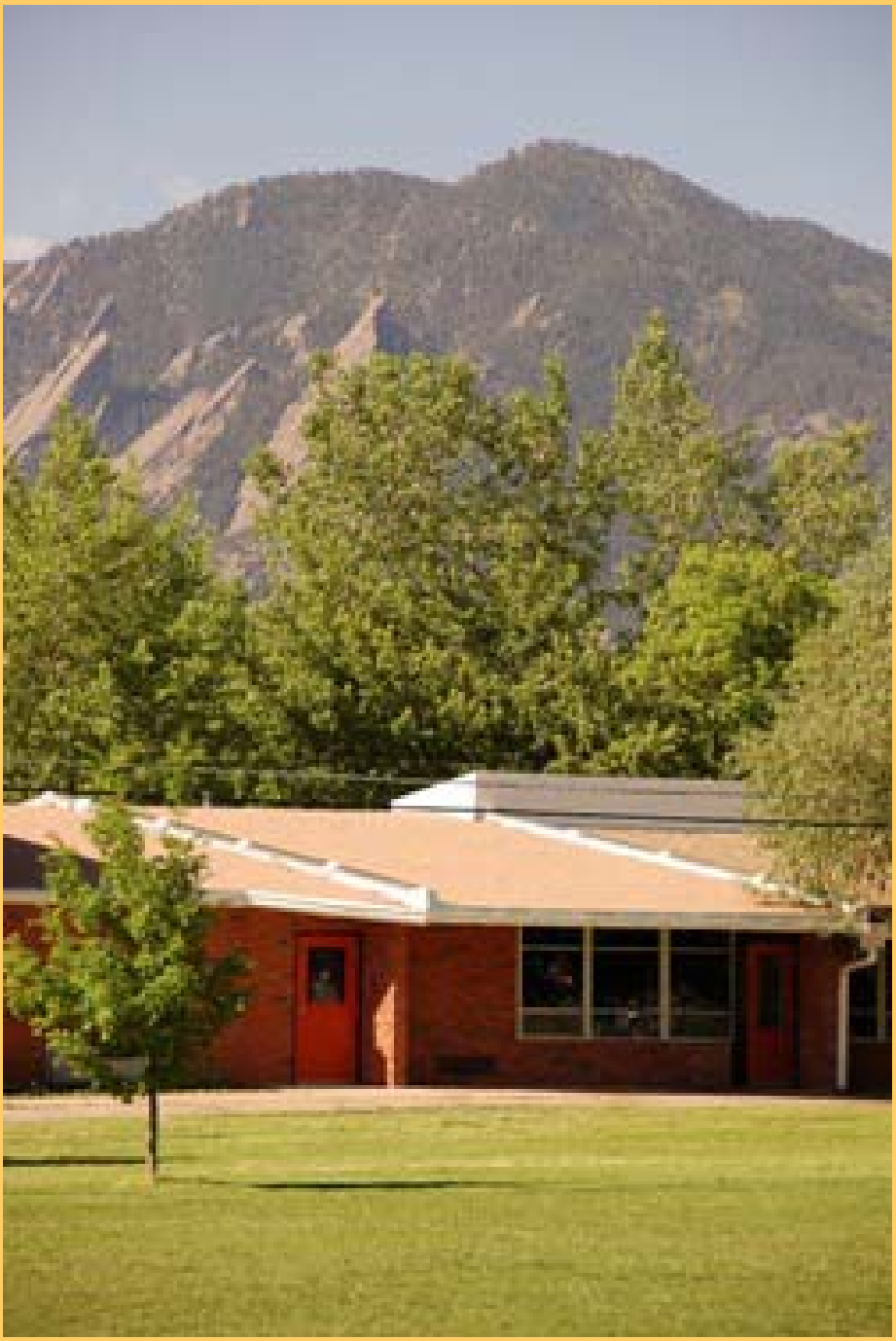
BOULDER VALLEY SCHOOL DISTRICT



COLUMBINE ELEMENTARY SCHOOL
EVALUATION REPORT
JULY 2007

PROJECT TEAM

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TPI – Technology Plus, Incorporated
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Parks and Gardens
Landscape Consulting

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BACKGROUND / SUMMARY

The Existing School

Located in an established residential neighborhood at 3130 Repplier Drive (at Floral), Columbine Elementary School was originally constructed in 1956, with subsequent additions in 1958 and 1965. The school currently totals 48,941 gross square feet, and is located on a ½ block site adjacent to a Boulder City Park. Unfortunately, Columbine has a Facility Condition Score of 47%, and a Program Compatibility Score of 52%. The existing school has significant annual operation and maintenance costs.

The current capacity is 413 students, with enrollment at 392. As stated on the school's website, "A primary goal of the Columbine school community is to serve a broader spectrum of its north Boulder neighborhood's children. Parents are encouraged to learn about Columbine's new initiative in talented and gifted education, its clear and focused approach to math instruction, and its unique method of reducing kindergarten through fifth-grade class sizes to 18. Because the school enrolls many children learning English as their second language, aggregate CSAP test scores are lower than some other schools. However, Columbine students achieve some of the greatest year-to-year growth in CSAP scores in all of the Boulder Valley. This reflects the dynamic learning environment created by teachers who are masters in challenging all children."

The Established Bond Issue Program

In order to improve the facilities and programs at Columbine, the Bond Program identified numerous upgrades:

Facility Condition Assessment (FCA):
Selective HVAC upgrades
Electrical service/distribution improvements
Selective door and window replacement
Selective interior finishes upgrades
Selective site regrading and paving
Fire Sprinkler System
Selective Roof Replacement

Program Compatibility Assessment (PCA):
Five Additional Classrooms
Music Room Addition
Expansion/Renovation of Admin Areas
New Cafeteria and Kitchen
Provide additional staff and small group rooms
Expand the Gym

Initially, approximately 17,382 gsf of new construction and 5,440 gsf of renovation were identified as part of the Columbine improvements. The fine-tuning of improvements would be part of the design process in determining which upgrades, expansions, and renovations could be accommodated within the established construction budget of $5,766,310.

Planning and design were scheduled as part of Phase One Bond work, with construction following as part of Phase Two.

