

**BOARD OF EDUCATION OF HOWARD COUNTY
MEETING AGENDA ITEM**

TITLE: Deep Run Elementary School Construction Document Report **DATE:** February 25, 2014

PRESENTER(S): Mr. Bruce Gist, Director of School Construction

Melissa Wilfong, Vice President, Grimm and Parker Architects

OVERVIEW:

The attached construction document brochure describes the general scope of work for Deep Run Elementary School. This project is to proceed in two phases. The first phase will address the needed additions to the school including a two-story classroom addition which will replace the existing modular classroom area and provide additional classrooms for the increased student population, as well as an administration addition adjacent to the main entrance. The second phase will include both programmatic and systemic renovations to the existing school, such as the conversion of existing open teaching pods into self-contained classrooms, provision of a COMAR compliant health suite, new roofing, mechanical, electrical, and information technology systems, and additional staff support spaces.

The following are some of the updates that have taken place since the design development report. The design team added a firewall between the existing building and new classroom addition; added an additional exit from the classroom addition; relocated the new generator enclosure; and adjusted the accessible egress ramp location to reduce the amount of retaining walls onsite. The intent of the design is to achieve a LEED (Leadership in Energy and Environmental Design) "Certified" designation.

Add-alternates for expansion to both the existing RECC program and parking lot have been investigated and are also included in this report. Due to the Maryland Emergency Management Agency mandate, the existing and new electrical systems were modified to accommodate the state's emergency shelter requirements.

RECOMMENDATION/FUTURE DIRECTION:

It is recommended that the design development report for Deep Run Elementary School be approved as submitted.

**Submitted
by:**

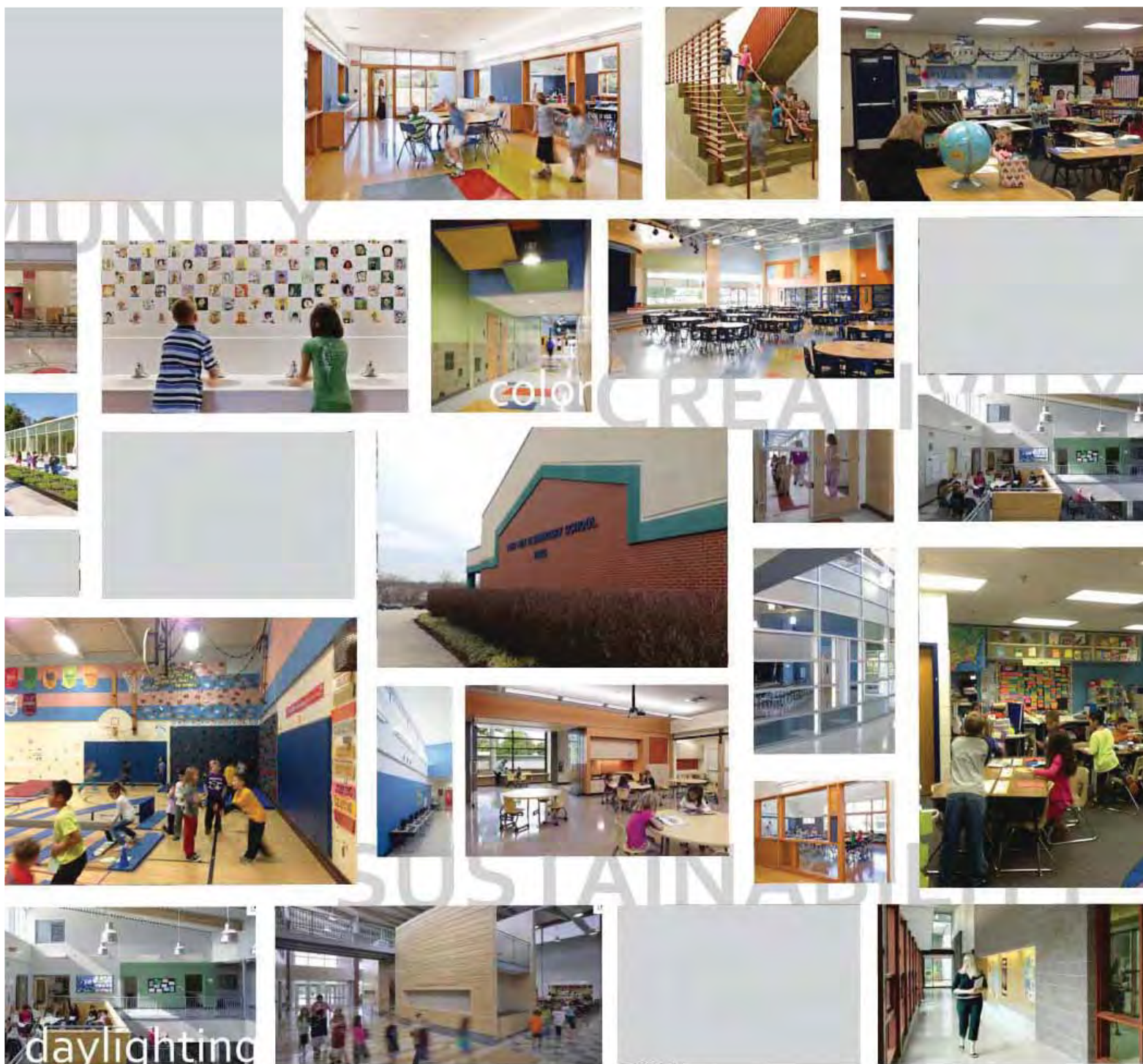
Bruce Gist
Director, School Construction

**Approval/
Concurrence:**

Renee A. Foose, Ed.D.
Superintendent

Susan C. Mascaro
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Ken Roey
Chief Facilities Officer



DEEP RUN ELEMENTARY SCHOOL

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DEEP RUN ELEMENTARY SCHOOL

CONSTRUCTION DOCUMENTS SUBMISSION

FEBRUARY 25, 2014

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DESIGN TEAM

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STRUCTURAL ENGINEER	Columbia Engineering, Inc.	Columbia, MD
MEP ENGINEER	James Posey Associates	Baltimore, MD
LEED CONSULTANT	Sustainable Design Consulting, LLC	Washington, DC
ACOUSTICS CONSULTANT	Henning Associates	Rockville, MD

DESIGN DEVELOPMENT PHASE PARTICIPANTS

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Sonia Hurd	HCPSS, Third Grade, Deep Run Elementary School

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Jane Pace	HCPSS, Third Grade, Deep Run Elementary School
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DESIGN PROCESS

The design development for Deep Run Elementary School was presented to the Board of Education for approval on October 22, 2013. The project was approved by the Board to continue forward and subsequently submitted to the state Interagency Committee for School Construction. The project was reviewed by the state and approved to proceed into the construction documents phase. This submission includes the construction document information for the site and building design.

