

OCTOBER 2013

FEASIBILITY STUDY
NORTH BETHESDA MIDDLE SCHOOL
ADDITION

Prepared for
Montgomery County Board of Education

By **SAMAHA ASSOCIATES, P.C.**



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I. INTRODUCTION

North Bethesda Middle School

Addition

8935 Bradmoor Drive
Bethesda, Maryland 20817

Montgomery County Board of Education

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Mr. Michael P. Shpur	Architect, Division of Construction
Mr. James R. Tokar	Project Manager, Division of Construction
Ms. Julie Morris	Facility Planner, Division of Long-range Planning

I. INTRODUCTION

INTRODUCTION

This feasibility study for the North Bethesda Middle School addition was conducted for Montgomery County Public Schools (MCPS) by the architectural firm of Samaha Associates, P.C. The existing school is located at 8935 Bradmoor Drive, Bethesda, Maryland 20817. Work was performed under the direction of the MCPS Department of Facilities Management, Division of Construction.

FEASIBILITY STUDY PARTICIPANTS

The Feasibility Study participants reviewed the design concepts for the addition at North Bethesda Middle School. Meetings occurred on the following dates:

February 7, 2013

February 21, 2013

March 5, 2013

March 21, 2013

PTA / Community Presentation: April 10, 2013

The proposed designs are a result of the recommendations, suggestions and guidance during the feasibility study process.

Membership

Mr. Alton E. Sumner	Principal	North Bethesda Middle School
Mr. Seth Adams	Assistant to the Director	Division of Construction - MCPS
Ms. Susan Ahearn-Pierce	Staff	North Bethesda Middle School
Ms. Morgan Arnone	Staff	North Bethesda Middle School
Ms. Cliber Brewer	Staff	North Bethesda Middle School
Ms. Heather Cameron	Staff	North Bethesda Middle School
Ms. Annette Chandle	Staff	North Bethesda Middle School
Mr. Clifford Cooper	Staff	North Bethesda Middle School
Ms. Jennifer Cope	Parent	North Bethesda Middle School
Mr. Omari Davis	Project Designer	Samaha Associates, PC
Mr. Ed Defabo	Community	North Bethesda Middle School
Ms. Fran Defabo	Community	North Bethesda Middle School
Ms. Rebekah Dunbar	Community	North Bethesda Middle School

I. INTRODUCTION

Mr. Paul Falkenbury	Architect	Samaha Associates, PC
Ms. Susannah Files	Community	North Bethesda Middle School
Mr. Sarah Hoffman	Staff	North Bethesda Middle School
Ms. Connnie Howard	Staff	North Bethesda Middle School
Ms. Julia Johnson	Staff	North Bethesda Middle School
Ms. Amanda Kaiser	Staff	North Bethesda Middle School
Mr. Teresa Kennedy	Staff	North Bethesda Middle School
Ms. Joyce Khouri	Staff	North Bethesda Middle School
Mr. Jim Kirkland	Community	North Bethesda Middle School
Mr. Eric Kling	Staff	North Bethesda Middle School
Ms. Stacey Kopnitsky	Assistant Principal	North Bethesda Middle School
Ms. Carolyn Korman	Staff	North Bethesda Middle School
Mr. Zach Larnard	Planner	Division of Long-range Planning - MCPS
Ms. Jennifer Lim	Staff	North Bethesda Middle School
Ms. Peggie Limehouse	Community	North Bethesda Middle School
Ms. Susan Martin	Staff	North Bethesda Middle School
Ms. Johanna Mills	Community	North Bethesda Middle School
Mr. Randy Morrison	Architect	Samaha Associates, PC
Ms. Tin Nwe	Staff	North Bethesda Middle School
Mr. Reginald Ott	Assistant Principal	North Bethesda Middle School
Ms. Nona Paoletti	Staff	North Bethesda Middle School
Mr. Gert Reise	Staff	North Bethesda Middle School
Ms. Emily Rueter	Staff	North Bethesda Middle School
Mr. Leo Schwartz	Community	North Bethesda Middle School
Mr. Jim Seal	Community	North Bethesda Middle School
Mr. Michael Shpur	Architect	Division of Construction - MCPS
Ms. Maria Stefanida	Staff	North Bethesda Middle School
Ms. Debbie Szyfer	Senior Planner	Division of Long-range Planning - MCPS
Mr. Eric Tn	Staff	North Bethesda Middle School
Mr. James Tokar	Project Manager	Division of Construction - MCPS
Ms. Trina Vogel	Staff	North Bethesda Middle School

II. EXECUTIVE SUMMARY

PURPOSE

The purpose of this feasibility study is to explore options that satisfy the educational specifications for an addition of 14 standard classrooms, two science laboratories, a special and alternative education suite, and an auxiliary gymnasium to the North Bethesda Middle School. In addition to these instructional areas, the study examines expanding the cafeteria and adding various support spaces bringing the school's capacity to 1,208 students. The specifications also provide for the addition of lockers and the reconfiguring of the existing physical education locker rooms. Each instructional area will have adequate learning space, work areas, restrooms, and storage.

HISTORY

The original North Bethesda Middle School was constructed in 1955. MCPS operated the school from this time until the school was later closed by the school system. There were two additions in 1959 and 1969. MCPS reopened the school in 1999, which was accompanied by a major modernization. There has been one addition since, in 2000. The existing two-story (four level) 130,461 square foot school sits on a 19.7 acres site with a capacity of 847 students.

METHODOLOGY

The site has been evaluated by a design team of architects, engineers, and consultants to determine the feasibility of building an addition to North Bethesda Middle School that meets the April 11, 2013 educational specifications and summary of space requirements.

The study is based upon input provided during four public work sessions and visual analysis of the existing site by the design team.

- There were 44 different attendees.
- There were five different building concept option refinements.
- There were four different site option refinements.

II. EXECUTIVE SUMMARY

OVERVIEW

The existing 130,461 square foot North Bethesda Middle School has a student capacity of 847. The building covers much of the southern half of the site. The student drop-off loop sits south of the main entrance and is flanked by visitor parking, staff parking, and the service area to the east. Additional staff parking is located to the west of the building on the south side of the site. Directly north of this lot are four tennis courts. The north portion of the site is completed with athletic fields and hard surface play courts abutting the north face of the building. Additionally, much of the far west side of the site exists in a 100-year floodplain. There are no structures in the floodplain. (Please refer to existing conditions survey, Appendix C.)

Three options are presented within and were developed with input from the Feasibility Study participants. All three options meet the instructional programmatic requirements for the middle school. Option 1 was the preferred option of the Feasibility Study members. Cost estimates were established for each option, and are presented in the description of options section of this report.

COMMON DESIGN ELEMENTS FOR EACH OPTION

COMMON SITE ELEMENTS

- The existing bus aisle is enlarged and modified to accommodate parking for 20 buses in a double chevron formation.
- The existing drop-off loop is enlarged and modified to allow a waiting lane and a separate circulation lane to avoid queuing of cars while parents wait for their children.
- The Pedestrian walk along the north side of the Johnson Avenue is improved. This walk continues along the east side of the school.
- An Additional pedestrian walk is added east of the primary staff and visitor parking lot in order to discourage pedestrians from “cutting” across the site.
- The primary staff and visitor parking lot is narrowed in order to gain space and maximize the outdoor student waiting area.
- A new retaining wall is added in order to facilitate the grade differences between the bus loading area and the primary staff and visitor parking lot.

II. EXECUTIVE SUMMARY

COMMON BUILDING ELEMENTS

- Cafeteria: Existing cafeteria is expanded.
- Secure entry: Main entrance is renovated to create a secure vestibule.
- School Store: New school store is incorporated in the cafeteria expansion.
- Locker rooms: Boys' and girls' locker rooms are reconfigured in order to maximize the amount of lockers provided.

II. EXECUTIVE SUMMARY

OPTION 1 (Preferred option)

Option 1 is a two-story, 46,716 square foot classroom addition across the rear of the existing school creating a courtyard. Plan circulation is a loop on both the first and second floors. This design impacts existing outdoor basketball courts behind the school—new basketball courts are located west of the new addition.

TOTAL COST: \$ 17,789,000

Legend

- Existing School
- Addition
- Relocatable classroom location(s)



II. EXECUTIVE SUMMARY

OPTION 2

Option 2 is a three story 45,481 square foot classroom addition along the west side of the existing school creating a courtyard. Two of the three levels matches the existing split level building. Plan circulation is a loop on both the first and second floors. Circulation on the middle and top levels is a loop, with ingress and egress on the lower level. The new auxiliary gym is placed just northwest of the existing main gym. This design impacts existing tennis courts—new tennis courts are located directly north of the addition.

TOTAL COST: \$ 16,956,000

Legend

- Existing School
- Addition
- Relocatable classroom location(s)



II. EXECUTIVE SUMMARY

OPTION 3

Option 3 is a two-story, 41,947 square foot classroom addition positioned partially across the rear of the existing school creating a courtyard. Plan circulation is a loop on the first floor only. This design impacts existing outdoor basketball courts behind the school—new basketball courts are located east of the new addition.

TOTAL COST: \$ 15,638,000

Legend

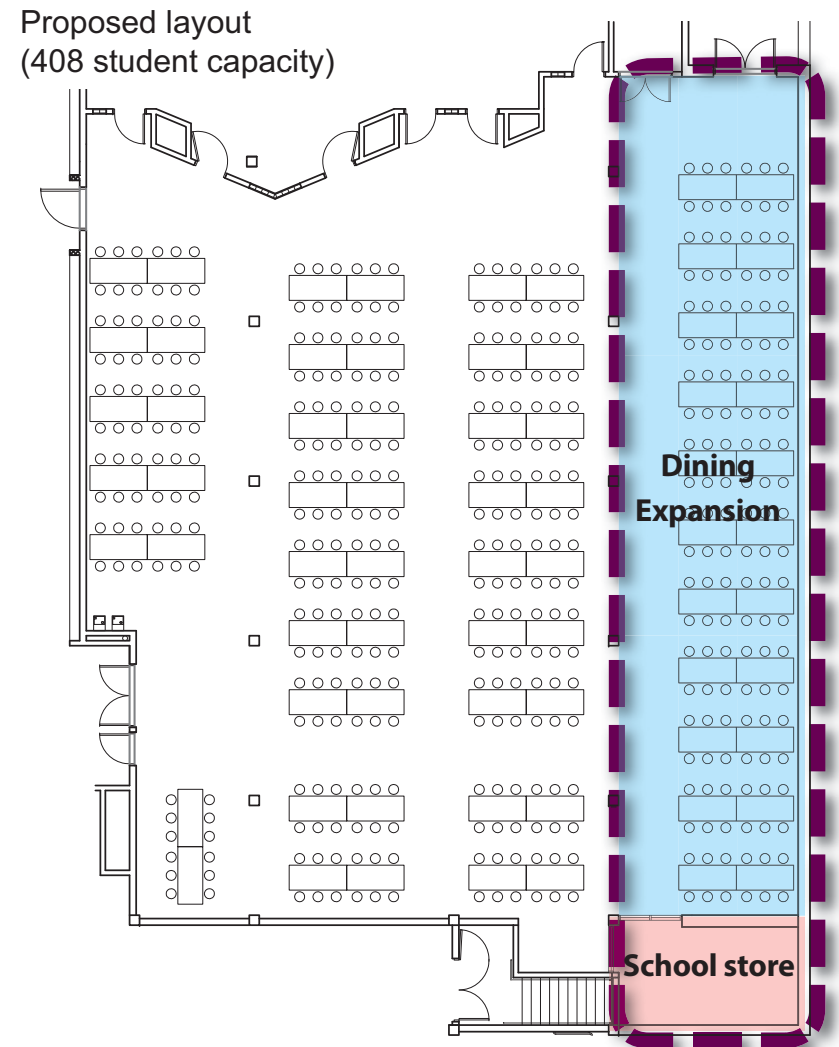
- Existing School
- Addition
- Relocatable classroom location(s)



II. EXECUTIVE SUMMARY

STUDENT DINING EXPANSION

The student dining area is expanded to the east in order to accommodate 96 additional students, for a total of 408—400 are required per the educational specifications. A new school store is added to the south of the expanded dining room.

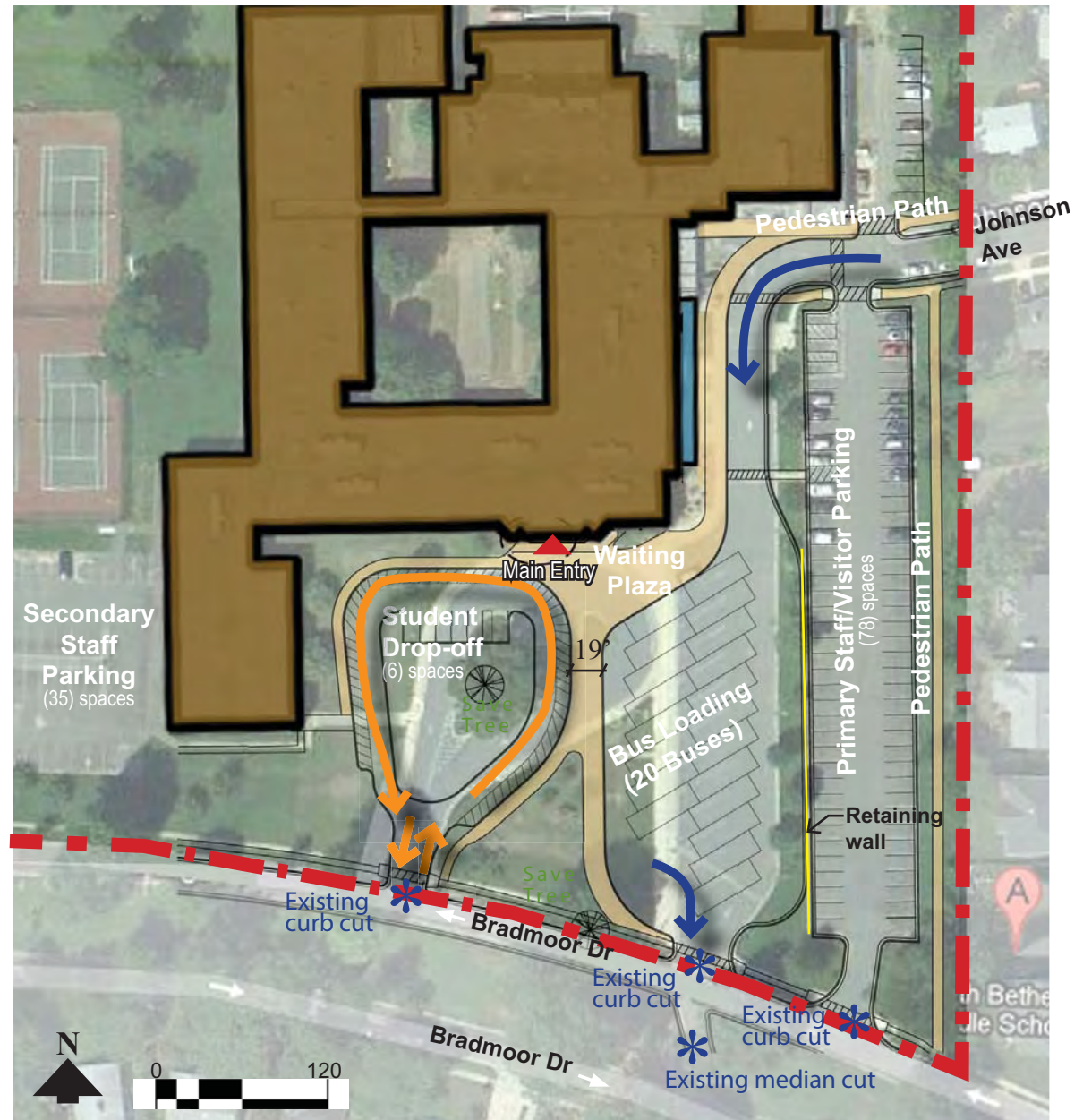


II. EXECUTIVE SUMMARY

SITE CIRCULATION

The existing bus loop and parking flanking the east of the school is enlarged and modified in order to accommodate twenty buses. The existing student drop-off loop is enlarged and modified accommodating a separate waiting lane and a through/circulation lane. Pedestrian circulation is enhanced including a new walk along the east side of the primary staff and visitor parking lot.

20 Bus Parking Spaces
129 Staff / Visitor Parking Spaces



II. EXECUTIVE SUMMARY

GRAPHIC AND ECONOMIC ANALYSIS

	OPTION 1	OPTION 2	OPTION 3
SQUARE FOOTAGE			
Existing Building	130,461	130,461	130,461
Addition	46,716	45,481	41,947
Total Gross	177,177	175,942	172,408
Total Cost	\$17,789,000	\$16,956,000	\$15,638,000
PDF/FEASIBILITY STUDY COST OUTLINE (\$ 000's)- Preferred Option 1			
Construction Cost Estimate			\$14,474
Project Planning Cost			\$1,691
Contingency			\$1,624
Total Cost in FY 2012 Dollars			\$17,789

Notes:

1. Addition GSF includes the new Classroom building, Cafeteria seating expansion, Auxiliary Gym, lockers in existing Locker rooms and entrance upgrades.

