REPORT on BUILDING CONDITIONS, MAINTENANCE, and RENEWAL.

ST. CATHERINE'S ANGLICAN CHURCH.

1058, 1062 RIDGEWOOD DRIVE, NORTH VANCOUVER, B.C.

PREPARED BY SIMON LeMARE
NOVEMBER, 2017.

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INTRODUCTION.

The following is a report, prepared by myself, that contains information pertaining to the present and possible future condition of buildings on property owned by the Anglican Church of Canada, located at 1058 and 1062 Ridgewood Drive, North Vancouver, B.C. In addition to a summary of existing conditions, the report attempts to identify short, medium, and long term maintenance requirements, provides a list of areas which have been found to contain asbestos, outlines what may be done to provide enhanced access to persons with disabilities, describes a number of possibilities for upgrades to the buildings, and, finally, shows a number of options for the Church to take as it moves forward.

DISCLAIMER

The report has been prepared according to on-site inspections that took place during November, 2017.
The inspections were undertaken by myself, with assistance from the following qualified tradespeople and technicians.

Bruce Carroll	Ambleside Electric
Rob Horsak	R. Horsak Plumbing
Bud McKay	Cornerstone Roofing
Michael Carneil	Boulder Mechanical
Andreas Dahl	AW Dahl Woodworking
Craig Knowles	Perimeter Drainage
Ray Demeyer	Vertech Consulting
Peter Gray	Gray Project Management

All reasonable attempts were made to thoroughly inspect the property, however, no liability is accepted or implied for the condition of any areas not clearly visible to the naked eye or accessible without invasive or other disruption.

All figures regarding costs are to be considered approximate, are presented in today's dollars, and no liability is accepted for actual costs if and when any alterations are made.

All actual conditions of the buildings and grounds are to be taken as at time of inspection.

This report does not address any concerns or conditions related to seismicity.

The results presented in this report are an accurate report of my findings, however, they are presented in accordance with the limitations listed above.

Signed, November 30, 2017

Simon LeMare.

INSPECTION RESULTS, 1062 RIDGEWOOD DRIVE.

This house on this property was originally constructed in 1956. A partial second floor was added in 1977 and various other renovations have taken place over time. Total floor area, including basement, amounts to about 3125 square feet. The upper floor consists of 2 bedrooms and a 3 piece bathroom with a roof deck off the main bedroom and over the kitchen below. The main floor has a kitchen, living room, dining room, 3 piece bathroom and 2 bedrooms. The basement includes a utility/laundry room, 3 piece bathroom, bedroom and a kitchen/living room with access to the outside via a stairwell. At the west side of the house is an attached single carport.

ROOF.
-The main roof is clad with interlocking asphalt shingles, installed in 1997. They are in poor condition and should be replaced as soon as practically possible.
-The flat roof over the kitchen has a torch-down membrane in good condition.

CHIMNEY.
-Concrete bricks, good condition.

GUTTER, DOWNSPOUTS, and PERIMETER DRAINAGE.
-Gutters are aluminum, some 4”, some 5”. They are in fair condition, all need cleaning.
-Downspouts are aluminum, in fair condition.
-Judging by the visible portions of the perimeter drainage system, where the tiles are at the surface to pick up the downspouts, it is likely that the system is constructed of 4” x 1’ concrete drain tiles. This is a poor material for a drainage system, as certain soils will cause the concrete to deteriorate to the point of dissolution. We were unable to insert a scope into the system due to debris in the vertical portion of the system.
While no ground or rain water ingress was noted in the basement, this could become a serious issue over time and should be monitored regularly.

GUARDS, RAILINGS, EXTERIOR DECKS and STAIRS.
-The wood railing around the upper roof deck is starting to rot, and the joints between the deck boards are clogged with debris (they have been lain too close together), causing rot to be imminent.
-The landing and stairs off the kitchen are relatively new and in good condition.

EXTERIOR CLADDING and TRIM.
-Mostly in good condition with the exception of deterioration of the siding where the upper wall meets the carport roof.

EXTERIOR PAINT.
-Fair to good condition.

WINDOWS and DOORS.
-The basement windows are retrofitted double-glazed vinyl, and in good condition.
-The kitchen and upper floor windows are double-glazed aluminum, presumably from 1977 and, while not the best, are adequate.
-The remaining windows on the main floor are original single-glazed aluminum. They perform poorly in that they transmit a lot of heat, and are subject to condensation and mould growth.
-The window adjacent to the bottom of the upper stairs represents a danger, as a person slipping or falling on those stairs could conceivably fall into or through it. The glass should be tempered.
-The aluminum sliding door to the roof deck is difficult to slide as the track needs cleaning. As well, the inner handle is broken.
-Other entrance doors are in good condition.

GROUNDS and PROPERTY.
-No serious deficiencies noted.

ELECTRICAL SYSTEM.
-Generally good condition, with the following minor deficiencies noted.
-The upstairs bathroom switches are very close to the minimum 1 meter distance required from the bathtub.
-The receptacle in the main floor bathroom should be a ground-fault type.
-The gas piping system is not bonded to the main ground.
-The various circuits in the main panel (located on the north wall of the laundry/furnace room) are not labelled.
-The wire feeding the outlet below the panel should be mechanically protected.