Further development of the project required the design to undergo some minor changes for several reasons. These included ongoing discussions with respect to phasing and construction sequencing, code analysis of the existing building, the proposed phasing and ultimate build out and a series of plan review meetings with the faculty and staff of Deep Run Elementary School. Almost every staff member had the chance to review the design of the new additions and renovated areas and make suggestions on the layout of teaching spaces. These collaborative meetings facilitated discussion and allowed the design team to address many of the concerns that current staff members are experiencing in the existing building.

The meetings addressed the following items:

- Overview of the process for the Howard County Public School System (HCPSS) renovations and additions.
- Review of the proposed classroom pods and how they will be modified to function more effectively for teachers and students.
- Review of proposed new additions and space adjacencies.
- Detailed review of furniture layouts for administration and educational spaces.

This submission reflects the consensus of deliberation and discussion among the Deep Run Elementary School staff and the design team to provide the most responsive layout to achieve the needs of the school and its students.

The site design has also required minor revisions as ongoing coordination and design progressed. These include revisions to the stormwater management areas, egress and ADA access around the school and to the playfields, utility coordination and improvements to the adjacent road. The site design review process is underway and proceeding without significant issues.

PROJECT DESCRIPTION

Deep Run Elementary School is a one-story structure serving kindergarten through fifth grade along with the additional Regional Early Childhood Center (RECC) program. Construction of the original structure began in 1989, and the first students arrived at the beginning of the 1990 academic year. Two major renovations and additions have expanded the footprint of the building since its opening. The first renovation, completed in 1997, added classroom space to the east and west sides of the building and expanded the cafeteria to the north. The more recent 2008 addition expanded the Kindergarten and Pre-K space in the northeast corner of the school. The approximate gross square footage is 80,000 square feet. The current student population of the school is 645 students with 125 full and part-time staff members.

Due to the age of the school and its systems, coupled with its growing population, there are numerous program and functional deficiencies. To address these deficiencies, the project will proceed in two phases. The first phase will address the needed additions, while the second phase will include extensive renovations to the existing building.

The proposed new construction will include the replacement of six modular classrooms with permanent construction, a 100-seat four classroom addition with an additional two classrooms currently housed in portables, as well as a new administration suite adjacent to the main entrance with a secured entry sequence. The renovations, along with systemic upgrades to the existing building, will comply with the HCPSS "Guidelines Manual for Renovations and Modernizations of Existing Schools." This includes dividing the current open pod classroom arrangements into separate classrooms. The health suite will be renovated to comply with the current state standards. The music suite will also be renovated and enlarged to include the vocal music room and the instrumental music room currently housed in a portable. Additional administration and student support offices will be relocated into the existing renovated administration space.

The design will employ sustainable practices to help achieve United States Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) certification. This is in keeping with the sustainable goals of the county, to reduce negative impact on the environment and enhance the health and comfort of the building occupants, thereby improving building performance. This project is currently tracking LEED Silver certification.

SITE NARRATIVE

Deep Run Elementary School is located on Old Waterloo Road in Elkridge, Maryland in a residential neighborhood. The site is approximately 11.67 acres and is located adjacent to Waterloo Community Park.

The existing parking area adjacent to the school accommodates 12 school buses and 70 parking spaces which includes 3 handicap spaces. The existing parent drop-off area runs parallel to Old Waterloo Road. It is approximately 150 feet long and accommodates 8 cars at a time. The 125 staff members park in the school lot with overflow parking on Old Waterloo Road.

The site currently accommodates two playground areas, a hard play area, a multi-purpose field, and a baseball field. There is a significant grade difference between the school and these recreational areas. The areas are accessed by a sloping sidewalk on the south side of the site and a path from the bus loop on the north side of the site.

The grade change on the site creates limited opportunities for the location of the proposed additions. There are also challenges with needed emergency egress from the classroom addition to the fields. Additionally, a large existing right of way setback along Old Waterloo Road limits expansion opportunities to the west. The proposed administration currently projects over the existing building restriction line. A variance was granted by the county in January 2014 for the corner of the addition that violated the building restriction line.

The new site design addresses egress issues for the south side of the building with the addition of an accessible paved ramp down to the play areas. The inadequate parent drop-off will be addressed by widening Old Waterloo Road to provide a drop-off lane with a sidewalk. Additional handicap parking spaces are being added and a parking expansion will be investigated with Alternate #1. Grade modifications are being made for the new additions, and a required bioretention area is being added for stormwater management.

ARCHITECTURAL NARRATIVE

Deep Run Elementary School is currently arranged in a pod configuration with open classrooms divided with operable walls or partial gypsum board partitions. The typical pod has four classrooms, a smaller project room, as well as a central commons area. There are also four portable classrooms on the site that house two gifted and talented classes, instrumental music, and teacher planning and office functions for Title I programs.

The project construction will be divided into phases to minimize the impact on the occupants of the school. Phase I primarily entails new construction, including the addition of a new two-story section of the building located at the existing modular construction. This addition will replace the six modular classrooms, provide four additional standard classrooms and two additional special program classrooms and include some additional service spaces as well as stairs and an elevator. This addition also includes new mechanical and electrical rooms that will serve the addition and also be designed to serve the entire building when the full build out is complete.

Phase I also includes the construction of a new administrative suite at the main entry of the building that would provide supervision and control of the entrance for building security. This addition creates space for renovation of the existing administrative areas into an adequately sized health suite as well as new centrally located administration and student support areas for the additional educators who are currently located throughout the building. This will free up space for Title I offices and planning currently located in a portable classroom. It also provides necessary support spaces such as a conference room, storage space, and staff toilet rooms.

Phase II includes the renovation of the entire building to bring the facility up to current HCPSS standards for renovations and modernizations. This would include replacement of the current HVAC system with a geothermal system, replacement of the entire roof, replacement of most plumbing and electrical services, replacement of many of the low voltage systems, and additional architectural upgrades. Since Phase I will be completed first, the additional classrooms provided in Phase I will provide swing space for the students as this work is underway.