2. This cost estimate does not include furniture and equipment.

II. EXECUTIVE SUMMARY

CONCLUSIONS AND RECOMMENDATIONS

Option 1 has been identified as the preferred option. All options presented herein are consistent with MCPS standards and program requirements. The feasibility study participants and MCPS staff have selected Option 1 as the preferred option.

III. SCOPE, METHODOLOGY, AND GOALS

SCOPE AND INTENT

The purpose of this feasibility study is to explore options that satisfy the educational specifications for an addition of 14 standard classrooms, a special and alternative education suite, two science laboratories, a student dining (cafeteria) addition, an auxiliary gymnasium, and various support spaces to bring the schools capacity to 1208 students. The specifications also provide for the addition of an administration suite and other instructional support areas. Each instructional area will have adequate learning space, work areas, restrooms, and storage.

The new addition meets current specifications relative to educational programs, instructional philosophy, program space allocations, and current energy, ADA, and life safety codes. This feasibility study explored options for an addition to meet the needs of its student enrollment, while addressing staff and community concerns. The study also provides a cost effective, energy efficient, and safe facility to meet the future needs of the school community.

The architecture, engineering, and design team developed multiple site and building concepts that addressed the goals and objectives as described below. The Feasibility Study participants reviewed the progression of these concepts throughout the entire process. Comments and suggestions were discussed, refined, and incorporated after each meeting. The final concepts are presented as options in this report with Option 1 being the preferred option of the study.

III. SCOPE, METHODOLOGY, AND GOALS

METHODOLOGY

The site has been evaluated by a design team of architects, engineers, and consultants to determine the feasibility of building an addition to North Bethesda Middle School that meets the educational specifications, dated April 11, 2013 and summary of space requirements.

The study is based upon input from the Feasibility Study participants and MCPS staff received during four public work sessions as well as the following:

- o Review of the educational specifications and summary of space requirements provided by MCPS.
- o Visual analysis of the existing site by the design team.

There were 44 different attendees.

There were five different building concept option refinements.

There were four different site option refinements.

III. SCOPE, METHODOLOGY, AND GOALS

GENERAL GOALS

Throughout the process, several recurring themes established a set of goals and objectives, which the new addition concepts address. These goals and objectives are delineated below.

SITE GOALS AND OBJECTIVES

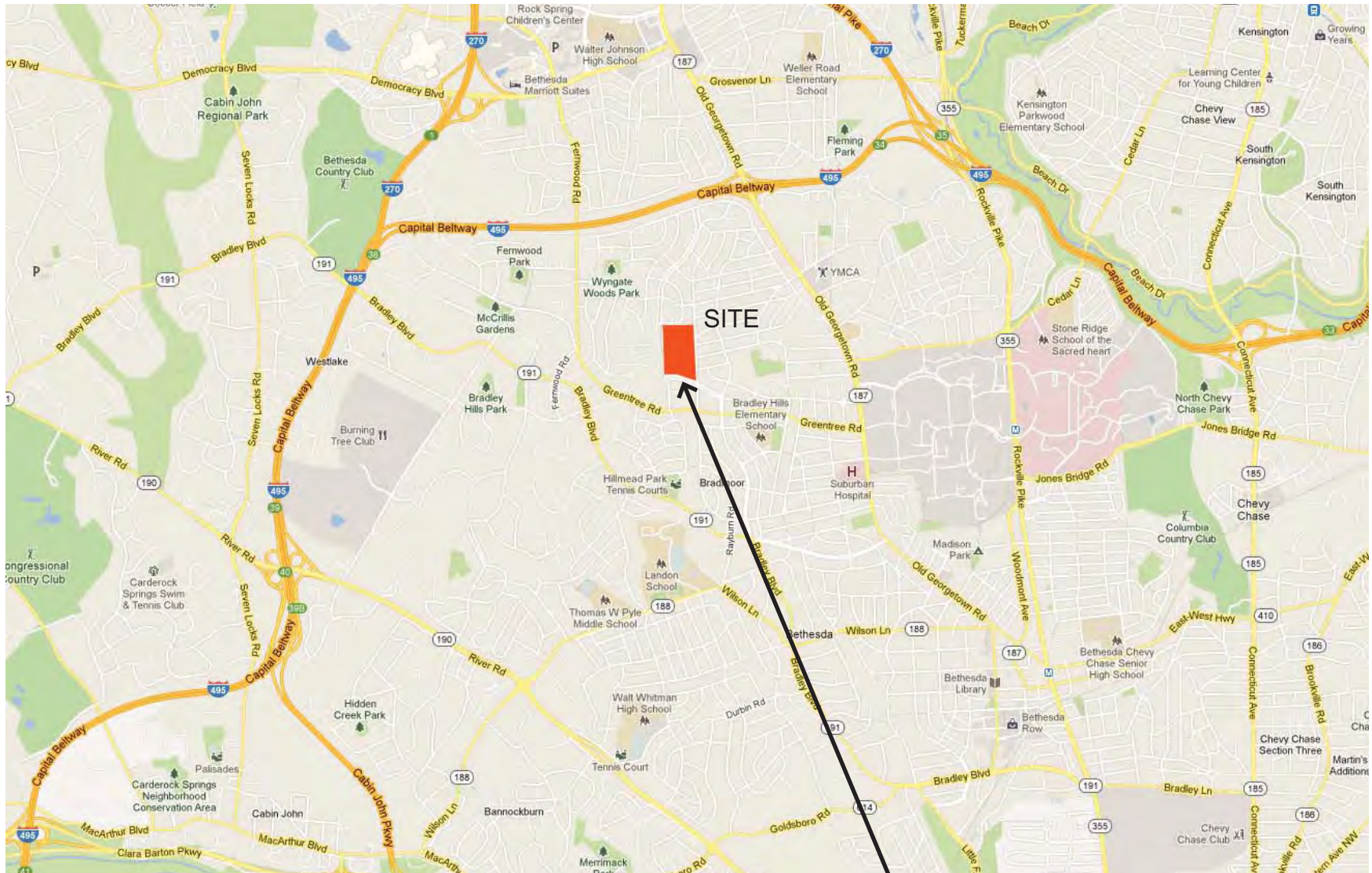
- Provide wider student drop-off loop accommodating both through and waiting lane, improving safety, circulation, and efficiency—avoiding the necessity of queuing on Bradmoor Drive.
- Provide larger bus loop accommodating 20 buses.
- Provide improved pedestrian access.
- Maintain current curb and median cuts on Bradmoor Drive.

BUILDING GOALS AND OBJECTIVES

- Create secure main entrance.
- Provide flexibility in the addition design in order to accommodate grade-level teaming.
- Maintain coupled arrangement for science laboratories.
- Provide additional lockers in [physical education] locker rooms.
- Provide school store.
- Maintain play field/court access for physical education classes.

IV. EXISTING CONDITIONS

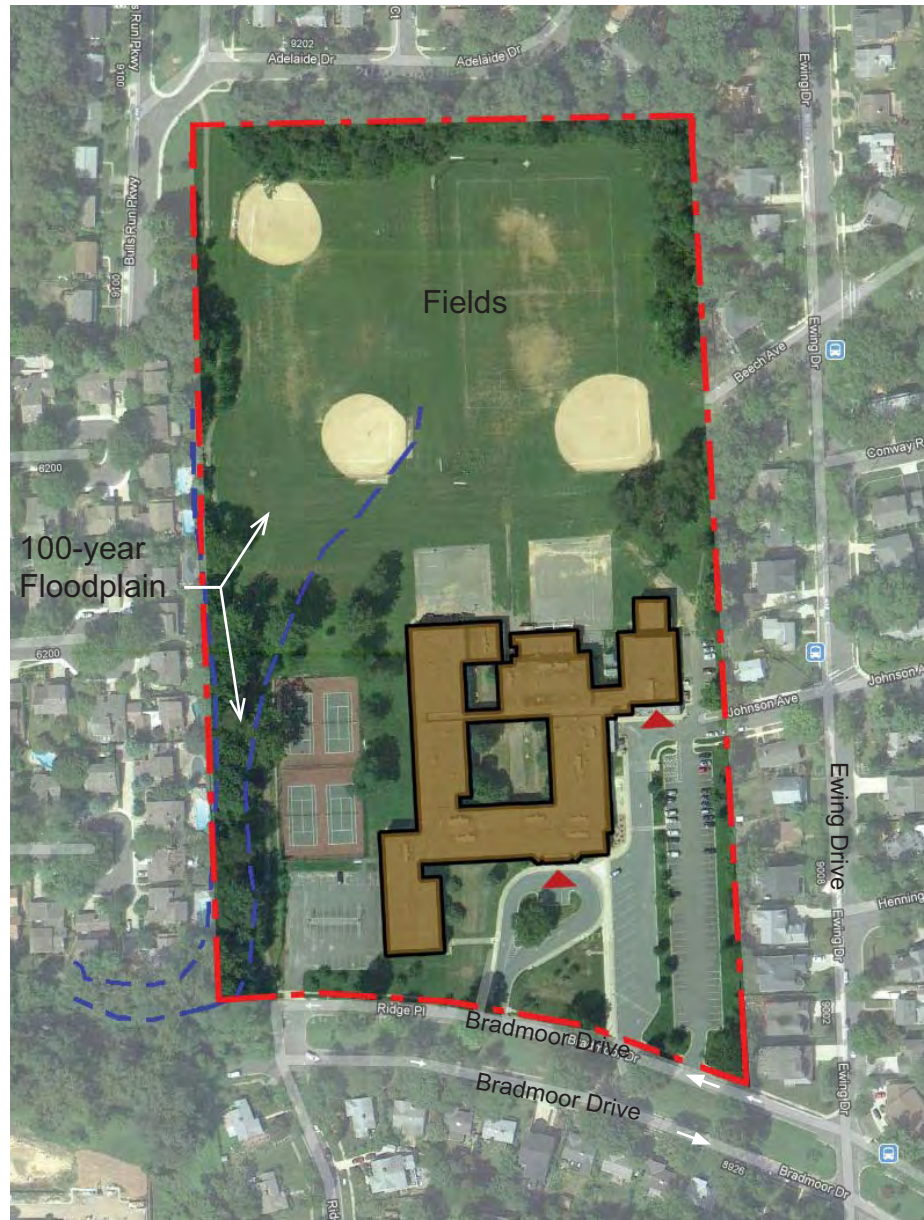
VICINITY MAP



8935 BRADMOOR DRIVE
BETHESDA, MD 20817

IV. EXISTING CONDITIONS

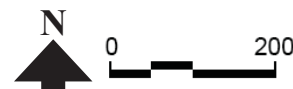
SITE PLAN



EXISTING CONDITIONS SUMMARY

North Bethesda Middle School is located at 8935 Bradmoor Drive in Bethesda, Maryland. Originally constructed in 1955, the school was operated for some time and then closed by the school system. It was reopened and modernized in 1999. The current school capacity is 847. The existing structure contains 130,461 square feet of space and sits on 19.7 acres.

The existing school covers much of the southern half of the site. The student drop-off loop sits south of the main entrance and is flanked by bus parking, visitor parking, staff parking, and the service area to the east. Additional staff parking is located to the west of the building on the south side of the site. Directly north of this lot are four tennis courts. The north portion of the site is completed with athletic fields and hard surface play courts abutting the north face of the building. Additionally, much of the far west side of the site exists in a 100-year floodplain. There are no structures in this zone.



IV. EXISTING CONDITIONS

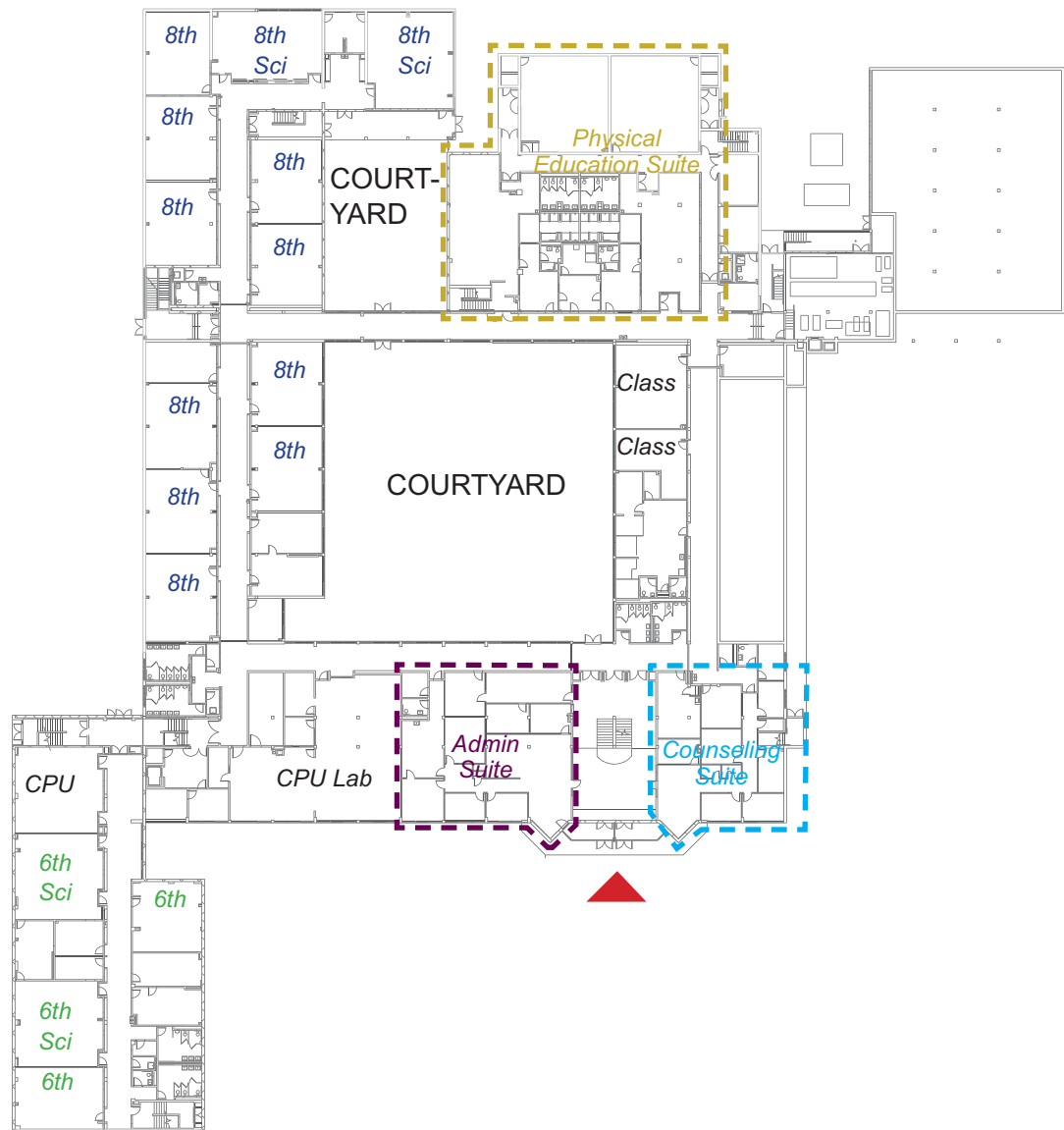
EXISTING SITE PLAN (DETAIL)



