DIAMOND ELEMENTARY SCHOOL ADDITION
Feasibility Study

Prepared for
Montgomery County Public Schools

by
WALTON • MADDEN • COOPER • ROBINSON • PONESS, INC

October 2013

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Diamond Elementary School
Addition

4 Marquis Drive
Gaithersburg, Maryland 20878

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I. INTRODUCTION

The Feasibility Study participants reviewed and provided input on the design concepts for the proposed classroom addition to Diamond Elementary School located at 4 Marquis Drive, Gaithersburg, Maryland, 20878. The concepts included several options for a future revitalization of the school. The meetings occurred on May 7, 2012, May 22, 2012, June 6, 2012, June 20, 2012, and July 11, 2012. The proposed designs are a result of the participant's suggestions and guidance during the feasibility study process.

I. INTRODUCTION

This feasibility study was conducted for Montgomery County Public Schools (MCPS) by the architectural firm of Walton Madden Cooper Robinson Poness, Inc. Diamond Elementary School is located at 4 Marquis Drive, Gaithersburg, Maryland, 20878 (Northwest Cluster). The work was performed under the direction of the MCPS Department of Facilities Management, Division of Construction.

FEASIBILITY STUDY PARTICIPANTS

Carol Lange	Principal	Diamond Elementary School
Gail Belluci	Staff	Diamond Elementary School
Lindsey Berhane	Staff	Diamond Elementary School
Qamar Burney	Staff	Diamond Elementary School
Mary A. Butterman	Staff	Diamond Elementary School
Lance Damaska	Staff	Diamond Elementary School
Dawn Drown	Staff	Diamond Elementary School
Richard Ensley	Staff	Diamond Elementary School
Kelli Fox	Staff	Diamond Elementary School
Erich Frey	Community	Diamond Elementary School
Sherry Frey	Community	Diamond Elementary School
Rob Golden	Staff	Diamond Elementary School
Marcie Gross	Media Specialist	Diamond Elementary School
Kathryn Hageman	Staff	Diamond Elementary School
Elisabeth Halici	Student Teacher	Diamond Elementary School
Deb Hase	Staff	Diamond Elementary School
Vanessa Hugg	Staff	Diamond Elementary School
Jazmine Hull	Staff	Diamond Elementary School
Adrienne Karamihas	Budget and Operations Manager	Department of Facilities Management - MCPS
Beth Kennington	Cluster Coordinator	Northwest Cluster
Diana Koch	Staff	Diamond Elementary School

I. INTRODUCTION (CONTINUED)

FEASIBILITY STUDY PARTICIPANTS Continued:

Ellen Kohn	Staff	Diamond Elementary School
Michael Layton	Community	Diamond Elementary School
Theresa Lindsey	Staff	Diamond Elementary School
Jim Marello	Community	Diamond Elementary School
Mary Marello	Community	Diamond Elementary School
Jane Marshall	Community	Diamond Elementary School
Carmel McGuire	Community	Diamond Elementary School
Diana Moran	Staff	Diamond Elementary School
Gale Mundy	Staff	Diamond Elementary School
Amy Nacelli	Staff	Diamond Elementary School
Jenna Nickles	Staff	Diamond Elementary School
Catie Nieto	Staff	Diamond Elementary School
Saeyin Oh	Project Manager	Division of Construction - MCPS
Shannon Phelan	PTA President	Diamond Elementary School
Michelle Pinto	Staff	Diamond Elementary School
Chery Reed	Special Education	Diamond Elementary School
Brenda Roff	Parent	Diamond Elementary School
Ruthlyn Ryan	Parent	Diamond Elementary School
Carol Schwindaman	Staff Development	Diamond Elementary School
George Scott	Community	Diamond Elementary School
Shelia Shea	Staff	Diamond Elementary School
Michael Shpur	Architect	Division of Construction - MCPS

I. INTRODUCTION (CONTINUED)

FEASIBILITY STUDY PARTICIPANTS Continued:

Wendy Stewart	Staff	Diamond Elementary School
Jillian Storms	Architect	Maryland State Department of Education
Robyn Strauss	Staff	Diamond Elementary School
Ashlie Swann	Staff	Diamond Elementary School
Jessica Taugher	Staff	Diamond Elementary School
Dara Tokarz	Staff	Diamond Elementary School
Larry Vanzant	Community	Diamond Elementary School
Dell H. White	Staff	Diamond Elementary School
Fran Winter	Community	Relda Square Homeowners Association

II. EXECUTIVE SUMMARY

A. PURPOSE

The purpose of this feasibility study is to explore options to accommodate additional classrooms and staff support spaces for the existing elementary school. This study includes options for an addition to the existing school. In developing these option, consideration was given to their relativity to future revitalization and expansion of the existing school. The options were developed to meet the educational specifications prepared by Montgomery County Public School (MCPS). When the addition is completed the building will have a capacity of 647 students. Once revitalized, the building will have core spaces designed for 740 students.

B. HISTORY

Diamond Elementary School is located at 4 Marquis Drive, Gaithersburg, Maryland, 20878 (Northwest Cluster). The original building was completed in 1975 as an open-plan school typical of the educational philosophy prevalent in the 1970's. Subsequently, the "open classroom pods" were modified into self-contained classrooms. The building contains 64,950 gross square feet of space. Currently there are 3 relocatable classrooms on site. Presently the school enrollment is 558 students in Kindergarten through Grade 5. The existing site is 10 acres.

C. METHODOLOGY

The school has been evaluated by a design team of architects and engineers to determine modifications required to accommodate a classroom addition and, in the future, revitalize and expand the school to comply with the educational specification requirements dated November 11, 2011.

The study is based on the following:

- Workshops with the Feasibility Study participants and MCPS staff
  - There were five workshops
  - There was consistent attendance from the participants
  - There were 52 different attendees
- Analysis of the existing physical plant
- Review of the existing construction documents provided by MCPS
- Review of the educational specifications and summary of space requirements provided by MCPS
- Research conducted by the design team

II. EXECUTIVE SUMMARY (CONTINUED)

D. SUMMARY

Diamond Elementary School is situated on a 10 acre parcel at 4 Marquis Drive, Gaithersburg, Maryland. The site is bound by Marquis Drive to the south, Seneca Creek State Park to the north and single-family homes to the east and west. The immediate neighborhood features single family dwellings that pre-date the construction of the school. The site is accessed from Marquis Drive via two curb cuts. A one-way traffic flow handles both cars and busses. The bus loop drops students in front of the school entrance. The student drop-off is part of the faculty and visitor parking lot within the bus loop. Students must cross the bus loop when dropped off by cars. There is parking for approximately 75 cars. Neighbors complain of cars parking throughout the neighborhood and parents using private driveways to turn around, creating congestion and safety issues during normal drop-off and pick-up.

The existing Diamond Elementary School is a one-story structure. The existing structure is constructed of non-combustible construction. The exterior walls are masonry with a face brick veneer. The majority of the interior walls are painted concrete masonry units.

In developing options for a building addition, four conceptual future revitalization and expansion concepts were developed. All options meet the programmatic requirements of the educational specifications for the addition and full revitalization of the building. All programmatic requirements for the site are met for the revitalization options. Options for revitalizations show both retention of the original building and complete replacement. Site improvements for parking, bus loading, and student drop-off can be implemented before the revitalization phase.

Option 1 is the preferred option. The feasibility study participants believed this option addressed the goals and objectives in the most comprehensive manner. Option 1 proposes locating the classroom addition behind the existing building connected with hallways and separated from the existing building with a courtyard.

E. COMMON DESIGN ELEMENTS

All options have the following common elements:

- Adherence to MCPS educational specifications
- Kindergarten classrooms are consolidated in the new addition
- Separation of cars and busses is achieved in the revitalization options
- The fields and playgrounds are consolidated for ease of monitoring student activity
- Maintain full requirements for outdoor playfields and hard and soft play areas

II. EXECUTIVE SUMMARY (CONTINUED)

F. UNIQUE ELEMENTS OF OPTION 1 (Preferred):

- Has the least impact to the neighborhood
- Places classrooms in closer proximity to gym and multi-purpose-room
- Better access for construction

Option 1 - Building Total Cost: $8,458,000

G. UNIQUE ELEMENTS OF OPTION 2:

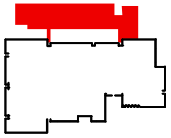
- Consolidates the open space to the rear of the school

Option 2 - Building Total Cost: $8,731,000

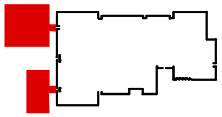
II. EXECUTIVE SUMMARY (CONTINUED)

H. COMPARATIVE ANALYSIS

ADDITIONS



OPTION 1 - ADDITION
NEW CONSTRUCTION = 17,000 SF

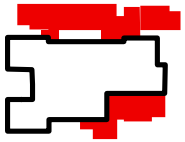


OPTION 2 - ADDITION
NEW CONSTRUCTION = 16,800 SF

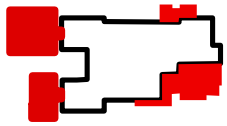
FUTURE REVITALIZATION/EXPANSION

CONCEPT A-1
REVITALIZATION/EXPANSION
NEW CONSTRUCTION = 90,050 SF

CONCEPT B-1
REVITALIZATION/EXPANSION
NEW CONSTRUCTION = 91,300 SF



CONCEPT A-2
REVITALIZATION/EXPANSION
NEW CONSTRUCTION = 41,500 SF
REVITALIZATION = 45,900 SF
TOTAL BUILDING AREA = 87,400 SF



CONCEPT B-2
REVITALIZATION/EXPANSION
NEW CONSTRUCTION = 34,200 SF
REVITALIZATION = 51,600 SF
TOTAL BUILDING AREA = 85,800 SF

II. EXECUTIVE SUMMARY (CONTINUED)

I. SUMMARY TABLE AND COST COMPARISON OPTIONS 1 AND 2

Square Footage Analysis

	OPTION 1(Preferred)	OPTION 2
Existing	64,950	64,950
New Construction	17,000	16,800
Renovation	7,161	8,140
Demolition (Total)	0	0
Existing To Remain	64,950	64,950
Total Gross Square Feet	81,950	81,750
Total Construction Cost	$8,458,000	$8,731,000

PDF Feasibility Study Cost Outline ($000's) - Option 1 Preferred

Construction Cost Estimate	6,886
Planning Cost	804
Contingency and Related Costs	768
TOTALS	8,458

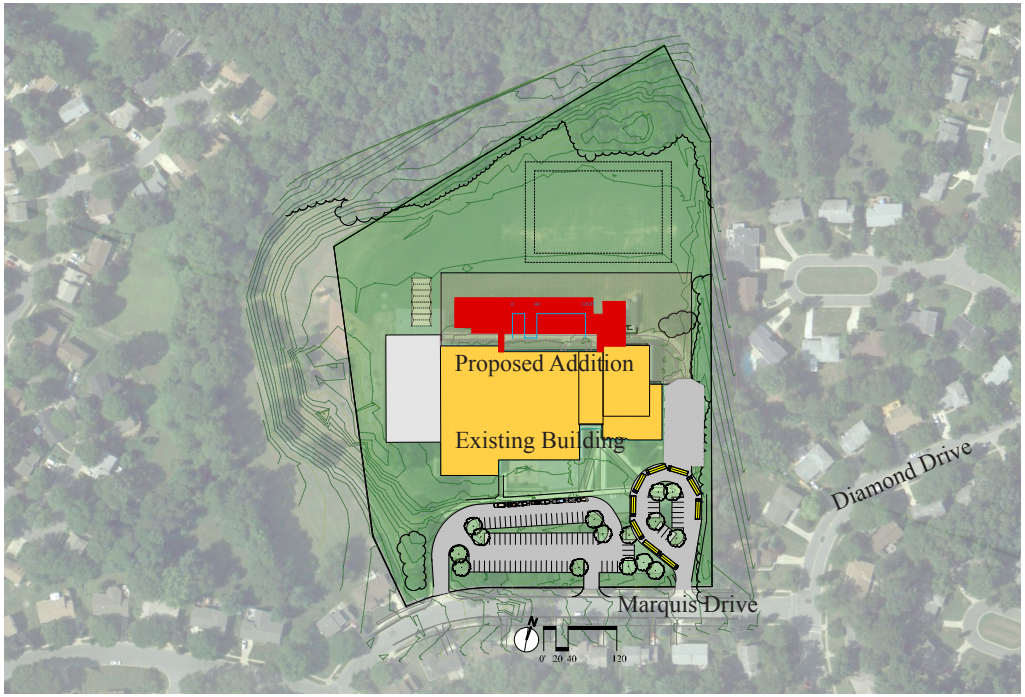
The cost estimate in the feasibility study is based on current construction market conditions for both building and site.

OPTION 1

Option 1 locates the classroom addition to the rear of the existing school. A courtyard is created between the addition and the existing school to allow for daylighting the existing classrooms. All of the building elements from the educational specifications are included in this option. Improvements to the bus loop and student drop-off can be implemented in this phase.

All new systems will be designed to meet MCPS standards. These include the HVAC, life safety, fire protection, electrical, lighting, data, and communication systems. The addition will comply with accessibility codes.

Option 1 - Building Costs = $8,458,000



OPTION 2

Option 2 locates the program in two separate classroom additions to the west side of the existing school. All of the building elements from the educational specifications are included in this option. Improvements to the bus loop and student drop-off can be implemented in this phase.

All new systems will be designed to meet MCPS standards. These include the HVAC, life safety, fire protection, electrical, lighting, data, and communication systems. The classroom addition will comply with accessibility codes.

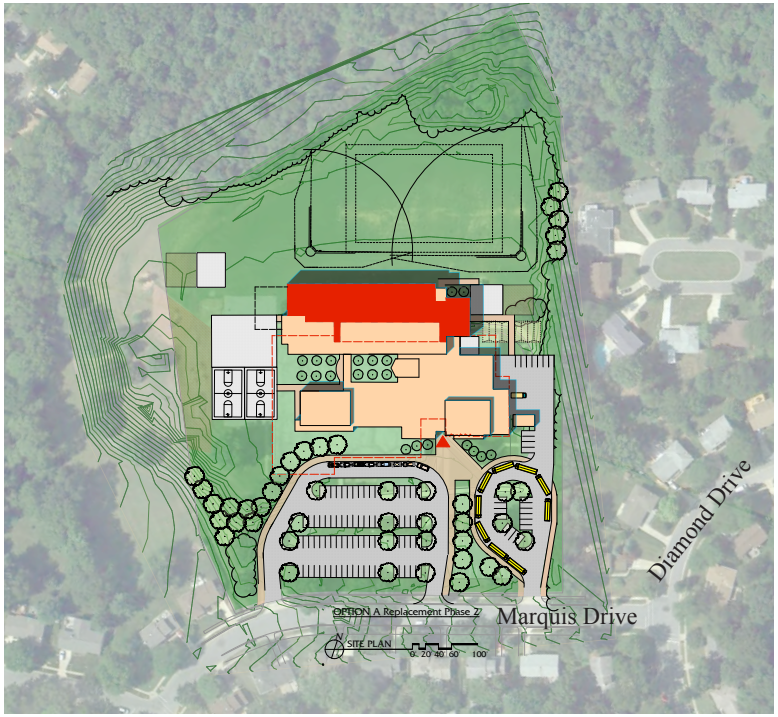
Option 2 - Building Costs = $8,731,000

II. EXECUTIVE SUMMARY (CONTINUED)

REVITALIZATION/EXPANSION CONCEPT A

Concept A allows for revitalization to proceed in one of two ways. Concept A-1 shows full replacement of the existing building. The classroom addition would remain as part of a two-story classroom wing. A new one-story wing at the front of the school would contain the gym, multi-purpose-room, administrative offices, art, music, and health suite. Concept A-2 leaves much of the existing building that would be revitalized as part of a one-story school. All new systems will be designed to meet MCPS standards. These include the HVAC, life safety, fire protection, electrical, lighting, data, and communication systems. The revitalization will comply with accessibility codes.

CONCEPT A-1



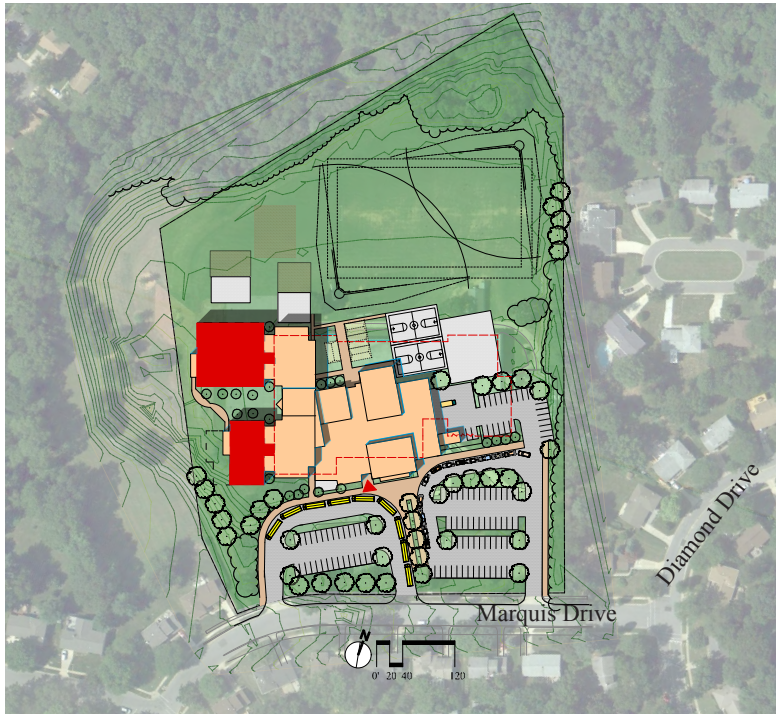
CONCEPT A-2

II. EXECUTIVE SUMMARY (CONTINUED)

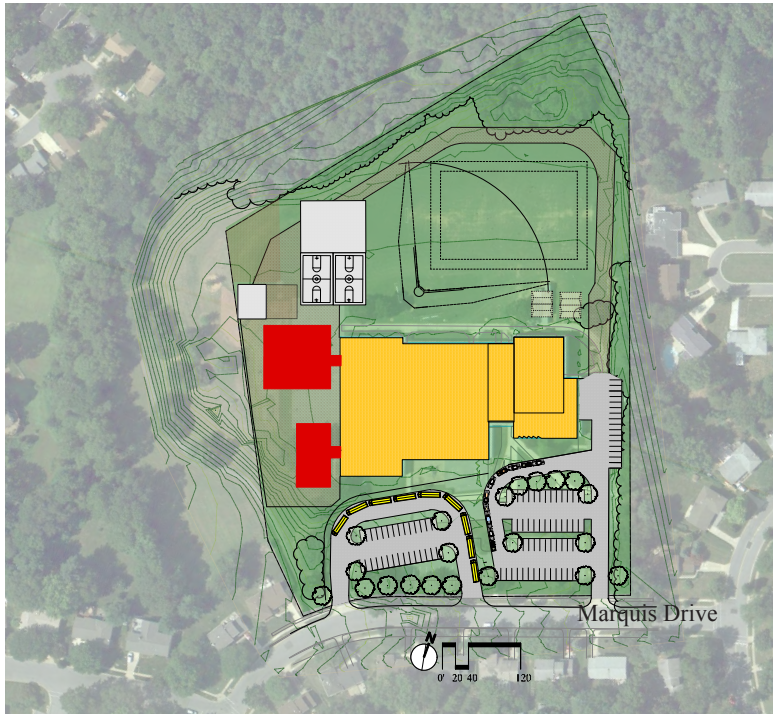
REVITALIZATION/EXPANSION CONCEPT B

Concept B allows for revitalization to proceed in one of two ways . Concept B-1 shows full replacement of the existing building. The classroom addition would remain as part of a two-story classroom wing. A new one-story wing at the front of the school would contain the gym, multi-purpose-room, administrative offices, art, music, and health suite. Concept B-2 leaves much of the existing building that would be revitalized as part of a one-story school. All new systems will be designed to meet MCPS standards. These include the HVAC, life safety, fire protection, electrical, lighting, data, and communication systems. The revitalization will comply with accessibility codes.

CONCEPT B-1



CONCEPT B-2



II. EXECUTIVE SUMMARY (CONTINUED)

J. CONCLUSIONS AND RECOMMENDATIONS

All addition options presented herein meet MCPS standards, and program requirements, and address the interests and concerns of the feasibility study participants and school staff.

CLASSROOM ADDITION

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Based upon input received during the feasibility study, the study participants preferred Option 1, as described in Section V of this study. Option 1 proposes a one-story classroom addition onto the rear of the existing school.

While a future revitalization/expansion project was conceptualized as part of this study, such a project is not part of the feasibility study for the addition. That being said, the feasibility study participants favored revitalization/expansion concept A-1.

III. SCOPE, METHODOLOGY, & GOALS

SCOPE AND INTENT

Montgomery County Public Schools (MCPS) has a desire to provide additional classrooms to relieve current and projected overcrowding at the school. Diamond Elementary School also is scheduled for a revitalization in the future to meet current specifications relative to educational programs, instructional philosophy, program space allocations, and current energy, ADA, and life safety codes. When completed, the addition will increase capacity to 647 students.

The intent of this feasibility study is to explore options for the classroom addition that allows for future revitalization to the existing facility that accommodate and meet the educational requirements of its student enrollment, satisfy the staff and community concerns, and provide a cost effective, energy efficient, and safe facility to meet the future needs of the school.