Phase II will also include the renovation of the music suite. This would involve the conversion of part of the existing mechanical room and the existing music space into an instrumental music room with instrument storage, which is currently housed in a portable classroom, and a vocal music room with storage. Since the mechanical functions will be located in the new mechanical room provided as part of the Phase I addition, most of the current space will be vacated to allow for a new use in this area.

MECHANICAL & PLUMBING NARRATIVE

HVAC Systems

HVAC for Deep Run Elementary School will be provided through a new ground source geothermal loop system feeding water-cooled heat pump equipment. A geothermal borehole field, consisting of approximately 100 boreholes at 600 feet deep, will be located in the open field behind the elementary school. Underground geothermal supply and return piping will extend from the borehole field into the mechanical room of the new addition.

A modular water-to-water heat pump unit and two lead-lag hot water circulating pumps, located in the new mechanical room, will be installed to provide heating water for the variable air volume (VAV) terminals and miscellaneous heating elements throughout the existing building and additions.

The existing 2008 two - Kindergarten classroom addition HVAC equipment (air-cooled DX, gas) will remain. All other existing HVAC systems will be replaced. Based on state IAC comments and owner preference, use of return air plenums will be eliminated unless inadequate ceiling space is available.

Typical classroom heating, ventilating and air conditioning will be provided through variable air volume, water-cooled heat pump rooftop units with single-duct VAV terminal units. The existing chilled/heating water rooftop units, fan coil units and unit ventilators will be replaced with rooftop units arranged to accommodate the construction phasing. Each classroom, learning space and office will have a dedicated VAV terminal with hot water heat to provide individual temperature control in each space.

The media center rooftop VAV unit (which also serves existing classrooms) will be removed and a new water-cooled heat pump rooftop unit with single-duct VAV terminals will be provided to serve the media center and adjacent support spaces.

The new administration area will have a separate rooftop unit with single-duct VAV terminals to provide individual space temperature control. This rooftop unit will be located on the roof of the new administration area. The renovation of the existing administration area will be conditioned by a new heat pump rooftop unit to serve the health suite.

A single-zone constant volume heat pump unit will replace the chilled/heating water air handling unit serving the cafeteria. A single zone gas-fired penthouse unit will replace the existing hot water air handling unit serving the gymnasium.

Heat pump loop water will be circulated to the heat pump rooftop units and the hot-water-producing heat pump unit via base-mounted end-suction pumps located in the new mechanical room. Pumps will operate in a lead-lag arrangement and will be equipped with variable frequency drives.

Duct systems will generally be rectangular sheet metal with flexible duct connecting to ceiling-mounted air devices; horizontal mains will be located above ceilings wherever possible.

Commissioning service requirements will be indicated in the contract documents.

Plumbing Systems

Due to the removal of the existing chiller and masonry enclosure walls, the existing gas service will be relocated near the new generator. A dedicated gas line will be provided for the generator. A separate gas line will be reconnected to the existing to remain gas piping and be extended to the new gymnasium air handling unit.

The existing domestic cold-water service to the building is adequate to satisfy the needs of the existing building as well as the new additions. A second backflow preventer will be added to meet HCPSS current design standards. Existing plumbing piping will be reused where possible.

The recently replaced existing natural gas-fired domestic water heaters will remain to generate domestic hot water for the existing school and new additions.

Boiler room sump pumps will be replaced. An oil-minder type sump pump will be provided in the new elevator shaft.

Plumbing fixtures will be replaced with institutional grade ADA compliant fixtures. Water closet flush valves will be dual-position 1.6/1.1 gallon per flush and urinals will be 0.125 gallons per flush. Faucets will be provided with flow restrictors for 0.5 gallons per minute flow.

Sanitary and storm water from the new additions will connect into the existing building interior pipe mains. The existing storm water and sanitary piping in the building will be reused, where practical. New roof drains will be provided and connect to existing storm water mains above the ceiling. New overflow drains will be added to meet code and will discharge through exterior walls high above grade.

Automatic Temperature Control

A complete new direct digital automatic temperature control (DDC) system will be provided to monitor and control the HVAC system, including the existing to remain 2008 addition equipment.

Fire Protection System

According to available records, the entire existing building is fully sprinklered. The existing building is separated into several zones that match the fire alarm pull zones for the existing building. New sprinklers will be provided for the new additions as required. The existing combination water/fire system is adequate to provide the required pressure and flow to meet the requirements of both the existing and new fire protection systems. The existing sprinkler heads and most of the branch piping should be replaced to accommodate the new building layout. All work will be specified to conform to standards of the National Fire Protection Association (NFPA) and will include requirements for hydraulic calculations confirming the system's performance.

ELECTRICAL NARRATIVE

Electrical Service Equipment

The existing building electrical service will be replaced and upgraded to a 277/480 volt service. Based on updated building load information, the utility company will determine the size of the new exterior service transformer and secondary service entrance requirements. The existing utility company C/T cabinet will also be removed. A new electric service room will be provided in the new addition and the existing switchboard will be reconnected.

Normal Power Distribution

The new main switchboard will be rated at 2500A. New electrical feeders will originate from the new switchboard to new branch circuit panelboards in renovated areas. Selected existing panelboards will remain. Selected branch circuit panelboards will be replaced to accommodate areas of significant renovation.

New transformers and panelboards shall be provided to serve the new computer power needs throughout the school. Transformers shall be K-13 type and transient voltage surge suppression provided at the panels. The panels shall be provided with 200 percent neutral bus and a separate neutral conductor provided with each branch circuit.

New panelboards and equipment will be provided to support the new HVAC and mechanical systems.

New lighting will be served at 277-volt, single-phase. New mechanical equipment will be served at either 120-volt, single-phase; 208-volt, 3 phase; or 480-volt, 3-phase, depending upon the load requirements.

Emergency Power Distribution

The existing liquid petroleum (LP) gas fueled emergency generator and associated transfer and distribution equipment will be replaced. The new emergency generator power system will include multiple gas fired exterior generators in sound attenuating housings and three automatic transfer switches. All new life safety and standby loads will be connected to the new emergency power distribution system and will have dedicated automatic transfer switches. Connection of new mechanical equipment to prevent freezing will be connected to the new optional standby automatic transfer switch and panels.

