ES, thus it may not be usable for Rock Creek
33	Waverley ES/Rock Creek School Campus	NO	YES	YES	23.17	7.66	1 parking, 1 playfield	YES	YES	3			campus ES w/ Rock Creek
58	Tuscarora HS	YES	YES	YES	46.49	8.36	2 playfield	YES	YES	4			
3	Carroll Manor ES	NO	NO	YES	18.90	7.76	2 baseball, 2 playfield, 1 blacktop	YES	YES	3			
72	Greenview PUD future site	NO	NO	YES	15.00	8.49	N/A	1-3 years	YES	Potential 2			No imminent plans for a school here and no restrictions on site use
74	Hargett Farm (Butterfly Ridge ES)	YES	YES	YES	12.00	10.99	N/A (land is adjacent to the school site in the area designated for a future city park)	1-3 years	YES	Potential 2			campus if acquire more land
47	Walkersville MS	NO	NO	YES	28.68	14.61	4 tennis, 1 track	YES	YES	3			
18	New Market ES-MS	NO	NO	YES	31.90	15.22	1 baseball, 4 tennis, 2 playfield	YES	YES	3			campus ES/MS
31	Valley ES	NO	NO	YES	31.71	17.75	1 baseball, 1 playfield, 1 bus parking	YES	YES	2			On a well but public water is now available
16	Monocacy ES-MS Campus	NO	YES	YES	32.93	17.77	4 tennis, 2 blacktop, 4 playfield	YES	YES	2			campus ES/MS
14	Middletown ES-MS-HS Campus	NO	NO	YES	78.00	19.04	2 baseball, 1 track, 2 playfield	YES	YES	5			campus ES/MS/HS
48	West Frederick MS/Frederick HS Campus	YES	YES	YES	40.00	0.81	1 playfield (remaining playfield areas will be covered up by new building)	YES	YES		Site too small	2/2/2016	campus MS/HS
85	Lincoln (A - vacant building)	YES	YES	YES	3.15	1.03	1 playfield	YES	YES		Site too small	2/2/2016	needs further investigation- size of site. Can be used as a holding school?
4	Centerville ES	NO	NO	YES	16.00	1.49	1 baseball	YES	YES		Site too small	2/2/2016	
54	Governor Thomas Johnson HS	YES	YES	YES	39.31	2.96	3 baseball, 1 discus	YES	YES	7	Site too small - cannot eliminate fields	2/4/2016	
46	Urbana MS	NO	NO	YES	26.18	2.97	2 playfield	YES	YES	2	Site too small	2/4/2016	
61	Career & Technology Center	NO	YES	YES	15.52	3.25	Small parking area, trees	YES	YES		Site too small	2/2/2016	
32	Walkersville ES-HS Campus	NO	NO	YES	50.00	3.51	2 baseball, 1 playfield, 1 blacktop	YES	YES	3	Site too small - cannot eliminate fields	2/4/2016	campus ES/HS
15	Middletown PS	NO	NO	YES	18.92	3.58	1 blacktop	YES	YES		Site too small	2/2/2016	
1	Ballenger Creek ES	YES	YES	YES	19.29	3.9	2 blacktop areas, 1 playfield	YES	YES		Site too small	2/2/2016	confirm transportation
13	Lincoln (B)/ESSL Campus	YES	YES	YES	13	3.97	1 playfield, 1 parking lot	YES	YES		Site too small	2/2/2016	campus with ESSL
5	Deer Crossing ES	NO	NO	YES	22.00	4.16	2 baseball	YES	YES		Site too small	2/2/2016	
20	North Frederick ES	YES	YES	YES	15.01	4.18	2 baseball	YES	YES	2	Site too small	2/4/2016	
39	Crestwood MS	YES	YES	YES	23.08	4.37	1 baseball	YES	YES	3	Site too small	2/4/2016	
25	Spring Ridge ES	NO	YES	YES	20.00	4.42	1 baseball, 1 playfield	YES	YES		Site too small	2/2/2016	
57	Oakdale HS	NO	NO	YES	49.10	4.86	1 playfield	YES	YES	3	Site too small - cannot eliminate fields	2/4/2016	
21	Oakdale ES-MS Campus	NO	NO	YES	37.08	5.69	3 playfield, 1 blacktop	YES	YES	3	Available areas are chopped up	2/4/2016	
22	Orchard Grove ES	YES	YES	YES	15.68	6.26	1 track, 1 baseball	YES	YES	3	Track was just installed	2/4/2016	
30	Urbana ES	NO	NO	YES	19.87	8.86	1 blacktop, 1 ballfield	7-10 years	YES	2	Plans in the 6-year CIP for rebuilding school	2/4/2016	
77	Ballenger Run future site	NO	YES	YES	13.00	11.26	N/A	YES	YES	Potential 3	Plans in the 6-year CIP for new ES, site won't accommodate two schools	2/4/2016	MOU does not specify an ES but one is needed in this area so site may have to hold two schools

OFF-SITE RUBRIC

SITE #	NAME OF SCHOOL/SITE	WITHIN 3 MILES OF CENTRAL OFFICE?	WITHIN 5 MILES OF CENTRAL OFFICE?	WITHIN 10 MILES OF CENTRAL OFFICE?	PROPERTY SIZE (ACRES)	REMAINING BUILDABLE AREA (ACRES)	AMENITIES IN BUILDABLE AREA	WATER/SEWER AVAILABLE?	WITHIN PRIORITY FUNDING AREA?	NUMBER OF ACCESS POINTS	REASON FOR ELIMINATION	ELIMINATION DATE	COMMENTS
78	Landsdale Development future site	NO	NO	YES	13.00	12.70	N/A	1-3 years	YES	Potential 3	Plans in the 6-year CIP for new ES, site won't accommodate two schools	2/4/2016	MOU requires an ES so it would have to hold 2 schools
73	Tuscarora Creek/Sanner Farm future campus	NO	YES	YES	23.00	24.89	N/A	1-3 years	YES	Potential 2	Schematic for ES and MS does not leave room for a third school.	2/4/2016	campus w/ add of Sanner Farm. TC is in PFA, Sanner is not in PFA.
2	Brunswick ES	NO	NO	NO	24.63				YES		Too far from population center	12/8/2015	
50	Brunswick HS	NO	NO	NO	48.00				YES		Too far from population center	12/8/2015	
38	Brunswick MS	NO	NO	NO	29.70				YES		Too far from population center	12/8/2015	
51	Catoctin HS	NO	NO	NO	88.00				YES		Too far from population center	12/8/2015	
6	Emmitsburg ES	NO	NO	NO	13.35				YES		Too far from population center	12/8/2015	
7	Glade ES	NO	NO	YES	13				YES		Site too small	12/8/2015	
65	Heather Ridge School	YES	YES	YES	10.00				YES		Site too small	12/8/2015	
9	Hillcrest ES	YES	YES	YES	12.7				YES		Site too small	12/8/2015	
12	Liberty ES	NO	NO	YES	11.64				YES		Site too small	12/8/2015	
17	Myersville ES	NO	NO	NO	12.00				YES		Too far from population center	12/8/2015	
19	New Midway/Woodsboro ES	NO	NO	NO	6.60				YES		Too far from population center	12/8/2015	
23	Parkway ES	YES	YES	YES	5.00				YES		Site too small	12/8/2015	
26	Thurmont ES	NO	NO	NO	15.31				YES		Too far from population center	12/8/2015	
45	Thurmont MS	NO	NO	NO	13.00				YES		Too far from population center	12/8/2015	
27	Thurmont PS	NO	NO	NO	13.47				YES		Too far from population center	12/8/2015	
29	Twin Ridge ES	NO	NO	NO	17.00				YES		Too far from population center	12/8/2015	
34	Whittier ES	NO	YES	YES	10.13				YES		Site too small	12/8/2015	
35	Wolfsville ES	NO	NO	NO	14.00				YES		Too far from population center	12/8/2015	
83	Blentlinger future site	NO	NO	YES	25				NO		No DRRA yet	12/8/2015	
75	Brunswick Crossing future site	NO	NO	NO	15.00				YES		Too far from population center	12/8/2015	
62	Carroll Creek Montessori Charter	YES	YES	YES	NA				N/A		FCPS doesn't own building	12/8/2015	
84	Casey future site	NO	NO	YES	20				NO		No DRRA yet	12/8/2015	
64	Frederick Classical Charter	NO	YES	YES	NA				N/A		FCPS doesn't own building	12/8/2015	
53	Frederick County Virtual School	YES	YES	YES	NA				N/A		Doesn't have a building - colocated with GTJMS	12/8/2015	
76	Galyn Manor future site	NO	NO	NO	7.00				YES		Too far from population center, too small	12/8/2015	
70	Harvest Ridge future site	NO	NO	NO	15.00				NO		Too far from population center	12/8/2015	
66	Monocacy Valley Montessori Charter	YES	YES	YES	NA				N/A		FCPS doesn't own building	12/8/2015	
82	Monrovia Town Center PUD future site	NO	NO	YES	49				NO		Development is in litigation	12/8/2015	
67	Outdoor School	YES	YES	YES	NA				N/A		Doesn't have a building	12/8/2015	
81	Urbana North MXD (Sugarloaf ES)	NO	NO	YES	12				YES		Site too small	12/8/2015	