The scope of work includes a survey of the physical plant and evaluation of the existing mechanical, electrical, and plumbing systems. The Architectural/Engineering design team analyzed the educational specifications and developed three site and building concepts throughout the entire process. The feasibility study participants reviewed the progression of the these concepts throughout the entire process. The concepts are presented as options in this report. Option 1 best meets MCPS requirements.

METHODOLOGY

The school has been evaluated by a design team of architects and engineers to determine modifications required to accommodate the proposed addition and to revitalize the school in the future to comply with the educational specification requirements dated November 11, 2011.

The study is based on the following:

- Workshops with the feasibility study participants and MCPS Staff
  - There were five workshops
  - There was consistent attendance from the core participants
- Analysis of the existing physical plant
- Review of the existing construction documents provided by MCPS
- Review of the educational specifications and summary of space requirements provided by MCPS
- Research conducted by the design team

GENERAL GOALS

The first Feasibility Study work session was held on May 7, 2012. At that work session, members of the community, PTA, and school staff discussed goals for the project. At each subsequent work session, the goals and objectives were reviewed and modified by input from the participants. The following goals and objectives for the addition project were a result of that effort:

Addition

1. Choose location that minimizes disruption
2. Consolidate program in single location for cost savings
3. Consider consolidating K-cluster in the new addition
4. Explore site improvements that might be implemented before revitalization

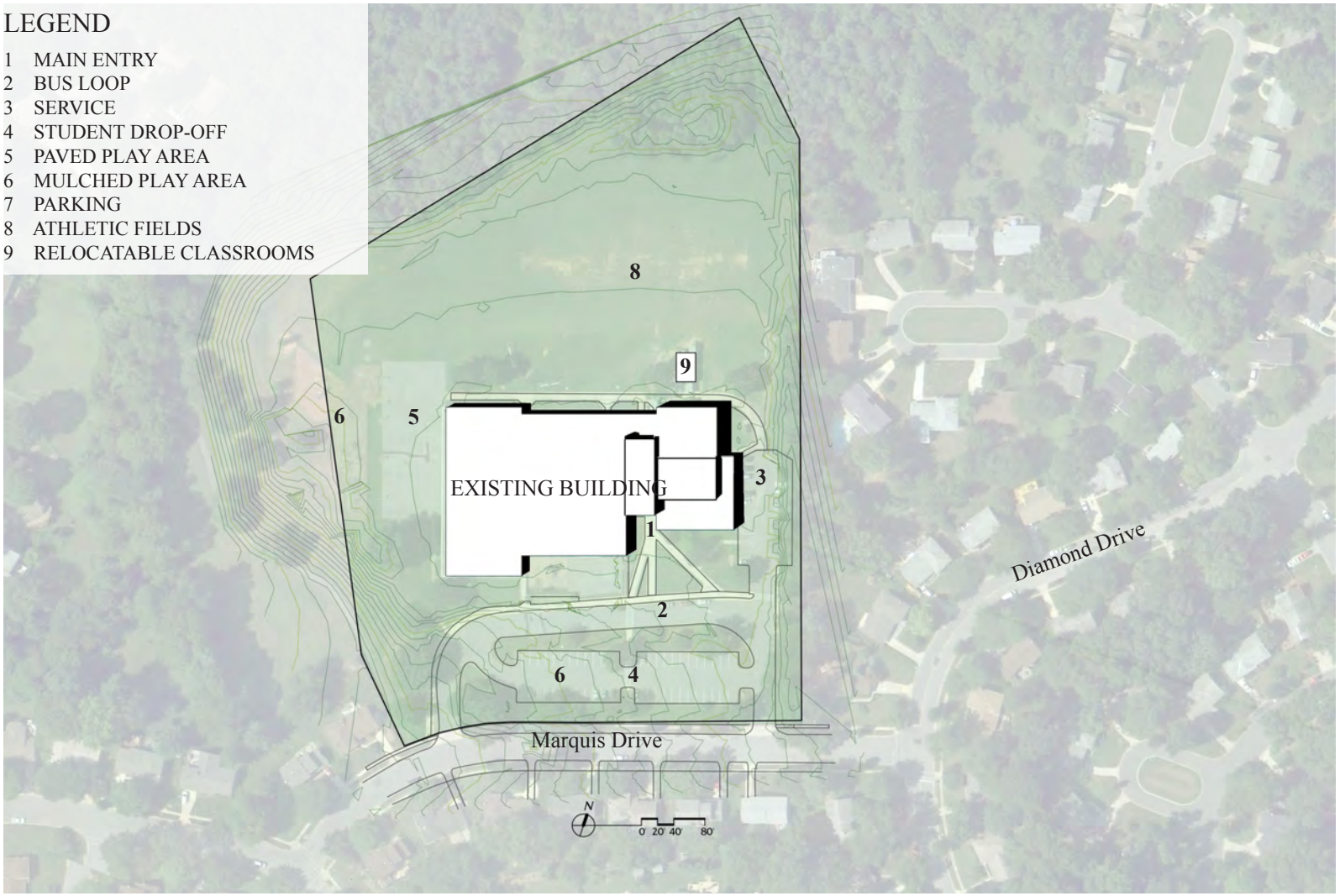
Revitalization

1. Eliminate interior windowless classrooms
2. To the extent possible, create grade clusters
3. Minimize travel distance for K-students
4. Maximize on-site parking
5. Maximize on-site car queue for student drop-off
6. Keep cars and buses separate
7. Provide safe access for walkers
8. Maintain tree buffer along east property line
9. Maximize daylight into classrooms
10. Provide a compact building to maximize site amenities

IV. EXISTING CONDITIONS

VICINITY MAP

EXISTING SITE PLAN



IV. EXISTING CONDITIONS (CONTINUED)

EXISTING FLOOR PLAN

LEGEND

1 ENTRY
2 KINDERGARTEN CLASSROOM
3 CLASSROOM
4 DUAL PURPOSE ROOM
5 INSTRUCTIONAL MEDIA CENTER
6 COMPUTER LABORATORY
7 SUPPORT STAFF ROOM
8 LARGE GROUP INSTRUCTION
9 MULTI-PURPOSE ROOM
10 PRINCIPAL'S OFFICE
11 MUSIC
12 ESOL
13 MAIN OFFICE
14 STAFF LOUNGE
15 HEALTH
16 WORKROOM
17 ART
18 GYMNASIUM
19 RESOURCE ROOM
20 CONFERENCE
21 COUNTY RUN PRE-K
S STORAGE ROOM
M MECHANICAL ROOM
K KITCHEN

EXISTING CONDITIONS SUMMARY

Diamond Elementary School is situated on a 10 acre parcel at 4 Marquis Drive, Gaithersburg, Maryland. The site is bound by Marquis Drive to the south, Seneca Creek State Park to the north, and single family detached dwelling units to the east and west. The immediate neighborhood features single family dwellings.

The existing site topography slopes down from the northeast corner of the site to the southwest edge. A man-made plateau provides relatively flat grades for the school and playfields. A steep embankment exists at the west edge of the property. The front of the property slopes from east to west along Marquis Drive.

Busses and cars enter the site from Marquis Drive at the southeast corner. The existing staff parking and student drop-off occur within the bus loop. The sidewalk along the bus loop slopes from east to west presenting some challenges to ADA accessibility. Students dropped-off by cars must cross the bus loop, which is not optimal. There are approximately 75 parking spaces for staff and visitors.

The property is bordered on the east, west, and south by residential single-family neighborhoods. An existing stormwater management pond exists at the northern corner of the site. The City of Gaithersburg has been active in maintaining the fields and installed backstops for youth baseball and softball.

The existing Diamond Elementary School is a one-story structure, built of non-combustible construction. The exterior walls are masonry with a face brick veneer. The majority of the interior walls are painted concrete masonry units.

Refer to Appendix C for a complete existing conditions survey.

V. DESCRIPTION OF OPTIONS

GENERAL

All options have been developed in response to the MCPS educational specifications for Diamond Elementary School. The two options for the classroom addition are limited in scope and do not address site elements of the educational specifications. Only existing site amenities disturbed by the addition project will be replaced. The revitalization options address all of the site and building elements from the educational specifications.

COMMON SITE DESIGN ELEMENTS FOR EACH REVITALIZATION OPTION

SITE

- Car and bus traffic is separated in all options. Parking for 90-100 automobiles and a 12 bus one-way loop are included in the designs.
- One main entrance to the building is created adjacent to the student drop-off loop and bus loop to easily monitor both loops at arrival and dismissal.
- The site plans and building plans allow for future expansion and locate potential relocatable classrooms.
- The fields and playgrounds are consolidated for ease of monitoring student activity by minimal number of staff.
- All site features will be ADA accessible.
- The location of the existing play fields will remain largely unchanged.
- All necessary quantity and quality control of stormwater will be provided for all options per code requirements.

ARCHITECTURAL

- The school is divided into zones- the public areas (including cafeteria, music, art, gymnasium), and the academic areas. For after-hours use, the academic areas can be closed off from the public areas.
- The administration suite is at the main entrance. The main entry will be locked during the school day, requiring visitors to enter through the main office.
- The location of the administration suite allows for easy passive supervision of the bus loop and student drop-off.
- The Instructional Media Center (IMC) is centrally located within the academic wing.
- Music and art are located near the multi-purpose room platform for ease of access during student performances.
- Kindergarten classrooms are clustered together.
- Any hazardous materials will be abated from the disturbed portion of the existing building during the demolition process.
- The facility will be ADA accessible.
- The classroom addition will be separated from the existing building with 2-hour fire rated partitions and fire rated doors.
- The addition will be designed to fully comply with current building codes in a way to allow for extension of the systems to the rest of the building as part of the future revitalization.

MECHANICAL

HVAC SYSTEMS

ADDITION

The addition will be heated and cooled with incremental equipment. Options will include DX (electric) split systems, gas furnaces, and water source heat pumps that can attach to a geothermal system in the future as part of the revitalization. Ventilation air to the classrooms will be supplied through energy recovery units (100 percent outdoor air) mounted on the roof.

REVITALIZATION

To meet state IAC requirements and Montgomery County's requirement for LEED certification for the revitalization, a geothermal heat pump system will be the primary heating and air conditioning system for all options. The geothermal borehole field will be located under the athletic fields. Heat pump loop water will be circulated through base-mounted pumps operating in a lead/lag type arrangement. The heat pump loop headers and associated pumps, expansion tank and glycol system will be located in a mechanical pump room. All classrooms will be served with vertical heat pump units located in a mechanical closet; heat pump loop piping will be extended from the mechanical room.

Ventilation air to the classrooms will be supplied through energy recovery units (100 percent outdoor air, geothermal heat pump) mounted on the roof. The units will supply conditioned outdoor air directly to the classrooms and exhaust through air devices mounted low on the walls. Exhaust air systems from the energy recovery units will also serve toilet and storage rooms.

Roof-mounted or interior mechanical room, single-zone, geothermal heat pump units will serve the Gymnasium, Multi-Purpose Room and Media Center.

The administration area will be conditioned with a variable refrigerant flow (VRF) system connected to the geothermal piping loop.

Electric heat will be provided at entrances, stairs, toilet rooms, etc.

PLUMBING

ADDITION

All new plumbing fixtures will tie back to the existing sanitary and domestic water systems.

REVITALIZATION

A domestic water service will be extended to the building and an electric water heater will be provided. Domestic water piping will be extended from the service to points of service throughout the new facility.

All plumbing fixtures will be institutional grade with a maximum 1.6 gallon flush on water closets, 1.0 pint on urinals, and 0.5 gallons per minute on faucets. Plumbing fixtures will comply with ADA requirements and utilize water conservation features. All systems will be provided in accordance with local plumbing code requirements.

FIRE PROTECTION SYSTEMS

The addition will tie back to the existing fire alarm system. For the revitalization, the fire new service located in the main mechanical room will be adequately sized to serve the new facility. A double check backflow preventer will be installed on the new fire service. The new sprinkler system will be provided in accordance with National Fire Protection Association (NFPA) requirements.

ELECTRICAL

SERVICE AND POWER DISTRIBUTION

The addition will tie back to the existing electrical service via new distribution panels. For the revitalization, the new electrical service will be a 2,000-ampere, 277/480 volt, 3-phase, 4-wire service by PEPCO. A service entrance will be located in a dedicated electrical room served from a power company-supplied transformer.
Separate computer power panels for the new addition will be provided via harmonic mitigating transformer. These panels will have 200 percent neutral bus to account for harmonic distortions. Power connections with a disconnect switch will be provided in the mechanical rooms for all mechanical equipment. Phase loss protection will be provided for all 3-phase motors, and transient voltage surge suppression provided at the service entrance and distribution panels.

EMERGENCY POWER

The addition will have no connections to the existing emergency generator. For the revitalization, a new natural gas generator will be installed, with an output of 100 kW at 277/480 volts. The generator will serve a “life safety” automatic transfer switch, transformer and panels for emergency loads such as fire alarm panels, selected network communications equipment and receptacles, security panels, and emergency egress lighting in corridors and classrooms. The generator will also serve a “standby” automatic transfer switch, transformer and panels for equipment loads such as kitchen walk-in refrigerator/freezer, heat trace and any required heating equipment.

FIRE ALARM SYSTEM

The existing fire alarm system will be extended for the addition. For the revitalization, an addressable fire alarm system will provide complete coverage throughout the entire building.

Occupant notification will be provided by visible and audible signals. Audible alarms will be provided by recorded voice announcements utilizing speakers. Audible and visual alarm signals will operate throughout the entire building.

The fire alarm control panel (FACP) shall be located in the main electrical room. A graphic annunciator panel shall be located in the main entrance lobby outside the administrative suite.

All fire alarm system wiring will be installed in conduit.

The fire alarm system initiating devices will consist of smoke detectors, manual pull stations, and sprinkler water flow switches. Smoke detectors will be provided in areas where doors are held-open with magnetic hold-open devices. Manual pull stations will be provided at the main office and designated main exits. Duct smoke detectors will be provided in HVAC systems over 2,000 CFM. A water flow switch will be provided at each sprinkler zone control assembly. Valve supervisory switches will be provided for all sprinkler system control valves.

Alarm, trouble and supervisory signals are displayed on the building fire alarm control panel and all annunciator panels. The FACP will transmit alarm, supervisory, and trouble conditions to the central station via a digital communicator.

All fire alarm system wiring will be installed in conduit.

The fire alarm system initiating devices will consist of smoke detectors, manual pull stations, and sprinkler water flow switches. Smoke detectors will be provided in areas where doors are held-open with magnetic hold-open devices. Manual pull stations will be provided at the main office and designated main exits. Duct smoke detectors will be provided in HVAC systems over 2,000 CFM. A water flow switch will be provided at each sprinkler zone control assembly. Valve supervisory switches will be provided for all sprinkler system control valves.

Alarm, trouble and supervisory signals are displayed on the building fire alarm control panel and all annunciator panels. The FACP will transmit alarm, supervisory, and trouble conditions to the central station via a digital communicator.

V. DESCRIPTION OF OPTIONS (CONTINUED)

LIGHTING

Interior classroom and office lighting will be direct/indirect, linear fluorescent type fixtures with 32-watt, 3500K, T-8 lamps and electronic ballasts. Multi-compact high-bay fluorescent fixtures will provide lighting for the gymnasium. Corridors and other miscellaneous spaces will be lensed type recessed fluorescent fixtures. Other energy-saving lamp types such as compact fluorescent downlights and HID lights will be provided for interior and exterior lighting. General lighting control will be provided by room lighting switching schemes with occupancy sensors for automatic shut-off control. Multiple switching will be provided for larger areas. Exit lights will be the LED type on separate circuits. Emergency lighting will be switched.

The lighting power density shall not exceed 1.2 watts per foot per ASHRAE 90.1.

CLASSROOM TECHNOLOGY - Revitalization

Classrooms will be equipped with dedicated computer receptacles connected to a separate “clean-power” computer panels. The teacher’s desk receptacles will be connected to this emergency standby source. An additional “clean-power” receptacle will be located at the front of the classroom off-center of the teaching wall for smart boards. Provisions for data and cable television will be provided at the teacher’s desk and/or at a technology wardrobe or cabinet as coordinated with the Architect and MCPS.

TECHNOLOGY INFRASTRUCTURE

The school had a technology upgrade in 2009 including server replacement and some cabling. The school now has a total of eight Promethian Boards while other classrooms use cart-mounted video projector/computer systems. Each classroom has three fixed desktop computers. There is no wireless network in the building. For the revitalization, the school will have a dedicated telecom from which all data/voice/video systems will stem. The network system design will include outlet boxes, conduits and raceways, surface raceways, and conduit sleeves for the installation of the data/voice/video network systems.

PUBLIC ADDRESS SYSTEM

The existing public address (PA) system will be extended to addition For the revitalization, the school will have a new dedicated public address (PA) system head-end in the main office. The head-end equipment provides PA, intercom, master clock and CD/audio functions. Each classroom will have a call back switch and speakers. The corridors and restrooms will have speakers only.

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V. DESCRIPTION OF OPTIONS (CONTINUED)

OPTION 1 ADDITION - DESCRIPTION

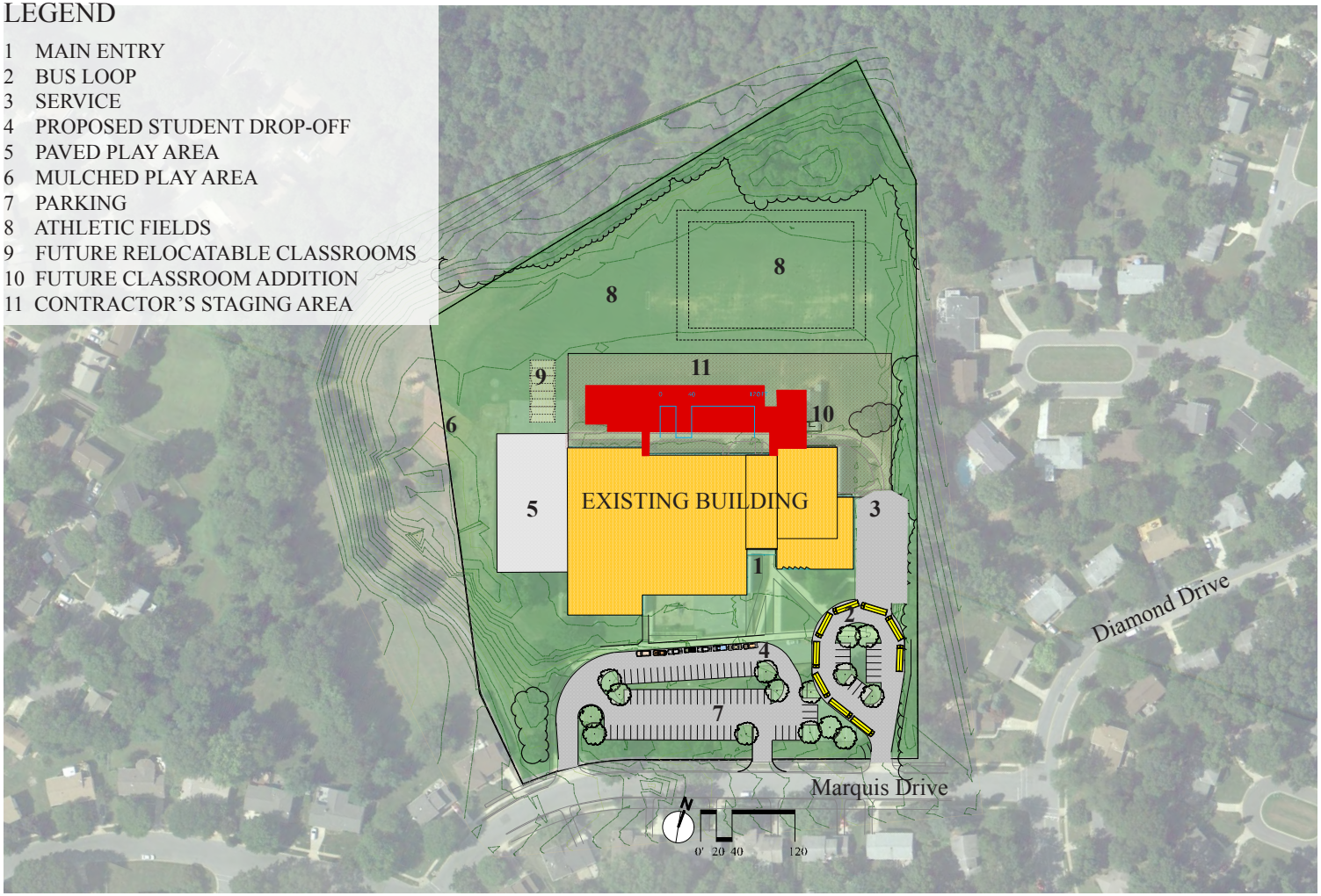
Option 1 locates the classroom addition at the rear of the existing school. This one-story wing connects back to the existing building at two points creating a loop corridor. The new wing is separated from the existing building with a courtyard to maintain natural daylight to the existing classrooms. All of the building elements from the educational specifications are included in this option. The site elements would be part of the revitalization.

Option 1 clusters the kindergarten classrooms in the new addition.

Improvements to the student drop-off and bus loop can be implemented as part of the phase one classroom addition if budget is allocated for that phase. Typically, these improvements would be done with the revitalization.