In response to a letter from the Maryland Emergency Management Agency (MEMA), the emergency power system was expanded to provide general operation, with heating and ventilation for designated areas of the proposed facility. These areas include the following:

- Front vestibule (exterior entrance lighting, lobby)
- Main hallway that connects vestibule to the cafeteria and gymnasium, ending at the courtyard doors
- Front office (in proposed addition) reception room
- Cafeteria
- Kitchen (refrigerator, freezer, and food processing equipment), including the storage areas, access to loading dock, dishwashing area, and the restroom
- Loading dock
- Gymnasium
- Hallway from cafeteria to health suite
- Restrooms along hallway from cafeteria to health suite (four total)
- Health suite, including reception area, restroom, and exam room but not the private office

Mechanical and electrical systems serving these areas will be connected to the new gas fired emergency generators.

Lighting

New lighting and branch circuit wiring will be provided throughout the project area, except the gymnasium.

In general, interior lighting will be fluorescent fixtures with 28 watt 4100 K T-8 lamps with electronic ballasts. Other energy saving light features such as compact fluorescent downlights and HID lights will also be provided for the interior and exterior lighting designs. Automatic lighting control and multi-level controls will be provided for room lighting systems in compliance with the new energy code. Exit lights will be LED type. Exterior lighting will be controlled by the building automation system.

Intercom and Sound System

The existing intercom equipment rack will be reconfigured and expanded to serve the project areas. Each new classroom will have a phone and paging speakers. Newly created corridors and restrooms will have ceiling-mounted speakers.

New sound systems will be provided in the cafeteria and gymnasium. A new front door will have a new call in system.

Fire Detection and Alarm System

The existing fire detection and alarm system will be replaced and upgraded to serve the building additions and the existing school building. Initiation and notification devices will be located through the project area in compliance with local life safety code requirements.

Telephone Cabling

A new telephone cabling and outlet system will be provided throughout the project area. The system design will include outlet boxes, jacks, conduits, surface raceways, conduit sleeves, and properly sized telecommunications closets for the installation of the low voltage system cabling. A new administration phone system will be provided.

Intrusion Detection and Alarm System

New intrusion detection and alarm system devices will be provided throughout the project area. System device locations have been determined by HCPSS standards. The existing intrusion detection and alarm system panel will be removed to accommodate a new system and devices.

Data and Video Distribution System

New video distribution system cabling and data cabling will be provided throughout the project area. Changes to the existing media retrieval system will be made. All classrooms will be wired for short throw wall mounted LCD projectors.

New computer outlets will be provided throughout the project and the wireless access point system will be expanded into the new addition.

Video Surveillance System

Existing video surveillance system will be expanded to cover all interior corridors, all exterior entrances, cafeteria and gymnasium. Changes to the existing video surveillance system headend equipment and cameras are needed and have been incorporated into the project documents.

GREEN BUILDING NARRATIVE

Design for LEED

The USGBC established the LEED program as a tool to evaluate the energy efficiency and environmental impacts of building projects. The LEED building rating system uses six categories in which projects can obtain credits to achieve certification (Sustainable Site, Water Efficiency, Energy & Atmosphere, Materials & Resources, Indoor Environmental Quality, and Innovation and Design Process). The four levels of certification (from highest to lowest) are, Platinum, Gold, Silver, and Certified. The credit threshold for each level of certification varies for different rating systems. To qualify for certification a project must meet certain prerequisite credits. The number of additional credits required is dependent on the level of certification that the project is seeking to attain.

Project Objectives

Grimm + Parker is pursuing LEED certification at the Certified level for Deep Run Elementary School. The project will be registered under the LEED for Schools v3 (LEED-S) rating system. After a preliminary analysis, 55 credits were targeted as achievable for the school, with 13 additional possible credits. This means that the project is currently tracking LEED Silver certification. Credits have been identified as achievable based on economic and design feasibility and potential environmental benefits. The credit tally stands at a comfortable margin for achieving the targeted certification level for the building. However, additional credits may need to be included as the project develops as it is not uncommon for a few credits to become unattainable due to any number of factors.

LEED Credit Goals

Credits targeted will be those that will help provide quality space at a greatly reduced environmental impact.

Goals include:

- Providing dedicated walk and bike paths and bike racks, and including preferred parking for low emitting vehicles and fuel efficient vehicles.
- Reducing storm water runoff and pollution.
- Reducing potable water usage. A water savings of 30-35 percent is targeted through the use of water conserving fixtures such as dual flush toilets, low flush urinals, and low flow faucets.
- Reducing energy consumption by adopting high efficiency HVAC systems.
- Reducing impact of transportation and extraction of virgin material by the use of regional materials and those with significant recycled content.

- Providing lighting and thermal controls to ensure accommodation of the individual preferences of its occupants.
- Installing low-emitting paints, adhesives, sealants, and carpet systems.
- Installing permanent monitoring systems to ensure adequate ventilation.
- Using low-mercury lighting bulbs.
- Implementing a green housekeeping plan.

While some credits have a greater first cost associated with them, the long-term environmental and economic benefits justify including them in the LEED goals.

Moving Forward

LEED Online

All documentation will be submitted via United States Green Building Council's website (www.leedonline.org) to be reviewed and approved by the USGBC for both the design and construction phases of the project through an account accessible by all team members.

LEED Tracking

The LEED consultant will create a tracking tool that assigns credit responsibilities to team members. The tool records documentation progress and identifies pending tasks required to complete documentation. This is updated and circulated to the team on a regular basis in keeping with the pace of project progress.