BVSD Considerations for this Evaluation Report

In developing the initial scope of work with the A/E team, several issues emerged which questioned the established Bond Program for Columbine:

- From an academic program perspective, the unique combination of ESL and TAG curriculum is expected to continue to evolve over time; the floor plan of the school is inflexible, making it difficult to accommodate a variety of academic programs or to accommodate the BVSD Education Specifications in a functional way.

- From a facility perspective, the poor condition of the school (FCA score of 47%) is such that even the proposed improvements would not come close to meeting the BVSD facility standards. It is not feasible to replace/insulate all roofs, replace all windows, insulate all exterior walls, replace the entire HVAC equipment and distribution system, or upgrade all IT, signage, interior finishes or required exterior improvements. High operations and maintenance costs are expected to continue to be an annual problem.

- From a community perspective, it is a BVSD goal to have Columbine Elementary attract and retain all students in its catchment area; the poor condition of the school is a deterrent in this respect.

- Scheduling of the proposed additions and renovations present numerous safety issues. To allow the school to be completely operational during construction, the work would need to be scheduled into about five sequential phases, each with a different exiting plan for safety. This phasing would lengthen the construction schedule, and lengthen the disruption time for students and teachers.

- From a budgetary perspective, the $5.7 million attributed to Columbine would provide many of the upgrades necessary to improve the existing school. However, all of the work identified in the Facility Condition Assessment, the Program Compatibility Assessment, the Multi-Use Outdoor Facilities, and Information Technology will not be able to be completed. The upgraded school would still fall dramatically short of typical school facility standards.

Given these issues, the BVSD requested that the Design Team look at a comparison between the proposed additions/renovations to Columbine Elementary and a Replacement School.

Recommendations by the Architect/Engineering Design Team

The Design Team met with members of BVSD Planning, Engineering and Construction, the Columbine Principal, and members of BVSD Educational Programs Staff to determine parameters for the school comparisons. It was determined that the proposed improvements to the existing Columbine School would be compared to a new 500-student elementary school of about 63,000 gsf.

The A/E Design Team recommends the construction of a new 500-student replacement school, including all sitework, and ultimate demolition of the existing school for a construction budget of

$11,837,409. Using the 1.41% cost ratio from the original Bond Budget, the total project cost would be $16,673,292.

The A/E Design Team further recommends that the replacement school be constructed on the east side of the site, leaving the existing school separated and completely operational during construction. Once the replacement school is occupied, the existing school will be demolished and the site re-landscaped as play fields. Alternatively, the existing Columbine school could be occupied by Casey Middle School students for a year during construction of Casey, and then demolished and re-landscaped.

This recommendation is based on the fact that a replacement school will:

- comply with the current Educational Specifications, and be designed with the flexibility to accommodate a variety of future configurations,
- substantially improve the learning environment, air quality, and daylighting,
- be based upon integrated, climate responsive, energy efficient design principles,
- decrease operation and maintenance costs,
- in the long-term be a better use of the School District's financial assets.

ACADEMIC PROGRAM COMPARISON

The following chart demonstrates a comparison between the BVSD Educational Specification, based on a 600-650 student elementary school, scaled down to a 500 student school proposed for the replacement of Columbine Elementary.

The Columbine Elementary Replacement School program can accommodate the current ESL and TAG curriculum as well as a traditional curriculum for 500 students.

	Educational Specifications 600-650 Students			***Columbine Elemenatry School*** 500 students ESL Program			
Space	***Area per Rm***	***#***	***Total***	***Area per Rm***	***#***	***Total***	***Comments***
General Administrative Area							
Central Office Area							
Reception/Waiting Space/Parent Space	300	1	300	300	1	300	
Time Out Area/Study Carrels	40	2	80	40	2	80	
Secretary	150	2	300	150	2	300	
Principal	200	1	200	200	1	200	
Principal's Secretary	120	1	120	120	1	120	
Assistant Principal	150	1	150	150	1	150	
Work Room/Storage	200	1	200	200	1	200	
Conference Room	250	1	250	250	1	250	
Conference Room	180	1	180	180	0	-	Locate of the corridor (BR)
Literacy Coach	120	1	120	120	0	-	Locate of the corridor (BR)
Restrooms	50	2	100	50	2	100	
						-	
Student Health Services						-	
General Area (cots,desk,etc.)	180	1	180	180	1	180	
Restroom	80	1	80	80	1	80	
Subtotal			***2,260***			***1,960***	
Basic Studies							
Kindergarten						-	
Instructional Area	1,200	2	2,400	1,200	4	4,800	
Small Group Learning Space	200	1	200	200	4	800	
							Included in classroom
Teacher Work Space/Storage (1 area, 2 teachers)	300	1	300	300	2	600	Between 2 classrooms
Restrooms (boys and girls)	100	2	200	100	4	400	1 boy & 1 girl shared
Academic Areas							
20 General Classrooms	900	20	18,000	650	25	16,250	
Literacy Bookroom/Office	900	1	900	900	0	-	
Core Tech Spaces (1 per grade level)	800	5	4,000	800	2	1,600	For 4th&5th grade only
Science Storage (1 primary, 1 intermediate)	125	2	250	125	2	250	
Special Education Services							
Assessment Room	125	1	125	125	0	-	
Classrooms	675	3	2,025	675	0	-	
Conference Room	250	1	250	250	0	-	
Teacher Office/Workroom	350	1	350	350	0	-	
Storage	250	1	250	250	1	250	
Changing Room, Shower and toilet	150	1	150	150	1	150	
Motor Lab	250	1	250	250	1	250	
Subtotal			***29,650***			***25,350***	
Breakout Rooms							
Mental Health/Psychologist				180	3	540	
Counselor				180	1	180	
Family Resource				180	1	180	
Math Invention				180	2	360	
Math Literacy				180	1	180	
TAG (Talented & Gifted)				250	1	250	
Literacy				250	3	750	
Bi-literacy				250	3	750	
Special Ed				450	2	900	
Speech Language				180	1	180	
						4,270	