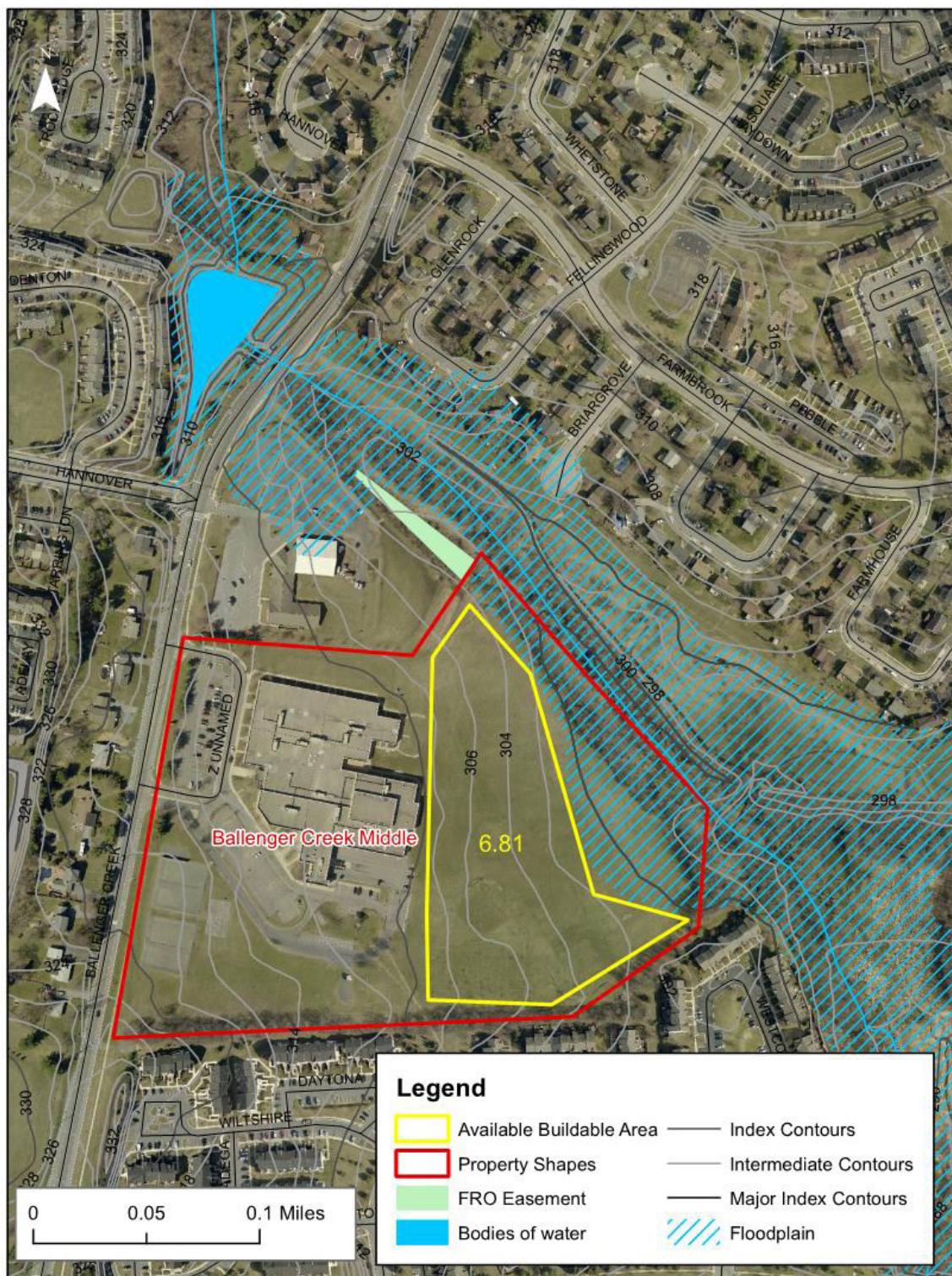








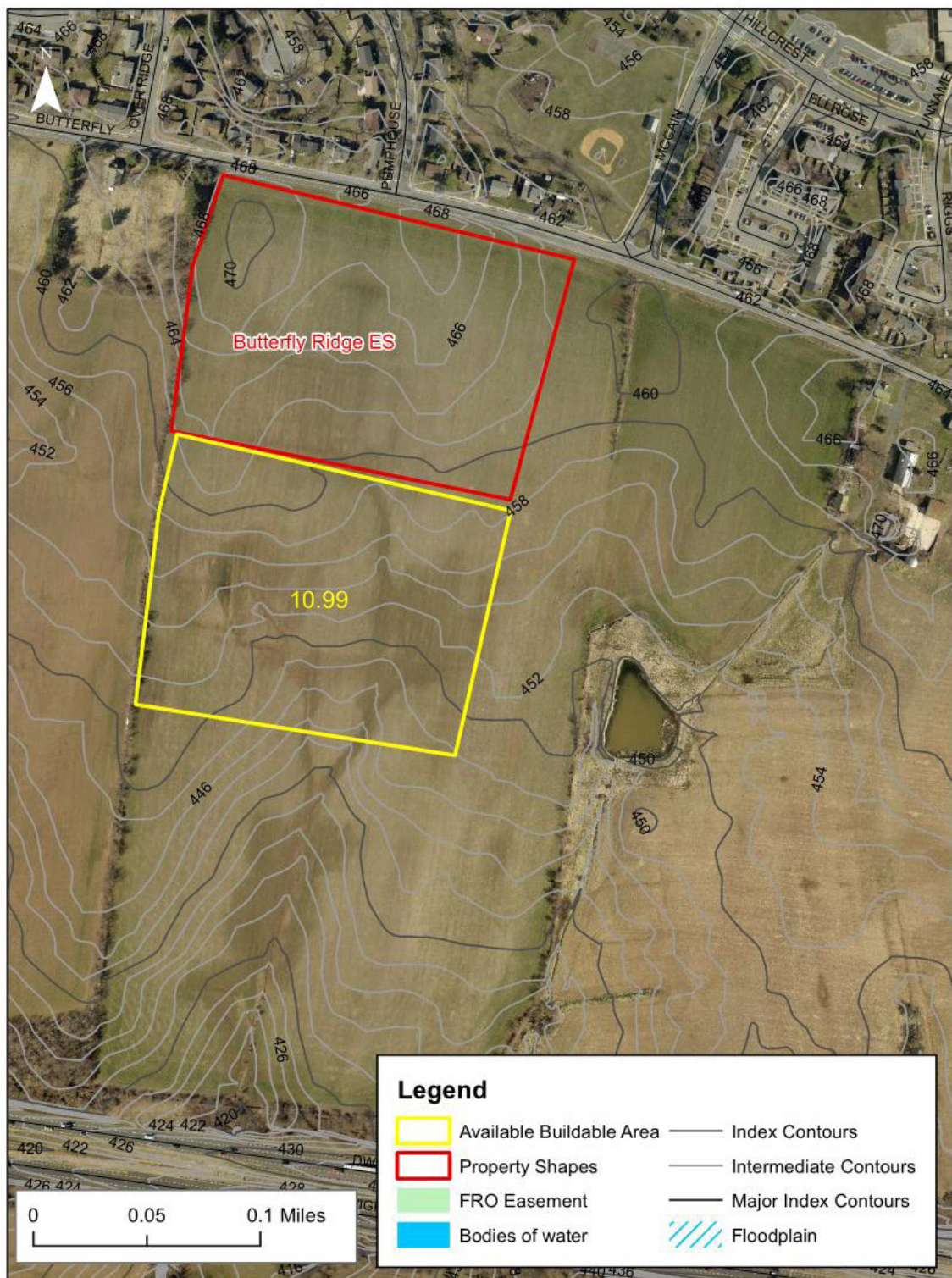
## Ballenger Creek Middle School Site Analysis



Map created by Frederick County Public Schools, January 2016



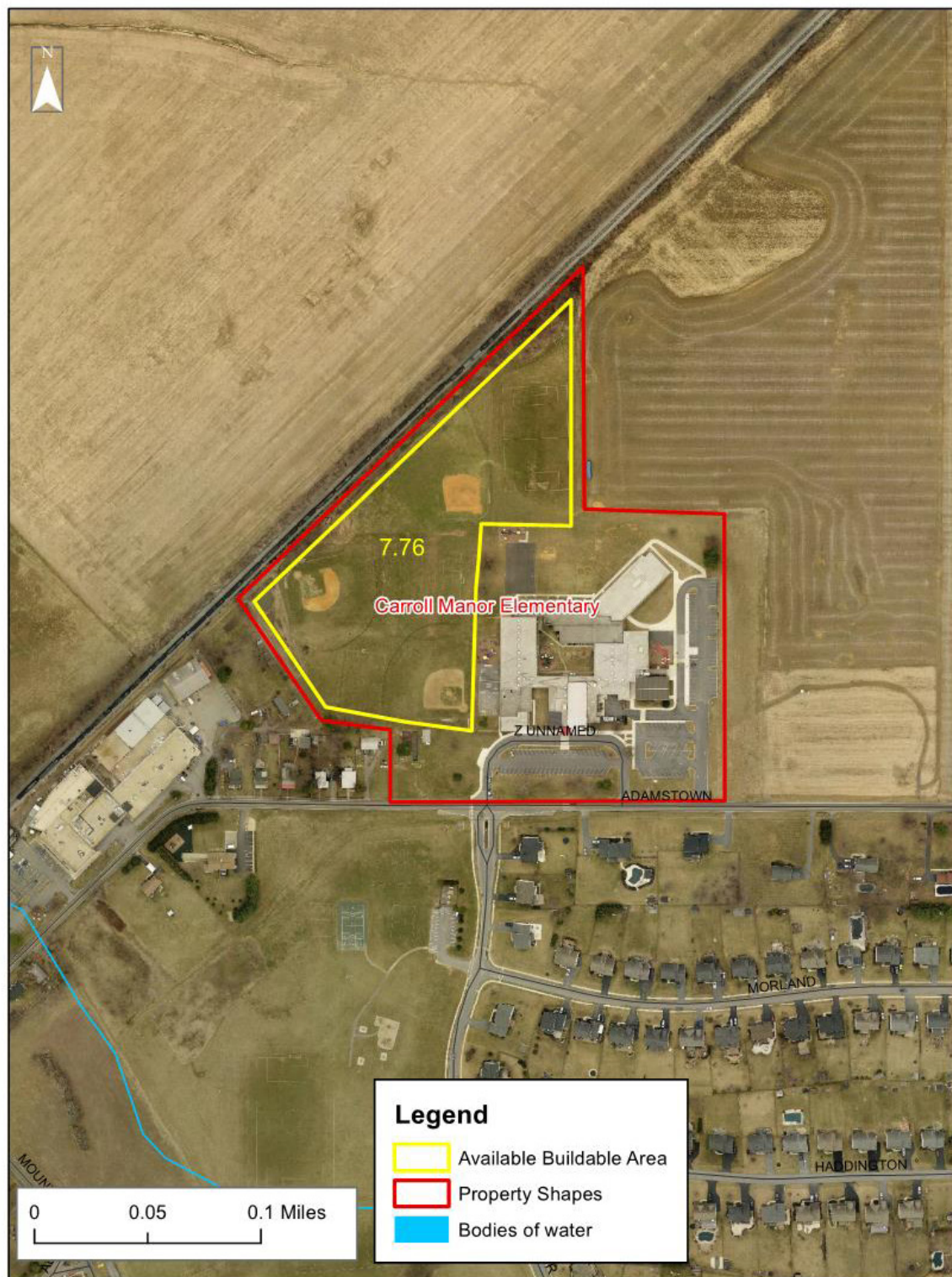
## Butterfly Ridge ES (Hargett) Site Analysis



