School Name: Bowness High School
Location: 4627 - 77th Street N.W., Calgary, Alberta

Region: South
Jurisdiction: Calgary board of Education
District No 19

Grades: 10 to 12

School Code: 9847
Facility Code: 1657

Superintendent: Dr. Donna Michaels
Contact Person: Leanne Soligo
Telephone: 214-1123

School Capacity: 1525

Building Section	Year of Compl.	No. of Floors	Gross Bldg Area (Sq.M.)	Type of Construction (i.e., structure, roof, cladding)	Description of Mechanical Systems (incl. major upgrades)	Comments/Notes
Original Building	1956	2	2,198.60	Wood frame walls and roof Stucco cladding		
Additions/ Expansions						
	1959	2	3,719.3	Concrete frame walls; roof structure of precast concrete T's Brick cladding		
	1964	2	7,958.7	Concrete frame walls roof structure of precast concrete T's Brick cladding		
	1972	1	1158.1	Library infill concrete roof		
	1986	1	1545.5	New gymnasium concrete block walls, steel truss and steel deck roof		
			16,579.60			

Evaluator's Name: Doug Cambell
& Company: Carruthers & Associates Architects Inc

Upgrading/ Modernization (identify whether minor or major)						
Portable Struct. (identify whether attached/perman. or free-standing/ relocatable)						

List of Reports/ Supplementary Information	

	Evaluation Components	Summary Assessment	Estim. Cost
1	**Site Conditions**	New fences, revised site drainage, new hard surfaces required.	$137,000
2	**Building Exterior**	New Windows & Doors required as well as various repairs. Extensive roofing required.	$749,000
3	**Building Interior**	Extensive new flooring, new doors, HC elevator required.	$425,000
4	**Mechanical Systems**	New central boiler plant required to replace old and scattered boilers. For the 1956 & 1959 portions and shops in the 1964 wing, ventilation upgrades required. Some added roof top units in need of replacement.New control technology to be incorporated.	$1,305,000
5	**Electrical Systems**	New panelboards, branch circuit wiring, upgrades to existing fire alarm system, and lighting should be replaced to provide new life cycle and system reliability. Energy efficiency performance will be improved with new lighting and LED exit signs.	$894,500
6	**Portable Buildings**	N/A	$0
7	**Space Adequacy:**		
	7.1 Classrooms	Surplus: 234.6m2	
	7.2 Science Rooms/Labs		
	7.3 Ancillary Areas	Surplus: 300m2	
	7.4 Gymnasium	Deficiency: 165.8m2	
	7.5 Library/Resource Areas	Surplus: 85.6m2	
	7.6 Administration/Staff Areas	Surplus: 424.9m2	
	7.7 CTS Areas	Surplus:966.2m2m2	
	7.8 Other Non-Instructional Areas (incl. gross-up)	Surplus: 206.1m2	
	Overall School Conditions & Estim. Costs		$3,510,500

Section 1	Site Conditions	Rating	Comments/Concerns	Estim. Cost
1.1	**General Site Conditions**			
1.1.1	Overall site size.	4	Total site area is 43,725.51 sq. m. (4.37 hectares = 10.80 acres). This is insufficient for a high school of this size. A site of 15 - 17 acres is needed to provide for larger athletic fields and parking lots.	
1.1.2	Outdoor athletic areas.	4	2 soccer/football fields Condition is good, due to underground irrigation system.	
1.1.3	Outdoor playground areas, including condition of equipment and base.		N/A	
1.1.4	Site landscaping.	4	The lawns around the east and north entries are worn bare by heavy traffic of students arriving and leaving. Larger paved areas are required in both locations.	
1.1.5	Site accessories (i.e., perimeter and other fencing, guard rails, bike stands, flag poles).	3	Perimeter pipe rail and chain link fences are leaning and rusted, and broken in some locations. Bicycle racks are bent and broken. More durable models are needed.	$25,000
1.1.6	Surface drainage conditions (i.e., drains away from building, signs of ponding).	3	Original (1956) wing: grade next to building drains from the sidewalk toward the foundations at the south and east sides. 1964 wing: Northeast roof drain empties next to the building foundations, with no splash pads See 2.3.4 below.	$15,000
1.1.7	Evidence of sub-soil problems.	N/A	None	
1.1.8	Safety and security concerns due to site conditions.	3	Broken fence sections are unsafe. Retaining wall at the south of the south parking lot is failing. East sidewalk - concrete pavers are lifting, causing trip ledges. North sidewalks are heaving due to underlying tree roots.	$20,000
Other		4	Recessed entries are not visible from the street. Some have been vandalized.	

Section 1	Site Conditions	Rating	Comments/Concerns	Estim. Cost
1.2	**Access/Drop-Off Areas/Roadways/Bus Lanes**			
1.2.1	Vehicular and pedestrian access points (i.e., size, number, visibility, safety).	4	Pedestrian access points become congested before and after classes.	
1.2.2	Surfacing of on-site road network (note whether asphalt or gravel).	3	Asphalt/Gravel Surface is cracked - needs resurfacing	$10,000
1.2.3	Bus lanes/drop-off areas (note whether on-site or off-site).	4	None - street drop-off only.	
1.2.4	Fire vehicle access.	4	2 streets	
1.2.5	Signage.	3	Main entry sign needed. Need to Identify Entry	$4,000
Other				

