REGIONAL DISTRICT OF NANAIMO

REQUEST FOR STATEMENTS of QUALIFICATIONS No. 22-037

South Wellington School Renovation Design Consulting Services

Addendum 1 (191 pages)
Issued: April 7, 2022

Closing Date & Time: on or before 3:00 PM Pacific Time on April 25, 2022

Questions & Answers

Q1. Would you prefer pour submission to be digital or as a hardcopies? If hardcopies, how many copies would you like?
A1. All submissions should be emailed to Dean Banman at dbanman@rdn.bc.ca

Q2. Would you like us to assemble a specific team of sub-Consultants for our Statement?
A2. Provide an organizational chart that identifies the proposed Project Team, Project Manager and any key subconsultants that clearly outlines their roles and responsibilities.

Q3. Is RDN able to share the condition assessment report for the school (completed in June 2020)? Is RDN able to share existing building drawings/site information?
A3. Requested documents are attached to this addendum.

Q4. Please confirm that the RDN is looking for a Design team and that it does not require Construction as part of this RFSQ.
A4. Phase III of the project does include coordination of construction on behalf of the RDN.

Q5. Is a full team required for the RSFQ (structural, mechanical, electrical, civil, lscp, cost) or just the architectural team lead?
A5. Provide an organizational chart that identifies the proposed Project Team, Project Manager and any key subconsultants that clearly outlines their roles and responsibilities.

Q6. Can you confirm you are not looking for fees for this RFSQ?
A6. That is correct.

Q7. Phase III Construction notes "oversee construction" and "establish project schedule to minimize downtime....". note that this is beyond the scope and liability of the design team and these items are controlled by the contractor.

A7. The Regional District will discuss final roles and responsibilities with the highest ranked proponent.

Q8. Under the deliverables section the first item is " facility space audit and space needs analysis". Please outline whether any community or RDN staff engagement is required as part of the project.

A8. Some engagement will be required with a community group known as South Wellington and Area Community Association, Electoral Area A Parks, Recreation and Culture Commission and RDN staff.

Q9. A Space Needs analysis is often driven by the community needs - not necessarily the building's space. Has the RDN done an analysis of the local community and developed a desired program for the new community space? if so - can you provide this to proponents?

A9. Yes, and this can be seen at: https://www.getinvolved.rdn.ca/south-wellington-community-centre

Q10. Has a structural/seismic review of the existing building been undertaken? if so, can it be made available?

A10. Please see Appendix of the document attached and referenced in Question #3.

Q11. Do you require teams to provide a schedule for the work?

A11. No project scheduled is required with the RFSQ, just confirmation that the resources are available to develop a mutually agreeable schedule.

Q12. Seismic retrofits and hazmat abatement can become quite involved. If an analysis has not already been undertaken - the timeline to completion of December 2022 seems quite ambitious. will the RDN entertain longer timeline for completion?

A12. Yes, final timeline will form part of the discussions with the highest ranked proponent.

Q13. The RDN is requesting "a statement committing your firm to complete the work within the timeframe described". Would you consider removing this requirement from the RFSQ?

A13. Yes. Only a statement of commitment that the resources are available to develop a mutually agreeable schedule is required.

Q14. Is the RDN willing to use a standard RAIC-6 contract with the prime consultant?

A14. The RDN is not averse to using this document. The decision on which agreement will be used will form part of the discussions with the highest ranked proponent.

End of Addendum 1

South Wellington Elementary School
1536 Morden Road, Nanaimo, BC

FEASIBILITY STUDY REPORT

Prepared For:

Regional District of Nanaimo
c/o Dean Banman
6300 Hammond Bay Road
Nanaimo BC
V9T 6N2

Prepared by:

Herold Engineering Limited
1051 Vancouver Street
Victoria, BC
V8V 4T6

June 1, 2020

HEL Project No. 0837-073

HEROLD ENGINEERING

Table of Contents

Appendices:

1.0 Executive Summary

The School Building located at 1536 Morden Road has been unoccupied since approximately 2013. The Regional District of Nanaimo (RDN) has engaged Herold Engineering Limited to review the current condition of the building and provide information and recommendations regarding the feasibility of using the building as a Community Centre.

The building was previously occupied as an Elementary School and consists of 6 classrooms, a library, an office, a staffroom, washrooms and change rooms, and mechanical and electrical rooms. The total area is 917m2 (9871 ft2). The building is wood frame with steel posts, glulam beams and cast in place concrete foundations.

In general the building components and systems have been well maintained over the course of the building history, however many of the components are original to the 1969 construction and are in need of replacement as they are well past their expected service life.

As part of the feasibility study, comments on the expected seismic performance of the building was requested. In 2012 a Seismic Project Identification Report (SPIR) was produced by Herold Engineering Limited for School District 68 that identified the building structure as an "H1 Risk", the highest risk category in the School Seismic Mitigation Program. Due to the high seismic risk, we recommend that the building be upgraded to life safety standards prior to being re-occupied.

The life safety retrofit is the recommended long term seismic solution for the building for an estimated cost of $1,600,000. However if budget constraints limit the ability to achieve this immediately then a phased approach could be considered. The phased upgrade should be completed within 15 years.

Asbestos containing mastic in heating duct joints, drywall joint compound, sheet vinyl flooring and vinyl floor tiles are likely to be affected during any interior space renovations or upgrades associated with the conversion of the building to a Community Centre.

The building may be a good fit for use of space by a community group as a Community Centre, although; significant capital expenditures are highly likely to be required in the short to medium term in order to successfully occupy and operate the building safely. In addition, the site lacks adequate parking and accessibility for persons with disabilities.

It is the opinion of Herold Engineering that the minimum upgrade cost to reoccupy the building as a Community Centre would be in the order of $1,050,000.00. This would consist of life safety upgrades, new roofing, Phase 1 seismic upgrade, updates to bathroom and kitchen facilities and associated hazardous materials abatement.

It is estimated that significant replacement costs will need to be accounted for in the medium term as the mechanical, electrical, water filtration, fire suppression and building enclosure systems are at or near the end of their life expectancy and will all require replacement or renewal. It is estimated that all necessary upgrades to the building could cost in the order of a total of $3,160,560.00 (includes S1,050,000 from above).

Herold Engineering understands that the RDN is not considering the construction of a new building. However, it is relative to consider the replacement cost of the building for the purpose of this study. It is our opinion that demolition of the existing building and construction of a new purpose built Community Centre could cost in the order of $4,052,000.00.

2.0 Introduction

Herold Engineering Limited (HEL) was retained by the Regional District of Nanaimo (RDN) to conduct a Feasibility Study of the property and buildings located at 1536 Morden Road in Nanaimo, BC for the consideration of converting the primary building into a Community Centre. The primary building was previously operating as South Wellington Elementary School, for School District 68 (SD68). The property is 3.07 acres, with a 9871 ft² Elementary School building containing 6 classrooms, a library, an office, a staffroom, washrooms and change rooms, and mechanical and electrical rooms.

It is our understanding that the School District 68 Board have indicated that community consultation is required prior to following through on a staff recommendation to demolish the building. As part of the community consultation, the RDN is considering the conversion of the school building into a community centre.

Herold Engineering has conducted a high level review of the Building Enclosure, Structural condition and Hazardous Materials. Further to this, we have considered possible upgrade costs, replacement costs and the general feasibility of the use of the site as a Community Centre. Consideration has been given to the current edition of the BC Building Code as well as applicable requirements of the RDN.

Please note that conclusions and recommendations presented in this report must be viewed in light of the information available from the limited testing, information provided by SD68 and the RDN, as well as visual examinations.

The following report will summarize and discuss the implications of our observations and testing results from our review as it relates to the feasibility of the proposed building use.

2.1 History

The subject building was constructed in 1969 as an elementary school, intended for Kindergarten through Grade 7.

In 2013, the school was closed. As a result, the windows and doors were boarded to mitigate entry and vandalism; however the building continues to incur damage since its closing. It is our understanding that perforations were cut into the roof with an axe by vandals, and that copper piping was cut and stolen from the crawlspace. Patch repairs and maintenance have been completed in locations were damage has occurred.

2.2 Building Description

The building is a 9871 ft² Elementary School building containing six (6) classrooms, a library, an office, a staffroom, washrooms and changerooms, and mechanical and electrical rooms. The building is located on a slope, with the west elevation at grade, and the east elevation has a walk-out basement. The west half of the building is on a crawlspace.

The building consists of tongue and grove roof and floor decking on glulam beams supported by steel posts and wood framing. The main floor is situated over a crawl space with concrete foundation walls and conventional strip footings. The roof is a low-slope 2-ply SBS membrane and the exterior walls are sheathed with horizontal ship lap and clad with vertical painted cedar siding. There are clear storey ribbon windows between glulam beams and punched aluminum/wood framed windows throughout.

The building is heated with an oil fired forced air system with fuel storage consisting of a below grade oil tank on the east side of the building adjacent to the mechanical room. We were not able to verify the exact location of the oil tank during our site visit. The electrical system appears to be a standard 200amp service.

Domestic water is sourced from a well located in the north east corner of the property. There is a water filtration system in the mechanical room which was installed to address levels of arsenic in the well. The building is equipped with a fire suppression system. A glycol water storage tank in the crawl space is used to provide water to the system. The septic system consists of a septic tank adjacent to the paved court on the south side of the property and a dispersal field under the main playing field.

Photo 1: South-Facing Elevation

Photo 2: South-West Corner

3.0 Building Enclosure

The building enclosure is generally considered to be the exterior components of a building such as walls and wall cladding, decks, windows, exterior doors and roof assemblies that protect and separate the interior habitable space from the exterior environment. All of these components have an anticipated service life, a building envelope condition assessment provides specific information on the current condition of these components.

The subject building is a two-storey elementary school which was originally constructed in 1969 and it is our understanding that it has not been in use since 2013. Generally the building appears to have had minor maintenance and repairs since its dis-use.

The SBS roof membrane appears to be in poor condition, with degranulation of the membrane, blistering, and significant ponding at low points of the roof. It is our understanding that the roof was last replaced in 1992 and it is recommended that the roofing membrane is replaced. This recommendation is supported by roofing reports in 2019 suggesting that reroofing is required.

The crawl space to main floor is not insulated and there is very minimal insulation in the roofing assembly. It is likely that batt insulation is present in the wall assembly, however this was not confirmed during our visual investigation. It is recommended to add a rigid insulation package to the roof assembly when completing the renewal.

The cladding consists primarily of painted cedar cladding. The cedar cladding appears to be in good condition, although the building was last painted in 1999 and the paint is at or near the end of its service life and is likely to require re-painting. In a few locations along the west elevation the ground surfaces are in close proximity to the wood framing. The exterior wood cladding covering the wood framed portion of the crawl space has deterioration in several locations and allows for the intrusion of pests. It is recommended that deteriorated wooden components be removed and replaced, and the grade surrounding the building be kept at least 8" from wooden components.

The windows throughout the building generally appear to be the original wood-framed windows, which appear to be in fair condition; however they are past their standard life expectancy and perform poorly from an energy standpoint. Exterior doors are primarily wood or steel doors, which are generally in serviceable condition but past their standard life expectancy. In one location, the glass in a door frame was smashed. It is recommended that the windows and doors be replaced with more energy efficient products that are in compliance with the latest North American Fenestration Standard/Specification for windows, doors and skylights.

For a detailed description of our observations, refer to Appendix A – Building Enclosure Condition Assessment (BECA).

Opinion of Probable Costs (Building Enclosure Items) are as follows:

- New SBS membrane on the roof $150,000.00
- New Roof Insulation..... $100,000.00
- New Windows..... $60,000.00
- New Exterior Doors.....$36,000.00
- New Exterior Painting $20,000.00

- Total Building Enclosure Items $366,000.00

4.0 Structural Review

As part of the feasibility study, comments on the expected seismic performance of the building was requested. In 2012 a Seismic Project Identification Report (SPIR) (Appendix C) was produced by Herold Engineering Limited for School District 68 that identified the building structure as an H1 Risk, the highest risk category in the School Seismic Mitigation Program.

Due to the high seismic risk, we recommend that the building be upgraded to life safety standards prior to being re-occupied.

This may be done in one project or phased over two or more stages, as other building systems are upgraded e.g. building enclosure. However, phase one should be completed prior to occupancy. This will reduce the risk of the building to a medium retrofit priority rating. Completing the upgrading to life safety levels (phase two) would then be necessary within the following 15 years.

The life safety retrofit is the recommended long term seismic solution for the building for $1,600,000. However if budget constraints limit the ability to achieve this immediately then a phased approach could be considered.

- Phase one - The exterior bracing to the covered play area would be installed and some of the windows on the east elevation infilled. Comparing 2012 costs to today's unit rates we estimate a planning budget of $600,000 for this phase.

- Phase two would complete the upgrade to the main floor. In this case brace frames are installed in the building and the roof diaphragm upgraded with a plywood overlay. The work would be done from the interior to keep costs down. Due to the project being phased we anticipate there will be some additional costs associated with general requirements, administration etc. and so we estimate a budget of $1,200,000.

However if Phase two could coincide with an Envelope Upgrade that includes plywood overlay of the walls and roof then it would reduce the need for brace frames as well as foundation work and it would also help reduce project costs.

For a detailed description of our structural assessment, refer to Appendix B – Seismic Assessment Update – June 1, 2020.

Opinion of Probable Costs (Structural items including abatement costs) are as follows:

- Full Life Safety Retrofit..... $1,600,000.00
- Phased Life Safety Retrofit:
  - PHASE 1 - Phased Life Safety Retrofit..... $600,000.00
  - PHASE 2 - Phased life Safety Retrofit $1,200,000.00
- Total Phased Retrofit..... $1,800,000.00

5.0 Hazardous Materials and Abatement

The investigation and reporting was completed by LEA Environmental Health and Safety. The purpose of the report was to identify and quantify hazardous building materials and assess related occupational health and environmental hazards potentially present during demolition, renovation or relocation of the structure. The work was conducted in accordance with the requirements of BC OHS Regulation Section 20.112 and related guidelines.

The scope of the report consisted of a semi intrusive investigation involving a review of available information respecting the history and uses of the building, reviews of previous reports provided by

SD68, a visual reconnaissance, collection of 29 samples for Asbestos analysis, and screening of 10 paint samples for lead content via XRF.