IV. EXISTING CONDITIONS

EXISTING FLOOR PLAN

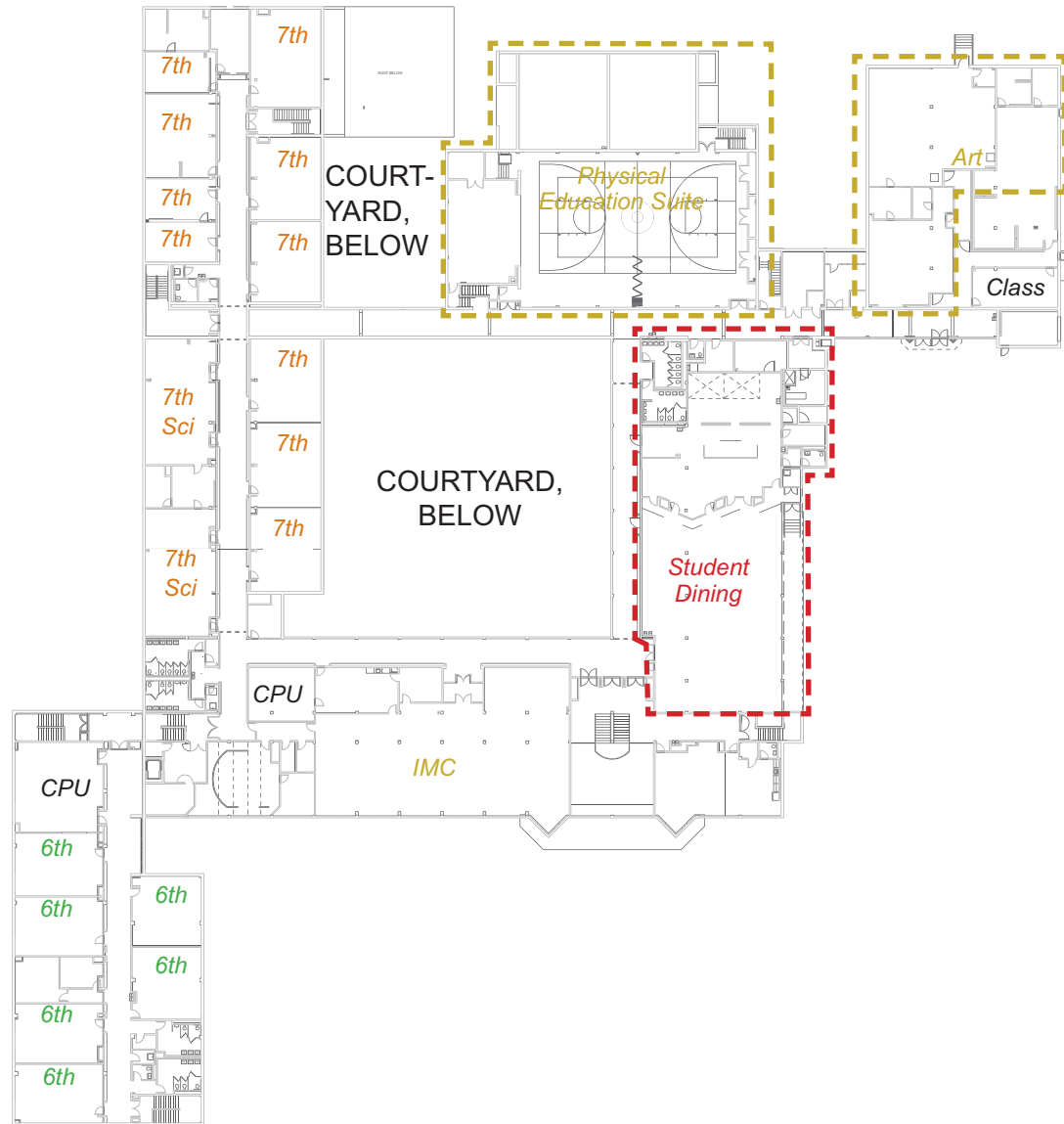
First Floor Plan



EXISTING CONDITIONS

EXISTING FLOOR PLAN

Second Floor Plan



V. DESCRIPTION OF OPTIONS

GENERAL

Three final options were developed in response to the MCPS educational specifications for the North Bethesda Middle School addition. Each option addresses the physical and instructional organization of the school in unique ways.

Option 1: Explores a two-story addition across the rear (north) of the existing school creating a large courtyard.

Option 2: Explores a three-story addition to the west of the existing school creating a courtyard.

Option 3: Explores a two-story addition on the northwest of the existing school creating a new small courtyard.

COMMON DESIGN ELEMENTS FOR EACH OPTION

COMMON SITE ELEMENTS

- Existing bus aisle is enlarged and modified to accommodate parking for 20 buses in a double chevron formation.
- Existing drop-off loop is enlarged and modified accommodating a waiting lane and a separate through/circulation lane.
- Pedestrian walks along the north side of the Johnson Avenue access route is improved. This walk continues along the east side of the school.
- New pedestrian walk is added east of the primary staff and visitor parking lot in order to discourage pedestrians from “cutting” across the site.
- Primary staff and visitor parking is narrowed in order to gain space and maximize the outdoor student waiting area.
- New retaining wall is added in order to facilitate the grade differences between the bus loading area and the primary staff and visitor parking lot.

COMMON BUILDING ELEMENTS

- Existing cafeteria is expanded.
- Main entrance is renovated to create a secure vestibule.
- New school store is incorporated in the cafeteria expansion.
- Boys’ and girls’ locker rooms are reconfigured in order to maximize the amount of lockers provided.

V. DESCRIPTION OF OPTIONS

STORM DRAINAGE AND STORMWATER MANAGEMENT

Based on the MCPS provided topography for the site, there appears to be a single existing stormwater management facility located between the student drop-off loop and the bus loop. Details about this facility are unknown and not present on MCPS archive drawings. However, it appears that the facility may be a quantity type underground structure only.

There is an existing 60-inch concrete storm drain that parallels the 12-inch sanitary sewer line that runs from east to west (refer to Appendix C). This storm drain is shown closer to the building than the sewer line. The topography supplied by MCPS does not indicate if an easement is dedicated or not. There is also a north and south system which includes a 78-inch concrete pipe north of the school building and a 72-inch x 112-inch elliptical concrete pipe along the west property line for the remaining length to Bradmoor Drive. These are both significant lines that transfer storm water from the adjacent community across the site to a large concrete channel located on the property to the southwest of the site. All proposed building improvements should avoid these storm drains as there could be significant costs associated with tying into or relocating them.

The above mentioned storm drain that connects to the aforementioned concrete channel will likely surcharge during large rain events. The channel at the southwest includes floodplain as discussed later.

It can be anticipated that site improvements will be required to include Environmental Site Design (ESD) to the maximum extent practicable in order to treat all areas inside the limits of disturbance. If ESD efforts are exhausted and the site has still not been able to reach a hydrologic state of “woods in good condition,” then structural practices may be permitted as determined by Montgomery County.

Potential ESD stormwater management practices for the site include both micro-scale practices and alternative surfaces. Micro-scale facilities could include the utilization of bio-swales and micro-bioretenion facilities where available open space can be found, such as parking lot islands and around the athletic fields.

V. DESCRIPTION OF OPTIONS

MECHANICAL SYSTEMS

HEATING, VENTILATION, AND AIR CONDITIONING

The existing four pipe system that was installed in 1999 does not have the surplus chilled or hot water capacity nor can it be modified or expanded to support the proposed addition. A new system is required to serve the addition.

The new mechanical system for the fourteen (14) classrooms and two science labs addition is designed in accordance with the Department of General Services criteria. The system selection is based upon the life cycle cost analysis of various options: including closet-mounted water cooled heat pumps (boiler/tower system), closet-mounted geothermal heat pumps using a geothermal field, closet mounted chilled/hot water vertical ducted fan coil system with air cooled chiller and high efficiency gas fired boilers, or self contained air cooled variable refrigerant flow heat pumps with ceiling mounted cassette type units for each classroom.

The code required ventilation air is introduced to every classroom from roof mounted dedicated ventilation systems furnished with hot gas reheat for humidity control, heat recovery wheels and digital scroll compressors. The units are air-cooled, with either heating pumps or gas fired furnaces.

The new auxiliary gymnasium is served by roof mounted self-contained units with demand control ventilation. The units will self contained air cooled with digital compressors, hot gas reheat, heat recovery wheels and gas fired furnaces.

A new digital automatic control and an energy management system shall be installed for the addition. The existing automatic control system shall remain and be integrated to the new system.

V. DESCRIPTION OF OPTIONS

PLUMBING

PLUMBING FIXTURES

New plumbing fixtures are provided in accordance with MCPS Design Standards. The existing domestic water service is extended to support the addition.

FIRE AND DOMESTIC WATER

The existing building is served by a combined 8 inch fire/domestic water service. The building is protected by a wet sprinkler system. The proposed addition is fully protected with a wet sprinkler system designed and installed in accordance with NFPA 13. The 6-inch sprinkler service appears adequate to support the water demands of the addition; however, the service pressure and flow of the fire service will need to be investigated and tested prior to the design of the addition.

The 4-inches domestic water service appears to be adequate to support the addition. The existing service is extended to serve the addition.

SANITARY AND STORM SEWERS

Sanitary and storm drainage needs to be expanded and modified to accommodate the proposed addition.

V. DESCRIPTION OF OPTIONS

ELECTRICAL SYSTEMS

ELECTRIC SERVICE

The existing main electric service to the school is 3000 Amps, 277/480V-3phase-4. The utility company records indicate that with the recorded maximum demand of 436 KW, the existing service can support the additional electric load. The existing 3,000 amperes 277/480V-3phase-4wire service is retained. Modifications are made to the switchboard to accommodate the addition.

EMERGENCY SYSTEM

The 40 KW gas fired generator and the entire emergency system are replaced with a new system to meet current N.E.C. standards.

LIGHTING SYSTEM

The addition is provided with an energy efficient lighting system. Standard classroom lighting is MCPS standard pendant mounted direct/indirect-2 lamp fluorescent fixtures. Offices and corridors are provided with standard lenses, 2 x 4-2 lamp fluorescent fixtures. Exterior building lighting is with wall pack, 100 % cut-off. Lighting levels and lighting power budgets shall comply with the latest International Energy Code.

FIRE ALARM SYSTEM

The existing Notifier Fire Alarm System can be expanded to support the proposed addition. A new graphic type Fire Alarm Annunciator Panel is required to replace the existing one.

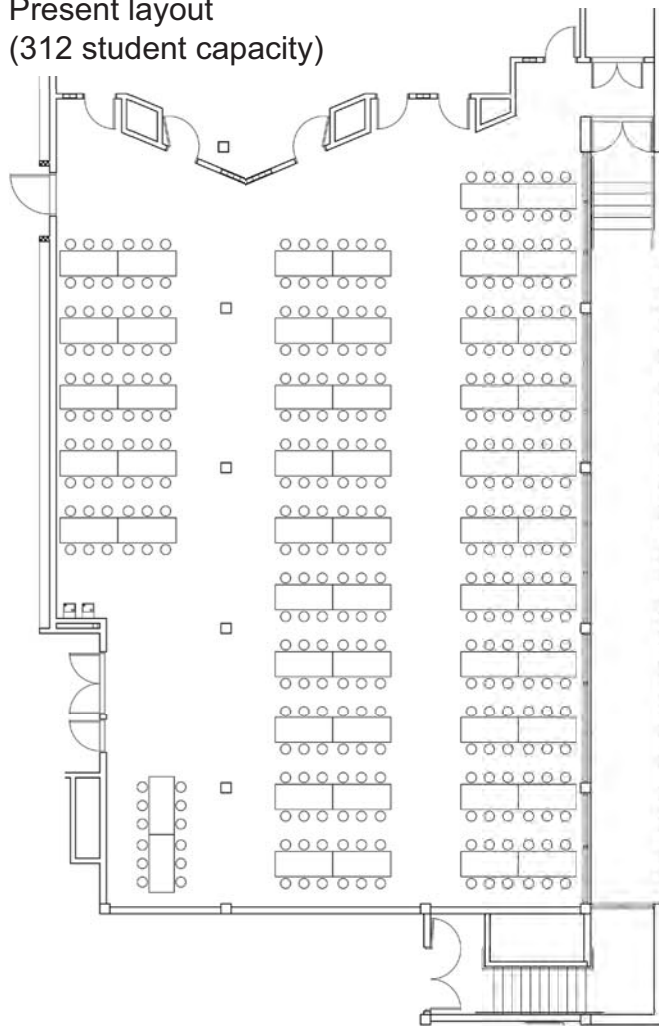
PUBLIC ADDRESS SYSTEM

The existing Rauland Telecenter System is modified and expanded to serve the proposed addition. The existing system has the available switches and expansion space to support the addition.

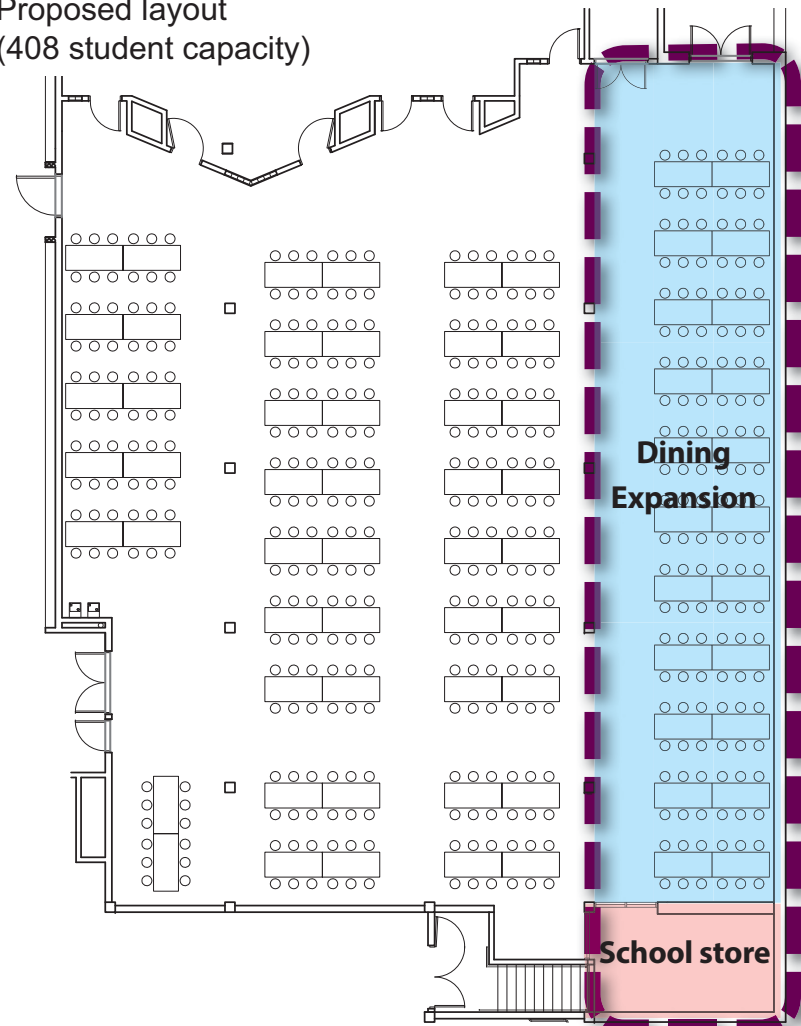
V. DESCRIPTION OF OPTIONS

STUDENT DINING EXPANSION AND SCHOOL STORE

Present layout
(312 student capacity)



Proposed layout
(408 student capacity)



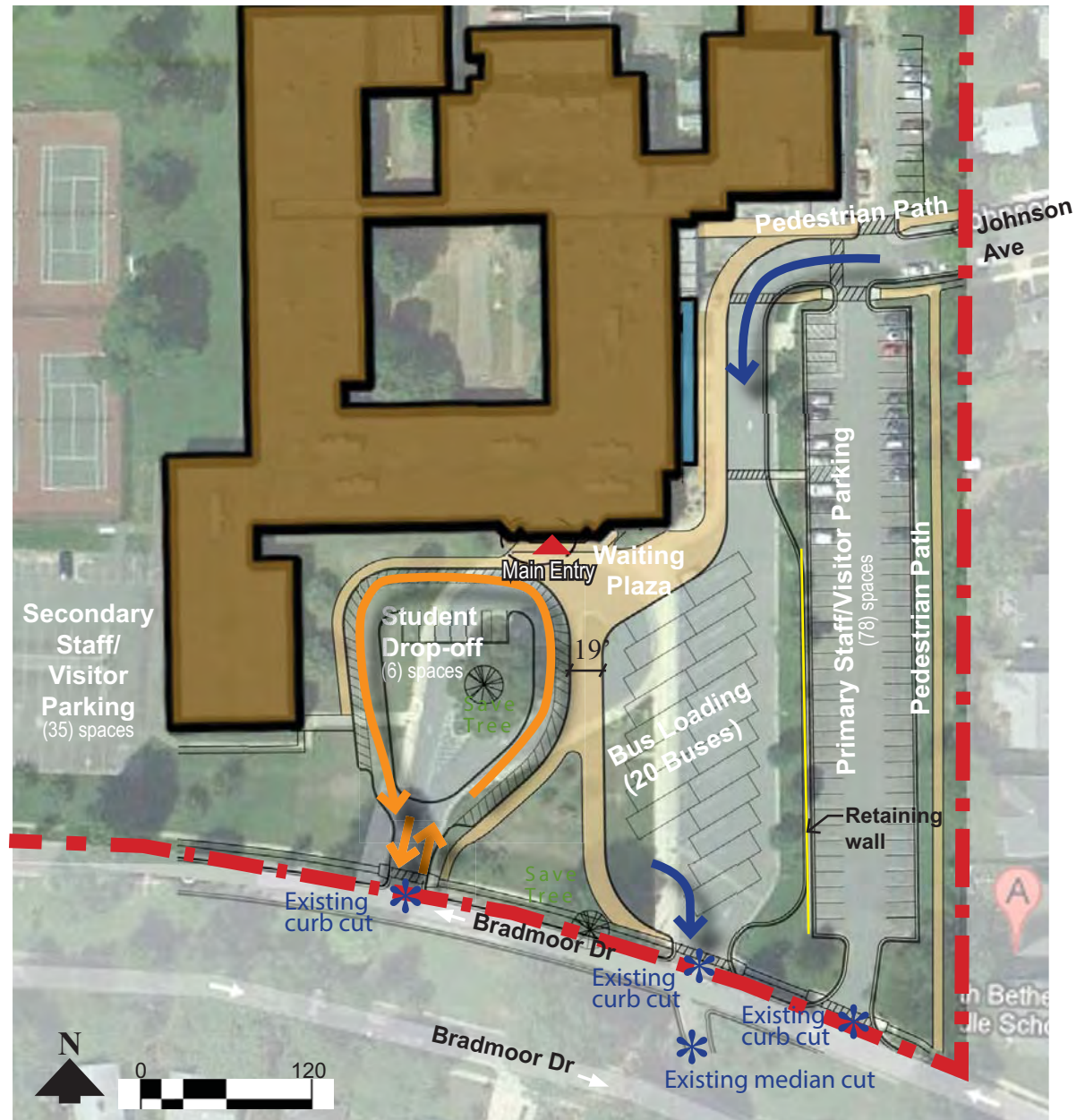
The student dining area is expanded to the east in order to accommodate 96 additional students, for a total of 408—400 are required per the educational specifications. A new school store is added to the south of the expanded dining room.

