SP DUMARESQ ARCHITECT LTD

South Shore Regional School Board

Elementary Schools Assessment March 2009

- *Hebbville*
- *Newcombeville*
- *Pentz*
- *Petite Riviere*

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Executive summary

Acting for the South Shore Regional School Board, SP Dumaresq Architect (SPDA) examined four primary schools in Hebbville, Pentz, Petit Riviere, and Newcombeville. The study recorded the current physical condition of each school and its related systems, determined what remedial actions would be required to permit it to continue to function for another five years and what would be needed to extend its useful life for another 25 years.

Methodology

SPDA toured each school extensively, measured the building against the provided plans, redrew the plans to scale, and considered and noted the condition of each element of its construction. SPDA also noted any deficiencies of the surrounding grounds and parking areas. Dumac Energy was engaged to examine the electrical, heating, ventilation and water supply systems, Able Engineering examined the sewage disposal systems, and Brad Woodworth Roofing Consultant studied the roofs. SPDA sorted and ranked the findings for each school and determined an estimated cost for each item. The results of these investigations are recorded in this study.

General Observations:

For their approximate 40 year age, the four schools are in relatively good condition. Problem areas are noted below. Underlined items should receive immediate attention.

	Hebbville	Newcombeville	Pentz	Petit Riviere
Water	Water treatment needs attention		Water treatment needs attention	Water treatment needs attention
Site conditions	Paving in poor condition	Paving in poor condition	Paving in poor condition	Paving in poor condition
Sewage disposal	Regular Maintenance and Pumping required	Regular Maintenance and Pumping required	Regular Maintenance and Pumping required	**Provide New Sewage plant**
Building envelope	Repair Roof Repoint Bricks	**Replace roof**	Repair Roof Replace windows and doors	Repair Roof Replace windows and doors
Electrical	Replace emergency lights New service required	New service required	New service required	**New service required** **Abandon basement electrical room**
Mechanical	**Replace furnace oil feed lines** General repairs	Plumbing repairs	Replace boiler plant	**Relocate fuel tanks** **Fill in old coal cellar basement** **Keep buses off cellar roof**

These are the estimated costs to keep the schools in operation:

	Hebbville	Newcombeville	Pentz	Petit Riviere
For five more years	$113,000	$195,000	$188,000	$221,000
For twenty-five more years	$999,500	$1,226,000	$1,017,000	$1,086,000

The four schools appear to function very well as is, however there are various spaces missing from the schools which would be provided in new schools. The following table identifies these spaces by school and the sizes and approximate costs for their addition. Blank spaces indicate that existing areas are fulfilling the function. Renovation of these areas is estimated in the individual school report.

Area	Hebbville	Newcombeville	Pentz	Petit Riviere
Learning Centre - 900 sq ft.	Add to school	Add to school	Add to school	Add to school
Music - 900 sq ft.	Add to school			
Library - 750 sq ft.	Add to school			
Arts - 900 sq ft.	Add to school	Add to school	Add to school	Add to school
Resource/Guidance - 250 sq ft.			Add to school	Add to school
Teachers Work Area - 400 sq ft.	Add to school		Add to school	Add to school
Teachers Staff Rm. - 400 sq ft.	Add to school		Add to school	Add to school
Cafeteria	Current practice of children eating in their classrooms is reported as satisfactory			
Gymnasium	Existing gymnasiums reported acceptable as is			
Storage - 400 sq ft.	Add to school	Add to school	Add to school	Add to school
Net Area	4650 sq. ft.	2200 sq. ft.	3250 sq. ft.	3250 sq. ft.
Gross area (net x 1.5)	6975 sq ft.	3300 sq. ft.	4875 sq. ft.	4875 sq. ft.
Estimated cost @ $230/sq.ft.	**$1,600,000**	**$760,000**	**$1,120,000**	**$1,120,000**

March 12, 2009.

Hebbville

Projects for 5 Year Use

#	Project	Cat	Amount
HEB21	Repair Dripping Faucets	1	$500.00
HEB 55	Provide Combustion air for furnace	1	$2,000.00
HEB09	Replace floor tiles as needed	1	$2,000.00
HEB54	Relocate coat hooks and shelves away from gym	1	$2,000.00
HEB06	Repair roof as needed	1	$15,000.00
HEB40	Replace fuel feed lines to furnace	1	$5,000.00
HEB44	Provide motorized dampers on existing system	1	$5,000.00
HEB01	Repair and crack fill asphalt as needed	1	$10,000.00
HEB31	Supply and install 30 new emergency lighting units and associated wiring	1	$40,000.00
HEB19	Provide New Water treatment plant or connect to the Middle School	1	$20,000.00
HEB24	Maintain sewage system	1	Unknown

Projects for 25 Year Use

#	Project	Cat	Amount
HEB10	Replace floor tiles as needed	1	$5,000.00
HEB03	Repair and crack fill concrete walks as needed	1	$10,000.00
HEB05	Provide 1 new set playground equipment	1	$40,000.00
HEB02	Replace all asphalt surfaces	1	$50,000.00
HEB46	Install opener on front door	2	$5,000.00
HEB47	Make student washrooms accessible	2	$8,000.00
HEB49	Install accessible ramp and opener	2	$8,000.00
HEB48	Make staff washrooms accessible	2	$10,000.00
HEB29	Supply and install new panelboards and related feeders	2	$40,000.00
HEB28	Supply and install a new electrical service entrance switchboard and related equipment	2	$45,000.00
HEB27	Replace Rainwater drainage system	4	$15,000.00

Newcombeville

Projects for 5 Year Use

#	Project	Cat	Amount
NEW31	Video inspection of underground sewage lines	1	$500.00
NEW05	Replace floor tiles as needed	1	$2,000.00
NEW01	Repair and crack fill asphalt as needed	1	$10,000.00
NEW20	Supply and install 12 new emergency lighting units and associated wiring	1	$15,000.00
NEW42	Replace kitchen stove exhaust hood	1	$15,000.00
NEW37	Replace storage tank and feed lines to boiler	1	$20,000.00
NEW03	Replace roof	1	$130,000.00
NEW34	Add venting to staff sink and sump basin	2	$1,000.00
NEW28	Replace custodial sink trim	2	$2,000.00
NEW27	Install Grease interceptor in kitchen sink	2	$2,500.00
NEW16	Maintain sewage diposal plant	2	$10,000.00

Projects for 25 Year Use

#	Project	Cat	Amount
NEW06	Replace floor tiles as needed	1	$10,000.00
NEW02	Replace all asphalt surfaces	1	$80,000.00
NEW46	Install front door electric opener	2	$4,000.00
NEW47	Make student washrooms accessible	2	$6,000.00
NEW49	Make Portable building accessible	2	$8,000.00
NEW48	Make staff washrooms accessible	2	$10,000.00
NEW45	Install new general Fire alarm system	2	$25,000.00
NEW17	Supply and install a new electrical service entrance switchboard and related equipment	2	$45,000.00
NEW18	Supply and install new panelboards and related feeders	2	$50,000.00
NEW33	Replace Rainwater drainage system	4	$15,000.00
NEW21	Supply and install new Wiring devices and associated branch circuit wiring modifications	4	$25,500.00

Pentz

Projects for 5 Year Use

#	Project	Cat	Amount
PEN31	Replace domestic water heater	1	$1,000.00
PEN08	Replace floor tiles as needed	1	$2,000.00
PEN43	Provide adequate combustion air intake	1	$2,000.00
PEN01	Repair and crack fill asphalt as needed	1	$5,000.00
PEN30	Upgrade water supply and treatment plant	1	$8,000.00
PEN24	Supply and install 12 new emergency lighting units and associated wiring	1	$15,000.00
PEN60	Supply and Install a PA system	1	$20,000.00
PEN52	Replace air compressor Receiver	2	$1,000.00
PEN34	Replace custodial sink trim	2	$2,000.00
PEN33	Install Grease interceptor in kitchen drain	2	$2,500.00
PEN29	Replace well head	2	$4,000.00

Projects for 25 Year Use

#	Project	Cat	Amount
PEN09	Replace floor tiles as needed	1	$6,000.00
PEN02	Replace asphalt	1	$70,000.00
PEN61	Supply and install a Security system	1	$7,500.00
PEN60	Supply and install a PA system	1	$20,000.00
PEN53	Install front door opener	2	$4,000.00
PEN54	Make student washrooms accessible	2	$6,000.00
PEN55	Make staff washrooms accessible	2	$6,000.00
PEN21	Supply and install a new electrical service entrance switchboard and related equipment	2	$45,000.00
PEN22	Supply and install new panelboards and related feeders	2	$40,000.00
PEN38	Replace Rainwater drainage system	4	$5,000.00
PEN46	Replace vestibule Force Flow heaters	4	$7,500.00

Petite Riviere

Projects for 5 Year Use

#	Project	Cat	Amount
PET10	Replace floor tiles	1	$2,000.00
PET45	Replace washroom exhaust fans	1	$4,500.00
PET01	Repair and crack fill asphalt as needed	1	$5,000.00
PET20	Supply and Install 12 new emergency lighting units and associated wiring	1	$15,000.00
PET39	Relocate Oil Tanks and feeds - Demolish and fill in coal bunker.	1	$60,000.00
PET33	Replace sewage disposal system	1	85000
PET31	Replace custodial sink trim	2	$2,000.00
PET41	Provide adequate combustion air intake	2	$2,000.00
PET52	Construct handicap ramp to gym stage	2	$6,000.00
PET40	Install firestop as needed	2	$10,000.00
PET53	Add door seals and acoustic materials to gym and nearby classrooms	3	$5,000.00

Projects for 25 Year Use

#	Project	Cat	Amount
PET03	Pave graveled area	1	$15,000.00
PET11	Replace floor tiles	1	$15,000.00
PET18	Supply and install new panelboards and related feeders	1	$60,000.00
PET02	Replace asphalt	1	$70,000.00
PET17	Construct new elctrical room on exterior of building. Supply and install a new electrical service entrance switchboard and related equipment	1	$95,000.00
PET49	Install electric front door opener	2	$4,000.00
PET50	Make student washrooms accessible	2	$6,000.00
PET51	Make staff washrooms accessible	2	$6,000.00
PET48	Install new Fire alarm system	2	$20,000.00
PET30	Replace water closets	4	$1,500.00
PET28	Replace Urinals	4	$5,000.00

South Shore Regional School Board
Elementary School Assessment
Hebbville - Newcombeville - Pentz - Petite Riviere
Master Cost Spreadsheet - March 2009

Hebbville

Projects for 5 Year Use

#	Project	Cat	Amount
HEB37	Install firestop in furnace room as needed	2	$1,000.00
HEB50	Add door seals and acoustic materials to gym area and classes.	3	$5,000.00
HEB25	Video inspect sewage pipes	4	$500.00
HEB38	Secure boiler piping leaks & insulate	4	$2,000.00
HEB39	Replace Boiler Room Floor Drains	4	$2,000.00
HEB33	Expand existing Category 5 network for voice and data	4	$5,000.00
HEB41	Replace Force Flow heaters	4	$7,500.00
HEB35	Supply and install a CATV system with LCD projectors	4	$27,500.00
HEB04	Provide topsoil for sports field	5	$2,000.00
HEB22	Clean up Urin	6	$1,000.00
	TOTAL		$155,000.00

Projects for 25 Year Use

#	Project	Cat	Amount
HEB36	Supply and install a CCTV system	4	$19,500.00
HEB32	Supply and install new Wiring devices and associated branch circuit wiring modifications	4	$25,500.00
HEB26	Replace Sanitary Drainage	4	$40,000.00
HEB07	New Roof capsheet to extend life 12-14 yrs.	4	$45,000.00
HEB42	Replace heating mains	4	$45,000.00
HEB34	Supply and install a Category 6 network for voice and data	4	$55,000.00
HEB30	Supply and install new light fixtures and associated wiring	4	$75,000.00
HEB45	Replace remaining Pneumatic controls	5	$4,500.00
HEB52	Create meeting rooms from existing space	5	$5,000.00
HEB53	Create storage rooms from existing space	5	$5,000.00
HEB51	Relocate offices to other space	5	$10,000.00
HEB08	Repoint bricks	5	$20,000.00