Exploratory Studies						
Art Instruction						-
Art Room	1,000	1	1,000	1,000	1	1,000
Kiln Room	150	1	150	150	1	150
Storage	200	1	200	200	1	200
Music Instruction						-
Vocal Music (including storage)	1,100	2	2,200	1,100	1	1,100
Instrumental Music	1,100	1	1,100	1,100	1	1,100
Subtotal			***4,650***			***3,550***
Physical Education						
Gymnasium	4,200	1	4,200	4,200	1	4,200
Office	140	1	140	140	1	140
Storage Rooms	400	2	800	400	2	800
Subtotal			***5,140***			***5,140***
Instructional Media Center						-
Open Space	2,750	1	2,750	2,750	1	2,750
Resource Room	160	1	160	160	1	160
Computer Integration Lab	750	1	750	750	1	750
Office/Workroom	220	1	220	220	1	220
AV Storage	200	1	200	200	1	200
Head End Control Room	100	1	100	100	1	100
Video Production Studio	400	1	400	400	1	400
Subtotal			***4,580***			***4,580***
Kitchen						
Food Preperation/Serving Area	800	1	800	800	1	800
Dry Storage	100	1	100	100	1	100
Locker Room	80	1	80	80	1	80
Restroom	50	1	50	50	1	50
Custodial Space	50	1	50	50	1	50
Manager's Office	100	1	100	100	1	100
Subtotal			***1,180***			***1,180***
Cafeteria						
Cafeteria	3,000	1	3,000	3,000	1	3,000
Storeroom**	450	1	450	450	1	450
Before & After School Storeroom	120	1	120	120	1	120
88 Large enough to store cefteria tables						
Subtotal			***3,570***			***3,570***
Stage/Platform	500	1	500	500	0	-
Subtotal			***500***			***-***
Faculty Area						
Lounge	600	1	600	600	1	600
Workroom/Storage	620	1	620	620	1	620
Restrooms	50	2	100	50	2	100
Telephone Room	50	1	50	50	1	50
Subtotal			***1,370***			***1,370***
Building Services						
Central Receiving Area	200	1	200	200	1	200
Central Custodial Closet	80	1	80	80	1	80
Main Custodial Office	150	1	150	150	1	150
Maintenance Equipment and Combustible Storag	200	1	200	200	1	200
Communication/Data Distribution Closets	50	2	100	50	2	100
Subtotal			***730***			***730***
Subtotal - All Areas			***53,630***			***47,610***
Support Facilities	33%		***17,697.90***	33%		***15,711***
Total Program/ Gross			***71,328***			***63,321***

** Room includes Storage

ENERGY EFFICIENCY AND SUSTAINABLE DESIGN

From an energy and sustainable design perspective, the existing Columbine Elementary School is not in great shape. Attempting to renovate and add onto the existing school is not a solution that will yield long-term value to the district; nor will it achieve the quality of educational environment that is desired by the Boulder Valley School District.

The mechanical systems are inefficient, and at the end of their useful service lifetimes. These systems are further burdened by servicing an uninsulated and leaky building envelope. While the renovations and additions as originally proposed are certainly possible, they are not fiscally prudent. The conditioned air distribution system is both inflexible (buried in the concrete floors) and not sufficiently robust to handle any additional space (in fact evidence suggests it is often unable to meet current loads). While extensive repairs and improvements are possible, they will not lead to levels of efficiency and comfort that are commensurate with the expense of the work.

In addition to thermal comfort, and perhaps more importantly, the existing Columbine Elementary School has inadequate ventilation air supplied to the classrooms. Research undertaken in K-12 schools has confirmed high quality indoor air is directly linked to both to higher test scores, and better attendance (teachers, staff, and students), as well as being linked to a variety of more subjective measures of satisfaction and performance.[1] Again, improvements to the existing school are possible, but it would be difficult and prohibitively expensive, to bring the existing school up to minimum acceptable industry standards.

In addition to these HVAC systems, the lighting in the existing school is old, inefficient, and without sufficient classroom controls. This can be improved, but the implementation of modern daylighting and solar control strategies in the existing school would be impractical at best.

As a result of the current conditions of the existing school, operation and maintenance costs are high. Operation and repair costs for the past few years are summarized in the following table:

School Year	Operation (Energy) Costs	Maintenance Costs
2006 – 2007	$42,212.00	Cost not available
2004 – 2005	Incomplete / missing data	$19,272.00
2003 - 2004	Incomplete / missing data	$56,450.00
2002 - 2003	Incomplete / missing data	$38,850.00

Renovation of the existing building would improve but not resolve many of the fundamental operational and performance issues. The proposed facility improvements are a combination of additions and modifications. From an energy and environmental performance perspective, the proposed expansion / renovation is a “band-aid” approach and would not result in significant energy savings, enhanced environmental performance, or the highest quality educational environment.

[1] The Collaborative for High Performance Schools – Best Practices Manual, Volume 1: Planning 2006 Edition.

A new replacement school based upon integrated, climate responsive, energy efficient design principles will support the educational environment in terms of daylighting, indoor air quality, and thermal comfort. Operational and maintenance costs would be low for many years in the future. Anticipated annual energy costs are estimated to be one-half those of the existing school.

A recent study by Gregory Katz of 30 high performance schools throughout the U.S. found "Building healthy high performance school buildings is now far more fiscally prudent and lower risk than building conventional, inefficient and unhealthy school buildings."[2] This report compares the economic impact of schools utilizing strategies such as daylighting, climate adaptive design, and efficient HVAC systems, to conventionally design and build schools.

A new school will not only provide a more comfortable, more efficient, better functioning school with a lower impact on the environment, and enhanced educational performance, but replacing the existing school with a new school will offer a substantial economic savings to the Boulder Valley School District by reducing annual energy and maintenance costs. Gregory Kats writes:

> "Green schools provide a range of additional benefits that are not quantified in this report, including a reduction in teacher sick days, reduced operations and maintenance costs, reduced insured and uninsured risks, improved power quality and reliability, increased state competitiveness, reduced social inequality, and educational enrichment. There is insufficient data to quantify these additional benefits, but they are substantial and if calculated, would substantially increase the recognized financial benefits of greening schools."[3]

It should be kept in mind that the proposed level of renovation to the existing school will not greatly extend the service life of the building. This means that regardless of the remediation that is performed on the existing building, it will not be a new school, and it is likely that it will find itself again being considered for a full replacement over the next 10 – 20 years. The long-term fiscal wisdom of replacing Columbine with a new school is quite clear and compelling.

[2] Greening America's Schools, Costs and Benefits, Gregory Kats, October 2006.
[3] Ibid.