The following table is a summary of the results:

Material Type	Location(s)	Report Section
Asbestos	Drywall Joint Compound, Sheet Vinyl Flooring, Vinyl Floor Tile and Duct Mastic	6.1
Lead	Interior and Exterior Paint	6.2
Arsenic	None	6.3
Mercury	Fluorescent Light Tubes	6.4
PCBs	Potential Fluorescent Light Ballasts	6.5
Petroleum	None	6.6
Hazardous Products	None	6.6
UFFI	None	6.7
Ozone-Depleting	None	6.8
Silica	Concrete and Drywall	6.9
Radioactive	None	6.10
Bio-Hazard	None	6.11

All of these materials must be removed or contained prior to the commencement of demolition or construction work.

Asbestos containing mastic in heating duct joints, drywall joint compound, sheet vinyl flooring and vinyl floor tiles are likely to be affected during any interior space renovations or upgrades associated with the conversion of the building to a Community Centre. The cost of abatement for these items is to be considered when planning any construction projects.

For details on the specifics of the Hazardous Materials investigation, refer to Appendix D – Hazardous Materials Survey

Opinion of Probable Costs (Hazardous Materials Abatement) are as follows:

- Full Abatement Cost (Applicable to demolition and full seismic upgrade) $200,000.00
- Partial Abatement Cost (Applicable to washroom/kitchen/renovations) $25,000.00

6.0 Community Centre Considerations and Feasibility

It is our understanding that the community currently does not have adequate space for meetings and programs. Currently, space is used at the adjacent Cranberry Fire Hall. Use of the School Building would potentially provide a space that could be used to meet the needs of the community.

The conversion of the School Building to a Community Centre would likely require minimal mandatory BC Building Code upgrades in order to be put into operation. The Ministry of Education completed a Facility Condition Report (Appendix D) on the building in 2013. The report identifies several deficiencies with electrical fire stopping, exit signs and pull stations, a visible fire safety plan and deficiencies with various plumbing fixtures.

The current School Building is classified as an Assembly Group A, Division 2 occupancy. Under the current edition of the BC Building code, a Community Centre is also classified as an Assembly Group A, Division 2 occupancy and therefore would not require a seismic upgrade. However, the structure has been reviewed under the Ministry of Education Seismic Program and has been classified as a High Risk Building. As such, it is recommended that consideration be given to potentially mitigating the highest risk elements of the building prior to reoccupying the building. A full upgrade may be done as a phased approach and portions completed during any construction work such as a roof replacement.

It should be noted that any construction work or renovations done onsite will require compliance with the RDN Green Building Policy and Wood First Policy for RDN Facilities. Detailed costing related to construction work that will require the use of these policies is outside the scope of this report. However, any additional project costs related to the policies should be considered at the project planning stage.

The Mechanical and Electrical systems in the building are dated and will require ongoing maintenance and renewals in the short to medium term. The in ground oil tank presents an inherent risk of leaking into the adjacent soils and replacement or removal and installation of an above ground tank should be considered. Due to the lack of air tightness and roof insulation, it is our understanding that the cost of heating the building is considerable. Improvements to the insulation and air tightness can be achieved during roofing renewals, cladding renewals and replacement of doors and windows.

The septic system is recommended to be reviewed by a Registered Onsite Wastewater Practitioner (ROWP) for maintenance and renewal advice.

In general, the Facility Condition Report identified many systems and components of the building that are beyond their useful service life and recommend planned replacement. Some of the major items that involve life safety or cannot be delayed once they fail are the fire suppression components, fire alarm system, below ground oil tank, water filtration system, roofing systems, and electrical and plumbing components. Herold Engineering is not aware of any items that have been completed or upgraded since the writing of the 2013 report.

In general the building components and systems have been well maintained over the course of the building history, however many of the components are original to the 1969 construction and are in need of replacement as they are well past their expected service life.

Site use considerations (not included in any opinion of probable costs) are as follows:

- There is a lack of parking on site and it appears that the current parking may not meet the current RDN Parking Bylaw. Consideration should be given to increasing the available parking on site or having an off-site parking strategy, and paved access to the main entrance of the building.
- Barrier Free Design – the existing building and exterior access including parking does not meet the current BC Building Code requirements for barrier free access and consideration

for upgrades associated with parking, ramps and handicap washroom facilities should be considered during the conversion.

The building may be a good fit for use of space by a community group as a Community Centre, however; significant capital expenditures are highly likely to be required in the short to medium term in order to successfully occupy and operate the building safely.

7.0 Recommendations and Opinion of Probable Cost

Based on our visual and desktop review, the age of the building, and the published data of the life cycle of materials, it appears that most of the major building components are life expired and in need of replacement or renewal, while other components are performing poorly and are detrimental to the remaining economic life of the building.

A seismic upgrade is recommended based on the current risk level of the building. This upgrade could be phased but should be completed in the next 15 years.

Hazardous Materials Abatement will be necessary during any construction activity as per the report by Lewkowich Engineering and Associates (Appendix D).

The remaining economic life of the building relies heavily on remediation, and is anticipated to be approximately 30-50 years, provided that remediation is completed and regular maintenance is performed.

Below is our opinion of probable costs based on three (3) scenarios as follows:

1. Demolish Existing and Replacement of the building with a purpose built Community Centre
2. Occupation of the building as a Community Centre with minimal upgrades such as partial seismic upgrade, reroofing and life safety and building code upgrades
3. Occupation of the building after major upgrades including Seismic, Building Enclosure, Electrical and Mechanical systems

The opinions of probable costs in this report are based on a visual assessment conducted during the field review, information provided by the RDN and SD68, our current knowledge of the construction industry, as well as on CMHC Standards for Living Environments. Accurate costing can only be ascertained through a complete design and tendering process. Herold Engineering is not a quantity surveyor and are not in control of labour markets or materials costs at the time of tendering or planned construction.

Below is our opinion of probable costs broken down as per above mentioned scenarios:

OPTION 1: Demolish Existing Building and Replace with purpose built Community Centre

- Hazardous Materials Abatement Cost $200,000.00
- Demolition Cost $260,000.00
- Contingency 20% $92,000.00
- New Community Centre Building (930m2) $3,000,000.00
- Option 1 – Total Cost $4,052,000.00

OPTION 2: Recommended Minimum Upgrades for Occupancy

- Life Safety and Building Code Upgrades as per 2013 Ministry Report $5,000.00
- New Roofing including plywood sheathing from Seismic Upgrade $170,000.00
- New Bathroom and Kitchen plumbing Fixtures and Finishes $75,000.00
- Hazardous Materials Abatement $25,000.00
- Phase 1 of Life Safety Seismic Upgrade $600,000.00
- Contingency 20% $175,000.00
- Option 2 – Total Cost 1,050,000.00

OPTION 3: Major Building Upgrades

- Building Enclosure Upgrades as per section 3.0 ..... $366,000.00
- Life Safety Seismic Upgrade $1,600,000.00
- Hazardous Materials Abatement (included in Seismic Upgrade)
- *2013 Ministry Facility Condition Report Recommendations $667,800.00
- Contingency 20% $526,760.00
- Option 3 – Total Cost 3,160,560.00

*Excludes roofing, windows and doors that are accounted for in Building Enclosure Upgrades. A 20% contingency has been added to all costs to account for unforeseen conditions.

Where current market pricing for certain items are not available we have escalated pricing at an average of 3% per year to account for inflation. This generally applies to Ministry of Education Facility Report.

The pricing above are hard construction cost estimates and do not include General Contractor allowances, permits, consulting, taxes or other soft costs.

We trust the information contained within this report satisfies your current requirements. Should you have any comments or questions, please do not hesitate to contact the undersigned.

Yours truly,

HEROLD ENGINEERING LIMITED

Prepared by:

Jarrod Koster, P.Eng.
Principal

Prepared by:

Andrew Peacock, EIT

1051 Vancouver St. Victoria, BC V8V 4T6
mail@heroldengineering.com
(250)590-4875

Appendix A

South Wellington Elementary School
1536 Morden Road, Nanaimo, BC

BUILDING CONDITION ASSESSMENT REPORT

PREPARED FOR:
REGIONAL DISTRICT OF NANAIMO
C/O DEAN BANMAN
6300 HAMMOND BAY ROAD
NANAIMO BC
V9T 6N2

Prepared by:
Herold Engineering Limited
1051 Vancouver Street
Victoria, BC
V8V 4T6

Submittal Date:
June 1, 2020

HEL Project No. 0837-073

HEROLD ENGINEERING

Table of Contents

1051 Vancouver St. Victoria, BC V8V 4T6
mail@heroldengineering.com
(250)590-4875

1.0 Introduction

Herold Engineering Limited (HEL) was retained by The Regional District of Nanaimo to conduct a Building Envelope Condition Assessment (BECA) of the accessible architectural, structural, and building envelope components of South Wellington Elementary School in Nanaimo, BC; for the purpose of a feasibility study of the building. The following report outlines the results of our field review work, performed May 19, 2020.

The building envelope is generally considered to be the exterior components of a building such as walls and wall cladding, decks, windows, exterior doors and roof assemblies that protects and separates the interior habitable space from the exterior environment. All of these components have an anticipated service life, a building envelope condition assessment will provide specific information on the current condition of these components.

Please note that conclusions and recommendations presented in this report must be viewed in light of the information available from the limited testing and visual examination. Herold Engineering was engaged to determine a general condition of the building envelope as a whole, for potential repair strategies. The following is a summary of the observations and testing results from our review.

2.0 Terms of Reference and Limitations

This report has been prepared by HEL exclusively for the Client, in accordance with ASTM E2018-15 Standard Guide for Property Condition Assessments: Baseline Property Condition Assessment Process. HEL accepts no responsibility for the improper or unauthorized use of this report by any third party. HEL, its employees, sub-consultants, and agents accept no responsibility to any other party, including contractors, suppliers, consultants and stakeholders, or their employees or agents, for loss or liability incurred as a result of their use of this report.

Information, data, recommendations, and conclusions contained in this report may not be complete or accurate as a result of information provided to HEL which has not been independently verified or that has not been updated. The information, data, recommendations and conclusions contained in this report are based on conditions revealed through limited visual inspections only and subject to budgetary, time and other constraints and limitations contained in the agreement between HEL and the Client.

HEL accepts no responsibility for any deficiency, misstatement, inaccuracy or omissions contained in this report as a result of deficiencies, misstatements, inaccuracies or omissions of persons providing information to HEL for use in this report. This report is based on visual observations and data acquired from the Client, and is limited to major items and major maintenance activities. Private property was not inspected. Unless otherwise agreed in writing by HEL, this report shall not be used to express or imply warranty to the property for any particular purpose.

The work reflects the Consultant's best judgment in light of the information reviewed by them at the time of preparation. HEL is not providing advice about mold, mildew, pollutants, contaminants or other hazardous materials. We recommend an Environmental Consultant be retained for these services.

Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. Herold Engineering Limited and our consultants accept no responsibility for damage, if any, suffered by any third party because of decisions made or actions undertaken based on this report.

3.0 Building Description

The subject building is an Elementary School building comprised of 6 classrooms, a library and an office built circa 1969. The building consists of concrete foundation walls, steel posts, glulam beams and wood framing. The wall is clad with painted cedar siding. The roof is a low-slope 2-ply SBS membrane. An outline description of the building is provided in Table 1.1 below together with photos of the building elevations.

Table 1.1 – Description of the Building	
Address	1536 Morden Road, Nanaimo, BC
Date of Construction	1969
Type of Construction	Concrete foundations; Steel posts, Glulam Beams and Wood Framing
Number of Storeys (Above Grade)	1/2
Cladding Types	Painted cedar cladding
Roofing Types	2-ply SBS Membrane

Photo 1: South-Facing Elevation

Photo 2: South-West Corner

Photo 3: North Elevation

Photo 4: East Elevation

4.0 Key Plans

AERIAL PHOTOGRAPH

PROPERTY ZONING

Property Zoning: BL 500, PU1, M

5.0 Scope of Building Assessment

During the site visit, we attempt to review the site drainage, exterior elevations, numerous interior rooms and finishes, architectural components and assemblies, and roof assemblies. Detailed structural, mechanical, and electrical reviews are outside of the scope of this report.

6.0 Estimated Useful Service Life

Expected service life time frames referenced for the building components are based on available manufacturer's literature, warranties, theoretical industry standards, BOMA Preventative Maintenance Guidebook, and the CMHC Life Expectancy Guidelines.

All asset systems and components are subject to a wide variety of factors that affect their life expectancy including; quality of installation, quality of materials, weather conditions and quality of maintenance programs. As a result of this variation, some components may outlive their expected service life, while others may not.

None of the mechanical or electrical systems were tested during our investigation and this report reflects our best judgment in the light of the information available at the time of the study.

7.0 Field Review Summary

The subject building is a two-storey elementary school which was originally constructed in 1969 and has not been in use for a number of years. During our visit, Herold Engineering Limited was provided access to the inside of the building and the crawlspace, as well as exterior common areas and the roof of the building.

Generally the building appears to have had minor maintenance and repairs during its dis-use. The building is constructed with a combination of structural concrete foundations and wood framing, together with glulam beams. The roof is comprised of a 2-ply SBS membrane. The SBS membrane appears to be in fair condition, however blistering and significant ponding was observed.

The cladding consists primarily of painted cedar cladding. The cedar cladding appear to be in good condition, although the paint is nearing the end of its service life and is likely to require re-painting. In a few locations, the ground surfaces are in close proximity to the wood framing and exterior wood cladding and has caused deterioration of the wooden components.

The windows throughout the building generally appear to be the original metal and wood-framed windows, which appeared to be in fair condition; however they are now at the end of their service life. Exterior doors are primarily wood or steel doors, which are generally in serviceable condition but have damage and should also be replaced. In one location, the glass in a door frame was smashed.

1051 Vancouver St. Victoria, BC V8V 4T6
mail@heroldengineering.com
(250)590-4875

8.0 Building Envelope Assemblies

The building envelope is typically defined as an environmental separator and includes the foundation, exterior wall assemblies, windows, exterior doors, and the roof assembly. It refers to those parts of the building which separate the indoor conditioned spaces from exterior or unconditioned spaces.

The performance of the building envelope assembly and the expected useful service life of each assembly are directly affected by the following factors:

- Exposure to climatic conditions in the area
- Structural design and installation of the supporting assemblies
- Type, quality, and construction details of supporting assemblies
- Occupant use and interior environmental conditions
- Quality and quantity of inspections
- Quality of maintenance programs

The structural integrity and moisture protection of the foundation system was not reviewed. No visible deficiencies appear present within the foundation system.

