Patuxent Valley Middle School
Assessment of Needs

March 2013

Prepared for the:

Howard County Public School System

Board of Education

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Ellicott City, MD 21042

By:

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I. INTRODUCTION

Purpose of the Study:
The purpose of the assessment of needs study is to investigate the existing conditions of the facility and the educational requirements of the Patuxent Valley Middle School. Based on the evaluation, proposed options and the recommendations to address the building deficiencies with related cost estimates have been provided to determine the ultimate scope for the planned renovations and additions. According to the HCPSS 2012-13 Middle School Capacity Update prepared by Gilbert Architects Inc. dated May 22, 2013, the Patuxent Valley Middle School building utilization (official 9/30 enrollments [654] divided by HCPSS actual number of teaching stations [39 teaching stations x 20.5 x 95% = 760]) has a utilization factor of 86%. Subsequent to the opening of a new middle school and redistricting in the school system, this building is not slated for expansion to address enrollment growth. Additions to replace the existing temporary modular classrooms as permanent construction are anticipated to be included in the scope of work.

The purpose of this study will be to identify the deficiencies that exist in the building due to the age of the systems and finishes, the evolution of the building code, ADA compliance and the goal to reach LEED Certified under the LEED 2009 for Schools for New Cconstruction and Major Renovations . The study will also address current building deficiencies in its ability to provide the program requirements that currently are being offered at Patuxent Valley Middle School. In addition to the building-wide renovations, the design team has reviewed options for consideration for the proposed expansion. Based on the number of classrooms needed to replace the temporary modular classrooms, and the limited area around the perimeter to add onto the building and maintain the educational functionality, pros and cons for each option are provided, eliminating options based on constructability, program and cost.

The goal of the assessment of needs is to identify the best use of the existing facility and site to meet the educational needs of the students based on the educational program. The information presented and options proposed to the Board of Education and school system personnel will address the identified needs and recommend improvements needed to maintain the facility and educational goals.

Proposed Scope:
Patuxent Valley Middle School was originally constructed in 1989 with six (6) modular classrooms added sometime thereafter. No renovations to the 97,445 square foot school have occurred since the building was originally constructed.

Renovations:

- The intent of the project is a complete systemic renovation of the existing building. Although this project is not being driven by building capacity, upgrades to the mechanical and electrical systems are the priority for this project. A geothermal HVAC system is to be incorporated into the renovations for this project.
- HCPSS' policy states that all renovations to existing buildings are required to be LEED certified. A preliminary LEED checklist is included herein as part of the assessment of needs study to establish a baseline at the onset of the project.

Additions:

- The scope should include relocating the reception and principal office to the first floor in close proximity to the main entrance which may require an addition to accommodate the program.
- The six modular classrooms are to be replaced with permanent construction. An addition to accommodate the six classrooms being displaced needs to be incorporated as part of the building project. The sixth grade team is currently housed in the modular classrooms, with the exception of the science and specialty classrooms.

II. ANALYSIS AND RECOMMENDATIONS

The following lists of deficient or non-compliant items have been identified herein and are recommended for replacement and incorporation into the building project as part of this comprehensive renovations/additions project.

ARCHITECTURAL

Program:

- The building administration offices are located on the second floor and are remote from the main entrance of the school.
- The existing library is a two-story space and is extremely oversized for the building capacity.
- It would be desirable to have direct access to the playgrounds from the cafeteria.
- It would be desirable to have student toilet rooms in close proximity to the cafeteria.
- Multiple classrooms have limited or no daylight at all.
    - Solar tubes to capture natural light for the internal classrooms without windows is recommended.
- Student lockers are located in the main corridor. The size of the lockers, which are not securable, are small and some of the lockers are at angles to each other making them un-accessible.
    - Replacement of the student lockers is recommended.

