BUILDING PROGRAM UTILIZATION WORKSHEET
Worksheet #3

County: **Mineral** **School:** **Keyser Primary** **Current Enrollment:** 608

Number Classrooms Types	Maximum Pupils / Class Type	Total Program Capacity
5 Pre-K Classrooms	20	100
5 Kindergarten Classrooms	20	100
17 General Purpose Classrooms	25	425
* Special Needs Classrooms see attachment "A"		
Totals:		625

Program Utilization = 608 (**Current Enrollment**) **divided by** 625 (**Total Program Capacity**) **=** 97% *

PROGRAM UTILIZATION = 97% **Desireable Program Capacity = 85%**

Instructions for Calculating Building Program Utilization

Elementary School - Calculate the number and type of classrooms using the maximum program capacity for each regular or special classroom. Assume for example - that all students are seated in a first period block without pullout programs. Do not include library/media, cafeteria, itinerant spaces, resource rooms, or optional academic classrooms such as art, music and computer labs that act as pullout programs to support the core curriculum.

Secondary School - Middle/Junior High School programs where various schedules exist, calucate the number and type of classrooms using the maximum program capacity for each regular or special classroom. Assume for example, that all students are seated in a first period block and exlude library/media, commons or any space that cannot be used for other course offerings in the daily capacity of each facility. The maximum capacity for instructional spaces for specialty classrooms is counted once. A specilaty classroom may be available throughout the school day but due to its specialized design or equipment it is rendered improactical to use for other instructional purposes.

Keyser Primary School

Program of Spaces

Enrollment Calculations

Current Enrollment	
Pre- Kindergarten	94
Kindergarten	111
Grade 1	115
Grade 2	86
Grade 3	93
Grade 4	93
Pre-K Special Ed.	16
Total Students	608

Projected Design Occupancy		
Students	650	
@	94	SF
	61,100	SF

Administration

Description	Quant.	Net (SF)
Offices		
Reception/Waiting	1	564
Principal	1	176
Assistant Principal	1	148
Vault	1	30
Communication	1	48
Conference	1	218
Work Room	1	148
Toilet	2	88
Storage	1	125
		1,545
Student Support Services		
Counselor	1	130
Nurse Station	1	287
ISS	1	100
		517

Faculty

Description	Quant.	Net (SF)
Planning	1	348
Work	1	148
Toilet	8	524
Lounge	1	183
		1,203

Academic

Description	Quant.	Net (SF)
Pre- Kindergarten		
Classroom	5	5,238
Storage / Washer & Dryer	1	215
		5,453
Kindergarten		
Classroom	5	5,235
Storage	1	135
		5,370
Primary 1-4		
Classroom	17	12,220
Storage	2	130
		12,350
Art		
Classroom	1	720
Storage	1	157
		877
Music		
Classroom	1	800
Storage	1	88
		888
Computer		
Computer Lab	1	415
Computer Lab	1	457
		872
Specialized Education		
Developmental Delay 1-4	5	2,737
Speech/ OT	4	987
OT Storage	1	100
Title 1	4	980
Pre-K Developmental Delay	1	743
		5,547
Media Center		
Reading/Stack Area/Browsing	1	1,666
Maintenance /Repair/Distribution	1	118
Office	1	116
Storage	2	235
		2,135

Physical Education

Description	Quant.	Net (SF)
Gymnasium	1	2,614
Office/Toilet	1	147
PE Storage	2	175
		2,936

Food Services

Description	Quant.	Net (SF)
Food Services		
Dining Room - 216 Students	1	2,304
Kitchen		
Food Prep/Serving	1	1,017
Dish Washing	1	179
Dry Food Storage	1	164
Office	1	100
Toilet/Locker	1	60
Walk-in Cooler	1	143
Walk-in Freezer	1	143
		4,110

Building Services

Description	Quant.	Net (SF)
Mechanical/Janitorial	3	518
Central Storage	1	125
Custodial Office	1	135
Student Toilets	6	1,562
Data Closet	3	205
		2,545
Total Building Net SF		46,348
Efficiency	**31.8%**	14,739
Total Building Gross SF		**61,100**

blackwood associates, inc.
wvarchitects.com

November 5, 2011

RE: Keyser Primary School Design Development Submission

This letter is to assure that the gross building area of **61,100 SF** shown on the Design Development Drawings is consistent with what is shown in the Program of Spaces.

Sincerely,

BLACKWOOD ASSOCIATES, INC.
ARCHITECTS AND PLANNERS

KENTON BLACKWOOD

611 east park avenue • fairmont wv 26554 • 304.366.1580 • fax 304.366.1537

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KEYSER PRIMARY SCHOOL

TECHNOLOGY PLAN

The technology goal of Keyser Primary School is to provide the necessary environment so that teachers and students can access programs that will support 21st Century content standards in a safe and secure manner.

Through various federal, state, and local funding sources the district and school will strive to provide one to one computing opportunities for students. Through sustained professional development, teachers will be able to incorporate the use of technology, including but not limited to TechSteps, Acuity, Odyssey, WV Writes, and other CSO supporting programs into their daily lessons.

In order to provide adequate access the school will be equipped with two stationary labs, including printers and projectors. The school will also have approximately four mobile labs with printers. In addition, each classroom will have four student workstations, printer, and a teacher laptop/workstation. Projectors, document cameras, student responders, white boards, TV's and other technology will support each classroom.

The building will be served with a 100mb broadband connection provided by Frontier Communications. All network drops will be category six cable. All networking devices will be 100/1000 capable. Wireless N access will be available throughout the facility.

Servers and racks will be secured behind locked data closets throughout the building. Other mobile devices will be secured in locked storage closets located in grade level classrooms.