Newcombeville

Projects for 5 Year Use

#	Project	Cat	Amount
NEW50	Add door seals and acoustic materials to gym and nearby classrooms	3	$5,000.00
NEW26	Upgrade plumbing faucets	4	$1,000.00
NEW36	Replace	4	$1,000.00
NEW38	Seal piping & complete insulation	4	$2,000.00
NEW40	Replace Force Flow heaters	4	$4,000.00
NEW04	Repaint Spandrels	4	$5,000.00
NEW24	Supply and install a CCTV system	4	$19,500.00
NEW23	Supply and install a CATV system with LCD projectors	4	$27,500.00
NEW54	Divide visiting specialist room in two	5	$3,000.00
NEW44	Replace remaining Pneumatic ventilation system controls	5	$4,500.00
NEW41	Provide motorized dampers on existing ventilation system etc.	5	$5,000.00
NEW12	Replace Ceiling tiles as needed	6	$1,000.00

Projects for 25 Year Use

#	Project	Cat	Amount
NEW25	Replace Domestic Water Piping	4	$35,000.00
NEW22	Supply and install a Category 6 network for voice and data	4	$38,000.00
NEW32	Replace Sanitary Drainage system	4	$40,000.00
NEW39	Replace heating distribution system mains	4	$45,000.00
NEW19	Supply and install new light fixtures and associated wiring	4	$85,000.00
NEW35	Replace Boiler plant c/w controls	4	$200,000.00
NEW52	Create meeting rooms from existing space	5	$5,000.00
NEW53	Create storage rooms from existing space	5	$5,000.00
NEW51	Relocate offices to other space	5	$10,000.00
NEW43	Provide Modern building Ventilation system c/w controls and building mods	5	$360,000.00
NEW11	Clean and Refinish Doors	6	$5,000.00
NEW13	Replace Ceiling tiles as needed	6	$5,000.00

Pentz

Projects for 5 Year Use

#	Project	Cat	Amount
PEN48	Replace current kitchen exhaust system	2	$15,000.00
PEN56	Add door seals and acoustic materials to gym and nearby classrooms	3	$5,000.00
PEN35	Video inspection of sewage pipes	4	$500.00
PEN03	Repair roof as needed.	4	$5,000.00
PEN28	Supply and install a CCTV system	4	$19,500.00
PEN27	Supply and install a CATV system with LCD projectors	4	$27,500.00
PEN26	Supply and install a Category 6 network for voice and data	4	$38,000.00
PEN32	Upgrade washroom faucets	5	$500.00
PEN47	Provide motorized dampers on existing ventilation system	5	$2,500.00
PEN36	Maintain sanitary drainage	5	$5,000.00
PEN51	Replace remaining heating system Pneumatic controls	5	$5,500.00
PEN13	Clean Urinals	6	$1,000.00

Projects for 25 Year Use

#	Project	Cat	Amount
PEN25	Supply and install new Wiring devices and associated branch circuit wiring modifications	4	$25,500.00
PEN06	Replace doors	4	$30,000.00
PEN37	Replace Sanitary Drainage	4	$32,000.00
PEN04	New Roof capsheet to extend life 12-14 years yrs.	4	$40,000.00
PEN05	Replace windows	4	$42,000.00
PEN23	Supply and install new light fixtures and associated wiring	4	$75,000.00
PEN39	Replace Boiler plant c/w DDC Control system	4	$180,000.00
PEN58	Create meeting rooms from existing space	5	$5,000.00
PEN59	Create storage rooms from existing space	5	$5,000.00
PEN57	Relocate offices to other space	5	$10,000.00
	Replace Domestic Water Piping	5	$28,000.00
PEN50	Provide Modern building Ventilation system c/w DDC control system and building modifications	5	$317,000.00

Petite Riviere

Projects for 5 Year Use

#	Project	Cat	Amount
PET22	Supply and install a PA system	3	$20,000.00
PET26	Replace well and water treatment system	3	$28,000.00
PET32	Video inspection of underground sewage system	4	$500.00
PET36	Replace ABS piping	4	$1,000.00
PET38	Replace boiler circulation pumps	4	$1,500.00
PET43	Add Force Flow heaters in vestibules	4	$4,000.00
PET37	Insulate boiler pipes	4	$5,000.00
PET08	Scrape replace and repaint shingles	4	$15,000.00
PET09	Replace cladding	4	$15,000.00
PET25	Supply and install a CCTV system	4	$19,500.00
PET24	Supply and install a CATV system with LCD projectors	4	$27,500.00
PET44	Add motorized dampers to ventilation system	5	$1,500.00

Projects for 25 Year Use

#	Project	Cat	Amount
PET29	Replace Lavatories	4	$8,000.00
PET35	Replace Rainwater drainage system	4	$15,000.00
PET21	Supply and install new Wiring devices and associated branch circuit wiring modifications	4	$25,500.00
PET34	Replace Sanitary Drainage system	4	$35,000.00
PET23	Supply and install a Category 6 network for voice and data	4	$38,000.00
PET42	Replace heating system main distribution pipes	4	$38,000.00
PET19	Supply and install new light fixtures and associated wiring	4	$95,000.00
PET55	Create meeting rooms from existing space	5	$5,000.00
PET56	Create storage rooms from existing space	5	$5,000.00
PET54	Relocate offices to other space	5	$10,000.00
PET27	Replace Domestic Water Piping	5	$30,000.00
PET05	New Roof capsheet and high roof flashing to extend life 12-14 yrs.	5	$45,000.00

Hebbville

Projects for 5 Year Use

#	Project	Cat	Amount

Projects for 25 Year Use

#	Project	Cat	Amount
HEB20	Replace Domestic Water Piping	5	$35,000.00
HEB43	Provide Modern Ventilation system c/w controls (60K) and building modifications (50K)	5	$360,000.00
HEB11	Power clean terrazzo and reseal	6	$3,000.00
HEB17	Repaint Radiators	6	$3,000.00
HEB12	Repair wall tiles in washrooms	6	$5,000.00
HEB15	Refinish Doors	6	$5,000.00
HEB16	Replace ceiling tiles as needed	6	$8,000.00
HEB13	Paint interior walls as needed	6	$10,000.00
HEB18	Refurbish Radiators	6	$10,000.00
	TOTAL		$1,024,500.00

Note: With these areas added, the school would meet 2009 NSBE standards.

Area
Learning Centre - 900 sq ft.
Music - 900 sq ft.
Library - 750 sq ft.
Arts - 900 sq ft.
Teachers Work Area - 400 sq ft.
Teachers Staff Rm. - 400 sq ft.
Storage - 400 sq ft.

Net Area	4650 sq. ft.
Gross area (net x 1.5)	6975 sq ft.
Estimated cost @ $230/sq.ft.	$1,600,000.00

Newcombeville

Projects for 5 Year Use

#	Project	Cat	Amount
NEW29	Clean Urinals	6	$1,000.00
NEW07	Power clean and reseal terrazzo	6	$3,000.00
NEW14	Repaint Radiators	6	$3,000.00
NEW08	Repair wall tiles in washrooms	6	$5,000.00
NEW09	Paint walls as needed	6	$10,000.00
	TOTAL		$308,500.00

Projects for 25 Year Use

#	Project	Cat	Amount
NEW15	Refurbish Radiators	6	$10,000.00
NEW30	Replace Urinals	6	$10,000.00
NEW10	Clean and Refinish woodwork and trim	6	$15,000.00
	TOTAL		$1,146,500.00

Note: With these areas added, the school would meet 2009 NSBE standards.

Area
Learning Centre - 900 sq ft.
Arts - 900 sq ft.
Storage - 400 sq ft.

Net Area	2200 sq. ft.
Gross area (net x 1.5)	3300 sq. ft.
Estimated cost @ $230/sq.ft.	$760,000.00

Pentz

Projects for 5 Year Use

#	Project	Cat	Amount
PEN17	Replace ceiling tiles as needed	6	$1,000.00
PEN07	Repaint knee walls	6	$2,000.00
PEN10	Power clean and reseal terrazzo floors	6	$3,000.00
PEN19	Repaint Radiators	6	$3,000.00
PEN11	Repair wall tiles in washrooms	6	$5,000.00
PEN12	Paint walls as needed	6	$10,000.00
	TOTAL		$211,500.00

Projects for 25 Year Use

#	Project	Cat	Amount
PEN16	Clean and Refinish doors	6	$5,000.00
PEN18	Replace ceiling tiles as needed	6	$5,000.00
PEN14	Replace Urinals	6	$6,000.00
PEN15	Clean and Refinish woodwork and trim	6	$15,000.00
PEN45	Replace heating main distribution pipes		$35,000.00
PEN20	Refurbish Radiators		$10,000.00
	TOTAL		$1,084,500.00

Note: With these areas added, the school would meet 2009 NSBE standards.

Area
Learning Centre - 900 sq ft.
Music - 900 sq ft.
Library - 750 sq ft.
Arts - 900 sq ft.
Teachers Work Area - 400 sq ft.
Teachers Staff Rm. - 400 sq ft.
Storage - 400 sq ft.

Net Area	4650 sq. ft.
Gross area (net x 1.5)	6975 sq ft.
Estimated cost @ $230/sq.ft.	$1,600,000.00

Petite Riviere

Projects for 5 Year Use

#	Project	Cat	Amount
PET46	Provide additional heating Zone control	5	$5,000.00
PET04	Repair roof as needed	5	$15,000.00
PET13	Clean stained Urinals	6	$500.00
PET12	Paint walls	6	$10,000.00
	TOTAL		$365,500.00

Projects for 25 Year Use

#	Project	Cat	Amount
PET47	Provide Modern building Ventilation system c/w DDC controls and building mods	5	$347,000.00
PET15	Clean and Refinish doors	6	$5,000.00
PET14	Clean and Refinish woodwork and trim	6	$15,000.00
PET16	Install suspended ceiling througout	6	$15,000.00
PET07	Replace doors		$35,000.00
PET06	Replace windows		$80,000.00
	TOTAL		$1,144,000.00

Note: With these areas added, the school would meet 2009 NSBE standards.

Area
Learning Centre - 900 sq ft.
Arts - 900 sq ft.
Resource/Guidance - 250 sq ft.
Teachers Work Area - 400 sq ft.
Teachers Staff Rm. - 400 sq ft.
Storage - 400 sq ft.

Net Area	3250 sq. ft.
Gross area (net x 1.5)	4875 sq. ft.
Estimated cost @ $230/sq.ft.	1120000

SP DUMARESQ
ARCHITECT LTD

PETITE RIVIERE ELEMENTARY SCHOOL

1. GENERAL COMMENTARY
2. ROOFING REPORT
3. MECHANICAL REPORT
4. ELECTRICAL REPORT
5. SEWAGE DISPOSAL REPORT
6. PICTURE LOG
7. FLOOR PLANS
8. SUMMARY SPREADSHEET

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SP DUMARESQ ARCHITECT LTD

GENERAL COMMENTARY

PETIT RIVIERE ELEMENTARY SCHOOL

March 11, 2009

In preparation for this study, Syd Dumaresq and Rich Knowles of S P Dumaresq Architect Ltd. met with:
Barry Butler – Dir. Of Operations, SSRSB
Hal Corkum - Custodial Manager, SSRSB
Janet Baxter – Principal
Lloyd Powers – Custodian

1.0 URGENT ITEMS:

1.1 **The underground coal bunker is located below the school bus driveway (see item 2.6). This condition of this structure is unknown. We recommend no further vehicular traffic over this area, especially school busses, until this bunker can be removed.**

1.2 **The sewage disposal system is not functioning and may be leaching into the surrounding area, including the Petit Reviere River. This situation should be addressed immediately.-see also site services section of this report.**

2.0 GENERAL COMMENTARY

2.1 This eight classroom elementary school designed by CD Davison & Co. and constructed by Howard A. Keddy opened in 1961.