V. DESCRIPTION OF OPTIONS

SITE CIRCULATION

The existing bus loop and parking flanking the east of the school is enlarged and modified in order to accommodate twenty buses. The existing student drop-off loop is enlarged and modified accommodating a separate waiting lane and a through/circulation lane. The pedestrian approach from Johnson Avenue, adjacent to the school is widened and its crosswalk marked. An additional walk is added east of the primary staff and visitor parking. While the primary staff and visitor parking lot is narrowed slightly in order to gain space and maximize the outdoor student waiting area at the bus lot. Finally, a low retaining wall is added between the bus loading and primary staff and visitor parking lot in order to facilitate their grade differences.

20 Bus Parking Spaces
129 Staff / Visitor Parking Spaces



V. DESCRIPTION OF OPTIONS

OPTION 1 - DESCRIPTION




Option 1 is a two-story classroom addition across the rear of the existing building creating a courtyard between the existing building and addition. The addition will include 14 classrooms and support spaces; two science laboratories and prep/ project storage space; special and alternative education suite; auxiliary gymnasium; administration suite; school store; expanded student dining (cafeteria); and an elevator. Physical education (PE) access to the fields and courts is accommodated by a new egress east across from the auxiliary gym and utilization of existing egress to the west. (There are no classrooms to be disturbed along either path.) While this design displaces outdoor basketball courts which are relocated, its large courtyard can be programmed to accommodate various curricula.

2 Stories

Addition area: **47,716 GSF**

TOTAL COST: \$ 17,789,000

Legend

-  Existing School
-  Addition
-  Relocatable classroom location(s)

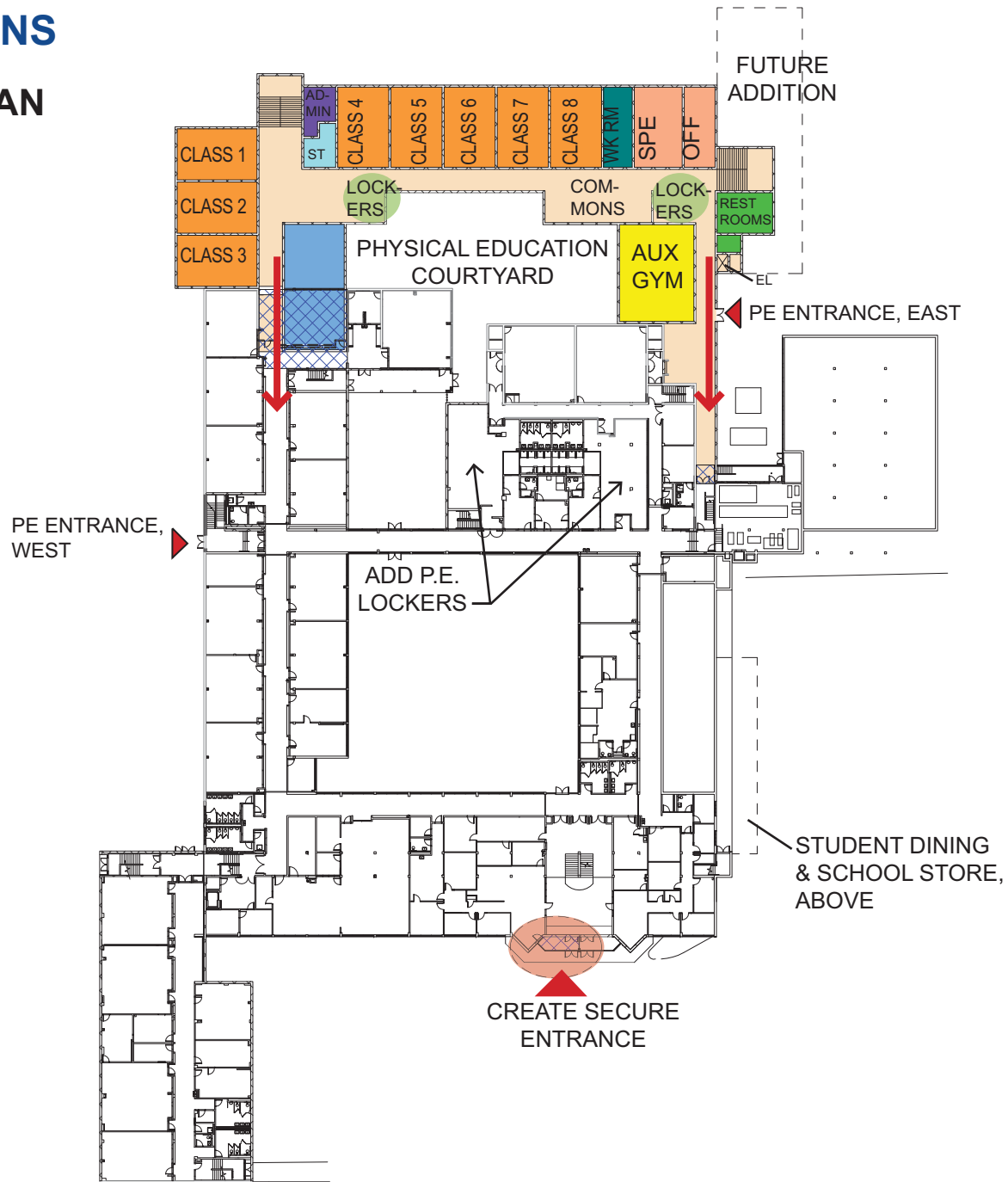


V. DESCRIPTION OF OPTIONS

OPTION 1 FIRST FLOOR PLAN

LEGEND

- Administrative Suite
- Classrooms
- General Storage Area
- Physical Education
- Science
- Special Education
- Restrooms
- Instructional Support Areas
- Corridor
- Area of Renovation

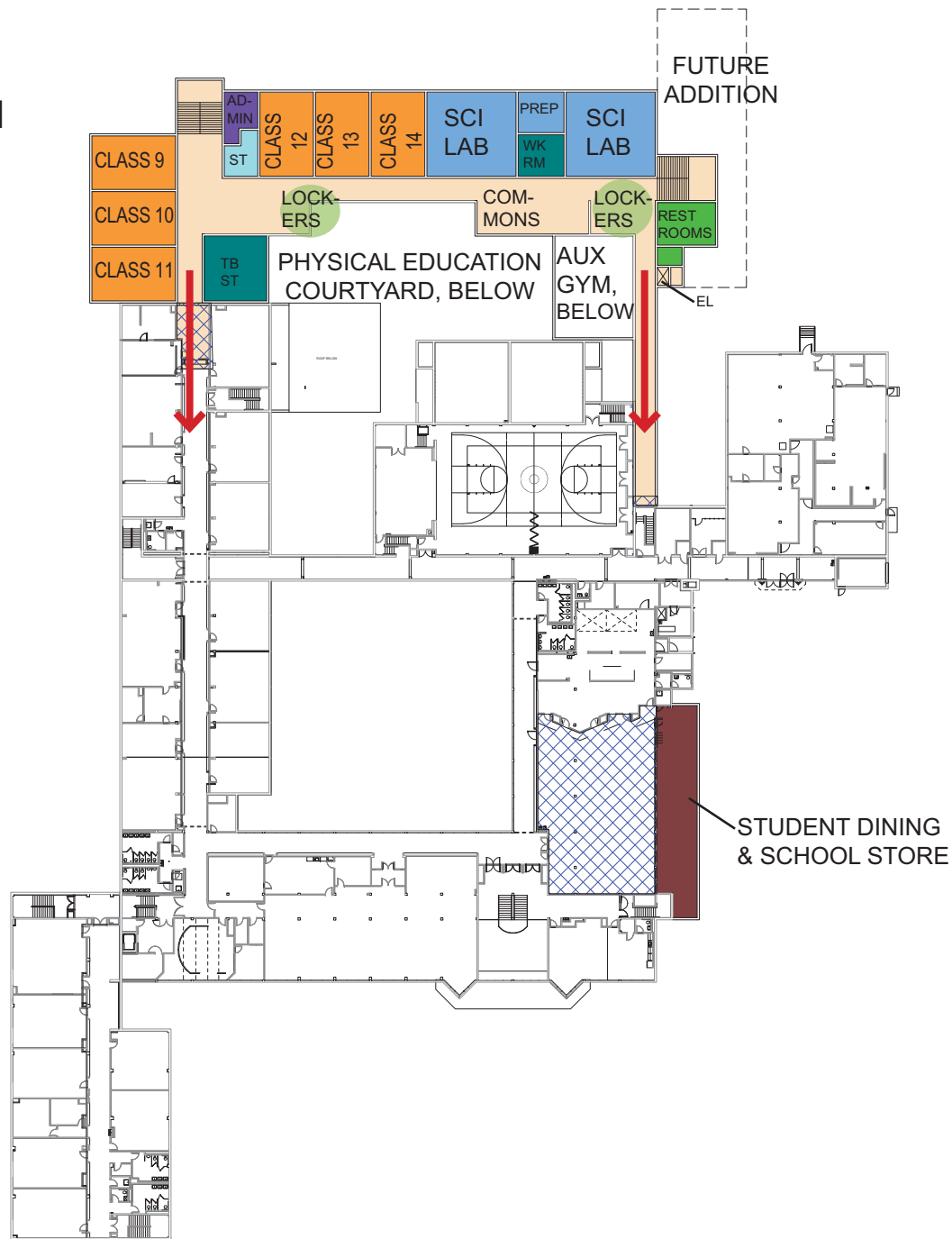


V. DESCRIPTION OF OPTIONS

OPTION 1 SECOND FLOOR PLAN

LEGEND

- Administrative Suite
- Classrooms
- General Storage Area
- Physical Education
- Science
- Special Education
- Restrooms
- Instructional Support Areas
- Corridor
- Area of Renovation



V. DESCRIPTION OF OPTIONS

OPTION 1 - ADVANTAGES AND DISADVANTAGES

ADVANTAGES

- + Accommodates future expansion
- + Aligns with the existing adjacent levels
- + Provides two way circulation on both levels
- + Contains more interior space--disperses circulation
- + Provides usable courtyard without disruption of classrooms
- + Provides largest courtyard--relative to other Options
- + All proposed teaching spaces face north--glare free daylighting

DISADVANTAGES

- Contains inefficient use of space--single loaded corridor
- Separates tennis and basketball courts
- Impacts existing basketball courts
- Reduces the most outdoor play area--relative to other Options

V. DESCRIPTION OF OPTIONS

OPTION 2 - DESCRIPTION

Option 2 is a three-story classroom addition on the west side of the existing building creating a courtyard between the existing building and addition. The addition's top two floors align with the existing building's "6th Grade Wing". The addition will include 14 classrooms and support spaces; two science laboratories and prep/project storage space; special and alternative education suite; administration suite; school store; expanded student dining (cafeteria); and an elevator. The new auxiliary gymnasium is not attached to the addition, but instead is just north of the physical education suite. Option 2 displaces the tennis courts which are relocated directly north of the addition.

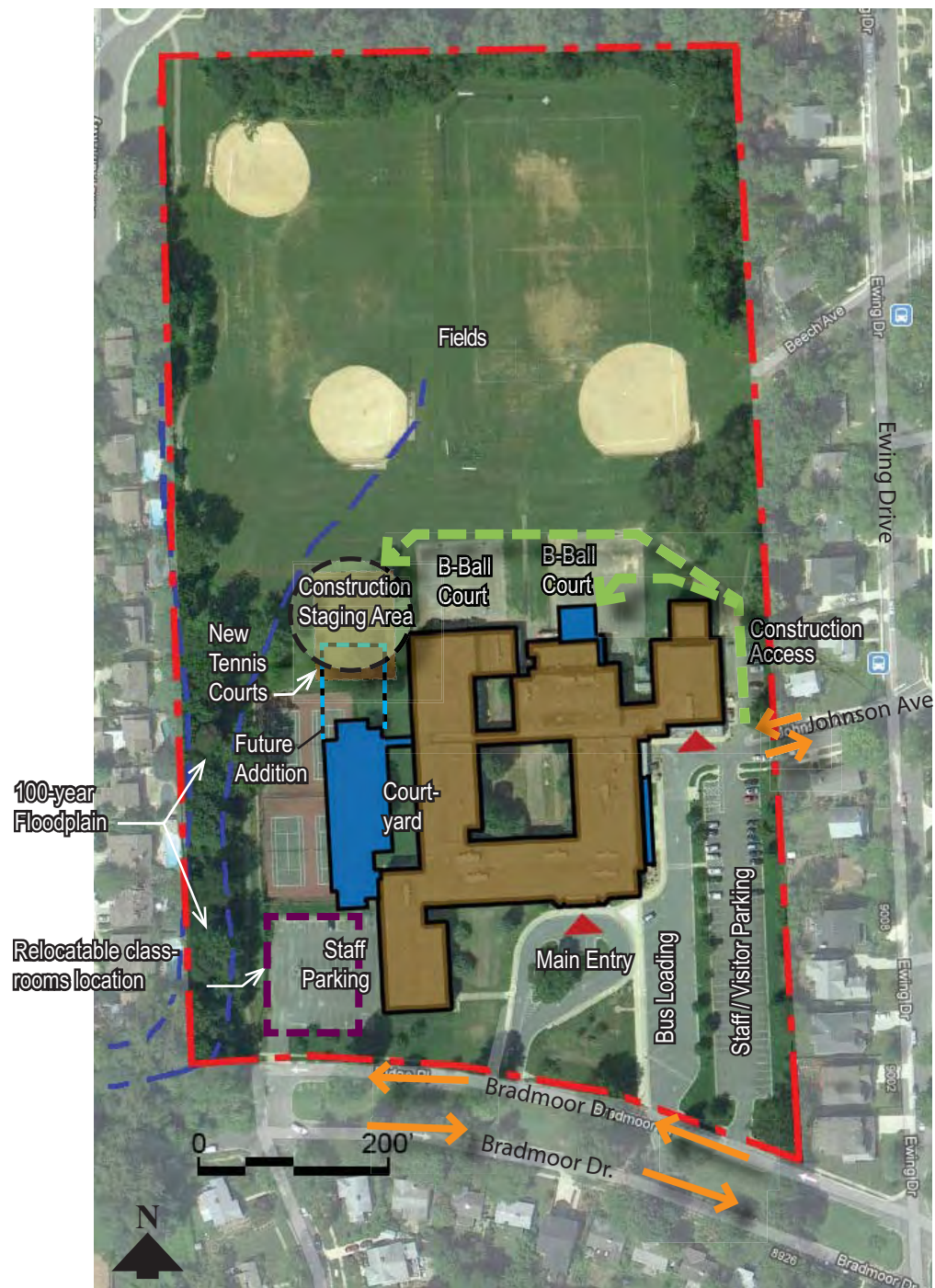
3 Stories

Addition area: **45,481 GSF**

TOTAL COST: \$ 16,956,000

Legend

- Existing School
- Addition
- Relocatable classroom location(s)