Section 1	Site Conditions	Rating	Comments/Concerns	Estim. Cost
1.3	**Parking Lots and Sidewalks**			
1.3.1	Number of parking spaces for staff, students and visitors (including stalls for disabled persons).	4	77 staff stalls 32 student stalls These numbers are inadequate for a school of this size.	
1.3.2	Layout and safety of parking lots.	3	Ramp down to 77th Street N.W. is too steep. When it is icy in winter cars can slide into oncoming traffic.	$8,000
1.3.3	Surfacing and drainage of parking lots (note whether asphalt or gravel).	3	North parking lot catch basin empties into a dry sump. This overflows in heavy rains and snowmelts. Parking along the west drive is gravel surface. This is rutted and becomes muddy in summer and icy in winter.	$15,000
1.3.4	Layout and safety of sidewalks.	3	As noted above, the east and north walks should be widened to improve access and provide a waiting/gathering area for students arriving or waiting for buses.	$40,000
1.3.5	Surfacing and drainage of sidewalks (note type of material).	4	Concrete	
1.3.6	Curb cuts and ramps for barrier free access.	4	No curb cuts	
Other				
	Overall Site Conditions & Estimated Costs			$137,000

Section 2	Building Exterior	Rating	Comments/Concerns		Estim. Cost
2.1	**Overall Structure**		**Bldg. Section**	**Description/Condition**	
2.1.1	Floor structure and beams (i.e., signs of bending, cracking, heaving, settlement, voids, rust, stains).	FI	1959	NE floor slab is settling - slopes down toward the exterior wall	
		4	1956	Slab at exterior wall towards street	
2.1.2	Wall structure and columns (i.e., signs of bending, cracking, settlement, voids, rust, stains).	FI	1959	East wall: Concrete columns are cracked - vertical shear cracks on the side, and network cracks on the outer faces indicate bowing and consequential eccentric loading of these columns. Separation of concrete columns from brick infill panels indicated differential movement of the wall.Refer to Photos # 78,79,80	
		FI	1964	Wood and auto shops: separation of concrete columns from concrete block walls indicates differential settlement. Refer to Photo #50	
2.1.3	Roof structure (i.e., signs of bending, cracking, voids, rust, stains).		1959	East wall: Two concrete roof beams show horizontal cracks near their lower edges, indicating bending stress. One beam has a chunk of concrete broken away, partially exposing the lower reinforcing bar.Refer to Photos # 78,80	
		FI			
Other					

Section 2	Building Exterior	Rating	Comments/Concerns		Estim. Cost
2.2	**Roofing and Skylights** ***Identify the availability of an up-to-date inspection report or roofing program. Note if roof sections are of different ages and/or in varying states of repair.***		**Bldg. Section or Roof Section**	**Description/Condition/Age**	
2.2.1	Based on the inspection report (and to the extent possible, direct observation), assess and rate roof conditions and estimate costs for required improvements (i.e., covering materials, membrane, insulation, other components).	4 4 4 3 4 3 4	 New 1956 Original 1959 Addition 1964 Addition 1972 Addition 1986 Addition	Roofing summary report attached Several sections are overdue for roof replacement: original 1956 wing and 1984 addition. Music room NW corner has a water stain from a roofing leak. Replaced 1995-SBS Modified-1026m2 Replaced 1986-SBS Modified-309m2 Section I,J,K,L-Replaced in 1985-1869m2 Section A,B-Replaced 1990-SBS Modified-847m2 Sectionn C,E,F,G,H-Replaced in 1963,1967&1969-5233m2 Section M-Replaced in 1985-666m2 Section D-Replaced in 1980-978m2 Section R & S-Original 1415m2	$350,000
2.2.2	Roof accessories (i.e., ladders, stairs, hatches, masts, exhaust hoods, chimneys, gutters, downspouts, splashpads).	4		Drains are not located at the low points of the roof (possibly because of structural settlement), causing some ponding.	
2.2.3	Control of ice and snow falling from roof.	N/A			
2.2.4	Skylights (i.e., signs of distress, leaks, ice build-up, condensation, deteriorated materials/seals).	N/A			
Other					

Section 2	Building Exterior	Rating	Comments/Concerns		Estim. Cost
2.3	**Exterior Walls/Building Envelope**		**Bldg. Section**	**Description/Condition**	
2.3.1	Exterior wall finishes (i.e., signs of deterioration, cracks, brick spalling, effluorescence, water stains).	3	1956	Stucco finish has a network of hairline cracks on all walls, indicating movement of the walls or of the supporting mesh. Stucco is cracked and spalling at window heads on the east, west and south sides, allowing water penetration.	$35,000
			1964	Brick at upper level of Auxiliary Gym (accessible from roof) is breaking around a vent.	
2.3.2	Fascias, soffits, parapets (i.e., signs of looseness, stains, rust, peeling paint).	3	1956	Wood fascias are peeling extensively on all sides.	$10,000
2.3.3	Building envelope (i.e., evidence of air infiltration/ exfiltration through the exterior wall or ice build up on wall, eaves, canopy).	3	1956	West wall: exfiltration from washrooms is causing cracking and staining of the stucco Water penetration at all window headers Extensive penetration-streetsied mainfloor	Incl in 2.3.1
2.3.4	Interface of roof drainage and ground drainage systems.	4	1956	Southwest wall: roof drain through canopy is disconnected from drainpipe.	
		4	1964	Northeast roof drain empties onto grade next to the building foundations, with no splash pads - Site should be graded to channel water away, or drain should be connected to storm sewer.	
2.3.5	Inside faces of exterior walls (i.e., signs of cracks, water stains, dust spots).	3	1956	Interior plaster walls are stained and damaged by water leaking into the building around the window frames. N and S stairwells have cracked plaster and peeling paint.	
		FI	1959	Deflection of second floor slab at junction with the east beam.	$10,000
Other					