1051 Vancouver St. Victoria, BC V8V 4T6
mail@heroldengineering.com
(250)590-4875

8.1 At-Grade Assemblies

Estimated Useful Service Life (EUSL):

- 40-50 years for Concrete Walkways

Asset Age: 29 years

EUSL Remaining:

- 20+ years for Concrete Walkways

Asset Condition: Good

Photo 1 - Stairs leading to gravel at rear of building

Photo 2 - Gravel and grass at north elevation

Photo 3- Asphalt surfaces at East Elevation

Photo 4 - Asphalt surfaces and concrete stairs

Asset Description

At-grade assemblies consists primarily of gravel and some asphalt surfaces. There are also some concrete walkways and stairways. The property also has a large playing field, two playgrounds, an asphalt sports court, and gravel parking areas.

Observations / Comments

The at grade assemblies were observed to be in fair condition during our assessment, however vegetation has become overgrown in a number of areas throughout the property. Minor cracking was observed in the concrete and pavement.

8.2 Exterior Walls

Estimated Useful Service Life (EUSL):

- 30+ years for Painted Cedar Cladding

  Asset Age: 51 years
- 100+ years for Painted Concrete

  Asset Age: 51 years

EUSL Remaining:

10+ years for Painted Cedar Cladding

Asset Condition: Fair

- 50+ for Painted Concrete

  Asset Condition: Good

Photo 1 - North-West corner of building shows where the building was painted around a portable.

Photo 2 - Vertical painted cedar cladding installed over building paper

Photo 3 - Exterior wall paint has faded

Photo 4 - North elevation shows cladding and boarded windows and doors

1051 Vancouver St. Victoria, BC V8V 4T6
mail@heroldengineering.com
(250)590-4875

Photo 5 - Deterioration of painted plywood at base of wall due to close proximity to ground surfaces

Photo 6 - Overall, the cedar cladding appears to be in good condition.

Asset Description

The building is primarily clad with painted cedar cladding, with painted concrete foundations and some painted plywood.

Observations / Comments

The cedar cladding is what is defined as a face sealed assembly. A face sealed assembly uses a strategy for rain penetration control that relies on the elimination of holes in the cladding. In this type of assembly, all rain water is to be deflected at the outer most surface. Immediately behind the cedar cladding is a layer of asphalt impregnated building paper. This is the moisture barrier.
This type of application relies on the integrity of the paint finish, as well as sealants at all penetrations such as windows and vents.
The existing cladding appears to be in fair condition. Discoloration of the paint is typical for painted finishes that are exposed to weathering, and generally indicates that the paint has reached the end of its service life and requires repainting.
Based on our observations, the cedar cladding is generally in good condition, although in need of re-painting to mitigate water ingress and deterioration. It is also recommended that ground surfaces are kept a minimum of 8" from wooden components such as the framing and cladding.
Minor repairs to the cladding and painted plywood are required.

8.3 Windows and Doors

Estimated Useful Service Life (EUSL):

- 30+ years for Wood Framed Windows
  Asset Age: 51 years
- 20+ years for Metal Framed Windows
  Asset Age: 51 years

EUSL Remaining:

- 0-5 years for Wood Framed Windows
  Asset Condition: Fair
- 0-5 years for Wood Framed Windows
  Asset Condition: Fair

Photo 1 - Typical window openings at top of wall

Photo 2 - Metal framed windows

Photo 3 - Typical Entry door

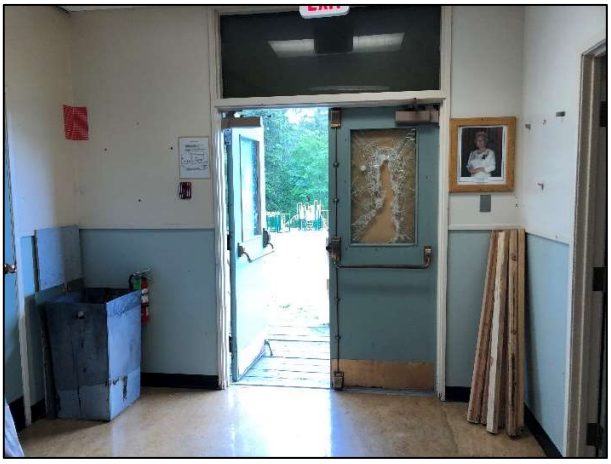


Photo 4 - Glass has been smashed in at least one door

1051 Vancouver St. Victoria, BC V8V 4T6
mail@heroldengineering.com
(250)590-4875

Photo 5 - Exterior doors to lower level

Photo 6 - Exterior classroom doors

Asset Description

While all windows were boarded over at the time of review, the majority of windows and doors appear to be original to the building's construction in 1969. The windows at the top of the wall installed between the beams appear to be wood framed, while the remainder of the windows are metal framed.

Observations / Comments

The windows at South Wellington Elementary School are generally life-expired. The windows are not thermally broken, however no evidence of condensation or water damage to the existing interior sills and finishes was observed on site. The windows were observed to be reasonably well maintained; however, while the glazing continues for the most part to function as intended they are considered to have a very poor thermal performance with a high level of heat loss during the heating season.

The window assemblies were not observed from the exterior due to the windows being boarded. As such we are not able to comment on the adequacy of flashings.

It is strongly recommended that consideration is given to the replacement of the existing windows with assemblies that are compliant with the current North American Fenestrations Standard (NAFS) with respect to thermal performance and air and water penetration requirements. It is recommended that The Best Practices Guide for Window and Door Replacement in wood frame buildings be used as a reference for any window replacement program.

8.4 Roofing

Estimated Useful Service Life (EUSL):

- 20 years for 2-Ply SBS Roofing

Asset Age: 28 years

EUSL Remaining:

- 0-2 years for 2-ply SBS Roofing

Asset Condition: Poor

Photo 1 - View of primary roof shows degranulation and patch repairs

Photo 2 - Significant ponding

Photo 3 - Ponding and staining

Photo 4 - Significant staining and debris collection

Asset Description

During our site visit, we reviewed the primary roof areas. The primary roofing material is a low-slope 2-ply SBS roofing membrane over 1-1/2" of rigid insulation which is described on the original 1969 drawings. There are also canopies installed at the south and north elevations over entry doors.

Observations / Comments

As the service life of an SBS roofing membrane is considered to be approximately 20 years, it is strongly recommended that replacement of the 2-ply SBS membrane is completed in the next 0 to 2 years. The roof membrane has a significant number of blister defects, as well as patch repairs, and the cap sheet appears to have lost its granular finish indicating that its useful life has expired.
Significant ponding was observed on the east side of the roof, while staining and moisture-laden debris has collected at the low points of the roof. This may be due to a lack of adequate drainage.
It was observed that the cap flashings over the adjacent roof curb are generally in fair condition. The roof canopies over the entrance doors are generally in poor condition, and appeared to have structural deflection. It is likely that canopies will need to be replaced in addition to the roofing work.

9.0 Recommendations

Based on our visual review, the age of the building complex, and the published data of the life cycle of materials, it appears that some of the major building components are life expired and in need of replacement or renewal, while other components are performing poorly and are detrimental to the remaining economic life of the building. The remaining economic life of the building complex relies heavily on remediation, and is anticipated to be approximately 30-50 years, provided that remediation is completed and regular maintenance is performed.

The following recommendations are based on our visual assessment conducted during the field review, as well as on CMHC Standards for Living Environments:

Order of Magnitude	Tasks	Cost Estimate
Immediate **0-5 Years**	**<u>Roof Renewal</u>**	
	The SBS membrane on the roof is life-expired, and if left unattended, may contribute to water ingress. Replacement of the roofing and associated flashings in recommended	$150,000.00
	Exterior roofing insulation Package	$100,000.00
	Contingency (20%)	$50,000.00
	SUB TOTAL	**$300,000.00**
	<u>Window Replacement/Rehabilitation</u>	
	The wood and metal framed windows are life-expired.	$60,000.00
	It is recommended that all windows are replaced or rehabilitated with adequate flashings and transition detailing.	
	Contingency (20%)	$12,000.00
	SUB TOTAL	**$72,000.00**
	<u>Re-painting Cedar Cladding</u>	
	The paint finish is faded and life-expired.	$20,000.00
	It is recommended that all exterior cedar cladding is re-painted to mitigate moisture ingress and deterioration.	
	Contingency (20%)	$4,000.00
	SUB TOTAL	**$24,000.00**
	TOTAL	**$232,000.00**

A 20% contingency has been added to all costs to account for unforeseen conditions and repair of any decayed wood material encountered.

The pricing above are hard construction cost estimates and do not include General Contractor allowances, permits, consulting, taxes or other soft costs.

We trust the information contained within this report satisfies your current requirements. Should you have any comments or questions, please do not hesitate to contact the undersigned.

Yours truly,

HEROLD ENGINEERING LIMITED

Prepared by:

Andrew Peacock, EIT

Reviewed by:

Jarrod Koster, P.Eng

1051 Vancouver St. Victoria, BC V8V 4T6
mail@heroldengineering.com
(250)590-4875

Appendix B

South Wellington Elementary School
1536 Morden Road, Nanaimo, BC

SEISMIC ASSESSMENT UPDATE – JUNE 1, 2020

Prepared For:

Regional District of Nanaimo
c/o Dean Banman
6300 Hammond Bay Road
Nanaimo BC
V9T 6N2

Prepared by:

Herold Engineering Limited
1051 Vancouver Street
Victoria, BC
V8V 4T6

Submittal Date:
June 1, 2020

HEL Project No. 0837-073

HEROLD ENGINEERING

Table of Contents

1.0 Introduction

Herold Engineering Limited (HEL) was retained by the Regional District of Nanaimo (RDN) to conduct a Feasibility Study of the property and buildings located at 1536 Morden Road in Nanaimo, BC for the consideration of converting the primary building into a community centre. The primary building was previously operating as South Wellington Elementary School, part of School District 68.

The property is 3.07 acres, with a 9871 ft² Elementary School building containing six (6) classrooms, a library, an office, a staffroom, washrooms and change rooms, and mechanical and electrical rooms.

As part of this review, comments on the expected seismic performance of the building were requested. In 2012, a Seismic Project Identification Report (SPIR) was produced by Herold Engineering Limited for School District 68 that identified the building structure as an "H1 Risk", the highest risk category in the School Seismic Mitigation Program.

Since 2012 there have been updates to both the Building Code and School Seismic Upgrade Program. This report will focus on the performance of the building relative to the School Seismic Program which is currently using the third version of the Seismic Retrofit Guidelines.

Please note that this update has been prepared by HEL exclusively for the Client.

An outline description of the building is provided in Table 1.1 below together with photos of the building elevations.

Table 1.1 – Description of the Building	
Address	1536 Morden Road, Nanaimo, BC
Date of Construction	1969
Type of Construction	Concrete foundations; Steel posts, Glulam Beams and Wood Framing
Number of Storeys (Above Grade)	1-1/2
Cladding Types	Painted cedar cladding
Roofing Types	2-ply SBS Membrane

A more detailed description of the building structure is contained in the "2012 Seismic Project Identification Report" contained in Appendix A.

1051 Vancouver St. Victoria, BC V8V 4T6
mail@heroldengineering.com
(250)590-4875

Photo 1: South-Facing Elevation

Photo 2: South-West Corner

Photo 3: North Elevation

Photo 4: East Elevation

2.0 Key Plans

AERIAL PHOTOGRAPH

3.0 Scope of Seismic Update

The Seismic Retrofit Guidelines are analogous to the requirements for Normal Occupancy in 2015 National Columbia Building Code (*on which the 2018 British Columbia Building Code is based*).

In simple terms the upgraded building will keep occupants safe during a major seismic event but the building would likely not be re-occupiable immediately afterwards. The building also may not be economically repaired.

If a higher degree of resiliency is required, then further study would be necessary outside of the scope of this update.

4.0 2012 Seismic Project Identification Report Summary

(Please refer to Appendix A "2012 Seismic Project Identification Report")

The building is rated as an H1 Retrofit Priority rating. This rating is described as:

> *"Most vulnerable structure: at highest risk of widespread damage or structural failure; not repairable after an event."*

Two (2) retrofit strategies were explored and costs estimated:

- A life safety retrofit that upgrades the building to an RPR rating of Low
- A phased retrofit that upgrades the building to an RPR rating of Medium

The life safety retrofit comprises diaphragm upgrades with new plywood and nailing with the installation of drag struts to transfer lateral loads to new braced bays.

The construction costs for the Life Safety Retrofit were **$750,000.00** plus an allowance of **$150,000.00** for abatement.

The phased retrofit is as described above, but relies on existing capacities of diaphragms and drywall partition walls. As upper storey brace frames are not installed (as per the life safety retro fit), sections of glazing require infilling to transfer diaphragm loads down into the exterior walls.
The construction costs for the Phased Retrofit were **$250,000.00** plus an allowance of **$50,000.00** for abatement.

5.0 Update to Report

Since the report was completed both the code requirements and retrofit guidelines have taken account of the increased seismicity that seismologists have found applies to Vancouver Island, over and above the previous codes and guidelines.

The building was already at the highest retrofit priority rating, so the H1 rating still applies.

In the latest guidelines, the phased retrofit option has been removed as it was found to be rarely used in retrofit projects. The principal of a phased retrofit was to economically upgrade buildings that were to be demolished 15 years on from the upgrade. The intention being that the building could be upgraded to a lesser more statistically likely event.

Although seismic loading has increased since 2012, the scope of the Life Safety Retrofit will be of similar scope. Elements such as foundations, brace sizes and nailing are likely to increase but not sufficiently to effect the construction cost estimate described below.

Construction costs have increased significantly. The cost of a life safety upgrade based on the current unit rates for seismic upgrading developed for the school program are $1,718/m^2. This construction rate is developed from the average of the cost of similar seismic upgrades and includes architectural, mechanical and electrical costs resulting from the upgrade. These rates are not suitable for project planning but are intended for capital planning purposes only.

In this case using the floor area of 917m^2 the construction cost is estimated to be approximately **$1,600,000**.

1051 Vancouver St. Victoria, BC V8V 4T6
mail@heroldengineering.com
(250)590-4875

6.0 Retrofit Options

The life safety retrofit is the recommended long term seismic solution for the building for **$1,600,000**. However, if budget constraints limit the ability to achieve this immediately then a phased approach could be considered.

Note that in the original 2012 report the intent was to achieve a Medium retrofit priority rating. In this case, the phased approach would be to bring the building up to life safety retrofit solution over a series of stages.

Phase one would be very similar to the scope of the Phased Retrofit outlined in the 2012 report. The exterior bracing to the covered play area would be installed and some of the windows on the east elevation infilled. Comparing 2012 costs to today's unit rates, we estimate a planning budget of **$600,000** for this phase would be recommended.

Phase two would complete the upgrade to the main floor. In this case brace frames are installed in the building and the roof diaphragm upgraded with a plywood overlay. The work would be done from the interior to keep costs down. Due to the project being phased we anticipate that there will be some additional costs associated with general requirements, administration etc. and so we estimate a budget of **$1,200,000**.