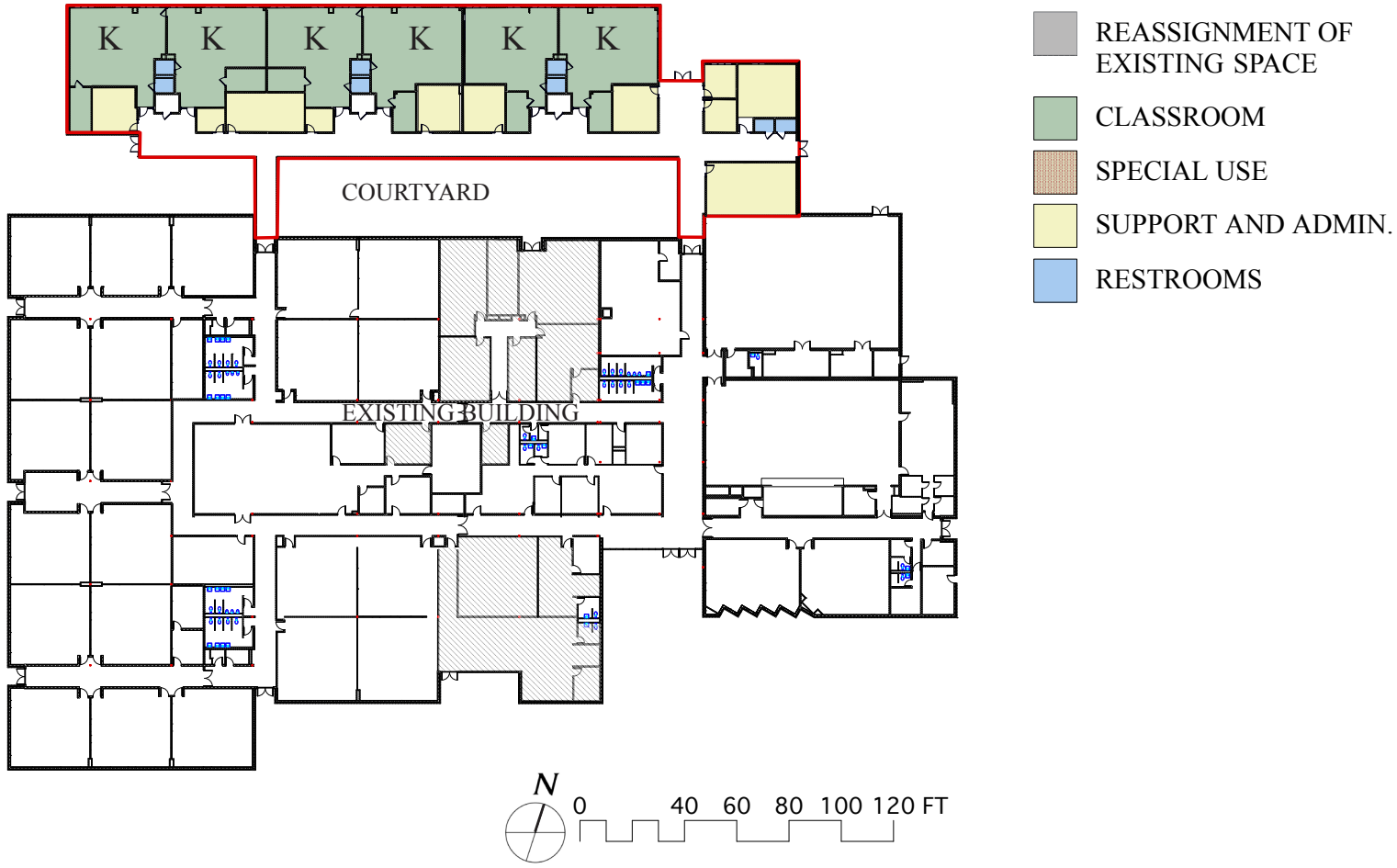
V. DESCRIPTION OF OPTIONS (CONTINUED)

OPTION 1 ADDITION - SITE PLAN



V. DESCRIPTION OF OPTIONS (CONTINUED)

OPTION 1 ADDITION - PROPOSED MAIN LEVEL FLOOR PLAN



LEGEND

V. DESCRIPTION OF OPTIONS (CONTINUED)

OPTION 1 ADVANTAGES AND DISADVANTAGES

Option 1 proposes a one-story classroom addition at the rear of the existing school.

Advantages
- Least impact on neighbors
- Consolidates kindergarten classrooms
- Easy access for construction
- Ideal solar orientation for classrooms
- Kindergarten wing in better proximity to common use areas

Disadvantages
- Requires portables to be moved prior to construction
- Structural design must allow for future second floor

V. DESCRIPTION OF OPTIONS (CONTINUED)

OPTION 2 ADDITION - DESCRIPTION

Option 2 locates the classroom additions at the west end of the existing school. Two one-story wings connect back to the existing building aligned to the existing classroom corridors. The new classrooms are positioned away from the existing building to maintain natural daylight to the existing classrooms. All of the building elements from the educational specifications are included in this option. The site elements would be part of the revitalization.

Option 2 clusters the kindergarten classrooms in one of the new wings.

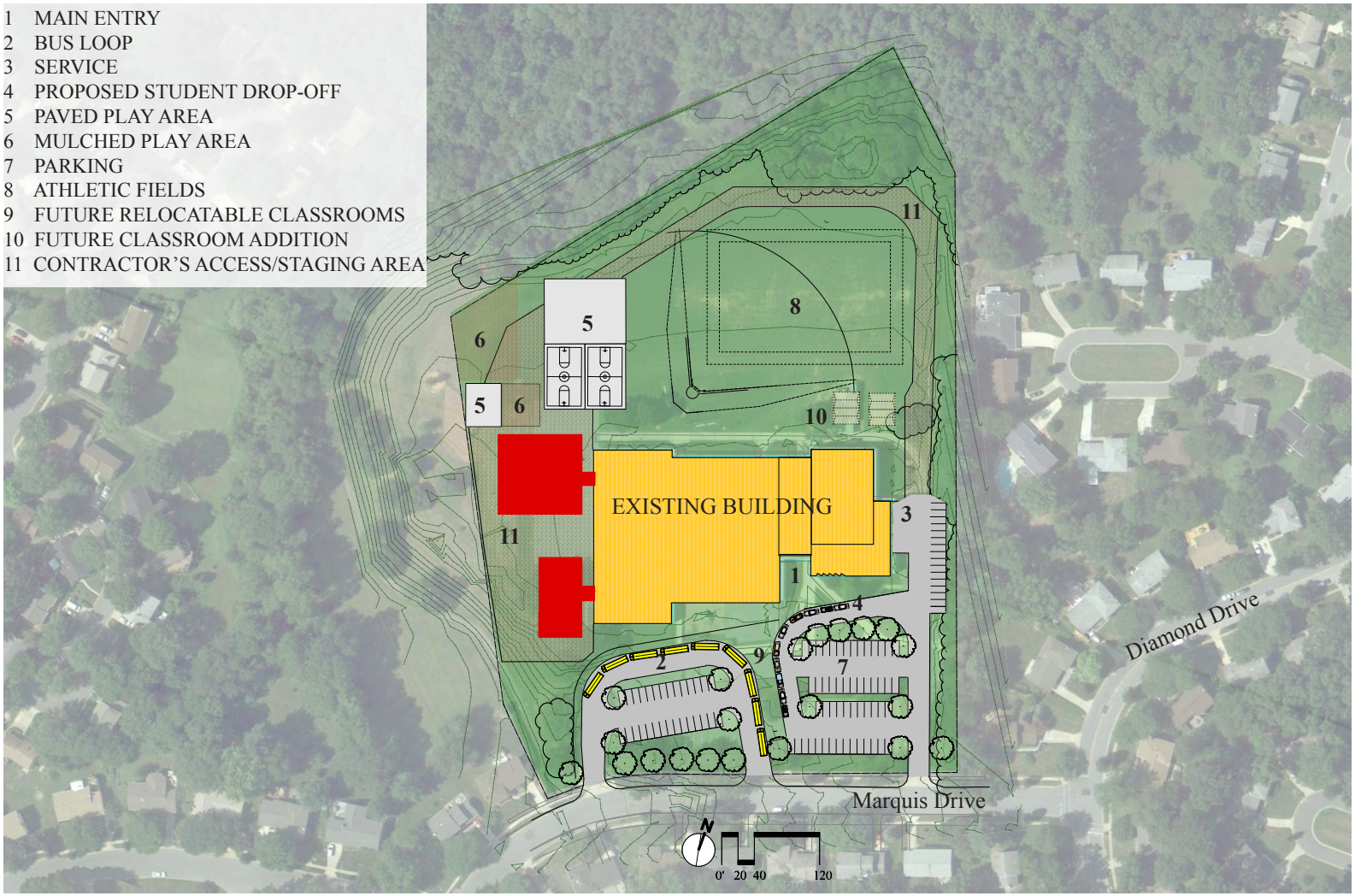
Improvements to the student drop-off and bus loop can be implemented as part of the phase one classroom addition if budget is allocated for that phase. Typically, these improvements would be done with the revitalization.

V. DESCRIPTION OF OPTIONS (CONTINUED)

OPTION 2 ADDITION - SITE PLAN

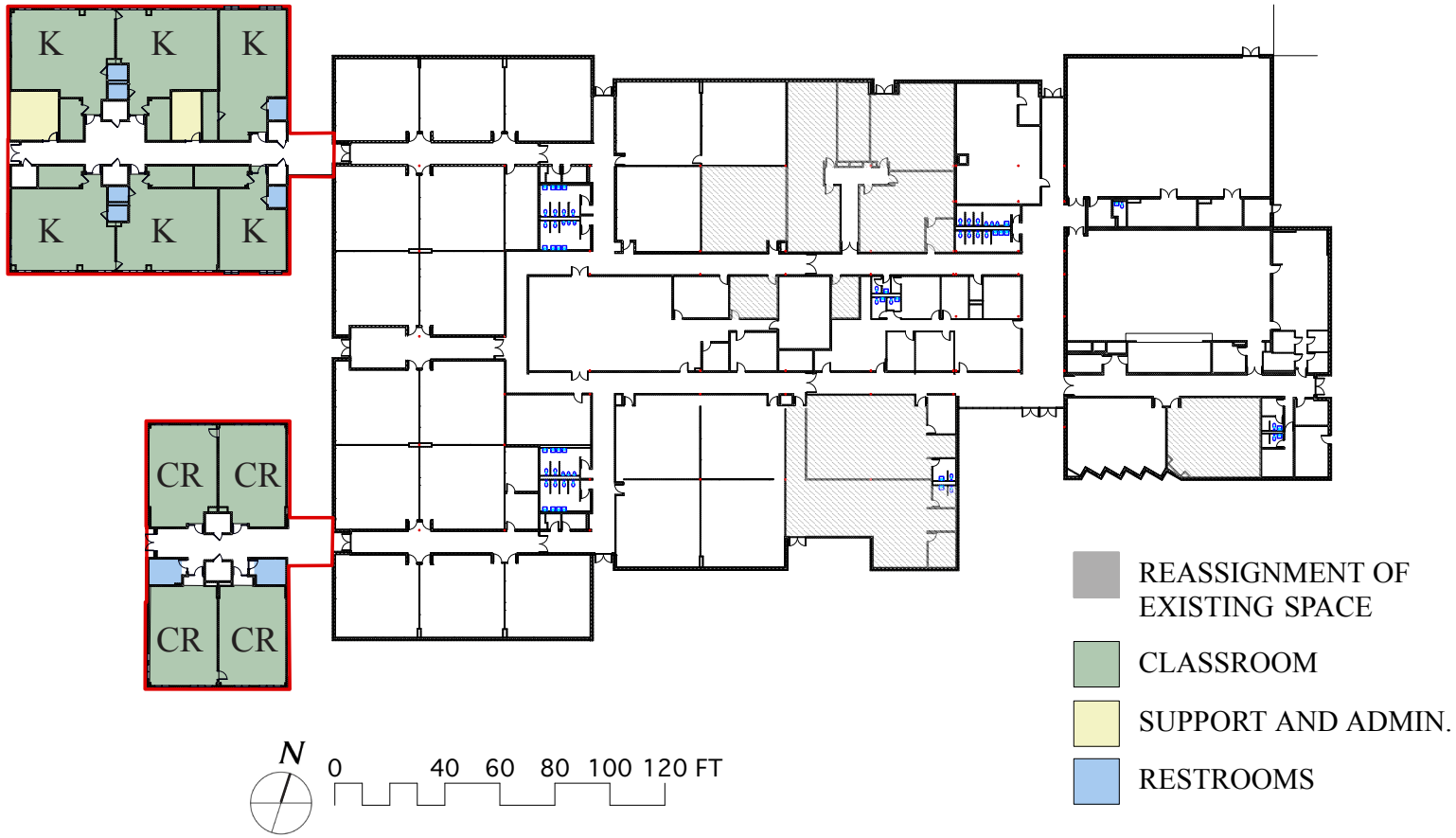
LEGEND

1 MAIN ENTRY
2 BUS LOOP
3 SERVICE
4 PROPOSED STUDENT DROP-OFF
5 PAVED PLAY AREA
6 MULCHED PLAY AREA
7 PARKING
8 ATHLETIC FIELDS
9 FUTURE RELOCATABLE CLASSROOMS
10 FUTURE CLASSROOM ADDITION
11 CONTRACTOR'S ACCESS/STAGING AREA



V. DESCRIPTION OF OPTIONS (CONTINUED)

OPTION 2 ADDITION - FLOOR PLAN



V. DESCRIPTION OF OPTIONS (CONTINUED)

OPTION 2 ADVANTAGES AND DISADVANTAGES

Option 2 proposes two separate one-story classroom wings at the west end of the existing building.

Advantages
1. Maximizes the space behind the school for fields and playgrounds
2. Clusters kindergarten classrooms

Disadvantages
1. Long walk for students, especially kindergarten students to the front entrance and gym, MPR, etc.
2. Access for construction more difficult
3. Structural design must allow for future second floor
4. Circulation hallways more spread out
5. Location of additions visually impacts neighbors to the west
6. Existing hard surface play area would need to be relocated

V. DESCRIPTION OF OPTIONS (CONTINUED)

CONCEPT A-1 REVITALIZATION - DESCRIPTION

Concept A-1 achieves revitalization by razing the entire existing building and providing a new combination one and two-story school that includes a courtyard between the classroom wing and the main wing. The two-story classroom wing is built adjacent to the phase one classroom wing with new second story above. All of the site and building elements from the educational specifications are included in this option.

The building can generally be divided into two zones. The public area, including the multi-purpose room and gymnasium, are part of a one story wing facing the student drop-off and bus loop. The main entrance to the building is on the main level as is the health suite, kindergarten classrooms, media center, art, music and the dual purpose room. The gymnasium is adjacent to the play grounds. The academic areas are located behind the public areas in a two-story wing. The instructional media center anchors the academic wing and faces the courtyard.

Concept A-1's building footprint is the smallest of the all options. Parking and student drop-off are located to the south with access from Marquis Drive. The parking area is configured as a one-way loop with dedicated entrance and exit. A generous drive lane for student drop-off should mitigate any back-up of cars onto Marquis Drive. Some staff parking is required within the bus loop. The bus loop enters and exits the site from Marquis Drive.

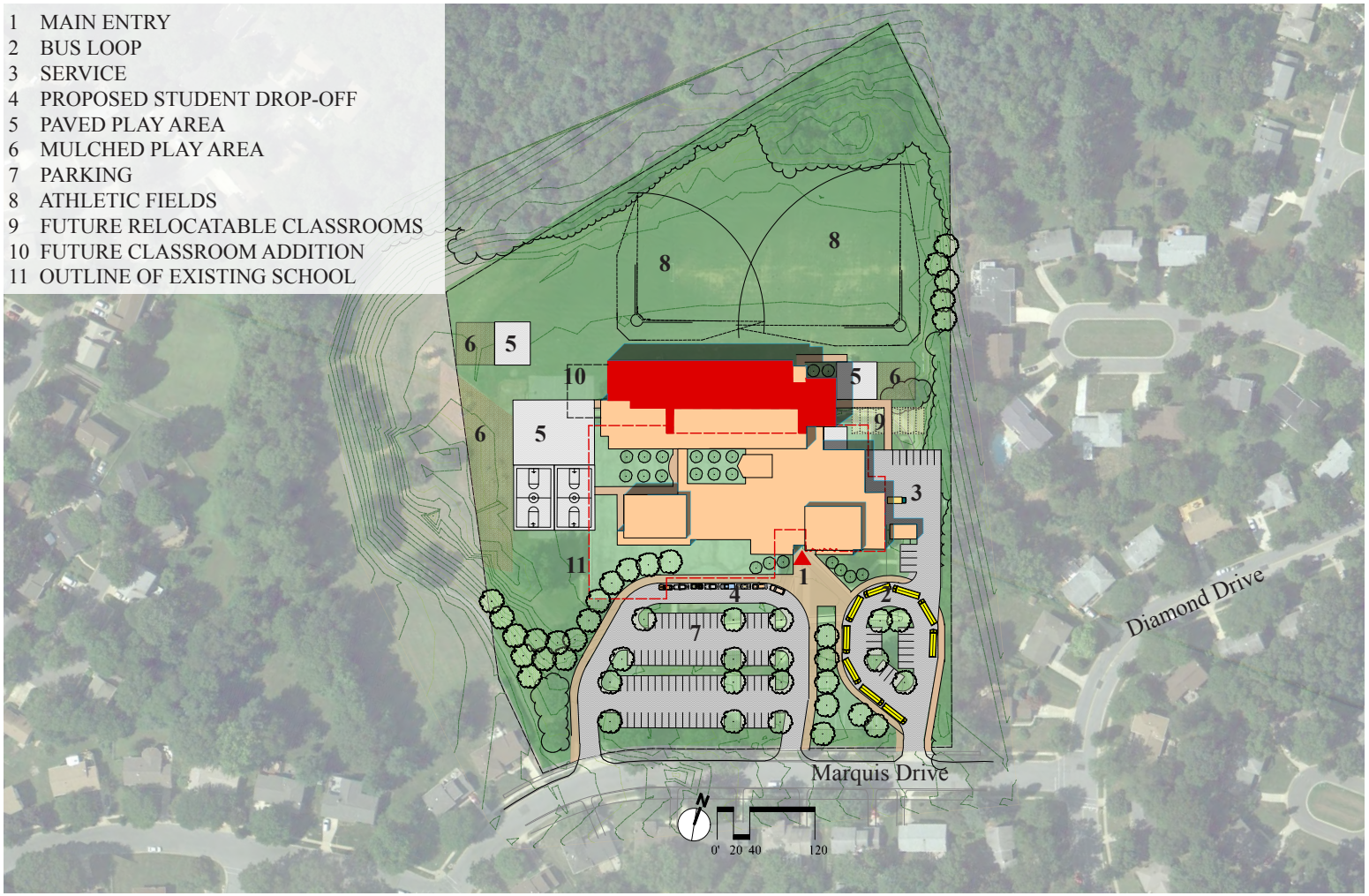
Trash pickup and food deliveries are accessed from the bus loop with a screened service yard and loading dock providing at grade service to the main level of the building.