Section 2	Building Exterior	Rating	Comments/Concerns		Estim. Cost
2.4	**Exterior Doors and Windows**		**Bldg. Section**	**Description/Condition**	
2.4.1	Doors (i.e., signs of deterioration, rusting metal, glass cracks, peeling paint, damaged seals, sealed unit failure).	3 3 3	1956 1964 1986 Addition	Original wood doors are battered and have peeling paint. Weather stripping is gone. 25,000 West-facing workshop and art room overhead wood doors are worn and peeling, and their tracks, rollers and latches require frequent maintenance. They should be replaced. 65000 Gymnasium: SE ans SW exit doors are bent and do not close properly.15,000	$105,000
2.4.2	Door accessories (i.e., latches, hardware, screens, locks, alarms, holders, closers, security devices).	3	1956	All hardware is original. It has exceeded its useful life and should be replaced.	In Above
2.4.3	Exit door hardware (i.e., safety and/or code concerns).	3	1956 1986 Addition	Exit hardware is original and most is worn out. Gymnasium: SE and SW panic bars do not latch	$4,000
2.4.4	Windows (i.e., signs of deterioration, rusting metal, glass cracks, peeling paint, damaged seals, sealed unit failure).	3 3	1956 1959 & 1964	Fixed windows are original wood-frame unsealed double-pane. Opening windows have been replaced with aluminum double sealed units. Original frames are extensively peeled and worn, on both exterior and interior. Several have condensation between panes and leaks around the frames. Sealed double-pane units in aluminum frames. Some have moisture and mould growth between panes, indicating failure of the seals. Also, many have water stains on sills, indicating condensation and failure of exterior caulking. Clerestory windows in the corridor of the new addition are leaking, allowing water into the wall system and causing water stains on the undersides of the supporting beams.	$235,000
2.4.5	Window accessories (i.e., latches, hardware, screens, locks, alarms, holders, closers, security devices).	3	1956, 1959 & 1964	Weather seals missing from aluminum windows. It is not clear whether they were built this way or whether the seals have been lost. Many opening handles are broken off.	In Above
2.4.6	Building envelope (i.e., signs of heavy condensation on doors or windows).	3	1956 & 1959	Condensation on Doors and windows	In Above
Other					
	Overall Bldg Exterior Condition & Estim Costs				$749,000

Section 3	Building Interior - Overall Conditions	Rating	Comments/Concerns		Estim. Cost
3.1	**Interior Structure**		**Bldg. Section**	**Description/Condition**	
3.1.1	Interior walls and partitions (i.e., signs of cracks, spalling, paint peeling).		1956	Upper floor corridor walls cracked at north end near connection to the 1959 wing.	
			1964	Step cracks in concrete block walls in wood and art shops near exterior wall	
		FI		Stretching of caulking in an expansion joint in brick east corridor wall at junction between the 1959 and 1964 wings indicates some differential movement.	Refer to 2.1.2
3.1.2	Floors (i.e., signs of cracks, heaving, settlement).		1956	Upper floor library has a prominent ridge and is undulating, perhaps over an interior wall below.	
		4	1959	Quarry tile in main entry vestibule - many loose and lifting tiles. No provision has been made for expansion joints, and slab may be moving. Refer to Photo # 28	
		3			$8,000
		4	1964	Concrete floors in the wood and auto shops are cracked. NW girls' washroom floors cracked both floors	
Other					
3.2	**Materials and Finishes**		**Bldg. Section**	**Description/Condition**	
3.2.1	Floor materials and finishes.		1956	Vinyl asbestos tile in classes and corridors, lower floor. 75,000 Linoleum floor in weight room (old gymnasium) is worn. A wood floor would be better.35,000 Carpet in upper floor library & corridor is worn and frayed, and overdue for replacement.	
		3			$167,000
		3	1964	Music Room carpet worn and due for replacement; Library carpet frayed - needs repair. 22,000 Theatre carpet and wood stage both worn.35,000	
3.2.2	Wall materials and finishes.		1956	Painted plaster in classes and corridors; Weight room has wood panelling	
		4			
			1959 &	Corridor walls brick and GWB; Classroom walls - some brick, some GWB	
		3	1964	Music Room (with brick walls) needs further acoustic dampers - perhaps panels suspended from ceiling.	$18,000
		2		10,000 Music practice room walls badly damaged by vandalism. 8000 Refer to Photos 53, 54,55, & 56	
3.2.3	Ceiling materials and finishes.		1956	Corridor ceilings painted plaster; Classroom ceilings acoustic tile with tentest borders Old gymnasium has new prefinished corrugated metal ceiling.	
		4			
			1959 &	Suspended T-bar and acoustic tile ceilings in classes and corridors. Some tiles are loose or missing. or	
		4	1964	water stained	