LEED SCORECARD

0	0	0	0	Minimum Program Requirements	Possible Points: 0
Y	?Y	?N	N		
Y				PIf1 - Minimum Program Requirements	0
Y				PIf2 - Project Summary Details	0
Y				PIf3 - Occupant & Usage Data	0
Y				PIf4 - Schedule & Overview Documents	0
17	1	2	4	Sustainable Sites	Possible Points: 24
Y	?Y	?N	N		
Y				SSp1 - Construction Activity Pollution Prevention	0
Y				SSp2 - Environmental Site Assessment	0
1				SSc1 - Site Selection	1
4				SSc2 - Development Density & Community Connectivity	4
			1	SSc3 - Brownfield Redevelopment	1
4				SSc4.1 - Alternative Transportation - Public Transportation Access	4
1				SSc4.2 - Alternative Transportation - Bicycle Storage & Changing Rooms	1
2				SSc4.3 - Alternative Transportation - Low Emitting & Fuel Efficient Vehicles	2
2				SSc4.4 - Alternative Transportation - Parking Capacity	2
			1	SSc5.1 - Site Development - Protect or Restore Habitat	1
1				SSc5.2 - Site Development - Maximize Open Space	1
	1			SSc6.1 - Stormwater Design - Quantity Control	1
		1		SSc6.2 - Stormwater Design - Quality Control	1
			1	SSc7.1 - Heat Island Effect - Nonroof	1
1				SSc7.2 - Heat Island Effect - Roof	1
		1		SSc8 - Light Pollution Reduction	1
			1	SSc9 - Site Master Plan	1
1				SSc10 - Joint Use of Facilities	1
6	0	1	4	Water Efficiency	Possible Points: 11
Y	?Y	?N	N		
Y				WEp1 - Water Use Reduction	0
4				WEc1 - Water Efficient Landscaping	4
			2	WEc2 - Innovative Wastewater Technologies	2
2		1	1	WEc3 - Water Use Reduction	4
			1	WEc4 - Process Water Use Reduction	1
13	6	6	8	Energy & Atmosphere	Possible Points: 33
Y	?Y	?N	N		
Y				EAp1 - Fundamental Commissioning of the Building Energy Systems	0
Y				EAp2 - Minimum Energy Performance	0
Y				EAp3 - Fundamental Refrigerant Management	0
10	3	6		EAc1 - Optimize Energy Performance	19
			7	EAc2 - On-site Renewable Energy	7
2				EAc3 - Enhanced Commissioning	2
	1			EAc4 - Enhanced Refrigerant Management	1
1			1	EAc5 - Measurement & Verification	2
	2			EAc6 - Green Power	2
7	1	2	3	Materials & Resources	Possible Points: 13
Y	?Y	?N	N		
Y				MRp1 - Storage & Collection of Recyclables	0
2				MRc1.1 - Building Reuse - Maintain Existing Walls, Floors & Roof	2

		1		MRc1.2 - Building Reuse - Maintain Interior Nonstructural Elements	1
2				MRc2 - Construction Waste Management	2
			2	MRc3 - Materials Reuse	2
2				MRc4 - Recycled Content	2
1	1			MRc5 - Regional Materials	2
			1	MRc6 - Rapidly Renewable Materials	1
		1		MRc7 - Certified Wood	1

7	3	1	8	Indoor Environmental Quality	Possible Points: 19
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Y	?Y	?N	N		
Y				IEQp1 - Minimum Indoor Air Quality Performance	0
Y				IEQp2 - Environmental Tobacco Smoke (ETS) Control	0
Y				IEQp3 - Minimum Acoustical Performance	0
	1			IEQc1 - Outdoor Air Delivery Monitoring	1
			1	IEQc2 - Increased Ventilation	1
1				IEQc3.1 - Construction Indoor Air Quality Management Plan - During Construction	1
	1			IEQc3.2 - Construction IAQ Management Plan - Before Occupancy	1
4				IEQc4 - Low-Emitting Materials	4
	1			IEQc5 - Indoor Chemical & Pollutant Source Control	1
1				IEQc6.1 - Controllability of Systems - Lighting	1
1				IEQc6.2 - Controllability of Systems - Thermal Comfort	1
		1		IEQc7.1 - Thermal Comfort - Design	1
			1	IEQc7.2 - Thermal Comfort - Verification	1
			3	IEQc8.1 - Daylight & Views - Daylight	3
			1	IEQc8.2 - Daylight & Views - Views	1
			1	IEQc9 - Enhanced Acoustical Performance	1
			1	IEQc10 - Mold Prevention	1

4	2	0	0	Innovation & Design	Possible Points: 6
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Y	?Y	?N	N		
1				IDc1.1 - Green Housekeeping	1
1				IDc1.2 - Low Mercury Lighting	1
	1			IDc1.3 - Innovation in Design	1
	1			IDc1.4 - Innovation in Design	1
1				IDc2 - LEED Accredited Professional	1
1				IDc3 - The School as a Teaching Tool	1

1	0	1	2	Regional Priority Credits	Possible Points: 4
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Y	?Y	?N	N		
1				RPc1.1 - SSc4.1: Public Transportation Access	1
		1		RPc1.2 - SSc6.2: Stormwater Design, Quality	1
			1	RPc1.3 - SSc5.1: Protect or Restore Habitat	1
			1	RPc1.4 - More Regional Priority Credits	1

55	13	13	29	Total	Possible Points: 110
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Certified: 40-49, Silver: 50-59, Gold: 60-79, Platinum: 80+