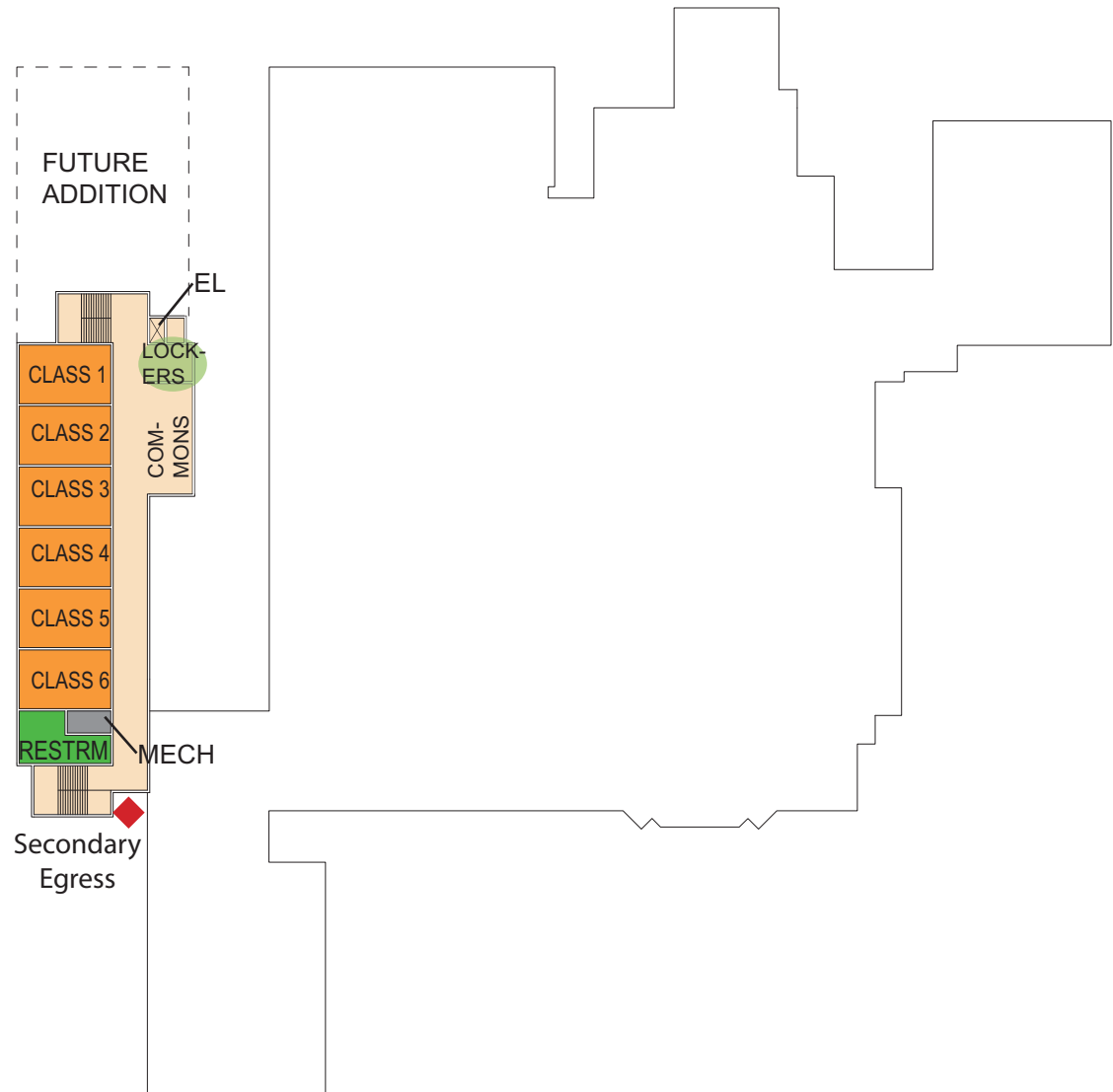


V. DESCRIPTION OF OPTIONS

OPTION 2 EGRESS FLOOR PLAN

LEGEND

- Administrative Suite
- Classrooms
- General Storage Area
- Physical Education
- Science
- Special Education
- Restrooms
- Instructional Support Areas
- Corridor
- Area of Renovation



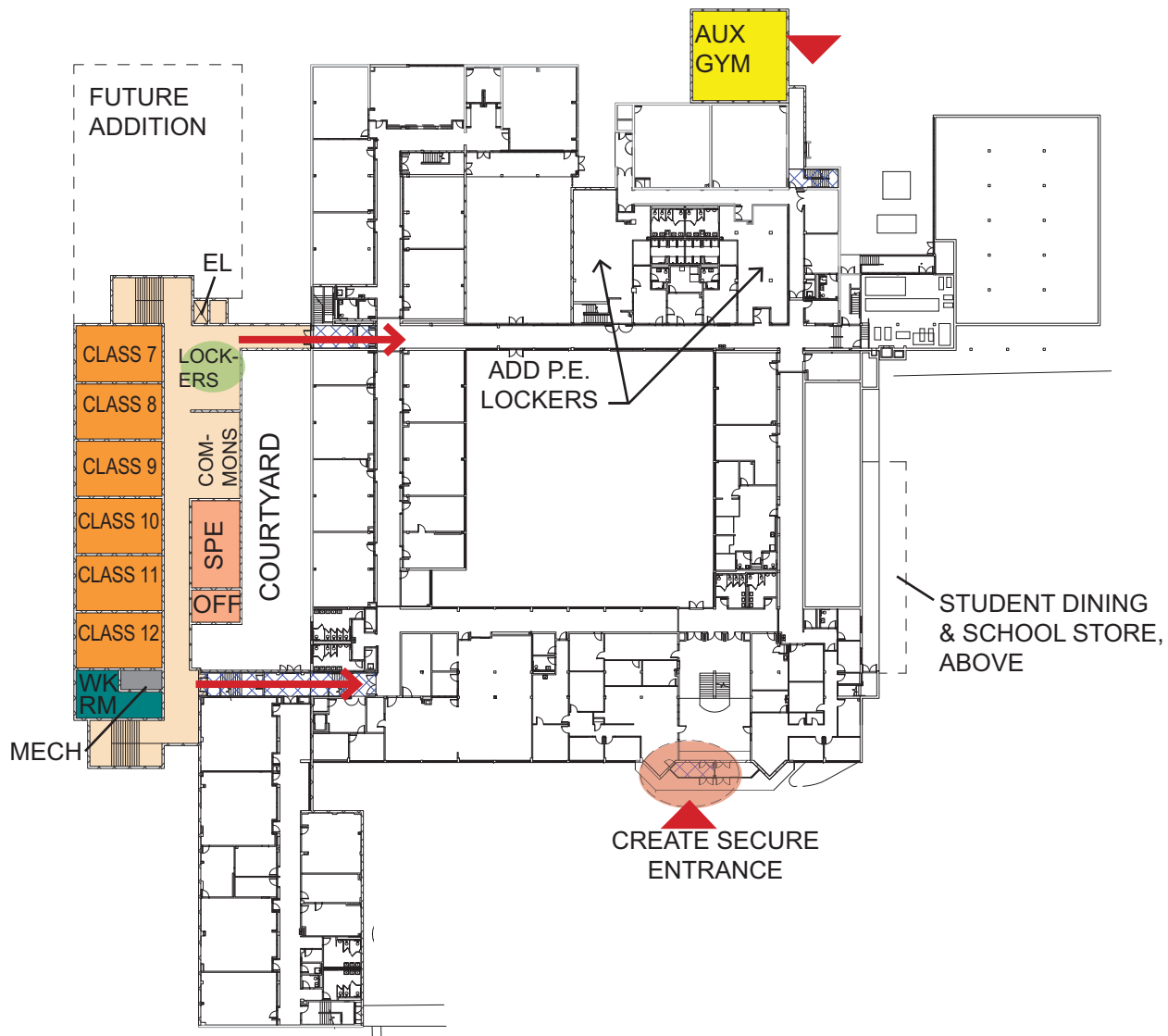
Egress Level Plan

V. DESCRIPTION OF OPTIONS

OPTION 2 FIRST FLOOR PLAN

LEGEND

- Administrative Suite
- Classrooms
- General Storage Area
- Physical Education
- Science
- Special Education
- Restrooms
- Instructional Support Areas
- Corridor
- Area of Renovation

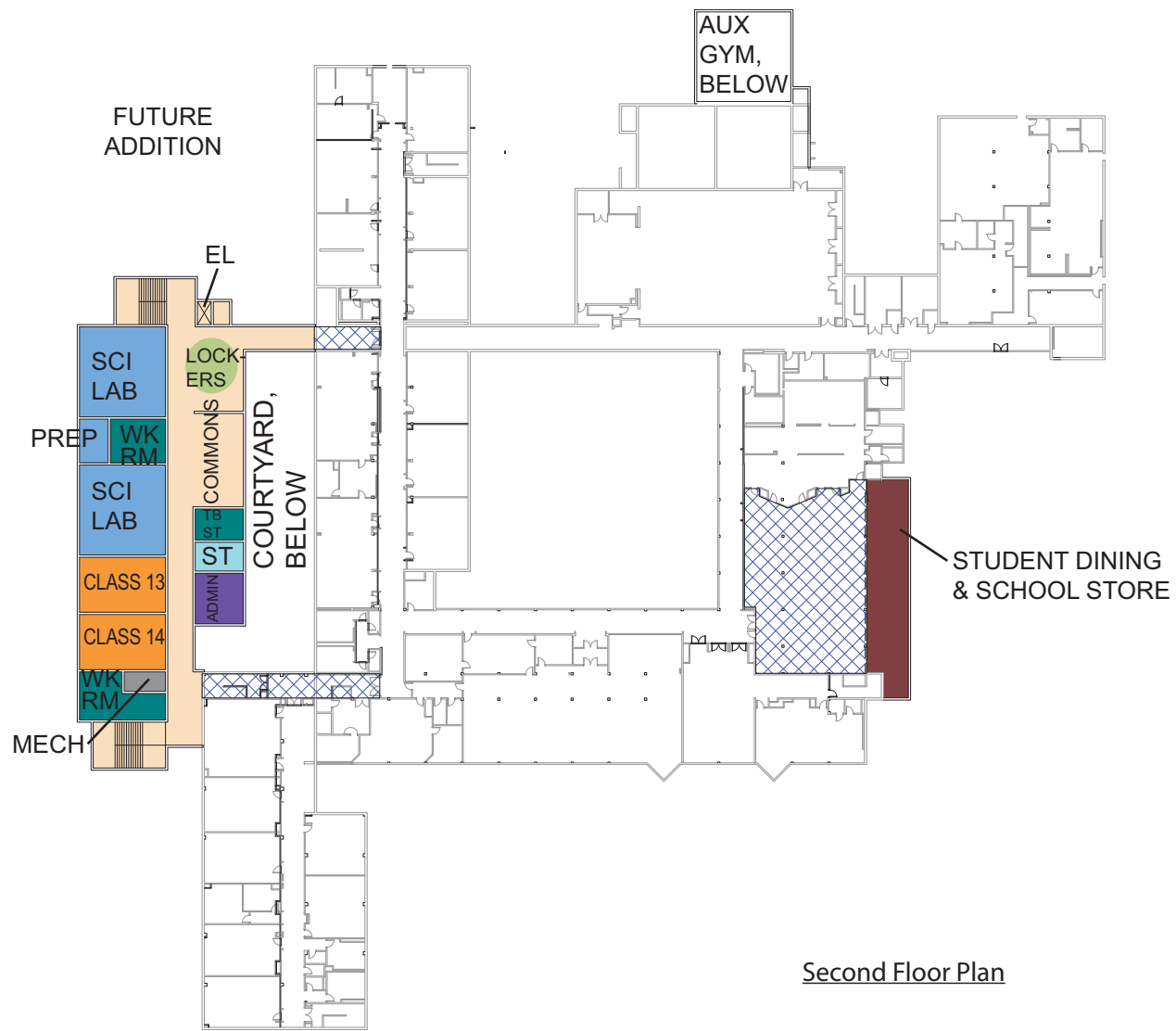


V. DESCRIPTION OF OPTIONS

OPTION 2 SECOND FLOOR PLAN

LEGEND

- Administrative Suite
- Classrooms
- General Storage Area
- Physical Education
- Science
- Special Education
- Restrooms
- Instructional Support Areas
- Corridor
- Area of Renovation



Second Floor Plan



V. DESCRIPTION OF OPTIONS

OPTION 2 - ADVANTAGES AND DISADVANTAGES

ADVANTAGES

- + Accommodates future expansion
- + Provides two way circulation on both levels
- + Preserves existing basketball courts
- + Allows expansion of 6th grade wing
- + Closer to activity spaces
- + Maintains current access to the rear athletic fields
- + Isolates proposed classrooms on the bottom level

DISADVANTAGES

- Contains inefficient use of space--single loaded corridor
- Impacts existing tennis courts
- Construction occurs in 3 separate locations
- Introduces an additional level
- Isolates proposed classrooms on the bottom level
- All proposed classrooms face west--solar gain versus keeping blinds drawn

V. DESCRIPTION OF OPTIONS

OPTION 3 - DESCRIPTION




Option 3 is a two-story classroom addition positioned partially across the rear of the existing building creating a small courtyard between the existing building and addition. The addition will include 14 classrooms and support spaces; two science laboratories and prep/ project storage space; special and alternative education suite; auxiliary gymnasium; administration suite; school store; expanded student dining (cafeteria); and an elevator. The addition is sited partially atop outdoor basketball courts, which are relocated to the east of the addition.

2 Stories

Addition area: **41,947 GSF**

TOTAL COST: \$ 15,638,000

Legend

-  Existing School
-  Addition
-  Relocatable classroom location(s)

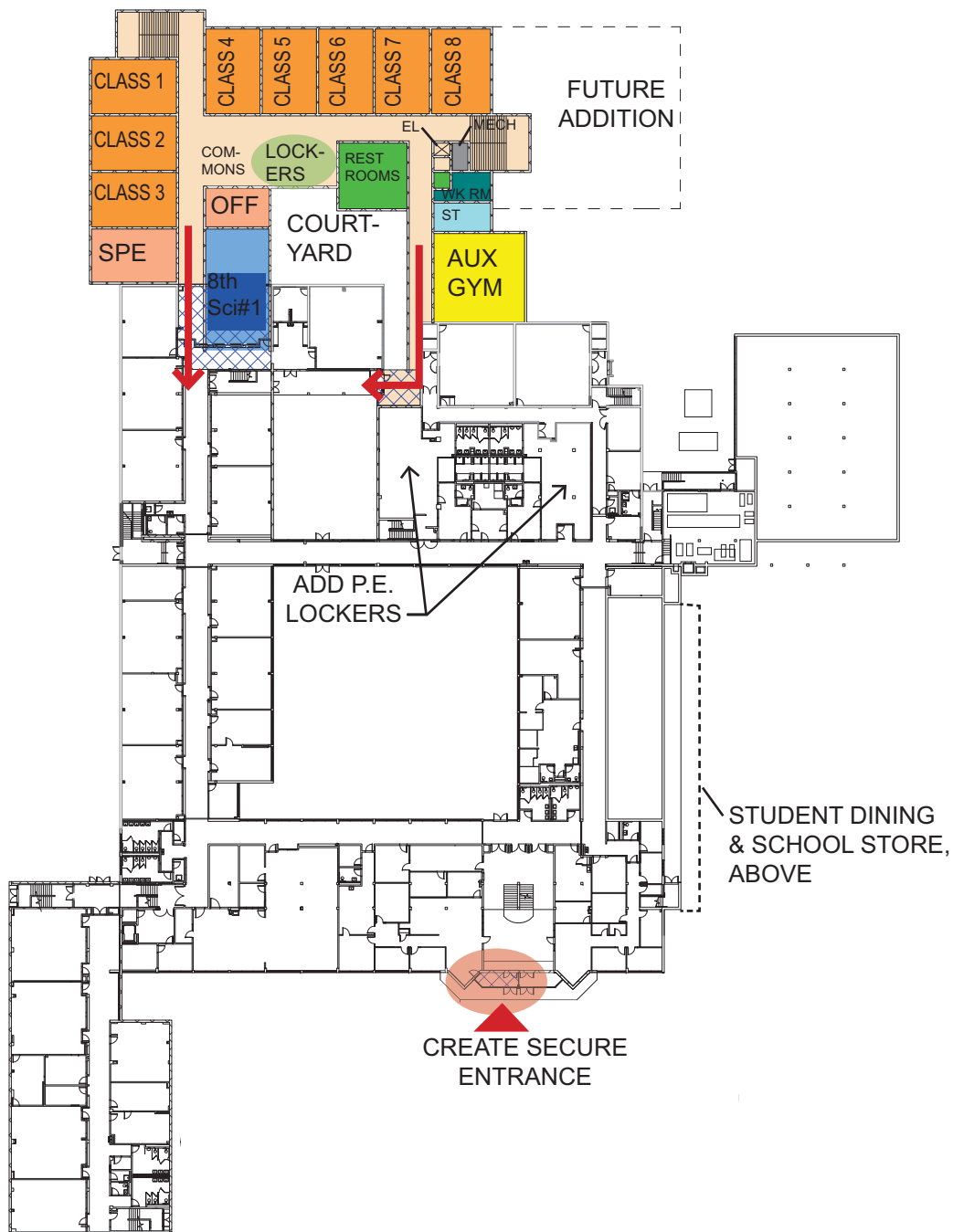


V. DESCRIPTION OF OPTIONS

OPTION 3 FIRST FLOOR PLAN

LEGEND

- Administrative Suite
- Classrooms
- General Storage Area
- Physical Education
- Science
- Special Education
- Restrooms
- Instructional Support Areas
- Corridor
- Area of Renovation