ADA/Code Compliance:

- There is no elevator access to the second floor from the main entrance lobby/stair tower. There is an existing elevator located internal to the building.
- The health suite is small and is not COMAR compliant.
- The door hardware on classroom doors and other openings have a standard knob instead of lever style door hardware.
- Many of the classrooms have extension cords running across the floor areas as there seems to be insufficient power outlets.
- Entrances to multiple classrooms are not ADA compliant. There is insufficient ADA push/pull clearance at these doors and the entrances are constructed out of masonry block walls.
- The transition from the corridor floor to the gymnasium floor is not ADA compliant.

Finishes/Casework:

- The majority of the classrooms have carpeting on the floor surface.
    - Recommend removing all carpeting and replace with VCT flooring.
- The existing folding partitions in the classrooms are to be removed and replaced with permanent walls.
- All ceilings are to be replaced due to the proposed lighting and HVAC replacement.
- The amount of casework in the typical classrooms is to be evaluated and new casework provided. The extent of the new classroom casework is to be similar to what was provided at HCPSS Building No. 20.
- Replacement of the art room casework which is not appropriate for the art curriculum.

Classrooms:

- The typical classrooms in the main building are configured in pod layouts with multiple folding partitions pulled closed to create individual classrooms.
- Classroom floors are typically finished with carpeting.
- The existing telescoping bleacher seating in the gymnasium is wooden.
- Interior walls have been painted with epoxy paint, causing the walls to be very shiny. (Jan Sadowski, Dustin Construction Inc. cautions that it is challenging to paint over epoxy paint).

Exterior Building Envelop:

- Condensation was observed between the panes of glass in numerous insulated window units.
    - A full window replacement shall be reviewed by Howard County Public School System as part of the assessment of needs for this project.
- The existing standing seam metal roof, as well as the existing metal gutters and downspouts, have areas where the metal is rusted through and the finish color is worn off.
- Roof gutters are rusted through in numerous locations of sloped roofs.
- Metal downspouts have vegetation growing out of them where rainwater is supposed to exit the downspout.
- Paint is chipped and peeling at exterior painted metal posts and canopies.
- Bats have been known to enter the building at numerous times.
- Roof flashing is failing and causing leaks through the roof and walls.
    - A full roof replacement is recommended.

Modular Classrooms:

- There are six modular classrooms located on the site.
- The modular classrooms are very dated and have lived their life expectancy.
- The floors are carpeted floors and ventilation in the classrooms is poor.

SITE/CIVIL

General:

- Overall the site is in very good condition.
- There is existing sidewalk at the main entrance adjacent to the existing paving that is lower than the top of the curb that needs to be replaced.

Vehicular Parking:

- The current ADA parking spaces and regular parking spaces are not standard/compliant widths.
- There are currently 94 parking spaces on the site including 4 handicap parking spaces.
- There are currently 110 staff members in the building, including aides and parking on a day to day basis is not an issue.
- Parking is a problem during events and or when special programs are held at the building.
- The handicap parking spaces need signage and crosswalk striping.
- The staff parking lot has sealed cracks, some filled potholes and settlement issues near the main entrance.
- The parking lot lighting is to be replaced as part of the scope of work for this project.
- There is no clear distinction between parent drop-off and bus parking. A meeting with Dave Ramsay, Chief Department of Transportation should be scheduled to discuss this issue.

Bus parking:

- Patuxent Valley Middle School and Bollman Bridge Elementary School share bus parking.

Playgrounds:

- The existing macadam play area at the back of the school needs to be replaced due to many cracks in the paving.

MECHANICAL EXISTING CONDITIONS

General:

The only changes to the school's MEP systems since the building was constructed is the replacement in-kind of equipment due to failure. The following is a detailed description of the existing mechanical, plumbing and fire protection systems.