The central office, guidance, nurses station, cafeteria, library, and other support areas throughout the building will have the necessary technology to ensure communication and student support. Specifically, communication will be provided by an intercom/phone system that will allow administrators, teachers, and support staff to communicate throughout the building and with parents/community.

Security will be provided by a twenty-four hour video monitoring system that can be accessed both inside and outside the building by appropriate building and district level personnel. The building will also be secured by a controlled coded key-fob entry system that will allow for individual staff entry and building/district level monitoring. The building heating/cooling control system will be monitored remotely and locally to ensure proper functionality.

Mr. Kenton Blackwood, AIA
Blackwood Associates, Inc.
611 East Park Ave.
Fairmont, WV 26330

Project No. 11-053
November 4, 2011

Utility Services to Planned Keyser Elementary School

Dear Mr. Blackwood:

MSES consultants, inc. (MSES) has been in contact with the utility providers in the area and have been told that all services are certainly available as these same services are now being provided to the existing school facilities. The gas and electric service loads need to be determined and a work order obtained from the property owner to work out the precise details. The other utilities will simply be connected at a different service points off of the current main system network. If there are any questions, please contact me.

Respectfully,

Rod Kidd
MSES Project Engineer

MSES consultants, inc.

609 W. Main Street X Clarksburg, WV 26301
304/624-9700 X Fax 304/622-0981 X www.msesinc.com

November 4, 2011

KEYSER PRIMARY SCHOOL
KEYSER, WEST VIRGINIA

HVAC SYSTEM DESIGN DEVELOPMENT NARRATIVE

The schematic design submission stated that two types of HVAC systems would be evaluated and that one would be selected in the design development phase of the project. The types considered were packaged rooftop HVAC systems with variable air volume control and variable refrigerant flow (VRF) HVAC systems with dedicated outside air supply (DOAS) systems with energy recovery.

VRF systems with DOAS have been selected to serve classroom and administrative areas. In our opinion, these systems would provide the lowest owning and operating cost and would have competitive first cost compared to other systems.

The VRF systems are broken down into a limited number of independent systems to serve different areas. Within a system, a number of room heating and cooling units are served by a heat recovery condensing unit. The units are connected by refrigerant piping mains that feed branch selector boxes. The branch selector boxes provide required flow to room units to provide heating or cooling. A system can provide heating to one space while providing cooling to another. The heat removed from one space is used to heat the other. The heat recovery condensing units employ inverter drives on 50% of the compressors to allow the energy requirement to match the actual load.

Outside air will be provided by dedicated outside air systems with latent and sensible energy recovery. Air will be delivered to the space at space neutral conditions which permits minimum sizing of VRF systems to serve heat gains and losses in the rooms.

Packaged rooftop HVAC units are selected to serve the gymnasium and the cafeteria/kitchen. The gas fired heat would be the most economical source to heat the large amounts of outside air required for these spaces. Carbon dioxide sensors would control the quantity of outside air to minimize operating costs.

A direct digital control system will provide central control and monitoring.

Prepared by:

David L. Skeen, P.E.
Senior Project Engineer
304-522-9055

Keyser Primary School

Structural Systems Narrative

The new Keyser Primary School is an approximately 60,000 square foot single-story building, independent of any existing buildings.

The building roof consists of 1 1/2" metal roof deck, supported primarily by open-web steel bar joists, but by structural steel framing at some locations. Constant shear joists (KCS joists) are used at areas where snow drifts and other non-uniform roof loads are present. The roof framing members themselves bear on a series of masonry bearing walls. The joists in the high roof of the gymnasium area of the building are deep, long-span joists sloped to an interior masonry bearing wall to accommodate the required minimum roof slopes.

The building slab-on-grade is a 5" lightly reinforced concrete slab, placed on a 4" compacted stone subbase on a prepared site. The slab-on-grade elevation is typically constant throughout the building, with some recessed slab areas as required for installation of other building components.

The building foundations are designed per the recommendations of the project geotechnical report, thus with a minimum thickness of 12", and a minimum width of 24" for all structural wall footings and 36" for column footings. Bottoms of all perimeter footings, thus exposed to frost, are at least 42" below the adjacent grades. Interior wall footings are typically held 16" below the tops of the slab-on-grade, as this allows for placement of the slab-on-grade independent of the foundations.

The building is stabilized against lateral forces by a series of reinforced masonry shear walls, at both the building interior and perimeter. Many of these walls are bearing walls.

11/03/2011

Keyser Primary School
Design Development Cost Estimate

Site			
Elevated Pad Above Flood Plain		$440,000.00	
Stormwater		$210,000.00	
Road/Parking		$488,000.00	
Concrete Walks / Curbs		$130,800.00	
Utilities		$72,200.00	
Landscaping		$150,000.00	
			$1,491,000.00
New Construction			
General Trades		$4,888,000.00	
Structural Systems		$824,850.00	
HVAC		$1,833,000.00	
Plumbing		$733,200.00	
Electrical		$1,222,000.00	
Sprinkler		$204,685.00	
Food Service		$305,500.00	
Specialties / Equipment		$244,400.00	
			$10,255,635.00
Total Construction Cost:			$11,746,635.00
Contingency (2.0%)		$234,932.00	
A/E Fees (6.0%) / Reimbursables (0.5%)		$763,531.00	
Project Management /CCA		$165,000.00	
			$1,163,463.00
Survey, Geotech, Testing & Balancing, Other		$200,000.00	
Furnishings, Fixtures & Equipment		$780,000.00	
			$980,000.00
Funding			$13,890,098.00
SBA (NEEDS)	$8,771,840.00		
Local (QZAB)	$4,000,000.00		
Local	$1,158,442.00		
	$13,930,282.00		$13,930,282.00
			($40,184.00)