Map created by Frederick County Public Schools, January 2016



## Carroll Manor ES Site Analysis



Map created by Frederick County Public Schools, January 2016



## Dearbought Site Analysis



Map created by Frederick County Public Schools, January 2016



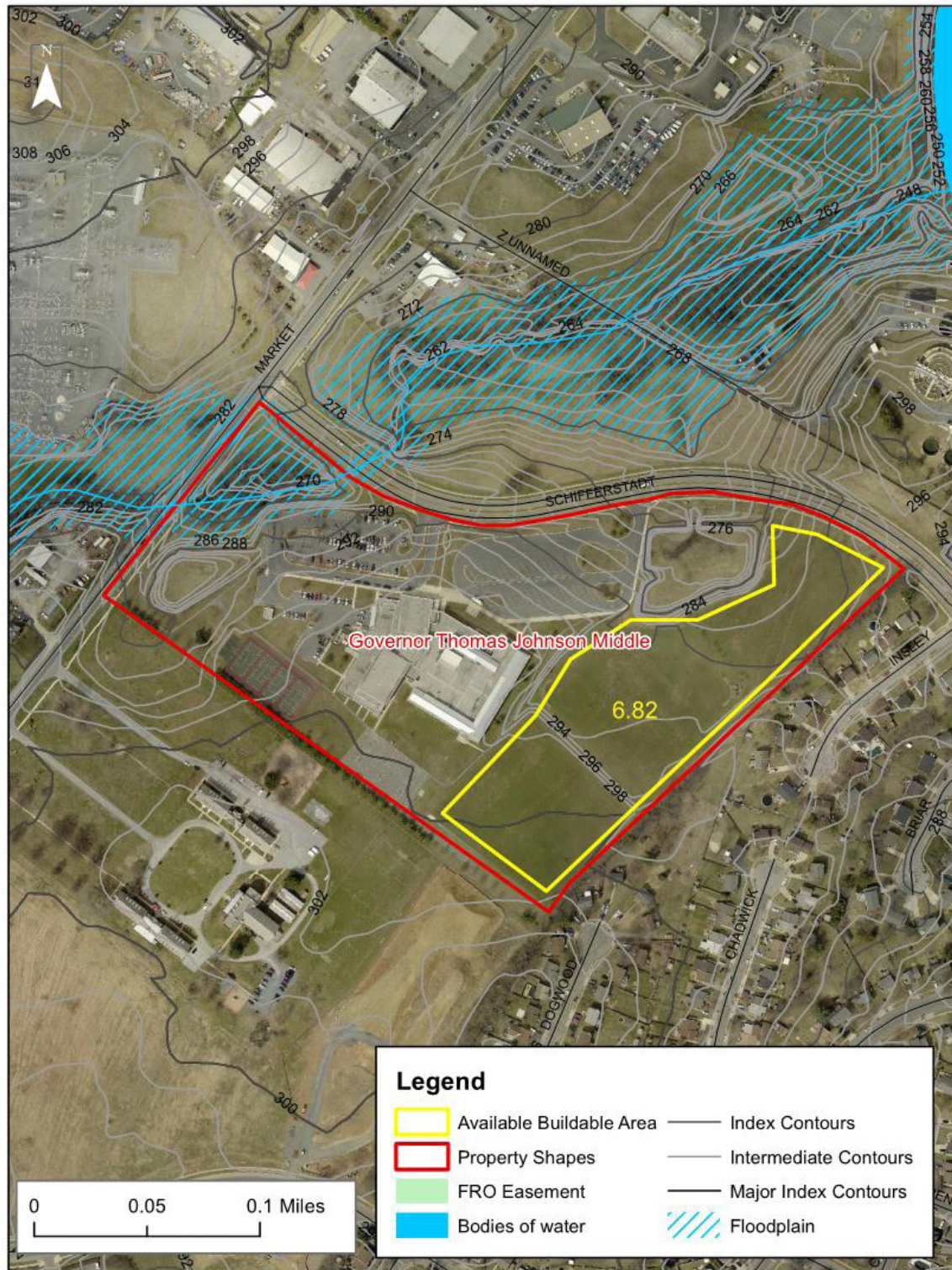
## Greenview School Site Analysis



Map created by Frederick County Public Schools, January 2016



## Gov. Thomas Johnson Middle School Site Analysis



Map created by Frederick County Public Schools, January 2016



## Middletown ES/MS/HS Site Analysis



Map created by Frederick County Public Schools, January 2016



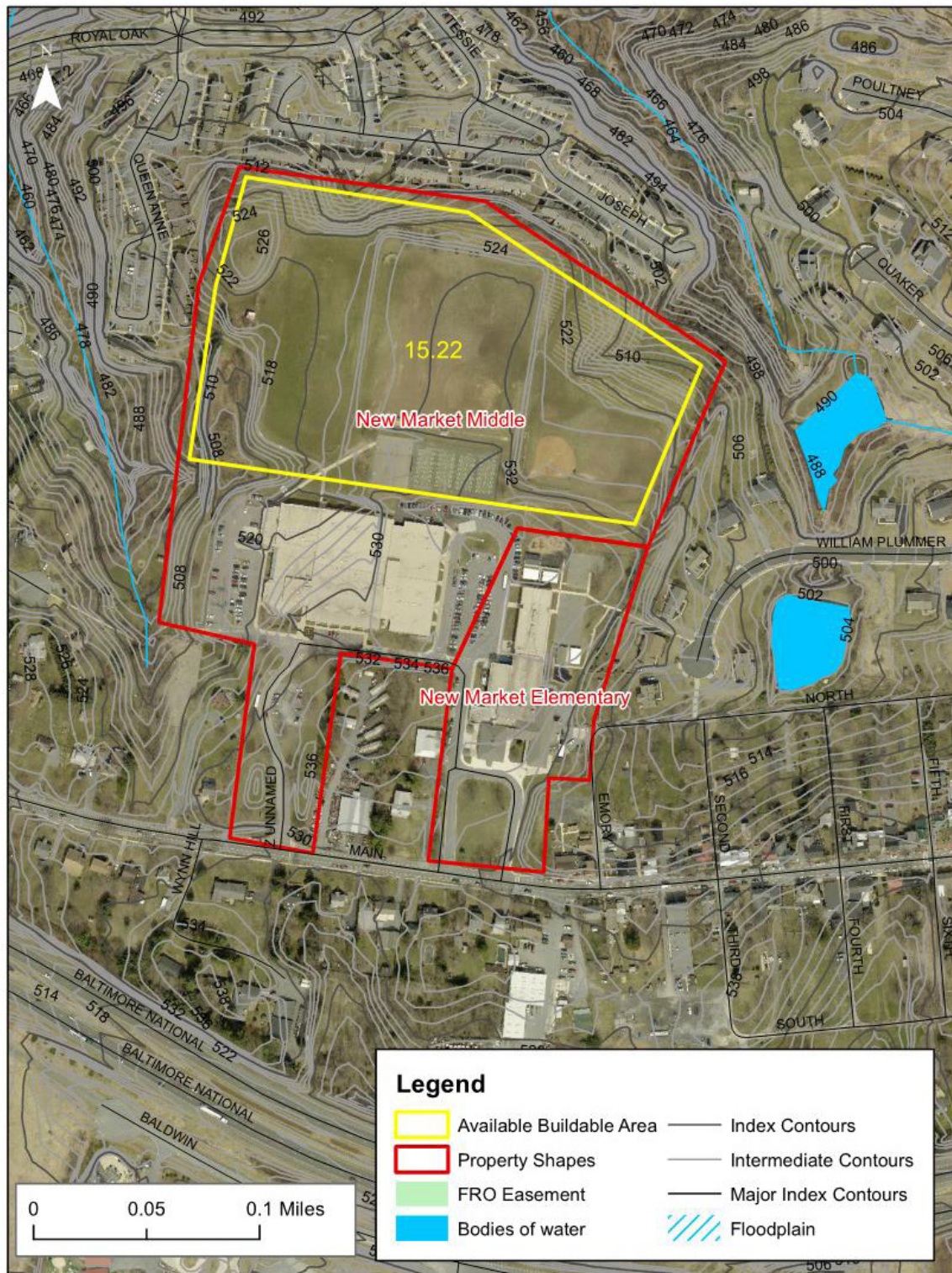
## Monocacy ES/MS Site Analysis



Map created by Frederick County Public Schools, January 2016



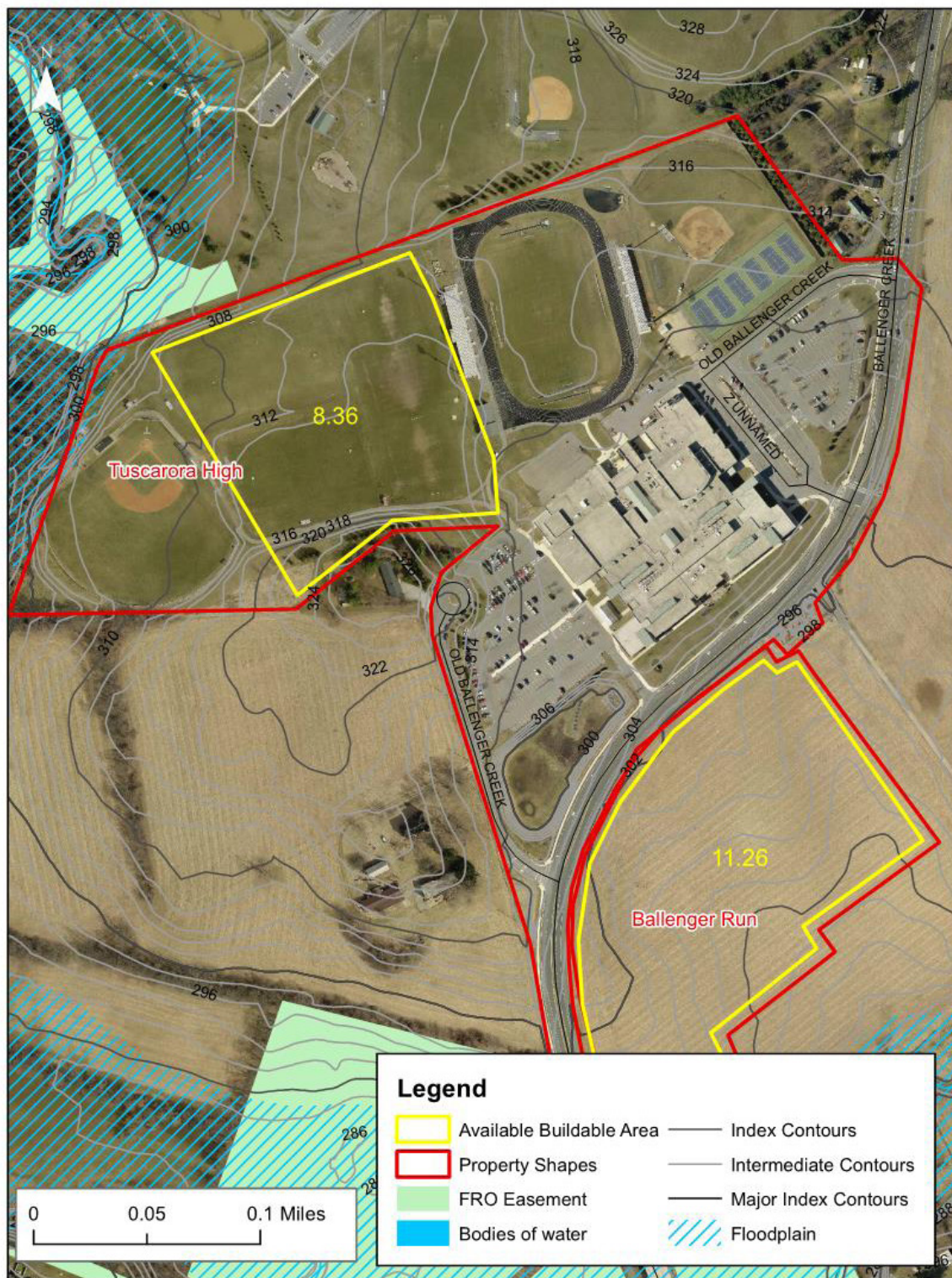
## New Market ES MS Site Analysis



Map created by Frederick County Public Schools, January 2016



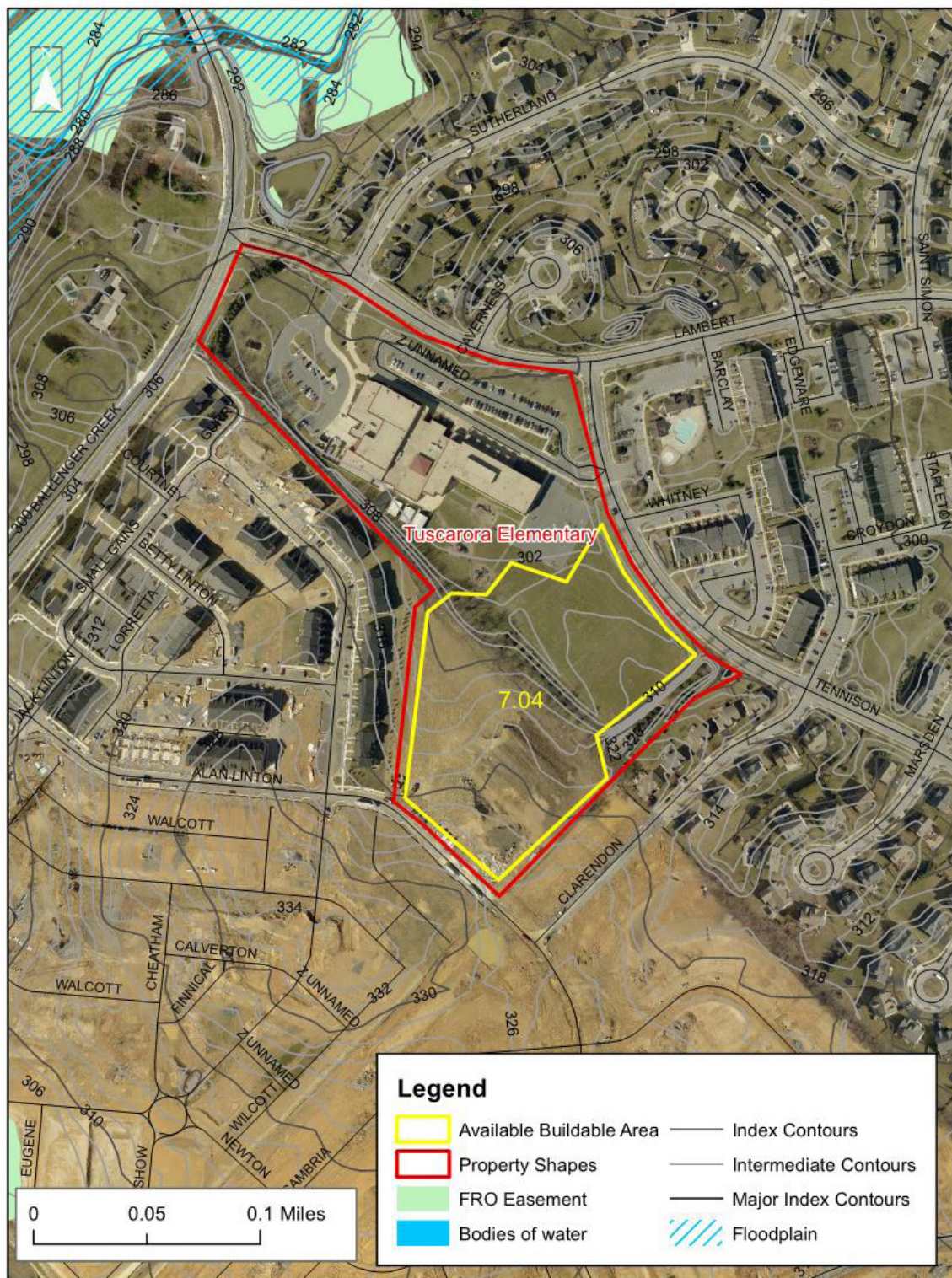
# Tuscarora HS Site Analysis



Map created by Frederick County Public Schools, January 2016



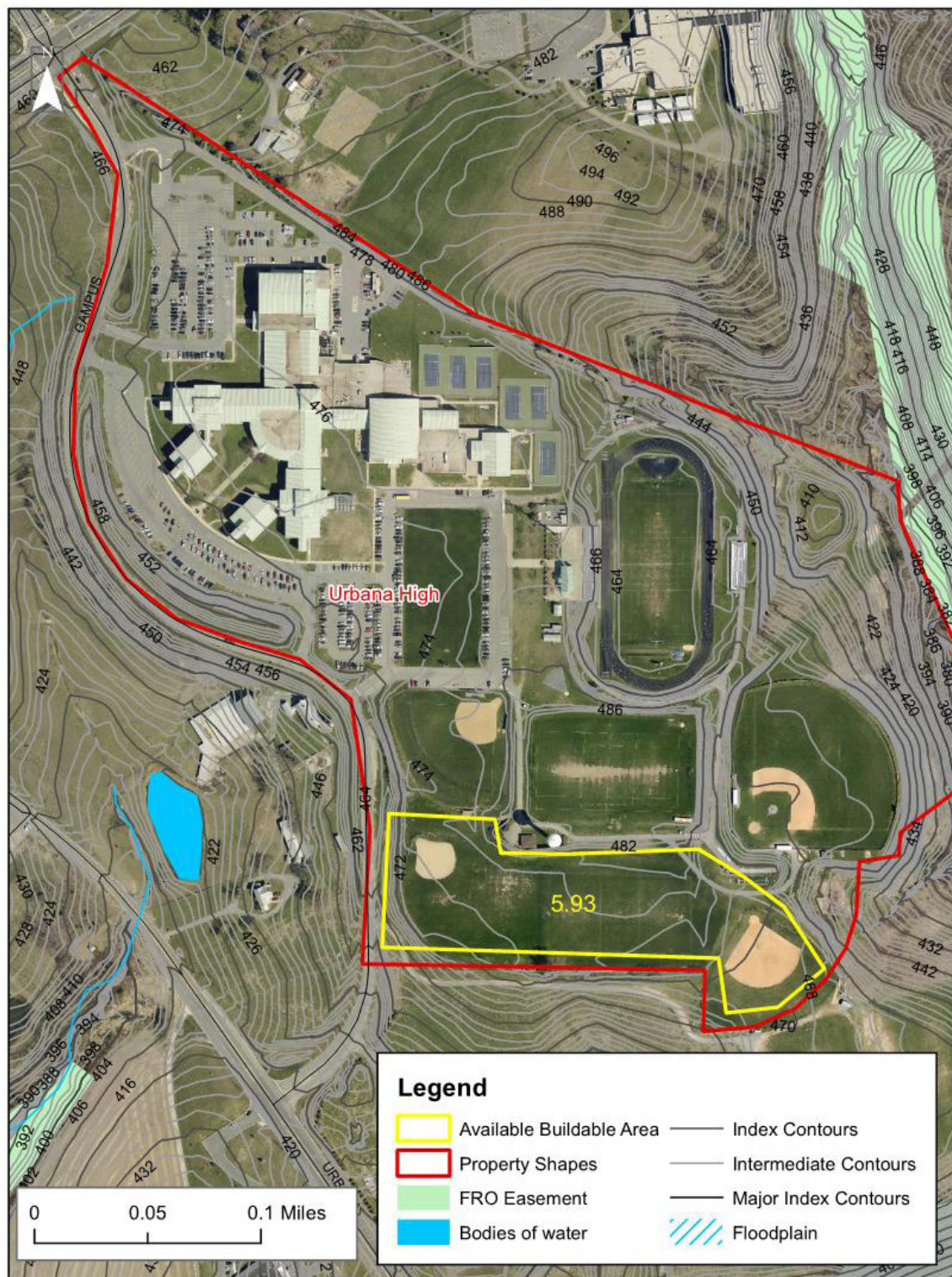
## Tuscarora ES Site Analysis



Map created by Frederick County Public Schools, January 2016



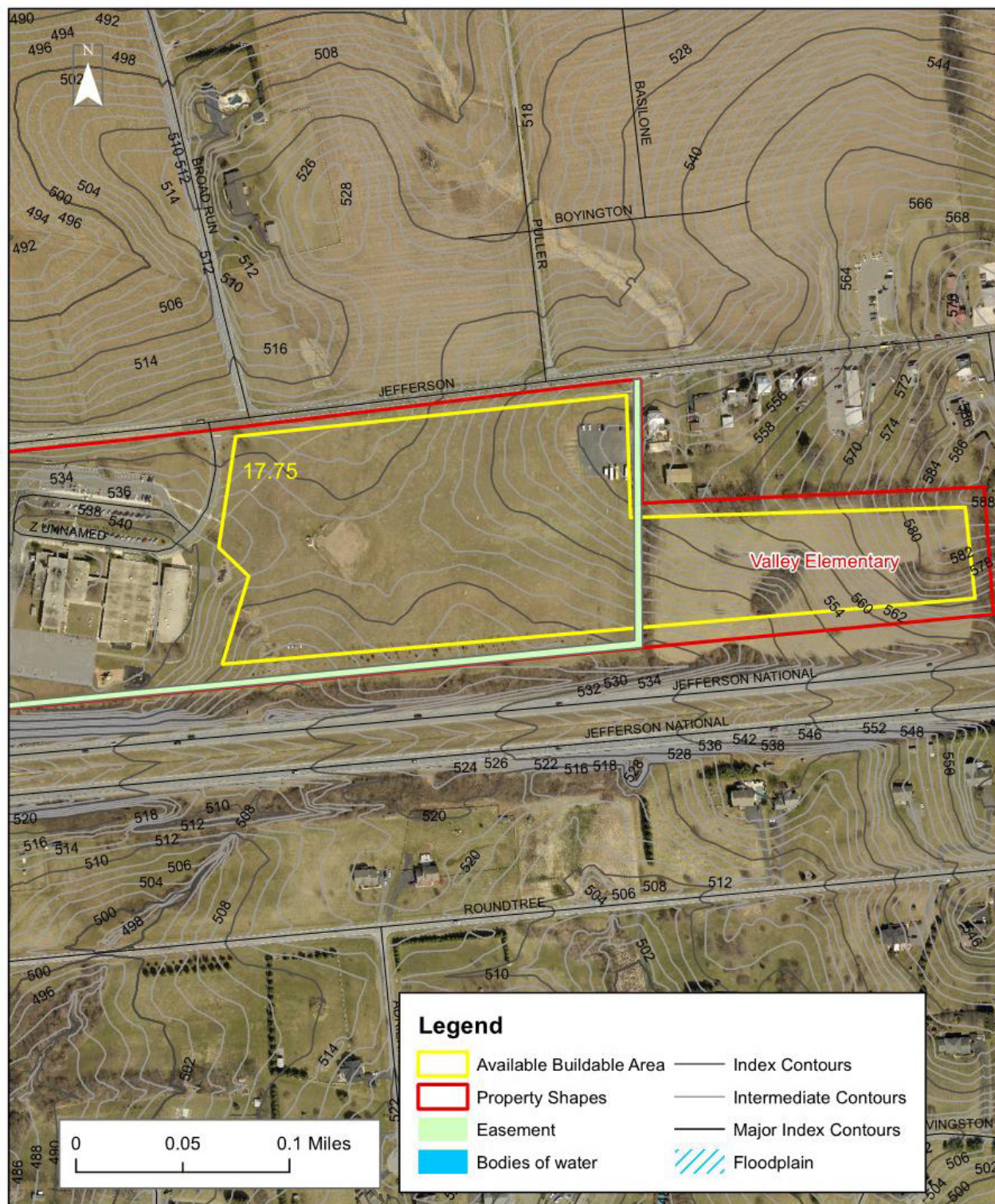
## Urbana HS Site Analysis



Map created by Frederick County Public Schools, January 2016



## Valley ES Site Analysis



Map created by Frederick County Public Schools, January 2016



## Walkersville MS Site Analysis



Map created by Frederick County Public Schools, January 2016



## OPTION 4 (REPLACEMENT SCHOOL OFF-SITE) SCHEMES



### Option 4: Monocacy Middle School

#### SCHEME 1 - MONOCACY MIDDLE SCHOOL

Scheme 1 proposes to provide an entirely new facility on the open field space adjacent to Monocacy Middle School and Monocacy Elementary School. The site is located on Opposumtown Pike, approximately 4 miles north of downtown Frederick. With direct adjacencies to both Monocacy Middle School and Elementary School and close proximity to the Career and Technology Center (CTC) and Frederick Community College (FCC), this site presents many opportunities for access to students and community groups across a broad age spectrum. The location on Opposumtown Pike also positions the site on a major local transit route and bus line, giving students increased mobility options.