STRUCTURAL SYSTEMS

Existing Structural Systems and Original Scope of Renovations/Additions

Background information was obtained from the following documents provided by the Boulder Valley School District. Documents for the original construction and the subsequent gym and library additions were not available to the design team.

- 1958 Additions and Alterations; Robert Ditzen
- 1965 Additions; Ditzen, Mueller & Assoc

The 1958 classroom addition to the north and west of the original building is built on shallow footings bearing 3'-0 below finished floor. 8" load-bearing masonry walls separating each classroom combine with steel post & beam construction to support "Fenestra" corrugated steel roof deck that clear spans as far as 26 feet. Based on JVA's review of the drawings, it appears the deck is 18 ga. material and 7" to 8" deep. No design criteria is specified on the documents.

The 1965 addition to the east consists of 8" load-bearing masonry walls supporting deep roof glulam beams spaced at 8 foot to 11 foot centers. 3" and 2" tongue & groove deck runs down the slope to form the roof surface that was constructed at less than a 2:12 pitch to match the original construction. Drawings indicate the roof structure was designed for a 30 psf snow load. Founded on shallow footings with slab-on-grade construction, the addition incorporates 1'-0 square concrete underslab pipe trenches located on the perimeter of the building.

While the existing gym and library addition documents were not reviewed in preparing this overview, the original scope of work in the 2006 Bond Program proposed four separate additions that would likely interface with four distinct building systems. There will be little structural efficiency in a patchwork addition such as this, and there is significant risk of exposing unforeseen conditions when a large portion of the existing facility is at least 50 years old. Consideration must also be given to unplanned expenditures for newly created snow drift conditions where new additions interface with existing flat or slightly pitched roofs.

Furthermore, the proposed kindergarten renovation will also be expensive as one converts four small rooms into two large classrooms, particularly since bearing walls will be removed and additional foundation work will be required.

Replacement School Structural Systems

<u>Foundations</u>

JVA anticipates a new facility will be founded on conventional shallow foundations similar to the existing facility. However, soils conditions vary greatly in the region, so a new geotechnical investigation will need to be performed to evaluate conditions and make recommendations for the proposed new building location. It's critical that this work be performed in a timely fashion so that all recommendations can be accommodated in the schematic drawings and adequately accounted for in the preliminary budgeting.

Floor Systems

Slab-on-grade construction in the existing building is performing well, so again we anticipate matching the original main floor construction. Vapor barriers will provide the necessary separation for floor finishes. Slab thicknesses and reinforcing will depend on soils conditions and whether slab mass will be used in thermal analysis by the energy and mechanical consultants. It's unlikely that below grade utility trenches reflecting the original construction will be used in a new building.

Second Floor construction in the classroom wing will accommodate Grades 3-5. JVA anticipates composite steel beams spaced at six foot to eight foot centers and supporting a 4" normal weight concrete slab on composite steel deck. This system results in a stiff floor structure that is relatively shallow and economical to build. Columns spaced at roughly 30 foot centers will be steel tube or wide flange sections. The perimeter beams and girders will be inset to allow the exterior wall studs to bypass the floor structure and run continuous from foundation to parapet.

Roof Systems

The roof structure will consist of principal beam lines at 30 foot centers with steel bar joists spaced at 5 foot supporting 1-1/2" deep galvanized steel roof deck. Wide flange beams will replace light bar joists where roof top mechanical units are supported on concrete inertia slabs to provide vibration and noise attenuation. The roof structure will be sloped wherever possible to efficiently drain the building, and tapered insulation will be used selectively All roofs will be designed for a minimum 30 psf snow load with consideration given to drifting. An adhered, lightly colored membrane will provide for the final roofing surface.

Wall Systems

While steel post and beam construction will likely be utilized for most of the building, load-bearing masonry or precast concrete wall systems will be considered at the gym, music and kitchen wings. Bypass exterior wall studs will allow for free vertical isolation from the perimeter structural beams, and also provide a good thermal break in the exterior skin. 6" x 18 ga. steel studs spaced at 16" are structurally adequate to back up masonry veneer systems and other finishes such as stucco, hard board, and metal siding.

Sustainability

The structural steel used in this project contains a minimum of 80% recycled material. Consideration will be given to massing, thermal gain and loss, and efficiency of thermal breaks when evaluating wall systems. Concrete used in the building will use approximately 25% flyash, and concrete floor and wall systems will also be evaluated for massing/energy benefits. Roof structural systems will be assessed for PV arrays, Green Roofs, and all special daylighting features that penetrate the roof envelop. Most importantly, the structural systems will react to architectural and mechanical solutions that result in an efficiently operated facility.

SITE /LANDSCAPE ISSUES

There will be significantly greater costs associated with landscape design and construction for a building replacement over that of a renovation. However, by developing new play areas, paving and landscape, the new building scenario will accomplish the following:

Water conservation/ Irrigation Improvements:
New play fields and landscape areas will replace an aging and inefficient irrigation system with a highly-efficient, zoned system. Turf areas will be planted with low-water requirement, drought-tolerant species.

***Accessibility*:**
The entire site will be designed to reflect current ADA standards. Compliance will include design of all play areas using the playground guidelines currently in production.

Improve Drainage, Stormwater Management, and Water Quality:
Comprehensive site design will integrate stormwater management, including water quality treatment, into landscape design. Moving the building will allow the site to drain from the northwest to the southeast following pre-construction contours. This could reduce or eliminate the residual floodplain along the north side of the existing building, improving conditions for both the school district and the homeowners on 22nd Street.

Safety:
All play equipment, sight-lines, fencing, and access will reflect current safety standards, and will be addressed on a site-wide basis. Parking access will be separated from parent drop-off areas to improve circulation safety.

Integrate Curriculum:
Curriculum, including environmental education, will be integrated into the site design.

SITE AND BUILDING DESIGN OPTIONS

Bond Program Option

The additions/renovations were quickly conceptualized during the development of the Bond Program in order to understand the magnitude of scale of the project scope, and to get an idea of construction costs. As shown on the diagram to the right, the white spaces represent "existing-to-remain," the yellow spaces indicate additions, and the green spaces indicate renovated areas.

With this option, the construction process would be significantly disruptive and would pose safety issues in separating children from construction.