2.2 The 8 original classrooms are currently utilized as:

- Five classrooms
- One music room
- One library
- One resource room

2.3 It appears that the school functions very well with this amount of space and is able to provide all the required programs. There are additional spaces which a newer school would provide such as:

- Learning Centre
- Arts room
- Resource/Guidance
- Teachers prep room
- Staff room
- Cafeteria
- Larger gym
- Meeting spaces

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2.4 Instead of a cafeteria, students eat in their classrooms and generally bring their own lunches. One day a week hot food is cooked in the school kitchen by volunteers. Volunteers also provide breakfast three mornings a week.

2.5 The electrical room is in a confined space below the stage, accessed by a hatch built into a counter. This is not acceptable by current codes (see also electrical report). This room also appears to flood occasionally. We recommend abandoning this room and construction a new electrical room as an addition to the building, at grade level.

2.6 There is an abandoned underground coal vault under the front driveway which houses two oil tanks. This coal vault leaks badly and should also be abandoned and filled in. One exterior dual wall oil tank could replace these two oil tanks.

3.0 SITE

3.1 Paving: The paving in front of the school is in poor condition, does not drain properly and needs replacing. This should be done in conjunction with the removal of the coal vault. The gravel areas behind the school should also be paved.

3.2 Playground equipment – all new and in excellent condition.

3.3 The basketball courts are in good condition.

3.4 The sports field is in good condition but prone to poor drainage in the spring.

3.5 Site drainage – good.

4.0 WATER & SEWER

4.1 The drilled is in the basement which presents a potential for contamination. The water treatment plant appears to be working well -see also mechanical section of this report.

4.2 Sewage Disposal. This system is not functioning and may be leaching into the surrounding area, including the Petit Reviere River. This situation should be addressed immediately.-see also site services section of this report.

5.0 **BUILDING ENVELOPE**

5.1 Roof – the roof was replaced with a new 2 ply modified bitumen roof in or about 1995. This roof is still in fair to good condition. Repairs are required. See also roofing portion of this report. If additional layer of modified bitumen cap sheet were added to this roof in the next few years the life of the roof would be extended for another 12 - 14 years.

5.2 Exterior walls –generally cedar shingles spaced 10" to the weather. The shingles need scraping and painting and show some deterioration on the bottom courses which are very close to the ground. The lower courses should be replaced with new and the sheathing behind checked for rot.

5.3 The wall around the gym, where the gym is higher than the classroom block, is prone to leaking which should be addressed. This could be done in conjunction with the roof improvements recommended in 4.1 above.

5.4 The windows and doors are the original and are therefore 48 years old. There is evidence or rot in the wood window frames. Some windows are difficult to open. All the windows and doors a need to be replaced. The wood panels above and below the windows have been replaced in the past and could be left in place and repainted. Note: One pair of doors at the end of the south corridor is new and does not need replacing.

6.0 **INTERIOR FINISHES**

6.1 Floor tile – All of the floors have the original 9"x9" VAT floor tiles, including the washrooms. Some are broken and lifting from the concrete slab on grade. A replacement program should be implemented to change to VCT floor tiles everywhere except the washrooms and other wet areas such as entrances, where ceramic tiles should be used.

6.2 Walls are painted plaster including the washroom walls. Walls are generally in good condition, however a repainting program should be implemented.

6.3 Ceilings everywhere consist of exposed steel joists supporting a painted wood plank deck. Suspended acoustic tile ceilings would improve the look of the school and reduce the noise level, especially in and around the multi-purpose room.

7.0 **FUNCTIONAL COMMENTARY**

7.1 Two classrooms open directly the gym/multi-purpose area. This creates noise and disruption during gym classes and when students exit the building. The doors accessing these two classrooms could be removed without affecting the egress requirements. This and more sound absorbing material in the gym would help diminish this problem.

7.2 The entire administration area consists of one small office for the Principal and another for the administration support person. There are no offices for guidance, visiting specialists etc. There is no obvious solution to increasing this area other than an addition to the building.

7.3 There are no meeting rooms.

7.4 As in all schools storage is lacking.

8.0 NATIONAL BUILDING CODE OF CANADA COMMENTS

8.1 The stage is not wheelchair accessible. This should be addressed as the stage provides the only access to the admin offices, making them not accessible.

8.2 The staff washrooms are not wheelchair accessible.

8.3 The student washrooms are not accessible.

8.4 The front entrance requires an automatic door opener.

SOUTH SHORE REGIONAL SCHOOL BOARD

March11, 2009

Roofing Report

Prepared by: Brad Woodworth, Roofing Consultant

BRAD WOODWORTH ROOF INSPECTION AND CONSULTING SERVICES

Petite Riviere Elementary School – February 18,2009

Make-up of roof system (Total roof area 11,400 square feet)

Wood deck
Vapour barrier
Tapered Truefoam insulation – 5" to 3"
Two layers of ½ " fibreboard overlay
Two plys modified membrane roof system

Cut test:

Three samples of the roof system were taken in various areas.

Cut test results:

The cut test samples taken revealed the vapour barrier to be dry and in good condition.

The roof insulation and fibreboard overlay was dry (no moisture) and in good condition.

The modified base sheet which is the bottom layer of the two-ply roof membrane system was found to be dry and in good condition.

The modified cap sheet, which is the top layer of the two-ply roof membrane system, is in fair condition. The granule surface of the cap sheet is beginning to deteriorate due to weathering.

COMMENTS:

a) There are nine (9) roof drains in this roof and the strainers are missing on all nine.
b) There are four (4) plumbing vents flashing and all four have been damaged. Note photos 11-12-13 and 17.
c) The chimney requires repair.
d) The gym roof is raised four (4') feet above the main roof. This sidewall has a T & G vertical wood siding, which requires attention. Note photo # 14. The joints in the wood siding are open in some areas allowing moisture to enter.
e) There is a soft area in the roof near the chimney approximately 2' x 2' in this area.

SUMMARY:

1) Strainers should be installed on the roof drains as soon as possible
2) The plumbing vent flashing should be replaced so the plumbing system can vent properly.
3) The soft area near the chimney should be repaired as soon as possible
4) A new modified cap sheet membrane could be installed over the existing roof membrane with a few minor repairs to the existing which, in my opinion, should extend the life of the roof system by 12 to 14 years.

Photos:

1 – Roof cut test

10 – 12 – 17 Roof drains (strainer missing)

14 – Side-wall of Gym

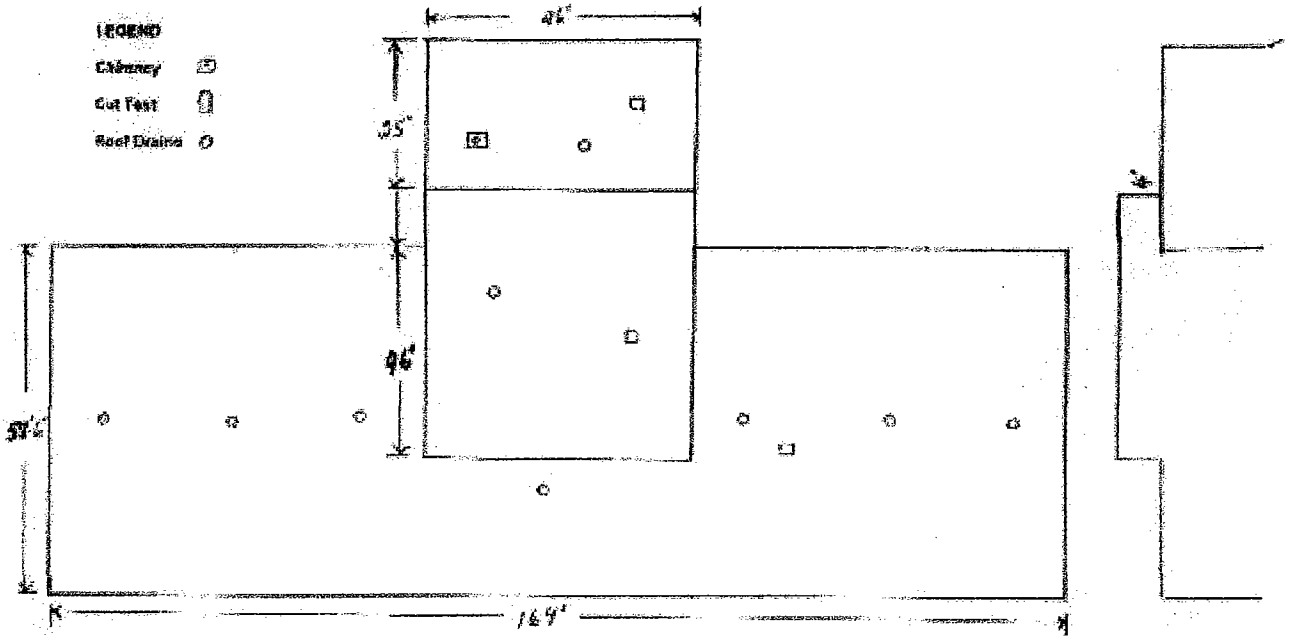
11 – 12 – 13 – Damaged plumbing vent flashing.

8 and 9 is showing the laps of the cap sheet cap sheet and the base sheet laps are the raised areas telegraphing through the cap sheet.

The remaining photos are general photos of the roof area.

End of report

PETITE RIVIERE ELEMENTARY SCHOOL



Petite Riviere Roof








SOUTH SHORE REGIONAL SCHOOL BOARD

March11, 2009

Mechanical Report

Prepared by: Dumac Energy

D Services

D20 PLUMBING

This section covers plumbing fixtures, domestic water piping, domestic water systems, sanitary drainage and rainwater systems.

D2010 Plumbing Fixtures

The majority of the original plumbing fixtures in both the staff and public washrooms have been replaced.

Upgraded water closets are flush tank, 6.0 Liters per flush (LPF) manufactured by Crane Canada and were installed several years ago. There were two original water closets noted. Lavatories are original wall hung china with commercial grade 4" centre set double handle faucets. The faucets have reportedly been upgraded as required throughout the service life of the building. Urinals are original cast in place units and are equipped with a flush tank. There is one cast iron mop sink with a double handle faucet located in the custodian room. The custodial sink faucet was not equipped with a vacuum breaker for backflow prevention and the faucet was noted to be dripping. There are stainless steel sinks located in the staff room and on the stage; the sink on the stage is not in service. There are ceramic drinking fountains located in the multi purpose room and in the boy's washroom.

The useful life of plumbing fixtures is based on the amount of usage and abuse. The majority of the upgraded plumbing fixtures noted, appeared to be in good condition and well maintained; however, there were no fixtures noted that would meet current barrier free requirements. The following upgrades and replacements are recommended:

1. The faucet on the custodial sink is original and should be replaced with trim that is equipped with a vacuum breaker.
2. The two remaining original water closets should be replaced.
3. The original urinals are near the end of their expected service life and should be replaced within the next 5 to 10 years.
4. The original lavatories are near the end of their expected service life should be replaced within the next 5 to 10 years.

Barrier free fixtures should be added based on the Architect's recommendations.

We recommend corrective action to repair these issues be undertaken within the next year.
Reference Mechanical Picture #1 - #3.

D2010	**Replacement of custodial sink trim**	**$2,000.00**
	Upgrade of lavatories	**$8,000.00**
Plumbing Fixtures	**Upgrade of urinals**	**$5,000.00**

	Replace remaining original water closets	**$1,500.00**

D2020 Domestic Water Piping and Equipment

Domestic water for the building is supplied from an original drilled well located in the basement boiler room. The well is capped with a sanitary well seal which does not comply with regulations respecting the construction of water wells in the Province of Nova Scotia. The model and age of the pump installed in the well is unknown. The raw well water is pumped to a pressure tank and is then treated with iron removal equipment before entering the distribution system.