However if phase two could coincide with an envelope upgrade that includes plywood overlay of the walls and roof then combining the upgrade with the envelope upgrade would reduce the need for brace frames as well as foundation work. The general requirement costs of the project would also be reduced.

1051 Vancouver St. Victoria, BC V8V 4T6
mail@heroldengineering.com
(250)590-4875

7.0 Recommendations

This is a building at high seismic risk and we recommend that the building be upgraded to life safety standards prior to being re-occupied.

This may be done in one project or phased over two or more stages, as other building systems are upgraded (e.g. building enclosure).

Phase one should be completed prior to occupancy as this will reduce the risk of the building to a medium retrofit priority rating. Completing the upgrading to life safety levels (phase two) would then be necessary within the following 15 years.

Project Type	Scope	Planning Budget
Life Safety Retrofit	• Single project including removal and replacement of architectural, mechanical and electrical components. • Work is typically in the interior of the building except for the roof diaphragm upgrade (which requires the roof to be replaced and plywood applied) and infilling of window openings to create shear walls. • The cost also has an allowance for localized Hazardous Material abatement. • This would result in a seismic rating of Low.	
TOTAL		**$1,600,000.00**

1051 Vancouver St. Victoria, BC V8V 4T6
mail@heroldengineering.com
(250)590-4875

Life Safety Retrofit – Phase One	• Install foundation upgrades and bracing for covered play area. In fill window openings and create shear walls on the east elevation (from the exterior or interior). • This would result in a seismic rating of Medium.	
SUB TOTAL		**$600,000.00**
Life Safety Retrofit – Phase Two	• Complete the balance of the Life Safety Retrofit with in 15 years of Phase One. • This cost may be mitigated by other renovation projects that are necessary (costed separately). They may cover some of removal and replacement costs the seismic upgrade would incur. • This would result in a seismic rating of Low.	
SUB TOTAL		**$1,200,000.00**
TOTAL		**$1,800,000.00**

Costing is for construction only and so soft costs for construction contingencies, design contingencies fees etc. are not included. Note the costs are suitable for capital cost planning purposes only and should not be used for project planning.

The solutions described above require further design development if Class C cost estimates are needed. This is outside of the scope of this report.

1051 Vancouver St. Victoria, BC V8V 4T6
mail@heroldengineering.com
(250)590-4875

We trust the information contained within this report satisfies your current requirements. Should you have any comments or questions, please do not hesitate to contact the undersigned.

Yours truly,

HEROLD ENGINEERING LIMITED

Prepared by:

Lee Rowley, P.Eng. M.I.Struct.E., M.I.C.E., LEED AP
Managing Principal

1051 Vancouver St. Victoria, BC V8V 4T6
mail@heroldengineering.com
(250)590-4875

Appendix C

Ministry of Education
Resource Mgt.

10 OCT 2012 15:10:19

Capital Project Request Form

RDER0310 V.4.06

Hidden: No
District Priority: High
District Ranking: 28
Ministry Priority:

'carol webster' (PRD01) Project No: N/A Request Type: New

Part A - Project Identification

1. Capital Plan Year: 2012/2013	2. SD Ref. No.: 38-381-01	3. Last Modified: Oct. 5, 2012	4. Submitted On: unsubmitted
5. SD No.: 68	6. SD Name: Nanaimo-Ladysmith	7. Municipality: NANAIMO	8. Asset No.: 106308

9. Facility No.: 68081	10. Facility Name: SOUTH WELLINGTON ELEMENTARY	Facility Type:
13. Proj. Cd.: SPS	14. Project Description: SEISMIC UPGRADE - UPGRADE ENTIRE BUILDING BASED ON SPIR (H1)	11. Current: Elementary School
15. Proj. Type: MINOR		12. Proposed: Elementary School

Part B - Capacity, Area Factors and Allowances

Nominal Capacity:

	Kindergarten	Grades 1 - 7	Grades 8 - 12	7. Grade Configuration
1. Actual Existing:	20	75	0	K-7
2. Capcity Adjustments:	0	0	0	
3. Proposed Higher Priority Additions:	0	0	0	
4. Total Existing:	20	75	0	
5. Proposed Addition:	0	0	0	
6. Proposed Total Capcity:	20	75	0	8. K-7

Site Area (ha):

9. Required Size:	0.0
10. Existing Area:	0.0
11. Total New Aera:	0.0

Allowable BuildIng Area (sq.m.)

12. Total Allowable Area:	0.0
13. Existing Area:	0.0
14. Area to be demolished:	0.0
15. Area of New Space:	0.0

Allowable Renovation Area (sq.m.)

16. Renovations Associated With Additions (%):	20
17. Renovation Area:	750.00
18. Renovation Unit Rate:	1000

Construction Cost Factors:

19. Base Unit Rate:	1765.00	20. Air Conditioning:	0	LFA: 0.00	MF: 1.00	24. New Space:	13.0
21. Project Size Factor:	1.050	22. Location Factor:	1.06	23.Ground Factor:	1.00	25. Freight Allowance:	3.17

Equipment Allowance (%):

Part C - Estimated Budget

						Subtotal
Site Acquisition:	1. Purchase:	0		2. Other Cost:		3. 150,000
Site Development:	4. Development Cost Charges:	0				
	5. Offsite Costs:	0				
	6. Adjusted Site Development:	0	0	None		8. 0
	7. Supplementary Site:	0				
New Construction:	9. New Area:	0.0	Renovations:	13. Renovation Area:	750.00	
	10. Adjusted Unit Rate:	0.0000		14. Renovation Unit Rate:	1,000	
	11. Subtotal:	0		15. Subtotal:	750,000	
	12. Supplementary Building:	0		16. Supplementary Costs:	0	
				17. Other Costs:	150,000	
Building Costs:	18. Build Total:	0		19. Reno Cost:	900,000	20. 900,000

Equipment Allowance:	Area	Allowance
21. New Area:	0.00	0
22. Area Entitled to Equipment Replacement:	0.00	0

New Fee: 0.0000 Reno Fee: 0.1600

23. Equipment Freight Allowance: 0 — 24. 0

Fees:	25. Site Dev.:	0	26. New:	0	27. Renovation:	144,000	28. 144,000
Contingency:			29. New:	0	30. Renovation:	45,000	31. 45,000
Other:	32. Seismic Upgrade - SPIR						33. 11,000
Phases:	34. Site:	0	35. Plan:	0	36. Completion:	1,100,000	
	37. Planning Costs in Planning Phase:		0		38. In Completion Phase:	0	
Total Esitmated Budget:							39. 1,100,000

Project No.	Project Title	Capital Plan Year	SD No.	SD Ref. No.
N/A	SPS - SOUTH WELLINGTON ELEMENTARY	2012/2013	68	38-381-01

Part D - Schedule and Funding

		Site	Planning	Completion
Project Cost Schedule:	1. Year:	2012/2013	2012/2013	2014/2015
	2. Cost:	0	0	1,100,000
Funding Source:	3. Bylaw Capital:	0	0	1,100,000
	4. Capital Reserve:	0	0	0
	5. Land Reserve:	0		0
	6. Local Capital:	0	0	0

Part E - Approved Funding

		Site	Planning	Completion
Phase Status:	1. Status:	Requested	Requested	Requested
Approved:	2. Bylaw Capital:	0	0	0
	3. Capital Reserve:	0	0	0
	4. Land Reserve:	0		0
	5. Local Capital:	0	0	0
Variance:	6. Variance	0	0	1,100,000
Net Request:	7. Bylaw Capital:	0	0	1,100,000
	8. Capital Reserve:	0	0	0
	9. Land Reserve:	0	0	0
	10. Local Capital:	0	0	0

Part F - Comments

Category: General

SCHOOL IS RATED H1 IN ACCORDANCE WITH S.P.I.R. ATTACHED.
BASIC CONSTRUCTION $750,000
ASBESTOS $150,000
SPIR COSTS $11,000

Seismic Project Identification Report

REPORT NO. SPIR-W001

for

SOUTH WELLINGTON SCHOOL

1536 Morden Road
Nanaimo, BC, Canada
V9X 1S2

School District No. 68
Nanaimo School District

Structural Engineering Guidelines for the Performance-Based Seismic Assessment and Retrofit of Low-Rise British Columbia School

The Seismic Project Identification Report (SPIR) is a new report format that documents the seismic retrofit concepts proposed for a high risk school block.

The Ministry of Education (Ministry) requires that a School District submit an SPIR for any school block as the first step in the District's request for seismic retrofit funding.

APEGBC, as the Ministry's technical advisor for the Seismic Mitigation Program, was requested by the Ministry to develop the format and technical requirements for the SPIR.

SPIRs are due diligence documents that are designed to present seismic upgrading options to assist seismic safety planning by both the School District and the Ministry. The expectation is that SPIR information will guide the seismic upgrading of school blocks in a safe and cost-effective manner.

Ongoing feedback from engineering practitioners is encouraged to advance future refinements in the format for the SPIR document.

Figure 1: East Elevation of Block 1

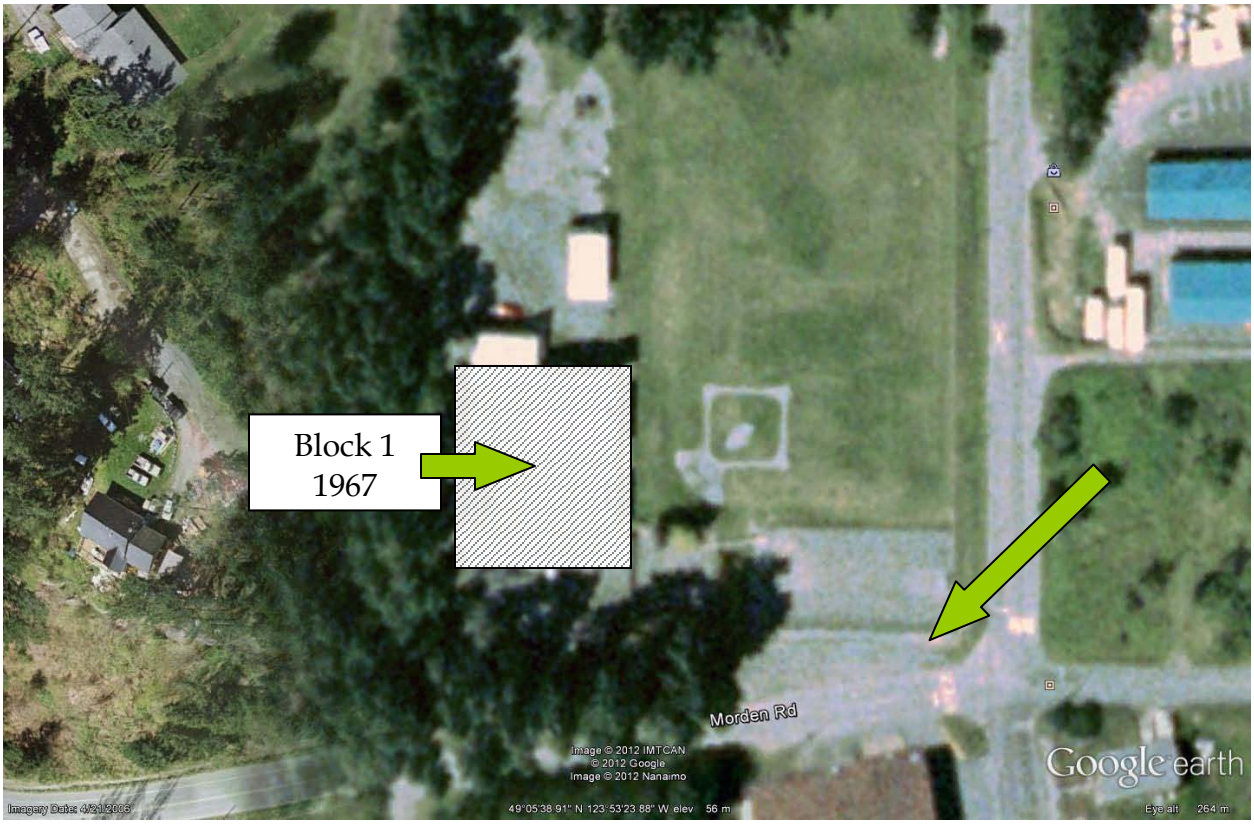


Figure 2.1: Key Plan for Block 1

Adjacency (Box #1)

☒	No Significant Adjacency Issues
☐	Significant Adjacency Issues

Adjacency Comments (Box #2)

The classroom block is a standalone structure

School District(Box #3-1)

School District 68

Block Name (Box #3-2)

Classroom Block

Structural Firm (Box #3-3)

Herold Engineering Limited

Engineer-of-Record (Box #3-4)

Lee Rowley, P.Eng

Years of Construction (Box #3-5)

1969

Floor Area (Box #3-6)

917m^2

Construction Type (Box #3-7)

Wood frame with steel columns

Site Classification (Box #3-8)

C

Comments on Construction Type (Box #3-9)

The building is post and beam construction with very little load path for lateral loads down to foundation level.

Number of Storeys (Box #3-10)

2

Clear Storey Heights (Box #3-11)

3600mm

Previous Seismic Upgrade (Box #3-12)

☒	No
☐	Yes

Previous Seismic Upgrade Details (Box #3-13)

A seismic upgrade was planned in 2001 but not implemented.

(1) Vertical Load-bearing Supports (VLS)

VLS Type(Box #4-1)

Wood frame post and beam construction with mechanical connectors.

VLS DDL(Box #4-2)

6%

From SRG#1 Table 8.1

Supports Description (Box #4-3)

The construction comprises glulam beams for the main floor and roof construction with T&G decking spanning over them. These glulam are supported on pipe columns built on pad foundations. The foundations are set on rock with the ground sloping down towards the east, creating a walk-out basement level. Exterior and interior stud walls are non-load bearing but provide some brace action for lateral loads.

(2) LDRSs

Number of LDRS Prototypes (Box #4-4)

1

LDRS Prototype Details (Box #4-5)

Shaking Direction	Prototype No.	LDRS Prototype Description	Max DDL	Capacity
E/W	W4	Horizontal wooden boards	3.0%	2% Ws

Comments on LDRS Prototypes (Box #4-6)

The low capacities are based on the following assumptions:

Limited load path down to foundations.