PLUMBING SYSTEM.
Generally good condition, with the following deficiency noted.
-Water flow on cold side of upstairs bathroom sink is very low.
-The main shutoff and pressure-reducing valve located in the southwest corner of the basement appear in good condition.

HOT WATER TANK, FURNACE.
-The gas hot water tank was new in Nov. 2013 and is in very good condition.
-The furnace appears in good working order.

BATHROOMS.
-All fair to good condition with the following exceptions noted.
-Some of the wall tiles at the tub/wall junction in the upstairs bathroom are starting to come away from the wall, indicating possible water ingress. Should be addressed as neglect could allow serious damage.
-Some water damage at the east tub/wall/floor junction in the upstairs bathroom.
-Some water damage to the sink cabinet where it meets the floor in the basement bathroom.
-Fan grille in basement bathroom needs cleaning.

KITCHEN
-Generally in good condition.

OTHER.
-Walls, ceilings, floor coverings in good condition.
-Hearth depth at fireplace is slightly inadequate (15.25”, should be 15.75”), as carpet projects onto it.
-The railing around the top of the stairs to the basement is not adequate by today’s standards (30” high, should be 36”; is climbable, and the openings in it are too large).
-Attic above main floor bedrooms shows minimal insulation, some rodent droppings, otherwise good condition.
-Concrete foundation appears sound, no cracks noted.

INSPECTION RESULTS, GYMNASIUM BUILDING and ENTRANCE MEZZANINE.

-The gym building was originally constructed about 1952, additions were possibly added later in the 1950‘s, and an entrance mezzanine was extended about 1962 as part of the church construction
-The gym and basement below each cover the same area with a total floor space of about 7400 square feet.
- Adjoining the gym to the east are a stage, storage rooms, the rector’s office, all over a basement storage area. To the south east is a female washroom, which is over the furnace room. Located to the south are a meeting room and kitchen, which are over offices and the electrical room. Total floor area is about 1670 square feet.
- The entrance mezzanine is constructed on-grade, consists of an entrance hall, a male washroom, a washroom for persons with disabilities, and connection to other areas of the building complex. Total floor area is about 850 square feet, including stairwells.

STRUCTURE
-All the buildings in this complex are wood frame over a concrete foundation. The gym itself is of post-and-beam construction with a slightly sloped roof, whereas the other parts are conventionally framed and have flat roofs.
- With exceptions noted below (under Roofs), the structures and foundations appear sound with no serious deficiencies seen.
- It should be noted that no original structural drawings were available therefore one is unable to make an assessment of the building from a seismic point of view.

ROOFS.
-The gym roof is clad with hot-mopped tar and gravel, of uncertain age. While the roof appears generally in a reasonably good condition, there are deficiencies.
The roof structure has a large overhang and the corners have sagged over time, allowing water to puddle beyond the drains and spill over the edge, coming through the fascia and roof decking. If left unattended for any length of time, this issue will cause significant damage. It is recommended that the roof be replaced, with special attention given to the location of new drains, and the fascias etc. should be inspected for rot ad replaced if any is found. At the same time it may be prudent to install rigid insulation between the roof deck and the new torch-down roofing material.
-The stage/office etc. roof is also clad in tar-and-gravel, probably the same age as that over the gym, however it is flat and susceptible to faster deterioration than a sloped roof. As such it has leaked recently and should be replaced, with larger drains, as soon as possible. Installing a system of tapered rigid insulation at the same time should be considered, which would minimize ponding.
-The meeting room/kitchen roof is clad with a torch-down system, replaced in 2013. The surface appears in good condition, however there is extensive ponding, probably due to some sagging of the roof structure; and the drains, while functioning, are undersized.

-The large storage shed and canopy roof at the north side of the gym has little edge projection beyond the sheathing beneath it, causing deterioration of both materials. As well, there are no gutters on this roof, allowing water to splash up the shed walls when it hits the ground during rain.

FURNACE CHIMNEY.
-Appears in generally good condition. Like many chimneys of its size and nature, it could possibly collapse in the event of an earthquake.

EXTERIOR CLADDING and TRIM.
-The horizontal cedar siding, while showing its age, has been painted fairly recently and appears in good overall condition.

PLAYGROUND.
-Inspection beneath the playground floor during rain showed extensive leakage. As the structure appears to be built of non-pressure-treated material, this situation will lead to rot and should be rectified as soon as possible.

WINDOWS and EXTERIOR DOORS.
-The windows are all in good condition, however, they are all single-glazed and without weather stripping, resulting in major heat loss and ensuing user discomfort.
-An item of serious concern is the large plate glass windows in the entry mezzanine. It appears that the glass is not tempered, in contravention of the current building code, and a real safety issue considering the amount of human traffic around them. Replacement with tempered, double glazed units would help satisfy a liability issue and also likely provide physical comfort.
-Doors are in generally good condition but are probably not insulated and are without weatherstripping causing substantial heat loss.