Heating System:

- Two gas fired cast iron boilers produce heating water for the school building. These boilers were installed during the original construction in 1989. The boilers are manufactures by Weil-McLain (Model No. PL 894-WS) and have a gross output rating of 1703 MBH per boiler. While the existing boilers are functioning adequately to satisfy the existing school and are in good condition, there appears to be little to no excess capacity in the boilers to handle any increase in heating load. Flues from each boiler connect together into one vertical stack that is supported on the floor and extends through the roof.
- The stack is similar to a "Van Packer" type stack which consists of two metal jackets with concrete grout poured between the two jackets. Each gas-fired burner mounted on

the front of the boilers is Webster with a capacity of 1250MBH-2500 MBH. The burners appear to be in good condition.

- There is one open louver in the wall that serves as combustion air for the boilers and water heaters. There is a set of double doors leading from the boiler room to the exterior. The full length open louvers in each door leaf have been blocked by sheet metal. We assume these louvers were also for combustion air, but due to the quantity of cold air entering the room, these louvers were blocked.
- The present combustion air arrangement does not comply with the current international mechanical code [IMC] or the state boiler code CSD-1. The boiler room is ventilated by a thermostatically controlled exhaust fan on the roof and outside air intake at the roof.
- Heating water is supplied to the building through two heating water pumps. The two pumps, manufactured by Bell and Gossett, are 15 horsepower end suction types setting on vibration isolation pads. Pumps are piped in a lead/lag arrangement. The system is equipped with an air separator, shot feeder, and an air-charged expansion tank.
- The existing expansion tank is not capable of supporting any additional water added to the system. When the existing tank is replaced, the owner should consider installing a diaphragm type sized for the new system size. It was also noted that all valves in the boiler room were gate type valves which can be difficult to shut off tight as they get older.

Cooling System:

- All air conditioning supplied to the school is direct expansion (DX) refrigerant based compressorized equipment. There are 9 rooftop units that produce air conditioning serving the school. Seven of the rooftop units provide variable air volume (VAV) to serve an area using inlet valves to control the fan inlet vanes, which control the fan inlet opening to reduce or increase air quantity being supplied to fan powered VAV terminals. This system uses antiquated technology and equipment and is not energy efficient. The other two rooftop units are constant volume and serve the cafeteria and shop area. The gymnasium and kitchen area are not air conditioned. The dry food storage room in the kitchen area needs to be air conditioned per today's codes.

HVAC Systems:

The heating, ventilating, and air conditioning (HVAC) systems vary slightly throughout the building. The following is a breakdown of the various spaces and their associated HVAC systems.

- There are seven VAV, HVAC and rooftop units that supply air to fan powered VAV terminals in the classrooms, offices and miscellaneous areas in the building. We understand that some rooftop units have failed over the years and have been replaced, but all fan powered VAV terminals are original and have reached their expected life.
- There are two constant volume HVAC rooftop units that serve the cafeteria and shop area. There is one thermostat for each rooftop that controls the heating and cooling supplied by the units.
- There are two rooftop units that are heating only. One unit controls the temperature and ventilation for the gymnasium. The other rooftop unit is a makeup unit for the kitchen hood.

- There are five heating only belt driven fan coil units. Two units control the temperature in the locker rooms. The other three units are make-up units for the paint spray booth, the welding hood and the laboratory hood.
- The MDF room that houses all the data equipment does not have a separate cooling system which is needed for this room to function at peak performance.
- Many of the exhaust fans on the roof appear to be original to the building (24 years old) and need to be replaced.

Control System:

- The existing control system for the school is a pneumatic control system. Major valves, dampers and sensor components are provided with pneumatic operation. Building control is interfaced with the central HCPSS energy management control system for occupied/unoccupied settings.
- A duplex type air compressor system complete with a horizontal storage tank is located in the boiler room and serves the buildings pneumatic control components. Air supplied from this compressor system is fed through a refrigerated dryer system. Both the air compressor and refrigerated dryer systems appear to be in good working condition.