The water treatment system currently installed consists of an air injection pump and two iron removal filters manufactured by Water Conditioning Canada. Although the equipment is functioning, iron removal systems of this nature are typically not reliable, as it is difficult to manage air removal, and automatic air vents can fail.

A chemical analysis of the treated water (raw water sample not available) was provided by the School Board. The analysis report provided covers samples taken in 2006, 2007 and 2008. The results indicate turbidity and manganese exceed the recommended limit as set by the Canadian drinking water quality guide. The limit set for manganese is based on aesthetic objectives; therefore, the guideline does not consider it to have a health based impact. Turbidity however, must be maintained below the maximum acceptable concentration (MAC) as set by the guideline. Because the results provided are for treated water, it is unclear if high turbidity is a source issue or if it is being generated by the plumbing system in the building. The report indicates the levels of turbidity have steadily increased from 2006.

Bacterial analysis was not provided and therefore not included in this review.

Based on a preliminary review of the system the following recommendations should be considered:

1. Provide additional filtration measures to reduce turbidity level below the MAC. The existing water treatment equipment should be replaced with a modern system for iron and manganese removal. The new system would include an air injection compressor pump and aeration and precipitation tank and iron removal filters. Further treatment would include the addition of chlorine or ultra violet light as a means of disinfection.
2. The existing well is susceptible to contamination should a floor or oil leak occur in the boiler room. In addition, the use of sanitary well seals is no longer permitted to cap a well. We recommend a new supply well be drilled outside the building complete with a new pump, pitless adapter and vermin proof vented pitless well cap.

We recommend immediate action be taken to provide a treatment system to supply water that meets the requirements of the Guideline for Canadian drinking water quality. These recommendations are based on the treated water; a more accurate recommendation could only be provided based on a raw water sample from the supply.

Domestic hot water is generated by a Buderus 40 gallon indirect water heater, heated from the boiler plant. The system was recently installed and appears to be in good condition.

The domestic water distribution system is primarily copper piping with soldered joints. The mains originate in the boiler room and are then piped under the floor of the multi purpose room before exiting above grade. The majority of the isolation valves are gate style; many have been replaced with ball valves on an "as required" basis. The life expectancy of a copper plumbing system is typically 40+ years depending on the water quality. The condition of the domestic water distribution is difficult to discern without examining sections of the piping; however, the water supply at this facility has a high iron content which is evident from stains on the plumbing fixtures. Based on past experience, distribution piping of this age supplying water with high iron content would require replacement. We recommend the system be reviewed for replacement within the next 5 years if the building is to remain in use.
Reference Mechanical Picture #4 - #6

D2020 **Domestic Water Piping**	• **Replacement of domestic water piping** • **Upgrade of well and water treatment system**	**$30,000.00** **$28,000.00**

D2030 Sanitary and Rainwater Drainage

Sanitary sewer for the building extends to an on site treatment system.

The original sanitary drainage system for the building is a mixture of copper and hub and spigot cast iron piping. Repairs and alterations to the system have been completed using ABS piping.

Based on past experience, cast iron sanitary of this vintage may be deteriorated making repairs and upgrades difficult. The life expectancy of a cast iron drainage system is dependent on the soil and waste water conditions, and the quality of the initial installation. The exact condition of the sanitary should be determined using video inspection before a decision is made on whether replacement is necessary. ABS piping is typically not recommended for use in commercial construction due to the flame and smoke spread characteristic of the material. We recommend that all ABS piping be replaced within the next 5 years.

The rain water drainage system for the building consists of roof drains and cast iron rainwater leaders although repairs to the system have been completed with ABS pipe. Sections of insulation have fallen off the pipe. A clean-out cap in the rainwater leader piping in the boiler room has been removed for use as an indirect drain for the boiler relief valve. This is a concern as the boiler room could be flooded in the event of a back-up.

Again, the exact condition of the existing rainwater drainage system should be determined using video inspection before a decision is made as to whether replacement is necessary. Further recommendations include repairing any un-insulated sections of piping and replacement of any ABS piping with PVC. These recommendations should be undertaken within the next 5 years.

The clean out cap should be re installed in the drainage piping in the boiler room as soon as possible and the boiler relief valve routed to a floor drain.

The estimated replacement cost of the sanitary and rainwater drainage system has been included in the event system replacement becomes necessary.

Reference Mechanical Picture #7 & #8

D2030 **Sanitary & Rainwater Drainage**	• **Video inspection of underground drainage:** • **Replacement cost of sanitary drainage:** • **Replacement cost of rain water drainage system** • **Replacement of ABS piping.**	**$500.00** **$35,000.00** **$15,000.00** **$1,000.00**

D30 HEATING VENTILATION AND AIR CONDITIONING SYSTEMS (HVAC)

Hot water for space heating is generated by a Buderus G315/5 three pass, cast iron boiler package with a Logamatic® Control. The boiler plant was recently installed; however, the piping is not insulated which can result in excessive heat loss and energy waste. The capacity of the boiler plant is reportedly capable of meeting the heating requirement of the building at this time. Additional capacity would be required if a mechanical ventilation system were added to the building.

There are two (2) circulator pumps located on return piping to the boiler; one operates as the lead pump with the other as standby. Both circulators are original and although the bearing assemblies and motors have been replaced, the pump housings are deteriorated from leaks. The pumps should be replaced within the next five (5) years, at which time the boiler piping should be insulated.

Fuel oil for space heating is stored in three 250 gallon Roth double wall oil tanks located in the coal bunker adjacent the boiler room. One tank appears to have a leak in the fill piping as residual oil was pooled on the top of the tank. The environment in which these tanks are housed is damp and the tanks were covered with a tarpaulin to shed water leaks from the roof above. We recommend that the tanks be relocated within the boiler room or installed outside with a weather protection package.

Reference Mechanical Pictures #9 & #10

D3010/3020	• **Relocation of oil tanks** • **New Circulator Pumps in supply piping** • **Insulate boiler piping**	**$2,500.00** **$1,500.00** **$5,000.00**

D3040 HVAC Equipment and Distribution

Heating distribution for the building is steel piping with gate valves for isolation and radiator valves at each heating terminal. Many of the valves are original and may not hold and valve stems may break when closed. The condition of heating mains is difficult to determine without removing and examining several sections of piping. We estimate the heating mains have been in service for over 40 years with no noted means of water treatment; however, there have been no reported leaks in the system. Portions of the piping are installed underground beneath the multipurpose room floor. The exact installation details of the underground piping are unknown it is difficult to comment on the condition, however, based on past experience, underground piping of this vintage would be deteriorated and leaks may go undetected for long periods of time. There were areas noted where valves and piping have been replaced. We recommend replacement of the hydronic distribution system be reviewed within the next 10 years.
Piping penetrations at the boiler room wall should be fire stopped. Additional penetrations may require fire stopping based on the Architect's recommendations.

Heating for classrooms and multi purpose room is provided by flat top wall fin radiation located along the perimeter walls of the space. Vestibules are heated by cabinet convectors. All of the radiation is original to the building. The wall fin radiation and cabinet convectors are in fair condition and should provide additional service life if cleaned and maintained. The radiation cabinet in the primary washroom is rusting and should be repainted or replaced. Vestibule cabinet convectors should be replaced with force flows. These recommendations should be undertaken within the next 5 years.

Reference Mechanical Pictures #11

D3040 **HVAC Equipment and Distribution**	• **Replace the heating mains** • **Addition of Force flow heaters to vestibules**	**$38,000.00** **$4,000.00**

The building is equipped with exhaust only ventilation consisting of unitary wall mounted exhaust fans. There is a wall exhaust fan located in each washroom and two wall exhaust fans dedicated to the multipurpose room. The classrooms are not ventilated. These fans are equipped with back draft dampers only which to not close tightly, thus allowing air infiltration into the building when the fans are not in operation.

Although common for a school of this age, exhaust only ventilation systems such as described above would not comply with the current ASHRAE Standard 62, Ventilation for Acceptable Indoor Air Quality. Typically, a modern facility would be equipped with mechanical ventilation systems to supply conditioned outside air to the volumes required by the ASHRAE Standard. Therefore, if major building renovations are being undertaken, consideration should be given to installing a new air handling system and associated ductwork sized to meet the requirements of ASHRAE Standard 62.

The existing exhaust system is functioning at the current time and could remain in service until it is feasible to install a mechanical ventilation system. Minimum recommendations for the existing system would include the following:

1. Replace the existing wall fans in the washrooms with ducted units complete with motorized dampers.
2. Install motorized dampers on the multi purpose room exhaust fans.

These recommendations should be undertaken within the next 5 years.
Reference Mechanical Picture #12 & #13

D3040 **HVAC Equipment and Distribution**	• **Provide mechanical ventilation systems as described above:** • **Replacement of existing washroom exhaust fans.** • **Addition of motorized dampers to multi purpose room exhaust fans**	**$250,000.00** **$4,500.00** **$1,500.00**

D3040 HVAC Instrumentation and Controls

The building is equipped with minimal controls for the heating system. Classrooms are zoned in groups of 2; washrooms, vestibules and the multi purpose rooms have no means of controlling the space temperature. The motorized valves for each zone are equipped with end switches to activate the circulator pumps on a call for heat, therefore, spaces with no zone controls operate as a slave, and only provide heat when the classroom zones operate.

The local boiler mounted control provides supply water temperature reset and control of the circulator pumps and indirect hot water heater. The exhaust fans are controlled by local switches only.

A modern facility of this nature would be equipped with a DDC building automation system to control space temperature, air handling equipment, fans and the boiler plant etc. A DDC system should be added if a mechanical ventilation system is being considered in future renovations.

In the interim the flexibility and energy efficiency of the existing system could be improved with additional zone controls. Minimum recommendations for this facility would be to provide zone controls for the washrooms, multipurpose room and each individual classroom. The exhaust fans should be controlled with a time clock to ensure the systems are not operating during unoccupied hours. The boiler controls should remain in service.

The recommendations described above should be undertaken within the next 5 years.

Reference Mechanical Pictures #14 & #15

D3040	• **Provide additional zone control**	**$5,000.00**

HVAC Equipment and Distribution	• **DDC control system as described above.**	**$47,000.00**

Mechanical Picture #1
Existing lavatories

Mechanical Picture #2
Existing urinals

Mechanical Picture #3
Custodial sink trim

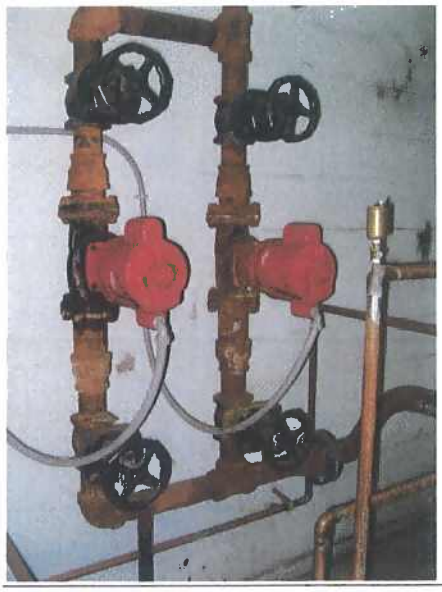
Mechanical Picture #4
Water system

Mechanical Picture #5
Existing well in boiler room

Mechanical Picture #6
Original gate valves (domestic water)

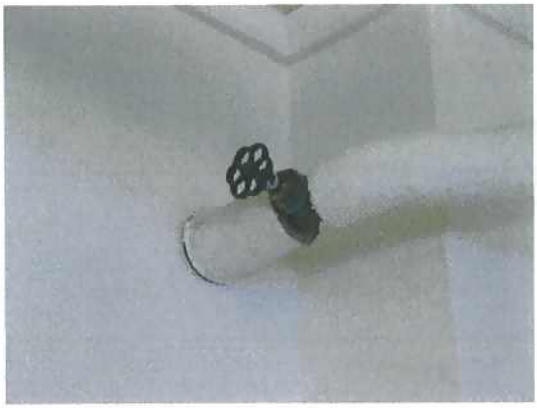
Mechanical Picture #7
ABS rain water leader with damaged insulation

Mechanical Picture #8
Open cleanout on rainwater leader



Mechanical Picture #9
Existing circulator pumps

Mechanical Picture #10
Oil tanks installed in coal bunker



Mechanical Picture #11
Original gate valve (heating)

Mechanical Picture #12
Wall exhaust fan

Mechanical Picture #13
Wall exhauster (washrooms)

Mechanical Picture #14
Zone valve (one per two classrooms)

Mechanical Picture #15
Typical thermostat

SOUTH SHORE REGIONAL SCHOOL BOARD

March11, 2009

Electrical Report

Prepared by: Dumac Energy

D Services

D50 ELECTRICAL SYSTEMS

D5010 Electrical Service and Distribution

This subsection covers electrical utility entrance, service entrance equipment, feeders, panel boards and motor starters.