Section 3	Building Interior - Overall Conditions	Rating	Comments/Concerns		Estim. Cost
3.2	**Materials and Finishes (cont'd)**		**Bldg. Section**	**Description/Condition**	
3.2.4	Interior doors and hardware.	3 4	1956 1959 & 1964	Original wood doors, with original round knobs - no lever handles for handicapped use. Exit stair doors no label. Corridor doors are metal, in steel frames with closers, magnetic hold-opens and panic bars. Classroom doors are varnished wood.	$50,000
3.2.5	Millwork	4 4	1956 1959 & 1964	Original cabinets of wood with p-lam tops. Most is well worn. Most blackboards are original, in wood frames. Some classes have supplementary white boards. Typically cabinets are in good condition. Some Classes have both blackboards and small whiteboards. Home Economics room: upper cabinets interfere with sight lines in class.	
3.2.6	Fixed/wall mounted equipment (i.e., writing boards, tackboards, display boards, signs).	3		Black/green boardsd need replacement	$1,000
3.2.7	Any other fixed/mounted specialty items (i.e., CTS equipment, gymnasium equipment).	3	1956	Lockers are battered and many have broken, insecure lock fittings. CTS equipment in shops is old some beyond retrofit	$25,000
3.2.8	Washroom materials and finishes.	3 4	1956 1959 & 1964	VAT flooring, mosaic tile bases of urinals, painted plaster ceilings Brick walls, mosaic tile floors, painted GWB ceilings	$6,000
Other					

Section 3	Building Interior - Overall Conditions	Rating	Comments/Concerns		Estim. Cost
3.3	**Health and Safety Concerns --- *Intent is to identify renovations considered necessary to meet applicable codes, primarily due to safety concerns. Basis of evaluation should be an up-to-date inspection report from the authority having jurisdiction together with direct observations as appropriate. Evaluator should note if in his opinion a comprehensive code evaluation is required.***		**Bldg. Section**	**Description/Condition**	
3.3.1	Building construction type - combustible or non-combustible, sprinklered or non-sprinklered.	N/A	1956 1959 & 1964	Combustible: non-sprinklered Non-combustible frame, but with some combustible interior walls; non-sprinklered.	
3.3.2	Fire separations (i.e., between buildings, wings, zones if non-sprinklered).	FI FI	1956 1959 & 1964	No separations are provided to code standards - doors are wood, many without latches and panic bars, and partitions are wood with plain glass. Fire separations are generally built to code standards. However, some door swings are wrong and exit signs point the wrong way. Travel Distances may be an issue.	
3.3.3	Fire resistance rating of materials (i.e., corridor walls and doors).	4		Corridor walls are brick and GWB. Doors in corridors are steel in steel frames with wired glass.	
3.3.4	Exiting distances and access to exits.	FI		Very few exit stairs lead outside, but rather lead to ground floor corridors or vestibules. Further code study is needed.	
3.3.5	Barrier-free access.	3		Access into the ground floor is available, but there is no elevator and classroom doors do not meet accessibility standards in dimensions or hardware. Elevators would be required for HC access.	$80,000
3.3.6	Availability of hazardous materials audit (i.e., evidence of safety concerns with respect to asbestos, PCB's, chemicals).	3	Asbestos report prepared by Environmental Health Professionals for Calgary Board of Education - September, 1997 1956	Ventilation cabinets in classrooms have asbestos board panels. Asbestos is also present in floor tiles and some science room countertops.	$70,000
3.3.7	Other health and safety concerns (i.e., evidence of excessive noise conditions, air quality problems)	FI	1964	Ventilation of auto shop and art room are only fair. Music room is very cool. Computer graphics room is very warm - ventilation is inadequate. Acoustic separation of classes is poor	
Other					
	Overall Bldg Interior Condition & Estim Costs				$425,000

Section 4	Mechanical Systems	Rating	Comments/Concerns		Estim. Cost
4.1	**Mechanical Site Services**				
4.1.1	Site drainage systems (i.e., surface and underground systems, catch basins).	4		Site drainage consists of grading to catch basins and swales to tie to street services.	
4.1.2	Exterior plumbing systems (i.e., irrigation systems, hose bibs).	4		Building has exterior hose bibbs.	
4.1.3	Outside storage tanks.	N/A		Not applicable.	
Other					
4.2	**Fire Suppression Systems**		**Bldg. Section**	**Description/Condition**	
4.2.1	Fire hydrants and siamese connections.	4		Street hydrant is located in front of school.	
4.2.2	Fire suppression systems (i.e., pumps, sprinklers, piping, reservoirs, hoses, stand pipes, CO2 systems).	4		Fire protection consists of 40 mm hose and valve system in cabinets tied to building service. Small sprinkler zone provided for stage in multipurpose room.	
4.2.3	Hand extinguishers, blankets and showers (i.e., in CTS areas).	4		Hand extinguishers located throughout.	
4.2.4	Other special situations (e.g., flammable storage areas, science labs, CTS areas).	4		Science labs, CTS, etc. have only fire extinguisher protection.	
Other					

Section 4	Mechanical Systems	Rating	Comments/Concerns		Estim. Cost
4.3	**Water Supply and Plumbing Systems**		**Bldg. Section**	**Description/Condition**	
4.3.1	Domestic water supply (i.e., pressure, volume, quality - note whether municipal or well supply).	4	All Sections	100 mm service from street service to 1957 portion with 50 mm meter to service 1957 and 100 mm service to serve 1959 and 1965 additions.	
4.3.2	Water treatment system(s).	N/A		Not applicable.	
4.3.3	Pumps and valves (including backflow prevention valves).	5		Backflow protection on all services recently completed.	
4.3.4	Piping and fittings.	4		All piping on domestic is copper and is in good shape for age of facility.	
4.3.5	Plumbing fixtures (i.e., toilets, urinals, sinks)	4		Fixtures are adequate, require on going maintenance as necessary.	
4.3.6	Domestic hot water system (i.e., heater, storage tanks, failure alarms, pressure, volume, recirculation).	4		One self contained heater in 1957 boiler room, one 450,000 BTUH heater and storage tank in 1959 boiler room. One 460,000 BTUH heater and storage tank in 1963 boiler room.	
4.3.7	Sanitary and storm sewers, including sumps and pits (note whether sewage system is municipal or septic).	4		Storm and sanitary tie to municipal systems.	
Other					