V. DESCRIPTION OF OPTIONS (CONTINUED)

OPTION A-1 REVITALIZATION - SITE PLAN

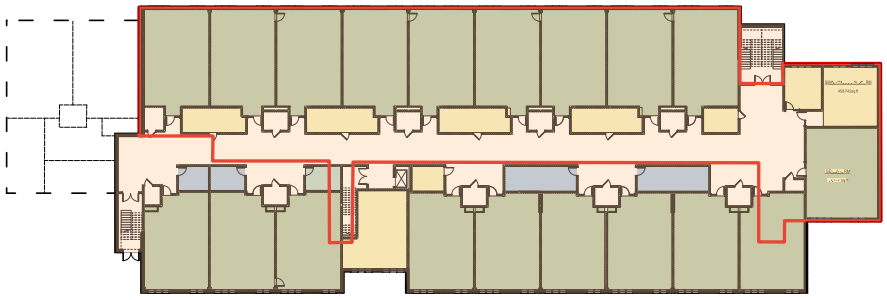
LEGEND

1 MAIN ENTRY
2 BUS LOOP
3 SERVICE
4 PROPOSED STUDENT DROP-OFF
5 PAVED PLAY AREA
6 MULCHED PLAY AREA
7 PARKING
8 ATHLETIC FIELDS
9 FUTURE RELOCATABLE CLASSROOMS
10 FUTURE CLASSROOM ADDITION
11 OUTLINE OF EXISTING SCHOOL

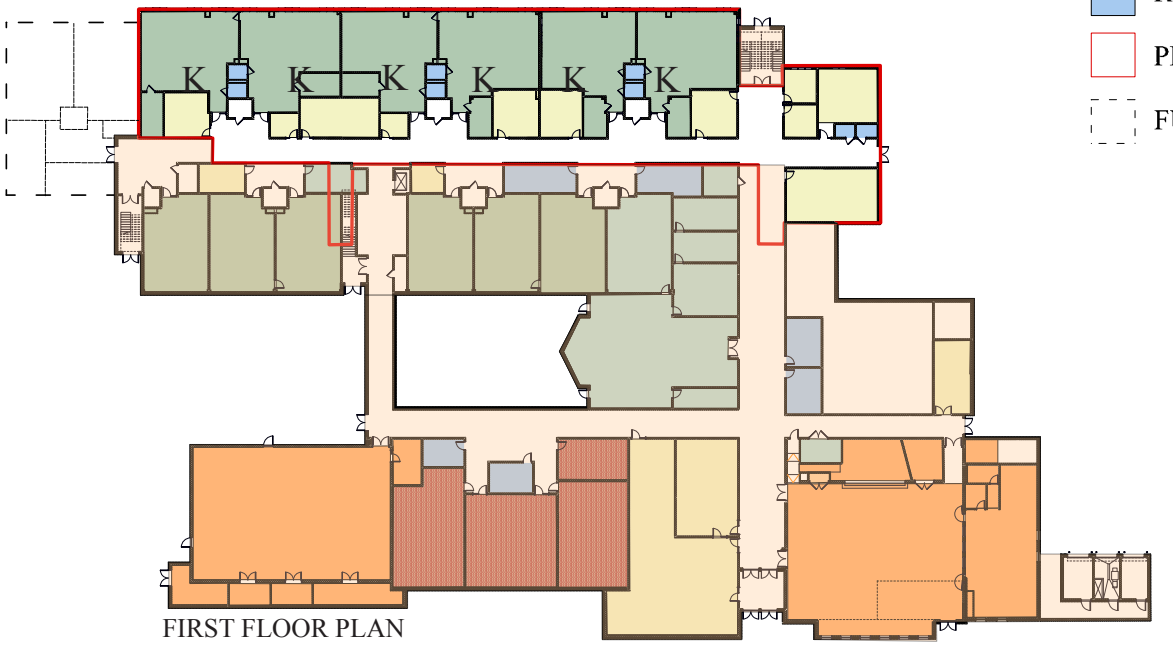


V. DESCRIPTION OF OPTIONS (CONTINUED)

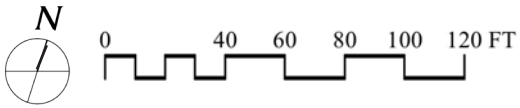
OPTION A-1 REVITALIZATION- FLOOR PLANS



SECOND FLOOR PLAN



FIRST FLOOR PLAN



V. DESCRIPTION OF OPTIONS (CONTINUED)

CONCEPT A-1 ADVANTAGES & DISADVANTAGES

Concept A-1 proposes a one and two-story replacement building with an extended parking area and student drop-off loop

Advantages

1. Most compact footprint preserves open space
2. Least impact on neighbors
3. Efficient internal circulation for students
4. Playgrounds adjacent to gym
5. Easy access for phase one construction
6. Multi-story solution produces less roof area for less heat loss/gain
7. Preserves large amount of open space for play fields
8. Provides a generous student drop-off loop to help relieve traffic congestion in the neighborhood
9. Building is zoned with active spaces in front (convenient to community) and passive areas (classrooms) to the rear
10. Classroom wing can be easily locked off for after-hours use of community spaces
11. Future master planned addition can be easily constructed

Disadvantages

1. Requires relocation of relocatables prior to construction

V. DESCRIPTION OF OPTIONS (CONTINUED)

CONCEPT A-2 REVITALIZATION - DESCRIPTION

Concept A-2 achieves revitalization by renovating the entire existing building and providing new one-story additions at strategic locations. The one-story classroom addition would remain and be incorporated into the overall revitalization plan. All of the site and building elements from the educational specifications are included in this option.

The building can generally be divided into two zones. The public area, including the multi-purpose room and gymnasium, are part of a one story wing facing the student drop-off and bus loop. The main entrance to the building is on the main level as is the health suite, kindergarten classrooms, media center, art, music and the dual purpose room. The gymnasium is adjacent to the play fields and the play grounds. The academic areas are located behind the public areas in a two-story wing. The instructional media center anchors the academic wing and faces the courtyard.

Concept A-2's building footprint is large and uses significantly more open space than the replacement option. Also, internal circulation for students is not efficient. Parking and student drop-off are located to the south with access from Marquis Drive. The parking area is configured as a one-way loop with dedicated entrance and exit. A generous drive lane for student drop-off should mitigate any back-up of cars onto Marquis Drive, although there is less overall length than in Concept A-1. Some staff parking is required within the bus loop, and in the service court. The bus loop enters and exits the site from Marquis Drive.

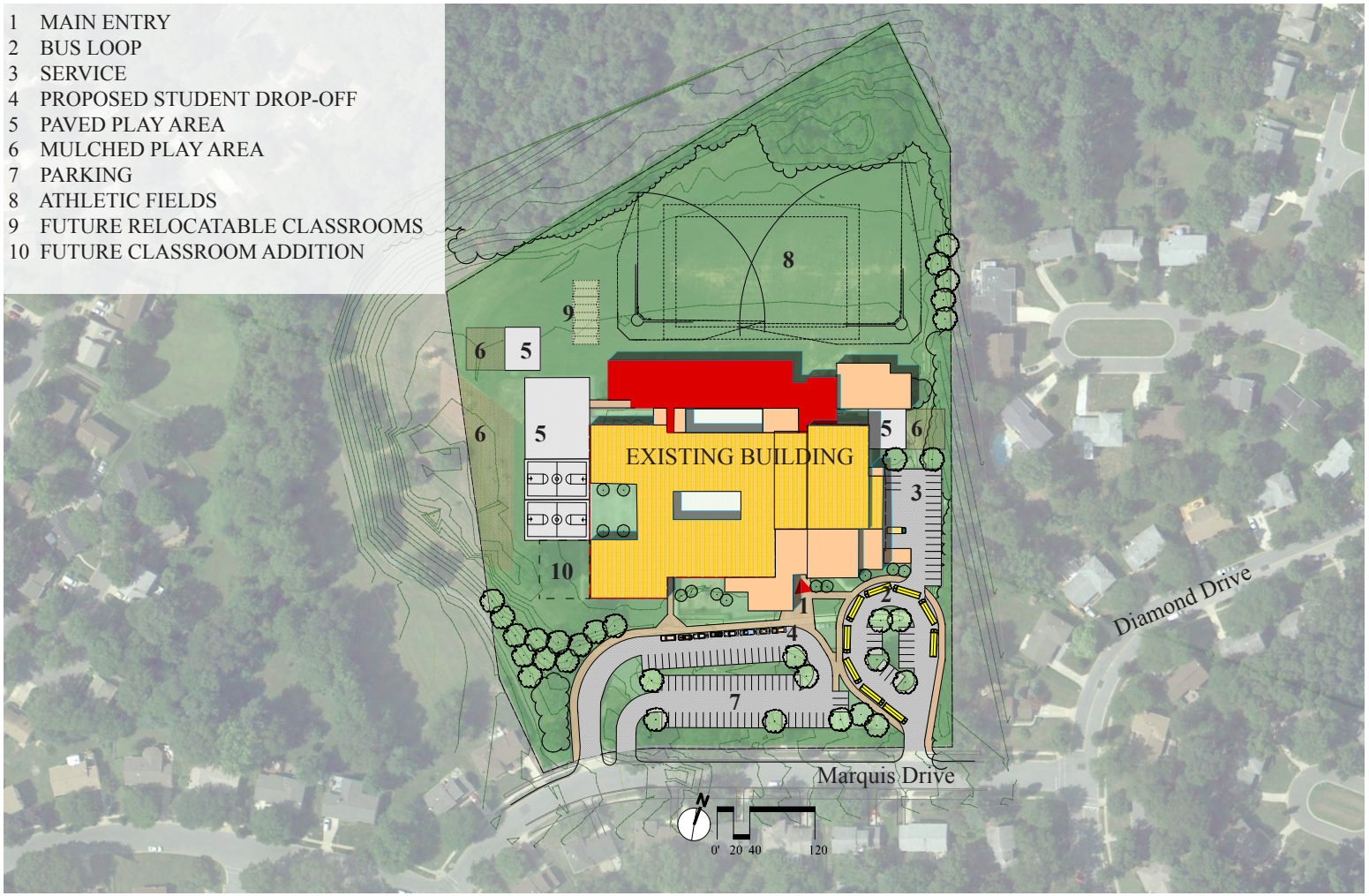
Trash pickup and food deliveries are accessed from the bus loop with a screened service yard and loading dock providing at grade service to the main level of the building.

V. DESCRIPTION OF OPTIONS (CONTINUED)

CONCEPT A-2 REVITALIZATION - SITE PLAN

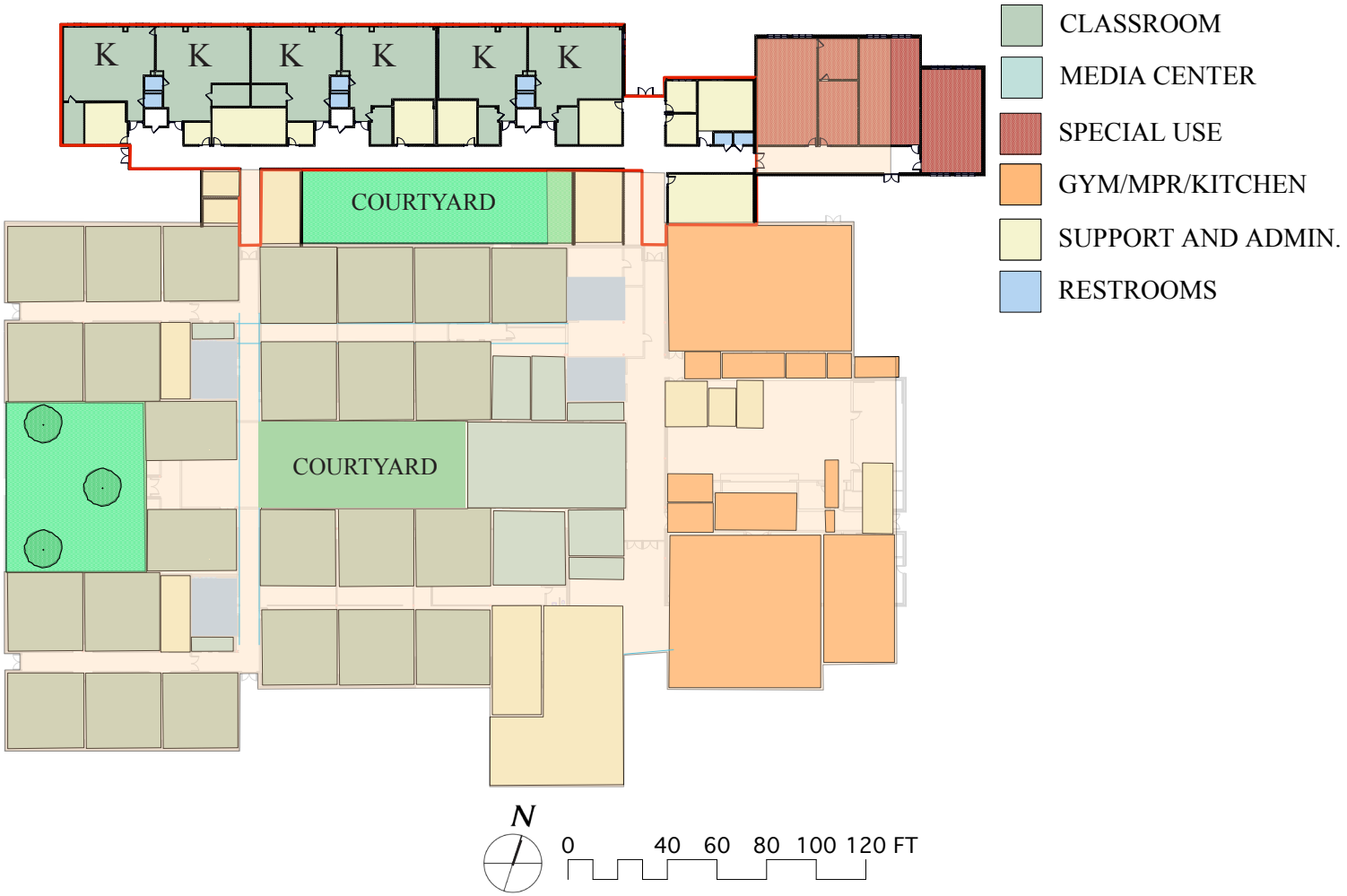
LEGEND

1 MAIN ENTRY
2 BUS LOOP
3 SERVICE
4 PROPOSED STUDENT DROP-OFF
5 PAVED PLAY AREA
6 MULCHED PLAY AREA
7 PARKING
8 ATHLETIC FIELDS
9 FUTURE RELOCATABLE CLASSROOMS
10 FUTURE CLASSROOM ADDITION



V. DESCRIPTION OF OPTIONS (CONTINUED)

CONCEPT A-2 REVITALIZATION - FLOOR PLAN



V. DESCRIPTION OF OPTIONS (CONTINUED)

CONCEPT A-2 ADVANTAGES & DISADVANTAGES

Concept A-2 proposes a one-story building with an extended parking area and student drop-off loop

Advantages
1. Least impact on neighbors

Disadvantages
1. Largest building footprint which reduces open space
2. Students have to travel long distances in the building
3. Circulation includes finger corridors that end at exit doors
4. Requires parking within bus loop
5. Gymnasium is somewhat removed from fields/playgrounds
6. Multipurpose room is further from fields for recess travel
7. Service court is tight for maneuvering trucks
8. Existing one-story roof structure would have to be reinforced or replaced to support green-roof in order to reduce on-site storm water management measures that would otherwise reduce playfields
9. More costly to bring new utilities through existing structure, requiring multiple cutting and trenching of floor slab
10. Exterior masonry walls would need complete replacement to comply with current energy codes and to add windows for daylighting classrooms

V. DESCRIPTION OF OPTIONS (CONTINUED)

CONCEPT B-1 REVITALIZATION - DESCRIPTION

Concept B-1 achieves revitalization by razing the entire existing building and providing a new combination one and two-story school that includes a courtyard between the classroom wing and the main wing. The two-story classroom wing is built over the phase one classroom addition. All of the site and building elements from the educational specifications are included in this option.

The building can generally be divided into two zones. The public area, including the multi-purpose room and gymnasium, are part of a one story wing facing the student drop-off and bus loop. The main entrance to the building is on the main level as is the health suite, kindergarten classrooms, media center, art, music and the dual purpose room. The gymnasium is adjacent to the play fields and the play grounds. The academic areas are located behind the public areas in a two-story wing. The instructional media center anchors the academic wing and faces the courtyard.

Concept B-1's building footprint is compact. Parking and student drop-off are located to the south with access from Marquis Drive. The parking area is configured as a one-way loop with dedicated entrance and exit. A generous drive lane for student drop-off should mitigate any back-up of cars onto Marquis Drive. Some staff parking is required within the bus loop. The bus loop enters and exits the site from Marquis Drive.

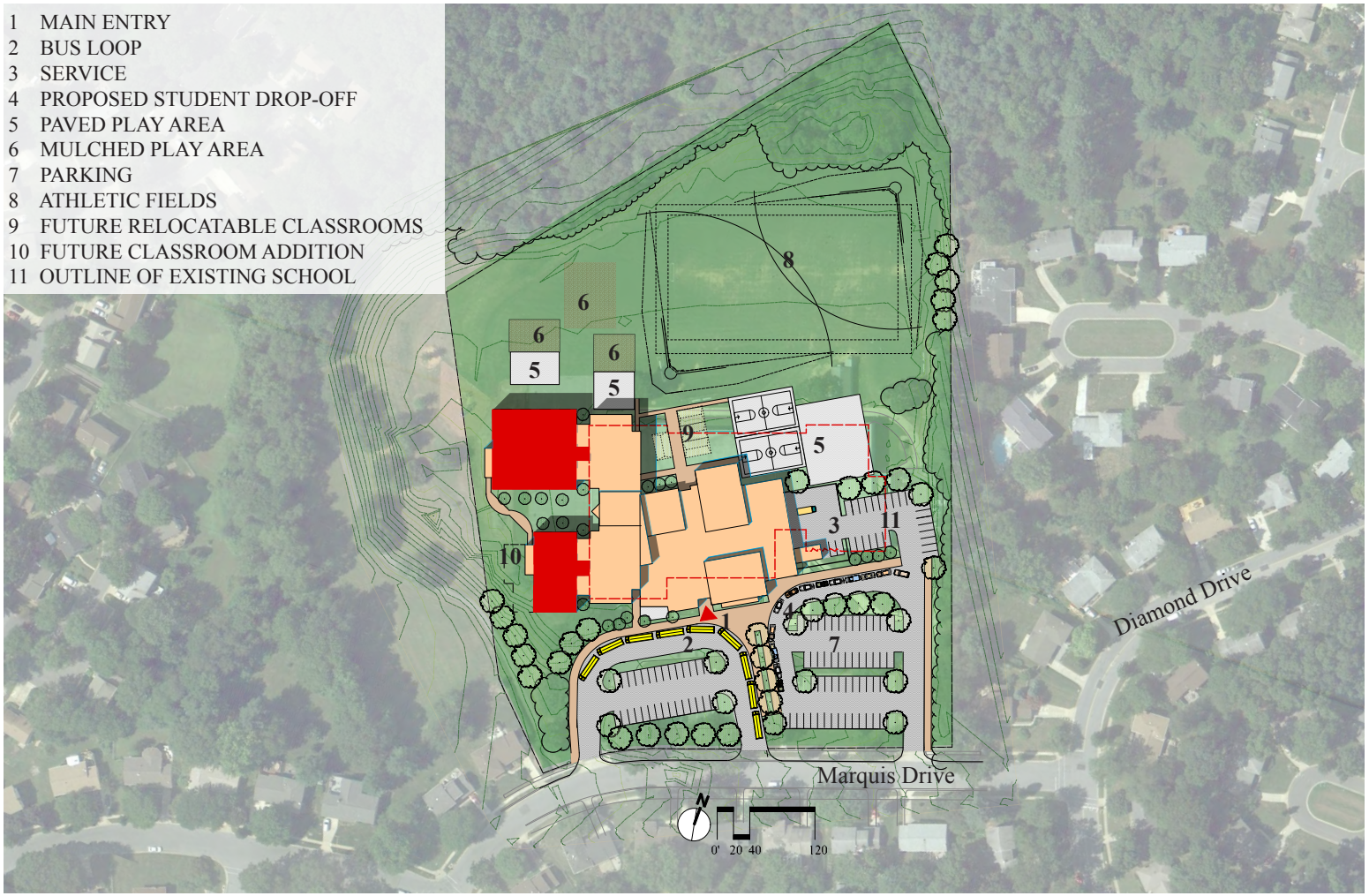
Trash pickup and food deliveries are accessed from the bus loop with a screened service yard and loading dock providing at grade service to the main level of the building.