PERIMETER BUILDING DRAINAGE.
-The single-pipe ground and rain water drainage system surrounding the gym etc. flows into the system surrounding the church building.
-Overall the gym building drainage system appears to be barely adequate and in poor to fair condition. Scoping with a camera showed a deteriorated system of several types of materials, mostly sectional clay or concrete. Many of the sectional pipes have shifted and are not properly aligned.
The highest point of the system appears to be at the northwest corner of the gym. There is a floor drain just outside the northwest exit from the basement, which was scoped. Two serious issues were discovered here. First, some form of fuel oil was detected in the water in the perimeter drain. This was visible on the gloves of the technician performing the scope, and it could be smelt. The source of the oil was not apparent but should be investigated. Second, there seems to be a partial blockage, downstream,

about 2/3 of the way along the back of the gym towards the east. The cause of this blockage is unclear although it is probably from roots growing in the pipe.
From the high point it appears the system follows the north wall of the gym until its northeast corner, then turns to go under the building, coming out just east of the south basement exit, to flow into a sump in the middle of the outdoor space there.
Underground conditions such as rock or hardpan may have practically prevented the drain from going all the way around the rector's office, however there is a branch drain along the east wall of that office, flowing into the sump.
-From the sump, the water flows into the system surrounding the church building.
-As it was not possible, without invasive disruption, to scope the pipe presumably flowing around the west and southwest sides of the building, a judgement as to its condition and actual function has not been made.
-There is a small, possibly undersized, sump outside at the north end of the entry mezzanine. It should have a downturned 90 degree elbow fitted to its overflow, to minimize debris outflow. As it proceeds down vertically, the drain from this sump is nearly clogged and should be cleaned immediately.
-A cleanout/access to the drain system exists at the south end of the entry mezzanine. Water was run into the system from here and appears to drain along the west side of the church towards the main sump at the southwest corner of the church. Scoping provided inconclusive results as bends in the system near the cleanout prevented extensive penetration.
-No water was detected in the basement of the gym building complex, however it is recommended the issues noted above be addressed as soon as possible to minimize chances of its ingress.

ELECTRICAL SYSTEM.
-The main electrical service to the entire building complex is located at the southwest corner of the building, and comes into a dedicated electrical room in the basement below. Generally, the layout and condition of the electrical system are good with the following deficiencies:
Filler plugs are missing from the top of the disconnect switch on the east wall.
There appears to be an intermittent water leak from a drain pipe in the ceiling above the room access door, water from which is landing on an electrical box below.
A possible leak from a 3/4" water line is affecting the large electrical box in the north ceiling. The pipe and the box should be separated from each other to prevent electrolysis and resultant corrosion.
-In the main playroom under the gym the fluorescent light fixtures do not have lenses on them, which negates their CSA approval. The danger here, however remote, is that somebody, possibly a child in the pre-school, could accidentally send a ball or other object into a light, causing a bulb to shatter, showering them or others with glass. The same applies to the lights in the gym ceiling, and a number of other areas throughout the building.

-Bulb guards are required on lights in the storage room beneath the stage and at the n.w. church basement exit door, as they are lower than 7' from the floor.
-In the furnace room, fillers are missing in the panel, an adjacent outlet is not properly attached, BX cables adjacent to the chimney need to be attached, a junction box on the ceiling needs a cover and knockout fillers.
-In the kitchenette adjacent to the east basement room under the gym, receptacles should be ground-fault-interrupted type.
-In the gym, a cover plate or fixture should be installed to the outlet over the east exit door, there are no lenses on the overhead light fixtures (see above), receptacle cover plates are cracked (change to unbreakable type).
-Above the stage there is a light diffuser with coloured panels in it, which could be a fire hazard, some panels are distorted, possibly from heat. This issue is potentially very serious and should be addressed immediately.
-In the rector's office, the cover for the lighting control panel needs a locking device, the original lock has been painted over. There is also a broken receptacle on the west wall.
-No lenses on lights in female washroom.
-In the kitchen, a light is missing a lens, another one has a cracked lens. The receptacle next to the sink should be GFI type. (Note: if this is a 2 circuit outlet, the GFI breaker should be installed at the panel to prevent possible nuisance tripping).
-Lenses are missing on lights in both male and handicapped washrooms.
-The floor plug in the entry mezzanine next to the chapel entry door is damaged and loose. This could be dangerous, especially to a toddler or small child.

FURNACE AND HEATING SYSTEM.
-According to the service technician who regularly maintains the heating system, the furnace, pumps, water pipes, and radiators are all in good condition considering their age. The furnace is not highly efficient by today's standards but he cautioned that cost of replacement could take many years to balance in reduced fuel costs, and if properly maintained the unit could last up to 20 more years . Replacing the existing radiators and water pipes feeding them would be very expensive and, in his opinion, not worth the cost.
-A continuous and methodical maintenance program is required to keep the system operating properly.