The available property covers approximately 13 acres and currently includes several multi-purpose fields that are used by Monocacy MS, Parks & Recreation organizations and the community. The area directly south of the middle school is a headwater channel for an existing stream; further investigation of this property will require meetings with the Corps of Engineers and MDE to establish the limits and buffers of this environmental feature and its potential impact to the buildable area. For this initial site study, planning for the new building is concentrated on the east side of the site to avoid major impacts with this feature.

The proposed site entrance will expand on the existing 3-way signaled intersection at Opposumtown Pike and entrance drive to CTC and FCC. Although separate car and bus access points would be ideal, the existing intersection is likely to be the only viable location for an entrance drive, which will result in shared bus and car traffic through a single point of entry. The bus loop will be separated from the car drop and parking area, with each accessing the main entrance and public zone of the building on the south façade. The instructional clusters will be located on the north side of the site with direct access to outdoor learning and recreation spaces. An adaptive play area is provided in the northwest corner of the site, with remaining green space between Rock Creek School and Monocacy MS available for multi-purpose fields and open play space to be shared between the two school programs.

Access to inclusive opportunities with the neighboring schools will be provided via accessible walkways to Monocacy ES to the north and Monocacy MS to the west. Property is available for development of add-alternate program space and future additions on this site; however, this construction will further consume the remaining available open space and limit opportunities for additional shared fields.

#### **OPPORTUNITIES**

- Best access and equity opportunities of all the schemes. There are inclusionary opportunities on-site with an existing middle school and elementary school. A community college and FCPS' Career and Technology Center are across the street.
- All Rock Creek program requirements are accommodated
- Room for alternates and future expansion if needed
- Within 3 miles of downtown Frederick City, easily accessible
- Good public transit available

#### **COMPROMISES**

- Only one site entry available. Buses and cars must share an entrance or share access with adjoining schools.
- The Rock Creek program reduces existing multipurpose fields and eliminates fields currently used by the community





**Option 4: Hargett Farm (Butterfly Ridge ES)**

#### **SCHEME 2 - HARGETT FARM (BUTTERFLY RIDGE ES)**

Scheme 2 proposes to provide an entirely new facility on the Hargett Farm site adjacent to the planned Butterfly Ridge Elementary School site and currently owned by Frederick City. Butterfly Ridge ES, a new 725-student school serving grades K-5, is scheduled to be completed in the summer of 2018. This new school site is located on the south side of Butterfly Lane near the intersection of McCain Drive, and is approximately 3 miles west of downtown Frederick. As part of the Butterfly Ridge ES project scope, McCain Drive will be extended southward towards the adjacent Hargett Farm site, along with underground utility infrastructure. Since the Hargett Farm property is currently owned by Frederick City, FCPS will need to determine the availability of additional land adjacent to Butterfly Ridge Elementary.

**OPPORTUNITIES**

- There are opportunities for access and equity with an existing elementary school
- All Rock Creek program requirements are accommodated
- Allows for alternates and future expansion
- Separated car and bus paths
- Within 3 miles of downtown Frederick City
- Relocation of Rock Creek to this site will not compromise the existing program at Butterfly Ridge ES

**COMPROMISES**

- FCPS does not currently own this property. Acquisition, as well as the terms and conditions of that acquisition, are uncertain.





#### Option 4: Valley Elementary School

##### SCHEME 3 - VALLEY ELEMENTARY SCHOOL

Scheme 3 proposes to provide an entirely new facility on the open field space adjacent to Valley Elementary School. The 17-acre site is located on Jefferson Pike, approximately 10 miles southwest of downtown Frederick; this location is the most remote property considered as part of the off-site replacement study. Transportation options will be limited for some Rock Creek students, with longer bus ride times and limited transit options.

The proposed site will be accessed from two points along Jefferson Pike, allowing for separate entrances for cars and buses. The bus loop and parking lot will access the public zone of the building from the west and east facades, respectively. The instructional clusters will be located on the south side of the site with direct access to outdoor learning and recreation spaces.

An adaptive play area is provided in the southeast corner of the site, with remaining green space between Rock Creek School and Valley ES available for multi-purpose fields and open play space to be shared between the two school programs. An accessible walkway will connect Rock Creek School to Valley ES to promote opportunities for inclusion. Due to ample available property and open space, development of add-alternate program space and future additions are both feasible on this site.

#### **OPPORTUNITIES**

- Access and equity opportunities with existing elementary school
- All building and site program elements are accommodated on the property
- Space available for add alternates and future expansions
- Separated car and bus entrances are feasible from Jefferson Pike

#### **COMPROMISES**

- Remote location from center of Frederick City; approx. 10 miles away
- Public Transit exists, but is infrequent and would likely not be utilized
- There is a 1 hr. 15 min. maximum bus ride allowable in the county; this could present challenges for students who live far from the site





#### Option 4: Governor Thomas Johnson Middle School

##### SCHEME 4 - GOVERNOR THOMAS JOHNSON MIDDLE SCHOOL

Scheme 4 proposes to provide an entirely new facility on the open field space adjacent to Governor Thomas Johnson Middle School (GTJMS). The site is located on Schifferstadt Blvd, approximately 2 miles north of downtown Frederick. The available buildable area is less than 7 acres, which will result in some concessions of program requirements and utilization of shared resources with GTJMS.

With such limited site area and only one feasible site entrance, a dedicated bus loop for Rock Creek School will not be possible. The existing bus loop for GTJMS will be utilized for both buildings, which will require transportation schedules to be coordinated to avoid overlapping drop-off and pick-up time frames. A new site entrance off Schifferstadt Blvd is proposed at the northeast corner of the site, with a parking lot that will provide only 85% of parking spaces required by the educational specifications. The public zone of the building will be accessed from the bus loop to the north and parking lot to the east. The instructional clusters will be located on the south side of the site with direct access to outdoor learning and recreation spaces. An accessible walkway will connect Rock Creek School to Governor Thomas Johnson MS to promote opportunities for inclusion. Due to constraints of available property, development of add-alternate program space and future additions will not be feasible on this site.

The location of the proposed building and site program elements, including an adaptive play area in the southwest corner of the site, consumes most of the existing multi-purpose fields currently serving GTJMS. The existing site program elements remaining at GTJMS, including tennis courts and hard surface play areas, may need to be reconfigured or eliminated to provide adequate field areas for both schools.

#### **OPPORTUNITIES**

- Access and equity opportunities with an existing middle school
- Because Rock Creek must share a bus loop with GTJMS, car and bus traffic will be separated
- Within 3 miles of downtown Frederick City

#### **COMPROMISES**

- Buildable area is small and could affect the shape and layout of the new building
- Rock Creek must share a bus loop with GTJMS
- The car parking is 35 spaces below program requirements
- No space available for future expansion or add alternate programs
- Rock Creek School construction will eliminate majority of outdoor recreation area for GTJMS
- The site is located in a busy part of town, approval for a second entrance into the site could be more difficult than in other schemes





#### Option 4: Ballenger Creek Middle School

##### SCHEME 5 - BALLENGER CREEK MIDDLE SCHOOL

Scheme 5 proposes to provide an entirely new facility on the site of Ballenger Creek Middle School (BCMS). The site is located on Ballenger Creek Pike, approximately 3 miles southwest of downtown Frederick. The available buildable area includes approximately 7 acres of open space to the east of the existing school as well as open space and hardscape play and parking areas to the south.

With such limited site area and only one feasible new site entrance, a dedicated bus loop for Rock Creek School will not be possible. The existing bus loop for BCMS will be utilized for both buildings, which will require transportation schedules to be coordinated to avoid overlapping drop-off and pick-up time frames. A new site entrance off Ballenger Creek Pike is proposed at the southwest corner of the site, with a parking lot that will displace several existing tennis and basketball courts near the road. The public zone of the building will be accessed from the bus loop to the northwest and parking lot to the west. Due to site constraints, the instructional clusters will be aligned in a linear arrangement in the southeast corner of the site, with direct access to outdoor learning and recreation spaces.

An adaptive play area for Rock Creek School and shared play fields for both schools will be located to the north end of the property. An accessible walkway will connect Rock Creek School to BCMS to promote opportunities for inclusion. Due to constraints of available property, development of add-alternate program space and future additions may not be feasible on this site.

#### **OPPORTUNITIES**

- Inclusionary opportunities with existing middle school
- Because Rock Creek must share a bus loop with BCMS, car and bus traffic will be separated
- All Rock Creek program requirements are accommodated
- Within 3 miles of downtown Frederick City

#### **COMPROMISES**

- The buildable area is not an ideal shape. The new building must be very long and linear, which will limit the flexibility of potential designs
- Limited space available for future expansion or add alternate program



## APPENDIX B: CIVIL AND MECHANICAL ELECTRICAL PLUMBING (MEP) RECOMMENDATIONS

### CIVIL RECOMMENDATIONS

#### Modernization + Addition

- Any improvements on the existing site will need to address not only qualitative stormwater management, but also quantitative controls. Our understanding from the City of Frederick is that the existing downstream system is currently undersized and any improvements on the site will require controls.
- The site is located within the City IST zone and is, therefore, not subject to zoning setbacks, heights and percent green space requirements.
- Existing Waverley Drive is owned by FCPS. We understand that the development to the east of the property will provide a City street connection between Waverley Drive and Shookstown Road.
- The circulation patterns between Waverley ES and the Rock Creek School create a lot of congestion in the morning. The improvements to the Rock Creek School should attempt to improve this circulation.

#### New Building On-Site

- Any improvements on the existing site will need to address not only qualitative stormwater management, but also quantitative controls. Our understanding from the City of Frederick is that the existing downstream system is currently undersized and any improvements on the site will require controls.
- The site is located within the City IST zone and is, therefore, not subject to zoning setbacks, heights and percent green space requirements.
- Existing Waverley Drive is owned by FCPS. We understand that the development to the east of the property will provide a City street connection between Waverley Drive and Shookstown Road.
- The new building is tucked into the property corner; this design will need to be reviewed with the Fire Marshal to ensure that adequate access is provided for fire personnel. In addition, there are limited areas for staging of students at either school during a fire drill or emergency.
- The southern grass play area is remote from both schools, and may create a safety issue for students from Waverley ES who traverse the parking lot to access the play area.

#### New Building – Monocacy MS

- The site is located within the City IST zone and is, therefore, not subject to zoning setbacks, heights and percent green space requirements.
- The bus loop and car loop access the same driveway; however, given the building use and traffic requirements, this may not be a problem.
- The headwaters for a stream are on the northwest side of the site. While this doesn't appear to be a wetland or stream, efforts should be made to avoid these areas as the soils may be soft.

#### New Building – Hargett Farm (Butterfly Ridge ES)

- The site is zoned as park. A zoning amendment will be necessary to make the use suit the school, such as IST.
- Rock is known to be shallow in this area.
- Vehicular access will need to be coordinated with the City Park masterplan.
- There is no sanitary sewer service or water service adjacent to this site. A watermain will need to be extended from Butterfly Lane, and a sanitary sewer extended from the east to provide service for this lot.

#### New Building – Governor Thomas Johnson MS

- The site is located within the City IST zone and is, therefore, not subject to zoning setbacks, heights and percent green space requirements.
- Stormwater controls are partially provided by the existing stormwater pond.
- The location removes several playfields from the existing middle school.

#### New Building – Valley ES

- This site is located within Frederick County (Jefferson), and not the City of Frederick (zoned R-3, Low Density Residential).
- The site provides good access points aligned with other driveways onto Jefferson Pike.
- The site is serviced by public water and sanitary sewer service.

#### New Building – Ballenger Creek MS

- This site is located within Frederick County, and not the City of Frederick (zoned Planned Unit Development).
- The site is serviced by public water and sanitary sewer service.
- There is a floodplain at the rear of the property that will need to be respected with any development on this site.
- Existing tennis courts and playfields will be removed.

### **MEP RECOMMENDATIONS**

#### General

The mechanical systems will include all work associated within the building of Heating, Ventilating, Air Conditioning (HVAC), and plumbing systems. These systems will extend to 5 feet beyond the building wall.

The mechanical systems, in concert with the architectural considerations, are intended to create spaces that are flexible, functional, energy efficient, and respond to the needs of this facility.

Within the envelope of the new facility, the proper heating, cooling, ventilation, air exchanges, and automatic temperature control/energy management systems will be provided for all spaces to create the appropriate thermal environment. All hallways/corridors shall be heated and cooled. The HVAC and related mechanical systems will not only be functional and responsive to the need, but will be simple, reliable, durable,



maintainable, and easily accessible. The HVAC system utilizes energy conservation techniques to the greatest extent possible, while maintaining comfortable control. All HVAC components will be capable of a complete override from the energy management system.