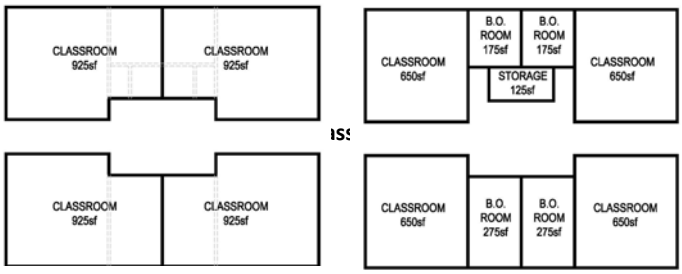
Replacement School Options

In the Appendix you will find three site and building plan options for the development of the Replacement School for Columbine Elementary. Each of the options illustrates a new school to be constructed on the east side of the existing site, allowing full occupancy of the existing school during construction.

Variations in the site and building plans will be reviewed during the design phase to determine the most functional organization of the site and building. Site Plans A and B illustrate bus loops, parent drop off, and parking access off of 22nd Street, while Plan C shows the bus loop off of Repplier Street. Building Plans A and C are "C-Shaped", with alternate locations for the Media Center and Cafeteria. Building Plan B illustrates an alternative doughnut plan, with a completely enclosed courtyard.

Site Plan and Building Plan A

Each of the floor plan options can be altered to accommodate variation and flexibility in academic programming. Classroom pods of 650 SF, with small breakout rooms and/or storage areas can be altered to provide standard 925 SF classrooms.



See the Appendix for large-scale Classroom Pod Options.

SCHEDULING OPPORTUNITES

It is anticipated that the design for Columbine Elementary will occur beginning in the Fall of 2007 (Phase I), with the construction occurring over 2008-09 (Phase II), and occupancy in the Fall of 2009. Potentially, Casey Middle School children can occupy the existing school for the academic year 2009/10, followed by demolition of the existing building and final sitework and re-landscaping in the summer of 2010.

The replacement school for Columbine Elementary provides several academic and construction scheduling opportunities:

- Construction will be less disruptive to the academic calendar
- Construction can occur in one or two phases
- Potentially, Casey Middle School can occupy the existing school, saving time and money
- Construction can be separated from academic functions, ensuring child safety

COST ESTIMATE

The construction budget on the following page identifies construction costs for the new replacement elementary school, demolition of the existing school, and final sitework and re-landscaping of the west side of the site. The construction costs were developed with the input from each of the Design Team members, and compared to comparable school construction in Douglas County, Thompson School District, and Poudre Valley School District.

The cost of construction is escalated to the midpoint of construction in January 2009, assuming that the demolition of the existing school will be delayed for the occupancy by Casey Middle School students.

The construction budget is based on a 500-student elementary school, which conforms to the BVSD Educational Specification, and which is based upon integrated, climate responsive, energy efficient design principles.

DESCRIPTION 63321 sf	QUANTITY	UNIT	UNIT PRICE	UNIT PRICE	TOTAL	DIVISION TOTALS	
General Conditions							
- per month	**11**	mos	$ 52,000.00	$ 30,000.00	$ 572,000.00		
- per month	**3**	mos	$ 52,000.00	$ 30,000.00	$ 156,000.00	$ 728,000	Ph 2-Demo
Demolition							
- Site	**75,000**	sf	$ 0.75		$ 56,250.00		
- Building	**49,000**	sf	$ 2.50		$ 122,500.00	$ 178,750	Ph 2-Demo
Site Utilities							
- storm, sanitary, water	**1**	allow		$ 110,919	$ 126,115.00	$ 126,115	
Site							
- asphalt paving	**1**	allow		$ 110,919	$ 144,000.00		
- concrete	**1**	allow		$ 110,919	$ 241,000.00		
- fencing	**1**	allow		$ 110,919	$ 61,700.00		
- play equipment	**1**	allow		$ 110,919	$ 98,000.00		
- site furnishings	**1**	allow		$ 110,919	$ 35,000.00		
- play equipment	**1**	allow		$ 110,919	$ 98,000.00	$ 677,700	1/3 Ph 2
Landscape							
- trees, seed, sod, irrigation	**1**	allow		$ 110,919	$ 525,000.00	$ 525,000	1/3 Ph 2
Architectural/Structural	**63,321**		$ 80.28		$ 5,083,409.88	$ 5,083,410	
Mechanical-Plumbing	**63,321**		$ 28.77		$ 1,821,745.17	$ 1,821,745	
Fire Protection	**63,321**		$ 1.80		$ 113,977.80	$ 113,978	
Electrical	**63,321**		$ 15.50		$ 981,475.50	$ 981,476	
Phone, data	**63,321**		$ 1.40		$ 88,649.40	$ 88,649	
SUBTOTAL					$ 10,324,823	$ 10,324,823	
CONTINGENCY @ 10%					$ 1,032,482	$ 1,032,482	
SUBTOTAL					$ 11,357,305	$ 11,357,305	
BOND at 1.5%					$ 170,360	$ 170,360	
MARK UP @ 3%					$ 309,745	$ 309,745	
TOTAL (Phases 1 and 2)					$ 11,837,409	$ 11,837,409	

Total Construction Cost	$ 11,837,409
Phase 2 Costs	$ 841,021
Phase 1 Base Construction Cost	$ 10,996,388
Total Cost per Square Foot (63,321 SF)	$ 186.94
Phase 2 Premium	$ 13.28
Phase 1 Base Cost per Square Foot	$ 173.66

Phase 2						
General Conditions	3	mos	$ 52,000.00	$ 30,000.00	$ 156,000.00	$ 156,000
Demolition						
- Site	75,000	sf	$ 0.75		$ 56,250.00	
- Building	49,000	sf	$ 2.50		$ 122,500.00	$ 178,750
Site	33%				$ 677,700.00	$ 223,641
Landscape	33%				$ 525,000.00	$ 173,250
						$ 731,641
CONTINGENCY @ 10%						$ 73,164
SUBTOTAL						$ 804,805
BOND at 1.5%						$ 12,072
MARK UP @ 3%						$ 24,144
Phase 2 TOTAL						$ 841,021
					$ 13.28	