PLUMBING SYSTEM.
-In the kitchen, much of the water piping system appears old and may need repiping soon. (By inference, this condition would apply to much of the building and should be kept in mind). There is evidence of water leakage onto the floor from the northwest sink, the hot water shutoff handle is missing under the southwest sink, and hot water is leaking from the faucet when turned on at the southwest sink.
-In the female washroom near the gym the right hand sink is slow draining and all 3 toilets would benefit from new flush valves, flappers, and braided supply lines.
-In the men's washroom near the main entrance, the sink shutoffs are very old and should be changed or at least periodically checked, the right sink cold shutoff handle is

missing, the urinal flush handle is loose and water is overspraying the unit, pressure may need to be adjusted. Toilets are good except replace the supply line on the south toilet. It should also be noted that the sink drains are susceptible to clogging.
-In the handicapped washroom the flush valve, flapper, and supply line should be replaced, and the supply line replaced on the hot side of the sink.
-The sink in the east playschool room below the gym has a very slow-draining drain.
-HWT in furnace room is getting old (2003), may need replacement soon, and in the same room a grey polybutylene T fitting above the electrical relays should be replaced, as this type of material is subject to failure.

KITCHEN.
-Aside from plumbing and electrical deficiencies noted above the kitchen appears in reasonably good condition, however, continuous and proper maintenance is essential.

WASHROOMS.
-Aside from deficiencies noted above, the washrooms appear in reasonably good condition. Continuous and proper maintenance is essential.
-The handicapped washroom appears to meet the requirements of the building code with the following exceptions.
-The toilet seat is slightly too high (by about 15mm), the lid of the tank is not bolted down, the centre line of the sink is too close to the side wall (actual distance 395 mm, should be 460 mm), there is not quite enough clearance under the front of the sink (actual distance 710 mm, should be 735 mm), the sink is located such that there is not enough side clearance to the radiator (sink would have to be moved about 380 mm to the right to comply), and there should be a coat hook on the door at least 1200 mm from the floor projecting outwards not more than 50 mm.

INSPECTION RESULTS, CHURCH BUILDING.

The Church building was constructed in 1962, connected to the existing gymnasium etc. by a flat-roofed entrance mezzanine built at the same time. The main structure is a modified wooden a-frame sitting over a full, mostly below-grade concrete basement. Adjoining the main hall is a flat-roofed chapel to the west. The main hall of the Church and adjoining offices are about 4930 square feet, the chapel etc. about 1320 square feet, and the basement about 6250 square feet.

STRUCTURE.
-The main structure is a modified a-frame design, constructed of wood, over a full, mostly below-grade concrete basement. The adjoined chapel is flat-roofed of conventional wood frame construction.
-The structures and foundations appear sound, with no serious deficiencies seen.
-It must be noted that, while architectural and other drawings were provided, no structural drawings were available therefore I am unable to make an assessment from a seismic point of view.

ROOFS.
-The roof of the main church hall is clad in asphalt shingles, applied in 2003. Minor degranulation of the shingles was noted but they are in generally fair to good condition.
-There is some staining on the underside of the roof decking at the southeast portion of the roof, visible from the choir platform, and a sort of fungus could be observed on the underside of the roof decking at the northwest portion, visible from adjacent the west entry door. Both of these conditions could indicate water ingress and should be monitored.
-There is very little insulation in the main roof, perhaps 1” at the most, of indeterminate type.
-The built-in gutters at the eaves of the main roof are functioning, however three areas of concern are the northeast, southeast, and southwest corners. At the northeast corner rainwater is flooding over the gutter and down over the fascia and has caused some rot. Near the southeast corner, rainwater was observed splashing out of the gutter and running down the side of the building. The upper gutter needs a downspout extension into the lower gutter to prevent this from ocurring. At the same point on the opposite side of the building (near southwest corner) there is exposed wood showing at the section between the upper and lower gutters, which could rot over time. It is important to minimize any deterioration of the structure adjacent the gutters, as proper repair could be difficult.
-The roof over the walkway and south church entrance is at the end of its life and should be replaced. A leak was noted adjacent the south entry. The exposed parts of the walkway roof support beams should be flashed to prevent their further deterioration.

-The chapel roof is clad with an older torch-down membrane, and appears to be in generally good condition. It shows little ponding as the drain is in the middle of the roof, however this drain has leaked in the past and was recently repaired. Inspection from below and subsequent to the repair showed water present on both the underside of the rain body and the cast iron drain pipe that it leads into. It is presently unclear if this water is residual, is from continued leakage, or is condensation.
There are two skylights in this roof. The north skylight shows condensation between the glass panes (indicating seal failure), the inner pane on the south skylight has cracked (which negates the seal and could also present a danger to someone below).

EXTERIOR CLADDING and TRIM.
-Generally good condition although, due to a lack of a large overhang and minimal flashing on the building sides, the cladding is subject to weathering and must be monitored and maintained to prevent the spread of rot or other damage.
-Some rot noted at the window sills on the south side of the chapel, the south end of the church above the flat roof, and at the northwest corner of the basement.