The school is serviced underground from a single phase pole mounted transformer installed on a utility pole located in the front of the building. The service entrance equipment consists of two main fusible disconnect switches, a 200 amp, 120/240 volt single phase, three wire, main fusible switch which feeds the building electrical system with the exception of the boiler room and a 60 amp, 120/240 volt single phase, three wire, main fusible switch which feeds only the boiler room. The building electrical system neutral appears to be connected to ground in a manner not consistent with current code. The main service entrance equipment feeding most of the school includes a main fusible disconnect switch, utility metering equipment and a splitter trough which feeds a single panel which in turn feeds branch circuit wiring panels located in the building. The main switch was manufactured by Amalgamated Electric. The main panel was manufactured by Federal Pacific. There is evidence of moisture damage inside the main splitter. The second service entrance includes a main fusible disconnect switch and a utility meter which feeds a single panel in the boiler room. The main switch was manufactured by Amalgamated Electric. We estimate this equipment has been in service since 1961 (48+ years). The main service is metered by NSPI (meter # 382244). A review of the billing history indicates that the maximum demand of 24.0 kW occurred in December 2007. This translates to a maximum current of approximately 118 amps using an estimated power factor of 0.85. The boiler room service is metered by NSPI (meter #427868). This meter does not register peak electrical demand.

The electrical service entrance equipment is located in the basement, accessible through a narrow stair housed within millwork on the stage. In addition, there is evidence of corrosion at the splitter terminals most likely due to water penetration. Due to the age, serviceability and unconventional metering configuration, consideration should be given to upgrading the service entrance equipment and relocating it to a more readily accessible area of the building, preferably above grade.

D5010 Electrical Service and Distribution	• **Supply and Install new service entrance switchboard and related Equipment (electrical component only):**	**$45,000.00**

Branch circuit panelboards generally consist of original (1965) circuit breaker type manufactured by Federal Pacific. A load centre, manufactured by Cutler Hammer was installed when the kitchen equipment was added in the Teacher's room.

Panelboards are generally mostly assigned, with several equipped with "mini-breakers" due to lack of available breaker space. Panel directories are incomplete, breaker locks are not installed where required, and bonding conductors do not appear to be present in feeder conduits. Computer and other sensitive electronic equipment circuits are not segregated from motor and miscellaneous loads. The following table is a summary of branch circuit wiring panels.

Panel Location	**Manufacturer**	**Rating (Amps)**	**Rating (Volts/Phase)**	**Total Circuits**	**Spare Positions**
Electrical Room Main Panel	FPE	200 Amperes	120/240V 1 Ph/3Wire	20	Six (6)
Principal Office Panel "N/A"	FPE	200 Amperes	120/240V 1 Ph/3Wire	20	None
Corridor 116 Panel "N/A"	FPE	100 Amperes	120/240V 1 Ph/3Wire	16	None
Corridor 110 Panel "N/A"	FPE	100 Amperes	120/240V 1 Ph/3Wire	16	None
Teacher's Room Panel "N/A"	Cutler Hammer	125 Amperes	120/240V 1 Ph/3Wire	32	Nineteen (19)
Boiler Room Panel "N/A"	FPE	200 Amperes	120/240V 1 Ph/3Wire	20	Four (4)

Due to the age, serviceability and lack of spare capacity to handle electrical load growth, consideration should be given to replacement of the original FPE panelboards.

D5010 Electrical Service and Distribution	• **Supply and install new panelboards and related feeders:**	**$60,000.00**

The original mechanical equipment is controlled by magnetic starters manufactured by Square D. This equipment appears to be operating satisfactorily.

Refer to electrical pictures 1 through 3.

Total estimated probable cost associated with Subsection D5010: **$105,000.00**

D5020 Lighting and Branch Wiring

This subsection covers the building lighting system, exit lighting, emergency lighting, branch circuit wiring and wiring devices.

The main lighting system for this building consists of several types and vintages of fluorescent fixtures. There are also a few incandescent light fixtures in washrooms, mechanical rooms and utility rooms. Classrooms typically utilize four lamp, pendant mounted fixtures equipped with steel louvers. The Multi-Purpose room is lit using four lamp, surface mount fixtures complete with acrylic lenses and wire guards. The school corridors are generally lit using surface mount two lamp lensed fixtures. The lighting system equipment generally incorporates T12 lamps and magnetic ballasts. The condition of the lighting system is generally poor. Light levels in Classrooms are generally higher than required due to the use of four lamp fixtures. Line voltage switching is provided locally. The stage area is lit using a system of pot lights equipped with a combination of incandescent and self ballasted compact fluorescent spiral lamps.

Teaching spaces require high quality visual environments. Lighting affects the ability of students to perform visual work, impacts their aesthetic sense and underlies their feelings of comfort and well-being. Important design criteria for lighting classrooms include the type of lighting system, luminaire layout, illuminance, colour rendering, electrical controls and energy efficiency. The Petite Riviere elementary classrooms utilize a pendant mounted lighting system, with most of the light directed downward. Luminaires are arranged in two evenly spaced groups, parallel to the window wall with a third row at the front of the room parallel to the board. The row closest to the windows is separately switched to take advantage of day lighting. The luminaires do not have diffusers, but rely on a system of steel louvers to reduce glare from the exposed lamps. The lamps employed in these fixtures are a assortment of 34 watt, T12, cool white and some warm white type with varying colour temperatures and colour rendering indexes.

The lighting system, while typical for school classrooms of the time, is not consistent with current design standards. The light fixtures are beyond their useful life and should be replaced with modern energy efficient luminaries. The manufacture of T12 lamps is being phased out by the Federal Government over the next few years in favor of more energy efficient lamps.

Recent educational facilities designed for the Nova Scotia Department of Education utilize a lighting system incorporating energy efficient electronic ballasts and T8 lamps with a colour temperature of 3500 K and a colour rendering index (CRI) of 85. This system provides a superior lighting environment while conserving energy consumed by the artificial lighting system.

D5020 Lighting and Branch Wiring	• **Supply and Install new light fixtures and associated wiring: $95,000.00**

The exterior of the building is equipped with several types and vintages of luminaries. Wall mounted light fixtures use high intensity discharge (HID) lamps, fluorescent and incandescent lamps. Some areas are lit using fluorescent soffit mounted linear fixtures.

Emergency lighting consists of battery packs and remote heads. Based on the observed quantity and location, it is unlikely that there will be sufficient illumination produced during power interruptions to comply with the requirements of the National Building Code.

Exit lights appear to be in good condition.

D5020 Lighting and Branch Wiring	• **Supply and Install 12 emergency lighting units and associated wiring:**	**$15,000.00**

The majority of the branch circuit wiring would have been in service for approximately 48+ years. A review of the ceiling spaces indicate that wiring has in many cases been installed without benefit of proper supports to the requirements of Section 12 of the Canadian Electrical Code. At the time of our site visit, there were no reported problems with the wiring system. Wiring devices (receptacles and switches) in most of the building are original equipment. Generally, the receptacles are old and many were noted to have damaged faces. A typical teaching area is equipped with only two receptacles. The use of extension cords is required to provide power for computers and other equipment. The number of receptacles should be increased, consistent with a modern educational facility.

D5020 Lighting and Branch Wiring	**Supply and Install new wiring devices and associated branch circuit wiring modifications:**	**$25,500.00**

Refer to electrical pictures 4 through 8.

Total estimated probable cost associated with Subsection D5020: **$135,500.00**

D5030 Communications and Security

This subsection covers the public address system, building voice and data system, television distribution system, fire alarm system, intrusion alarm system and closed circuit television system.

Communication service to the building consists of a several small telephone cables which feed overhead from a terminal pole in the rear parking lot to a terminal located in the Boiler Room.

The building is not equipped with a public address system. Typically, a modern educational facility would be equipped with a central public address and intercom system with speakers and call back stations located in all student areas. There is a Class dismissal system controlled by a Paragon electronic time clock. Reports are that the time clock is relatively new and there are no problems evident.

Consideration should be given to the installation of a modern public address system complete with the class dismissal feature. This should be budgeted for within the next five years

D5030 Communications and Security	• **We estimate the probable cost to supply and install a Public Address in this facility :**	**$20,000.00**

The building contains a modest structured wiring system, which typically provides two communication outlets per classroom via Category 5 cable. There is no dedicated telecommunications Server room in the building however there is an equipment wall rack containing patch panels, switches and a server located in the Teacher's room. The wiring for the network has been retrofitted throughout the building. This system appears to meet the needs of this facility.

There is no multimedia system installed in the building to facilitate the distribution of audio/ visual signals to the teaching areas.

The building did not appear to be equipped with a television distribution system.

The building did not appear to be equipped with a central telephone system.

No closed circuit television system (CCTV) was evident.

Consideration should be given to an upgrade of the existing structured wiring system, consistent with a modern educational facility. This would include a dedicated Server room to house wiring racks, patch panels, switches and head end equipment. The installation of a Category 6 structured wiring system incorporating voice and data horizontal distribution and backbone cabling is standard in all recently constructed educational facilities.

The following communication outlets are proposed for a typical classroom:
1. One dual data outlet at teacher's desk.
2. Two dual data outlets for general use.
3. One data outlet in ceiling space for future LCD projector.

D5030 Communications and Security	• **We estimate the probable cost to supply and install a Category 6 network to carry voice and data throughout the facility :**	**$38,000.00**

A television distribution system is standard in all recently constructed educational facilities and is recommended for this school. A CATV main terminal equipment rack will be required capable of housing the head end equipment. A video distribution system would be installed, including coaxial cable and television outlets in all teaching areas, cafeteria, gymnasium and selected common areas. The infrastructure to accommodate video/data LCD projectors in each teaching area will be provided. A multimedia outlet will be installed at the teacher's desk connected to the projector location. Each teaching area will have one CATV outlet located at the teacher's desk. All CATV outlets will be capable of operating up to 1000 MHZ and will be bi-directional.

D5030 Communications and Security	• **We estimate the probable cost to supply and install a complete CATV system throughout the facility (LCD Projectors NIC):**	**$27,500.00**

The building is equipped with a fire alarm system with the control panel located in the basement electrical room and includes pull stations and bells. The system, manufactured by Northern Electric is a conventional type (non addressable) and appears to be original equipment. There is no Annunciator panel visible from the front vestibule. The National Building Code requires a fire alarm and detection system in a school building with an occupant load with more than 40 and Paragraph 3.2.4.10 requires fire detectors to be installed in storage rooms, service rooms, janitor's rooms and rooms in which hazardous substances are stored. Based on this, a complete fire alarm system replacement should be undertaken as soon as funding permits.