Plumbing Systems:

- Domestic water heaters are manufactured by PVI, with storage tanks and gas burners. The water heaters were installed less than 2 years ago and are in excellent condition. Domestic hot water circulation pumps maintain a continuous hot water flow throughout the building. The systems are also equipped with expansion tanks and mixing valves, which are typically provided on today's new systems.
- Plumbing fixtures appear to be in fair condition and were installed as part of the original construction. The water closets are floor-mounted, urinals are wall-hung, and the lavatories are individual wall-hung type. The school is equipped with plumbing fixtures to meet the Americans with Disabilities Act (ADA) requirements, when it was built, but does not meet all of today's ADA requirements.
- The building is supplied with a natural gas service by Baltimore Gas & Electric (BGE) which serves the boilers, kitchen, science and domestic hot waters. The existing emergency generator for the school uses diesel fuel. The new code does allow natural gas to be used for emergency generators.

Fire Protection System:

- The building is currently sprinklered. There is a 6" fire service into the boiler room reduced to a 4" pipe that is divided to serve 3 sprinkler zones. Each sprinkler zone is equipped with alarm check valves with code required attachments which include test valves, monitor valves, flow switches, etc. The existing service requires a back flow preventer to be added to meet today's codes. The sprinkler heads and piping throughout the building appears acceptable, but due to the building modification planned, we recommend only the piping mains remain.
    - It is recommended that samples of the existing piping be taken to confirm its' ability to serve for twenty-plus more years. All branch piping and sprinkler heads should be replaced to accommodate building renovations.

MECHANICAL RECOMMENDATIONS

The existing school is over 20 years old and most of the mechanical equipment needs replacement due to little useful life remaining. The following is a list of the existing mechanical equipment that we would recommend for replacement and equipment that can remain and be reused.

Equipment recommended to be replaced

- Boilers:
  The original boilers for the building have 5 to 10 years of remaining life. We recommend that they be replaced with modular water-to-water heat pump units that will provide heating water to the renovated building. The modular heat pump unit will connect to the geothermal heat exchanger borehole field. HCPSS should assume 60,000 feet of borehole drilling.
- Air Conditioning:
  Many of the existing HVAC rooftop units are original and should be replaced. The geothermal heat exchanger piping will be installed around the building to collect the heat rejection from the new HVAC equipment.
  - Current HCPSS policy is to not air condition the existing gymnasium. Based on the limited LEED points, air conditioning the existing gymnasium should be considered.
- Building Distribution Pumps:
  The existing heating and water pumps need to be replaced. The new system, when complete will have two geothermal loop pumps and two heating water pumps. The design of a hybrid geo-thermal HVAC system, similar to the one installed at Bollman Bridge Elementary School (BBES), is proposed for this project.
  - The boring field for PVMS was originally designed as part of the BBES project consisted of one hundred sixty wells (160), but not constructed. The new geo-thermal HVAC system will not be able to interface with the recently replaced roof-top units. The two systems should not to be mixed and, therefore, would require the replacement of the existing roof-top units.
- Rooftop Units:
  All rooftop units and heating-only fan coil units are original and should be replaced. The new layout will require 9 rooftop heat pump units and 2 heating-only units. Capacity should be similar to original school units.
- Variable Air Volume (VAV) terminals:
  The majority of the school is served by fan powered VAV terminals that are over 20 years old and should be replaced. New variable air terminals will be installed throughout the renovated school.
- Automatic Temperature Control:
  The existing temperature control system is pneumatic and should be replaced with a new direct digital control (DDC) system.
- Plumbing Fixtures:
  The plumbing fixtures are original and do not comply with current ADA code regulations. Based on their age and necessary code upgrades, we recommend all plumbing fixtures be replaced. The amount of fixtures will be evaluated to determine if the count meets current codes.

- Additional staff toilet rooms have been recommended by the school administration and faculty.