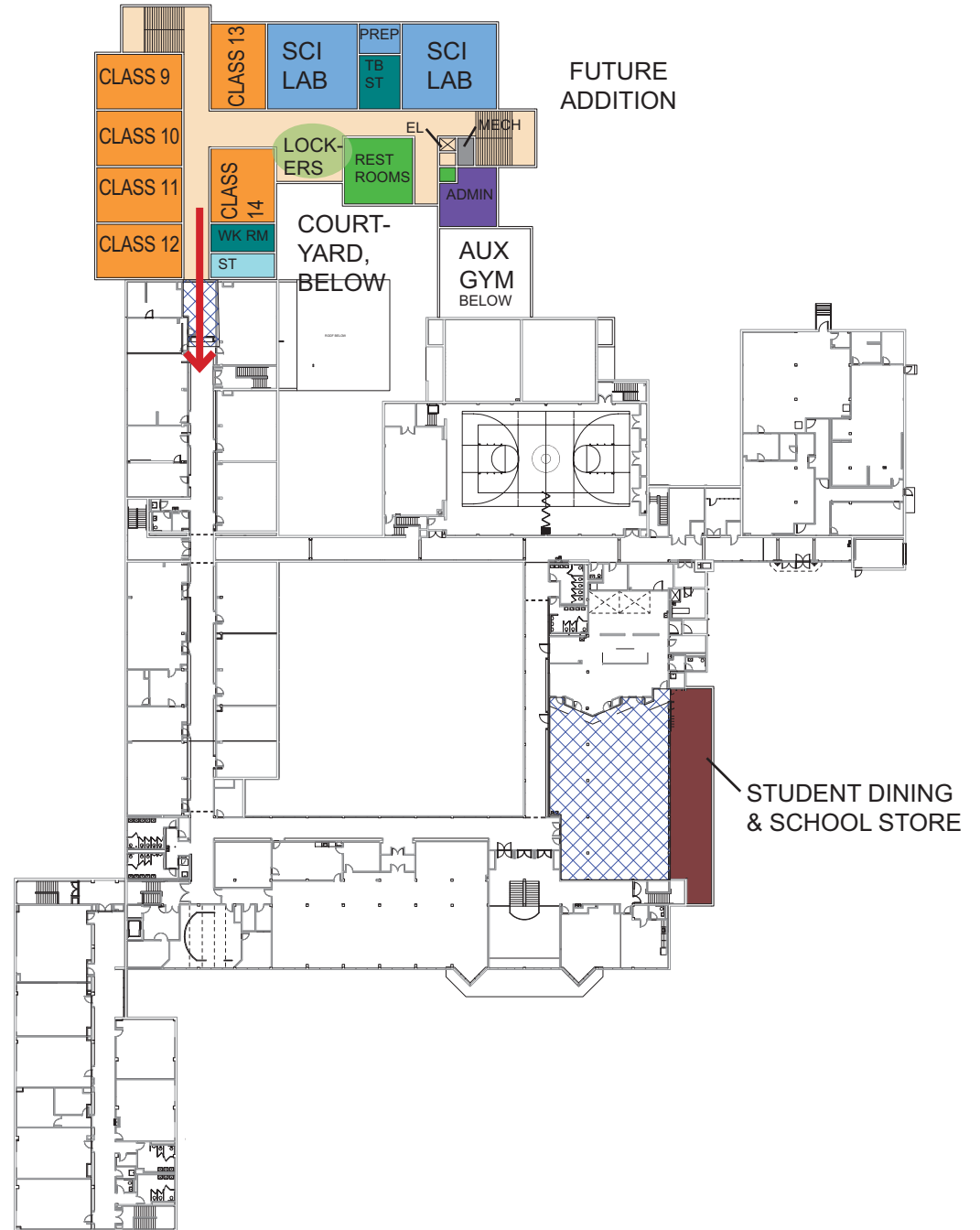


V. DESCRIPTION OF OPTIONS

OPTION 3 SECOND FLOOR PLAN

LEGEND

- Administrative Suite
- Classrooms
- General Storage Area
- Physical Education
- Science
- Special Education
- Restrooms
- Instructional Support Areas
- Corridor
- Area of Renovation



V. DESCRIPTION OF OPTIONS

OPTION 3 - ADVANTAGES AND DISADVANTAGES

ADVANTAGES

- + Accommodates future expansion
- + Aligns with the existing adjacent levels
- + Provides the most efficient use of space--relative to other options
- + Preserves the most existing green space--relative to other options

DISADVANTAGES

- Provides one way circulation on upper level
- Provides "P" loop circulation on lower level causes crowding of existing corridor
- Separates tennis and basketball courts
- Impacts existing basketball courts

VI. PROPOSED PROJECT IMPLEMENTATION SCHEDULE

OVERALL PROJECT SCHEDULE	YEAR 1				YEAR 2				YEAR 3				YEAR 4																						
	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N
ARCHITECT SELECTION	4 WEEKS																																		
SCHEMATIC DESIGN	16 WEEKS																																		
COMMITTEE MEETINGS	8 WEEKS																																		
BOE APPROVAL					4/1																														
CONSTRUCTION DOCUMENTS	56 WEEKS																																		
ADVERTISE FOR BID																	4 WEEKS																		
BID OPENING																	4 WEEKS																		
BUILDING CONSTRUCTION																	64 WEEKS																		
SUBSTANTIAL COMPLETION																									9/1										
OCCUPANCY																									10/1										

VII. APPENDICES

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VII. APPENDIX A: SPACE ALLOCATION SUMMARY

When this project is complete, the following spaces are to provided:
 The architect is to explore the possibility of expanding the cafeteria to 6000 sf.
 Capacity after the addition will be 1208.

PROGRAM SPACES REQUIRED	#	DESCRIPTION	NET SQ FT	TOTAL NET SQ FT.
CLASSROOMS				
Standard	14		900	12,600
SCIENCE				
Laboratory	2		1,500	3,000
Prep/Project/Storage	1		250	250
OTHER INSTRUCTIONAL SUPPORT AREAS				
Team Resource Center/Workroom	3		300	900
Interdisciplinary Textbook Storage	1		150	150
Departmental Textbook Storage	1		150	150
Instructional Data Assistant Office	1		150	150
SPECIAL AND ALTERNATIVE EDUCATION				
Resource Room	1		800	800
Occupational Therapy Room	1		250	250
Speech & Language Therapy Support Room	1		250	250
PHYSICAL EDUCATION				
Auxiliary Gym	1	Wrestling	1,600	1,600
Gymnasium	1	Expand existing gymnasium	1,000	1,000
ADMINISTRATION SUITE				
Student Support Specialist Office	1		150	150
Administrative Secretary's Office	1		150	150
Staff Development Office	1		200	200
Testing Room	1		150	150
General Storage	2		250	500
STUDENT DINING				
Student Dining	1	Expand existing student dining	1,500	1,500
School Store	1		200	200
Total Teaching Stations and Net. Sq. Ft.	17			23,950

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VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

North Bethesda Middle School Addition

Educational Specifications Feasibility Study

April 11, 2013



Montgomery County Public Schools
Rockville, Maryland 20850

North Bethesda Middle School Square Foot Summary

When this project is complete, the following spaces are to be provided:
The architect is to explore the possibility of expanding the cafeteria to 6000 sf.
Capacity after addition will be 1208.

Facility	#	Net Sq. Ft.	Total Net Sq. Ft.
<u>Classrooms</u>			
Standard Classroom	14	900	12600
<u>Science</u>			
Laboratory	2	1500	3000
Prep/Project/Storage	1	250	250
<u>Other Instructional Support Areas</u>			
Team Resource Center/Workroom	3	300	900
Interdisciplinary Textbook Storage	1	150	150
Departmental Textbook Storage	1	150	150
Instructional Data Assistant Office	1	150	150
<u>Special and Alternative Education</u>			
Resource Room	1	800	800
Occupational Therapy Room	1	250	250
Speech & Language Therapy Support Room	1	250	250
<u>Physical Education</u>			
Auxiliary Gym (Wrestling)	1	1600	1600
Gymnasium (Expand existing gymnasium)	1	1000	1000
<u>Administration Suite</u>			
Student Support Specialist Office	1	150	150
Administrative Secretary's Office	1	150	150
Staff Development Office	1	200	200
Testing Room	1	150	150
<u>Student Dining</u>			
Student Dining (Expand existing student dining)	1	1500	1500
School Store	1	200	200
General Storage Rooms	2	250	500
Total Teaching Stations and Net. Sq. Ft.	17		23950

VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

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VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

Introduction

- This document describes the facilities that are needed for the North Bethesda Middle School addition educational program. The descriptions provide the architect with useful guidelines and are used by staff representatives when reviewing drawings and specifications for the facility.
- The program capacity for this school will be 1208 with a master-planned (core) capacity for 1200.
- The educational specifications are divided into three sections.
 - The first section, the space summary, lists the type of spaces and square footage required when the project is complete.
 - The second section describes the general design, location, and specific requirements for each type of space in accordance with Montgomery County Public Schools (MCPS) guidelines.
 - The third section identifies additional program requirements for the school.
- The architect should show the location for relocatable classrooms, should they be required in the future. These units should be sited in a location where it will not cause conflict with the constructability of a future addition. The necessary utility connections, i.e. electrical power, fire alarm, public address, and data should be provided near the future location of relocatable classrooms.
- The architect will provide a space summary comparison between the programmed space requirements and the proposed after each phase of the project including but not limited to the feasibility study, schematic design, design development, and final design phase.
- This project is to provide the facilities to meet the educational specifications for a Grades 6–8 middle school program. Middle school organization assumes teams of about 125-150 students per team. The middle school philosophy of teams of teachers and students should foster an atmosphere of cohesiveness by grade level. The design of the building should make it possible for sixth, seventh, and eighth graders, to be separated from each other for their academic classes. Flexibility of design should be provided to accommodate changing educational programs.
- For all new schools and modernizations, the project will be designed for LEED Silver certification by the United States Green Building Council (USGBC) under the LEED for Schools guidelines. If this project is a classroom addition, the certification requirement applies only if the addition doubles the existing building footprint. If this project is a building renovation, the certification requirement applies only if the renovation alters more than fifty percent of the existing building gross floor area.

VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

General Planning Considerations

In the general planning of this building and development of the site, special consideration should be given to the following comments and instructions:

- The architect is expected to become thoroughly familiar with all national, state and local fire safety, life safety, and health code regulations and to follow applicable rules of the State Interagency Committee on School Construction.
- The building is to be accessible to the disabled within the meaning of the latest edition of the Americans with Disabilities Act and to conform to all the latest requirements of the Americans with Disabilities Act Accessibility Guidelines (ADAAG) as published by the U.S. Architectural and Transportation Barriers Compliance Board. (The regulation can be found at <http://www.access-board.gov/adaag/html/adaag.htm>). In addition to the ADAAG, the *Maryland Accessibility Code* (COMAR.05.02.02) revised in 2002 also is required for public schools. (The regulation can be found at <http://mdcodes.umbc.edu/dhcd2/Title05.pdf>)
- The facility is to reflect an appealing visual, acoustic, and thermal environment and is to be properly furnished and equipped. Well chosen colors and textures are to be used. Lighting must meet current guidelines and provide adequate levels.
- High quality materials are to be used in the construction.
- The architect should refer to the MCPS Facility Guideline Specifications when noted. The document can be found at: <http://www.montgomeryschoolsmd.org/departments/construction/publications/guidelines.shtm>
- The first impression of a building is important. The main entrance to the school should have a clear and inviting identity, and the entrance area should be designed and landscaped to emphasize its importance. A covered walkway from the bus loading area to the front door is desirable. The design of the entry foyer needs to convey a feeling of warmth and welcome.
- An electronic message board and built-in CCTV monitor should be incorporated into the wall design of the administrative office.
- The inclusion of lighted showcases to display student work should be provided in the corridors of the main entrance, art, multipurpose laboratories, gymnasium, and in each grade level area. They should be recessed into the wall with access from within a room and have an electric outlet.

VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

- Every teaching station, support space, and core area must be wired for computer, CCTV, and telephone, along with adequate electrical supply in compliance with Maryland State design guidelines for Technology in Schools and the MCPS Office of the Chief Technology Office (OCTO) guidelines. Facilities must be adaptable to accommodate rapid development in high technology and its equipment since educational program and organization in this field are dynamic. Space and power supply must be flexible to meet these changing needs.
- Core spaces such as the cafeteria, gymnasiums, instructional media center, and communications center, should be easily accessible for community use and secure from the rest of the building after school hours.
- An MCPS designed alarm system will provide security for this facility. The architect will provide for this system in consultation with the DOC staff.
For maximum instructional flexibility, large special instruction areas such as those provided for general music and multipurpose laboratories should be designed to allow easy conversion of some or all of the space for other kinds of instruction in the future.
- Some windows must be operable in each space in the building. Transmission of radiation through windows into various portions of the plant is to be considered in relation to heating and ventilating and in relation to planning the building for air conditioning. All instructional spaces should have windows, preferably exterior windows. If the design does not permit exterior windows, windows onto corridors should be provided.
- Core spaces such as the cafeteria, gymnasiums, and instructional media center should be easily accessible for community use and secure from the rest of the building after school hours.
- Zoning the plant for heating and air-conditioning should be related to after-hours use of various areas such as offices, gymnasium, multipurpose room, and the instructional media center. Appropriate location of parking, corridor barriers, and toilet rooms is necessary for after-hours use. Some classrooms nearby the multipurpose room should be zoned for after hour use as well.
- For security purposes, all doors into classrooms, conference rooms, offices etc. must have a sidelight window with shades.
- The architect should refer to MSDE's 2006 *Classroom Acoustic Guidelines* to address the acoustical qualities for classrooms. In addition, the architect should refer to *American National Standard, Acoustical Performance Criteria, Design Requirements, and Guidelines for Schools* (ANSI S12.60-2002) for additional information.

VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

- Noise and distracting sounds are to be minimized. In areas such as the multipurpose room and classrooms, which may be used for meetings and adult education, the sound of operating fans for ventilation should not interfere with instruction.
- Bathrooms should be located throughout the building. Bathrooms should be central to the classrooms, with some provided for each grade level area. Student bathrooms also must be located near the cafeteria and main gym.
- Adult bathrooms must be provided on all levels convenient to instructional areas and must conform to the latest code requirements.
- The architect must design all athletic/physical education facilities to reflect equitable facilities for boys and girls based on Title IX requirements.
- The room numbering system should be logical and understandable.
- Blinds capable of darkening to be used in instructional areas, including seminar and conference type spaces, with complete darkening in all science rooms should be provided.
- The location of whiteboards and tackboards should relate to classroom seating and windows. The location of bulletin boards and showcases should relate to team groupings and administrative areas.
- The number of lockers in the corridor should be equal to the core capacity plus 10% of the core capacity.
- Landscaping is to be included. Planting is to include screen planting and that needed for erosion control. Plantings for sidewalks, and wooded and flowered areas, are to be situated to enable the physical education program to be carried on without undue disturbance to the classrooms. Other landscaping to support energy conservation and to relate the building to the site with aesthetic appeal must be included. Note: Landscaping must be minimal, tasteful and allow for easy maintenance.
- Spaces that serve no real educational function, such as corridors, should be limited while at the same time assuring an easy to supervise and smooth flow of pupil traffic to and from the instructional media center, multipurpose room, gymnasium, specialized centers, and support rooms.
- Carpeting should be limited to the principal's office, assistant principal's office and conference room in the administration suite and the main reading room of the instructional media center.
- All student occupied spaces must be able to be supervised from the corridor or an adjacent space.

VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

- The shape of the classroom and the design of built-in features and storage areas should provide optimum net usable floor area. Elongated rooms and features that protrude into floor area, limiting flexibility, are to be discouraged. Rectangular shaped classrooms are preferred.
- The classrooms should be designed to accommodate various size groups. Each classroom should be readily adaptable for group work, various presentation formats, and should have maximum connectivity to outside resources.
- Metal adjustable shelving is to be provided in all building storage closets.
- All plan reviews will be coordinated through the DOC.
- Special consideration must be given to energy conservation including total life-cycle costs. The current Maryland State Department of General Service (DGS) requirements will be applied as design criteria. Life-cycle cost accounting in accordance with DGS criteria is required.
- Per COMAR 23.03.02: Regulation .29, all school projects that include replacing or upgrading the electrical system should be designed and constructed so that a designated public shelter area can be fully powered in the event of an emergency.

VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

Technology Framework

The latest technology should be integrated into every aspect of building. The architect should consult with the Office of Strategic Technology and Accountability (OCTO) and the Division of Construction (DOC) for the latest technology requirements. The architect must at a minimum plan for the following elements.