D5030 Communications and Security	• **Supply and install a modern fire alarm system:**	**$20,000.00**

The building is equipped with an intrusion alarm system including a control panel and motion sensors strategically located in selected rooms. The system was manufactured by DSC (Model PC2550). The control panel resides in the basement electrical room. The security system keypad is located at the main entrance. There are no reported problems with the system; however, this equipment is no longer supported. A system replacement with extended coverage should be budgeted for within the next five years.

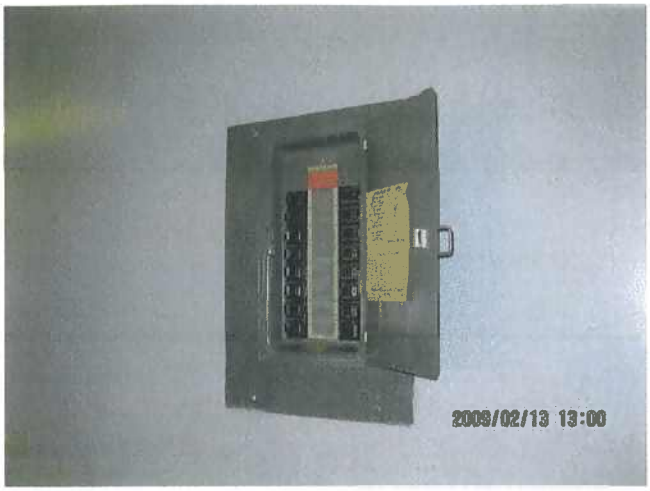
Typically, an educational facility would be equipped with a complete video surveillance system, including interior and exterior coverage of all entrances and circulation spaces. The system would include digital colour cameras, digital recording device, power over Ethernet (POE) switches, wiring and appropriate software.

D5030 Communications and Security	• **We estimated the probable cost to supply and install a modest CCTV system for this building to be :**	**$19,500.00**

Refer to electrical Pictures 9 through 12.

Total estimated probable cost associated with Subsection Total D5030: **$125,000.00**

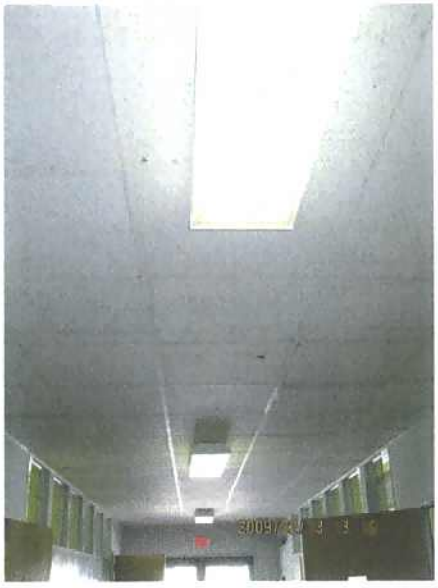
Electrical Picture #1
Electrical Service Entrance Equipment in Basement.



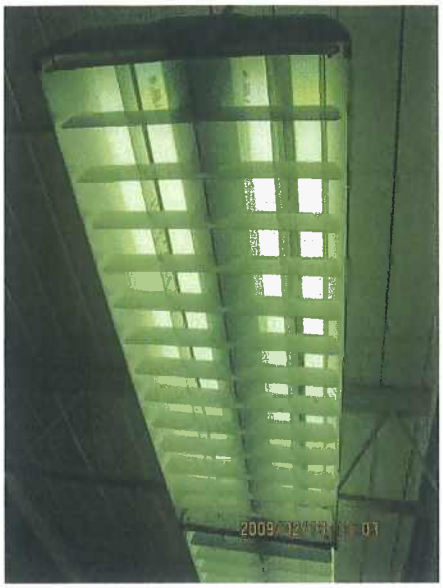
Electrical Picture #2
Typical Electrical Panel

Electrical Picture #3
Electrical Basement Splitter Terminal Corrosion.

Electrical Picture #4
Typical Classroom Lighting



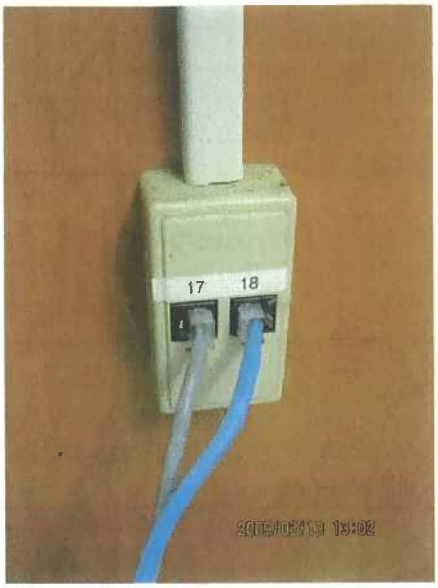
Electrical Picture #5
Typical Corridor Lighting



Electrical Picture #6
Typical Classroom Luminaire

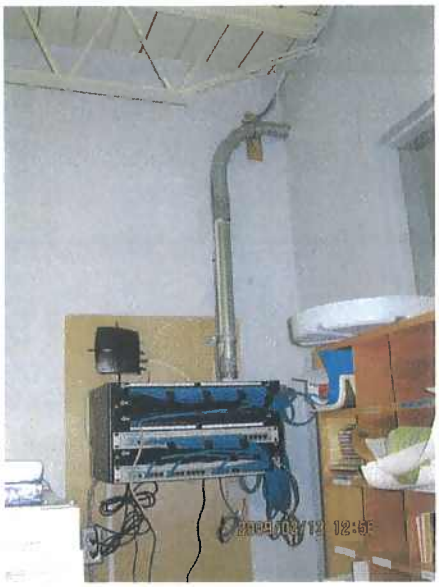
Electrical Picture #7
Multi Purpose Room Lighting

Electrical Picture #8
Typical Emergency Lighting Unit



Electrical Picture #9
Typical Classroom Data Outlets

Electrical Picture #10
Fire Alarm Panel



Electrical Picture #11
Data Rack and Switches

Electrical Picture #12
Class Dismissal Time Clock

SOUTH SHORE REGIONAL SCHOOL BOARD

March11, 2009

Sewage Disposal Report

Prepared by: Able Engineering

Petite Riviere:

Sewage Management at this school is accomplished, or attempted, by means of a 13,650 gallon holding tank (see figure 10). The tank is located behind school and has large trees growing over it (figure 11). In addition, it has not been pumped out since 1989. It therefore is not functioning as a holding tank anymore. Signs of malfunction were looked for, but with the snow cover, none were found. The tank is located at the crest of a steep slope towards the river, and is almost certainly leaching partly treated effluent to the river via shallow groundwater flow, and possibly overland flow in the spring.

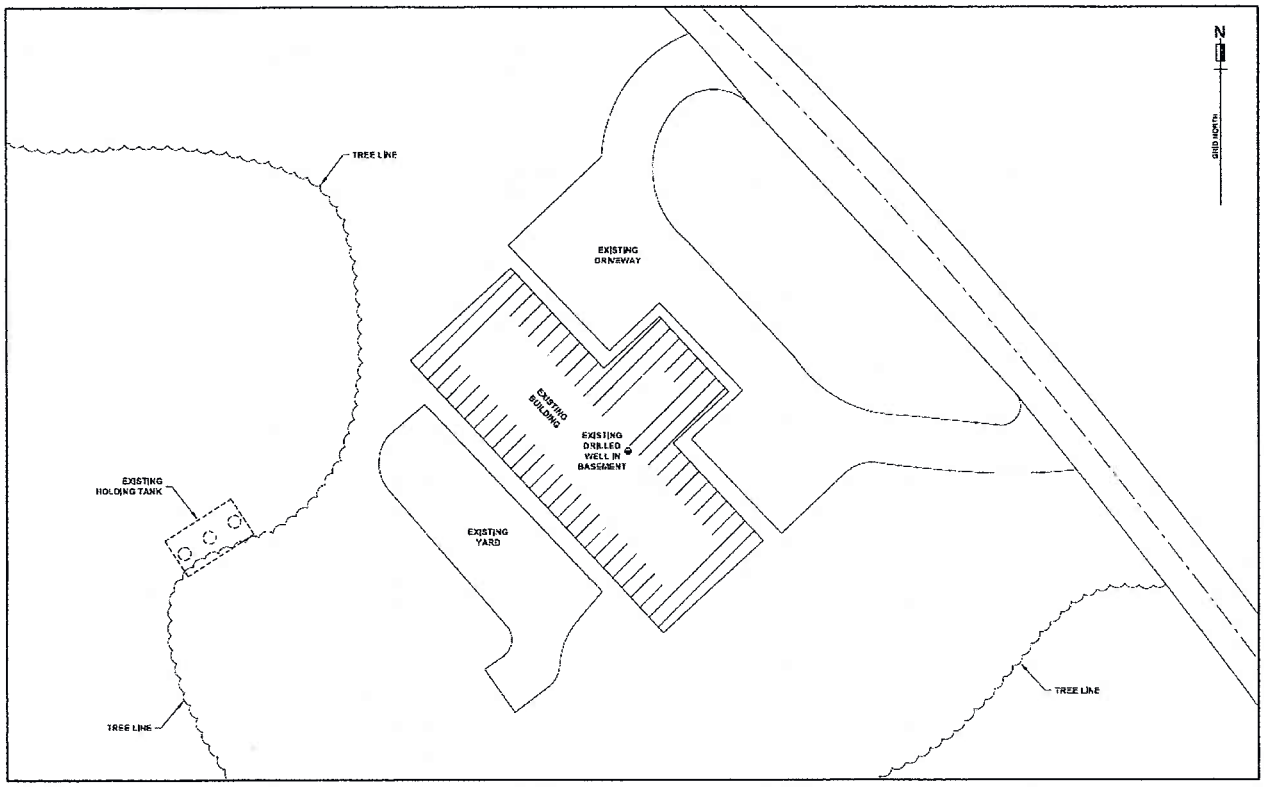


Figure 10 - Site sketch showing location of holding tank for Petite Riviere school

Figure 11 – Holding tank at Petite Riviere School

The school is served by a drilled well, located in the basement of the school. This would not meet current well drilling regulations.

Recommendation -> Notify Department of Environment regarding the failure of the existing holding tank. Immediately design and install a new sewage disposal system.

SOUTH SHORE REGIONAL SCHOOL BOARD

March11, 2009

Picture Log

3. Picture Log

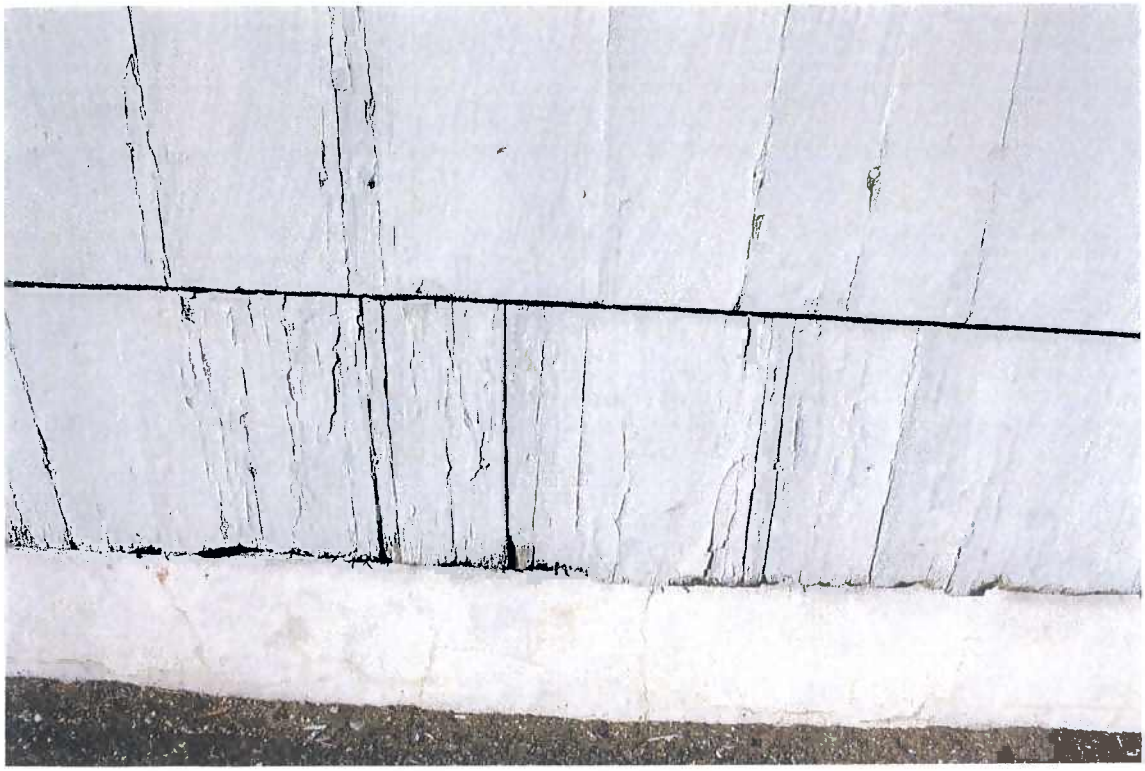
Figure 1 Front Entrance – Underground coal bunker is below the driveway, directly in front of the school.