Existing equipment to remain

- Water Heaters:
  The water heaters were installed in the last two years and can be reused for the renovated building.
- Gas Service:
  The 2 PSI gas service can be reused, but piping inside the building will need to be reconfigured to accommodate the new layout.
- Water/ Sprinkler Service:
  The existing water service requires a backflow preventer, but can remain. The sprinkler service and present sprinkler zones should be acceptable; however, the sprinkler heads and most of the branch piping should be replaced to accommodate the new building layout. It is recommended that samples of the existing piping be taken to confirm ability to serve for twenty-plus more years.

ELECTRICAL EXISTING CONDITIONS

Many of the electrical systems are original to the building and most need replacement. With the building additions and new IT loads, the electric service equipment does not have adequate capacity. Other systems will be replaced or upgraded to meet today's code and HCPSS' present standards.

- Electrical Service Entrance:
  The existing service switchboard is manufactured by Westinghouse, rated 2000A, 277/480 Volt 3-phase/4-wire. The switchboard is located under the front entrance stairs on the first floor. There is no room for expansion of the switchboard and little room to add feeders because of the location. The power company service transformer is located outside the switchboard room next to the front parking lot.
- Power Distribution:
  Existing distribution panelboards, transformers and branch circuit panelboards are original to the building and need replacement. There is no computer power distribution system. There is no harmonic mitigation equipment (surge protection).
- Emergency Power Distribution:
  The existing emergency power system includes one indoor diesel generator, indoor fuel tank, one automatic transfer switch, panelboards and transformers. All of the equipment appears to be original to the building. The generator is rated 100kw at 277/480V 3 phase 4 wire. The emergency power system needs to be replaced with a system meeting HCPSS standards.
- Lighting and Lighting Controls:
  Existing lighting fixtures use T-8 fluorescent lamps and appear to be in good to fair condition. The fixture ballasts are nearing the end of their service life. The lighting controls do not comply with current energy codes and are not suitable for LEED certification.

- Fire Alarm System:
  Existing fire alarm system is manufactured by ADT and is original to the building. The fire alarm system is beyond its useful life.
- Intercom/Media Retrieval:
  The existing intercom and media retrieval system includes paging speakers and call back switches, TV and VCR on carts, projectors on carts, a few data and communication jacks in each classroom and a Telecenter 21 head end. WAP's are located throughout the classroom areas. The systems do not meet HCPSS or the State of Maryland requirements and standards.
- Security Systems:
  The existing video surveillance system includes approximately fifteen cameras, head end equipment and monitors in the main office. HCPSS has new standards and new criteria for cameras which the existing equipment does not meet. The system should be replaced and expanded to meet HCPSS requirements.
  The access control and intrusion detection systems will need to be expanded and updated to meet the needs of the new building additions and HCPSS standards.

ELECTRICAL RECOMMENDATIONS

- Service Entrance:
  Provide a new electrical service to be to facilitate the additional cooling loads, additional technology/data load, and the new lighting loads. Provide a new electrical service entrance including, a new main electric room in the new addition, new service transformer by the power company, new switchboard, new transformers and panelboards, and new computer power distribution. The new switchboard will be rated 277/480 Volt 3-phase/4 wire, 2500 ampere.
- Power Distribution:
  Provide a new distribution panelboards, transformers and branch circuits panelboards. Provide a computer power distribution system, including computer power receptacles and harmonic mitigation (surge protection) devices.
- Emergency Power:
  Replace existing generator and emergency power system with new emergency generators and distribution system. New emergency generators will be exterior gas fired units with sound attenuating housings. There will be three generators total with one unit powering the life safety loads and two units to power the standby and optional loads to be located in the courtyard area.
  There will be three automatic transfer switches, life safety, standby and standby for mechanical heating loads. The standby loads will include kitchen refrigeration, sound/paging systems and mechanical heating equipment to keep the building from freezing.
- Lighting and Lighting Controls:
  Replace existing lighting fixtures and existing lighting controls. Provide lighting controls, including daylight harvesting, with new multiple level controls and occupancy sensors.