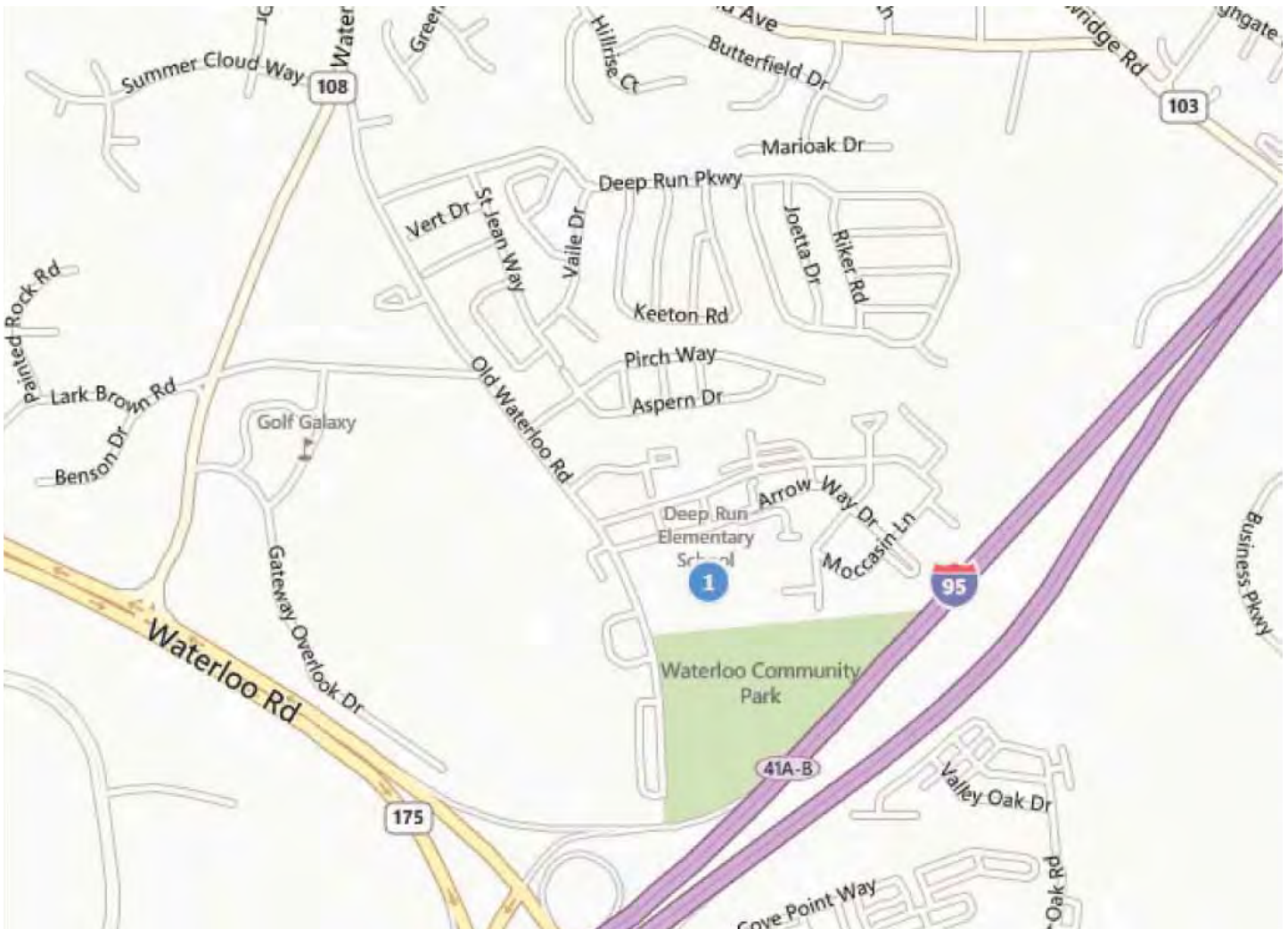
PROJECT FACTS

	SD PHASE	DD PHASE	CD PHASE
Existing Building Square Footage:	80,000 SF	80,000 SF	80,000 SF
Existing Modular Construction to be Demolished:	- 6,758 SF	- 6,758 SF	- 6,758 SF
New Addition Square Footage:	21,243 SF	21,328 SF	21,328 SF
Total Building Square Footage with Additions:	94,485 SF	94,570 SF	94,570 SF

PROJECT SCHEDULE

Planning Meetings Completed _____	JUNE 2013
Schematic Design submitted to Board of Education _____	JULY 2013
Design Development submitted to Board of Education _____	OCTOBER 2013
Construction Documents submitted to Board of Education _____	FEBRUARY 2014
Project out for Bids _____	APRIL 2014
Bids Received _____	MAY 2014
Construction Start: Phase I _____	JULY 2014
Construction Start: Phases II _____	JULY 2015
Construction Complete: Phases I - II _____	AUGUST 2016

VICINITY MAP



The existing Deep Run Elementary School is located on Old Waterloo Road in Elkridge, Maryland and is approximately 1 mile from Waterloo Road (Route 175). The site is approximately 11.67 acres.

AERIAL SITE PHOTO



PROPOSED SITE PLAN

* The following items are designated with numbers on the site plan on the following page.

- 1 Location of parking: 71 existing spaces.
- 2 Location of bus loop: 13 existing bus spaces.
- 3 Existing Grades 1 to 5 play area with playground equipment.
- 4 Existing Kindergarten play area with playground equipment.
- 5 Existing multipurpose field, location of new geothermal well field.
- 6 Existing softball field.
- 7 Existing hard play area.
- 8 Existing courtyard.
- 9 Existing service area.
- 10 Existing building restriction line (red) and right of way line (black).
- 11 Existing steep grade change on south and east side of building.
- 12 New secured school entrance, adjacent to administration.
- 13 New administration addition.
- 14 New classroom addition.
- 15 Waterloo Community Park.
- 16 Additional handicap parking spaces.
- 17 New parent drop-off and pick-up lane.
- 18 New stair and accessible ramp for students to egress out of the building.
- 19 New stormwater management facility to accommodate the new additions.
- 20 New parking addition as proposed by Alternate #1 (45 spaces).
- 21 Added an addition to M.I.N.C. classrooms as proposed by Alternate #2.

PROPOSED CONSTRUCTION DOCUMENTS SITE PLAN ADJUSTMENTS

- 22 Removed existing portable and relocated new generator enclosure.
- 23 Adjusted location of accessible egress ramp to reduce the amount of retaining walls required in the design.
- 24 Obtained variance from the county for the corner of the administration addition that projects over the existing building restriction line.

PROPOSED SITE PLAN



EXISTING FLOOR PLAN

* The following items are designated with numbers on the existing floor plan on the following page.

- 1 Modular construction classrooms.
- 2 Typical classroom pod layout. Currently separated with operable walls or partial walls making acoustic separation between classrooms very difficult.
- 3 Administration suite: location is not ideal to monitor entrance of the school and keep it secure during school hours.
- 4 Health suite: size and layout do not meet current state standards.
- 5 Staff restroom facilities: location is not convenient for all staff members and quantity is not sufficient.

EXISTING FLOOR PLAN

- ACADEMIC SUPPORT
- ADMINISTRATION
- ART
- CAFETERIA
- CLASSROOM
- COMPUTER LAB
- GYMNASIUM
- HEALTH SUITE
- MEDIA CENTER
- MUSIC
- RESTROOMS
- SERVICE



PROPOSED FLOOR PLANS

* The following items are designated with numbers on the proposed floor plans on the following page.

- 1 Two-story classroom addition includes: 6 rebuilt classrooms (from modular pod), 4 new classrooms (100 seats), 2 new gifted and talented classrooms (relocated from portable classrooms), staff restrooms, mechanical pump room, and electric room.
- 2 Administration addition: located at the main entry of the school to ensure secure access to the school during hours of operation. Includes additional staff restrooms and a separate entrance for staff access.
- 3 Health suite is renovated to meet current state standards.
- 4 Media center is enclosed with new walls and doors to separate it from the corridor.
- 5 Added new permanent separation walls added in the typical classrooms for acoustic separation.
- 6 Relocated student support offices and revised the location of the walls in the renovated area which was previously administration. Student support offices are being moved to this space so that they are centrally located rather than scattered throughout the building.
- 7 Relocated reading recovery and reading resource rooms so that they are adjacent to each other.
- 8 Relocated Title I office and planning so that they are adjacent to each other.
- 9 Relocated English for speakers of other languages (ESOL) rooms so that they are adjacent to each other and located near other student support programs.
- 10 Removed existing walls for the music classroom in order to provide a full music suite with two classrooms and adjacent music storage rooms.
- 11 Revised the layout of the staff lounge to provide an enclosed room.
- 12 Removed existing storage room walls to provide a larger more functional space for the therapy room.
- 13 Added an addition to the multiple intensive needs classrooms (M.I.N.C.) as proposed by Alternate #2.
- 14 Added pod storage rooms for the second floor addition.
- 15 Added a main custodial storage room and a custodial closet in the classroom addition.