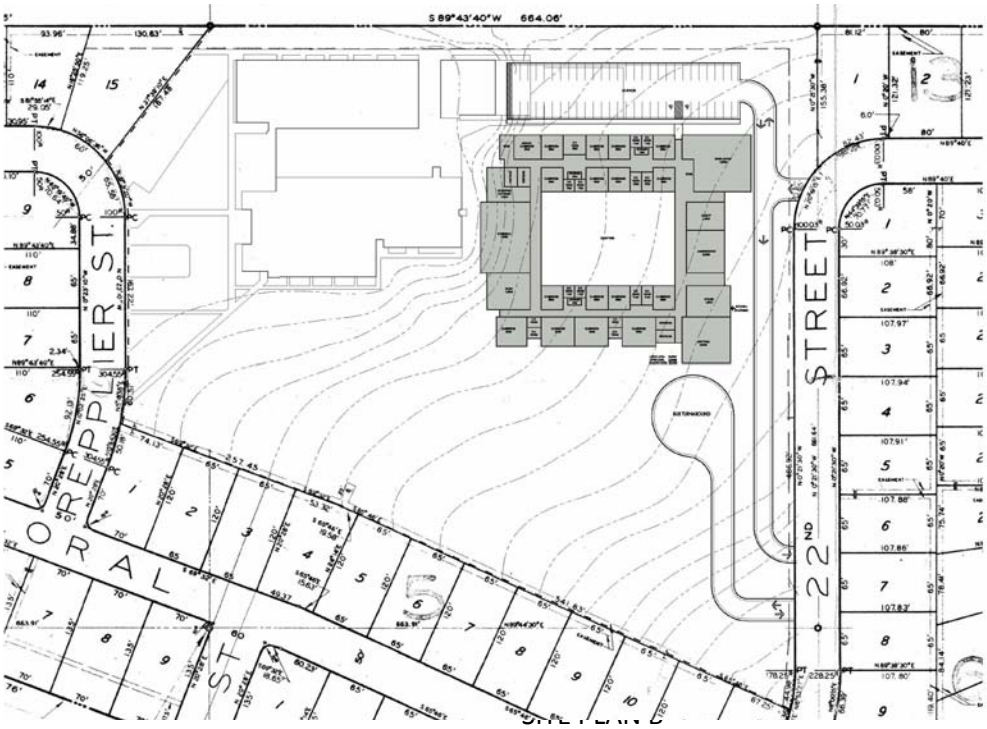
Using the 1.41% cost ratio from the original Bond Budget, the total project cost would be $16,673,292.

The final construction budget will be adjusted to meet the budgetary needs of the BVSD, the final program, building and site design as developed during the design phases.