WINDOWS AND EXTERIOR DOORS.
-The windows are in generally good condition, with exceptions noted above, however except for those on the east side of the basement, they are all single glazed and the opening units have no weatherstripping.
-None of the windows appear to have tempered or safety glass. This is a safety issue, especially where glass is near the floor or in stairwells.
-The doors, while showing their age, are in generally good condition and operating reasonably well, however none appear to be insulated and none are weatherstripped.

PERIMETER BUILDING DRAINAGE.
-The drainage system was scoped with a camera from several directions and entry/exit points. From what could be seen the system under and around the church is reasonably clean, generally intact, and appears to be allowing water to run through it. It must be noted that, due to the configuration and materials in the system (multiple bends, sectional pipes) the camera was unable to see the entire system.
-There are cast iron drain fittings, probably undersized, visible at ground level where they are joined by downspouts, at the southwest corner of the church and along the west side of the walkway, which appear to be clogged and are backing up and flooding during rain.
-The main parking lot sump should have a downturned 90 degree elbow fitted to its overflow drain, to minimize debris flowing into the system.

ELECTRICAL SYSTEM.
-In general the system is in good condition and appears to be functioning normally, with a few deficiencies listed below.
-On the west side of the hall adjacent the chapel there is a broken receptacle.

-In the small room between the chapel and the church the receptacle adjacent the sink should be a GFI type. Also in this room there is an electrical panel with a door that cannot be latched shut as the mechanism is missing, and there is what may be a fan buried in the ceiling, operable by a wall switch adjacent the door into the west hall.
-In the church, exposed wiring on the west wall should be protected below 7' from the floor, and in the northwest corner a receptacle cover plate is missing.
-On the flat roof above the south entry, the floodlight is fixed to a block of wood which appears to be unattached to the roof, sitting in a large puddle of water. This could be a danger if the light fixture became flooded. As well, the wire connection to the fixture appears to be taped and may not be adequate.
-In the basement, there are lenses missing in lights in the hallway and both bathrooms, there is a broken receptacle at the north end of the main hall, a knockout filler is missing from a cover plate in the janitor's room, and in the music room the panel on the east wall should be locked, and there is a broken receptacle.

PLUMBING SYSTEM.
Plumbing system appears generally good with the following deficiencies noted.
-In the male washroom the toilet flapper needs replacing.
-In the female washroom, the south toilet needs a new supply tube and flapper, the middle toilet needs new supply, flapper, and flush valve, and the north toilet needs a new flapper.
-In the janitors room, the HWT is beyond the middle of its expected life, and there is no floor drain.
-It should be noted that, in general, all the piping is old and subject to wear, creating the possibility of future leaks.
-The washrooms, in general, are in good condition.

INTERIOR FINISHES
-The interior finishes of the building appear in generally good condition.
-According to the original drawings, there is about 2" of batt-type rockwool insulation in the exterior walls, and from observation there is none in the basement.

TEST RESULTS, PRESENCE of ASBESTOS.

-To establish the presence or not of asbestos in various building materials throughout the entire complex, a total of 54 samples were taken and then tested by a reputable testing agency These samples included materials from the walls, ceilings, and floors of all the buildings, as well as heating pipe lagging. The report will include a complete log of the agency's findings.
-10 samples came back with positive asbestos presence, as follows.
-Church, south main entry, vinyl floor tile.
-Church, south main entry, stairwell ceiling, textured coating.
-Church, basement, main hallway, vinyl floor tile.
-Gym, basement, main room, vinyl floor tile
-Entrance mezzanine, stairs to below gym, vinyl nosing.
-House, master bedroom wall, drywall joint compound.
-House, dining room ceiling beam, textured coating and drywall joint compound
-House, kitchen wall, drywall joint compound
-House, laundry/furnace room ducts, duct tape
-House, basement, vinyl floor tile.

-It must be noted that, while care was taken to collect enough samples to achieve an acceptable representation of the asbestos presence, there may be other areas or materials containing asbestos that were not discovered.
-It must also be noted that, although asbestos does not necessarily create a hazard unless it and/or the material containing it is disturbed, it is a known carcinogen without a minimum exposure level and must be disposed of in a safe and prescribed manner with notification given to the appropriate authorities. The importance of this cannot be overemphasized.

CHANGES REQ"D TO MEET CURRENT STANDARDS FOR ACCESSIBILITY.

In B.C. today, all new buildings used by the general public must comply with standards for accessibility, such that mobile persons with disabilities can access and use them effectively as well as everybody else. It should be noted that the regulations and requirements apply to new and altered buildings only, however, in a community spirit and to minimize legal liability and possible Human Rights challenges, the Church may want to consider implementation of some or all of the requirements.
Considering the size, usage and definition of the various buildings in the complex, and using the B.C. Building Access Handbook (a government publication including parts of the building code relevant to accessibility along with added explanatory notes), the following would be required:

-Access from the the street to at least one main entrance (exists).
-Access to all areas where people with disabilities could be reasonably expected to work (does not exist as there is no access to anywhere in either the church or gym basements, compliance would require elevators and/or ramps).
-Accessible washrooms (partially exists but does not comply as there are no accessible washrooms in the basement and the occupant load of the either the church, gym, and/or basements may require that all washrooms be accessible).
-Egress conforming to the building code (does not exist, as compliance would require either a full sprinkler system, elevators, and/or building assemblies to have approved fire separations, and an accessible exterior exit).
Note: existing exterior exits (except on the main floor of the church and entrance mezzanine, and the west end of the gym) do not comply in this regard as they are not accessible to a public thoroughfare and may not provide fire protection from the building.
-Viewing positions in both the church and preschool (probably exist).
-Dedicated parking stall(s) (exists).
-At the accessible entrance, and due to the size of the building; a power operated door that functions for passage in both directions (does not exist).
-No floor level changes greater than 13 mm (may exist).
-Doors in public corridors to meet several requirements, including clear opening sizes for both single and multi-leaf doors, door handle requirements, operating pressure limits, closer limits, and threshold limits (partially exists, panic bar on entry mezzanine doors creates under-width passage, doors with auto closers need testing for compliance with opening pressure and closing time, door to meeting room has non-compliant knob).
-slip resistance and contrasting markings for stairs and landings (does not exist).
-tactile warning strips at top of stairs (does not exist).-Approved stair rise and run dimensions and shape (partially exists, tread too narrow on stairs to gym basement).

-Approved handrail sizes and heights (does not exist, not high enough and do not extend past top or bottom of stairs, not continuous on stairs to church basement)
-Specifically designed signage for numerous locations (partially exists).

Obviously some of the above requirements, such as tactile warning strips or handrails, would be simple and relatively inexpensive but the major ones, such as elevators, bathrooms, sprinklers, and power doors etc., would be very costly.

Note: the word “access” as used above means “access by persons with a disability”

CHANGES REQ'D TO UPGRADE BLDGS. TO CURRENT BUILDING CODE.

It must be recognized that the requirements of the building codes have changed dramatically since the construction of the Church buildings. In most aspects the requirements are far more stringent and complicated, especially in the areas of energy conservation, building envelope, life safety, and accessibility design.

It must also be recognized that, upon undertaking a major renovation or upgrade, the relevant authorities will likely require, as much as possible, compliance with the current code, even in areas that may not be otherwise touched. It is difficult to predict what exactly would be required but I believe it sufficient to say that, after all the dust had settled, there would not be much left of the original finishes, systems, and possibly even structure.

To help explain matters, let us say as an example it was decided to bring the church building up to current code standards. First, a team of design professionals (likely an architectural firm) would be engaged to do a feasibility study, design a concept, establish a scope of work, and provide preliminary cost estimates. Once these were approved, a general contractor would be chosen through a bidding process, and a building permit obtained. The contractor would then complete the work to building and engineering specifications, under the supervision of the architect, and subject to inspection by and the approval of engineers and government inspectors. A not - exhaustive list of work needed may be as follows: Identify and remove all asbestos-containing material, seismic engineering and possible upgrade of the foundation and structure, replace the perimeter drainage system, replace the roof and gutters including an integral insulation system, remove interior and exterior finishes on outside walls, construct new accessible washrooms including new water piping and sanitary drainage throughout the building, install a sprinkler system including a large-diameter supply main going back to the street, replace the entire heating system, install an elevator, replace all the electrical wiring and lighting, insulate all exterior walls, insulate the basement slab to the extent necessary, apply rain screen and new cladding to the outside of the exterior walls, replace all the windows with new tempered double glazed units, replace the exterior doors, refinish the walls and ceilings, refinish the floors etc., etc. The work must be done to standards required for a building used by the public, and would essentially amount to an almost complete rebuild.

SHORT TERM MAINTENANCE REQUIREMENTS.

(Areas where neglect of repair will likely result in immediate or near-term building damage or deterioration, or is a public safety issue).

ROOFS.

-Replace main roof at 1062 Ridgewood Dr.	$8000-10000
-Replace roof over stage/rector's office.	11000
-Replace roof over walkway and south church entrance.	17000
-Repair roof over gymnasium (new drains, downspouts, repair possible rot)	5000-8000

GUTTERS, DOWNSPOUTS and PERIMETER DRAINS.

-Repair built-in gutters at 3 locations on church	3000-4000
-Unclog/repair 2 downspouts/drains (s.w corner of church, walkway)	300-5000
-Add gutters and downspouts at store room/canopy, n. side gym.	500-600
-Install elbow on outflow at main parking lot sump	250-400
-Install elbow on outflow at north entry mezz. sump	150-300
-Unclog drain at north entry mezz. sump.	150
-Determine source of oil found in drain at n.w. gym basement exit	?
-Remediate oil pollution from that source.	?
-Clean out drain along north side of gym as best as possible	500-1000
-Repair downspout/drain connection adjacent to furnace room door	100

EXTERIOR CLADDING and TRIM.

-No serious issues here, except some work may be required as part of other short term maintenance repairs.

EXTERIOR PAINT.

-No serious issues here except some work may be required as part of other short term maintenance repairs.

WINDOWS and DOORS.