- 16 Renovated the existing student restrooms to meet current accessibility standards. In this renovation the group sinks will be provided on the wall outside of the restroom so that teachers have visual supervision over the students as they wash their hands.
- 17 Added two additional exits to accommodate student egress while the new classroom addition is under construction.

PROPOSED CONSTRUCTION DOCUMENTS FLOOR PLAN ADJUSTMENTS

- 18 Added a rated firewall in between the existing building and the new classroom addition.
- 19 Added an additional exit out of the classroom addition.
- 20 The electrical system design has been modified to accommodate emergency shelter requirements outlined in a letter from the Maryland Emergency Management Agency, dated December 30, 2013.

PROPOSED FIRST FLOOR PLAN

- ACADEMIC SUPPORT
- ADMINISTRATION
- ART
- CAFETERIA
- CLASSROOM
- COMPUTER LAB
- GYMNASIUM
- HEALTH SUITE
- MEDIA CENTER
- MUSIC
- RESTROOMS
- SERVICE



PROPOSED SECOND FLOOR PLAN

- ACADEMIC SUPPORT
- CLASSROOM
- RESTROOMS
- SERVICE



BUILDING ELEVATIONS

The building elevations have been developed so that the new additions to the building blend with the existing character. The windows in the additions will keep the same proportion but will be slightly larger in the classrooms to allow additional daylight. The new front entrance canopy will adopt a slope, in keeping with the gabled roof of the gymnasium and the sloped roofs of the light monitors.

The existing building elevations will be modified slightly. The exterior insulation finishing system (EIFS) that occurs above the brick will receive a new sealant topcoat and color. The standing seam metal roof and coping will also be replaced, allowing the color to be adjusted to match the EIFS system.

BUILDING ELEVATIONS

0' 8' 16' 32'



NORTH ELEVATION



SOUTH ELEVATION



EAST ELEVATION



WEST ELEVATION

BUILDING SECTIONS

0' 8' 16' 32'



SPACE SUMMARY

SPACE SUMMARY/PROGRAM ANALYSIS

PROGRAM							
FACILITY		SD		DD		CD	
	ROOM / SPACE DESCRIPTION	AREA	UNITS	AREA	UNITS	AREA	UNITS
ADMINISTRATION		4,239	SF	3,044	SF	2,973	SF
	SECRETARIAL/RECEPTION AREA	513	SF	449	SF	437	SF
	PRINCIPAL'S OFFICE W/CLOSET	200	SF	230	SF	238	SF
	PRINCIPAL'S PRIVATE LAVATORY	44	SF	48	SF	48	SF
	ASST. PRINCIPAL'S OFFICE W/CLOSET	188	SF	146	SF	146	SF
	SECURE TEST PREP W/CLOSET	149	SF	147	SF	146	SF
	CONFERENCE ROOMS	822	SF	533	SF	524	SF
	RECORDS	125	SF	129	SF	120	SF
	PTA W/CLOSET	135	SF	148	SF	149	SF
	WORK PREP ROOM W/STORAGE	387	SF	397	SF	391	SF
	PLANNING	1,252	SF	273	SF	273	SF
	STAFF LOUNGE	380	SF	496	SF	453	SF
	TOILET ROOM	44	SF	48	SF	48	SF
ALTERNATIVE EDUCATION AREA		202	SF	237	SF	237	SF
	OFFICE	202	SF	237	SF	237	SF
CAFETORIUM/KITCHEN		5,363	SF	5,363	SF	5,465	SF
	STUDENT DINING	3,436	SF	3,436	SF	3,436	SF
	STAGE	660	SF	660	SF	623	SF
	CHAIR STORAGE	215	SF	215	SF	215	SF
	KITCHEN AND SERVING	615	SF	615	SF	663	SF
	DISHWASHING AREA	186	SF	186	SF	184	SF
	DRY STORAGE	60	SF	60	SF	60	SF
	LOCKER/LAVATORY	47	SF	47	SF	49	SF
	LAUNDRY/ CUSTODIAL CLOSET	43	SF	43	SF	43	SF
	CAN WASH	51	SF	51	SF	51	SF
	KITCHEN OFFICE	50	SF	50	SF	141	SF
CLASSROOMS K-5 and ELRs		36,235	SF	35,986	SF	35,761	SF
	KINDERGARTEN CLASSROOMS (4)	4,152	SF	4,129	SF	4,128	SF
	KINDERGARTEN LAVATORIES	133	SF	171	SF	169	SF
	GRADES 1-5 CLASSROOMS W/CLOSETS (29)	22,771	SF	23,321	SF	23,059	SF
	COMMONS (5)	4,559	SF	3,798	SF	3,933	SF
	EXTENDED LEARNING ROOMS (ELR) (8)	3,532	SF	3,232	SF	3,189	SF
	KINDERGARTEN STORAGE	284	SF	284	SF	264	SF
	GRADES 1-5 STORAGE	804	SF	1,051	SF	1,019	SF
REGIONAL EARLY CHILDHOOD CENTER		4,132	SF	4,145	SF	4,141	SF
	PRESCHOOL/PK CLASSROOMS (2)	1,788	SF	1,788	SF	1,754	SF
	PRESCHOOL/PK LAVATORIES	86	SF	86	SF	112	SF
	STORAGE	41	SF	41	SF	41	SF
	MINC CLASSROOMS (2)	1,495	SF	1,418	SF	1,440	SF
	MINC LAVATORIES	72	SF	154	SF	136	SF
	MINC STORAGE	42	SF	42	SF	42	SF