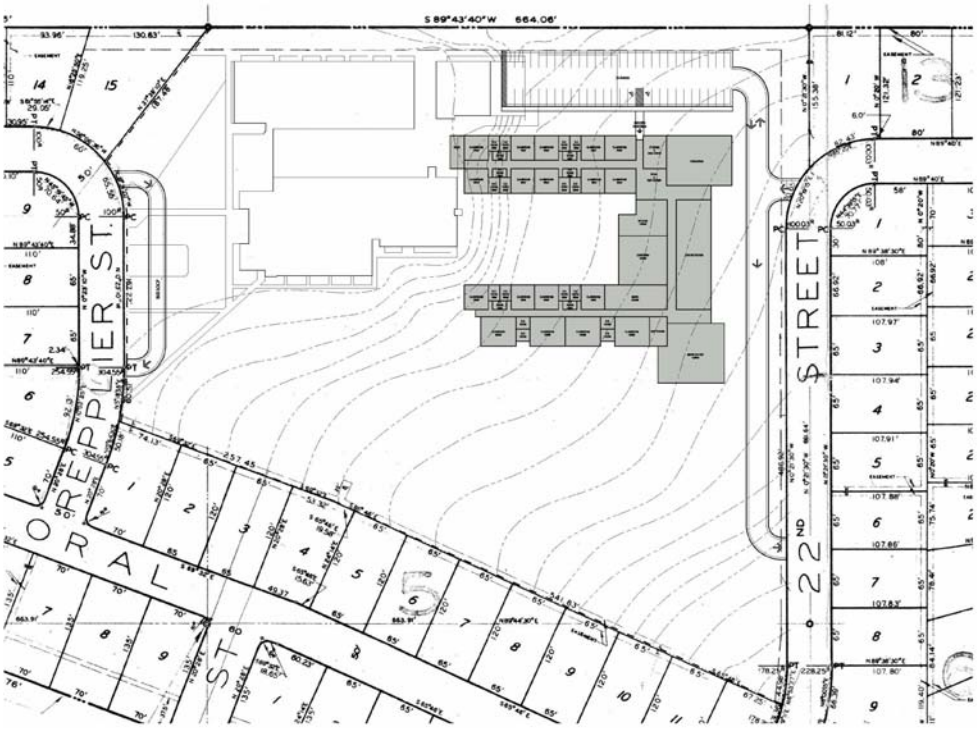
APPENDIX

SITE PLAN OPTIONS

SITE PLAN A

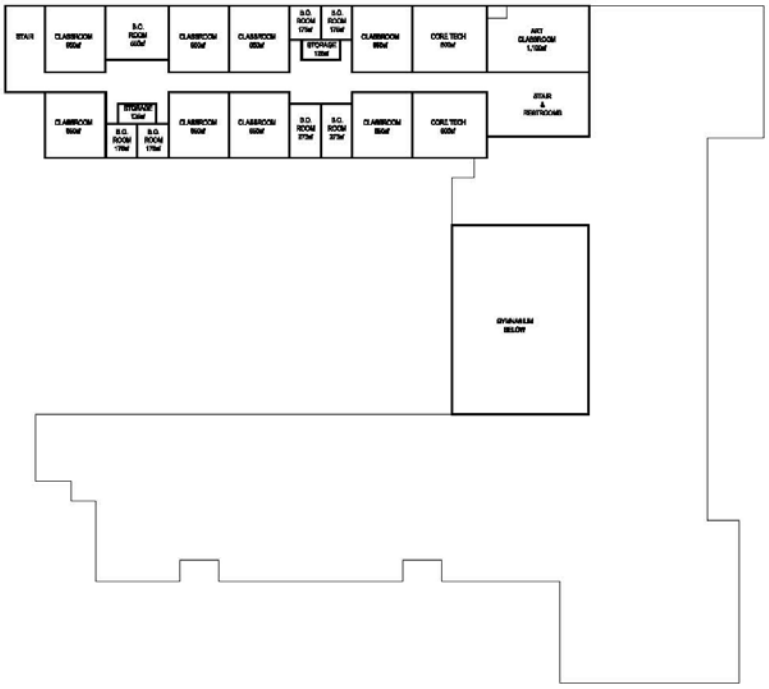


SITE PLAN B

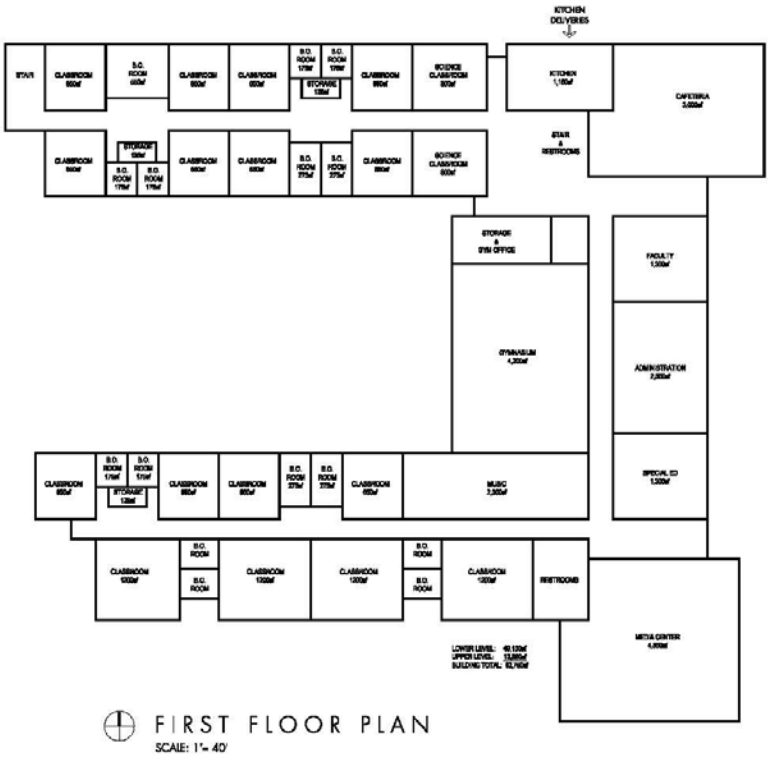


SITE PLAN C

FLOOR PLAN OPTIONS

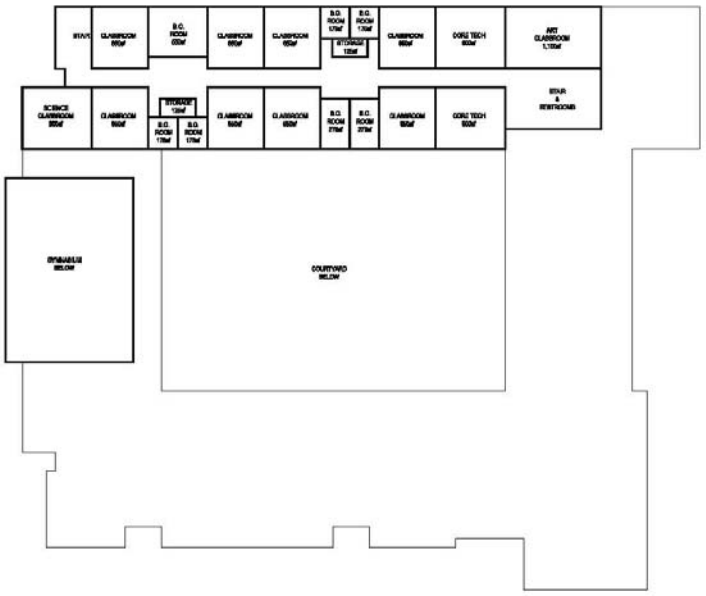


SECOND FLOOR PLAN
SCALE: 1"= 40'

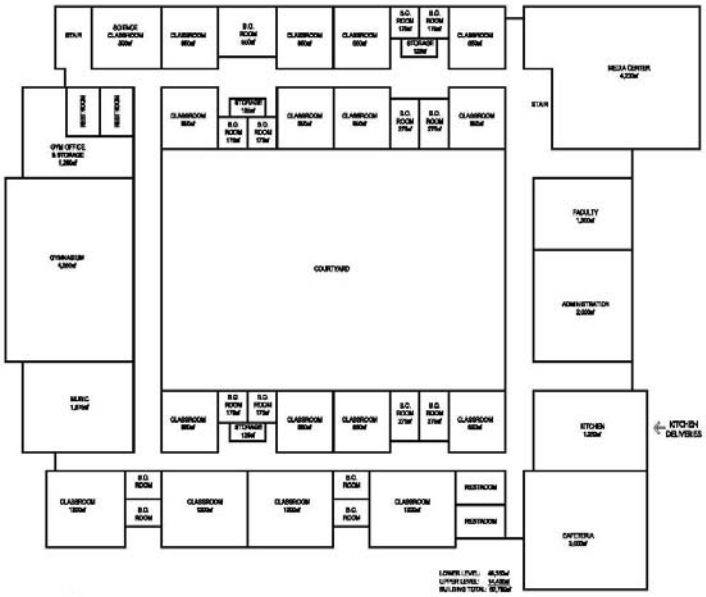


FIRST FLOOR PLAN
SCALE: 1"= 40'