Section 4	Mechanical Systems	Rating	Comments/Concerns		Estim. Cost
4.4	**Heating Systems**		**Bldg. Section**	**Description/Condition**	
4.4.1	Heating capacity and reliability (including backup capacity).	4		1957 wing - One boiler installed in 1992, low-pressure steam to serve 1957 wing. Capacity 3,750 MBH, Rite boiler serial #23158. No back-up.	
		3		The 1959 Addition - Has two boilers of low pressure steam design. Each of 1,500 MBH capacity. Steam is used to heat hot water for distribution to building heating radiation and coils. Units are old and beyond expected life span.	$135,000
		3		1963 Addition - Has two original 150 horsepower forced draft boilers of hot water design. This plant feeds all of 1963 addition plus 1986 gym addition and associated renovations operating satisfactorily, however have operated beyond expected life span.	$210,000
4.4.2	Heating controls (including use of current energy management technology.	3		Controls are generally pneumatic and for the most part old. No current technology in use.	See 4.7.1
4.4.3	Fresh air for combustion and condition of the combustion chimney.	4		Fresh air for combustion and masonry chimney are adequate.	
4.4.4	Treatment of water used in heating systems.	4		Treatment systems are current.	
4.4.5	Low water cutoff/pressure relief valves and failure alarms (i.e., hot water heating).	4		In place and satisfactory.	

Section 4	Mechanical Systems	Rating	Comments/Concerns		Estim. Cost
4.4.6	Heating air filtration systems and filters.	4		Filtration by means of fiberglass filters.	
4.4.7	Heating humidification systems and components.			Not applicable.	
4.4	**Heating Systems (cont'd)**		**Bldg. Section**	**Description/Condition**	
4.4.8	Heating distribution systems (i.e., piping, ductwork) and associated components (I.e., diffusers, radiators).	3		1957 portion has steam and condensate distribution which is old and should be replaced.	See 4.4.11
		4		1959, 1963 and subsequent renovations is all hot water distribution and is generally in good shape. Radiation cabinets are subject to wear and tear.	
4.4.9	Heating piping, valve and/or duct insulation.	4		Piping and duct insulation is in place and generally acceptable.	
4.4.10	Heat exchangers.	3		Heat exchanger for 1959 wing is old and should be replaced. Glycol heat exchanger added for Beauty culture was added in 1986 and is okay.(1959 unit only)	$10,000
4.4.11	Heating mixing boxes, dampers and linkages.	3		Unit ventilators in 1957 portion are old and should be replaced.	$90,000

Section 4	Mechanical Systems	Rating		Comments/Concerns	Estim. Cost
		4		1959, 1963 and 1986 portions generally okay.	
4.4.12	Heating distribution/circulation in larger spaces (i.e., user comfort, temperature of outside wall surfaces).	3		Many areas are subject to heating complaints which in part are subject to control problems and age of equipment.	See 4.7.1
4.4.13	Zone/unit heaters and controls.	3		Generally unit heaters and entrance heaters are operating satisfactorily, however , some areas specifically the Industrial Arts, need to be upgraded to improve comfort levels.(I.A. only)	$20,000
Other					
4.5	**Ventilation Systems**		**Bldg. Section**	**Description/Condition**	
4.5.1	Air handling units capacity and condition.	3		1957 portions depends on unit ventilators for ventilation needs. Air is exhausted from school on a continuous basis.	$100,000
		3		1959 portions has several systems (7 in total). Unit serving classrooms is adequate to provide sufficient air standards, the multipurpose unit has insufficient air flow for the purpose, unit serving music room have air conditioning and perform okay, but is 28 years old. Three other units are 100% outside air serving cafeteria, drama room and adjoining spaces. A newer system (1986) was provided to ventilate the beauty culture area, one final unit is a gas fired heat/cool unit serving the kitchen (this unit is old).	$150,000
		3		The 1963 portion is served by two (2) indoor multi-zone air handling units (original equipment) units are complete with hot water coils, and free cooling capability; no mechanical cooling. In addition there is a 100% hot water bypass coil air supply unit providing air to the automotive shops and a separate unit supplying air to the wood working shop. In 1972 a library area unit was added in the center of the 1963 wing and this was provided with a roof mounted air conditioning unit with recirculation and free cooling in addition to mechanical cooling. all of these air handling systems are old and air side zoning is inefficient.	$310,000

Section 4	Mechanical Systems	Rating		Comments/Concerns	Estim. Cost
		4		In 1986 the new gymnasium was added. All systems operate effectively.	
4.5.2	Outside air for the occupant load (if possible, reference CFM/occupant).	3		Outside air per occupant varies greatly throughout, some areas are excellent, however main classrooms are very poor.	See 4.5.1
4.5.3	Air distribution system (if possible, reference number of air changes/hour).	3		Air distribution systemsare generally low with most classrooms at 4 or 5 air changes at best.	See 4.5.1
4.5.4	Exhaust systems capacity and condition.	2		Exhaust systems are poor in beauty culture and automotive shops.	$80,000
		4		Remaining areas, including kitchens are considered okay.	
4.5.5	Separation of out flow from air intakes.	2		Problem with intake on 1963 main intake location as to proximity to boiler stacks.	$10,000
4.5.6	Special/dedicated ventilation and/or exhaust systems (i.e.. Kitchen, labs, CTS areas).	4		Labs have fume hoods and or exhaust fans, kitchen acceptable, only problems are as noted under 4.5.4.	
Other					