V. DESCRIPTION OF OPTIONS (CONTINUED)

CONCEPT B-1 REVITALIZATION - SITE PLAN

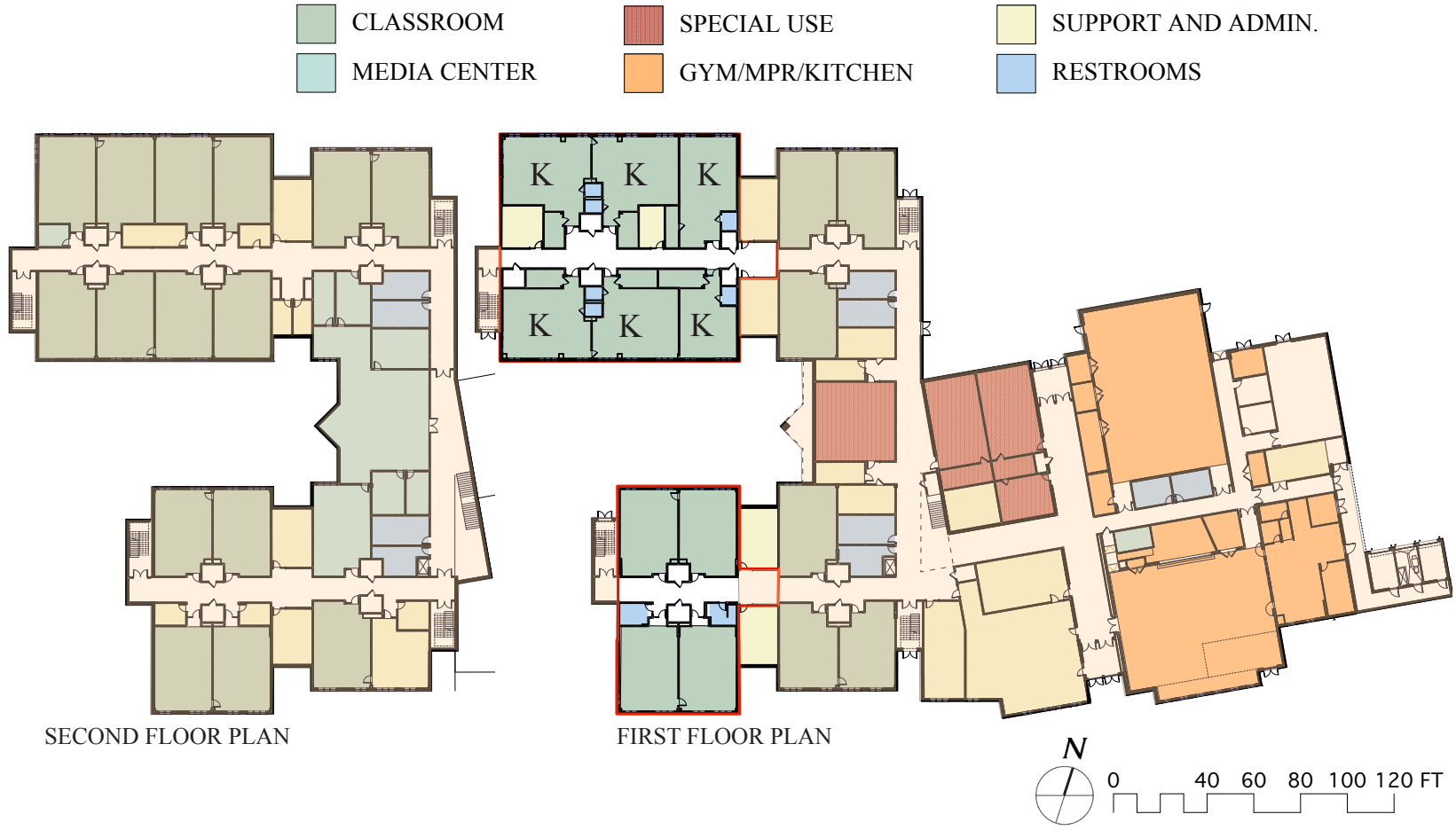
LEGEND

1 MAIN ENTRY
2 BUS LOOP
3 SERVICE
4 PROPOSED STUDENT DROP-OFF
5 PAVED PLAY AREA
6 MULCHED PLAY AREA
7 PARKING
8 ATHLETIC FIELDS
9 FUTURE RELOCATABLE CLASSROOMS
10 FUTURE CLASSROOM ADDITION
11 OUTLINE OF EXISTING SCHOOL



V. DESCRIPTION OF OPTIONS (CONTINUED)

CONCEPT B-1 REVITALIZATION - FLOOR PLANS



V. DESCRIPTION OF OPTIONS (CONTINUED)

CONCEPT B-1 ADVANTAGES & DISADVANTAGES

Concept B-1 proposes a one/two-story building with an extended parking area and student drop-off loop

Advantages

1. Consolidates playfields and playgrounds near gym, multi-purpose room, front entrance, etc.
2. Relocatables can remain during construction
3. Multi-story solution produces less roof area for less heat loss/gain
4. Preserves large amount of open space for play fields
5. Provides a generous student drop-off loop to help relieve traffic congestion in the neighborhood

Disadvantages

1. Difficult access for phase one construction
2. Classrooms as part of the addition phase are far from main entrance, gym, multi-pupose room, specials, etc.
3. Classroom wing close to neighbors along west property line
4. Future classroom wing would have to be built as a shell because of difficulty of access for construction
5. Some staff parking within the bus loop
6. Playfields and hard surface play areas adjacent to immediate neighbors

V. DESCRIPTION OF OPTIONS (CONTINUED)

CONCEPT B-2 REVITALIZATION - DESCRIPTION

Concept B-2 achieves revitalization by renovating the entire existing building and providing a several one-story additions at strategic locations. Courtyards will be created to bring natural daylight to renovated classroom space.. All of the site and building elements from the educational specifications are included in this option.

The building can generally be divided into two zones. The public area, including the multi-purpose room and gymnasium, are part of a one-story wing along the main corridor from the building entrance. The main entrance to the building provides direct and secure access to the administrative suite health suite. Art, music and the dual purpose room are located at the opposite end of the main corridor. The gymnasium is adjacent to the play fields. The academic areas are located to the west of the main corridor. The instructional media center anchors the academic wing and faces the courtyard.

Concept B-2's building footprint is the largest of the all options. Parking and student drop-off are located to the south with access from Marquis Drive. The parking area is configured as a one-way loop with dedicated entrance and exit. A generous drive lane for student drop-off should mitigate any back-up of cars onto Marquis Drive. Some staff parking is required within the bus loop. The bus loop enters and exits the site from Marquis Drive.

Trash pickup and food deliveries are accessed from the bus loop with a screened service yard and loading dock providing at grade service to the main level of the building.

V. DESCRIPTION OF OPTIONS (CONTINUED)

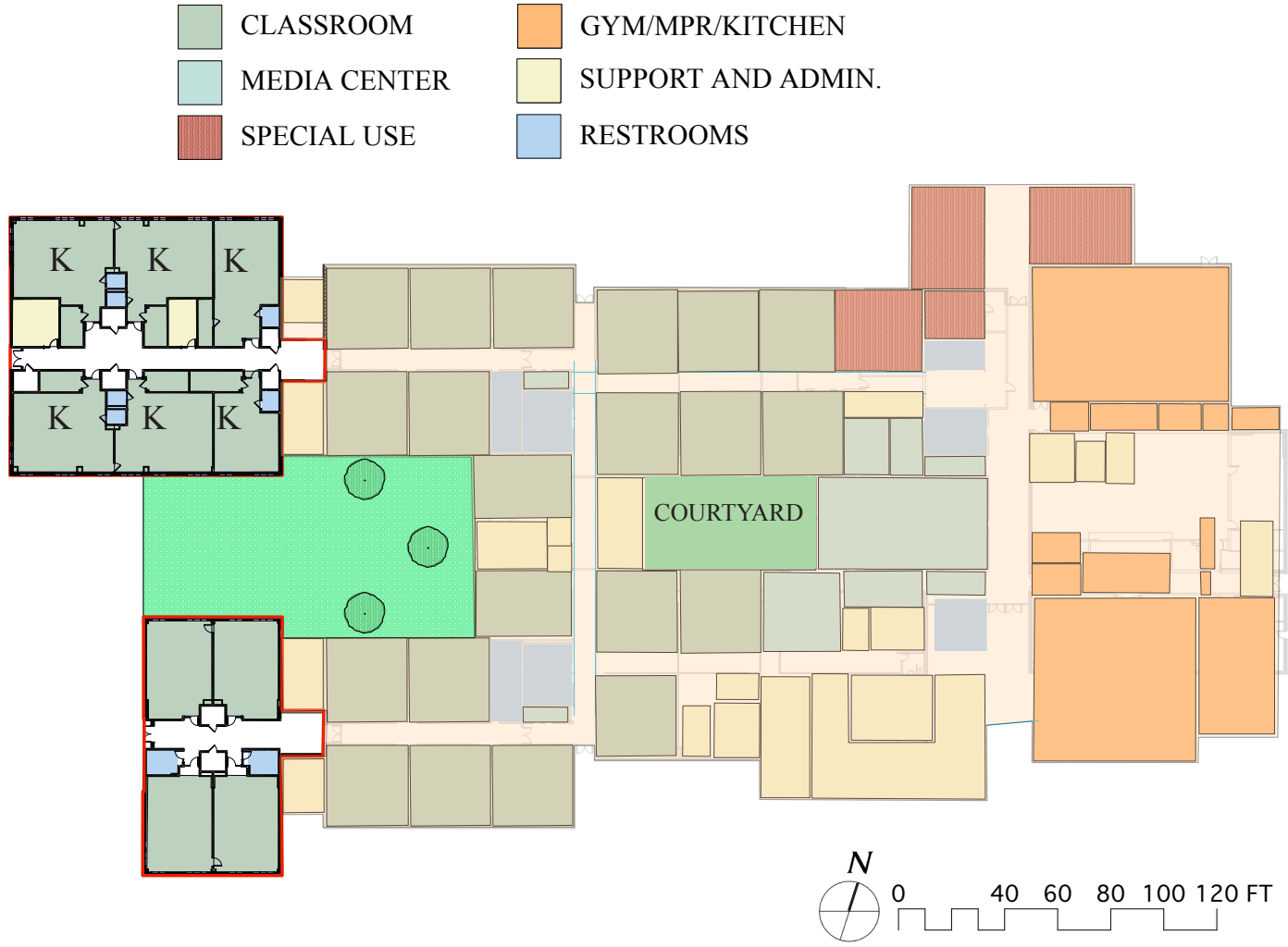
CONCEPT B-2 REVITALIZATION - SITE PLAN

LEGEND

1 MAIN ENTRY
2 BUS LOOP
3 SERVICE
4 PROPOSED STUDENT DROP-OFF
5 PAVED PLAY AREA
6 MULCHED PLAY AREA
7 PARKING
8 ATHLETIC FIELDS
9 FUTURE RELOCATABLE CLASSROOMS
10 FUTURE CLASSROOM ADDITION

V. DESCRIPTION OF OPTIONS (CONTINUED)

CONCEPT B-2 REVITALIZATION - FLOOR PLANS



V. DESCRIPTION OF OPTIONS (CONTINUED)

CONCEPT B-2 ADVANTAGES & DISADVANTAGES

Concept B-2 proposes a one-story building with an extended parking area and student drop-off loop

Advantages
1. Retains the largest amount of existing building

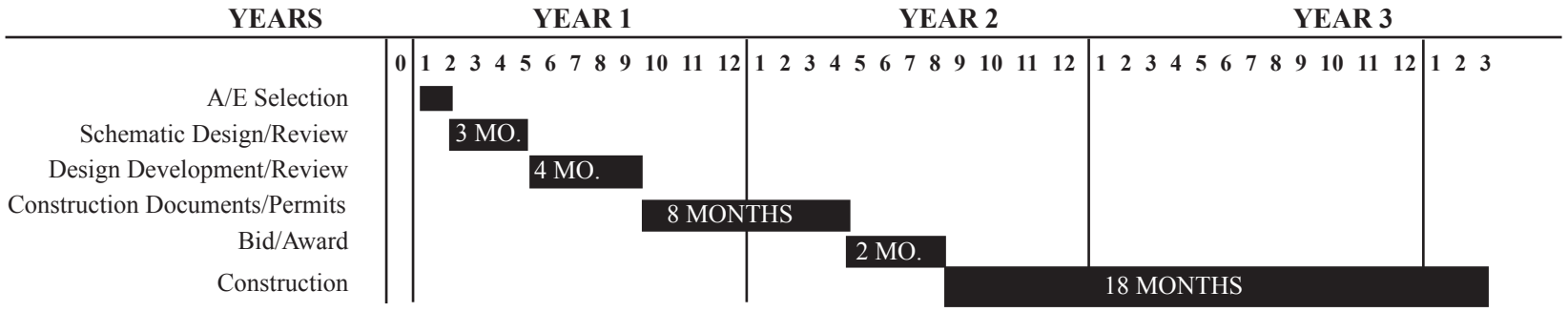
Disadvantages
1. Students have to travel long distances in the building
2. Circulation includes finger corridors that end at exit doors
3. Students have to travel long distances in the building
4. Restricts bus loop
5. Large footprint uses up site and limits play fields
6. Building extends close to west edge of property visually impacting adjacent neighbors
7. Existing hard surface play areas must be relocated to a portion of the play fields
8. Requires parking within bus loop
9. Multipurpose room is farther from fields for recess travel
10. Service court is tight for maneuvering trucks
11. Existing one-story roof structure would have to be reinforced or replaced to support green-roof in order to reduce on-site storm water management measures that would reduce playfields
12. More costly to bring new utilities through existing structure, requiring multiple cutting and trenching of floor slab
13. Exterior masonry walls would need complete replacement to comply with current energy codes and to add windows for daylighting classrooms.

VI. PROPOSED PROJECT IMPLEMENTATION SCHEDULE

Design Team Members

Architect:	WMCRP, Inc.
Civil Engineer:	Huron Engineering
Cost Consultant:	Construction Manager, yet to be determined
Electrical Engineer:	James Posey & Associates, Inc.
LEED Consultant:	Sustainable Design Consulting, LLC
Mechanical/Electrical Engineer:	James Posey & Associates, Inc.
Food Service Consultant:	Nyikos Associates, Inc.
Geotechnical:	Kim Engineering
Structural Engineer:	Adtek Engineering

Proposed Project Schedule



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VII. APPENDICES

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APPENDIX A - ADDITION SPACE ALLOCATION SUMMARY

The capacity after the addition will be 647.

When this project is complete, the following spaces are to be provided: Updated November 16, 2011

Facility	#	Description	Net Sq. Ft.	Total Net Sq. Ft.
Classrooms				
Kindergarten	**3**	Includes 250 s.f. storage	1,300	**3,900**
Standard Classroom	**4**	Includes 150 s.f. storage	900	**3,600**
Dual purpose Room	**1**		1,000	**1,000**
Support Rooms				
HSM Pull-Out Room	1		300	**300**
HSM Office	1		200	**200**
Instrumental Music Room	1		400	**400**
Large Instructional Support Room	1		600	**600**
Small Instructional Support Room		Room 169	450	**0**
Speech/Language Room	1		250	**250**
Therapy/Support Room	1		250	**250**
Testing/Conference Room		Room 137	150	**0**
Instructional Data Assistant Office	1		250	**250**
Support Staff Offices		Room 170/139	150	**0**
Counselor's Office	1		250	**250**
Staff Development Area				
Staff Development Office	1		100	**100**
Reading Specialist Office	1		100	**100**
Training/Conference Room	1		450	**450**
Staff Lounge		Room 166	700	**0**
Book Storage	2		200	**400**
PTA Storage	1		150	**150**
Total	**7**			**12,200**

APPENDIX A - REVITALIZATION SPACE ALLOCATION SUMMARY

When this project is complete, the following spaces are to be provided:

Facility	# Needed	Description	Net Sq. Ft.	Total Net Sq. Ft.
Classrooms				
Prekindergarten		Includes 250 s.f. storage	1300	**0**
Kindergarten	**5**	Includes 250 s.f. storage	1300	**6500**
Grades 1-5	**22**	Includes 150 s.f. storage	900	**19800**
Preschool Education Program (PEP) w/bathrooms	**2**	Includes 200 s.f. storage	1050	**2100**
Classroom (Special Education)	**2**	Includes 150 s.f. storage	900	**1800**
Art	1	Includes 250 s.f. storage	1100	**1100**
Music	1	Includes 250 s.f. storage	1050	**1050**
Instrumental Music Room	1		400	**400**
Dual purpose Room	1		1000	**1000**
Support Rooms				
Large Instructional Support Room	1		600	**600**
Small Instructional Support Room	2		450	**900**
Speech/Language Room	1		250	**250**

APPENDIX A - REVITALIZATION SPACE ALLOCATION SUMMARY

Facility	# Needed	Description	Net Sq. Ft.	Total Net Sq. Ft.
Therapy/Support Room	1		250	**250**
Testing/Conference Room	1		150	**150**
Instructional Data Assistant Office	1		250	**250**
Support Staff Offices	2		150	**300**
Media Center				
Main Resource Area	1		2100	**2100**
Materials Preparation/Office Area	1		400	**400**
Media Storage	1		350	**350**
Textbook Storage	1		200	**200**
Control Room and Storage	1		250	**250**
Telecommunication Equipment Closet	1		150	**150**
Telecommunication Closet	3		50	**150**
Computer Laboratory	1		900	**900**
Physical Education (if there is a gymnasium)				
Gymnasium	1		3700	**3700**
Office	1		150	**150**
Storage	1		250	**250**
Storage	2		100	**200**
Outside Storage	1		150	**150**

APPENDIX A - REVITALIZATION SPACE ALLOCATION SUMMARY

Facility	# Needed	Description	Net Sq. Ft.	Total Net Sq. Ft.
Multipurpose Room				
Multipurpose Room	1		3700	**3700**
Chair Storage	1		200	**200**
Table Storage	1		200	**200**
Platform	1		450	**450**
(Before/After Care Kitchenette)	***1***		***30***	***30***
(Before/After Care Storage)	***1***		***100***	***100***
Kitchen				
Serving Area	1		300	**300**
Walk-in Cooler/Freezer	1		155	**155**
Dry Storage	1		192	**192**
Office	1		100	**100**
Toilet Room	1		70	**70**
Preparation Area	1		555	**555**
Administration				
General Office	1		500	**500**
Workroom	1		350	**350**
Principal's Office	1		250	**250**
Assistant Principal's Office	1		150	**150**

APPENDIX A - REVITALIZATION SPACE ALLOCATION SUMMARY

Facility	# Needed	Description	Net Sq. Ft.	Total Net Sq. Ft.
Conference	1		300	**300**
Counselor's Office	1		250	**250**
Telephone Booth	1		50	**50**
Storage	1		100	**100**
Record Room	1		100	**100**
Toilet Room	1		50	**50**
2nd Floor Workroom	1		75	**75**
Staff Development Area				
Staff Development Office	1		100	**100**
Reading Specialist Office	1		100	**100**
Training/Conference Room	1		450	**450**
Health Services Suite				
Waiting Area	1		100	**100**
Treatment/Medication Area	1		120	**120**
Office/Health Assessment Room	1		100	**100**
Health Assessment/Isolation Room	1		100	**100**
Rest Areas	1		200	**200**
Toilet Room	1		50	**50**
Storage Area	1		40	**40**
Staff Lounge	1		700	**700**

APPENDIX A - REVITALIZATION SPACE ALLOCATION SUMMARY

Facility	# Needed	Description	Net Sq. Ft.	Total Net Sq. Ft.
Building Service Facilities				
Building Services Office	1		150	**150**
Locker/Shower Area	1		150	**150**
Compactor/Trash Room	1		150	**150**
Recycling Room	1		150	**150**
General Storage and Receiving	1		400	**400**
General Storage	3	250 sq. ft. each	250	**750**
Building Services Outdoor Storage	1		175	**175**
Book Storage	1		200	**200**
PTA Storage	1		150	**150**
Total	**29**			**57962**

APPENDIX B - EDUCATIONAL SPECIFICATIONS

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Introduction

- ☐ This document describes the facilities that are needed for the Diamond Elementary School Revitalization educational program. The descriptions provide the architect with important guidelines and will be used by staff representatives when reviewing drawings for the facility.
- ☐ The program capacity for this school will be 582 with a master-planned (core) capacity for 740. The school needs a 9-classroom master-planned addition to bring the program school up to its master-planned capacity. The architect should show the location for the future classroom addition.
- ☐ 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) standards.
    - The third section identifies any additional program requirements for the school that were identified by the Facility Advisory Committee (FAC).
- ☐ 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.
- ☐ For all new schools and revitalizations, the project will be designed for LEED Silver certification by the United States Green Building Council (USBGC) 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.

General Planning Considerations

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

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- ☐ The architect is expected to be compliant 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 standards and provide adequate levels.
- ☐ High quality materials are to be used in the construction. The architect should refer to the MCPS Design Guidelines.
- ☐ 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 main lobby area needs to convey a feeling of warmth and welcome. The inclusion of a lighted showcase in which children's work can be displayed is recommended.
- ☐ The design of the building and grounds must provide for a secure environment for students and staff. Isolated areas should be minimized and natural surveillance encouraged by eliminating visual barriers.
- ☐ For security purposes, all doors into classrooms, conference rooms, offices etc. must have a sidelight window with shades.
- ☐ Water coolers should be provided throughout the school.
- ☐ 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 Sate 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, and instructional media 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 Division of Construction staff.
- ☐ Building code requirements call for less than fifty percent of interior corridor space to be used for displaying flammable materials. Display areas can be provided by a 5' x 5' bulletin board per classroom or an equivalent amount of space in a larger area. Please refer to the Division of Construction for specific standards.
- ☐ Students should have ADA compliant access to the play areas from the multipurpose room. Play areas are to be protected from any vehicular traffic. Unobstructed supervision of play areas from one central area is desirable.
- ☐ The school is to be air-conditioned except for the gymnasium and kitchen. Careful placement of glass is required to avoid excess heat gain in occupied areas.
- ☐ 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.
- ☐ 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.
- ☐ 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.
- ☐ 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.
- ☐ Adult restrooms should be provided in accordance with the latest code requirements. Adult restrooms in elementary schools will be unisex.
- ☐ 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.

Doors should be provided between classrooms whenever possible, however, expensive folding walls should be carefully considered as they are rarely utilized.

- ☐ 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.
- ☐ 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.
- ☐ Metal adjustable shelving is to be provided in all building storage closets**.**
- ☐ All plan reviews will be coordinated through the Division of Construction.
- ☐ 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.

Description of Facilities

Please refer to the summary of spaces in the front of this document 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 permitted.

Prekindergarten/Kindergarten Classroom

- ☐ If the school has a Head Start program, the classroom should be designed as a prekindergarten/kindergarten classroom.
- ☐ Each room should allow flexibility in creation of activity areas and to provide for individualized instruction through arrangement of the "centers" approach.
- ☐ An area should be designated for placement of a 12' by 15' area rug over the finished floor.
- ☐ A 100 square foot walk-in storage closet and 150 square feet of general storage (casework throughout the classroom) is needed.
- ☐ When possible there should be interconnecting interior doors between all kindergarten and pre-kindergarten rooms.
- ☐ All prekindergarten rooms should have an outside door or be directly accessible to the outside and convenient to the main entrance of the school building.
- ☐ The prekindergarten classrooms require a separate and fenced outdoor play area that must be adjacent to the classroom. If the school does not have a prekindergarten program than the outdoor play area should be master planned so that it can be added on at a later time. The prekindergarten play area should include a 40'x40' paved play area and a 40'x40' mulched area.
- ☐ The computers should not be located next to a whiteboard where magnets might damage the hardware and software. Glare from the windows on the computer screens should be eliminated as much as possible. Security for the computers should be planned in consultation with the MCPS Division of Construction (DOC). Computer/technology wiring must be in accordance with MSDE/ MCPS standards.
- ☐ Every classroom must have computer outlets for five student workstations and one teacher workstation. The building information and communications distribution system and other aspects of the building design must comply with the latest edition of MSDE ***Maryland Public School Standards for Telecommunications Distribution Systems***.
- ☐ The main teaching wall layout should be in accordance to DOC construction standards.
- ☐ A sink with a drinking fountain must be provided, with cabinets above and below.