FLOOR PLAN OPTION A

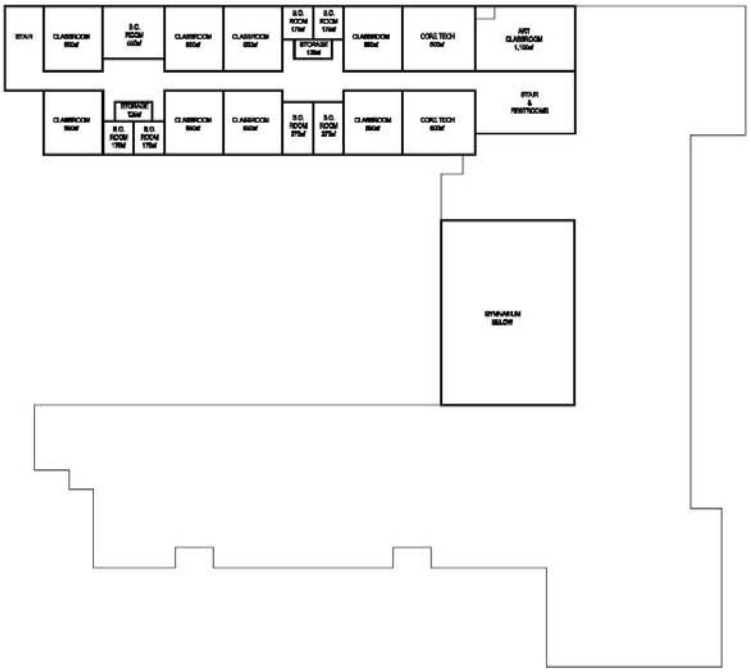


SECOND FLOOR PLAN
SCALE: 1"= 40'

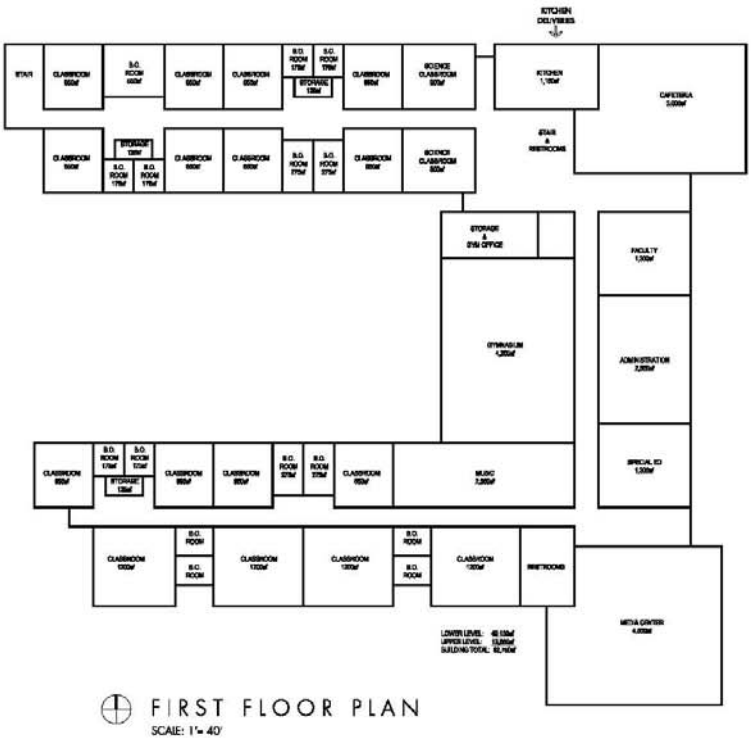


FIRST FLOOR PLAN
SCALE: 1"= 40'

FLOOR PLAN OPTION B



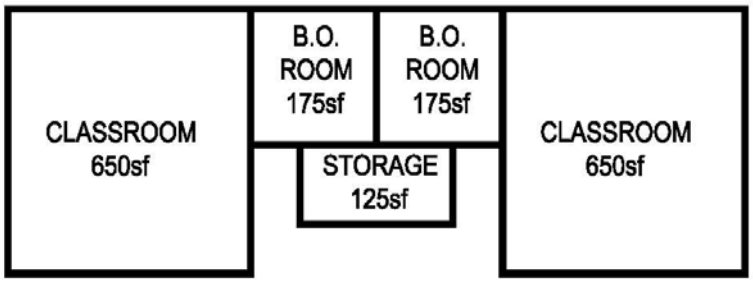
SECOND FLOOR PLAN
SCALE: 1"= 40'

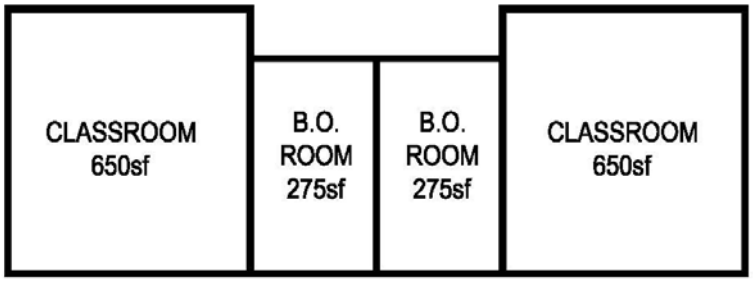


FIRST FLOOR PLAN
SCALE: 1"= 40'

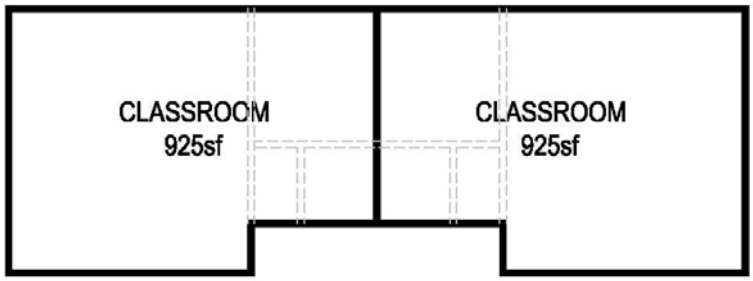
FLOOR PLAN OPTION C

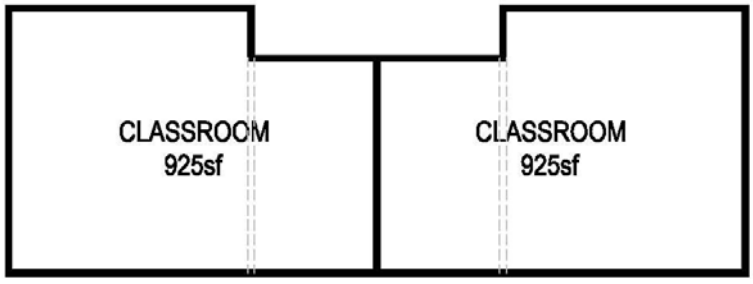
CLASSROOM POD OPTIONS





CLASSROOM POD W/ BREAKOUT ROOMS
SCALE: 1/16"= 1'-0"





CLASSROOM POD FUTURE
SCALE: 1/16"= 1'-0"

BOULDER VALLEY SCHOOL DISTRICT

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