(3) Out-of-Plane URM Walls

URM Walls (Box #4-7)

☒	No
☐	Yes

Out-of-Plane Prototype Details (Box #4-8)

Prototype No.	Prototype Description	Max. Height	Wall Thickness	Surcharge

Comments on Out-of-Plane Prototypes (Box #4-9)

(4) Roof Diaphragm

Roof Diaphragm Material (Box #4-10)

☒	Wood	☐	Concrete
☐	Steel Deck	☐	Braced Steel

Roof Diaphragm Prototype Details (Box #4-11)

Prototype No.	Roof Diaphragm Prototype Description	Span	Max. Movement	Capacity
D3	2” T&G Decking over glulam	34m	100mm	0.2 Wd

Comments on Roof Diaphragm (Box #4-12)

Due to the lack of load path, the diaphragm spans the full length of the school. It is understood that the roof was not sheathed in plywood during a retrofit.

(5) Floor Diaphragm

Floor Diaphragm Material (Box #4-13)

☒	Wood	☐	Concrete
☐	Steel Deck with Concrete Topping		

Floor Diaphragm Prototype Details (Box #4-14)

Prototype No.	Floor Diaphragm Prototype Description	Span	Max. Movement	Capacity
D3	3" T&G Decking over glulam	34m	100mm	0.2 Wd

Comments on Floor Diaphragm (Box #4-15)

A similar situation to the roof.

(6) Connections

Adequate Connections (Box #4-16)

Roof Diaphragm / LDRS	☐	Yes
	☒	No
Floor Diaphragm / LDRS	☐	Yes
	☒	No
LDRS / Foundation	☐	Yes
	☒	No

Comments on Connections (Box #4-17)

Shear collection is not detailed at roof level and so connection of the diaphragm to the LDRS relies on the glulam only. The decking is acting as diaphragm cords and so they are discontinuous.

Risk Assessment Results (Box #5-1)

Principal Element	Prototype No.	Prototype Description	PDE
LDRS E/W N/S	W4	Wood T&G boards	30.7%
Roof Diaphragm	D3	2” T&G Decking.	50.0%
Floor Diaphragm	D3	3” T&G Decking.	50.0%
Maximum LDRS PDE (refer to GDL note below)			**50.0%**
Existing Block Retrofit Priority Ranking			**H1**
Note: Based on a GDL of 2.75% for W4			

Comments on Seismic Deficiencies, Recommended Testing and Risk Assessment Results (Box #5-2)

The risk assessment results for this block are dominated by the lack of load path down to foundations. Due to lack of interior bearing walls, the diaphragms span the full length of the school.

Retrofit Options Documented (Box #6-1)

No.	Retrofit Option	Chapter
1	Life Safety Retrofit	7
2	Phased Retrofit	9

Comments on Documented Retrofit Options (Box #6-2)

The major issue for this block is the lack of load path. The individual structural elements such as the wood diaphragms and walls will have adequate capacity if this is improved.

A phased retrofit is considered a reasonable approach in improving the safety of this building; however the life safety retrofit is required at a later date to meet the minimum requirements of the Seismic Retrofit Guidelines.

(1) Retrofit Concept

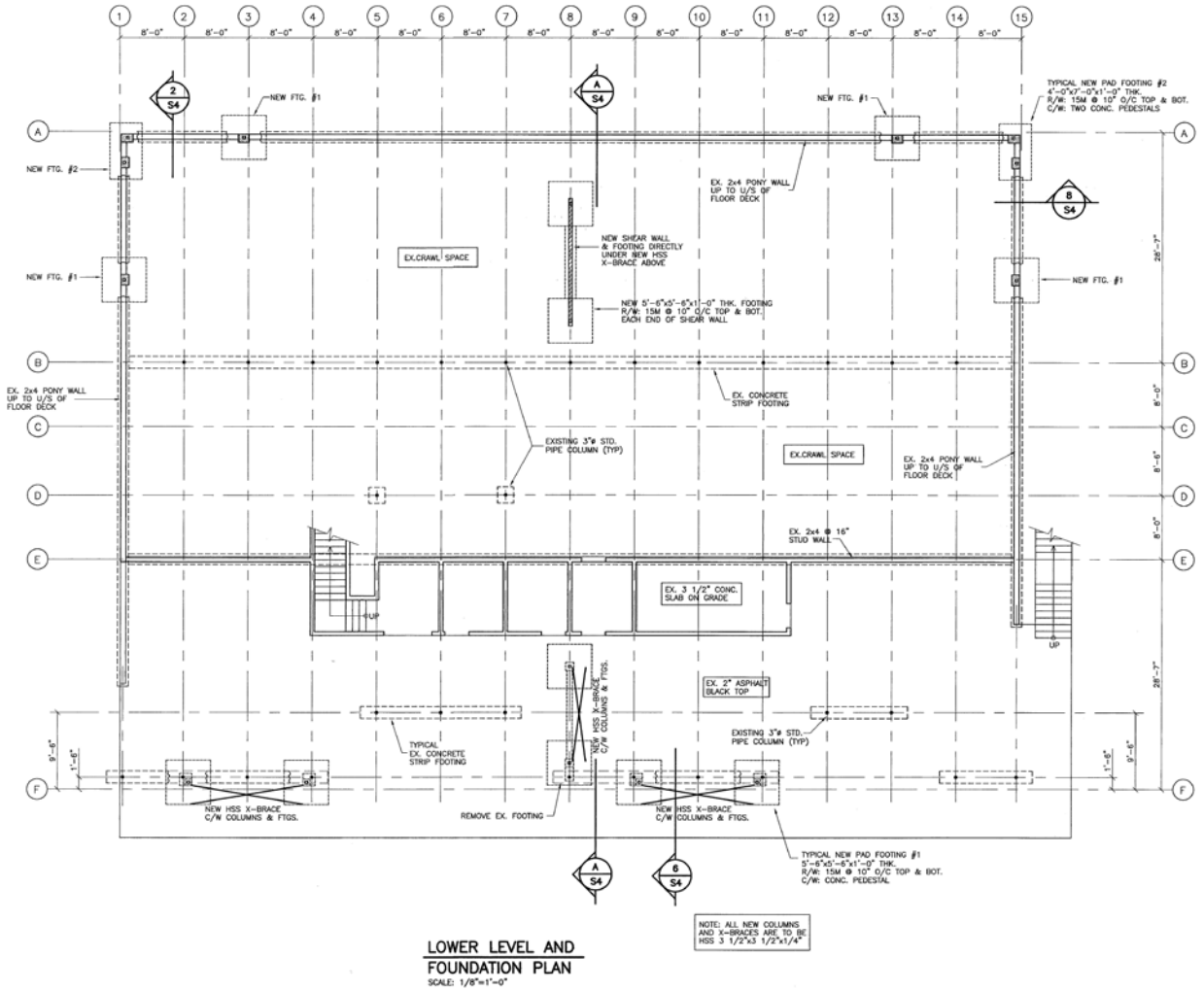


Figure 7.1: Basement Retrofit

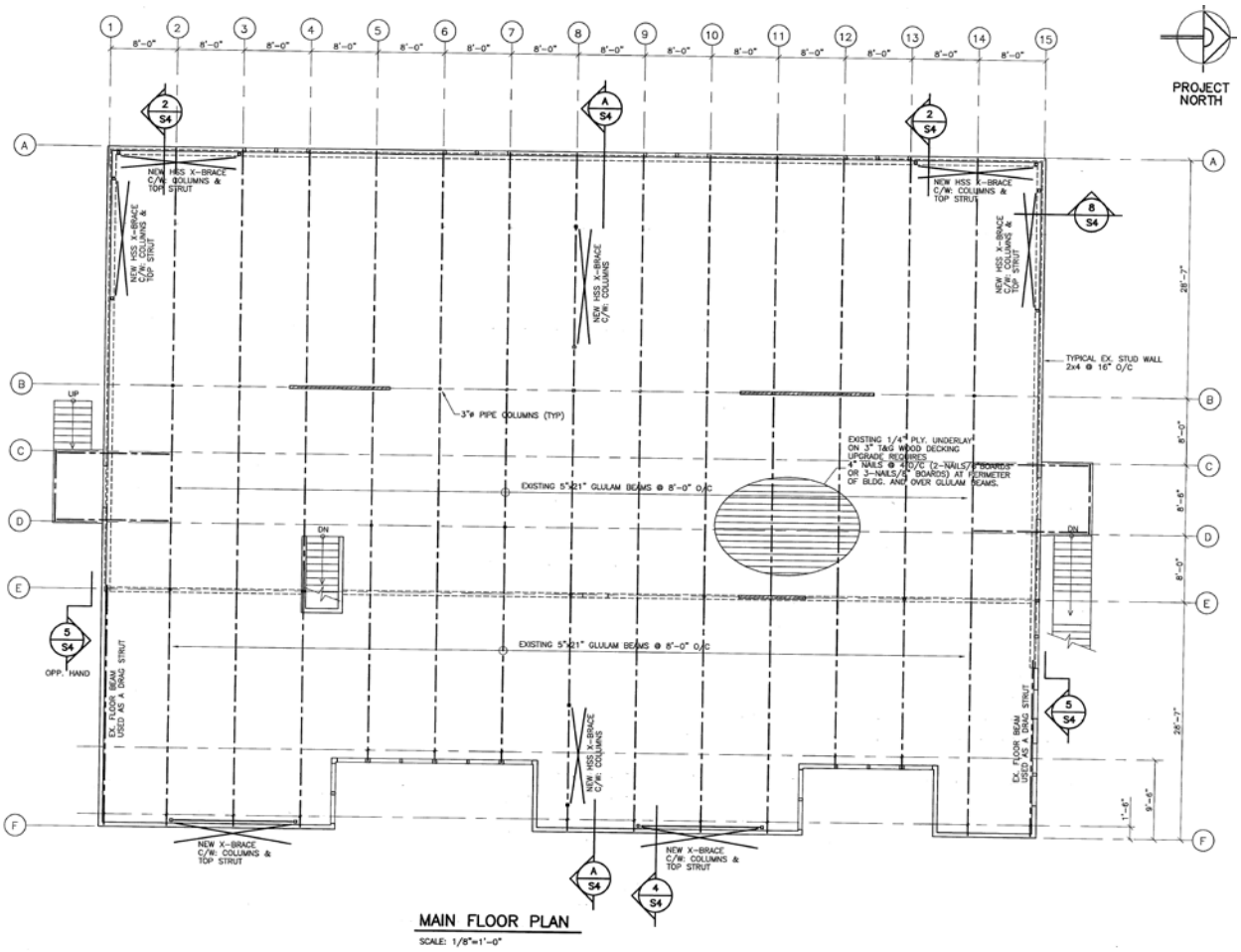
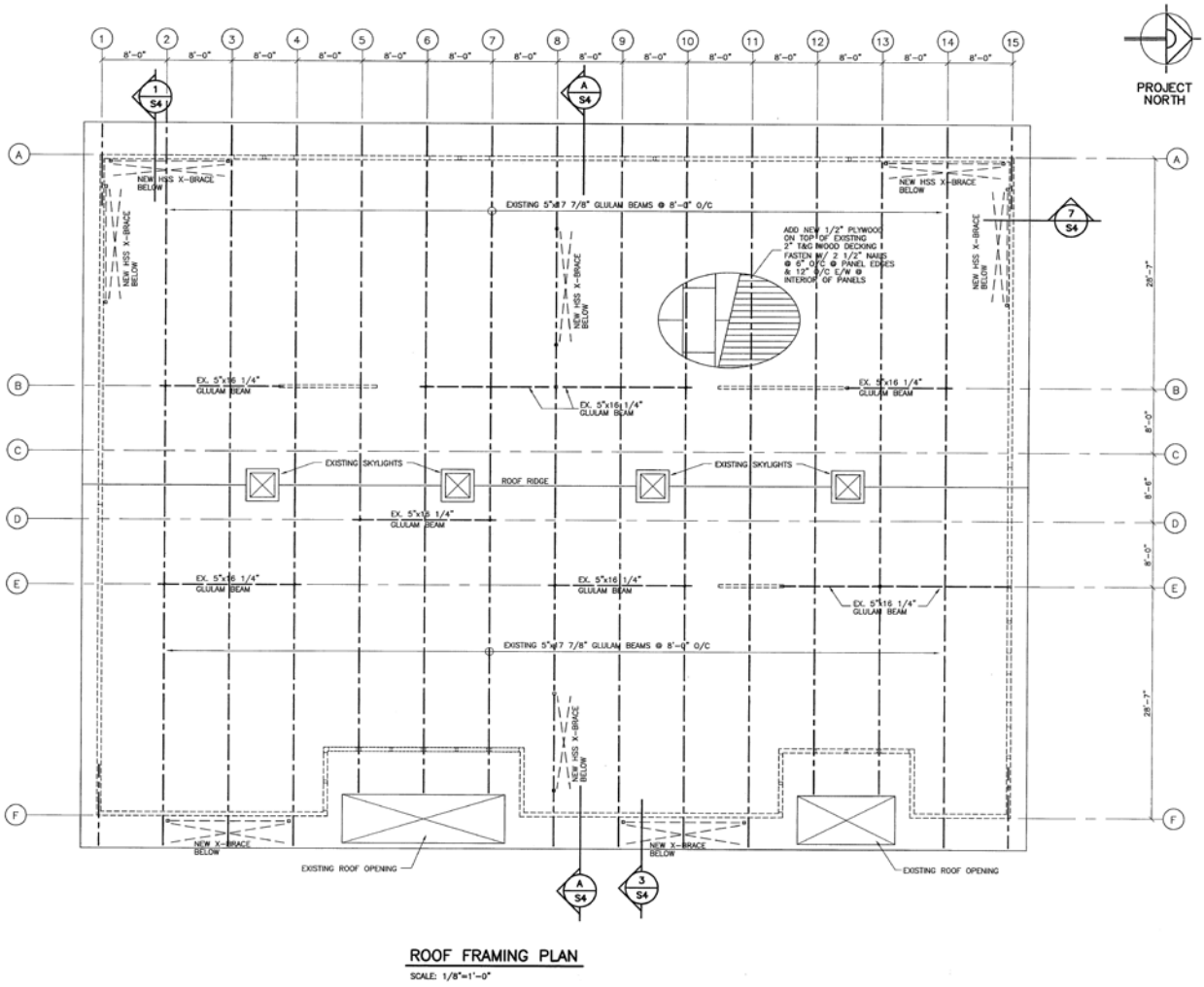


Figure 7.2: Main level retrofit



ROOF FRAMING PLAN

SCALE: 1/8"=1'-0"

Figure 7.3: Roof level retrofit

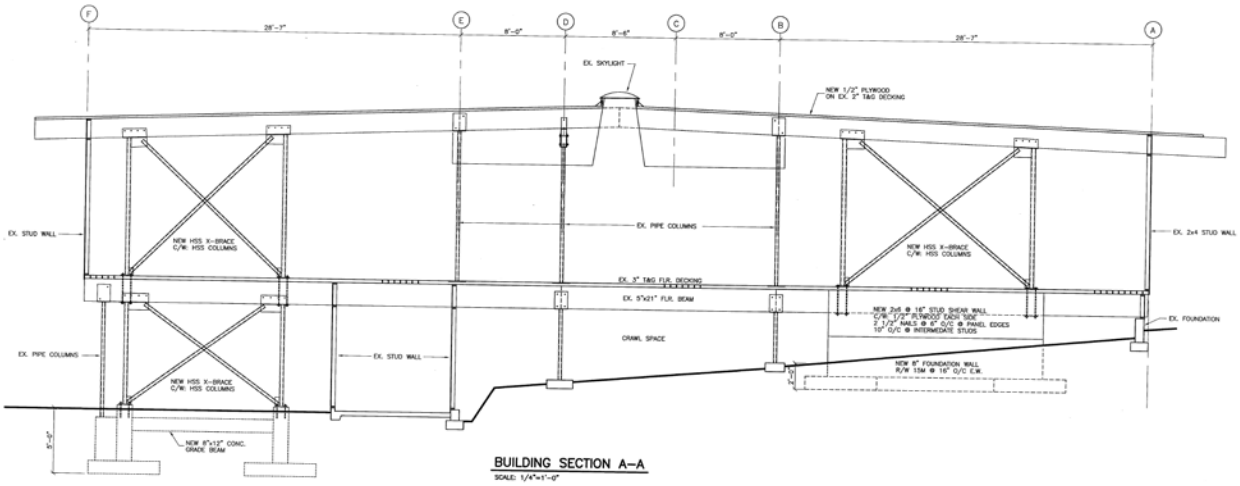


Figure 7.4: Section through retrofit

Comments on Figure 7.1 to Figure 7.3 (Box #7-1)

Roof Diaphragm

Install 1/2” DF-L plywood sheathing over the existing tongue and groove timber decking. Install new steel drag struts perpendicular to glulam, to transfer roof diaphragm forces to the new brace frames.