-Replace glazing at entrance mezzanine with tempered double-glazed units 13000
Note: this is primarily a safety issue.
-Repair rotted window sills at church (n. basement, s. chapel, above s. entry) 500-4500

PLAYGROUND.

-Repair leaks at deck surface	?-12000

ELECTRICAL SYSTEM.

-Investigate stage lighting diffuser, repair, replace, or discard as necessary	100-2500
-Install lenses in light fixtures where missing.	1500
-Replace receptacles with GFI type at areas adjacent to sinks	400
-Repair damaged floor receptacle at entry mezzanine floor	50-200
-Mechanically protect exposed wire near west church entry	100
-Repair or replace numerous broken receptacles and cover plates	250
-Install bulb protectors in basement below stage/rector's office	75

PLUMBING SYSTEM.

-Repair leaks etc. that are affecting electrical room	750
-Replace toilet supply lines, flappers, and flush mechanisms as noted	1400
-Clear drains where clogging noted	250-400
-Replace polybutylene fitting etc. in furnace room	150

HEATING SYSTEM.

-There appear to be no deficiencies requiring immediate attention, however the continuation of an ongoing and methodical maintenance program is crucial to the well-being of this system

OTHER.

-Determine cause of and rectify disagreeable smell in entry mezzanine	?
-Address damaged ceiling in chapel hallway	200-750
-Repair damage to tiles at tub surround in upper floor bathroom, 1062 Ridgewood.	200-1500
-Repair or replace decking and handrail on roof above kitchen, 1062 Ridgewood	1500

MEDIUM - LONG TERM MAINTENANCE REQUIREMENTS.

(Areas where repair is not necessarily needed at present but, due to normal ageing, will be required in the future).

ROOFS.

-Replace church roof. (life expectancy 5-8 years)	85000
-Replace gymnasium roof. (2-5 years)	50000
-Replace chapel roof. (4-6 years)	15000
-Replace entry mezzanine roof. (6-8 years)	12000
-Replace kitchen roof, 1062 Ridgewood (10-12 years)	5000
-Replace skylights (2-5 years,use drop-in units)	3500
-Miscellaneous leak repair	6000/yr.

GUTTERS, DOWNSPOUTS, and PERIMETER DRAINAGE.

-Replace gutters and downspouts, 1062 Ridgewood Dr. (2-4 years)	1000
-Replace perimeter drains, 1062 Ridgewood (0-15 years)	35000
-Replace perimeter drainage at north side of gym bldg. (0-15 years)	60000
-Replace perimeter drainage around entire bldg. complex (10-30 years)	200000
-Miscellaneous cleaning and repair.	4000/yr.

EXTERIOR CLADDING and TRIM.

-Repair siding at carport roof/wall jct., 1062 Ridgewood (2 years)	3500
-Miscellaneous repair.	2000/yr.

EXTERIOR PAINT.

-1062 Ridgewood (5-8 years)	12000
-Gymnasium bldg. (7-10 years)	20000
-Church bldg. (7-10 years)	20000
-Miscellaneous touch-up and repair	2000/yr.

WINDOWS and DOORS

-Miscellaneous maintenance (not including breakage).	2500/yr

PARKING LOT.

-Repaint parking lot (10-12 years)	8000
-Repave parking lot (15-20 years)	40000
-Misc. maintenance.	800/yr

GROUNDS

-Misc. ongoing cutting, pruning, and clean-up	14000/yr.

HEATING SYSTEM.	
-Replace boiler (10-20 years)	40000
-Replace entire rest of heating system (20-30 years)	250000
-Misc. ongoing maintenance program	14000/yr.
ELECTRICAL SYSTEM.	
-Misc. maintenance and repair	4000/yr.
PLUMBING SYSTEM.	
-Repipe water system (5-10 years)	100000
-Replace hot water tank in church basement (3-5 years)	1800
-Misc. maintenance and repair	8000/yr.
KITCHEN.	
-Replace kitchen (5-10 years)	85000
-Misc. maintenance and repair	5000/yr.
WASHROOMS.	
-Replace washrooms (5-10 years)	35000 each
-Misc. maintenance and repair	4000/yr.
FLOORING.	
-Refinish wood floors (5-8 years)	20000
-Replace carpets in offices etc. (4-8 years)	6000
-Replace carpets at 1062 Ridgewood (4-6 years)	4000
-Misc. maintenance and repair	6000/yr.
INTERIOR PAINT.	
-Ongoing re-painting program.	9000/yr.

Notes:
-All figures given in today's dollars.
-Dollar values assume work performed by professional tradespeople.

OPTIONAL UPGRADES.

Note: The figures below are for illustrative purposes only as upgrades of other building systems may be required and/or desirable if the below work was undertaken

INSTALL RIGID INSULATION TO ROOFS

-Stage/rector's office roof	5000
- Gymnasium roof	18000
-Entry mezzanine roof	3000
-Chapel roof	6500
-Church roof	65000

Note: applied on top of roof as part of re-roofing projects

UPGRADE INSULATION IN WALLS

-Gymnasium	85000
-Gym basement	100000
-Stage/rector's office	75000
-Church	105000
-Church basement	105000
-Chapel	70000
-Other areas	85000

Note: Includes a refinished surface but no upgrade of other services.