- Fire Alarm System:
  Provide a new fire alarm system throughout the school including a new fire alarm control panel, voice evacuation, pull stations, speakers, annunciator, smoke and heat detectors, sprinkler and elevator interface.
- Intercom and Sound Systems:
  New intercom devices will be provided throughout the project and the existing Telecenter 21 will be upgraded to increase the capacity for the new spaces. Replace existing sound systems in the gymnasium and cafeteria.
- Security Systems:
  Provide a new video surveillance system including CCTV cameras throughout, new monitors and new upgraded head end equipment.
  Provide expanded intrusion detection devices throughout the additions. Upgrade the existing control panel to serve the new spaces.
  Provide new access control system including card readers and control panel.
- Technology:
  Upgrade technology as part of this project, including the use of short throw projectors in the instructional spaces.

III. BUILDING OPTIONS

To replace the temporary modular classrooms, an addition of six (6) classrooms is needed to accommodate the anticipated enrollments. Consideration of site constraints, proximity to other program areas, schedule and cost were evaluated for each option.

Option A:
Remove the existing modular classrooms and construct the new six classroom addition extending the corridor between the gymnasium and cafeteria for access to the classrooms.

Pros:

- The addition is remote from the interior educational classrooms which will minimize the disruption of the educational program during construction.

Cons:

- The proximity of the new classrooms is remote from the other grade level classrooms in the building and is in close proximity to the service area, so educationally the location is not advantageous.
- The existing modular classrooms would need to be removed to construct the new addition. This would eliminate classroom space that can be used for construction phasing during the renovations.

Option B:
Construct the six classrooms on the second floor over the existing classrooms.

Pros:
- Vertical expansion over the existing footprint eliminates the increase of impervious area and avoids potential conflicts with utilities, circulation, sidewalks, etc.

Cons:
- Constructing a second floor over existing construction that had not originally been designed to support the structure is not economically or viably feasible. The foundations, wall construction and stair towers were not designed to meet current codes, and were not designed for the additional structural load or capacity.
- Access from the existing second floor corridor to the six second floor classrooms is difficult and not cost effective.
- The cost to add additional stair towers to eliminate dead end corridors increases the construction costs for this option.

Option C:
Add three classrooms and additional support space on the outside wall of the north and south sides of the building, adjacent to the existing grade level classrooms, to accommodate the additional classroom space needed. The existing corridors will be extended for access. The proposed locations of the classrooms, which are laid out symmetrically to the building, will result in a seamless addition that looks as though it part of the original design intent. Work shall include the addition of mechanical and electrical space with modifications to provide a secure entrance vestibule directly adjacent to the administration and health offices. The second floor space vacated by the administration can be reallocated for educational use as determined by the curriculum.

Pros:
- The location of the proposed classrooms in the north and south side of the building are in close proximity to the existing grade level classrooms.
- The solution to provide a secure entrance vestibule can be made part of the building expansion on the north side of the building.
- The existing modular classrooms can remain on-site for the duration of the construction project for construction phasing.
- There is adequate room to locate the additions without major impact to utilities, circulation or sidewalks.
- The additions on two sides of the building can be designed with energy efficient wall construction to better insulate the building.

Cons:
- Adding onto the end of the classrooms eliminates natural light in those classrooms. There are several classrooms the currently exist that have no natural light. Solar tubes are recommended to allow natural light into the single story classrooms.

Option C appears to be the most logical approach and is recommended for consideration. A proposed floor plan and estimate of probable project costs are attached herein for review.