Heating and cooling systems and their associated controls will be designed and zoned to enable the building to operate at less than full occupancy without conditioning the entire building.

The mechanical systems, including fire protection, will be designed in accordance with ASHRAE Standards, International Building Codes, ASHRAE 90.1-2010 Energy Conservation Standard, NFPA, the State of Maryland Plumbing Code, the International Plumbing Code, and Frederick County Code Requirements.

Revitalization and modernization options should seek to utilize recent upgrades such as the chiller, cooling tower, condenser pump, and new piping currently being replaced.

#### Heating

The HVAC system is in need of various equipment replacements due to age and lack of functionality, including the following:

- Replace the existing unit ventilator system in its entirety from the point where the new piping ends up to and including the unit ventilators.
- All terminal equipment such as unit ventilators, convectors, fan-coils, exhaust fans, and unit heaters are original, have exceeded their useful life and should be replaced in their entirety, including piping and controls.
- The boilers are old and inefficient compared to modern boilers showing signs of corrosion. Although the fuel oil tank was replaced in 2006, fuel has not been used since.
- Air handlers show signs of oxidation and are not configured to control humidity adequately. These units require replacement along with piping and controls.

Due to the age of the existing boilers, they require replacement. However, as an immediate solution, one boiler could be replaced with two (2) high efficiency type boilers to create a hybrid heating plant. This will improve reliability before a boiler failure occurs and allow for conversion to a low temperature heating system when all of the terminal equipment and air handlers are replaced later.

High efficiency boilers will enhance operating efficiency between 5% - 12% during part load conditions. This would allow the condensing boilers to function at part load conditions (120°F - 140°F supply water during outdoor reset conditions) and the non-condensing boiler at peak load conditions ( $\geq 140^\circ\text{F}$  supply water) while providing redundancy as well as enhanced efficiency. The boiler system can be re-piped to allow the dual temperature system pumps to be converted to variable flow/variable speed to meet current code requirements.

For the modernization and revitalization options, the condensing boilers can remain and the one remaining cast iron boiler removed, and the heating plant converted to all high efficiency condensing boilers by adding a third boiler for redundancy. This, of course, would need to occur with conversion of the system to a low temperature heating system and replacement of all the terminal heating equipment and air handlers.

For the new building option, it is recommended to design the building for a low temperature heating water system from the onset ( $\leq 140^{\circ}\text{F}$  supply water) utilizing condensing boilers only (vertical fire tube style, stainless steel materials). Pumping would be variable flow to meet current codes.

#### Cooling

The school has a fairly newer chiller, cooling tower, and condenser water pump all installed in 2002, which can remain and be reused. The chiller has a capacity of approximately 133 tons, equivalent to 415 SF/Ton. Most modern elementary schools require approximately 315 SF/Ton of cooling, which would require about 175 tons of cooling. Cooling loads should be re-evaluated with detailed room by room calculations for any revitalization or modernization options.

It is thought that reported cycling of the chiller is due to the pumping and control strategy. Use of 3-way control valves and constant running pumps can cause low delta-T syndrome which makes the chiller cycle and appear to be oversized. The issue might be compounded due to the lack of loading in the building from low ventilation air rates at air handlers and inoperable equipment. The chiller control can be improved or corrected when new cooling equipment (air handlers and terminals) are replaced and a variable speed pumping system is installed. The use of pressure independent control (PIC) valves on the chilled water system will improve control and maximize delta-T and thus plant efficiency.

If cooling loads require supplementation to accommodate higher cooling loads than the capacity of the existing chiller, this could afford several opportunities to be considered such as:

1. The chiller could be relocated elsewhere and replaced with a larger chiller, tower, and pumps to match new loads. This would afford the opportunity to install a newer more efficient chiller and evaluate if the new chiller should be air-cooled or water-cooled. Water-cooled chillers are more efficient than air-cooled chillers; however, for elementary schools air-cooled chillers typically have a lower life cycle cost than water-cooled chillers. Using an air-cooled chiller would free up space in the mechanical room to allow for other equipment and piping upgrades.
2. A smaller heat recovery chiller could be used to augment cooling and provide waste heat recovery per current codes in order to provide cooling season reheat in a newer low temperature heat system ( $\leq 140^{\circ}\text{F}$  supply water). This would integrate well with a new low temperature condensing boiler heating system and increase overall energy efficiency.



3. A portion of the building, such as administration areas, could be designed to utilize other systems such as variable refrigerant flow (VRF) or geothermal. This would free up load from the central system and allow for better zoning on individual spaces than using central single zone air handlers.

The recommended system is to utilize a 2-pipe distribution system to serve fan-coil units, unit ventilators, and/or central station air handling units. For this application, a variable speed drive chilled water pump would be utilized to conserve energy. The air-cooled chiller would have to be selected so as to be able to effectively turn down to the lowest required capacity. Pump energy can be conserved by utilizing variable speed drives; however, the disadvantage is that the chiller and its associated constant volume chilled water pump will need to be energized whenever any zones are occupied.

#### Hydronic Distribution Systems

The existing hydronic distribution system may be able to be reused and modified depending on the building option selected. At a minimum, the existing system would be converted to variable flow/variable speed to meet current codes, if it was reused. Pumps would be replaced with new pumps equipment with inverter duty rated motors.

On motors operated with variable frequency drives (VFD), premature bearing failure can occur from VFD induced shaft voltages. These voltages and induced eddy currents cause electrical discharge machining (EDM) pitting, fusion craters, and fluting damage to the motor's bearings as well as potentially causing premature deterioration of bearing lubrication. To minimize these issues and prolong the life of bearings on pumps served by variable frequency drives, we recommend adding AEGIS® Shaft Grounding Ring Technology to pump shafts served by VFDs. The AEGIS® Shaft Grounding Ring allows induced shaft voltages to discharge to ground thus avoiding the damaging induced currents.

#### Air Distribution System

It is recommended that all air handling units be replaced due to age. Additionally, air distribution systems, utilizing central station air handlers serving multiple spaces, should be converted to variable air volume type utilizing standard terminal control units equipped with hot water heating coils. Single zone spaces, served by central station air handlers such as the gym, cafeteria, and media center, would employ variable volume control without the use of terminal units. All duct systems will need to be replaced to accommodate the new configurations and also due to the age/deterioration of the ducts/insulation systems. Due to the long span joist, currently minimal space is available for new duct systems unless ceiling heights can be lowered.

Other HVAC alternatives include dedicated outdoor air systems (DOAS) used in conjunction with re-circulating terminal units such as unit ventilators, fan coil units, geothermal heat pumps, or variable refrigerant flow (VRF) systems. VRF systems

will fit in most, if not all, of the existing ceiling spaces; however, mechanical closets are recommended for fan coil units or geothermal heat pumps in order to facilitate maintenance and access. Vertical VRF fan coils could also be located in closets if desired.

#### Terminal Units

Classrooms Modernization and Revitalization: Replace the existing steam heating and ventilating unit ventilators with a two-pipe unit ventilator or fan coil unit system, used in conjunction with a DOAS for ventilation.

Gymnasium and Cafeteria: New independent split type or 2-pipe variable flow single zone central station air handling units are recommended.

Media Center: These areas will be served by individual single zone, variable office / air volume rooftop air handling units serving single duct.

Administration: Terminal control units with terminal heating coils. As an area alternative, a variable refrigerant volume system used in conjunction with a DOAS should be considered.

#### Building Automatic Temperature Controls / Energy Management System

The existing building currently utilizes older Robert Shaw pneumatic controls with manual change over and a time clock. It is recommended that the existing controls be upgraded to a new DDC Energy Management System (EMS) utilizing open protocol, to provide full direct digital controls, including space terminal unit controls. The existing pneumatic air compressor, and the existing pneumatic tubing could be removed from the building extremities and limited to serve central equipment and systems in the boiler room only. All controls would be electric/electronic actuation. All control and monitoring points would be consistent with the County's current standards.

Automatic Temperature Controls shall be capable of operating per the sequence of operation, including when the EMS is manually overridden.

The Basic Design Criteria will be as follows:

##### Cooling Mode:

Outdoor Temperature: 95°F DB, 78°F WB

Indoor Temperature: 75° F DB, 65% RH or less

##### Heating Mode:

Outdoor Temperature: 10°F DB

Indoor Temperature: 70°F DB, 30% RH or greater

##### Chilled Water System (at 95°F ambient):

45°F Supply water temperature

60°F Return water temperature



Heating Water System (at 10°F Ambient):

180°F Supply water temperature (renovation & modernization)

160°F Return water temperature (renovation & modernization)

130°F Supply water temperature (replacement)

110°F Return water temperature (replacement)

Ventilation Rates (latest ASHRAE Standard 62 and IMC):

5 CFM per person plus .06 CFM/sq. ft. – office

10 CFM per person plus .12 CFM/sq. ft. – classrooms and media

7.5 CFM per person plus .18 CFM/sq. ft. - cafeteria

20 CFM per person plus .18 CFM/sq. ft. – gymnasium

## Plumbing

### General

The plumbing system gravity (sanitary and storm water) mains will be reused to the fullest extent possible. New piping systems will be installed for all new fixtures, toilet rooms, etc. New plumbing systems will be installed in strict accordance with all applicable codes and regulations, including ADA.

The plumbing systems will consist of, but not be limited to:

Domestic Cold Water

Domestic Hot Water with Recirculation

Sanitary Drainage and Vent

Storm Water Collection

All plumbing fixtures will be included and shall be good commercial grade of institutional quality. Water closets and urinals shall be flush valve, water-conserving type. Faucets for lavatories will be the self-metering types. Handicapped fixtures will comply with ADA requirements. Mounting heights for all fixtures will be coordinated with the owner.

### Water Service

It is recommended to replace all domestic water piping, valves, insulation, etc. in its entirety.

The water piping shall be sized per the requirements of the American Society of Plumbing Engineers, The Plumbing Code of Frederick County, and the International Plumbing Code.

Hot and cold water will be extended to and serve the fixtures and equipment as required. All domestic water piping shall be copper Type L with wrought copper fittings and lead free 95-5 solder. All water piping shall be insulated with the exception of non-handicapped final branch runouts for connection to fixtures/equipment.

Backflow preventers and vacuum breakers will be provided to prevent back siphonage and contamination of the potable water system.

Freezeproof wall hydrants will be located every 150 feet along the building's perimeter.

An independent gas-fired domestic hot water heater is recommended to serve the building and temperature limiting valves shall temper water to all public fixtures.

#### Sanitary Drainage

The existing sanitary drainage system will be utilized to the fullest extent possible. Possible repairs and/or replacement of portions may be necessary based on recent clogging. The new sanitary drainage system serving the new plumbing fixtures will be tied into the existing system.

The sanitary drainage system will be sized per the requirements of the American Society of Plumbing Engineers, the Plumbing Code of Frederick County, and the International Plumbing Code.

#### Storm Water Drainage

The existing stormwater system will be utilized to the fullest extent possible. For additions, a new storm water drain line will be brought to a point 5'-0" from the building exterior wall (under another Division). At this point and under this division, connection will be made to the drainage line and same will be extended into the building for distribution.

The stormwater system will be sized per the requirements of the American Society of Plumbing Engineers, the Plumbing Code of Frederick County, and the International Plumbing Code.

#### Building Alternatives

##### General

The existing mechanical and plumbing systems are recommended to be replaced in their entirety; however, some minor differences and options are specific to each alternative.

##### Modernization

Under the modernization option, the existing boilers would remain and be reused. An air-cooled chiller located adjacent to the existing boiler room/chilled water equipment room addition is recommended for cooling. All classrooms will utilize floor mounted 4-pipe unit ventilators (for free cooling/economizer purposes) and DOAS to condition the required amount of ventilation air. Unit ventilator piping shall be located in the crawl space and upfeed into the unit ventilator. Supply and return ventilation air ducts will be located in a lower level ceiling area in the middle of each classroom. The unit ventilators will provide sensible heating and cooling and be controlled by a space thermostat. The DOAS will provide conditioned neutral temperature ventilation air to the space to meet the ventilation air code requirement.



The media center and office/administration area will be served by a packaged direct expansion rooftop unit serving a variable air volume distribution system. Variable volume terminal control units will be equipped with hot water heating coils, and heating and cooling will be thermostatically controlled. Baseboard radiation is recommended for perimeter spaces.

#### Modernization + Addition

Under the modernization + addition option, the system recommendations would be similar to the modernization only option. However, additional requirements may be needed for phasing. The existing steam heating plant shall remain operational until the last phase of construction and the existing oil tank shall be removed during the first phase of construction to accommodate the addition. A temporary/portable oil tank and associated piping shall be provided to keep the existing boilers operational.

A new heating plant consisting of two (2) hot water cast iron boilers, gas fired or dual (gas/oil) fuel burners are recommended. As an energy efficient upgrade, an additional gas fired high efficiency condensing boiler is recommended to offset non-peak heating loads when outdoor air temperature resets heating water supply temperature to less than 140°F. This hybrid system approach minimizes energy consumption by using a small modulating boiler to operate above 90% thermal efficiency to generate low temperature heating water for mild outdoor air conditions (i.e. > 40°F).

An air-cooled chiller, as previously described, would provide cooling to enhance efficiency and reduce operating cost and a water-cooled chiller (mag bearing centrifugal type) should also be considered. Additionally the existing classrooms would be served by 2-pipe unit ventilators used in conjunction with a dedicated outdoor air system. The new gym, cafeteria, media center and office/administration space will be provided with new air handling units. The gym and cafeteria will be single zone units equipped with variable speed drive fans to track the load while the media center and office/administration suite will utilize a conventional variable air volume system using variable volume terminal units with hot water heating coils.

#### New Building (options 3 & 4)

General: For the new building options, the mechanical system needs to optimize energy performance to maximize LEED energy points. These options include a high performance variable air volume system, or a combination/hybrid geothermal system.

In a hybrid approach, geothermal water-to-water heat pumps can be used in conjunction with chillers and boilers to generate chilled water and heating water in a 2-pipe central plant system (e.g. VAV) application.

#### Energy Conservation

State of art energy conserving systems will be utilized to the fullest extent possible. An energy efficient system is developed by implementing energy efficient equipment (chillers, condensing boilers, etc), premium efficiency motors maximizing the use of variable speed drives, use of heat recovery devices (reuse waste heat), use of energy

conserving automatic control strategies, etc. This is all used in conjunction with custom engineered energy conserving design solutions.