Figure 2 Play Ground New Equipment

Figure 3 Pavement is in poor condition

Figure 4

Figure 5 Typical Classroom



Figures 6 The lower courses of shingles should be replaced and the sheathing checked for rot. All remaining shingles should be scraped and painted.

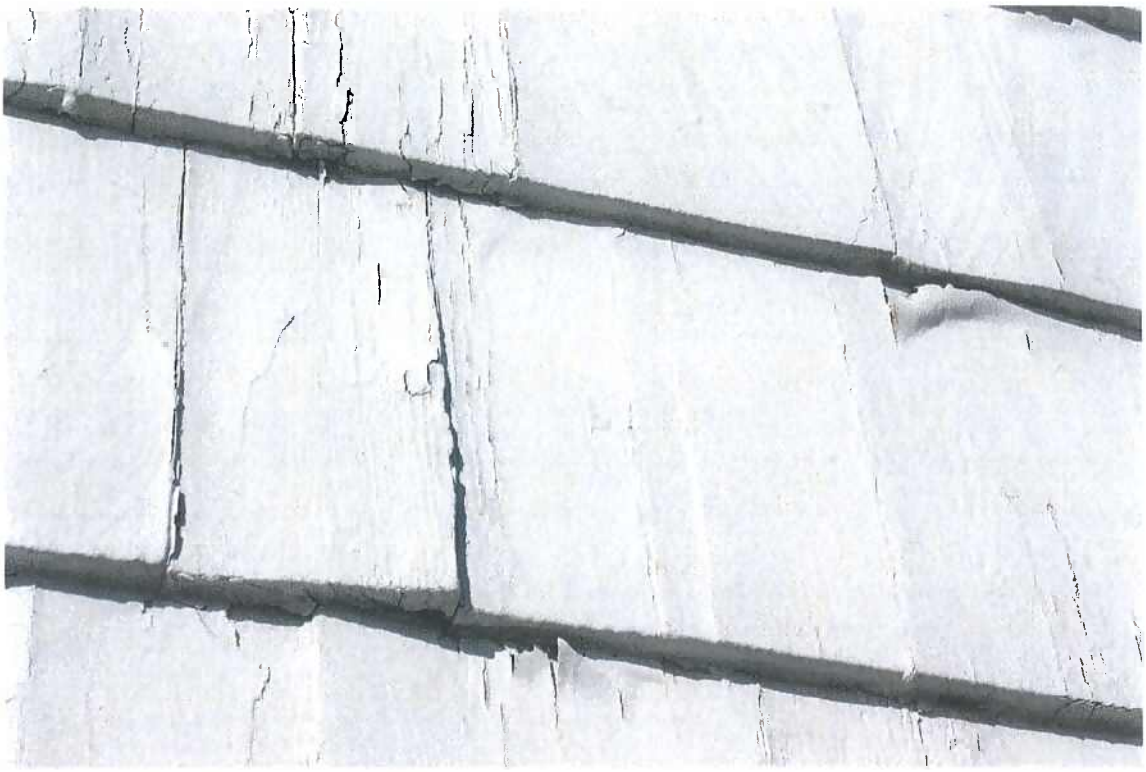


Figure 7 Shingles need attention.

Figure 8 Gym / Multi purpose room. Note: lack of accessible access to stage. Prinicpal's office and Administrative office are accessed from stage.

Figure 9 Exposed steel joints could be replaced with suspended acoustic tile ceilingsto reduce noise.

Figures 10 Administrative space and staff space is very limited. This is the Principal's office.

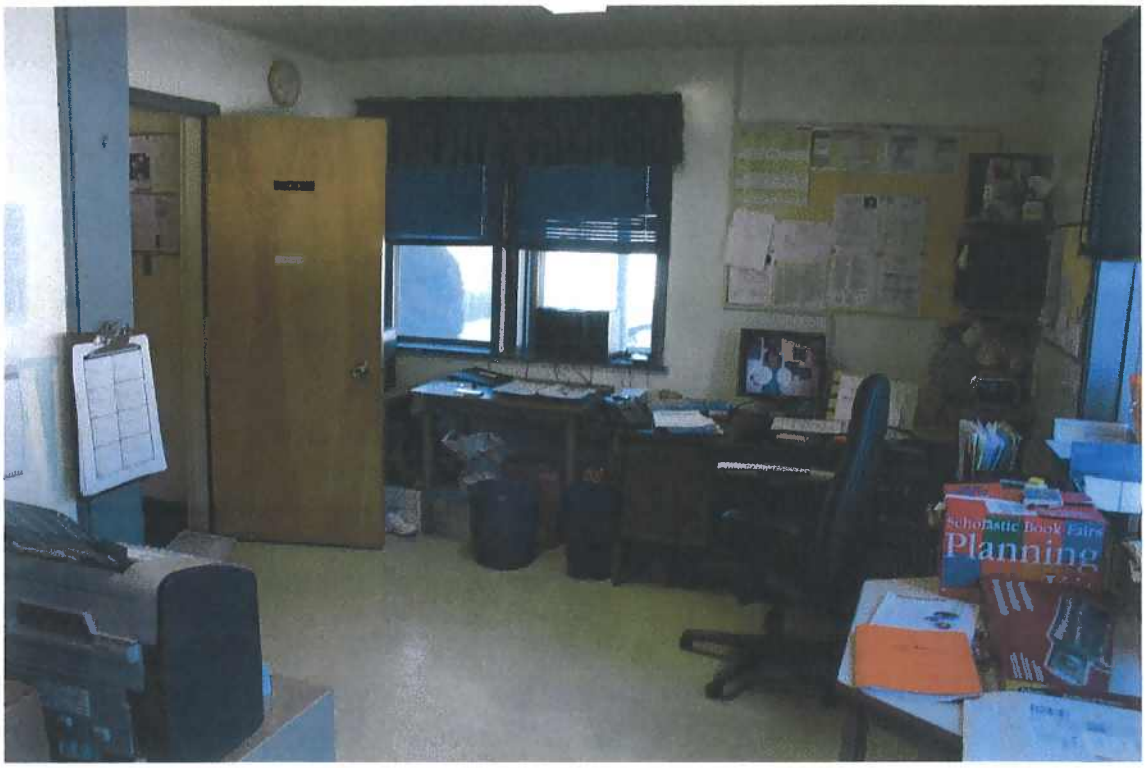
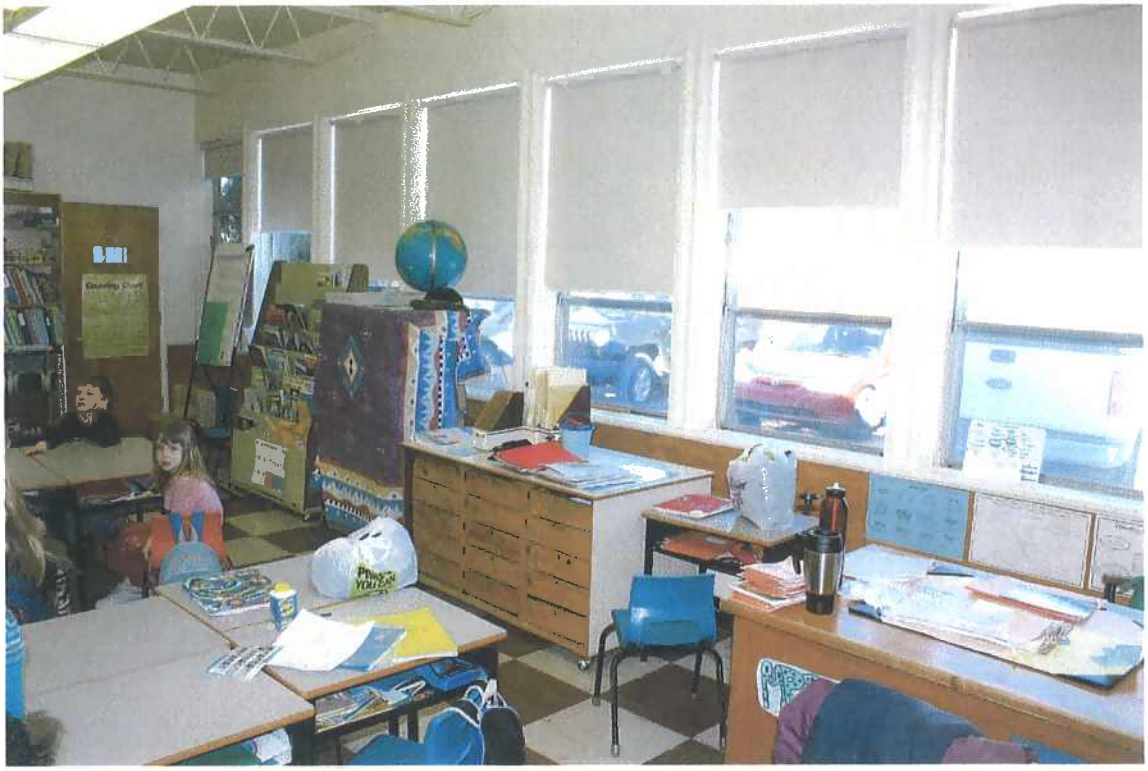


Figure 11 Administration area, accessed via the stage.

Figure 12 Limited storage space.



Figures 13 Windows and doors are 48 years old and need to be replaced.

Figure 14 Front Entrance hall.