Main Floor Diaphragm

Nail through flooring overlay to improve T&G diaphragm performance. Install new steel drag struts.

New Interior Cross Brace Bays or Shear Walls

Install new brace bays or shear walls to transfer loads down to foundations. Brace bays are shown.

New Foundations

Install new pad foundations under brace bays. Due to the proximity of rock to the surface, it is likely that rock anchors will be a cost-effective solution.

(2) Retrofit LDRSs

Number of Retrofit LDRS Prototypes (Box #7-2)

1

Retrofit LDRS Prototype Details (Box #7-3)

Shaking Direction	Prototype No.	LDRS Prototype Description	Max PDE	Max DDL	R_m
E/W N/W	S3	Braced frame tension only conventional construction	2%	1%	36.5%

Comments on Retrofit LDRS Prototypes (Box #7-4)

Use conventional construction due to the hybrid wood steel configuration.

(3) SPIR Benchmarks

Benchmark SPIRs (Box #7-5)

Benchmark SPIR No.	Benchmark SPIR Description	Retrofit Cost ($ / m^2)

Comments:

There are no comparable SPIRs currently available for the Life Safety Retrofit.

(4) Scope of Retrofit

Refer to Appendix A for details on the scope of work for both the structural and non-structural retrofits.

(5) Retrofit Cost Estimate

Refer to Appendix B for details on the retrofit cost estimate for the life safety retrofit. A summary of the life safety retrofit is given in Chapter 10.

(6) Schedule

Schedule (Box #7-6)

No.	Schedule Issue	Value
1	Retrofit Duration	4 months
2	Portables	1 months (2)

Comment on Operational Disruption:

Two additional portables are estimated to be required if additional space is not available in the school.

It is anticipated that two classrooms will be affected by the work at any given time.

Disruption can be mitigated if the interior work is limited to the summer vacation period.

(7) Construction Risks

Risks (Box #7-6)

Risk Description	Significant Risk			
Asbestos	☒	Yes	☐	No
Vermiculite	☐	Yes	☒	No

Risk Management Comments (Box #7-8)

A Hazmat report was not available at the time of the report; however due to the age of the building, asbestos should be expected in the drywall tape, flooring (tiles) and mechanical ductwork insulation.

Summary of Enhanced Performance Retrofit Option (Box #8-1)

SPIR Scope of Work

An enhanced performance retrofit is outside the scope of work for this SPIR.

(1) Retrofit Concept

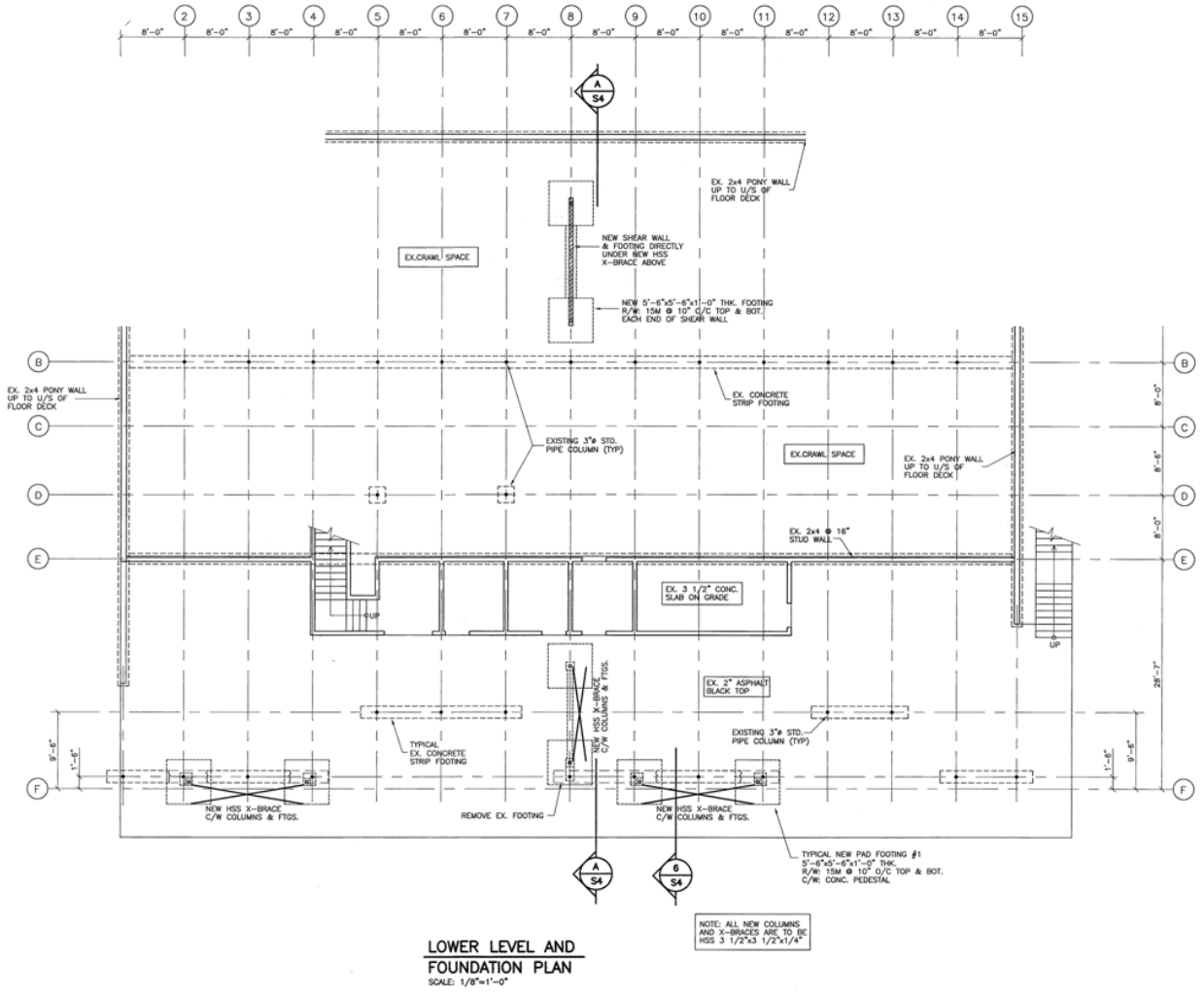


Figure 9.1: Lower level phased retrofit

Comments on Figure 9.1 (Box #9-1)

Roof Diaphragm

In phased solution, the interior partition walls will act as braced walls. In phased solution, the interior partition walls will act as braced walls. The diaphragm is broken up in the east/west direction in 28' spans.

Using the analyzer, the diaphragm capacity is 5% Wd for a PSE of 4.9%. Therefore the diaphragm does not need further upgrading to meet the medium phased requirements.

Calculations based on table 10.2 capacities.

Shear walls at main level

The interior walls are assumed to act as braced wall built off the glulam and T&G flooring. The main floor diaphragm is then assumed to transfer lateral forces to the new shear wall on gl 8 and the exterior north and south walls.

Because glazing prevents loads getting from the roof into the wall system windows on the east and west elevations, infilling is required to improve load path. Four no. 8 foot window sections require infilling with wood frame, comprising new studs and 2 layers of ½" plywood.

New Interior Cross Brace Bays or Shear Walls below main level.

Install new brace bays or shear walls to transfer loads down to foundations. Brace bays are shown.

New Foundations

Install new pad foundations under brace bays. Due to the proximity of rock to the surface, it is likely that rock anchors will be a cost-effective solution.

(2) Retrofit LDRSs

Number of Retrofit LDRS Prototypes (Box #7-2)

2

Retrofit LDRS Prototype Details (Box #7-3)

Shaking Direction	Prototype No.	LDRS Prototype Description	Max PDE	Max DDL	R_m
E/W N/W	S3	Lower level braced frame tension only conventional construction	2%	1%	36.5% Ws
E/W N/W	W3	Upper level braced walls	5%	2.25%	3.7% Ws

Comments on Retrofit LDRS Prototypes (Box #7-4)

Use conventional construction due to the hybrid wood steel configuration. Bracing will be retained for the life safety retrofit design for 2% PDE. For upper level, more drift and higher PDE is acceptable as the LDRS will eventually be replaced.

(3) SPIR Benchmarks

Benchmark SPIRs (Box #7-5)

Benchmark SPIR No.	Benchmark SPIR Description	Retrofit Cost ($ / m^2)

Comments:

There are no comparable SPIRs currently available for a phased retrofit.

(4) Scope of Retrofit

Refer to Appendix A for details on the scope of work for both the structural and non-structural retrofits.

(5) Retrofit Cost Estimate

Refer to Appendix B for details on the retrofit cost estimate for the life safety retrofit. A summary of the phased retrofit is given in Chapter 10.

(6) Schedule

Schedule (Box #7-6)

No.	Schedule Issue	Value
1	Retrofit Duration	2 months

Comment on Operational Disruption:

No portables are anticipated due to the short nature of the schedule.

It is anticipated that two classrooms will be affected by the work at any given time.

Disruption can be mitigated if the interior work is limited to the summer vacation period.

(7) Construction Risks

Risks (Box #7-6)

Risk Description	Significant Risk			
Asbestos	☒	Yes	☐	No
Vermiculite	☐	Yes	☒	No

Risk Management Comments (Box #7-8)

A Hazmat report was not available at the time of the report; however due to the age of the building, asbestos should be expected in the drywall tape, flooring (tiles) and mechanical ductwork insulation.

Conclusions (Box #10-1)

1) Type of Block

This retrofit concept is for the seismic upgrading of a two storey wood frame block built in1969. The block is founded on Site Class C soils and has a floor area of 917 m2.

The block is classified by TRB as a high risk (H2) block.

(2) Retrofit Options

The following retrofit options are detailed:

a) life safety retrofit

b) phased retrofit

The life safety retrofit comprises diaphragm upgrades with new plywood and nailing with the installation of drag struts to transfer lateral loads to new braced bays.

(3) Phased Retrofit

As described above, but relying on existing capacities of diaphragms and drywall partition walls. As upper storey brace frames are not installed (as per the life safety retro fit), sections of glazing require infilling to transfer diaphragm loads down into the exterior walls.

(4) Enhanced Performance Retrofit Option

N/A

(5) Schedule

Life safety retrofit can be completed in 4 months, requiring two portables. The phased retrofit is anticipated to be completed in 2 months.

(6) Risks

Hazardous materials (asbestos) are present and removal should be included in the retrofit project.

Conclusions: Retrofit Cost Estimates (Box #10-2)

The construction costs for the Phased Retrofit are $250,000 plus an allowance of $50,000 for abatement.

The construction costs for the Life Safety Retrofit are $750,000 plus an allowance of $150,000 for abatement.

Note that costs do not include:

Soft costs (usually an allowance of 25% of construction is made).

Alternative accommodation during construction.

Recommendations (Box #10-3)

We recommend the phased retrofit option in order to accelerate the selection of this project for funding.

The risk reduction from the phased retrofit is significant, however still below that provided by a code compliant upgrade. Therefore the life safety retrofit is still the preferred option if funding can be made available.

APPENDIX A
SCOPE OF RETROFIT DETAILS
for
SOUTH WELLINGTON SCHOOL

Table A.1: Scope of Structural Phased Retrofit

No.	Construction Activity	Approx. Quantity
	See breakdown in cost estimate	

Table A.2: Scope of Structural Life Safety Retrofit

No.	Construction Activity	Approx. Quantity
	See breakdown in cost estimate	

Table A.3: Scope of Non-Structural Retrofits

No.	Non-structural Hazard	Description of Non-structural Upgrading

Note

There is no significant non-structural upgrading beyond that required for "remove and replace" work immediately associated with the upgrading of the two structural retrofit options (life safety retrofit and phased retrofit).