Section 4	Mechanical Systems	Rating	Comments/Concerns		Estim. Cost
4.5	**Ventilation Systems (cont'd)**		**Bldg. Section**	**Description/Condition**	
	Note: Only complete the following items if there are separate ventilation and heating systems.				
4.5.7	Ventilation controls (including use of current energy management technology).	3		Most air systems are based on pneumatic controls, do not utilize current energy management technology.	See 4.7.1
4.5.8	Air filtration systems and filters.	4		Systems all have 50 mm fiberglass filters.	
4.5.9	Humidification system and components.	N/A		No humidification provided.	
4.5.10	Heat exchangers.	N/A		Not applicable.	
4.5.11	Ventilation distribution system and components (i.e., ductwork, diffusers, mixing boxes, dampers, linkages).	4		Generally ductwork as currently incorporated is satisfactory.	
Other					

Section 4	Mechanical Systems	Rating	Comments/Concerns		Estim. Cost
4.6	**Cooling Systems**		**Bldg. Section**	**Description/Condition**	
4.6.1	Cooling system capacity and condition (i.e., chillers, cooling towers, condensers).	3		Cooling is only provided on kitchen make-up, library and music room, all other areas have no cooling. Cooling should be considered for all classroom areas.	$190,000
4.6.2	Cooling distribution system and components (i.e., ductwork, diffusers, mixing boxes, dampers, linkages)			Not applicable.	
4.6.3	Cooling system controls (including use of current energy management technology).	2		No current energy management technology in place for existing cooling.	See 4.7.1
4.6.4	Special/dedicated cooling systems (i.e., labs, CTS areas).			Not applicable.	
Other		2		Lack of cooling is a current problem in business management classrooms and computer rooms, and also in beauty culture.	See 4.6.1
4.7	**Building Control Systems**		**Bldg. Section**	**Description/Condition**	
4.7.1	Building wide/system wide control systems and/or energy management systems.	3		Building control systems are pneumatic, no energy management on most systems, getting old, poor control of air systems, and heating, major alarms are tied to offsite monitoring.	
	Overall Mech Systems Condition & Estim. Costs	3		Overall systems are old, have been added to in many areas without integration of system types, and basic air change rates need to be improved with better controls.	$1,305,000
				Evaluator: Dale Way, Hemisphere Engineering	

Section 5	Electrical Systems	Rating	Comments/Concerns		Estim. Cost
5.1	**Site Services**		**Bldng. Section**	**Description/Condition**	
5.1.1	Primary service capacity and reliability (i.e., access, location, components, installation, bus sizes - note whether overhead or underground).	**4**		Existing main distribution is 1200 amps, 277/480 volts, 3 phase, 4 wire in good condition with room for expansion.	
		3		Existing site lighting consists of incandescent, HID mercury vapour and HPS fixture. New fixtures are required at most entrances and building perimeter. New lighting in parking area.	$8,500
5.1.2	Site and building exterior lighting (i.e., safety concerns).	**4**		Good condition.	
5.1.3	Vehicle plug-ins (i.e., number, capacity, condition).				
Other					
5.2	**Life Safety Systems**		**Bldg. Section**	**Description/Condition**	
5.2.1	Fire and smoke alarm systems (i.e., safety concerns, up-to-date technology, regularly tested).	**3**		Existing fire alarm was upgraded to a Simplex 2120 in 1990 but has been in constant trouble and is not considered reliable. Existing system components and wiring need to be re-checked, properly terminated, identified, and reverified.	$35,000
5.2.2	Emergency lighting systems (i.e., safety concerns, condition).	**3**		Existing emergency lighting is connected onto emergency power and in good condition. Some additional lights though are required to be connected onto emergency power to meet 1997 code.	$5,000
5.2.3	Exit lighting and signage (i.e., safety concerns, condition).	**3**		Existing exit signs are generally all incandescent and range from over 40 years old to 12 years. All exit signs should be upgraded to LED and additional added to meet 1997 code.	$15,000
Other					

Section 5	Electrical Systems	Rating	Comments/Concerns		Estim. Cost
5.3	**Power Supply and Distribution**		**Bldng. Section**	**Description/Condition**	
5.3.1	Power service surge protection.	**N/A**	**1956**		
5.3.2	Panels and wireways capacity and condition.	**3**	**1956**	Existing panels and original main distribution are still used. All are obsolete and full. Replace all distribution with new to provide new life cycle, meet requirements for computer and convenience power as well as future.	$25,000
5.3.3	Emergency generator capacity and condition and/or UPS (if applicable).	**N/A**	**1956**		
5.3.4	General wiring devices and methods.	**3**	**1956**	Existing installation is generally over 40 years old and does not meet demands and needs replacement. Install new branch circuit wiring outlets to meet today's requirements. Provide new life cycle and allow for future.	$12,500
5.3.5	Motor controls.	**3**	**1956**	Several of the starters are over 35 years old, obsolete, and need replacement. Provide new starters and install onto MCC.	$4,500
Other		**F.I.**	**1956**	Provide additional control and wiring to meet mechanical upgrade.	
5.3	**Power Supply and Distribution**		**Bldng. Section**	**Description/Condition**	
5.3.1	Power service surge protection.	**N/A**			
5.3.2	Panels and wireways capacity and condition.	**3**	**1959**	Most of the panels are full and obsolete. Install new panels throughout to provide required circuits for computer, existing, convenience, and future throughout.	$30,000
5.3.3	Emergency generator capacity and condition and/or UPS (if applicable).	**N/A**	**1959**		
5.3.4	General wiring devices and methods.	**3**	**1959**	Existing installation is in poor condition. Several new outlets are required to meet classroom and corridor needs.	$18,000
5.3.5	Motor controls.	**3**	**1959**	Existing starters are near the end of their life and obsolete. Provide new MCC and replace all starters.	$7,500
Other		**F1**	**1959**	Provide additional control and wiring to meet mechanical upgrade.	