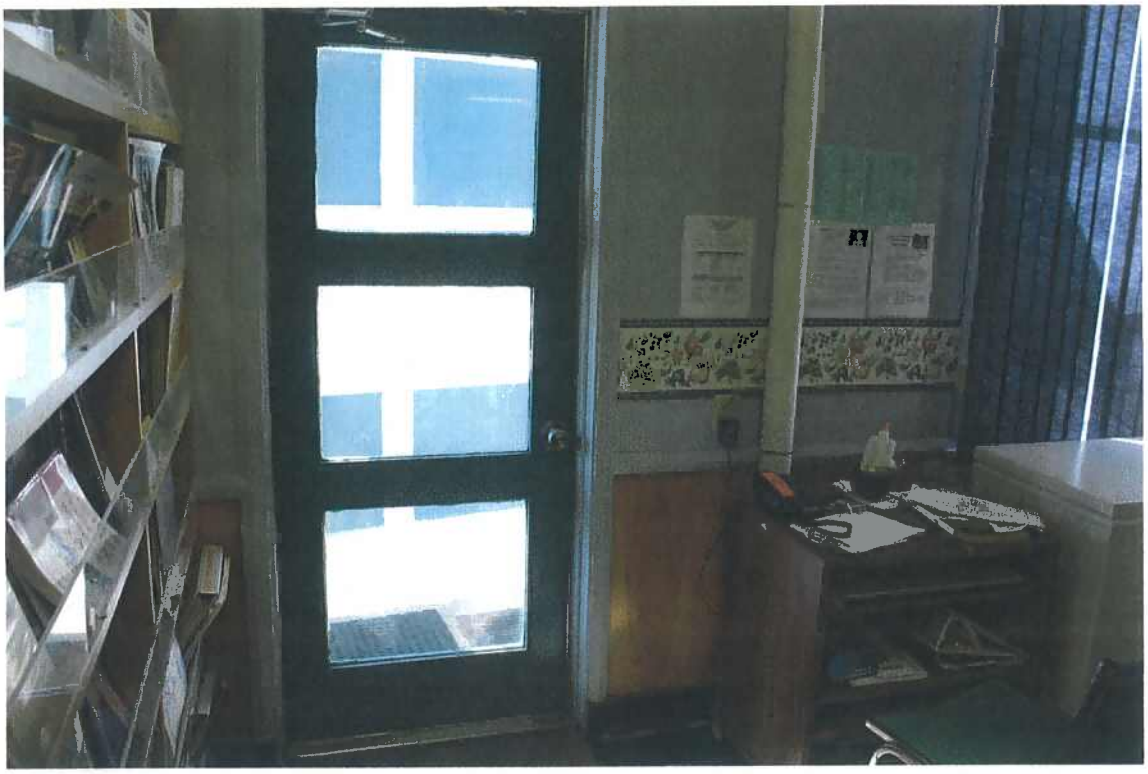


Figure 15 Outside door, original.

Figure 16 School Plaque

SOUTH SHORE REGIONAL SCHOOL BOARD

March11, 2009

Floor Plans

Additional Noted Areas

- 004 Panel Room
- 105 Stairwell
- 107 Janitor's Closet
- 109 Teacher's Washroom
- 115 Primary Washroom
- 121 Kindergarten Washroom
- 124 Storage
- 125 Janitor's Closet

GRAVEL

167'-6"

14'-8" | 6'-5" | 17'-7" | 11'-2" | 18'-4" | 30'-0"

Library 113 | Primary Classroom 114 | 112 | Girl's Washroom 123 | Boy's Washroom 127 | 121 | Teacher's Room 120 | Music Room 120 | Classroom 119

Alcove 122 | 124 | 125 Store | Alcove 126

Corridor 110 | Corridor 116

Classroom 112 | Classroom 111 | Multi-Purpose 103 | Classroom 117 | Classroom 118

22'-6"

56'-8"

GRAVEL

GRAVEL

Vestibule 101 | Platform 104 | Vestibule 102

Principal 106 | 108a | Secretary Office 108 | 105

15'-3"

17'-11"

PAVING

29'-6"

Ground Floor Layout

46'-3"

29'-6"

PAVING

Unexcavated

Unexcavated | 004 Electrical Room 003 | Unexcavated

Furnace Room 001

Coal Bunker 002

41'-3"

Basement Floor Layout

KEY PLAN

LOGO

SP. DUMARESQ ARCHITECT LTD

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GRAPHIC SCALE

DATE | MARK | ISSUE

STAMP

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CHECKED BY:	SPD
REVIEWED BY:	
APPROVED BY:	
AS-BUILT CHECK	
DATE:	JANUARY 2009

PROJECT
PETITE RIVIERE ELEMENTARY SCHOOL

YARMOUTH COUNTY NS

PROJECT NO: 09

SHEET TITLE
EXISTING FLOOR PLAN

INTERNAL NO:

303

SHEET OF

Additional Noted Areas

- 004 Panel Room
- 105 Stairwell
- 107 Janitor's Closet
- 109 Teacher's Washroom
- 113 Primary Washroom
- 121 Kindergarten Washroom
- 124 Storage
- 125 Janitor's Closet

GRAVEL

157'-6"

14'-8" 6'-5" 12'-7" 11'-2" 18'-4" 30'-0"

Library 113 | Primary Classroom 114 | Girl's Washroom 123 | Boy's Washroom 127 | Teacher's Room 120 | Music Room 120 | Classroom 119

Corridor 110 | Corridor 116

Classroom 112 | Classroom 111 | Multi-Purpose 103 | Classroom 117 | Classroom 118

Vestibule 101 | Platform 104 | Vestibule 102 | Principal 106 | Secretary Office 108 | 105

GRAVEL

PAVING

PAVING

56'-8"

15'-3"

17'-11"

29'-6"

46'-3"

Ground Floor Layout

29'-6"

Unexcavated

Unexcavated | 004 Electrical Room 003 | Unexcavated

Furnace Room 001

Coal Bunker 002

41'-3"

Basement Floor Layout

KEY PLAN

LOGO

SP DUMAREsq ARCHITECT LTD

6309 COBURG ROAD, THIRD FLOOR HALIFAX, N.S.

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GRAPHIC SCALE

DATE | MARK | ISSUE

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REGISTERED MEMBER N.S. ASSOCIATION OF ARCHITECTS S.P. DUMAREsq

SCALE 1/8" = 1'-0"
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CHECKED BY: SPD
REVIEWED BY:
APPROVED BY:
AS-BUILT CHECK
DATE: JANUARY 2009

PROJECT
PETITE RIVIERE ELEMENTARY SCHOOL

YARMOUTH COUNTY NS

PROJECT NO: 09

SHEET TITLE
EXISTING FLOOR PLAN

INTERNAL NO:

303

SHEET OF

SOUTH SHORE REGIONAL SCHOOL BOARD

March11, 2009

Summary Spreadsheet

Categories			
1 - Urgent - Health and Safety		4 - Preserve Building Value	
2 - Code Requirement		5 - Occupants' Comfort	
3 - Support Educational Process		6 - Appearance or Convenience	

#	Item	Current Condition	Project	Cat.	Cost to extend building life 5 Years	Cost to extend building life 25 Years
	EXTERIOR					
PET01	Asphalt	Poor	Repair and crack fill asphalt as needed	1	5000	
PET02	Asphalt	Poor	Replace asphalt	1		70000
PET03	Rear of school	Gravel	Pave graveled area	1		15000
	BUILDING ENVELOPE					
PET04	Roof	Fair to Good	Repair as needed	5	15000	
PET05	Roof	Fair to Good	New Roof capsheet and high roof flashing to extend life 12-14 yrs.	5		45000
PET06	Windows	Original	Replace windows			80000
PET07	Doors	Original	Replace doors			35000
PET08	Shingles	Fair	Scrape replace and repaint shingles	4	15000	
PET09	Gym wall cladding above lower roof	Fair	Replace cladding	4	15000	
	INTERIOR FINISHES					
PET10	Floors - VAT Tile	Fair to Poor	Replace floor tiles	1	2000	
PET11	Floors - VAT Tile	Fair to Poor	Replace floor tiles	1		15000
PET12	Walls	Good - Fair	Paint walls	6	10000	
PET13	Washrooms	Some staining of urinals	Clean stained Urinals	6	500	
PET14	Woodwork and trim	Good - Fair	Clean and Refinish woodwork and trim	6		15000
PET15	Doors	Good - Fair	Clean and Refinish doors	6		5000
PET16	Ceilings	Bare steel and deck	Install suspended ceiling througout	6		15000
	Electrical (see attached reports for details)					

PET17	Service entrance	Original	Construct new elctrical room on exterior of building. Supply and install a new electrical service entrance switchboard and related equipment	1		95000
PET18	Panelboards and feeders	Original	Supply and install new panelboards and related feeders	1		60000
PET19	Light fixtures	Original	Supply and install new light fixtures and associated wiring	4		95000
PET20	Emergency Lights	Original	Supply and install 12 new emergency lighting units and associated wiring	1	15000	
PET21	New Outlets and wiring	Original	Supply and install new Wiring devices and associated branch circuit wiring modifications	4		25500
PET22	Public Address Sytem		Supply and Install a PA system	3	20000	
PET23	Cat 6 Data service		Supply and install a Category 6 network for voice and data	4		38000
PET24	CATV system		Supply and install a CATV system with LCD projectors	4	27500	
PET25	CCTV surveillance sytem		Supply and install a CCTV system	4	19500	
	Water, Plumbing and Sewage (see attached reports for details)					
PET26	Water supply	Adequate supply but very rusty appearance. Well in basement	Replace well and water treatment system	3	28000	
PET27	Water Piping	Original	Replace Domestic Water Piping	5		30000
PET28	Urinals	Fair	Replace Urinals	4		5000
PET29	Lavatories	Fair	Replace Lavatories	4		8000
PET30	Water closets	Fair	Replace water closets			1500

PET31	Custodial sink	Not to code	Replace custodial sink trim	2	2000	
PET32	Underground Drainage	Unknown	Video inspection of underground sewage system	4	500	
PET33	Sewage disposal	See Able Engineering report	Replace Sewage Disposal system	1	85000	
PET34	Sanitary drainage	Unknown	Replace Sanitary Drainage system	4		35000
PET35	Rainwater drainage	Unknown	Replace Rainwater drainage system	4		15000
PET36	Rainwater drainage	Fair	Replace ABS piping	4	1000	
	HVAC (see attached reports for details)					
PET37	Boiler	Good	Insulate boiler pipes	4	5000	
PET38	Boiler piping	Fair	Replace boiler circulation pumps	4	1500	
PET39	Fuel Storage and feed	Poor location	Relocate Oil Tanks and feeds - Demolish and fill in coal bunker.	1	60000	
PET40	Furnace Room	Firestop missing on pipes	Install firestop as needed	2	10000	
PET41	Combustion air intake		Provide adequate combustion air intake	2	2000	
PET42	Heating distribution system		Replace heating system main distribution pipes	4		38000
PET43	Vestibule heating	Poor	Add Force Flow heaters in vestibules	4	4000	
PET44	Multi-purpose area ventilation	Poor	Add motorized dampers to ventilation system	5	1500	
PET45	Washroom exhaust fan	Poor	Replace washroom exhaust fans	1	4500	
PET46	Heating Controls	Fair	Provide additional heating Zone control	5	5000	
PET47	General ventilation	Limited in scope	Provide Modern building Ventilation system c/w DDC controls and building mods	5		347000
	BUILDING CODE					
PET48	Fire Alarm System	Original	Install new Fire alarm system	2		20000
PET49	Front Entrance	No automatic door opener	Install electric front door opener	2		4000

PET50	Washrooms - Student	Not accessible	Make student washrooms accessible	2		6000
PET51	Washrooms - Staff	Not accessible	Make staff washrooms accessible	2		6000
PET52	Gym stage and Offices	Not accessible	Construct handicap ramp to gym stage	2	6000	
	BUILDING FUNCTIONS					
PET53	Gym Multi/Purpose area	Acoustic problems for surrounding rooms	Add door seals and acoustic materials to gym and nearby classrooms	3	5000	
PET54	Offices -	Too small - Lack of privacy	Relocate offices to other space	5		10000
PET55	Meeting rooms -	No Meeting rooms	Create meeting rooms from existing space	5		5000
PET56	Storage	Insufficient	Create storage rooms from existing space	5		5000
	TOTAL				365500	1144000

Note: These areas should be provided to meet 2009 NSBE standards.

	Area
	Learning Centre - 900 sq ft.
	Arts - 900 sq ft.
	Resource/Guidance - 250 sq ft.
	Teachers Work Area - 400 sq ft.
	Teachers Staff Rm. - 400 sq ft.
	Storage - 400 sq ft.
Net Area	3250 sq. ft.
Gross area (net x 1.5)	4875 sq. ft.
Estimated cost @ $230/sq.ft.	**$1,120,000**