APPENDIX B
RETROFIT COST ESTIMATE REPORT
for
SOUTH WELLINGTON SCHOOL

Life Safety Retrofit Cost Estimate Report

PROJECT:	South Wellington Elementary School, SD 68 Package Two - Life Safety Retrofit	Date: October 4, 2012
TYPE OF ESTIMATE:	Design Development	GFA: 15,392 sf incl. crawl space

Description	Sub-total	Total
Seismic Upgrade at Cover Play Area		$70,000
Concrete pad footings & grade beam, including excavation & backfill	$40,000	
Structural steel brace frames	$18,000	
Selective demolition	$4,000	
Asphalt paving	$5,000	
Allowance for miscellaneous patching & repairs	$3,000	
Seismic Upgrade in Crawl Space, Average 5' High in Work Area		$76,000
Concrete pad & strip footings, including excavation & backfill	$54,000	
Wood shear wall	$1,000	
Selective demolition	$7,000	
New asphalt paving & lean concrete	$3,000	
New wood exterior walls to match existing	$8,000	
Allowance for miscellaneous patching & repairs	$3,000	
New Steel Bracing & Columns to Main Floor		$74,000
Structural steel brace frames	$68,000	
Selective demolition	$1,000	
Allowance for patching & repairs	$5,000	
Upgrade Existing Main Floor Decking		$91,000
Remove existing floor finishes	$6,000	
New 4" nails	$3,000	
New flooring & replace damaged plywood underlay	$82,000	
Upgrade Existing Wood Framed Pony Walls on Grids 1 & 15		$5,000
New 2 1/2" nails to existing wood pony wall	$1,000	
3/4" anchor bolts to existing concrete wall	$3,000	
Allowance for miscellaneous patching & repairs	$1,000	
Upgrade Existing Roof Decking		$201,000
Remove existing roofing	$11,000	
New 1/2" plywood, on existing 2" T&G wood roof decking	$35,000	
2-ply SBS membrane roofing (assumed)	$147,000	
Allowance for new metal flashing & gutters	$8,000	

Building Cost - Before General Requirements & Fee	**$517,000**
General Requirements	$62,000
Fee	$46,000
Project Cost - With General Requirements & Fee - Before Allowances	**$625,000**
Design Contingency	$125,000
Project Cost - With General Requirements, Fee and Allowances	**$750,000**

Assumptions:

- Existing pony walls are unfinished.

Exclusions:

- Special foundations
- Rock anchors, if required
- Portable classrooms
- Construction contingency

Cash Allowance:

- Asbestos abatement to floor and drywall compound **$150,000**

Estimated based on:

Drawings S.01, S.02, S.03, S.04 dated 11/23/01, issued by Herold Engineering Limited.

Life Safety Retrofit Cost Estimate Report

PROJECT:	South Wellington Elementary School, SD 68 Seismic Upgrade - Phased Retrofit	Date: October 4, 2012
TYPE OF ESTIMATE:	Design Development	GFA: 15,392 sf incl. crawl space

Description	Sub-total	Total
Seismic Upgrade at Cover Play Area		$70,000
Concrete pad footings & grade beam, including excavation & backfill	$40,000	
Structural steel brace frames	$18,000	
Selective demolition	$4,000	
Asphalt paving	$5,000	
Allowance for miscellaneous patching & repairs	$3,000	
Seismic Upgrade in Crawl Space, Average 5' High in Work Area		$37,000
Concrete pad & strip footings, including excavation & backfill	$15,000	
Wood shear wall	$1,000	
Selective demolition	$7,000	
New asphalt paving & lean concrete	$3,000	
New wood exterior walls to match existing	$8,000	
Allowance for miscellaneous patching & repairs	$3,000	
New Steel Bracing & Columns to Main Floor		$41,000
Structural steel brace frames	$35,000	
Selective demolition	$1,000	
Allowance for patching & repairs	$5,000	
Upgrade Existing Main Floor Decking		$0
Remove existing floor finishes	NIC	
New 4" nails	NIC	
New flooring & replace damaged plywood underlay	NIC	
Upgrade Existing Wood Framed Pony Walls on Grids 1 & 15		$5,000
New 2 1/2" nails to existing wood pony wall	$1,000	
3/4" anchor bolts to existing concrete wall	$3,000	
Allowance for miscellaneous patching & repairs	$1,000	
Remove Existing Windows and Infill Openings to East/West Elevations		$15,000
Remove existing windows and infill openings to east/west elevations New 1/2" plywood and wood framing		

New exterior wall finish to match existing
Allowance for making good existing finishes

Building Cost - Before General Requirements & Fee	**$168,000**
General Requirements	$25,000
Fee	$15,000
Construction Cost - With General Requirements & Fee - Before Allowances	**$208,000**
Design Contingency	$42,000
Construction Cost - With General Requirements, Fee and Allowances	**$250,000**

Assumptions:
- Existing pony walls are unfinished.

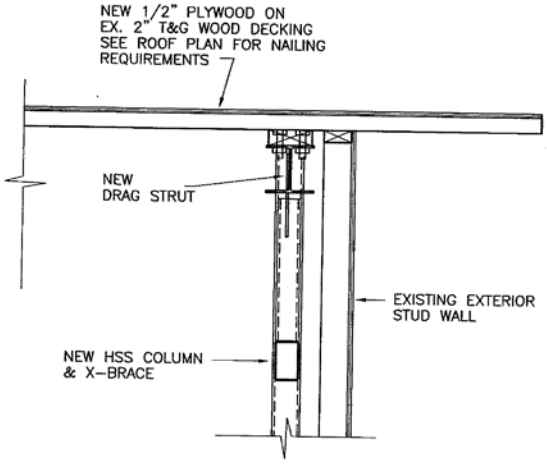
Exclusions:
- Special foundations
- Rock anchors, if required
- Portable classrooms
- Construction contingency

Cash Allowance:
- Asbestos abatement to drywall compound **$50,000**

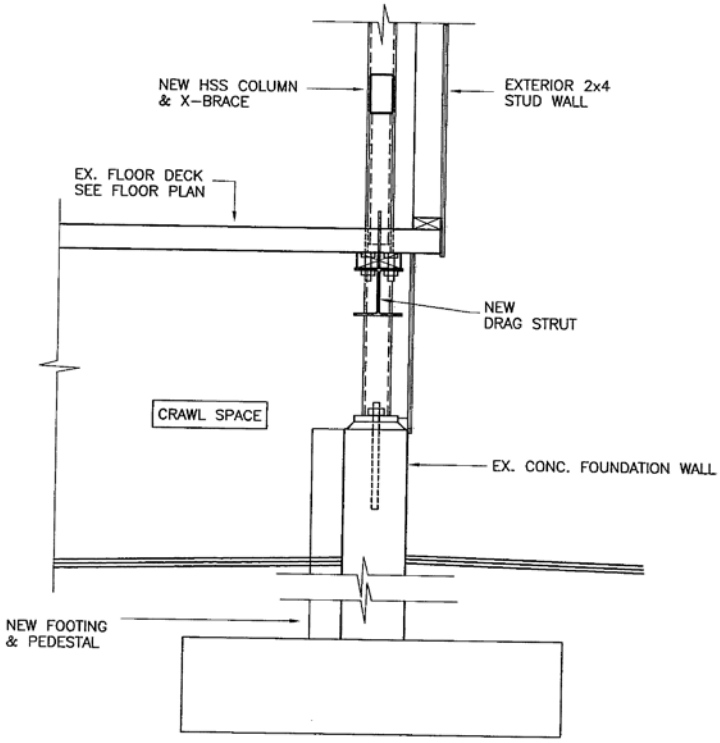
Estimated based on:
Drawings S.01, S.02, S.03, S.04 dated 11/23/01, issued by Herold Engineering Limited.

APPENDIX C
REPRESENTATIVE STRUCTURAL DETAILS
for
SOUTH WELLINGTON SCHOOL

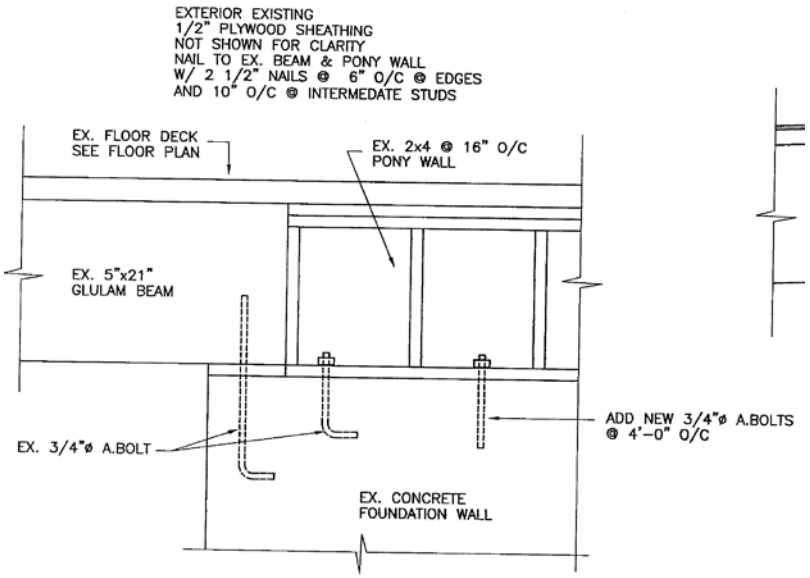
Representative Structural Details



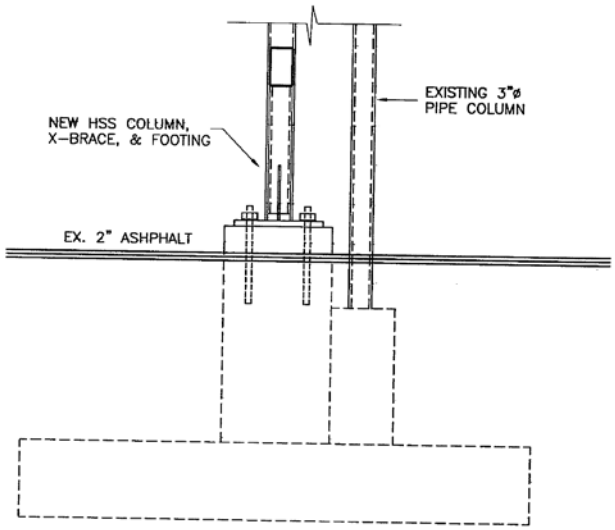
7/S4 ROOF DETAIL
SCALE: 3/4" = 1'-0"



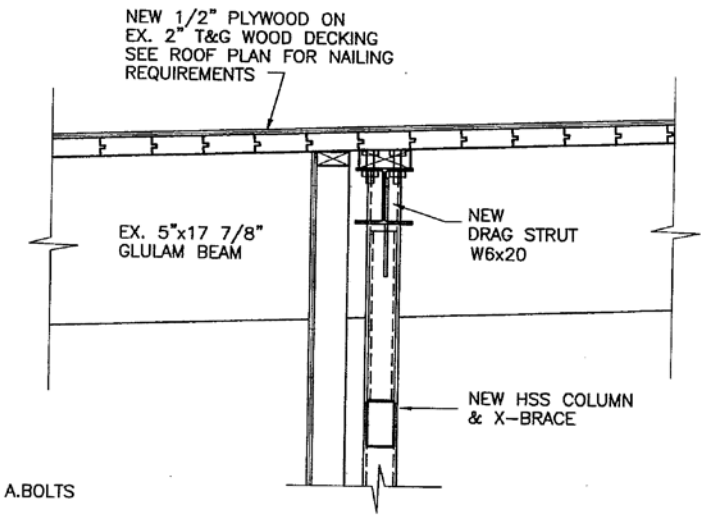
8/S4 SECTION
SCALE: 3/4" = 1'-0"



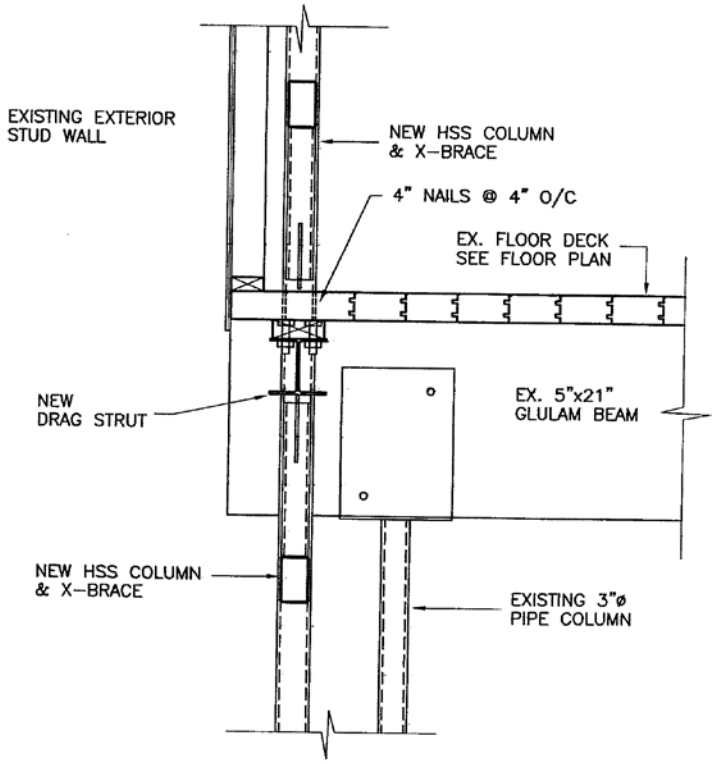
5 / S4 DETAIL
SCALE: 3/4" = 1'-0"



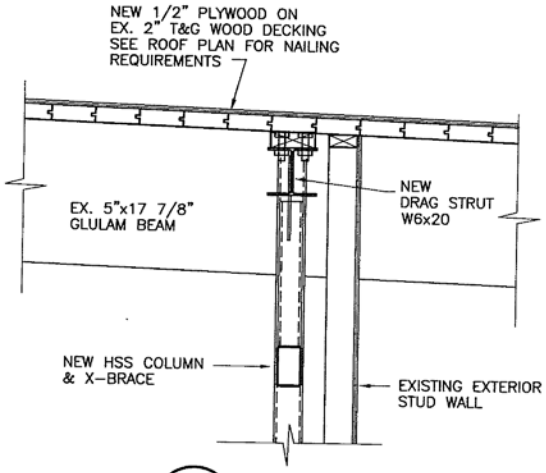
6 / S4 DETAIL
SCALE: 3/4" = 1'-0"



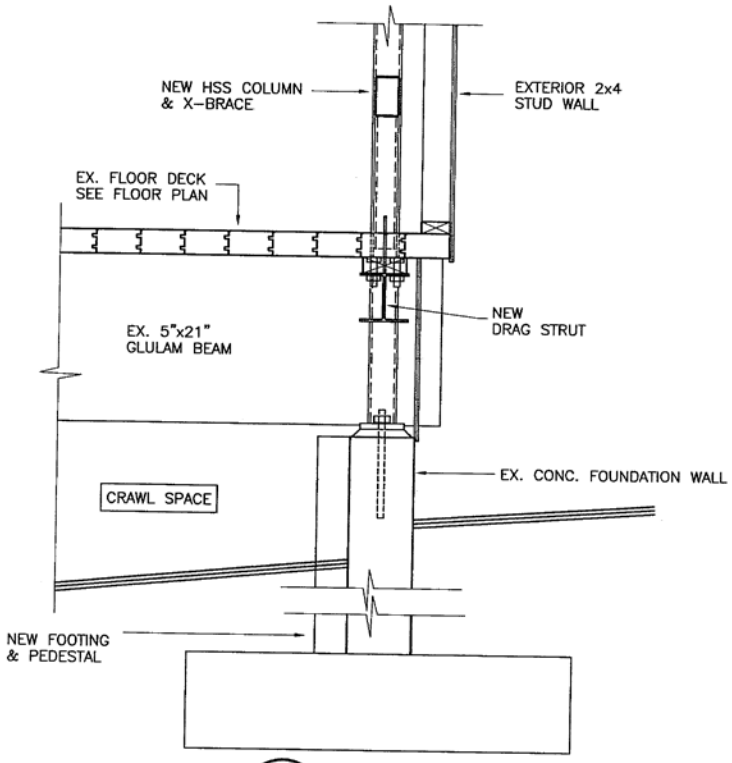
3 / S4 ROOF DETAIL
SCALE: 3/4" = 1'-0"