Section 5	Electrical Systems	Rating	Comments/Concerns		Estim. Cost
5.3	**Power Supply and Distribution**		**Bldng. Section**	**Description/Condition**	
5.3.1	Power service surge protection.				
5.3.2	Panels and wireways capacity and condition.	**3**	**1964**	Most of the panels are full and obsolete. Install new panels throughout to provide required circuits for computer, existing, convenience, and future throughout.	$70,000
5.3.3	Emergency generator capacity and condition and/or UPS (if applicable).	**4**	**1964**	Existing generator Markon diesel, 149 hours run time, 45 kW, 277/480 volts, 3 phase, 4 wire. Excellent condition.	

Section 5	Electrical Systems	Rating	Comments/Concerns		Estim. Cost
5.3.4	General wiring devices and methods.	**3**	**1964**	Existing installation is in fair condition. Several outlets are required to meet classroom and corridors needs.	$40,000
5.3.5	Motor controls.	**3**	**1964**	Existing starters are near the end of their life and obsolete. Provide new MCC and replace all starters.	$10,500
Other		**F1**	**1964**	Provide additional control and wiring to meet mechanical upgrade.	
5.3	**Power Supply and Distribution**		**Bldng. Section**	**Description/Condition**	
5.3.1	Power service surge protection.	**N/A**			
5.3.2	Panels and wireways capacity and condition.	**3**	**1972**	Several of the panels are in good condition with some space. Additional panel required to meet computer and convenience outlets.	$5,000
5.3.3	Emergency generator capacity and condition and/or UPS (if applicable).	**N/A**	**1972**		
5.3.4	General wiring devices and methods.	**3**	**1972**	Additional outlets required for convenience and other designated loads.	$3,500
5.3.5	Motor controls.	**4**	**1972**		
Other		**F1**	**1972**	Provide additional control and wiring to meet mechanical upgrade.	

Section 5	Electrical Systems	Rating	Comments/Concerns		Estim. Cost
5.3	**Power Supply and Distribution**		**Bldng. Section**	**Description/Condition**	
5.3.1	Power service surge protection.	**3**	**1987**	None in place.	$1,500
5.3.2	Panels and wireways capacity and condition.	**4**	**1987**		
5.3.3	Emergency generator capacity and condition and/or UPS (if applicable).	**N/A**	**1987**		
5.3.4	General wiring devices and methods.	**3**	**1987**	Add additional outlets for convenience and other designated loads.	$3,500
5.3.5	Motor controls.	**4**	**1987**		
Other		**F1**	**1987**	Provide additional control and wiring to meet mechanical upgrade.	
5.4	**Lighting Systems**		**Bldg. Section**	**Description/Condition**	
5.4.1	Interior lighting systems and components (i.e., illumination levels, conditions, controls).	**3**	1956	Existing lighting consists of surface mounted fluorescent fixtures c/w T-12 lamps and core and coil ballasts. Light levels from 30 - 60 FC. Lighting levels in gym range from 20 - 25 foot candles. All fixtures are near end of their life cycle. Ballasts are failing, replacement of lens ongoing and lighting levels are low and uneven. Replace with new recessed, framed FL. c/w T-8 lamps and electronic ballasts. Gym fixture to be retrofitted with T-8 lamps and electronic ballasts.	$52,500
5.4.2	Replacement of ballasts (i.e., health and safety concerns).	**3**	1956	Existing ballasts are at the end of their life cycle and may contain PCB's.	$5,000
5.4.3	Implementation of energy efficiency measures and recommendations.	**F1**	1956	None in place presently.	Cost identified under 5.4.1 and 5.2.3
Other					