Additionally, at the early stage of design, the building will be modeled from an energy standpoint comparing different thermal massing and all other building envelope components (walls, windows, roofs) to determine the most cost effective, energy conserving combination of materials types.

Once the system types have been selected, incorporating the mechanical equipment spaces into the building layout is a critical next step. In concert with the building architecture, strategically integrating equipment into the building so it is centrally located to the areas they serve can significantly reduce pressure (hydronic and air systems) requirements and reduce associated operating horsepower.

The systems will be designed to exceed current ASHRAE 90.1-2010 requirements and incorporate many features described in ASHRAE Standard 189 Standard for the Design of High Performance Green Buildings and ASHRAE's Advanced Energy Design Guide for K-12 School Buildings (achieving 30% energy savings towards a net zero energy building).

## 2-PIPE CENTRAL PLANT VAV ALTERNATIVE

### Two-Pipe Heating/Cooling/Cooling Plant

#### Heating System

The proposed heating system is hot water. The building will be heated by means of a hot water circulating system servicing hot water heating coils located in air handling units, variable volume room terminal units, baseboard radiation, unit heaters, and convectors.

Base-mounted end suction distribution system centrifugal pumps, located in the aforementioned mechanical space, will circulate the required quantities of hot water, by piping systems, to air handling and room terminal unit coils and miscellaneous heating units. A redundant circulating pump will serve as a back-up to the secondary circulating pump.

The heating water loop will be variable flow and will provide the necessary low temperature (120°F) hot water to air handling unit coils, unit heaters, terminal units, baseboard radiation, and miscellaneous heating units. The heating water pump will utilize a variable frequency drive to vary pump speed based on the system's differential pressure. The heating water loop supply temperature will be reset based on outside air temperature. Constant hot water circulation by means of circulating pumps will provide the necessary freeze protection of preheat coils. A redundant circulating pump will serve as a back-up to the lead circulating pumps. Centrifugal type in-line pumps will service preheat coils.



Heating water pumps will be trimmed with flexible connectors, suction diffusers (strainer for in-line pumps), multipurpose valves, isolation valves, pressure gauges and flow meters.

Generation equipment will include four (4) high efficiency condensing type hot water boilers (AERCO Benchmark, Viesman, Cleaver Brooks, Clearfire) sized equally for the total heating capacity. These boilers will be located in the boiler room.

Water expansion and air removal devices will be provided in the primary heating water system. Water pressure regulators located downstream of backflow preventers will provide the make-up water requirements.

Chemical treatment systems will be provided for the hot water circulating system.

Hot water heating system piping will be Schedule 40 Black Steel and insulated in accordance with ASHRAE Standards.

#### Cooling Systems

The building will be cooled by means of a central chiller plant with chilled water circulating system serving chilled water coils located in air handling units.

Chilled water will be generated by a single high efficiency, air (scroll) or water (centrifugal) cooled chiller. The chiller will use an environmentally safe refrigerant in accordance with The Clean Air Act.

Base-mounted end suction centrifugal pumps, located in the mechanical room, will circulate the required quantities of chilled water, by piping systems to air handling unit and/or fan coil unit cooling coils. A redundant circulating pump will serve as a back-up to the primary circulating pump. The chilled water pump shall utilize a variable speed drive and the chilled water plant will operate as a variable primary flow system. A differential pressure bypass shall maintain minimum chilled water flow.

The size of the chiller will be selected to precisely and efficiently track the building load based on hour-by-hour building load requirements.

Base-mounted end suction centrifugal pumps for chilled water and condenser water will be located in the mechanical equipment room.

Chilled water will be trimmed with flexible connectors, suction diffusers, multipurpose valves, isolation valves, pressure gauges, and flow meters.

Water expansion and air removal devices will be provided in the chilled water system. Water pressure regulators located downstream of backflow preventers will provide the make-up water requirements for each system.

Independent chemical treatment systems will be provided for the chilled water and condenser systems.

Chilled water piping shall be welded Schedule 40 Black Steel and will be insulated in accordance with ASHRAE Requirements.

The chiller system (i.e., mechanical cooling) shall operate whenever outside air temperatures are above 55°F.

#### Air Distribution Systems

Multiple air handling units will provide the necessary ventilation and supply air to maintain the desired environmental conditions and make-up air requirements. Minimum ventilation air rates will be determined by the requirements set forth by the current ASHRAE Standard 62.

All air handling unit systems will be provided with 100% outside air economizer cycles. All air-moving equipment and ductwork will be installed in accordance with requirements of SMACNA and ASHRAE.

Multiple air handling units will be provided and will serve classroom areas, office/administration suite, gymnasium, cafeteria, and media center. Direct expansion cooling systems will be provided for 12-month occupancy areas (i.e., office/administration suite). These air handling unit zones will be coordinated with the FCPS Division of Operations department and defined during the design phase.

The proposed air handling unit(s) will be single zone, variable air volume, medium pressure air handling unit(s) with airfoil supply fan, airfoil return fan, economizer section, mixing box, filter section with 30% prefilters and 65% final filters (differential pressure gauge across each filter bank), hot water preheat coil with circulating pump, and chilled water cooling coil. The supply and return fan will be provided with a variable flow controller (i.e., variable speed drive). The proposed air handling units will be strategically located within penthouses.

To enhance efficiency, heat recovery devices and/or units will be utilized to reuse waste heat to precondition all the outdoor air.

The air handling units will distribute supply air (55°F) to room terminal units through a medium pressure round/flat oval duct system. Each classroom will be provided with a room terminal unit for independent control. The proposed room terminal unit is a standard variable air volume terminal control unit with hot water heating coil which will vary the amount of conditioned primary air to the space from the air handling unit.

Low pressure rectangular ductwork located at the outlet of room terminal units will serve ceiling supply diffusers.

A return air fan equipped with a variable speed control will draw return air through a hard-ducted return air system connected to room return air registers.



*Rock Creek School will create pervasive opportunities for communication which are integrated throughout the school day.*



## **APPENDIX C: EDUCATIONAL SPECIFICATIONS AND PROGRAM SPACE SUMMARY**

The following is an excerpt from the Rock Creek School educational specifications and program space summary approved by the Board of Education of Frederick County in November 2015.

### **STRIVING FOR EXCELLENCE AT ROCK CREEK SCHOOL AND COMMUNITY**

Consistent with the goals of Frederick County Public Schools, the Rock Creek School is at the center of the community it serves. Rock Creek School endeavors to provide resources to students and families in a positive and supportive environment, enabling each student to achieve his/her potential. In addition to the mission and goals established by both Frederick County Public Schools and Rock Creek School, the steering committee and educational specifications team identified the following eight guiding principles that are intended to provide a clear understanding of the vision and values that are to govern the design of the new facility.

#### **1. INCLUSIVE OPPORTUNITIES**

Provide purposeful inclusive opportunities for the meaningful engagement with age appropriate peers from other schools and the supporting communities.

Vital to authentic learning for Rock Creek School students are procedures, programs and activities that invite the inclusion of non-disabled peers, family members, and community partners to be a part of the life of the school, engaging in meaningful activities that foster independence and reflect experiences in the world outside school. Learning and supporting spaces must be planned for such inclusive opportunities and facilitate their operations and effectiveness.

Any effective learning environment attends to the basic needs of growing children and young adults. Physical needs such as nutrition, health and safety are

*Every place and space at Rock Creek must be considered a learning environment, designed to facilitate engagement of students in learning activities with the means necessary to communicate.*

no more important than the emotional and psychological need to be respected and valued as an individual and as a part of a community. These goals ensure that Rock Creek students have access to a full spectrum of authentic experiences and interactions with the world around them.

## **2. COMMUNICATION**

Create pervasive opportunities for communication which are integrated throughout the school day.

Learning at the Rock Creek School is not bound by time and place; for the Rock Creek student, learning is continuous, overlapping, integrated and diverse. Whether in a classroom, a corridor or a playground, educators find learning opportunities everywhere. Communication is the medium for teaching and learning; it is the avenue to independence and self-expression. For Rock Creek students, the means and modes of communication are individualized and extremely varied, typically requiring assistive communication devices. Therefore, to be effective, the Rock Creek School must be planned to accommodate and create pervasive, multi-modal opportunities for communication.

Every place and space at Rock Creek School must be considered a learning environment, designed to facilitate engagement of students in learning activities with the means necessary to communicate. For example, a bulletin board in a corridor or a window with a view to a bird feeder is an opportunity for engagement as long as the means exist for students to interact and respond with each other and with staff. Communication tools and devices run the gamut from low-tech items created by teachers (symbols and signs) to light-tech and high-tech instruments, tablets and computers which require power and which may travel with the student throughout the school.

Therefore, places and spaces throughout the school (not just in the classrooms) must accommodate the use and storage of such tools and devices, offering flexible and efficient means to change and adapt to individual student communication capabilities. In addition, educators require the space and the resources necessary to produce, catalog and store the low-tech tools that they are constantly creating and adapting to facilitate individualized communications for their students.

## **3. STUDENT ENGAGEMENT**

Maximize student engagement in daily life via opportunities for self-expression and individual choice.

Making individual choices in daily life at Rock Creek School is a critical way for student voices to be heard in expressions of individuality and the exercise of independence. It follows that options are the key to providing choices, such as choices among learning activities, lunch menu items or how to spend unstructured time. Consistent with approaches to supporting communication, offering options for student choice should be present and flexible, providing degrees of adaptability to foster progressive independence. For example,



*Rock Creek School  
will maximize student  
engagement in daily  
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for self-expression and  
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restrooms may offer both typical and highly assistive fixtures so that students may choose among options based on their current, individual readiness and capability.

The means to convey an expression or exercise a choice lies in the capacity to communicate, in many ways and in every corner of the school inside and out. Means and methods of communications, supported by technology, need to be present at every opportunity for a voice to be heard and for individuality to be expressed.

**4. MOVEMENT**

Support freedom of movement and ease of movement at all capacities and age groups – within personal space and throughout public space.

Ease and freedom of movement are profound expressions of individual independence and mastery over one's environment. The manner of movement and the context within which students at Rock Creek School can exercise freedom of movement are as varied as the students. For some students, independent movement is severely limited by virtue of individual circumstances. For all students, the ability to move without assistance should be encouraged. Whether exploring the narrow boundaries of one's personal space, navigating the corridors of the school, or meandering a garden path, safe movement must be encouraged, supported and developed.

Most of the students at Rock Creek School require assistance in order to move around effectively and safely, and the degree of assistance can range from remote monitoring to direct assistance by an adult walking alongside or pushing a wheelchair. The need for adult support and the preponderance of adapted equipment to facilitate ease and freedom of movement makes demands on space, both in the dimension of pathways and in storage along the path; and on technology, both physical and electronic. Students, teachers and staff need a variety of accommodations to support movement, and those accommodations may change for a student as they move from place-to-place. Therefore, planning should anticipate ease of access and storage throughout the facility for the equipment, technology and people who are necessary to develop and expand mobility for Rock Creek School students.

**5. SENSORY**

Provide a multi-sensory, flexible environment that offers students individual control of, and access, to a full spectrum of sensory engagement in learning.

Rock Creek School students need multi-sensory, self-regulated experiences for learning success and to fully access their environment. This can require the integration of all senses in the learning experience at various times to support optimum engagement, perception and communication. By providing easy access and availability of multiple sensory options, a student can significantly expand the possibilities for individualized learning. Opportunities for sensory engagement should be present, and both generalized and specialized.



*One of the goals in the education of Rock Creek students is to maximize student independence in the school and in the world beyond.*

Tools, space and the resources to routinely engage the senses must be conveniently available in every classroom; specialized spaces devoted to sensory learning should exist both inside and outside the school; the planning and design of every space should be considered as opportunities to create a rich and expansive multi-sensory experience for every user.

The ability to control and limit sensory stimuli should also be available throughout the facility. Students vary dramatically in their level of sensitivity to a variety of outside factors including heat, cold, light and sound. The environment should allow both the provision for sensory experiences in optimum ways to engage in education and the ability to limit outside stimuli when needed to maximize success.

## **6. INDEPENDENCE**

Foster maximum independence in authentic activities of daily living, in vocational opportunities and in education.

One of the goals in the education of Rock Creek School students is to maximize student independence in the school and in the world beyond. Students must have access to spaces and learning experiences that are authentic, offering a familiar FCPS school environment, while supporting activities reflecting the world beyond the school. To accommodate such experiences, planning should anticipate and facilitate the progressive development of student capabilities from less to more independence.

As in the consideration of movement and choice, space planning for independence must support variety and flexibility, providing options for the ways in which students may engage the people and things around them. For example, experiences related to lunch may reflect the real world circumstances of dining at home or a restaurant; or of being served or serving. Experiences of engagement in authentic life circumstances across the spectrum of individual capabilities prepare Rock Creek School students for a life of maximum independence.



*Rock Creek School  
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a flexible, adaptable  
learning environment.*



## **7. RESPONSIVE**

Accommodate individual learner abilities and needs via a flexible, adaptable learning environment.

Rock Creek School provides highly individualized educational programs to students with considerably diverse needs and abilities. Faculty and staff are experts at responding to these variables; innovating and adapting their teaching and care as needed, semester-to-semester, moment-to-moment and student-by-student. The result is a great variety in the kinds of learning activities that take place.

Effectiveness of spaces in the school, even classrooms, is not measured by the familiar definitions of a functional category, but rather by their capacity to support the variety of learning activities that occur. Sometimes these activities are not predetermined, but rather the result of innovation and adaptation by faculty and staff. The educators and the students need facilities with infrastructure, technology, spaces and furnishings that are flexible and easily adapted in varieties of ways, day-to-day, in response to individual student needs.

History has shown that the population of students at Rock Creek School will likely change to some degree over time. Therefore, consideration of flexibility and adaptability applies not only to activities within individual classrooms, but also to the possible change in the student population of a classroom one year to the next. Design must anticipate and facilitate the spectrum of needs for a changing special education population at Rock Creek School.

*A culture of  
collaboration and  
innovation exists at  
Rock Creek School.*

**8. CONTINUOUS LEARNING**

Support continuous improvement in teaching and learning via provisions for professional development, family support and collaboration.

A culture of collaboration and innovation exists at Rock Creek School. This culture must be supported by planning and design that catalyzes continuous improvement in teaching and learning. Technology and the science of learning are fueling continuous evolution and change in education. These factors impact special education given the potential of assistive technology and the need for innovative approaches to individualized instruction. Faculty and staff must have convenient access to advances in technology and an ever expanding body of knowledge, with the means to assimilate that knowledge and share it among themselves.