- ☐ In a non class-size reduction school, the built-in student wardrobe area must provide 28 individual compartments to store students' belongings. The architect is to refer to the DOC construction standards for a typical cubby design. Lockers in the classroom may be considered for the kindergarten classrooms.
- ☐ In a non class-size reduction school, the built-in student wardrobe area must provide 24 individual compartments to store students' belongings. The architect is to refer to the DOC construction standards for a typical cubby design. Lockers in the classroom may be considered for the kindergarten classrooms.
- ☐ A total of 20 feet of tackboard and 10 feet of magnetic whiteboard should be installed at eye-level height for small children, with tack stripping along walls for display of student work.
- ☐ Each room must have a toilet room that is accessible from within the room and easily accessible from outside. The toilet room will contain a standard height toilet, a sink with child-height mirror, and soap and towel dispensers that are accessible to small children. The light switch should automatically turn on the vent fan.
- ☐ Each classroom should be equipped with window blinds per the MCPS design guidelines.
- ☐ Battery operated clocks will be installed. The clock should not be mounted behind the projection screen.
- ☐ All classrooms should be equipped with a handicapped accessible sink with drinking bubbler.
- ☐ A full-length mirror should be installed.

Standard Classroom

- ☐ Each room must have an open classroom area with moveable furniture.
- ☐ 150 square feet of casework storage is needed in the classroom.
- ☐ The computers should not be located next to a whiteboard where magnets might damage the hardware and software. Glare from the windows on the computer screens should also be eliminated as much as possible. Security for the computers should be planned in consultation with the MCPS Division of Construction (DOC). Computer/technology wiring must be in accordance with DOC/ MSDE/OSTA standards.

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- ☐ Every classroom must have computer outlets for 5 student workstations and 1 teacher workstation. The building information and communications distribution system and other aspects of the building design must comply with the latest edition of MSDE ***Maryland Public School Standards for Telecommunications Distribution System***.
- ☐ Approximately 30 to 35 linear feet of magnetic white board and 20 to 24 linear feet of tackboard, both with tack strips and map rails above the boards, should be installed in each classroom. White boards should be located so as to reduce glare. Tack strip is needed on all available walls. The architect should refer to the DOC construction standards for the main teaching wall layout.
- ☐ Thirty built-in individual compartments in the wardrobe area for storing student personal property are required. The architect should refer to the DOC construction standards for a typical cubby design for grades K-1 and grades 2-5. Lockers in the hallway may be used in place of the classroom cubbies.
- ☐ If lockers are designed for storing individual student property, the architect should design the facility with 700 lockers if the core capacity is 640 and 815 lockers if the core capacity is 740.
- ☐ All classrooms should be equipped with a handicapped accessible sink with drinking bubbler.
- ☐ A storage area is needed to hold at least two science kits (approximate 27” x 17” x 12” each) and one math kit in each classroom.
- ☐ General storage space must be built in and must accommodate 24- by 36-inch paper and a 4-drawer file cabinet. Each classroom must include 48 linear feet of built-in adjustable shelving.
- ☐ A small lockable teacher’s wardrobe must be provided, as per DOC construction standards.
- ☐ Designated shelf space, not near a window, for an aquarium/terrarium with nearby electrical outlet, is desirable.
- ☐ Each classroom should be equipped with window blinds. The specifications for the window blinds will be provided by DOC.
- ☐ Each classroom should be equipped with a retractable projection screen (7’ x 7’). The projection screen should not be mounted near any emergency lighting tracks. All areas of the screen should be illuminated and readable when the lights are dimmed.
- ☐ Electrical and data outlets should be provided in the ceiling for a ceiling mounted LCD projector.
- ☐ Battery operated clocks will be installed. The clock should not be mounted behind the projection screen.
- ☐ Shelving or cabinetry should be provided in every teaching station for the VCR and television. A school may choose to place the television and VCR on a cart. Appropriate CCTV receptacles and a duplex outlet should be provided nearby for the operation of the TV and VCR. Placement of the TV should be to maximize student viewing and not be unduly influenced by exterior or interior extraneous light.

☐ A school may consider reducing the size of each classroom to create small break-out rooms in the school. The number and design of these breakout rooms may be determined by school and MCPS staff.

Reading Initiative Classroom

At schools with a reading initiative teacher a Reading Initiative Classroom is provided in the school.

☐ Each room must have an open classroom area with moveable furniture.

☐ The classroom should be designed to accommodate an area for a kidney shaped table for guided reading, small tables for to seat up to 18 students, an area for independent reading and writing, and an area for computer stations.

☐ Every classroom must have computer outlets for two or three student workstations and one teacher workstation. The building information and communications distribution system and other aspects of the building design must comply with the latest edition of MSDE ***Maryland Public School Standards for Telecommunications Distribution System***.

☐ The computers should not be located next to a marker board where magnets might damage the hardware and software. Glare from the windows on the computer screens should also be eliminated as much as possible. Security for the computers should be planned in consultation with the MCPS Division of Construction (DOC). Computer/technology wiring must be in accordance with DOC/MSDE/OSTA standards.

☐ Approximately 10 to 15 linear feet of magnetic marker board and 10 to 15 linear feet of tack board, both with tack strips and map rails above the boards, should be installed in each classroom. Marker boards should be located so as to reduce glare. Tack strip is needed on all available walls. The architect should refer to the DOC construction standards for the main teaching wall layout.

☐ Each classroom must include a minimum of 50 linear feet of built-in adjustable shelving for books.

☐ Space for a big book rack should with an incline to display the book open and also for storage beneath for space to lay the books flat should be provided.

☐ A small lockable teacher's wardrobe must be provided, as per DOC construction standards.

☐ 40 mailboxes should be designed for storage of student work such as folders or notebook.

☐ This classroom should be equipped with a handicapped accessible sink with drinking bubbler. Cabinets should be provided above and below the counter area.

- ☐ Each classroom should be equipped with window blinds. The specifications for the window blinds will be provided by DOC.
- ☐ Each classroom should be equipped with a retractable projection screen (7' x 7'). The projection screen should not be mounted near any emergency lighting tracks. All areas of the screen should be illuminated and readable when the lights are dimmed.
- ☐ Electrical and data outlets should be provided in the ceiling for a ceiling mounted LCD projector.
- ☐ Battery operated clocks will be installed. The clock should not be mounted behind the projection screen.

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Special Education

Spatial Needs
Classroom
Special Education Resource Room
Speech/Language Room
Occupational Therapy/Physical Therapy (OT/PT) Room

Classroom

- ☐ Special education classrooms should be located with similar grade classrooms in the building so that integration with regular students at the primary and at the upper grade levels occurs naturally.
- ☐ The specific requirements are the same as the requirements for standard classroom requirements. Please refer to the preceding section for these requirements.
- ☐ Please see the additional requirements section of this document for additional special education program requirements specific to this school.

Resource Room

- ☐ Each room must have whiteboard, tack board, open and closed lockable storage, open shelving, counter space, and a lockable teacher wardrobe. Room for a teacher's desk, lockable file cabinet, and assorted-sized furniture with adjustable legs should be provided.
- ☐ The resource room should be wired for 3 computer workstations.

- ☐ The resource room must contain a sink with counter space.

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.

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.

Support Room

The following rooms will provide for individual and small-group instruction as needed for the entire student body.

Spatial Needs
Testing/Conference Room
Instructional Data Assistant Office
Support Staff Offices (two)
ESOL Classroom

☐ These rooms should be centrally located, with easy access to the office and conference room and to toilet rooms that can accommodate the physically disabled.

☐ The rooms must be well ventilated.

☐ Each room must have whiteboard, tack board, open and closed lockable storage, open shelving, counter space, and a lockable teacher wardrobe. Room for a teacher's desk, lockable file cabinet, and assorted-sized furniture with adjustable legs should be provided.

☐ Sufficient electrical outlets are to be provided. Quadruplex outlets may be utilized where feasible.

Testing/Conference 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 needs acoustical treatment as well as video, voice, and data outlets.

Instructional Data Assistant Office

- ☐ This room is required for a data assistant who conducts assessments, updates individual student test scores, and provides remediation of students' skills.
- ☐ This room houses one computer with printer and card reader and must be lockable and secure.
- ☐ This room requires some built-in casework with shelves and doors, a small lockable teacher's wardrobe, whiteboards both with and without coordinate grids, and video, voice, data outlets, and space for file cabinets.

ESOL Classroom

- ☐ Some students receive small group instruction in English as a second language for one or two periods a day.

- ☐ This classroom requires a sink.

Support Staff Offices

- ☐ Office space is needed for permanent as well as itinerant support staff (curriculum coordinator, team coordinator, social worker, psychologist, auditory and vision specialists, and psychiatrist).
- ☐ A teacher's wardrobe should be provided for itinerant staff use.
- ☐ Video, voice, and data outlets should be provided.

Art Room

The art room is to provide space for teaching and creating art, displaying student work and educational aids, and storing supplies and materials. The room should be designed as follows:

- ☐ The art room must not be carpeted.
- ☐ Both art and music rooms must be located near student restrooms.
- ☐ For technology accessibility purposes, the art room is to be considered as a regular classroom with appropriate data, CCTV, modem, and electrical outlets.
- ☐ The design of all work, display, and storage areas should create an environment that is functional and easy to clean.
- ☐ Lighting should be both natural and artificial and conducive to close work.
- ☐ A door to the outside is desirable.
- ☐ Space and electrical outlets for two kilns should be in the farthest corner of the storeroom with proper ventilation.
- ☐ Eight duplex electrical outlets are to be provided (where feasible quadruplex outlets may be utilized).

The window wall should have the following:

- ☐ Windows that permit views of the surrounding landscape.
- ☐ Blinds to permit room darkening.
- ☐ Shelves under windows 15” deep.
- ☐ Tack board or tack strips above windows if space permits.

The teaching wall should have the following:

- ☐ Two 3-foot wide by 7-foot tall, 18" deep, shelf sections for storage of unfinished work.
- ☐ Eight-foot long by 4-foot tall whiteboard between two 8-foot sections of 6-foot tall white/tack board with 2-foot tall tack board above the white board. Tack and white boards should be mounted 2 to 4 inches above low shelving.
- ☐ Fourteen-inch deep, 24 inch high, shelving under the center of the 16-foot long tack board and white board.
- ☐ Wall mounted projection screen with electrical outlet underneath.

The wall near the entrance should have the following:

- ☐ One standard sink and one 30-inch high student sink, one of which should be located on a peninsula (Peninsula is to be no longer than 3 feet). One sink should be handicapped accessible. Faucets should be accessible to students (preferably on the side of the sink and not the back of the sink) and positioned to prevent splashes onto floor.
- ☐ Sinks and sink area should also include:
- ☐ Removable plaster traps
- ☐ Closed cabinets below and above
- ☐ Conveniently located towel dispensers
- ☐ At least 9 feet of counter space (includes 1 ½ feet of counter space on both sides of the sinks)
- ☐ Hot and cold water faucets with bubbler
- ☐ A 5- to 7-foot open space is needed for drying rack(s) along one wall.
- ☐ Approximately 30 smock hooks in 3 feet of staggered tiers, beginning 2 feet from the floor, spaced 4 inches apart, up to 48 inches high. (Optional in rooms where one end of MCPS-built drying rack(s) that measure 44 inches wide and 24 inches deep is accessible, since hooks can be installed on pegboard ends.)

The wall opposite or adjacent to the teaching station should have the following:

- ☐ One 6-foot tall, 12-foot long tack board with 24-inch tall, 14-inch deep shelving units below.
- ☐ Two or three 7-foot tall, 18-inch deep, 36-inch wide shelf sections near kiln area for storage of ceramic work

Kiln Area

- ☐ The kiln area should be located at the far end of the storeroom and should accommodate two kilns.
- ☐ Two kiln exhaust hoods and fans (local switch) must be installed. Positive ventilation (using negative pressure) is needed to assure removal of fumes.
- ☐ Kilns should be 30 inches wide, 30 inches deep and 36 inches tall. Allow an additional 6 inches in depth for opening of the kiln lid.
- ☐ Electrical characteristics for the kiln are 208 volt, 30 amps, single phase, and 7200 watts. Provide 2-50 amp 250-volt outlet NEMA configuration 6-50R. Provide outlet(s) on wall behind kiln(s).
- ☐ Kilns may be located in the far end of the storeroom with built-in hood above and metal shelving 12 inches to 18 inches deep on walls adjacent to the kiln area. See notes above for additional kiln information.

Art Storeroom

- ☐ The storeroom must have a 6-foot wide, 30-inch tall, and 34-inch deep worktable immediately inside the entrance to the storeroom with built-in adjustable shelves below and 14-inch deep wall hung shelving above. This table will accommodate a 30-inch square paper cutter and storage of large art reproductions and papers below, in 3 banks of shelving units 8 inches on center, 20-inches wide (inside width).
- ☐ One or two 6-foot tall 20-inch wide paper storage shelf section(s), 24 inches deep with shelves 8 inches on center to accommodate 18” x 24” paper.

- ☐ Seven-foot tall open shelving, 18 inches deep, should be provided along remaining walls where space permits. Twelve to fourteen inch deep sections are acceptable for some sections where 18-inch deep shelves won't fit.
- ☐ Storeroom door is to be lockable, and 2 coat hooks are to be mounted behind the door.

Music Suite

Spatial Needs
Music Room (includes 250 sq. ft. storage)
Instrumental Music Room

- ☐ The music room and instrumental music room should be located adjacent to each other with a shared storage room.
- ☐ These rooms should be located near the multipurpose room to allow easy access to the platform.
- ☐ The rooms must be acoustically isolated from the rest of the school.

Music Room

- ☐ The music room should have a clear circular area of at least 20 feet in diameter and access to the music storage room.
- ☐ A 150-square foot secure closet area to store instruments, equipment, choral music, and instructional charts is necessary with access from the music room.
- ☐ Variable-sized shelving must allow for storage of books, records, and small instruments.

- ☐ The music room needs a child height sink with a work area and drinking fountain.
- ☐ Window blinds and a wall-mounted retractable projection screen are required.
- ☐ Approximately 20 feet of white board and 4 feet of tack board must be provided. Continuous tack strips are needed around the room.
- ☐ Specific storage and shelving specifications are available through Montgomery County Public School's Division of Construction.
- ☐ Eight duplex electrical outlets are to be provided (where feasible, quadruplex outlets may be utilized).
- ☐ This room must be acoustically treated.

Instrumental Music Room

- ☐ A secure closet area is needed adjacent to the room for large instrument storage.
- ☐ A sink and countertop area should be provided for cleaning and repairing musical instruments.
- ☐ The Instrumental Music Room must be soundproofed.

Dual Purpose Room

- ☐ This room should be designed to accommodate both art and music activities in the school but with less detail than the regular art and music rooms.
- ☐ Some acoustical treatment should be provided in the room.
- ☐ One sink for student use should be provided along with some countertop area.
- ☐ No kiln area is needed and less shelving than described in the art room is to be provided.
- ☐ The exact details of the design should be discussed with the school staff and community.

Instructional Media Center

Spatial Needs
Main Resource Area
Materials Preparation/Office Area
Media Storage
Textbook Storage
Control Room/Storage
Head End Equipment Closet
LAN Wire Closet

- ☐ The architect should refer to the MSDE document, ***Facilities Guidelines for Library Media Programs, 1998*** as a guide for media center design.
- ☐ Staff in the Department of Educational Media and Technology must approve specific design.
- ☐ The media center is to be central to the instructional program of the school.
- ☐ The total media complex is to be enclosed and lockable.
- ☐ The media center is to accommodate multiple arrangements and uses as functions change. It should be acoustically designed for multiple activities. Furniture and shelving should have casters for easy moving, to divide one area from another, and create traffic patterns.
- ☐ A complete media center is to include the following areas that are described in the following sections:
    - Study and Research Area
    - Informal Reading Area
    - Instructional Area

- Production and Group Project Area
- Administrative Area

Main Resource Area

☐ The main resource area should have 3 separate lighting zones for the storytelling area, the instructional area, and the circulation area. Each zone should be independently operable. Dimming capabilities are recommended in the storytelling and instructional areas.

☐ Two CCTV outlets should be located in the main resource room --one near the storytelling area and one in the instructional area. CCTV receptacles and electrical outlets should be located 44" AFF.

The Main Resource Area is to be subdivided to provide for the following program activities:

Study and Research Area

☐ Space is needed in the Main Resource Area for an information desk, catalogs, online stations, study and research tables, reference materials, professional library materials, basic collections, and stacks.

Informal Reading Area

- ☐ Space is needed in the Main Resource Area for books and periodicals to encourage literacy, lifelong learning, and reading for pleasure.
- ☐ This area needs to provide space to seat 30 students on the floor away from the busy areas for a storytelling area.
- ☐ A projection screen should be accessible. Emergency lighting should not affect the projection screen.
- ☐ Zone lighting should be controlled from this area.
- ☐ A CCTV receptacle and appropriate electrical outlet should be located near this area.
- ☐ The architect may want to define this area by architecture and/or accent carpeting.
- ☐ Picture book shelving also may help define this area.

Instructional Area

- ☐ Space is needed in the Main Resource Area for formal seating for small, large group, and whole class instruction.
- ☐ A “teaching wall” with appropriate instructional technology, and display space is needed.
- ☐ This area should not be located near an entrance.
- ☐ It should seat 30 students at tables.
- ☐ A projection screen with appropriate floor mounted outlets should be located in this area.
- ☐ Lights in this area should be separate for dimming without affecting the reference area.

Production and Group Project Area

- ☐ Space is needed in the Main Resource Area for functional work and meetings for individuals, teams, and classes as well as facilities for media production should be designed in the main resource area.
- ☐ This area allows for individual study desks for students to carry on independent study research projects, analyze information, and solve problems.

Administrative Area

- ☐ Space is needed in the Main Resource Area for the circulation desk should be designed near the entrance of the media center. This area needs writing space, book return, computer workstation, file cabinet, and storage.
- ☐ An electronic catalog area (ECC) should be located near the circulation desk and should contain one to two computer workstations.
- ☐ The reference section area should contain two to four computer workstations. These should be located near the electronic card catalog and be positioned so they may be utilized with the ECC for directed instruction to students for on-line retrieval skills. Appropriate data, telephone and electrical outlets as well as casework should be provided for these workstations. Casework should include wire management, area for student books and a pullout keyboard.

Materials Preparation/Office Area

- ☐ The Office and Materials Preparation Rooms may be combined into one room. The Office access should be located immediately behind the circulation desk at the entrance to the Media Center. Plentiful interior windows from these rooms into the Media Center

are to be provided for supervision.

- ☐ The materials preparation area provides for the preparation of several types of instructional materials, such as transparencies, slides, and charts.
- ☐ The materials preparation area should have corridor access.
- ☐ This space requires appropriate counter space for repairs, including cabinetry, sink, storage of tools and cords, as well as electrical and computer receptacles for testing equipment.
- ☐ Appropriate casework for storage, computer workstations, data, electrical, and modem receptacles should be provided.
- ☐ See media center specifications available from the Division of Construction.
- ☐ The office area should include space for collaborative planning and processing of library media materials.
- ☐ The office area must be accessible to the materials preparation area and main reading room. It should include appropriate casework for a computer workstation, book shelving, and cabinetry as well as phone, data, and electrical receptacles. Adequate space should be allocated for the media center file server.

Media and Textbook Storage

The storage areas should be located adjacent to the materials preparation work area and should have the following specifications:

- ☐ Space is needed for the storage of instructional materials, such as seasonal materials, maps and globes, and instructional equipment, such as projectors for distribution. Minor repairs, cleaning, and testing of equipment are completed here. Space for manipulatives, especially mathematics and science, is needed.
- ☐ Textbook storage provides for storage of textbooks, workbooks, and classroom materials.

Control Room/Storage Area

- ☐ A support room should be located adjacent to the control room so the room can serve the dual function of a support space and TV studio.
- ☐ The support room used as a TV studio should have adequate electrical outlets and acoustical treatment.
- ☐ See studio specifications for media center communication labs available from the Division of Construction.

Telecommunication Equipment Closet

- ☐ This room is to be located in or near the instructional media center.
- ☐ It should have corridor access and be centrally located in the school.
- ☐ Specifications for this space are available from the Division of Construction.

Shelving Requirements

- ☐ The architect is to refer to the MCPS specifications with the Division of Construction for the material to be used for the shelving in the media center resource area and storage area.

- ☐ The shelving should be interchangeable within standard upright wall units in accordance with MCPS specifications (maximum height and island shelving requirements are available from the Division of Construction).
- ☐ Low shelving is desirable for sight and safety reasons when extra shelving is needed.
- ☐ Shelving is to be allocated on the average as follows:

	Linear Feet
Books	700
Picture Books (with dividers)	165
Magazines (with space for back issues)	20
New Book/Interest Display	10
Media Center Storage (20-24" depth)	As space allows
Textbook Storage (12-18" depth)	As space allows

Computer Laboratory

- ☐ This room should have direct access to the Instructional Media Center.
- ☐ The computer laboratory should be zoned for independent air-conditioning during times when the rest of the building is closed.
- ☐ Specific design guidelines beyond these specifications are available through the Division of Construction and the Office of Strategic Technology and Assessment (OSTA).
- ☐ The room should be designed to accommodate up to 30 computer workstations.
- ☐ Floor-mounted electrical/network capabilities evenly spaced down center of classroom floor for computer workstations is required.
- ☐ Electrical/network capability in the front of the room (teaching wall) for 6 computer workstations is required.