Section 5	Electrical Systems	Rating	Comments/Concerns		Estim. Cost
5.4	**Lighting Systems**		**Bldg. Section**	**Description/Condition**	
5.4.1	Interior lighting systems and components (i.e., illumination levels, conditions, controls).	**3**	**1959**	Existing areas of the school consist of recessed 2 x 4 fluorescent, surface 1 x 4 FL, incandescent and mercury vapour HID. Recessed 2 x 4 FL will be retrofitted, HID will be replaced along with incandescent to FL. Lighting levels range from 5 - 10 fc cafeteria, corridors, 30 fc in gym.	$64,000
5.4.2	Replacement of ballasts (i.e., health and safety concerns).	**3**	**1959**	Existing ballasts may contain PCB's. Cost is for safe removal of ballasts.	$4,000
5.4.3	Implementation of energy efficiency measures and recommendations.	**F.I.**	**1959**	None in place presently.	Cost identified under 5.4.1 and 5.2.3
Other		**3**	**1959**	Existing multi-purpose and drama room theatre lighting is old and generally obsolete. Provide new lighting package.	$15,000
5.4	**Lighting Systems**		**Bldg. Section**	**Description/Condition**	
5.4.1	Interior lighting systems and components (i.e., illumination levels, conditions, controls).	**3**	**1964**	Existing lighting consists of 8 foot H.O. fluorescent in industrial arts, surface and pendant mounted fluorescent fixtures. Existing lighting levels are 45 fc in industrial arts to 30 - 50 fc in classrooms and 20 fc in corridors. All lighting will be replaced with new fluorescent fixtures c/w T-8 lamps and electronic ballasts.	$195,000
5.4.2	Replacement of ballasts (i.e., health and safety concerns).	**3**	**1964**	Existing ballasts are at the end of their life cycle and may contain PCB's. Cost for safe removal only.	$8,000
5.4.3	Implementation of energy efficiency measures and recommendations.	**F.I.**	**1964**	None in place presently.	Cost identified under 5.4.1 and 5.4.3
Other					
5.4	**Lighting Systems**		**Bldg. Section**	**Description/Condition**	
5.4.1	Interior lighting systems and components (i.e., illumination levels, conditions, controls).	**3**	**1972**	Existing lighting consists of surface fluorescent and incandescent lights. Lighting levels in Library 45 - 50 fc, beauty culture 30 - 55 fc. Existing lighting will be replaced and/or upgraded to new fluorescent fixtures c/w T-8 lamps and electronic ballasts.	$17,000
5.4.2	Replacement of ballasts (i.e., health and safety concerns).	**4**	**1972**		
5.4.3	Implementation of energy efficiency measures and recommendations.	**F.I.**	**1972**	None in place presently.	Refer to items 5.4.1 and 5.4.3
Other					
5.4	**Lighting Systems**		**Bldg. Section**	**Description/Condition**	
5.4.1	Interior lighting systems and components (i.e., illumination levels, conditions, controls).	**3**	**1987**	Existing lighting is fluorescent c/w T-12 lamps and core and coil ballasts. Existing fixtures will generally be retained and upgraded to T-8 lamps and electronic ballasts.	$9,000

Section 5	Electrical Systems	Rating	Comments/Concerns		Estim. Cost
5.4.2	Replacement of ballasts (i.e., health and safety concerns).	**4**	**1987**		
5.4.3	Implementation of energy efficiency measures and recommendations.	**F.I.**	**1987**	None in place presently.	Cost identified under 5.4.1 and 5.4.3
Other					
5.5	**Network and Communication Systems**		**Bldg. Section**	**Description/Condition**	
5.5.1	Telephone system and components (ie. capacity, reliability, condition).	**3**		Existing main phone switch is obsolete, additional handsets required and several need replacement.	$60,000
5.5.2	Other communication systems (ie. public address, intercom, CCTV, satellite or cable TV)	**3**		Several areas require new and replacement of existing. A new amplifier required to meet additional requirements.	$10,000
5.5.3	Network cabling (if available, should be category 5 or better).	**4**			
5.5.4	Network cabling installation (ie. in conduit, secured to walls or tables)	**4**			
5.5.5	Wiring and intercommunication closets (ie. size, security, ventilation/cooling, capacity for growth).	**4**			
5.5.6	Provision for dedicated circuits for network equipment (ie. hubs, switches, computers).	**2**		Existing system does not provide required dedicated circuits for existing and future needs. Provide new wiring and outlets for existing and new computer equipment.	$85,000
Other		**2**		Presently there is no local area network installed throughout the school. Provide two 4-cable drops in all classrooms and designated teaching areas.	$75,000

Section 5	Electrical Systems	Rating	Comments/Concerns		Estim. Cost
5.6	**Miscellaneous Systems**		**Bldg. Section**	**Description/Condition**	
5.6.1	Site and building surveillance system (if applicable).	**N/A**			
5.6.2	Intrusion alarms (if applicable).	**4**			
5.6.3	Master clock system (if applicable).	**4**			
Other					
5.7	**Elevators/Disabled Lifts (if applicable)**				
5.7.1	Elevator/lift size, access and operating features (ie. sensing devices, buttons, phones, detectors).				
5.7.2	Condition of elevators/lifts.				
5.7.3	Lighting and ventilation of elevators/lifts.	**N/A**			
Other					
	Overall Elect. Systems Condition & Estim Costs	**3**		Portions of the building are obsolete and at the end of their life cycle.	$894,500
				Evaluator: Gary Mctighe, Stebnicki, Robertson & Associates	

Section 7	Space Adequacy	This Facility			Equiv. New Facility			Surplus/ Deficiency	Comments/Concerns
		No.	Size	Total Area	No.	Size	Total Area		
7.1	Classrooms	35	86	3034	35	80	2800	234.6	
7.2	Science Rooms/Labs	0			0				
7.3	Ancillary Areas (i.e., Art, Computer Labs, Drama, Music,)	1		1190	2,3	130,90	890	300	Insufficient storage for costumes and set materials. Area includes large muti-purpose room
7.4	Gymnasium (incl. gym storage)	2		1609.2	2		1775	-165.8	
7.5	Library/Resource Areas	1		791.6	1		706	85.6	
7.6	Administration/Staff, Physical Education, Storage Areas			1432.9			1008	424.9	
7.7	CTS Areas								
	7.7.1 Business Education								
	7.7.2 Home Economics	2		351.5			420	68.5	
	7.7.3 Industrial Arts			2286.2			1320	966.2	
	7.7.4 Other CTS Programs								
7.8	Other Non-Instructional Areas (i.e., circulation, wall area, crush space, wc area)			3785.9			3579.8	206.1	
	Overall Space Adequacy Assessment			14481.3			12498.8	2120.1	Net Capacity=1480, Design instructional Area=7911 Reported Area=16580

Evaluation Component/ Sub-Component	Additional Notes and Comments