OVERALL FIRST FLOOR PLAN

0 8' 16' 32'

SCALE: 1/16" = 1'-0"

EXHIBIT A

ADDITIONS AND RENOVATIONS TO:

PATUXENT VALLEY MIDDLE SCHOOL

9151 VOLLMERHAUSEN ROAD, JESSUP, MD 20794

HOWARD COUNTY PUBLIC SCHOOL SCHOOL SYSTEM

AGENCY NAME

REV# REVISION DATE

DRAWN BY RWF

PROJECT NO. 1328

SHEET NO. A1.1

DATE 10/28/2013

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SD

NOT FOR CONSTRUCTION

Howard County Public School System
EXHIBIT B
DATE: October 28, 2013

GILBERT ARCHITECTS
626 North Charlotte Street
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RENOVATIONS AND ADDITIONS TO THE EXISTING PATUXENT VALLEY MIDDLE SCHOOL OPTION C

PROPOSAL ESTIMATE OF PROBABLE PROJECT COSTS

ESTIMATED CONSTRUCTION COSTS

SUMMARY BY AREA	QUANTITY	UNIT	UNIT COST	TOTAL
SITEWORK				
1. Earthwork & utilities for the addition			allowance	$85,000
2. Removal of 6 existing modular units & restore area				$75,000
3. Parking lot, sidewalk and site improvements				$250,000
TOTAL SITE COSTS				**$410,000**
BUILDING CONSTRUCTION				
1. RENOVATIONS	98,000	S.F.	$187.00	$18,326,000
2. NEW CONSTRUCTION				
Administration and classrooms	3,700	S.F.	$217.00	$802,900
Classrooms	3,700	S.F.	$217.00	$802,900
MEP Additions	1,675	S.F.	$217.00	$363,475
	9,075			$1,969,275
3. GEOTHERMAL WELL FIELD				
160 wells @ 500' deep	80,000	S.F.	$15.00	$1,200,000
TOTAL BUILDING COSTS				**$21,495,275**
TOTAL CONSTRUCTION COSTS				**$21,905,275**
DESIGN CONTINGENCY		5%		**$1,095,264**
INFLATION - Bid Summer 2014		2%		**$438,106**
ESTIMATED TOTAL CONSTRUCTION COSTS				**$23,438,644**

ESTIMATED SOFT COSTS

1. Architect's Fee
2. Moveable Fixtures & Equipment
3. Construction Manager's Fee
4. Construction Contingency Fund
5. Miscellaneous Costs includes but not limited to: Site Surveying, Test Borings, Sink Hole Investigation,
6. Builders Risk Insurance, Building Permit, Document Printing, Construction Testing, Storm Water Permit, etc.
7. Financing Costs