- ☐ One of the storage wardrobes must be lockable to accommodate laptop computers.
- ☐ The teaching wall should be designed to accommodate a Promethean board. The teaching wall layout will be provided by the Division of Construction.
- ☐ Tackboards should be provided in the laboratory.
- ☐ A modular telephone outlet (RJ11) for use with a modem should be provided as well as a location for a printer to be accessed by all workstations. Specifications detailing the design of the computer lab are available from the Division of Construction.

Physical Education

The gymnasium has two major purposes:

- To provide an indoor facility for the physical education instructional program.
- To provide for student and community recreation during after school hours, weekends, summers, and holidays.

Spatial Needs
Gymnasium (74'x50')
Physical Education Office
Storage Rooms
Lobby Area
Outdoor Storage

Gymnasium

☐ The location of the gymnasium should be near the play areas, directly accessible from a corridor, and easily accessible from the parking lots.

☐ Buffering the gymnasium with a corridor or related spaces is required to separate gymnasium noise from the rest of the school.

☐ The physical education office should be adjacent to the gymnasium and lobby.

☐ The architect should refer to detailed requirements provided by Division of Construction in the "Architect's Guide".

- ☐ Any windows into the gymnasium should be oriented north and south so that direct east-west sunlight does not impact play in the gymnasium. However, windows should not be placed in the end walls.
- ☐ The gymnasium should be ADA accessible from within and without (access from inside gym to playfields).
- ☐ A ceiling clearance of 18-20 feet free of girders, pipes, heating vents, lights and curtain supports is required.
- ☐ No ledges or sills should be created over 6' in height that would make it difficult to retrieve a ball.
- ☐ Glazed tile on the walls must cover at least seven feet from the floors.
- ☐ If the gymnasium is a community sized gymnasium (84'x 75') then a vinyl-mesh curtain to divide the floor area into two equal size spaces should be provided. It must be the type that can be electrically rolled to the ceiling for storage. If the gymnasium has a divider curtain, a clock with a protective wire covering should be provided on both ends of the room.
- ☐ Adequate lighting in the gymnasium is required. The lighting should be securely mounted and guarded to prevent damage by balls with keylock switches to control the lighting.
- ☐ A minimum number of windows to prevent glare and glass breakage is requested.
- ☐ Acoustical treatment of walls and ceiling is required and must be able to withstand damage by balls.
- ☐ Ventilation equipment must not inhibit use of the space for auditorium purposes.
- ☐ A wood floor should be installed in the gymnasium. Striping for basketball, volleyball, and floor games should be provided. (i.e. hopscotch and four square)
- ☐ Graphics or approved words should be painted on the gymnasium walls. The school may choose from an approved curriculum list of words to paint on the gymnasium walls. The list of words will be provided by MCPS staff.
- ☐ A whiteboard, 4'x6', with no ledge is required.
- ☐ Separate heating source or controls to permit use when the remaining part of the building is not occupied is required.
- ☐ Recessed door handles are required.
- ☐ Doorway center posts must be removable to allow for the passage of equipment.
- ☐ A recessed fire alarm box or covered fire alarm box, preferably in a corner of the room needs to be provided.

- ☐ Two call buttons located at opposite sides of the gymnasium are required to contact the main office.
- ☐ A clock with a protective wire covering should be provided on a sidewall of the gymnasium. The fire extinguisher, if mounted in the gymnasium, should be recessed into the wall.
- ☐ Wall safety padding must be mounted under each basketball backstop with 16 feet under end basketball backstops and 12 feet under side basketball backstops with nylon nets.
- ☐ Doors or openings should not be directly behind basketball backstops.
- ☐ Fan-shaped basketball backstop, adjustable from 8 feet to 10 feet, must be mounted four feet from the sidewalls to provide two equal sized side courts. The backstops must be of aluminum composition. Collapsible rims must be provided.
- ☐ A basketball backstop, adjustable from 8 feet to 10 feet, must be mounted on each end wall for full court play. The fan-shaped backstops must be of aluminum composition. Collapsible rims must be provided.
- ☐ A hand crank must be provided for the adjustable basketball backstops if they are not operated electrically.
- ☐ Four climbing ropes (1 knotted, 3 plain) with hoist located 6 feet from the ground and safety cables located away from ceiling lights and basketball backstops should be provided.
- ☐ One 8-foot semi-guyed (wall mounted) horizontal bar with safety chain and floor plates should be provided. The MCPS shade shop will provide safety padding.
- ☐ One pair of volleyball aluminum uprights and one center volleyball aluminum upright (insertion type) must be provided. Heavy-duty net ratchet and removable crank handle should be included.
- ☐ Five solid brass floor plates and floor sleeves need to be installed. Two volleyball nets, 32” in length with end sleeves for wooden dowels should be provided.
- ☐ Two portable game standards are required.
- ☐ A wall-mounted, chin up bar should be provided. The lowest bar height should be approximately 5 feet from the floor.
- ☐ Computer data/CCTV/electrical/network receptacles on opposite walls of the gymnasium are required.

Physical Education Office

The following items are required in the physical education office:

- ☐ Non-breakable window to the gymnasium, low enough to view students, is required.
- ☐ Non-breakable window to the lobby for supervision, low enough to view students, is required.
- ☐ Toilet and shower facilities are required.
- ☐ Computer/Telephone/Cable TV outlets connected to the school-wide network are required.
- ☐ Venetian blinds for windows are required.
- ☐ VCT flooring is required.
- ☐ A call button the main office is required.
- ☐ Three full size clothing locker should be provided.
- ☐ Electrical outlets.
- ☐ A tack board should be provided.
- ☐ A wall-mounted clock should be provided.
- ☐ A small closet with shelves should be designed in this office.

Storage Rooms

- ☐ All of the storage rooms require 8-foot doors and 12-foot ceiling heights with a flush threshold.
- ☐ The large storage room requires 8-foot double doors with no center post and must be able to accommodate a set of parallel bars.
- ☐ The large storage room must contain shelves, 6 feet high and 18 inches deep, mounted on at least two walls. The shelves must be adjustable after installation.
- ☐ Both of the small storage closets must contain shelves, 6 feet high 18 inches deep, mounted on the two side and back walls. The shelves must be adjustable after installation.
- ☐ Two volleyball wall racks should be installed in the small storage closet designated for community use. Each rack will hold two uprights.
- ☐ The large storage closet must have a length that will accommodate a 12' long balance beam.

Lobby Area

- ☐ Separate toilet rooms for boys and girls should be located in the lobby.
- ☐ An electric water cooler and public telephone should be located in the lobby area.
- ☐ Six feet of tack board should be installed in the lobby area.
- ☐ The window between the lobby and physical education office must be low enough to view people in the lobby.
- ☐ A control gate to separate the gymnasium, lobby area, and restrooms from the rest of the school during after-hours is required.

Multipurpose Room and Platform

Spatial Needs
Multipurpose Room
Platform
Chair Storage
Table Storage

Multipurpose Room

- ☐ The multipurpose room should have a ceiling height of 12–14 feet.
- ☐ A building service utility closet should be provided near the entrance to the multipurpose room for convenient lunch cleanups.
- ☐ Table storage and chair storage must be located adjacent to the multipurpose room.
- ☐ Exits from the multipurpose room must be sufficient to allow maximum seating.
- ☐ Toilet rooms and an electric water cooler should be near the multipurpose room to allow for public use.
- ☐ Audiences need to be able to hear and see presentations from all locations in the room.
- ☐ Ventilation equipment noise must not inhibit use of the space for auditorium purposes.
- ☐ Acoustical treatment is needed.
- ☐ Proper lighting and sound amplification are required.
- ☐ Each side of the risers at the multipurpose room floor level should be equipped with CCTV/data/voice/modem/electrical receptacles.

- ☐ Lighting, windows, fire alarm box, clock, and ceiling must be protected to prevent damage by balls.
- ☐ Outdoor play areas should be accessible from the multipurpose room. Children should not have to cross driveways or parking lots to access the play areas.
- ☐ An audio loop system should be provided for hearing impaired students; guidelines are available through the Division of Construction.
- ☐ An independent sound system should be provided in the multipurpose room.
- ☐ A call button to the main office should be provided.
- ☐ If there is no gymnasium, then the architect should refer to the physical education section for the storage requirements.

Platform

- ☐ The platform should have a proscenium opening 24 feet wide. The depth is to be 15 feet deep. The platform floor is to be three risers above the multipurpose room floor. A full set of platform curtains is to be provided. An 8'x10' motorized projection screen is to be provided. Platform steps must NOT be carpeted.
- ☐ The platform must be accessible to the physically handicapped.
- ☐ Each side of the platform should be equipped with CCTV/data/voice/modem/electrical receptacles.

Chair and Table Storage

- ☐ Storage rooms are required for the storing the tables in the multipurpose room and folding chairs.

Food Services

- ☐ The kitchen is operated as a "finishing kitchen" and should include an area for dry storage, a manager's workstation, toilet facilities, preparation and serving area, and a receiving area for daily deliveries.
- ☐ A sheltered dock is preferred and should be separate from other school receiving.
- ☐ Delivery flow-path must be clear of preparation area.
- ☐ The trash room should be separate from the rest of the building i.e. no common walls.
- ☐ The trash room should not be accessed from the kitchen.
- ☐ Air conditioning must be available at all times in elementary kitchens, storage, and office.
- ☐ Code requirements for lighting, surfaces, and equipment must be met. The Division of Construction will provide current code requirements.
- ☐ Windows must have screens.
- ☐ Receiving door should be 48" wide and must be self-closing with peephole and doorbell to manager's office.
- ☐ An easy to mop, slip-resistant quarry tile floor is required. Color of grout should be the same or darker than the color of the floor.
- ☐ There should be direct access to both the hallway and the multipurpose room to facilitate one-way circulation through the serving line.
- ☐ A minimum 9' ceiling height is recommended.
- ☐ A building service closet with floor type mop basin shall be located outside the kitchen but readily accessible to the kitchen.
- ☐ A dedicated circuit is required for the cash register with under the floor conduit for connection to the computer in the manager's office.

Serving Area

- ☐ A 26 ft. long serving line with 3-ft. clearance at each end should be provided.
- ☐ The color selection will be approved by Food Services.
- ☐ A single door refrigerator and microwave oven on a cart adjacent to the service area is needed.
- ☐ A wall clock and tack board on the serving line wall are needed.

Walk-in Cooler/Freezer

- ☐ A 7’ 9” x 8’ 8 1/2” cooler is required.
- ☐ A 7’ 9” x 10’ 8 1/2” freezer with a height of 8’ 6” is required.
- ☐ A mobile polymer shelving and dunnage is required.
- ☐ A roof top compressor is required.

Dry Storage

- ☐ The recommended dimension for the dry storage area is 12’ x 16’.

- ☐ A mobile polymer shelving and dunnage is required.
- ☐ Adequate ceiling height for top shelf storage should be considered.
- ☐ This space should be totally secure and free of roof access ladders or electrical panels.
- ☐ Locking cabinets for chemical storage should be provided.

Manager‘s Office

- ☐ Visibility to delivery and serving area is required.
- ☐ The office should be located away or protected from outside door draft.
- ☐ Desk (NIC), file (NIC), telephone, tack board, and LAN access are required.

Toilet Room

- ☐ A hand sink with soap and towel dispenser, sanitary napkin disposal, and 3 full-height lockers are required.

Preparation Area

- ☐ A double convection oven with roll-in bottom is required.
- ☐ An oven cart and dolly (2 each) are required.
- ☐ A half-size range is required.
- ☐ A heat removal exhaust hood is required.
- ☐ Work tables, one 6 ft. and the other 8 ft. with 2 drawers each, under the table are needed.
- ☐ Arlington wire baskets (500 each) and dollies (10 each) are required.
- ☐ Hand sink with pedals and soap and towel dispensers that meet the code requirements are needed.
- ☐ A three compartment sink, 24” x 24” x 14”, with 24 inch drainboards, is required. Disposal in drainboard with pre-rinse spray is required.
- ☐ A 6-foot louvered shelf above with hooks is required.
- ☐ A mobile warmer to accommodate Arlington baskets is needed.
- ☐ Two utility carts are required.

Administration suite

Spatial Needs
General Office
Workroom
Code Red/Code Blue Command Center
Principal’s Office

Assistant Principal's Office
Conference Room
Telephone Room
Storage Room
Records Room

- ☐ The administration suite must be located with good access from the main entrance of the school and visual oversight of the main entrance and bus drop-off area.
- ☐ The suite must be a natural first stop for visitors to the school and must, therefore, have direct corridor access. A security vestibule must be designed so that all visitors must enter the general office to check in before entering the school.
- ☐ Spaces need to be arranged for student and visitor flow and for efficient use by office staff.
- ☐ The general office is to be treated as the center of the administration suite with direct access to the principal's office, the workroom, and the health suite.
- ☐ A coat closet is to be provided for office staff and visitors.
- ☐ The Administration suite should be carpeted.
- ☐ Sufficient electrical outlets are to be provided (where feasible, quadruplex outlets may be utilized) as well as CCTV receptacle for the general office, principal's, and assistant principal's offices.
- ☐ A glass display case should be located in the vestibule of the Administration suite entrance.
- ☐ The administration suite should be designed with separate toilet rooms. If the school chooses, one of these toilet rooms may be located in the principal's office.

General Office

- ☐ A counter should be provided near the entrance to greet and separate visitors from staff and to provide a place to write.
- ☐ Space for two to three staff persons is required behind the counter.
- ☐ The general office should be equipped with a staff bulletin board.

Workroom

- ☐ The location of mailboxes should not create congestion by impeding the smooth flow of traffic in the general office and hallways.
- ☐ Cabinetry appropriate for storing a variety of office and school supplies should be designed along one wall of the workroom.
- ☐ A portion of countertop is to be more than 30 inch wide to accommodate a large paper cutter.
- ☐ Space adequate for a large copying machine with necessary electric service and ventilation is required.
- ☐ A sink is needed in the workroom.
- ☐ There should be direct access to a corridor from the workroom.
- ☐ The workroom should be treated acoustically to keep machine and work noises at low levels.

Command Center

- ☐ An interior room in the school needs to be designated as the command center for Code Red/Code Blue emergencies. In many schools, the workroom in the administration suite may serve this purpose. The room cannot be on an outside wall.
- ☐ The room designated as the command center must have all data and communication equipment including data, cable, phone, and public address (PA) system.
- ☐ The PA console should be located in the room that is designated as the command center.
- ☐ Window coverings such as mini blinds or roller shades must be provided for all windows and doors to the command center.
- ☐ In secondary schools, the security camera monitors should be located in this area.
- ☐ The space designated as the Command Center must be large enough to accommodate up to six staff persons.
- ☐ Storage space is needed for the Code Red/Code Blue emergency kit.

Principal's Office

- ☐ This office should be carpeted.
- ☐ This office should be equipped with a tack board and two-shelf adjustable bookcases under the windows. Each shelf must be able to hold a 12 inch notebook upright.
- ☐ The office should be directly accessible to the conference room through a connecting door.
- ☐ This office should have good visible access of the main entrance and to the bus drop-off area.

Assistant Principal's Office

- ☐ This office should be carpeted.
- ☐ This office should be equipped with a tack board and two-shelf adjustable bookcases under the windows. Each shelf must be able to hold a 12 inch notebook upright
- ☐ This office should have good visible access to the main entrance and bus drop-off.

Conference Room

- ☐ The conference room should be carpeted.
- ☐ The conference room is to have a whiteboard, a tack board, and one bookcase.
- ☐ The conference room should be equipped with a telephone jack.
- ☐ Casework should be provided on one wall with two, two-drawer file cabinets for confidential records, letters forms, etc.

Counselor's Office

- ☐ This office should be carpeted.
- ☐ The counselor's office should be easily accessible from the classrooms and near, but not a part of, the administration suite and should have a window.
- ☐ This office needs a whiteboard, tack board, closet, telephone, and bookshelves.

Telephone Booth

- ☐ A small room where a teacher can talk privately on the telephone is required. (The room needs a door with a window, or a "phone in use" light.)
- ☐ This room should have a small built in countertop and room for one chair.
- ☐ This room should be carpeted.

Storage and Records Rooms

- ☐ Two lockable rooms are needed for storage of office supplies and student records.
- ☐ The records room needs space for lockable file cabinets.

2nd Floor Workroom

- ☐ This room requires appropriate electrical wiring and ventilation to house a copier for staff use
- ☐ This room requires a work counter and cabinets under and over the counter for storing supplies.

Staff Development Area

Spatial Needs
Staff Development Office
Reading Specialist Office
Training/Conference Room

Staff Development Office

- ☐ The staff development area should be located near the classrooms.
- ☐ This office needs a whiteboard, tack board, closet, and video, voice, and data outlets.

Reading Specialist Office

- ☐ The staff development area should be located near the classrooms.
- ☐ This office needs a whiteboard, tack board, closet, and video, voice, and data outlets.

Training/Conference Room

- ☐ This room will be used for staff training needs.
- ☐ This room should include storage for training materials.
- ☐ A whiteboard and tack board should be installed.
- ☐ The wiring for an overhead LCD projector should be provided.

Health Services Suite

Spatial Needs
Waiting Area
Treatment/Medication Area
Office/Health Assessment Room
Health Assessment/Isolation Room
Rest Area
Toilet Room
Storage Room

- ☐ The Health Services Suite should be in complete compliance with COMAR 13A.05.05.10A.
- ☐ The health suite must meet accessibility requirements of the ADA, and at a minimum, include spaces for waiting, examination and treatment, storage, resting, a separate room for private consultation and for use as the school health services professional's office, a toilet room, and lockable cabinets for storing health records and medications.
- ☐ A designated school health services professional must be involved in the planning of the health services suite.

- ☐ The architect should refer to MSDE document, ***School Health Services,*** June 2002 for specific utility information.
- ☐ The suite should be designed to provide easy visual supervision of all the spaces by the health services professional.
- ☐ In addition to access to the general office, the health services suite also must have a window into the general office so that office staff may monitor the room when heath staff is unavailable.
- ☐ The health room also must have a door to the corridor.
- ☐ Ventilation is important throughout the health suite.
- ☐ The countertops should be seamless to aid in maintaining sanitary conditions.
- ☐ The floor finish should be an easily cleaned non-absorbent material. Carpet should not be used in any areas of the health suite.
- ☐ A non-porous ceiling material should be used. Vinyl-coated ceiling tile or painted drywall is an acceptable choice.
- ☐ If any of the areas are enclosed then glazed walls areas should be provided.
- ☐ The health suite requires wall and base cabinets, lockable file cabinets, for storing health records. A portion of these cabinets must be lockable to store medications, medical supplies, and equipment.

Waiting Area

- ☐ The waiting area should have space for four to eight chairs.
- ☐ A small tack board should be provided in the waiting area to display health care and other information of importance to students and staff.

Treatment/Medication Area

- ☐ This area should be adjacent to the waiting area to facilitate the efficient flow of students.
- ☐ This area should have a kitchen-type sink with cabinets above and below (including a locked medicine cabinet), a 36-inch high countertop, and a small residential style refrigerator/freezer to store medical supplies and foods.
- ☐ A minimum of 12 linear feet of wall and base cabinets should be provided.
- ☐ The freezer should have an icemaker.
- ☐ The treatment area also requires a computer.
- ☐ A small sink, with cup, towel, and soap dispensers should be provided.

Office/Health Assessment Room

- ☐ The room requires one computer, fax machine, and electronic connection and physical proximity to a copy machine.
- ☐ The spaces used for consultation and examinations must be enclosed with sufficient acoustical isolation to ensure complete privacy and confidentiality.
- ☐ A small sink, with cup, towel, and soap dispensers should be provided.

Health Assessment/Isolation Room

- ☐ The spaces used for consultation and examinations must be enclosed with sufficient acoustical isolation to ensure complete privacy and confidentiality.
- ☐ A small sink, with cup, towel, and soap dispensers should be provided.

Rest Area

- ☐ This area should not be a fully contained room but rather an area that can provide privacy for each cot with a draw curtain on a ceiling track.
- ☐ The rest area needs space for two to four cots, and one bedside cabinet.
- ☐ There should be a separate privacy room within the rest area, with a door and space for a cot and a single pedestal desk and chair.
- ☐ In the rest area and privacy room, supplementary power ventilation capable of 20 changes per hour should be provided, with control by means of a separate switch within the health suite.

Toilet Room

- ☐ One ADA toilet should be provided.
- ☐ The toilet room should be accessed without having to go through another functional space in the health suite such as a rest area.
- ☐ Ideally, students should be able to enter the health suite solely to use the toilet room without disrupting other activities.

Storage Room

☐ The storage area is to have space sufficient for a four-drawer locked file cabinet, a wardrobe for coats, and a wheelchair.