For families, the ability to communicate between home and school is particularly important in the development of a program geared toward special education. Families and other supportive partners need access to the latest information, technology and resources that can help them reinforce and build on the learning taking place within the school day.

Such access requires spaces for professional learning and collaborative exploration outside the classroom where faculty and staff can perform research; connect with a worldwide special education community; explore and master developments in technology; and develop, refine and test their own innovations and discoveries. In addition to spaces dedicated to supporting staff, spaces must also be provided in a way that supports families and the ability for teacher and family communication and training.



# ROCK CREEK SPACE SUMMARY

ROCK CREEK CENTER - 120 capacity with future addition for 40 more

STAFF	ROOM/SPACE	TEACHING STATIONS	NUMBER EACH	SF EACH	SUBTOTAL	SF TALLY	TS FTE	SE FTE
<b>ADMINISTRATION</b>								
<b>ADMINISTRATION</b>						1,460		
1	GENERAL-RECEPTION		1	400	400			
	LARGE CONFERENCE		1	350	350			
	WORKROOM / MAILROOM		1	150	150			
1	SECRETARY AND SECURE STORAGE		1	150	150			
1	PRINCIPAL		1	180	180			
	ADMIN. TOILET		1	60	60			
	COAT CLOSET		1	20	20			
1	ASSISTANT PRINCIPAL		1	150	150			
<b>PROFESSIONAL SUPPORT</b>						1,340		
	PROFESSIONAL LEARNING ROOM/PLANNING		1	800	800			
	TEACHER SITTING AREA		1	100	100			
	TEACHER LOUNGE PANTRY/STORAGE		1	20	20			
	TEACHER LOUNGE		1	300	300			
	TEACHER LOUNGE TOILET		2	60	120			
<b>STUDENT SERVICES</b>								
<b>HEALTH SUITE</b>						900		
1	WAITING AREA AND REST AREAS		1	500	500			
1	NURSE'S OFFICE		1	200	200			
	STORAGE		1	30	30			
	STUDENT TOILET - LARGE		1	150	150			
	COAT CLOSET		1	20	20			

## ROCK CREEK SPACE SUMMARY (CONTINUED)

STAFF	ROOM/SPACE	TEACHING STATIONS	NUMBER EACH	SF EACH	SUBTOTAL	SF TALLY	TS FTE	SE FTE
<b>SUPPORT SERVICES</b>						<b>3600</b>		
1	SOCIAL WORKER / GUIDANCE OFFICE		1	150	150			
	STORAGE		1	60	60			
	RESOURCE ROOM		1	600	600			
1	RESOURCE ROOM OFFICE		1	100	100			
	MULTI-PURPOSE MEETING ROOM		1	250	250			
	MOVEMENT ROOM (SOFT PLAY AREA)		1	800	800			
	SENSORY ROOM		1	300	300			
	HEARING & VISION SPECIALIST		1	180	180			
4	OT/PT OFFICE & STORAGE		1	800	800			
	STAFF TOILET		2	60	120			
	PERSONAL CARE SUITE		2	120	240			
<b>STUDENT SERVICES</b>						<b>80</b>		
	SCHOOL STORE & STORAGE		1	80	80			
<b>TEACHING CLUSTERS</b>								
<b>CLUSTER A</b>						<b>8,355</b>		
25	CLASSROOM & TOILET	5	5	1200	6000			50
	CLASSROOM STORAGE		5	150	750			
	SHARED LEARNING AREA		1	1200	1200			
	CLUSTER STORAGE		1	200	200			
	SECLUSION ROOM		1	25	25			
1	SPEECH LANGUAGE PATHOLOGIST OFFICE/STOR.		1	180	180			
<b>CLUSTER B</b>						<b>8,355</b>		
25	CLASSROOM & TOILET	5	5	1200	6000			50
	CLASSROOM STORAGE		5	150	750			
	SHARED LEARNING AREA		1	1200	1200			
	CLUSTER STORAGE		1	200	200			
	SECLUSION ROOM		1	25	25			
1	SPEECH LANGUAGE PATHOLOGIST OFFICE/STORAGE		1	180	180			



## ROCK CREEK SPACE SUMMARY (CONTINUED)

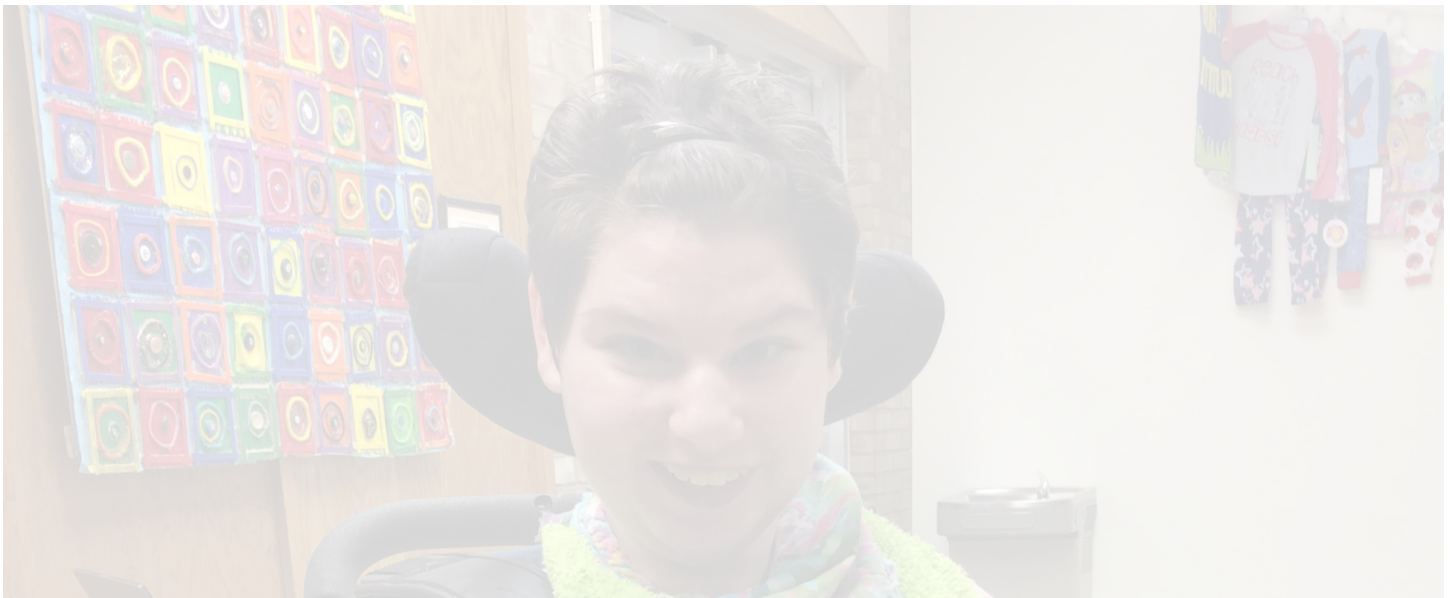
STAFF	ROOM/SPACE	TEACHING STATIONS	NUMBER EACH	SF EACH	SUBTOTAL	SF TALLY	TS FTE	SE FTE
<b>CLUSTER C</b>						<b>9,066</b>		
25	CLASSROOM & TOILET	5	5	1200	6000			50
	CLASSROOM STORAGE		5	150	750			
	SHARED LEARNING AREA		1	1200	1200			
	CLUSTER STORAGE		1	200	200			
	SECLUSION ROOM		1	36	36			
	INSTRUCTIONAL KITCHEN/LIVING AREA		1	400	400			
	DAILY LIVING SUITE		1	200	200			
	DAILY LIVING SUITE STORAGE		1	100	100			
1	SPEECH LANGUAGE PATHOLOGIST OFFICE/STORAGE		1	180	180			
<b>EDUCATIONAL SUPPORT</b>								
<b>LEARNING LABS</b>						<b>2,600</b>		
1	VOCATIONAL TRAINING LAB & TOILET		1	1200	1200			
	TECHNOLOGY LAB & TOILET		1	1100	1100			
	LEARNING LAB STORAGE		2	150	300			
<b>FINE ARTS</b>						<b>2,400</b>		
1	MAKER LAB & TOILET		1	1000	1000			
	MAKER LAB STORAGE / KILN		1	200	200			
1	MUSIC AND MOVEMENT ROOM & TOILET		1	1000	1000			
	MUSIC STORAGE		1	200	200			
<b>MEDIA AND INFORMATION</b>						<b>1,675</b>		
1	OFFICE / WORKROOM		1	175	175			
	OPEN RESOURCE AREA		1	1200	1200			
	STORAGE		1	150	150			
	TV STATION / LAB		1	150	150			





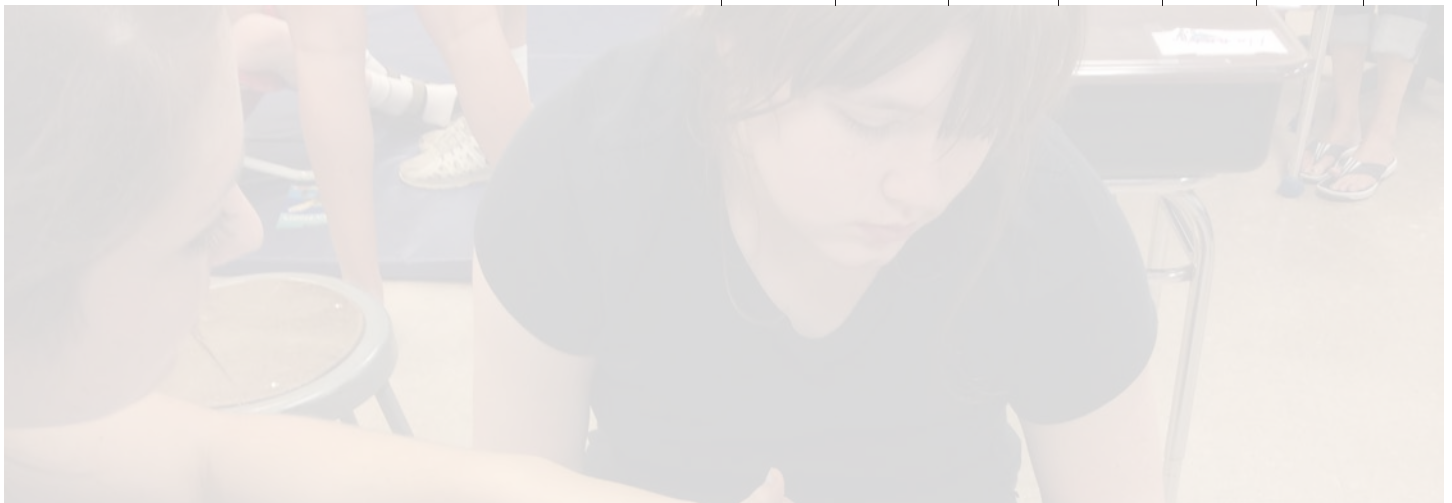
## ROCK CREEK SPACE SUMMARY (CONTINUED)

STAFF	ROOM/SPACE	TEACHING STATIONS	NUMBER EACH	SF EACH	SUBTOTAL	SF TALLY	TS FTE	SE FTE
<b>PHYSICAL EDUCATION</b>								
<b>GYMNASIUM</b>						5,965		
1	GYMNASIUM		1	4800	4800			
	GYMNASIUM INDOOR STORAGE		1	500	500			
	GYMNASIUM OUTDOOR STORAGE		1	250	250		1,472	
	TOILET ROOM		2	100	200			
	PE OFFICE		1	125	125			
	PE OFFICE LOCKERS/TOILET		1	90	90			
<b>AQUATIC THERAPY</b>						3,750		
3	THERAPY POOL		1	900	900			
	POOL DECK & CHANGING		1	1500	1500			
	LOCKER ROOMS		2	500	1000			
	STORAGE & LAUNDRY		1	350	350			
<b>PUBLIC COMMONS</b>								
<b>SOCIAL AREA</b>						4,900		
	DINING		1	3000	3000			
	COMMONS		1	800	800			
	STAGE		1	800	800			
	CHAIR STORAGE		1	100	100			
	TABLE STORAGE		1	200	200			
<b>NUTRITION SERVICES</b>						1,510		
2	KITCHEN/SERVING		1	900	900			
	DISHWASHING AREA		1	150	150			
	DRY FOOD STORAGE		1	150	150			
	NON-FOOD STORAGE		1	50	50			
	OFFICE		1	80	80			
	LOCKER / TOILET		1	120	120			
	RECEIVING		1	60	60			



## ROCK CREEK SPACE SUMMARY (CONTINUED)

STAFF	ROOM/SPACE	TEACHING STATIONS	NUMBER EACH	SF EACH	SUBTOTAL	SF TALLY	TS FTE	SE FTE
<b>BUILDING SERVICES</b>								
						1,975		
4	OPERATIONS STORAGE		1	300	300			
	OPERATIONS OFFICE		1	150	150			
	LOCKER ROOM/SHOWER/TOILET (WOMEN)		1	90	90			
	LOCKER ROOM/SHOWER/TOILET (MEN)		1	90	90			
1	CUSTODIAL CLOSETS		6	50	300			
	OPERATIONS OUTDOOR STORAGE		1	350	350			
	MAINTENANCE OFFICE		1	120	120			
	MAINTENANCE STORAGE		1	400	400			
	MAIN DISTRIBUTION FRAME ROOM		1	175	175			
<b>OUTDOOR SPACE</b>								
						0		
	PLAY FIELD		1		NA			
	PLAY AREA - SOFT WITH STRUCTURE		2		NA			
	PLAY AREA - HARD		3		NA			
	SECURE WALKING PATHWAYS		2		NA			
<b>CO-LOCATED EDUCATIONAL SERVICES</b>								
<b>SHARED RESOURCES</b>						1,220		
	SMALL CONFERENCE ROOM		1	250	250			
	LARGE CONFERENCE ROOM		1	350	350			
	TOILET ROOMS		2	60	120			
	STAFF TOILET ROOM		2	150	300			
	LOBBY		1	200	200			
<b>CHILD FIND</b>						2,680		
1	SUPERVISOR		1	150	150			
12	OFFICE SUITE		1	1250	1250			
	ASSESSMENT ROOMS		2	150	300			
	ASSESSMENT ROOM STORAGE CLOSET		2	30	60			
	ASSESSMENT ROOM OBSERVATION		2	50	100			
	CONFERENCE ROOM		1	250	250			
	WAITING AREA		1	150	150			
	MATERIAL STORAGE		1	200	200			
	SECURE STORAGE		1	100	100			
	TOILET ROOMS		2	60	120			