SPACE SUMMARY/PROGRAM ANALYSIS

PROGRAM							
FACILITY		SD		DD		CD	
	ROOM / SPACE DESCRIPTION	AREA	UNITS	AREA	UNITS	AREA	UNITS
	OT/PT LARGE THERAPY ROOM	307	SF	376	SF	376	SF
	OT/PT SMALL THERAPY ROOM/STORAGE	84	SF	84	SF	84	SF
	OT/PT OFFICE	156	SF	156	SF	156	SF
	OT/PT STORAGE ROOM	61	SF	-	SF	-	SF
COMPUTER ROOM		1,453	SF	1,489	SF	1,472	SF
	COMPUTER ROOM (2)	1,453	SF	1,489	SF	1,472	SF
CUSTODIAL AREA		307	SF	433	SF	526	SF
	STORAGE ROOM#1 W/ OFFICE	188	SF	148	SF	141	SF
	STORAGE ROOM #2	100	SF	100	SF	184	SF
	CUSTODIAL CLOSETS	19	SF	90	SF	106	SF
	MAIN STORAGE ROOM	-	SF	95	SF	95	SF
GIFTED & TALENTED AREA		1,755	SF	1,740	SF	1,725	SF
	G/T RESOURCE ROOM (2)	1,755	SF	1,620	SF	1,604	SF
	STORAGE	-	SF	120	SF	121	SF
GUIDANCE AREA		156	SF	176	SF	175	SF
	GUIDANCE OFFICE	156	SF	176	SF	175	SF
HEALTH		856	SF	787	SF	785	SF
	WAITING ROOM	110	SF	114	SF	114	SF
	TREATMENT/MEDICATION	120	SF	110	SF	108	SF
	REST AREA	224	SF	157	SF	157	SF
	OFFICE/CONSULT/EXAM	98	SF	99	SF	99	SF
	EXAMINATION/ISOLATION	123	SF	125	SF	125	SF
	TOILET ROOM SHOWER & CHANGING TABLE	103	SF	103	SF	103	SF
	TOILET ROOM	38	SF	39	SF	39	SF
	STORAGE	40	SF	40	SF	40	SF
LIBRARY MEDIA CENTER		3,590	SF	3,590	SF	3,579	SF
	MAIN READING ROOM	2,968	SF	2,968	SF	2,960	SF
	OFFICE/WORK SPACE	121	SF	121	SF	120	SF
	MEDIA PRODUCTION/VIDEO AREA	336	SF	336	SF	335	SF
	STORAGE/TELECOM	165	SF	165	SF	164	SF
MUSIC SUITE		1,752	SF	1,732	SF	1,734	SF
	VOCAL MUSIC	848	SF	770	SF	718	SF
	INSTRUMENTAL MUSIC	801	SF	769	SF	823	SF
	STORAGE	103	SF	193	SF	193	SF
PHYSICAL EDUCATION / GYMNASIUM		3,984	SF	4,012	SF	4,012	SF
	GYMNASIUM	3,250	SF	3,250	SF	3,250	SF
	STORAGE	587	SF	587	SF	587	SF
	OFFICE W/ TOILET	147	SF	175	SF	175	SF
PSYCHOLOGICAL SERVICES AREA		202	SF	158	SF	157	SF
	PSYCHOLOGICAL SERVICES	202	SF	158	SF	157	SF
READING RESOURCE AREA		202	SF	517	SF	516	SF
	READING RECOVERY	-	SF	361	SF	361	SF
	OFFICE	202	SF	156	SF	155	SF
HISPANIC LIASON		99	SF	131	SF	131	SF
	OFFICE	99	SF	131	SF	131	SF

SPACE SUMMARY/PROGRAM ANALYSIS

PROGRAM							
FACILITY		SD		DD		CD	
	ROOM / SPACE DESCRIPTION	AREA	UNITS	AREA	UNITS	AREA	UNITS
	MATH RESOURCE AREA	202	SF	202	SF	202	SF
	OFFICE	202	SF	202	SF	202	SF
	TITLE I	413	SF	284	SF	284	SF
	PLANNING	237	SF	142	SF	142	SF
	OFFICE	176	SF	142	SF	142	SF
	ESOL	-	SF	404	SF	404	SF
	ESOL	-	SF	404	SF	404	SF
	SPEECH/LANGUAGE THERAPY	205	SF	407	SF	407	SF
	SPEECH THERAPY	205	SF	407	SF	407	SF
	OT/PT	207	SF	207	SF	207	SF
	OT/PT	207	SF	207	SF	207	SF
	VISUAL ART AREA	2,027	SF	2,061	SF	2,049	SF
	STUDIO (2)	1,837	SF	1,800	SF	1,809	SF
	KILN/STORAGE	190	SF	261	SF	240	SF
	TOTAL NET EDUCATIONAL AREA	67,581	SF	67,105	SF	66,942	SF
	TOILET ROOMS	2,270	SF	2,270	SF	2,420	SF
	STAFF TOILET ROOMS	350	SF	338	SF	366	SF
	STUDENT TOILET ROOMS	1,920	SF	1,932	SF	2,054	SF
	SERVICE AREAS	1,760	SF	2,350	SF	2,363	SF
	MECHANICAL PUMP ROOM	670	SF	711	SF	711	SF
	MAIN ELECTRIC ROOM	670	SF	711	SF	716	SF
	ELECTRICAL/MECHANICAL AREAS	420	SF	928	SF	936	SF
	TOTAL NET AREA	71,611	SF	71,725	SF	71,725	SF
	OVERALL GROSS BUILDING AREA	94,485	SF	94,570	SF	94,570	SF
	EFFICIENCY FACTOR	75.7%		75.8%		75.8%	

PROJECT COST ESTIMATE

CONSTRUCTION COSTS:	SD PHASE:	DD PHASE:	CD PHASE:
Phase I: Building	\$ 6, 773, 293	\$ 6, 629, 113	\$ 5, 440, 271
Phase I: Site Development	\$194, 000	\$ 754, 243	\$ 1, 885, 820
Phase II: Building	\$ 8, 736, 614	\$ 9, 601, 371	\$10, 106, 827
TOTAL:	\$15, 703, 907	\$16, 984, 727	\$17, 432, 918

NOTES:

* The construction cost estimate was prepared by the construction manager, Riparius Construction Inc., and assumes bids will be received in May 2014.

* The following additional options will be considered as funding allows:

Alternate #1 - Expansion of parking lot:	\$ 551, 300
Alternate #2 - Expansion of RECC classrooms:	\$ 284, 000
Alternate #3 - Replacement of Playground Surfacing:	\$25, 000
TOTAL:	\$ 860, 300

* Estimate includes a construction document phase cost estimate contingency of 3%.

* Estimate assumes non-wage rate pricing. (Add 8% for wage rate.)

* Estimate does not include a project contingency.