INSTALL DOUBLE GLAZED WINDOWS and DOORS.

-Replace all windows in the church/gym complex	150000
-Replace single glazed windows at 1062 Ridgewood	13000

Note: Allows for wood sash in upper gym, church, and chapel, vinyl elsewhere. Allows for textured glass in church and chapel. All existing opening sash to be replicated. Includes staining of wood units. Does not include glazing at entry mezzanine.

WEATHERSTRIP EXTERIOR DOORS.

-Apply weatherstripping to all exterior doors in church/gym complex. 2700

INSTALL ELEVATING DEVICE.

- Full elevator	120000-165000
-Lift (elevating device for disabled and attendant only)	60000-70000
-LULA (Limited use, limited application)	85000-110000
-Staircase elevator	30000-55000

Notes: Figures include ancillary costs but no little to no research has been done as to possible location of an elevator and the real-world challenges of the installation. A full elevator is likely impractical as it would require 3 phase electrical power. Due to the layout, a staircase elevator may not be practical at the stairs to the church basement

INSTALL SPRINKLER SYSTEM.

-Sprinkler entire bldg. complex	165000-200000

It should be noted that, overall, piecemeal improvements will be far more expensive than improvements undertaken as part of a comprehensive plan and done all at once.

COST TO UPGRADE CHURCH AS PART OF A RE-DEVELOPMENT PLAN.

Note: The following figures are for illustrative purposes only

-Professional fees	100000
-Permits	25000
-Demolition	50000
-Structural upgrades	100000
-Other framing	40000
-Perimeter drainage	100000
-Insulated roofs	125000
-Windows and doors	100000
-Exterior cladding	65000
-Heating	80000
-Plumbing	80000
-Sprinkler	75000
-Electrical	120000
-Elevator	120000
-Insulation	30000
-Drywall	70000
-Interior trim	20000
-Paint	40000
-Flooring	50000
-Landscaping	50000
-Other	250000
-Total	$1,790,000

FUTURE OPTIONS and CONCLUSION.

During the compilation of information for this report it has become clear to me that the Church is at a crossroads in regards to the future of its property at 1058 and 1062 Ridgewood Drive.
I see 5 major options that it can choose from, as follows.
Option 1 - Maintain the status quo.
Option 2 - Sell 1062 Ridgewood Drive and use the funds to maintain or upgrade the remaining property
Option 3 - Sell the entire property and close the parish.
Option 4 - Redevelop the property and use the funds gained to renovate and upgrade the church building only.
Option 5 - Redevelop the property and use the funds gained to construct a new church building as part of the entire plan.

Option 1.
Taken as a whole, it must be realized that all the buildings are outdated, very inefficient from an energy conservation standpoint, and deteriorating. Attempting to keep them going, often with re-active and barely funded measures, is, in my opinion, an excersize in futility, and could lead to some form of serious building system failure in the not too distant future. As well, it could be argued that in light of energy conservation concerns, GHG emissions etc., it is somewhat negligent to the community as a whole to carry on in this manner. To me, this is not a good option.

Option 2.
This option would provide funds to maintain the other buildings however it has some serious drawbacks. Due to the age, shape, condition, and position of the other buildings to me it doesn't make sense putting a lot of money into them (the church building possibly excepted, see Option 4). The other negative is that carving off a substantial portion of the entire property may limit possible redevelopment options.

Option 3.
The viability or desirability of this option is beyond the scope of this report and no opinion is offered.

Option 4.
It could be argued that the church building, as it was well designed and built for its time, and is relatively intact and in original condition, be viewed as having significant heritage value. As such it may be viable, as part of a major redevelopment scheme, to bring it up to modern standards. Negatives to this option are that the design and floor plan may not be efficient and/or in keeping with modern- day usage, and the possibility of large -scale seismic/structural upgrades needed rendering it uneconomic.

Option 5.
Given the cost and imposed limitations of renovating, the value of the land, and other recent changes in the neighborhood, it may be desirable to completely redevelop the property and include a new church building as part of the project. There are a number of issues surrounding this option including the feelings of those emotionally attached to the existing church, the needs of the daycare, rezoning and possible land acquisition from the municipality, and more, however it has been done successfully in other areas. I think it would be sensible to solicit the services of a sympathetic and creative design team or other appropriate group to formulate a proposal that can solve these problems, at the same time coming up with a redevelopment scheme that will allow the Church to remain economically buoyant in a modern facility.

As any large-scale venture will likely take quite some time to implement, in the meantime it would be prudent to maintain existing systems, and it may be desirable to effect some relatively low-cost changes that would enhance the safety and comfort of building users. Examples would include weatherstripping on doors and windows, replacing some windows, and possibly installing installing larger ceiling fans and some form of supplementary on-demand heating in the church.

In final conclusion, I should like to say that I believe the Church, current building issues notwithstanding, is in a most viable long-term position and, if its St. Catherines assets are managed properly, will maintain relevancy and a continued important position in the community.