## ROCK CREEK SPACE SUMMARY (CONTINUED)

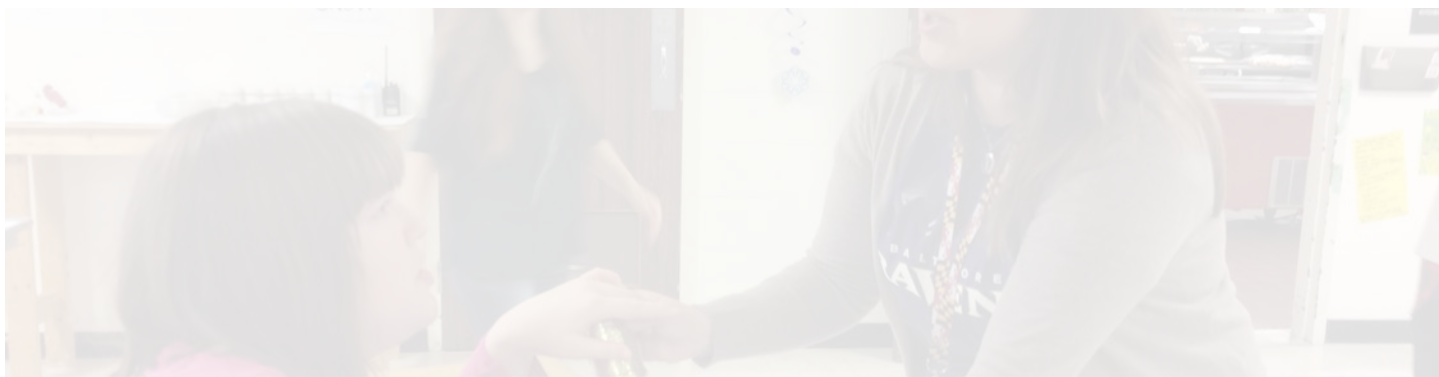
STAFF	ROOM/SPACE	TEACHING STATIONS	NUMBER EACH	SF EACH	SUBTOTAL	SF TALLY	TS FTE	SE FTE
<b>PSYCHOLOGY SERVICES</b>						800		
7	OFFICE SUITE		1	800	800			
<b>AUGMENTATIVE COMMUNICATION TECHNOLOGY TEAM (ACTT)</b>						1,300		
10	OFFICE SUITE		1	900	900			
	WORKROOM/STORAGE		1	400	400			
<b>PARTNERS FOR SUCCESS</b>						320		
1	OFFICE		1	200	200			
	WORKROOM/STORAGE		1	120	120			
<b>GREENHOUSE (ADD ALTERNATE)</b>								
<b>GREENHOUSE</b>						800		
	GREENHOUSE AND STORAGE		1	800	800			
<b>FUTURE CAPACITY (ADD ALTERNATE)</b>								
<b>CLUSTER D: ADDS 40 PROGRAM STUDENT CAPACITY</b>						8,415		
25	CLASSROOM & TOILET	5	5	1200	6000			50
	CLASSROOM STORAGE		5	150	750			
	SHARED LEARNING AREA		1	1200	1200			
	CLUSTER STORAGE		1	200	200			
	SECLUSION ROOM		1	25	25			
	STAFF TOILET		1	60	60			
1	SPEECH LANGUAGE PATHOLOGIST OFFICE/STORAGE		1	180	180			
<b>ALTERNATIVE SPECIALIZED PROGRAM (ADD ALTERNATE)</b>								
<b>ALTERNATE SPECIALIZED PROGRAM</b>						3,086		
	CLASSROOMS		3	800	2400			
	SENSORY ROOM		1	250	250			
	SECLUSION ROOM		1	36	36			
	CONFERENCE ROOM		1	250	250			
	WORKROOM		1	150	150			
<b>PARKS AND RECREATION (ADD ALTERNATE)</b>								
<b>PARKS AND RECREATION</b>						4,452		
	RECREATION CENTER ACTIVITIES ROOM		1	1400	1400			
	RECREATION CENTER STORAGE		1	400	400			
	RECREATION CENTER OFFICE		1	120	120			
	RECREATION CENTER TOILET ROOM		2	150	300			
	FAMILY TOILET ROOM		1	60	60			
	RECREATION INCREASED GYM		1	2172	2172			





## ROCK CREEK SPACE SUMMARY (CONTINUED)

Total Teaching Stations	15	
Program Rated Capacity	120	
Future Program Capacity	40	
<i>BASE BID:</i>		
Net Square Footage- RCS Programs		57,931
Gross Square Footage- RCS Programs		81,103
Net Square Footage- Co-located Programs		6,320
Gross Square Footage- Co-located Programs		8,848
SUBTOTAL OF BASE BID BUILDING (includes RCS programs and co-located programs)		89,951
<i>ALTERNATES:</i>		
Net square footage- Greenhouse		800
Gross Square Footage- Greenhouse		1,120
Net square footage- Parks & Rec Addition		4,452
Gross Square Footage- Parks & Rec Addition		6,233
Net Square Footage - Future capacity		8,415
Gross Square Footage- Future capacity		11,781
Net Square Footage- Alternative Ed Program		3,086
Gross Square Footage- Alternative Ed Program		4,320
TOTAL GROSS AREA (INCLUDES ALL ALTERNATES AND CO-LOCATED PROGRAMS)		113,406
*Efficiency Factor (Multiplier)		1.4



## **APPENDIX D: COMMUNITY ENGAGEMENT**

The feasibility study team periodically met with the Rock Creek School community to review the process of the feasibility study. They also used meetings as opportunities to share progress made by the feasibility study team and to gain valuable feedback from the community. The following content was generated as a result of multiple community engagement opportunities throughout the feasibility study process. Referenced content in this appendix includes the following:

- Flyers for community and Rock Creek School parent meetings
- Email communications advertising meetings
- Handouts provided at meetings
- A sampling of comments and feedback provided by the community

# PBIS CARE AWARDS

Communication ★ Affective Listening ★ Respect & Responsibility ★ Effort

**Thursday, April 14, 2016**

**@ 1:30pm**



Immediately Following Care Awards,  
Please attend our...

## FEASIBILITY STUDY UPDATE

**@ 2:30pm**

Beth Pasierb, Supervisor of Facilities Planning, will present the status of the Rock Creek Feasibility study and the renovation options under consideration by the Feasibility Study team. Come hear about the study and comment on the study options at Rock Creek School, immediately following the CARE Awards. We want to know which renovation options you support!



**Subject:** FW: FCPS Seeks Feedback on RCS Options

**From:** FCPS\_FindOutFirst [[mailto:FCPS\\_FindOutFirst@ezcommunicator.com](mailto:FCPS_FindOutFirst@ezcommunicator.com)]

**Sent:** Monday, April 11, 2016 5:09 PM

**To:** Nelson,Dian M

**Subject:** FCPS Seeks Feedback on RCS Options

View This Email Online In - [Chinese Simplified](#), [English](#), [French](#), [Myanmar \(Burmese\)](#), [Spanish](#), [Urdu](#), [Vietnamese](#)

FCPS seeks feedback about three potential options that the Rock Creek School Feasibility Study Team has drafted.

FCPS Facilities Planning Supervisor Beth Pasierb and consultants Grimm and Parker will present the status of the Rock Creek Feasibility Study and the options that the team is considering at two public meetings:

\*The first is **Thursday, April 14, 2:30 p.m. at the Rock Creek School**, 191 Waverley Drive, Frederick.

\*The second is **Tuesday, April 19, 6:30 p.m. in the FCPS Central Office Board of Education meeting room** at 191 S. East Street, Frederick.

Ms. Pasierb will present the same information at each meeting.

The three draft options are to

- 1) renovate and add on to the existing Rock Creek School
- 2) replace the current school on its existing site
- 3) replace the Rock Creek School on another FCPS school campus

Among possible FCPS locations that may be considered if the third option is recommended are Ballenger Creek Middle, the future Butterfly Ridge Elementary, Governor Thomas Johnson Middle, the campus of Monocacy Elementary and Middle or Valley Elementary. If recommending the third option in its final report, the team would include in its recommendation that further study is required to determine the best site. The team expects to present its report to the Board of Education this summer.

FCPS has posted minutes and videos of the study team meetings at [www.fcps.org/facilities/Rock-Creek-School.cfm](http://www.fcps.org/facilities/Rock-Creek-School.cfm).

In addition to attending the meetings, the public is invited to provide feedback to FCPS via email: [RockCreekStudy@fcps.org](mailto:RockCreekStudy@fcps.org).

**Subject:** FW: FCPS Seeks Feedback about Rock Creek School Options

**Importance:** High

**COMMUNICATION SERVICES**

191 South East Street  
Frederick, MD 21701  
301-696-6900 phone  
301-696-6958 fax  
[www.fcps.org](http://www.fcps.org)



## NEWS RELEASE

### **FCPS Seeks Feedback about Rock Creek School Options** *Feasibility Study Team Drafts 3 Options*

**April 11, 2016** Frederick County Public Schools seeks feedback about three potential options that the Rock Creek School Feasibility Study Team has drafted. FCPS Facilities Planning Supervisor Beth Pasierb and consultants Grimm and Parker will present the status of the Rock Creek Feasibility Study and the options that the team is considering at two public meetings. The first is Thursday, April 14, 2:30 p.m. at the Rock Creek School, 191 Waverley Drive, Frederick. The second is Tuesday, April 19, 6:30 p.m. in the FCPS Central Office Board of Education meeting room at 191 S. East Street, Frederick. Pasierb will present the same information at each meeting.

The three draft options are to renovate and add on to the existing Rock Creek School, to replace the current school on its existing site, or to replace the Rock Creek School on another FCPS school campus. Among possible FCPS locations that may be considered if the third option is recommended are Ballenger Creek Middle, the future Butterfly Ridge Elementary, Governor Thomas Johnson Middle, the campus of Monocacy Elementary and Middle or Valley Elementary. If recommending the third option in its final report, the team would include in its recommendation that further study is required to determine the best site. The team expects to present its report to the Board of Education this summer.

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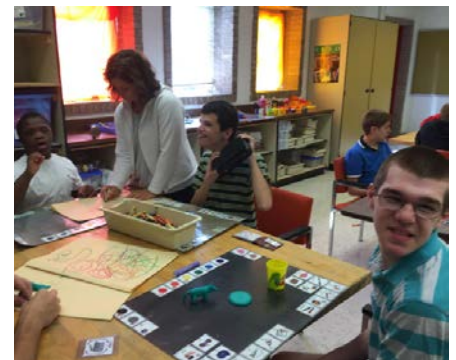
In addition to attending the meetings, the public is invited to provide feedback to FCPS via email:  
[RockCreekStudy@fcps.org](mailto:RockCreekStudy@fcps.org).

# # #

Media Reps: For additional information, please contact  
FCPS Supervisor of Facilities Planning at  
[Beth.Pasierb@fcps.org](mailto:Beth.Pasierb@fcps.org)  
301-644-5025



# Rock Creek School Feasibility Study



## Overview

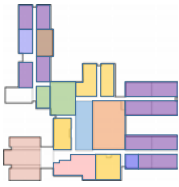
The Rock Creek School feasibility study represents the second of two phases of a comprehensive plan to envision and develop a new Rock Creek School that best meets the needs of Frederick County's most unique student population. The first phase produced the educational specifications which established facility design goals and requirements, while the second phase is a feasibility study to determine the optimal strategy to satisfy the specifications.

The purpose of the feasibility study is to determine the viability of various options in creating a new Rock Creek School that meets the goals and requirements established for the project. This study includes evaluation of the physical condition of the existing building and surrounding site, and analyzes the value and limitations these conditions impose upon the various approaches to this modernization project. Modernization options were developed to consider options for renovations, renovations including additions to the existing building as well as exploration of new construction both on the current site and other select sites in Frederick County.



## Modernization Options:

The consultant team examined four categories of design options during the feasibility study process, to explore a full spectrum of interventions both on the current site and alternate sites in the surrounding community. The exploration included options for renovation of the existing building; modernization of the existing building with additions; a new replacement school on-site, and a new replacement school off-site. Below is a brief description of each approach:



### Renovation:

Renovation of the existing Rock Creek School, with no space added to the building. The building would remain occupied during phases of the renovation.



### Renovation and Addition:

Renovation of the existing Rock Creek School, along with new additions to enlarge the building area to meet spatial requirements of the educational specifications. The building would remain occupied during phases of the renovation and new additions.



### Replacement On-Site:

New building on the existing Rock Creek School/ Waverly ES site that meets all spatial requirements of the educational specifications. The existing Rock Creek School would remain occupied during new construction, and would be demolished after completion.



### Replacement Off-Site:

New building on selected alternate sites that meet all requirements of the educational specifications.

## Rock Creek is looking for your input

### Contact us:

[RockCreekStudy@FCPS.org](mailto:RockCreekStudy@FCPS.org)

Visit the project website for more information:



## SAMPLES OF COMMUNITY AND PARENT FEEDBACK

The following are a sampling of excerpts from community and parent feedback related to Option 1 (Modernization) and Option 2 (Modernization + Addition)

The renovation option ~~can~~ would not be possible because of the students severe medical concerns.

3-4 years of construction on our existing school would not be a safe option for our population.

Renovated Building seems unworkable

This building is old, the hallways & doorways are too small for many of the wheelchairs to easily navigate. Renovation while this building is occupied would be a health risk for the many immune compromised students. It would also be a safety risk to the students & workers due to the severe behaviors of some students.

## SAMPLES OF COMMUNITY AND PARENT FEEDBACK

The following are a sampling of excerpts from community and parent feedback related to Option 3 (New Replacement School On-Site)

Crowded site if built on current campus -  
unfair ~~for~~ to Waverley students

Building on this location would limit, if not completely  
eliminate expansion possibilities for Waverly Elementary  
that are so desperately needed.

② RES students do not handle disruptions well.  
- Addition also doesn't correct major  
problems like narrow hallways.  
- new on site - NOT enough room for everything



## SAMPLES OF COMMUNITY AND PARENT FEEDBACK

The following are a sampling of excerpts from community and parent feedback related to Option 4 (New Replacement School Off-Site)

1. The new school should be in a central location.
2. There should be at least 2 ways to enter & leave the school property.

A new building at a new location is necessary. It needs to be a safe and centralized location.

Must consider student travel time from all parts of the county.-Need central location

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