- Through the use of wireless access, local area and wide area computer and video networks, students should have access to each other, to schools throughout the county with similar capabilities, and to universities and government institutions throughout the world.
- Power strips should be added in all common areas of the school to provide areas for charging mobile devices.
- Each classroom is to have three dedicated 20 amp electrical circuit to serve electrical outlets for charging mobile laptop carts.
- Each classroom will have a promethean board at the teaching wall and CNO for the teacher's computer.
- Computer network outlets (CNOs) consisting of a flush mounted standard electrical box with 1 1/2" conduit to the ceiling space overhead should be located in all classrooms, offices, and other work locations according to the following general rules:
 - one CNO per office, staff office, planning room, etc. adjacent to telephone outlet
 - Two CNOs for student use located 3' apart along the back or side wall in each classroom.
 - Multiple CNOs in media center at circulation desk, reference areas, etc.
 - One CNO at each science lab workstation
 - All other areas such as the stage, bookstore, dining room, etc., where computers might be used.

VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

- The number and location of telecommunication closets required to support the building-wide computer network is dependent on the size and geometry of the building. The layout of the telecommunication closets will be determined during the design phase of the project.
- Provisions for high-resolution fiber optic cable for television must be included in the design of all teaching stations.

Description of Facilities

The following is an approach to the design of new and modernized schools. Please refer to the summary of spaces for the square foot requirements for each space described below. Square foot allocations should be considered the standard to be followed, although minor deviations are allowed.

Standard Classrooms

- Classrooms should be arranged to support the grade level team organization for middle schools. Each grade's area of the building also will have two or three science laboratories and various instructional support spaces.

VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

- Each classroom should be designed as follows:
 - A lockable teacher's closet is to be provided for general supply storage, personal storage, and wardrobe.
 - Book storage should be located along the window wall with half of the cabinets equipped with hinged, lockable doors. A minimum of 60 linear feet should be provided for book storage. The tops of these cabinets will serve as counter space, which should be at work-top height. The counter space at the back of the room should be designed with knee-holes for use for computers and printers, and have electric outlets above the counters.
 - Each classroom should have between 28 and 40 feet of whiteboard and about 20 feet of tackboard. Main teaching layout will be designed in accordance with DOC Facility Guideline Specifications.
 - Map rails and tack rails are to be placed above all whiteboards. Hooks suitable for hanging drawing instruments are to be placed beneath the whiteboards in each academic classroom.
 - One flag holder attachment is to be placed on all map rails with four to six map holders. Two-inch tack rails should be placed in available space in all teaching spaces and in all corridors.
 - Each classroom should be equipped with two-inch blinds.

VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

Science Laboratories

Spatial Needs
Laboratory
Preparation/Project/Storage Room
Chemical Storage

- Science laboratories should be designed in pairs, within team areas, with preparation/project and storage rooms adjacent, preferably between pairs of labs.
- If the science labs are on separate floors of the building, they should be located near an elevator.
- The teaching wall should be on one of the long walls of the laboratory.
- The architect also should refer to the MSDE document, *Science Facilities Design Guidelines*, 1994 when designing the science laboratories.
- These rooms serve as a lecture/laboratory space and should be equipped with the basic equipment as listed below.
- Each science lab should have two exits.
- Seven island style worktables with hot and cold water, electricity, and gas are to be provided.
- One mobile bench (dry sink type) should be located under windows in each lab to facilitate work with plants.
- A three by five foot demonstration table should be located at the front of the room. This demonstration table should be equipped with a stone sink, hot and cold running water, gas, and electricity.
- Twenty-four feet of whiteboard and adequate tackboard are required. Wiring for a promethean board should be provided in the center of the whiteboard.

VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

- Two four foot project cabinets and two four foot storage cabinets, all lockable, are to be located in each room.
- All rooms are to be capable of complete darkening.
- One installed fume hood with full utilities (water, sink, gas, and light) is needed in each laboratory that fits in a cabinet (24" x 36").
- A safety station is to be installed, with shower, automatic shut-off eyewash, and drain with a sloped floor, and should accommodate persons with disabilities. The shower and eyewash should have a spring loaded mechanism.
- The safety station should be located fifteen to twenty feet away from the fume hood.
- Each room should be wired for tie-in to the school computer network at each lab station.
- There should be a master cutoff switch for gas, water, and electric in each room. The master cutoff switch should be strategically located so that it is not overly accessible to students, and should not be located near the exit door of the classroom. The cut-offs should operate electrically (as panic buttons) with a visible light indicator for gas and electric.
- In accordance with ADA guidelines, at least one science lab station in each laboratory should be made accessible to individuals with disabilities.
- Cabinetry for storage of laboratory equipment and microscopes should be provided in all of the labs.
- A sanitizing goggle cabinet should be provided for all labs.
- A teacher's wardrobe should be provided.
- A location should be identified for a file cabinet.
- Locks with a common key are to be provided on drawers in special areas and the teacher demonstration table.
- Electrical and data outlets should be provided in the ceiling for a ceiling mounted LCD projector.

VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

- Two pull-down electrical outlet fixtures should be provided in each lab: one in the center, one in the rear.

Preparation/Project/Storage Rooms

- These rooms are to facilitate the preparation of student projects and short-term storage of projects, as well as to provide general storage.
- Each room is to contain adjustable locked storage and counter facilities, electrical hookup and space for a refrigerator.
- Easy accessibility to the science rooms is important and is a required for visual control of the rooms from adjacent rooms.

Chemical Storage Room

- This storage room should be located adjacent to the 7th and 8th grade science labs and must meet code requirements for chemical storage including:
 - This room must have a 24-hour, 365 day per year exhaust system vented directly to the outside in compliance with the latest applicable codes.
 - It should include non-corrosive wooden shelving with lips, flammable cabinet and acid cabinet.
 - These rooms should contain sinks equipped with hot and cold running water and a floor drain and workbenches equipped with electrical and gas outlets.
 - Space and utilities should be provided in each prep room for a dishwasher.
 - Emergency shut-off and telephone should be located in the chemical storage and prep room only.

VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

Instructional Support Rooms

Spatial Needs
Team Resource Center/Workroom
Interdisciplinary Textbook Storage Room
Departmental Textbook Storage Room
Instructional Data Assistant Room

Team Resource Center/ Workroom

- Two team resource center/workrooms are to be provided for each grade level, providing space in each for teacher desks or a large conference table.
- These rooms should be located next to each other and have an interconnecting door and a 4' x 6' window with blinds between one another.
- A telephone will be located in these rooms.
- Storage and open/closed bookshelves to store teaching supplies and instructional materials should be provided.
- A work counter with sink and electric outlets is needed.
- Three feet of tackboard and four feet of whiteboard are required.
- Wiring for four computers in each team room is required.

VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

Interdisciplinary Textbook Storage Room

- An interdisciplinary textbook storage room is to be provided for each grade level and is to be easily accessible from the classrooms and the team workroom and should have adjustable built-in shelving.
- These rooms must have adequate HVAC and lighting for flexible use by staff as office space.
- Secure storage for computers should be provided within this space and should include adequate electric power for recharging battery powered laptop computers.

Departmental Textbook Storage Room

- Three departmental textbook storage areas are to be provided with the same requirements as the interdisciplinary textbook storage rooms.

Instructional Data Assistant Room

- The room needs to be centrally located, is required for an aide who conducts assessments and updates individual student records.
- Secure storage for school wide records and materials should be included.
- The room should be wired for a computer with printer.
- This room needs a telephone.
- A tackboard should be installed.

VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

Special Education Facilities

Spatial Needs
Resource Room
Speech & Language Room
Occupational Therapy/Physical Therapy Room

Resource Room

- The special education resource room needs open shelving, counter space, and closed storage.
- The room is to be sufficiently wired to accommodate AV equipment, computers, and have tack and whiteboard.
- It should be located in association with the academic classrooms.

Speech Language Room

- This room requires a whiteboard, tack board, open and closed lockable storage, open shelving, and a lockable teacher wardrobe.
- Room for a teacher's desk, lockable file cabinet, and table to work with small groups of students is required.
- The speech/language room should be wired for access to one computer workstation each.
- The speech room must be located on the first floor and be acoustically treated.
- The speech room needs a 4' x 4' mirror mounted to the wall.
- The speech room requires a sink with counter space.

VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

Occupational Therapy/Physical Therapy (OT/PT) Room

- Each room must have whiteboard that is mounted two feet off the floor.
- A tack board, open and closed lockable storage, open shelving, and a lockable teacher wardrobe are required.
- A sink with counter space is required in the OT/PT room.
- Room for a teacher's desk, lockable file cabinet, and assorted sized furniture with adjustable legs should be provided.
- The OT/PT rooms should be wired for access to one computer workstation each.
- The OT/PT requires a ceiling mounted hook for a swing.

The OT/PT room requires lockable storage with sufficient area to house large gross motor equipment (minimum of 35 square feet) such as therapy balls, scooter boards, walkers, balance beams, ramps, etc.

VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

Physical Education

Spatial Needs

Auxiliary Gymnasium (Wrestling)

- Major entrance doors to the gymnasiums and locker rooms should be double doors with no center posts. Non-glazed doors throughout the entire area are preferred.
- Doors should be forty-eight inches wide.
- Storage closets should have no center posts and should be able to be held open to allow for easy movement of equipment.
- If design allows, operable windows in the gymnasium should be provided.

Gymnasium

- The gymnasium is to have a wooden floor.
- The gymnasium requires fiberglass electrically operated folding bleachers to seat one-third of the maximum projected enrollment along one long side, leaving an area of 65 by 100 feet when folded.
- A 27-foot clear ceiling is required.
- An electrically operated folding partition with pass-through door is to be installed with convenient controls. The folding wall should fold to the bleacher side.
- Fixed equipment will include the following:
 - Climbing ropes (2 with knots, 2 without knots)

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VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

- High bar with floor plates
- Insertion type (Senoh only) floor plates for volleyball and badminton game standards and gymnastic equipment (Senoh only) red aluminum combination uprights that work for both volleyball and badminton, therefore only requiring one size of poles and one size of sleeves.
- Wooden rings with hoist and safety straps
- Floor plates for uneven bars
- Scoreboard
- A clock with cage at each end of the gymnasium
- Archery net with hoist on non-bleacher side
- Six basketball baskets, with safety straps. Four should be cross-court. The two end baskets should have rectangular glass backboards and hydraulic rims. All baskets should be motorized and adjustable with key. There should be no doors under the basketball goals.
- Wall safety padding must be mounted under each basket.
- Provisions for reducing glare should be considered.
- Shielded metal halide lighting should be provided.
- Acoustics should be addressed.
- It is particularly important that ventilation function equally and quietly on both sides of the folding partition.
- All switches, fire alarms, etc. should be located in corners, covered with wire boxes, and be duplicated on each side of the folding partition.

VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

- Each wall of the gymnasium should have four sets of electrical outlets.
- Painting and creative artistic wall graphics should be provided.
- The gymnasium should be equipped with acoustical deck, computer and cable hookups and sound system.
- A location should be identified for a Promethean Board including the appropriate power and wiring.
- A recessed water fountain should be provided outside each end of the gymnasium or integrated into an alcove within the gymnasium.
- A lobby with phone booth, display case, bulletin board, and small storage closet should be provided adjacent to the gymnasium.
- Security doors should be provided to close off other parts of the building from the gymnasium/lobby areas.
- If the gym opens to the outside, a step-down entrance with concrete landing is needed.
- Emergency lights should be at least 12 feet from the floor.
- MCPS staff will provide gymnasium court markings.
- Plug-in service for score table controls shall be provided in the floor and need to be flush. Controls must be accessible when bleachers are in the open position.
- Attention should be given to the design of lighting fixtures so that they will not be damaged by indoor ball sports.

VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

Auxiliary Gymnasium (Wrestling Room)

- This room must be 43' x 43'.
- The ceiling height should be a minimum of 16' high.
- The room must be able to accommodate a 42'x42' wrestling mat, after wall padding is secured to the walls. Generally, wall padding begins a few inches above the floor.
- All four walls must have padding from the floor to a height of 6'.
- Colored acoustical panels should be provided from the ceiling.
- An electric deodorizer system and an excellent ventilation system must be provided.
- Electrical outlets should be provided around the room.
- MCPS staff will provide paint colors and graphic layout.
- A small storage closet is needed to secure a VCR, television, and stereo equipment.
- A sound system with the control panel should be installed in the storage closet.
- A small white board (4' x 6') and tackboard (4' x 6') should be installed.
- One electric clock with protective cover should be installed approximately 9' high.
- Cable television, a communication device, and computer hook-up must be provided.
- A keyed electric hoist system must be installed to move and store wrestling mats.
- A water cooler must be located in the hallway near this room.
- A small closet should be provided.

VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

Administration Suite

Spatial Needs
Student Support Specialist Office
Administrative Secretary's Office
Staff Development Office
Testing Room

Student Support Specialist Office

- The office requires a telephone line and computer drop.
- No built in cabinets should be designed in these offices.
- A tack board should be provided in the office.

Administrative Secretary's Office

- The office requires a telephone line and computer drop.
- No built in cabinets should be designed in these offices.
- A tack board should be provided in the office.

VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

Staff Development Office

- The staff development office should be centrally located and in or near the administrative suite.
- This office needs a space for a desk, file cabinet, and round table with chairs.
- The office also needs whiteboard, tackboard, closet, and video, voice and data outlets.

Testing Room

- School and/or central office staff test individual students or small groups of students. Typical testing includes psychological, diagnostic, vision/hearing, gifted, and makeup testing for required standardized tests. This room also will be used to accommodate post-test conferences with teachers and/or parents.
- This room should be designed as a secure room for testing materials and should have a counter with lockable cabinets above and below.
- This room needs acoustical treatment as well as video, voice, and data outlets.

VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

Food Services Facility

Spatial Needs
Student Dining Area
School Store

Student Dining

- The student dining area should be capable of seating one third of the student body at cafeteria tables or one half in rows of chairs.
- Acoustics, ventilation, and color are important considerations in the cafeteria.
- A public address system should be built-in.
- An electronic signboard should be included in the dining area.
- Tackboard is to be placed near the entrance.
- Care is to be exercised in the location of windows in relationship to the location of tables and chairs.
- Trash from the dining area must not flow through the kitchen.
- Student toilet rooms must be located near the cafeteria and have good sound absorption.
- Outside access from the cafeteria to a paved area should be considered in the design of the student dining area.
- There must be a water fountain in the cafeteria.
- A listening assistance device for the hearing impaired should be included in the cafeteria.
- Security gates are to deny access to other parts of the building from the cafeteria/stage/lobby areas.

VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

- An outside entrance to the cafeteria for easy access in the evening and an outside eating area with permanent trash cans (preferably a courtyard) are desirable.
- Consideration should be given to the use of electronic menu boards.

VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

Student Store

- These rooms need direct access to a corridor and are to be near the cafeteria and/or gymnasium.
- Flow of student traffic to and from the area is an important consideration.

VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

Building Service Facilities

Spatial needs
General Storage

General Storage

- Flexible shelving to accommodate books, teaching aids, large size (24" x 36") paper, and other instructional supplies is required.
- Good lighting and easy access to materials being stored are required.
- Electrical outlets, upgraded lighting and ventilation must be provided in all large storage rooms for future flexibility.

VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

Site Requirements

If any areas of the site are disturbed due to the addition, then these areas must be restored elsewhere on the site. The architect is to use the following as a guide for the site.

- The site should be designed to provide a clear view of all play areas and to facilitate supervision from one location.
- Protective fencing may need to be provided near heavily wooded areas, busy streets, steep hills, parking lots and turnaround areas.
- Metal drains/grates should not be located in the playing fields, paved play areas and mulched playground equipment areas.
- Paved areas and fields must be as level as possible. Water should not collect on paved areas or in mulched areas. The architect should consider the architecture of the neighborhood in designing the building.
- The architect should consider the architecture of the neighborhood in designing the building.
- The design should retain as many trees as possible in order to buffer the school and the playing fields.
- Pedestrian access must be provided from the surrounding neighborhoods.
- An unimproved area on-site should be designated to serve as an environmental study area in the future.
- A covered area for students in the bus loading area must be provided.
- Space for buses to load at one time is needed. The number of buses will be reviewed during the design phase in consultation with the Department of Transportation.
- Ideally, parking spaces for 125 cars are to be provided. At least half of the parking area should be readily accessible to the gymnasium. Outdoor lighting for all parking areas and entrances must be adequate for safety and crowd control.
- Bike racks should be provided near the building.

VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

Driveway

- The architect/engineer should refer to the MCPS Facility Guideline Specifications when designing the driveway, bus loop, service drives, etc.
- Bus traffic should be separated from car traffic at all times, when possible. Bus loading zones should be able to accommodate the entire student body.
- A student drop off area should be provided and must be separate from the bus loop area.
- All driveways must be arranged so that children do not cross them to get to the fields and play areas.
- Pedestrian access to the school facilities should be designed to make the best use of community right-of-ways and avoid crossing of loading zone areas.
- The site must comply with the most current ADA or COMAR regulations, whichever is most stringent.
- Site access must be provided to comply with fire protection and storm water management.
- Driveway aprons are to be perpendicular to the centerline of the street; and if there is an intersecting street on the opposite side from the proposed driveways, the driveway apron should line up with the intersecting street.
- Driveways should be located so that vehicle headlights do not project into adjacent homes.
- A service drive is required to service the kitchen, boiler room, and general delivery area. The architect should refer to the MCPS Facility Guideline Specifications.
- Care for safety of students must be exercised in developing the driveways including use of safety rails in the bus loading area.

VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

Service Drive

- The architect should refer to the MCPS Facility Guideline Specifications for design of the service drive.
- The service drive is required for the kitchen, boiler room, shops, and general delivery areas.
- The service drive must be designed so that students do not need to cross the service drive to get to the play fields.

Playing Fields

- One 400' x 400' playing field is desired for general use.
- One 300' x 300' playing field with two sets of soccer goals should be installed

VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

Softball Fields

- Four softball fields are desired.
- Ideally, a 250' minimum radius with backstops is desired—one field should be designed with hood, benches, and safety fences.
- The baseline of the main field should be skinned and infield mix added.

Track And Field Area

- A long jump pit should be provided.
- A short, 60-yard, 6-lane track for short distances and hurdle practice should be designed for track and field instruction. This track should be connected to a walking asphalt path around the perimeter of the fields.
- Several permanent trashcans should be provided in this area.

Basketball Courts

- Three courts fenced with six gooseneck posts with heavy-duty basketball backboards with goals should be installed.
- A three-level chinning bar should be placed near the black top area.

Paved Area

- One paved play area, 55' x 110', with all-weather surface play area should be desirable near the cafeteria and separate from the other physical education areas.

VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

Tennis Courts

- Six tennis courts are desirable each with all-weather surfacing.
- One electrical outlet on the outside of the fence of on one court is required.
- Several benches and outside trashcans should be permanently installed.
- A common "rebound" wall contiguous with the tennis courts should be provided.

Storage Shed

- A 12' x 16' storage shed should be provided at the far end of the site.
- No electric or water is needed.
- It must be designed with double steel doors with heavy-duty hardware and shelves on one wall.

VII. APPENDIX B: EDUCATIONAL SPECIFICATIONS

Additional Requirements

VII. APPENDIX C: EXISTING CONDITIONS SURVEY

GENERAL SITE INFORMATION

North Bethesda Middle School is situated on 19.7 acres owned by Montgomery County Public Schools and located at 8935 Bradmoor Drive in Bethesda, Maryland within Election District 07. The property is found on ADC Map book grids 5284-K10 and 5284-A10 and has tax account number 07-00417672. Per Maryland Capital Park and Planning Commission maps, the site is zoned R-60 and is bounded by single family homes on all sides except the southwest corner, which is bounded by the Greentree Shelter for Women, and several roadways.

Based on the current Montgomery County Zoning Ordinance, dimensional regulations for the property will include the following:

Front setback – 25'

Side setback – 8' min / 18' total

Rear setback – 20'

Maximum Building Height – The height must not exceed: 35 feet when measured to the highest point of roof surface regardless of roof type, or 30 feet to the mean height level between the eaves and ridge of a gable, hip, mansard, or gambrel roof, subject to the following: The height must not exceed 2 ½ stories or 30 or 35 feet, depending on the method of measurement, if other lots on the same side of the street and in the same block are occupied by buildings with a building height the same or less than this requirement. The height may be increased to either 3 stories or 40 feet if approved by the Planning Board in a site plan.

Maximum Lot Coverage – 35% (Maximum of net site area covered by buildings, including accessory buildings)



North Bethesda Middle School – Aerial (Courtesy of Google Earth)

VII. APPENDIX C: EXISTING CONDITIONS SURVEY

SITE ANALYSIS

ADJOINING STREETS, PEDESTRIAN ACCESS, AND VEHICULAR ACCESS:

This site is uniquely connected to five Montgomery County road right-of-ways. The school fronts toward Bradmoor Drive. Johnson Avenue and Beech Avenue, to the east, provide vehicular connections to the site. Other roadways that are adjacent and allow for pedestrian access to the site are: Bulls Run Parkway, which connects at the northwest corner of the property and Adelaide Drive, to the north.

It is noted that there are three road right-of-ways that do not connect to the site from the west, but public easements grant access from these roads the school property. These roads are Swords Way, Leek Forest Court, and Perthshire Court.

In addition there is a bicycle path along the west side of the site that connects Bradmoor Drive to Bulls Run Parkway. The pedestrian access points along the west property line also enter onto this path.

While it is unclear as to the volumes of students and staff that enter the site at each point, there is limited security around the site perimeter and it is likely that all pedestrian access points are not monitored. There may be some consideration to review site security options in addition to the site improvements for any building expansion.

SITE PARKING AND CIRCULATION

Bus Loop

The bus-loop is located along the front west side of the existing building. Buses enter the site from Johnson Avenue and exit onto Bradmoor Drive. There is approximately 220-feet of queuing space and thirteen (13) designated bus spaces. This is insufficient for the 20 buses that are currently serving the school. Current ADA compliance is also recommended for inclusion to site improvements, including a passenger loading area and accessible curb ramps.

VII. APPENDIX C: EXISTING CONDITIONS SURVEY

Student Drop-off Loop

The student drop-off loop is located direction in front of the main entrance to the school on the south side of the building. It consists of a 350-foot long curb, 28-foot wide, one-way drive aisle which loops around with four parking spaces at the main entrance to the school. The length of curb and layout appear to be shorter than typical for a middle school and could be elongated for improvement to circulation during drop-off and pick-up. Current ADA compliance is also recommended for inclusion to site improvements, including a passenger loading area and accessible curb ramps.



Student Drop Off



Aerial (Courtesy of Google Earth)

ON-SITE PARKING

Currently, there are currently four (4) separate areas designated for parking. The larger of the parking lots occupies the eastern region of the site and contains 74 spaces. Within this lot, there are three (3) designated handicap spaces. These spaces do not appear to be in conformance with current ADA standards as there is no designated van space or proper signage. The slopes on the spaces are too steep to comply with ADA. The slope of the crosswalks from the spaces to the building does not appear to be in compliant per ADA. In addition, the access aisle promotes the accessible user to transverse behind parked vehicles. This is a safety concern and should be revised to allow direct access from the spaces to sidewalk without travel through the parking area. A second parking lot is located at the southeastern corner of the site and contains 43 spaces, none of which are designated as accessible spaces. Per current ADA requirements, each parking lot should be designed independently with their own accessible spaces. Two (2) accessible spaces are recommend for this area (1 van and 1 standard). These spaces offer poor access to the building as they are situated some distance from the main entrance to the school. The third is located at the main entrance to the school in the parent drop-off loop. There are currently four (4)

VII. APPENDIX C: EXISTING CONDITIONS SURVEY

spaces, of which one (1) is designated as an accessible space. Again this spaces does not appear compliant with ADA regulations and should be upgraded. The fourth and final parking lot is located at the northwest adjacent to the school. There are eleven (11) existing spaces located here. There is no designated handicap spaces for this area, although it could be considered contiguous to the 74 spaces shown to the south of this area.

It is noted that there is a vehicular gate at the end of the northwest parking lot which appears to be vehicular access to the fields. The gate is in disarray and does not appear to function. This could be a concern for ambulatory access to the fields given an emergency. It is recommended to replace this gate. The area just beyond this gate is covered with stone and has been eroded over the years. Stone is never a good surface on a school as it can become a projectile. This areas should be re-graded and the surface replaced to grass with any improvements made.

ON-SITE LOADING

The current loading area appears to be adequate and well placed for access located at the west side of the school. The only consideration would be for some screening measure as this is visible looking down Johnson Avenue towards the school. However, this may be difficult given on-site vehicular maneuverability.

There are two separate dumpster areas. The main dumpsters area located by the loading area and there is currently a single dumpster located within the parking area at the northwest lot adjacent to the building. Like the loading area, this is not an ideal location as it can be visible looking towards the school from Johnson Avenue. However, they may be no other options for location, as this is functionally in the best location.

SIDEWALK

While the sidewalks for the school property appear to be in fair condition, compliance with accessibility is a concern. The bike path along the west side of the property changes materials where it intersects with adjacent off-site walks. In addition, the bike path has a steep incline that is visible noncompliant with current ADA regulations. As this is a public bike path as outlined by the Bethesda-Chevy Chase Master Plan, compliance should be considered. The main entrance to the building appears to have a cross-slope greater than 2.0% walking perpendicular to the entrance around the drop-off loop. The sidewalk along the east side of the building appears to be constructed at 5%, which is the maximum longitudinal slope allowed without a ramp. This should be evaluated for compliance and upgraded as necessary to be compliant. An asphalt path along the east side of the site, from Johnson Avenue to Beech Avenue is overgrown and does not meet the width requirements per ADA. The overgrown should be trimmed back in order to provide adequate access. All of the athletic fields

VII. APPENDIX C: EXISTING CONDITIONS SURVEY

should be provided with an accessible route and the player's benches should also be accessible. The walkway to the tennis courts from the parking lot to the west of the school appears to have water flowing over it during storms. This could be a potential icing issue in the winter and consideration should be made to improve this situation. There are several doors located around the building that do have a connecting sidewalk, but for fire access and per ADA requirements, these areas should be connected to a public right-of-way.

All site access points that connect to a public right-of-way, should provide compliant accessibility to the school. The overall site should be upgraded to bring the school in conformance with the latest ADA regulations. Per the regulation, improvements must be included not to exceed 20% of the overall cost of the addition. The intent of this is to bring a building and its site improvements into conformance when any major renovation occurs.

FIRE ACCESS

The bus-loop and loading area access drive are not well delineated with signage as on-site fire lanes. Although the bus-loop and the loading drive both appear to meet the current dimensional requirements of a fire lane, the combined hose reach of the two do not provide adequate coverage of the building. It can be assumed that any site improvements will require fire access to be provided around the building and it may be necessary to construction another fire hydrant.

SITE TOPOGRAPHY

Topography for the site slopes in a northeast to southwest direction. There is some off-site drainage area that enters the sites from the adjacent residences and roadways.

VEGETATION

The site has a number of large trees around the perimeter that are in good shape and should be preserved if possible. Refer to the approved NRI/FSD for further information on species and health of trees on the site.

WATER AND SEWER

The site is served by 6-inch service connection than enters the site along Johnson Avenue and serves a single fire hydrant at the northwest corner of the building near the loading area. This water line size reduces to a 3-inch line which enters the building near this same location. As this size appears to be too small to support both domestic water supply and fire suppression for the current school and any building addition, it is likely that WSSC will require water services be upgraded to a larger size. It is also likely that the current internal meter will need to

VII. APPENDIX C: EXISTING CONDITIONS SURVEY

be removed and an external meter be installed per WSSC requirements in a WSSC designated right-of-way on the site.

As stated previously, it is likely that a second hydrant will be required per fire code requirements. This would likely need to be installed at the southwest corner of the building, potentially towards the north end of the parking lot near the tennis courts.

A 10-inch sanitary line is located from east to west on the site, in close proximity to the proposed building additions at the rear of the building. The survey information provided by MCPS does indicate the possibility of an easement for this, which could be in conflict with the building additions. The building addition would need to remain out of the easement or the sewer line could be relocated, if required. There is also a 12-inch sanitary line which runs north to south along the west property line. The easement for this line has been provided on the survey and does not appear to conflict with any improvements. The only consideration, would be to ensure that the manholes do not lie within the hard surface play areas. The building sewer connection appears to flow from the west side of the building to the 12-inch sanitary line along the west property line. There are potentially two sanitary lines that exist the building and are indicated as 6-inch clay. While the size of these appear to be adequate, clay sewer pipes do fail over time and may need to be upgraded. It is recommended, at a minimum, that these two lines be inspected to determine their condition. For the proposed building additions at the rear of the building, sewerage from these additions could be connected to the sewer line that parallels the building at the rear.

Upgrades to the water service 6-inches or greater and to sewer lines greater than 4-inches will require an on-site review by WSSC.

GAS, ELECTRIC AND TELEPHONE, ETC.

Per the survey provided by MCPS, as well as MCPS archive drawings, cable television lines enter the site from Bradmoor Drive and enter the building at the main entrance. There is another cable television connection from Johnson Avenue to the building. A 2-inch gas line enters the site from Johnson Avenue as well and connects to the gas meter located near the northeast parking lot. Electric, Fiber Optic, and Telephone are all located as coming from a pole in the Johnson Avenue right-of-way. These lines enter the building, or connect to the transformer at the northeast portion of the building. Another telephone service line is shown extending from Bradmoor Drive to the southwest portion of the building.

VII. APPENDIX C: EXISTING CONDITIONS SURVEY

The existing condition of these are unknown. Any upgrades to the building should be consulted with a Mechanical Engineer, Electrical Engineer, and Plumbing Engineer.

STORM DRAINAGE AND STORMWATER MANAGEMENT

Based on the MCPS provided topography for the site, there appears to be a single existing stormwater management facility located between the student drop-off loop and the bus loop. Details about this facility are unknown and not present on MCPS archive drawings. However, it appears that the facility may be a quantity type underground structure only.

There is an existing 60-inch concrete storm drain that parallels the 12-inch sanitary sewer line that runs from east to west as previously described. This storm drain is shown closer to the building than the sewer line. The topography supplied by MCPS does not indicate if an easement is dedicated or not. There is also a north and south system which includes a 78-inch concrete pipe north of the school building and a 72-inch x 112-inch elliptical concrete pipe along the west property line for the remaining length to Bradmoor Avenue. These are both significant lines that transfer storm water from the adjacent community across the site to a large concrete channel located on the property to the southwest of the site. All proposed building improvements should avoid these storm drain as there could be significant costs associated with tying into or relocating them.

The above mentioned storm drain that connects to the aforementioned concrete channel likely surcharge during large rain events. The channel at the southwest includes floodplain as discussed later.

It can be anticipated that site improvements will be required to include Environmental Site Design (ESD) to the maximum extent practicable in order to treat all areas inside the limits of disturbance. If ESD efforts are exhausted and the site has still not been able to reach a hydrologic state of “woods in good condition,” then structural practices may be permitted as determined by Montgomery County.

Potential ESD stormwater management practices for the site include both micro-scale practices and alternative surfaces. Micro-scale facilities could include the utilization of bio-swales and micro-bioretention facilities where available open space can be found, such as parking lot islands and around the athletic fields. Alternative surfaces would include vegetative roofing for building additions as well as permeable pavements. Permeable pavements could

VII. APPENDIX C: EXISTING CONDITIONS SURVEY

be utilized instead of traditional hardscapes in all areas where heavy loading or significant fill are not required or have not occurred in the past.

SITE SOILS

In terms of hydrology, all on-site soil groups are characteristically known to provide good drainage and allow adequate infiltration. A majority of the site is indicated as hydrologic soil group 'B' per the USDA Soil Survey. There are also some group 'A' and a small portions of group 'C' hydrologic soils located on the site. All of these group ratings should not encounter limitations on stormwater management facilities. However, the presence of the adjacent floodplain and large storm drain systems could require the need for backflow prevention of the on-site systems.

Flood Plains, Stream Valley Buffers and Non-Tidal Wetlands

Floodplain limits for the 100-year storm for Bulls Run encroaches onto the property per FEMA Floodplain Map 24031C0345D dated Sept 29, 2006. Bulls Runs, a tributary to Booze Creek and eventually Cabin John Creek, is shown located on the property at the southwest of the site. A detailed study for the present FEMA Floodplain terminates on the School property. As there appear to be some inconsistencies with the field run topography a the location of the Floodplain as shown per FEMA Maps, it is recommended that Flood Map Revision be pursued to ensure the building is safely located outside the actual 100-yr flood limit. This is a lengthy process that could take as long as 18 months to complete.

According to the U.S. Fish and Wildlife Mapping services there are no nationally recognized wetlands located on or around the site. Refer to the approved NRI for further information on stream buffer and floodplain location on the site.

HARD SURFACE PLAY AREA

The existing basketball courts and tennis courts appear to be in good condition. However, there were sediment deposits shown on the basketball courts and ponding water on the tennis courts. If these areas are to be impacted by development, new hard surface areas should be designed to alleviate these issues.

VII. APPENDIX C: EXISTING CONDITIONS SURVEY



Sediment deposit on hard activity surface



Ponding water on Tennis Courts

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VII. APPENDIX D: EXISTING PHOTOGRAPHS



MAIN ENTRANCE



MAIN LOBBY



SECONDARY ENTRANCE



STUDENT DINING

VII. APPENDIX D: EXISTING PHOTOGRAPHS



CLASSROOM



COURTYARD



MAIN LOBBY



CORRIDOR

VII. APPENDIX D: EXISTING PHOTOGRAPHS



PORTABLES



TENNISCOURTS/TOPOGRAPHY



NORTHEAST CORNER



HARD SURFACE PLAY AREA