ESTIMATED TOTAL SOFT COSTS	21%	**$4,922,115**

ESTIMATED TOTAL PROJECT COST	**$28,360,760**

LEED 2009 for Schools New Construction and Major Renovation

Project Checklist

Patuxent Valley Middle School

October 3, 2013

Y	N	?			
6	10	5	**Sustainable Sites**	Possible Points:	24
Y			Prereq 1	Construction Activity Pollution Prevention	
Y			Prereq 1	Environmental Site Assessment	
1			Credit 1	Site Selection	1
	4		Credit 2	Development Density and Community Connectivity	4
	1		Credit 3	Brownfield Redevelopment	1
		1	Credit 4.1	Alternative Transportation—Public Transportation Access	4
1			Credit 4.2	Alternative Transportation—Bicycle Storage and Changing Rooms	1
2			Credit 4.3	Alternative Transportation—Low-Emitting and Fuel-Efficient Vehicles	2
		2	Credit 4.4	Alternative Transportation—Parking Capacity	2
	1		Credit 5.1	Site Development—Protect or Restore Habitat	1
1			Credit 5.2	Site Development—Maximize Open Space	1
	1		Credit 6.1	Stormwater Design—Quantity Control	1
	1		Credit 6.2	Stormwater Design—Quality Control	1
	1		Credit 7.1	Heat Island Effect—Non-roof	1
		1	Credit 7.2	Heat Island Effect—Roof	1
		1	Credit 8	Light Pollution Reduction	1
	1		Credit 9	Site Master Plan	1
1			Credit 10	Joint Use of Facilities	1
2	8	1	**Water Efficiency**	Possible Points:	11
Y			Prereq 1	Water Use Reduction—20% Reduction	
	4		Credit 1	Water Efficient Landscaping	2 to 4
	2		Credit 2	Innovative Wastewater Technologies	2
2	2		Credit 3	Water Use Reduction	2 to 4
		1	Credit 3	Process Water Use Reduction	1
7	23	3	**Energy and Atmosphere**	Possible Points:	33
Y			Prereq 1	Fundamental Commissioning of Building Energy Systems	
Y			Prereq 2	Minimum Energy Performance	
Y			Prereq 3	Fundamental Refrigerant Management	
4	14	1	Credit 1	Optimize Energy Performance	1 to 19
	7		Credit 2	On-Site Renewable Energy	1 to 7
2			Credit 3	Enhanced Commissioning	2
		1	Credit 4	Enhanced Refrigerant Management	1
1		1	Credit 5	Measurement and Verification	2
	2		Credit 6	Green Power	2
8	4	1	**Materials and Resources**	Possible Points:	13
Y			Prereq 1	Storage and Collection of Recyclables	
2			Credit 1.1	Building Reuse—Maintain Existing Walls, Floors, and Roof	1 to 2
1			Credit 1.2	Building Reuse—Maintain 50% of Interior Non-Structural Elements	1
2			Credit 2	Construction Waste Management	1 to 2

Y	N	?			
	2		Credit 3	Materials Reuse	1 to 2
1		1	Credit 4	Recycled Content	1 to 2
2			Credit 5	Regional Materials	1 to 2
	1		Credit 6	Rapidly Renewable Materials	1
	1		Credit 7	Certified Wood	1
10	8	1	**Indoor Environmental Quality**	Possible Points:	19
Y			Prereq 1	Minimum Indoor Air Quality Performance	
Y			Prereq 2	Environmental Tobacco Smoke (ETS) Control	
Y			Prereq 3	Minimum Acoustical Performance	
1			Credit 1	Outdoor Air Delivery Monitoring	1
	1		Credit 2	Increased Ventilation	1
1			Credit 3.1	Construction IAQ Management Plan—During Construction	1
1			Credit 3.2	Construction IAQ Management Plan—Before Occupancy	1
3	1		Credit 4	Low-Emitting Materials	1 to 4
1			Credit 5	Indoor Chemical and Pollutant Source Control	1
1			Credit 6.1	Controllability of Systems—Lighting	1
1			Credit 6.2	Controllability of Systems—Thermal Comfort	1
		1	Credit 7.1	Thermal Comfort—Design	1
1			Credit 7.2	Thermal Comfort—Verification	1
	3		Credit 8.1	Daylight and Views—Daylight	1 to 3
	1		Credit 8.2	Daylight and Views—Views	1
	1		Credit 9	Enhanced Acoustical Performance	1
	1		Credit 10	Mold Prevention	1
4			**Innovation and Design Process**	Possible Points:	6
1			Credit 1.1	Innovation in Design: Low Mercury	1
1			Credit 1.2	Innovation in Design: Pilot 22 - Interior Lighting Quality	1
			Credit 1.3	Innovation in Design: Specific Title	1
			Credit 1.4	Innovation in Design: Specific Title	1
1			Credit 2	LEED Accredited Professional	1
1			Credit 3	The School as a Teaching Tool	1
1			**Regional Priority Credits**	Possible Points:	4
1			Credit 1.1	Regional Priority: Specific Credit	1
			Credit 1.2	Regional Priority: Specific Credit	1
			Credit 1.3	Regional Priority: Specific Credit	1
			Credit 1.4	Regional Priority: Specific Credit	1
38	53	11	**Total**	Possible Points:	110

Certified 40 to 49 points Silver 50 to 59 points Gold 60 to 79 points Platinum 80 to 110