Staff Lounge

- ☐ The staff lounge is a place for staff members to relax, study, plan, and think together.
- ☐ Two toilet rooms are required just outside of the staff lounge. The toilet rooms may be labeled “adult” rather than “male” and “female” in an elementary school.
- ☐ The staff lounge should contain a compact built-in kitchen with six linear feet of counter space for a microwave and sink and a space for a refrigerator (nic).
- ☐ A clock should be provided.
- ☐ A small, enclosed room with countertop and space for one chair is needed for a telephone.
- ☐ Ventilation must be provided. An operable window in the staff room is preferred.
- ☐ An area should be designated for a computer with jacks for computer & telephone (modem).

Building Service Facilities

Spatial needs
Building Service Office
Locker/Shower area
Compactor/Trash Room
Recycling Room
General Storage & Receiving Area
General Storage
Building Service Outdoor Storage
Building Service Closets

Building Service Office

- ☐ The entire building services area should be located adjacent to the general receiving area.
- ☐ The office should be designed as a general office that can accommodate two staff members with two desks and appropriate wiring for computers, phones, etc.

Locker/Shower Area

- ☐ A locker area must be located near the receiving area.
- ☐ Six full-size lockers should be provided in the locker area.

- ☐ The locker area should be designed with an enclosed toilet room and shower room for building service staff use.

Compactor/Can Wash/Trash Room

- ☐ This room needs to be completely separate from the kitchen spaces with no common walls.
- ☐ Trash trucks must have access to this room.
- ☐ The room should be heated and have adequate interior lighting, floor drainage, and easily cleanable surfaces.
- ☐ Hot and cold water should be available for flushing and cleaning.
- ☐ The room should be designed to be pest-free and well ventilated.
- ☐ Floors should be sloped so that wash down stays within the room and goes down the drain.
- ☐ The compactors need to be installed with enough clearance away from the wall to permit staff to access the equipment from all sides.
- ☐ A roll-up door for trash transfer to trucks, steam cleaning equipment, and trash collection containers are needed.
- ☐ The room should be designed with a ramp to allow trashcans to be rolled to the dock.

Recycling Room

- ☐ The recycling room should be located next to the trash room. This room will be used for the sorting of recycled items.
- ☐ Space for a recycling dumpster for cardboard is needed outside of the recycling room (approximately 8’x8’).

- ☐ This room needs to be completely separate from the kitchen spaces with no common walls.
- ☐ Trash trucks must have access to this room.
- ☐ The room should be heated and have adequate interior lighting, floor drainage, and easily cleanable surfaces.
- ☐ Hot and cold water should be available for flushing and cleaning.
- ☐ The room should be designed to be pest-free and well ventilated.
- ☐ Floors should be sloped so that wash down stays within the room and goes down the drain.
- ☐ A roll-up door for trash transfer to trucks, steam cleaning equipment, and trash collection containers are needed.
- ☐ Ramp should allow trashcans to be rolled to the dock.

General Storage and Receiving Area

- ☐ The receiving area should be enclosed, floor to ceiling, with a chain link fence.
- ☐ Flexible shelving is required but should not occupy more than one third of the area.
- ☐ This area must be secured.
- ☐ Good lighting and easy access to materials being stored are required.
- ☐ Electrical outlets, upgraded lighting and ventilation must be provided in this area.

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.

Building Service Outdoor Storage Room

- ☐ Outdoor storage is to be near the service area and is to be suitable for heavy mowing, snow removal, and other outdoor equipment.
- ☐ The dimensions of the outdoor storage area must be able to accommodate two tractors side by side. (one tractor is approximately 9' long by 7.5' wide and a second smaller tractor) and other equipment.
- ☐ A rolling garage style door and a regular door must be provided.
- ☐ A ramped and paved driveway is required for the tractor so that it can access the sidewalk and driveways of the school during snow removal.
- ☐ Electrical service and lighting inside must be provided. Access to the light switches must be available at both entrances.
- ☐ Proper ventilation for storage of gasoline is required.

Building Service Closets

- ☐ At a minimum, there should be a building service closet for each 19,000 gross square of the facility. In addition, there should be a building service closet on each floor and each wing of the facility.
- ☐ The closets should be a minimum of 25 sq. ft.
- ☐ The building service closet must accommodate a minimum of one utility cart.
- ☐ The closet requires shelving for cleaning supplies.
- ☐ The closet requires a floor mop sink with hot and cold running water and a floor drain.
- ☐ A mop/broom holder is required.

Site Requirements

Physical Education Instructional Site Requirements

- ☐ 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 and paved play.
- ☐ Paved areas and fields must be as level as possible. Water should not collect on paved areas
- ☐ The items described below are for a school with a site meeting the 12-acre requirement. At schools with smaller sites, the architect is to work with MCPS staff, including the Physical Education Curriculum Coordinator, Safety Director, and school staff to determine layout of the play areas. The outdoor physical educational instructional space should not be compromised for playground

equipment.

Softball Fields

- ☐ Two softball fields should be provided with the following design requirements:
- ☐ 250’ radius, with a soccer field superimposed should be provided if possible. See below for the soccer field dimensions.
- ☐ The site size will determine the number and dimension of the softball fields.
- ☐ Softball fields should have metal benches protected by fencing for each team’s use.
- ☐ The fencing and benches should not interfere with soccer field usage.
- ☐ The softball backstops (2) shall be in diagonal corners of the field or in corners on the same side. See diagram in Architect’s Guide provided by Division of Construction.
- ☐ Softball infields are not skinned for elementary schools. However, one field may be skinned if it does not significantly impact the soccer playing area.

Soccer

- ☐ The site size will determine the size of the soccer fields. The elementary school size soccer field is 150’x240’ however the minimum size field should be 105’ x 180’.
- ☐ No permanent goals or temporary goals should be installed on the soccer fields.

Paved Play Areas

- ☐ Two paved areas, 80’ x 100’ should be provided if the site permits. On small sites, one paved play area
- ☐ If located adjacent to one another, a grassy strip of at least 20’ should be between the two paved areas.
- ☐ One area should have four basketball goals with appropriate striping (see diagram in Architect’s Guide available from the Division of Construction).
- ☐ A second area, designated for primary use, shall be striped according to drawings provided in the Architect’s Guide available from the Division of Construction.

Kindergarten Paved Play Area

- ☐ A third paved area, at least 40’x 60’ but preferably 80’ x 100’, is needed for the Kindergarten students.
- ☐ This area needs to be located adjacent to the Kindergarten playground (mulched) area and close to the other paved play areas.
- ☐ This area requires a fence around it or adequate separation from the other paved play areas.
- ☐ The area will be striped according to drawings provided in the Architect’s Guide available from the Division of Construction.

Playground Equipment Areas (mulched areas)

- ☐ One or two areas shall be provided near the playing fields and large paved play area for playground equipment. Each area should be approximately 40'x40'. The size and shape of the play area will be developed during the design process in consultation with MCPS staff.
- ☐ The area shall be level, bare ground, unseeded, and no sod. MCPS will provide equipment dimensions for these areas.
- ☐ An underground drainage system must be provided.
- ☐ The loose-fill surfacing material (engineered wood fiber) must meet ADA requirements. A border must be provided to contain the filler. The surfacing materials must meet or exceed safety specifications for shock absorbing qualities as outlined by US CPSC.

Kindergarten Play Area (mulched area)

- ☐ A mulched kindergarten play area of 40' x 60' should be located adjacent to the kindergarten paved play area described in the physical education section for playground equipment. The size and shape of the play area will be developed during the design process in consultation with MCPS staff.
- ☐ The area shall be level bare ground, unseeded, and no sod. MCPS will provide equipment dimensions for this area.
- ☐ Protective fencing should enclose the area.
- ☐ An underground drainage system must be provided.
- ☐ The loose-fill surfacing material (engineered wood fiber) must meet ADA requirements. A border must be provided to contain the filler. The surfacing materials must meet or exceed safety specifications for shock absorbing qualities as outlined by US CPSC.

Site Requirements

- ☐ 12 useable acres for new schools is ideal. More than 12 acres may be needed due to terrain or for environmental protection requirements.
- ☐ Other considerations include road access, ability to extend sewer, water and other utilities, good topography, compatible adjacent land use.
- ☐ The site should be designed to provide a clear view of all play areas and to facilitate supervision from one location.
- ☐ A minimum of 80 parking spaces should be designed initially for a school with regular staffing allocations, with future expansion possible. At schools with class-size reduction, 100 parking spaces should be provided.
- ☐ 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.
- ☐ Playground equipment areas should not be located at the bottom of hills unless a provision is made to channel water away from the equipment areas.

Driveway and Service Drive

- ☐ The driveway must be 24’ wide, 50’ radius for turnaround, for buses, with a separate entrance and exit or turnaround is required.
- ☐ 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.
- ☐ All driveways must be arranged so that children do not cross them to get to the play areas. Access to the Head Start and future day care areas must be considered.

- ☐ Pedestrian access to the school facilities should be designed to make the best use of community rights-of-way and should not require students to cross in loading-zone areas.
- ☐ 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 is to line up with the intersecting street.
- ☐ The grade of the driveways shall not exceed eight percent and should provide for a minimum centerline radius of 50 feet to provide adequate turning space for buses.
- ☐ A service drive 15’ wide with an adequate turnaround is required to service the kitchen, boiler room, and general delivery area.
- ☐ Where necessary, oil filler pipes, with adequate overflow pipes, are to be easily accessible for a tractor-trailer.

Landscaping

- ☐ Planting should include screen planting and other planting needed for erosion control.
- ☐ Existing plant stock, if on site, is to be evaluated for use and protected accordingly.
- ☐ Landscaping to support energy conservation and to relate the building to the site with aesthetic appeal must be included.
- ☐ Planting areas along 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.
- ☐ Provision for outdoor watering must be included.
- ☐ The landscaping plan should include areas for outdoors environmental education programs.

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APPENDIX C - EXISTING CONDITIONS SURVEY & CODE ANALYSIS

CIVIL

DESCRIPTION OF EXISTING FACILITIES

The original building at 4 Marquis Drive was constructed in 1975, and except for systemic upgrades is substantially unchanged from the original construction. The 8" water main under Marquis Drive supplies a combination 6" domestic/fire water service and one on-site electrically-supervised fire hydrant a the back of the building. Sanitary sewer and natural gas are also piped from Marquis Drive, the latter serving converted boilers and domestic water heating. The electrical service to the building is underground to a pad-mounted transformer. On-site storm water management consists of curb inlets piped to a 133' x 30' x 3' deep storage basin. New environmental site design measurers would be required to handle the new impervious area.

The site is accessed from Marquis Drive via two curb cuts. A one-way traffic flow handles both cars and buses. The bus loop drops students in front of the school entrance. The student drop-off is part of the staff and visitor parking lot within the bus loop. Students must cross the bus loop when dropped off by car. There is parking for approximately 75 cars.

The site topography is generally flat across the building footprint and play areas. There is significant slope at the western edge of the site that falls off toward the residential area.

ARCHITECTURAL

DESCRIPTION OF EXISTING FACILITIES

The one-story existing building is predominantly of grade slab and steel frame construction, with a mechanical mezzanine of flat slab concrete. Roof framing is open web bar joists with steel deck and a built-up asphalt roofing system. All foundations are conventional spread footings at normal depths. Original interior walls are constructed of painted concrete masonry; original operable partitions at classrooms have been largely replaced with metal stud and gypsum drywall construction. The major exterior material is face brick, with precast concrete clad fascia. Windows are fixed aluminum frames with insulating glass.

APPENDIX C - EXISTING CONDITIONS SURVEY & CODE ANALYSIS

EXISTING CONDITIONS

MECHANICAL

General

The original school was built in 1975 with open pod classrooms. The building was modified by erecting partitions to create individual classrooms, resulting in many classrooms with no windows. The school has not been revitalized since it was built and there are no additions. Although most of the systems have been well maintained, the majority of the equipment has reached or is well past its expected life. No work is anticipated for the existing building during the classroom addition phase. Building wide systems upgrades will occur during the revitalization for the school.

The classroom addition will be designed with a stand-alone HVAC system. High efficiency incremental heating and air conditioning systems will be evaluated during the design phase. Ventilation air will be introduced via a stand alone energy recovery unit or through incremental units. An important consideration for the phase one mechanical design will be that the revitalization will include building a second floor on the roof of the phase 1 classroom addition.

HVAC System

The heating, ventilating and air conditioning (HVAC) system in the existing school is generally as originally installed. The system consists of 5 main Trane M Series air handler units (AHU) located on a mechanical mezzanine above the entrance corridor adjacent to the Multipurpose room. Three of the units provide supply air to variable-air-volume (VAV) terminal units in Classroom and Administration areas, while the two other units are zoned to constant volume systems in the Multipurpose Room and Gymnasium areas. The Classroom AHU's have chilled water coils and the Administration area AHU is provided with a Direct-Expansion (DX) cooling coil; both are heated via hydronic coils in the VAV terminal units. The Multipurpose Room and Gymnasium AHU's are equipped with hydronic heating coils and the Gymnasium AHU is set up to receive a chilled water coil, although it is not installed. The Kitchen is served by a sixth AHU, located above the ceiling of a storage closet in the Multipurpose Room. This unit has a hydronic reheat coil and is designed to receive a DX cooling coil, which is not installed. Miscellaneous unit heaters and fin-tube radiation is present in limited quantities.

Based on the observed condition of diffusers, there appears to be a significant accumulation of airborne dirt, most likely due to system age and/or deferred filter replacement. There are several exhaust fans on the roof that appear to be in fair to poor condition. These fans should be checked to ensure that they are operating since most appear to be original. Consideration should be given to replacing all exhaust fans.

Heating System

There are two boilers installed in the boiler room. Each boiler is a Burnham three-pass conventional steel boiler (Model 4FPW) with a dual-

fuel burner. Each 50 BHP boiler has a #2 oil input of 1,674,000 btu/hr, providing hot water at 180 degrees. The boilers are piped to a common manifold allowing both boilers to operate when the highest heating demand is required. Fuel oil is supplied from an underground storage tank via two 1/2HP base-mounted gear-type transfer pumps. The boiler breachings are connected via individual induced draft fans to a single masonry flue stack. Two base-mounted lead-lag centrifugal pumps provide hot water circulation, with an air separator and atmospheric expansion tank. Pumps and motors appear to be original.

Cooling System

The AHU's serving the Classrooms and Multipurpose Room are supplied with chilled water by a 140-ton water-cooled York electric chiller, using R-22 refrigerant, which is no longer allowed in new equipment. Chilled water is circulated through the building by a 7.5HP base-mounted centrifugal pump. A 10 HP stand-by pump is provided, which can also serve the condenser water loop. Condenser water is supplied by a base-mounted 10 HP centrifugal pump from an Evapco LST-4 forced-draft cooling tower, original equipment at the end of its life. Pumps and motors appear to be original.

Control System

The control system for the building is pneumatic, using a single air compressor, installed with a small storage tank and a refrigerant air dryer. It appears that all operating controls are pneumatic, but controls are connected back to MCPS central monitoring through DDC controls. The VAV controls have been recently updated.

Plumbing Systems

Domestic hot water is generated by a 85-gallon atmospheric gas-fired water heater. The heater was manufactured by AO Smith and is equipped with a 365,000 btu/hr gas burner that produces 354 gallons per hour recovery. The heater appears to be original. There is a small domestic hot water circulator that keeps hot water in circulation throughout the building and ready when needed. The system is not equipped with an expansion tank or mixing valve used on new systems today.

The 6-inch water service serves one on-site fire hydrant.

Plumbing fixtures appear to be in fair to poor condition in the building. The original fixtures are floor-mounted water closets, wall-hung urinals and wall-hung lavatories. There are minimal provisions for compliance with the Americans with Disabilities Act (ADA).

Fire Protection System

The school building is sprinklered throughout. Smoke detectors are present on all air-handling units.

ELECTRICAL

Power Distribution

The school is fed from a PEPCO transformer located outside next to the building. The service is labeled as 2,000 amps. Service is 277/480 volt, three-phase. The service enters through a CT section and goes into a General Electric switchboard.

Branch circuit panelboards and step-down transformers are located in several storage closets throughout the building, all are of original construction.

Classrooms typically have less than the required number of receptacles specified today, a problem compounded by the original open-pod arrangement. There is no separate computer power distribution system in the school. Receptacles in the Kindergarten and Pre-K rooms do not appear to be childproof type.

Emergency Power

Emergency power is provided to the school from a 30 kW Onan diesel generator located in the boiler room. The generator serves an automatic transfer switch in a building electrical room, which in turn, serves the emergency power panelboard and all emergency loads. Today MCPS standards require that selected optional loads, such as walk-in boxes and heating, be provided with generator standby power. This cannot be accomplished with the existing generator. The emergency loads connected to the generator consist of emergency and exit lights and the fire alarm system.

The fire alarm system, manufactured by FireLite, is a recent replacement, and includes audio-visual signaling devices throughout the building.

Lighting

Fluorescent lighting is used throughout the school. Classroom lighting is 2' x 4' four-tube fluorescent fixtures; 2' x2' U-tube fixtures are used in corridors. These lensed fixtures do not use today's energy efficient lamps so electric usage will be higher on this school due to the fixtures. The existing lighting fixtures cannot be retrofitted with T-5 or T-8 lamps without major modifications. Lighting throughout the school should be replaced with present day energy efficient fixtures, which will reduce power consumption and electric bills.

APPENDIX D - EXISTING PHOTOS

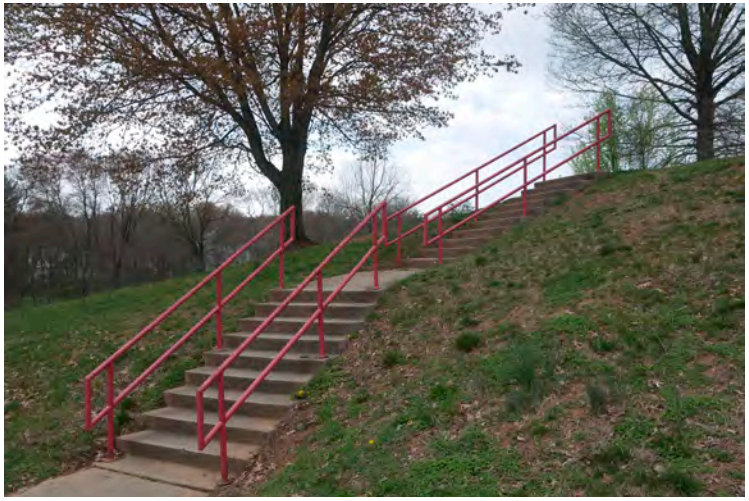
Front of building from bus loop


Classroom wing viewed from bus loop


Classroom wing viewed from bus loop


Stair from bus loop

APPENDIX D - EXISTING PHOTOS



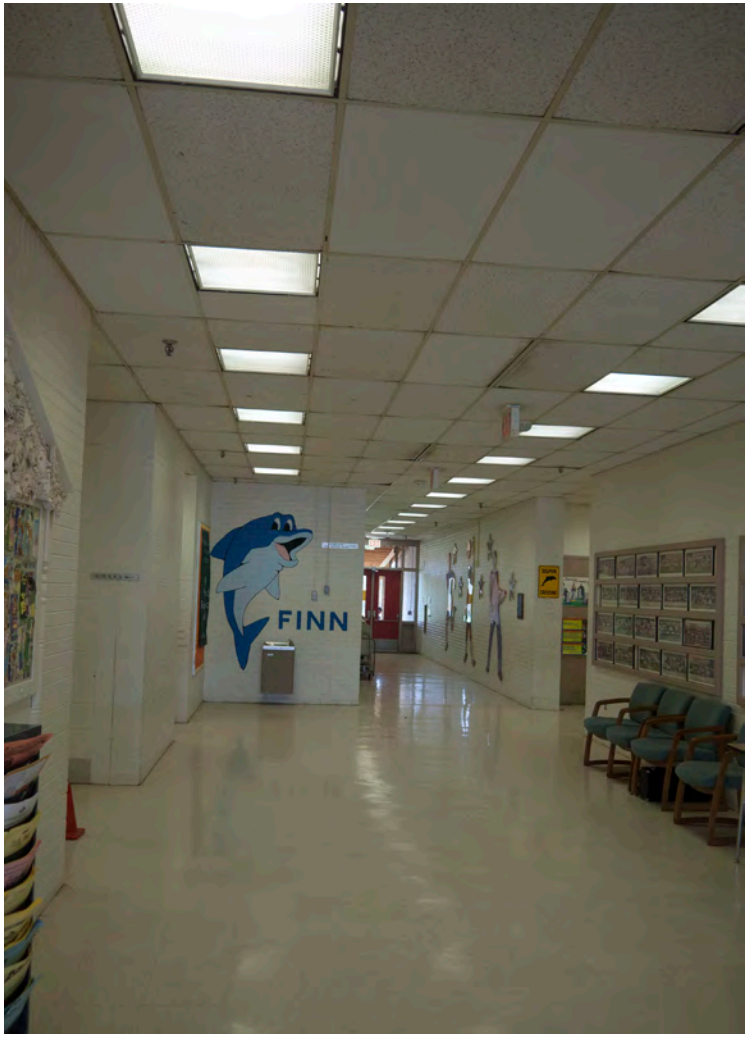
Stair from lower end of bus loop to playground

Sledding hill at west property line

Hard surface playground at west end

Hard surface playground at west end

APPENDIX D - EXISTING PHOTOS



View of parent waiting at front entrance

View of student art installation

View of student art installation