4 / S4 FLOOR DETAIL
SCALE: 3/4" = 1'-0"



1/S4 ROOF DETAIL
SCALE: 3/4" = 1'-0"



2/S4 SECTION
SCALE: 3/4" = 1'-0"

APPENDIX D

PHOTOGRAPHS

for

SOUTH WELLINGTON SCHOOL

Photographs

Northeast corner showing covered play area

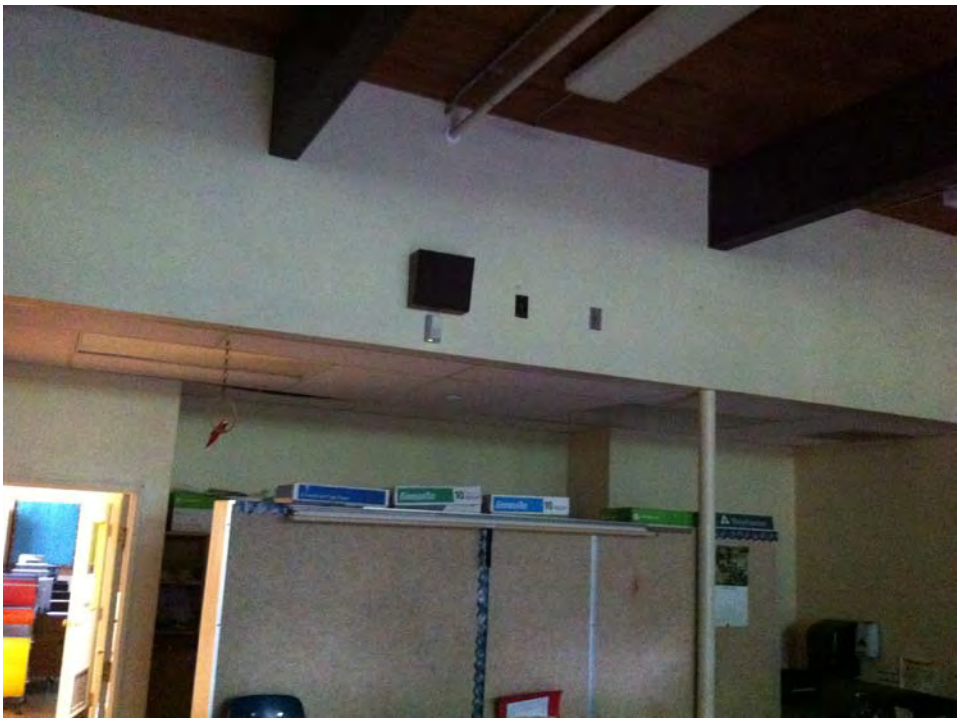
Southeast corner showing covered play area

South elevation

East elevations showing extent of glazing

Side windows on east elevation bays

Typical interior view showing roof structure and support



Interior view of classroom looking towards corridor showing supporting pipe column

View of crawlspace behind basement storage areas. Note rock slope and lack of interior bearing walls.

Appendix D

Lewkowich Engineering Associates Ltd.
Environmental Health & Safety

HAZARDOUS MATERIALS SURVEY REPORT

1536 Morden Road, Nanaimo, BC

(South Wellington Elementary School)

Prepared for:

Herold Engineering Ltd.

May 2020

Project No. F1444-1251

1900 Boxwood Road, Nanaimo, BC, Canada V9S 5Y2
Tel (250) 756-0355 Fax (250) 756-3831 • www.lewkowich.com

1.0 Introduction

This report presents the results of the demolition hazardous materials survey conducted on the property located at 1536 Morden Road in Nanaimo, BC, by LEA Environmental Health & Safety. The field work was conducted by Paul Johnston, D. Tech, RIHT (EPA-AHERA #13-0406) and Johanne Picard B.Sc., RPIH (EPA-AHERA #13-0407). The purpose of this investigation is to identify and quantify hazardous building materials as described in Section 6.0 of this report, and to assess related occupational health and environmental hazards potentially presented during renovation, demolition or relocation of the structure. All work was conducted in accordance with the requirements of BC OHS Regulation Section 20.112 & related Guidelines.

1.1 Summary of Findings: Hazardous materials present on the site are summarized in the following table:

Table 1.1.1 – Summary of Hazardous Materials

Material Type	Location(s)	Report Section
Asbestos	Drywall Joint Compound, Sheet Vinyl Flooring, Vinyl Floor Tile and Duct Mastic	6.1
Lead	Interior and Exterior Paint	6.2
Arsenic	None	6.3
Mercury	Fluorescent Light Tubes	6.4
PCBs	Potential Fluorescent Light Ballasts	6.5
Petroleum	None	6.6
Hazardous Products	None	6.6
UFFI	None	6.7
Ozone-Depleting	None	6.8
Silica	Concrete and Drywall	6.9
Radioactive	None	6.10
Bio-Hazard	None	6.11

All of these materials must be removed or contained prior to general demolition or commencement of construction work. General Risk Assessments and recommendations for handling and disposal are discussed in Section 7.0 of this report.

2.0 Scope of Report

An assessment was conducted on one structure located on the site. The scope of research for this report was limited to:

- a review of available information respecting the history and uses of the building;
- review of available sample data from a previous investigation by the School District;
- a visual reconnaissance of the site and inspection of the building;
- collection of twenty-nine samples for Asbestos analysis;
- screening of ten paint samples for Lead content via XRF.

3.0 Site Description

The structure is a single-storey with crawlspace; wood-frame constructed school building dating from ca. 1969[1]. Occupied area of the building is 997± m².

The building HVAC consists of an oil-fired, forced air system. Floors are finished with carpet and vinyl products. Walls are finished with drywall. Ceilings are finished with drywall, 2 x 4 ceiling tile and some wood in vaulted areas. The exterior finish is wood siding. Soffits and exterior detail are wood construction. Roofing consists of asphalt membrane. Windows are metal frame.

The building is connected to an on-site water well and municipal sewer and hydro.

4.0 Potential Contaminants and Physical Hazards

4.1 Asbestos-Containing Materials: Asbestos containing building materials (ACBM or ACM) – defined by WorkSafe BC as containing at least 0.5% Asbestos, and >0% in vermiculite insulation) may potentially be present in structural and mechanical components of the structure.

The common use of potential friable ACM in construction decreased dramatically in the mid-1980's due to public pressure, although ACM is occasionally found in building materials and equipment installed as late as 1990.

Also, the sale and use of products containing Asbestos (except the crocidolite form) remains legal in Canada. Typical suspect building products include floor and ceiling tiles, plaster or drywall mud, and Transite board. Typical mechanical products include pipe insulation, duct mastic, gaskets in cast iron bell and spigot pipe joints, and Transite cement pipe.

These materials do not typically pose any great hazard except during removal, demolition or work that requires disturbance of the material.

4.2 Lead-Containing Materials: Prior to 1976, Lead content in consumer coatings was unregulated. After that date, Lead content in interior paint was limited to <5000 ppm (0.5%) by weight under the federal Hazardous Products Act (HPA).

Exterior paint however was not regulated until 2005, when the HPA was amended to limit Lead in all paint to <600 ppm (0.06%) by weight.

In late 2011 the HPA was again amended to limit Lead content in all consumer coatings to <90 ppm (0.009%).

Other potential Lead-containing building materials include plumbing solder, old pipes, tile glazing and roof and window flashing. The National Plumbing Code of Canada allowed the use of Lead solder in pipes until 1986. Brass fittings may also contain Lead.

Lead is an ALARA substance and is listed as a 2A and 2B carcinogen (probably and possibly, respectively, carcinogenic to humans) by the International Agency for Research on Cancer (IARC). ALARA means 'as low as reasonably achievable'. The ALARA principle applies to Lead, which means that although the BC Occupational Health & Safety Regulation specifies exposure limits for Lead, worker exposures to Lead in paints and coatings must be kept as low as reasonably achievable.

[1] Source: Owner

4.3 Arsenic-Containing Materials: Arsenic has a long history of use as a pesticide due to its toxic properties. Arsenical pesticides including Chromated Copper Arsenate (CCA), when applied with high pressure to wood, serve to extend the structural life of the material by making it resistant to mould, rot and insect infestation. These materials have the potential to leach arsenic into the soil. Arsenic may also be found in paints.

Workers should be protected when handling treated wood containing arsenic to minimize the potential for exposure through direct skin contact or inhalation of dusts and fumes. Arsenic-containing materials must be disposed of in accordance with the BC Ministry of Environment Regulations.

4.4 Mercury-Containing Products: Mercury may be present in electrical apparatus including Mercury switches in thermostats, high-output fluorescent lighting, and compact fluorescent light bulbs. These devices present a low risk of exposure to workers, assuming that the component is undamaged.

4.5 Polychlorinated Biphenyl Products: Polychlorinated biphenyls (PCBs) are a family of 209 compounds, called congeners, produced commercially as Aroclors by chlorination of biphenyl. The Aroclor mixtures were marketed for use in electrical transformers, capacitors, heat transfer systems, and hydraulic systems. Lower quantities were used in voltage regulators, adhesives, caulking compounds, inks, lubricants, paints, sealants, carbonless copy paper, coatings, electrical switches, plasticizers, circuit breakers, dust control agents, and older fluorescent lighting fixtures. Aroclors were used in paint formulations as drying oils (resins) and plasticizer or softening agents (liquids). [2]

The federal Environmental Contaminants Act, 1976, prohibited the use of PCBs in heat transfer and electrical apparatus installed after September 1, 1977, and in transformers and capacitors installed after July 1, 1980.

In addition, storage and disposal of PCB waste materials is regulated. The current Canadian Environmental Protection Act limits permissible levels of PCB releases to 2 mg/kg (2 ppm) for a liquid containing PCB's, and 50 mg/kg (50 ppm) for a solid containing PCB's.

For paints and coatings, "a person may manufacture, export, import, offer for sale, sell, process and use a colouring pigment containing PCBs produced incidentally if the concentration of the PCBs is less than 50 mg/kg." [3]

4.6 Bulk Petroleum and Hazardous Products: Above-ground and under-ground storage tanks (ASTs & USTs respectively) containing petroleum product, may introduce contamination into soil and groundwater through leaks or spills. These tanks must be observed and checked over time to ensure that these events do not occur. Evidence of leaks must be investigated and any potential contamination remediated. Aside from the environmental impacts, petroleum vapours emanating from contaminated soils and/or groundwater may percolate through soils beneath building slabs and foundations, entering the building and exposing occupants to airborne hydrocarbon contaminants.

The Canadian Council of Ministers of the Environment (CCME) publishes a Code of Practice for the safe management of ASTs and USTs.

Products and substances defined as 'hazardous' under the Hazardous Products Act and Hazardous Products Regulations (HPR) are regulated under federal and provincial WHMIS 2015 Regulations.

---

[2] 'Inadvertent Polychlorinated Biphenyls in Commercial Paint Pigments', 2009, Dingfei Hu & Keri C. Hornbuckle

[3] SOR/2008-273 Section 11 (1)

4.7 Urea Formaldehyde Foam Insulation (UFFI): UFFI is a type of insulation that was widely used in the 1970's for insulating and retrofitting industrial, commercial and older residential buildings. UFFI is a low-density foam that has the appearance and consistency of shaving cream, and becomes stiff and self-supporting when it dries or cures (hardens).

The insulation is typically made on-site where the urea formaldehyde-based resin is mixed with a catalyst and water and foamed in place in walls or used for block fill. The foam can be forced through small openings and delivered to the entire area of any cavity before it cures.

The use of a urea formaldehyde-based resin in the manufacture of UFFI can lead to the release of formaldehyde gas during the curing process and afterwards. Formaldehyde emissions do however, decrease over time.

UFFI may also deteriorate when wet, can release increased amounts of formaldehyde if installed incorrectly. As well, there is a related concern that the moist foam could support mould growth, which could in turn adversely affect the health of the occupants.

Urea Formaldehyde Foam Insulation has been prohibited from installation, and sale or importation into Canada under the Hazardous Products Act since December 1980. The prohibition includes all urea formaldehyde-based thermal insulation, and also melamine urea and other urea formaldehyde resins.

4.8 Ozone-Depleting Substances: Ozone-depleting substances (ODS) are commonly found as refrigerants, aerosol propellants, cleaning solvents, and in some polyurethane building products. The federal Ozone-Depleting Substances Regulations (1998) amended controls on production and consumption of chlorofluorocarbons, halons, carbon tetrachloride and methyl chloroform. In 2016, these regulations were replaced by the Ozone-Depleting Substances and Halocarbon Alternatives Regulations (ODSHAR). Ozone-depleting substances are also regulated provincially under the Ozone Depleting Substances and Other Halocarbons Regulation.

4.9 Silica Products: Silica is the basic component of sand and rock. The best known and most abundant type of crystalline silica is quartz.

Prolonged breathing of crystalline silica dust may lead to pulmonary disease including Silicosis, a scarring and hardening of lung tissue caused when particles of crystalline silica are inhaled and become embedded in the lung. Initially, workers with silicosis may have no symptoms. However, as the disease progresses a worker may experience shortness of breath, severe cough, or weakness. These symptoms can worsen over time and lead to progressive debilitation and death.

Crystalline silica is found in a wide variety of products, however the activities where exposure to airborne respirable silica dust are of most concern include: [4]

- Mining, drilling, blasting, crushing, excavation or disruption of rock, sand, dirt or soil;
- Cutting, grinding, sanding, jackhammering, chipping, demolition or blasting of silica-containing construction materials such as concrete, cement, asphalt, mortar, grout, plaster & drywall, masonry, tiles, brick, and refractory brick;
- Abrasive blasting with silica-containing materials.

[4] Source: ARHCA Code of Practice for Respirable Crystalline Silica

Silica is an ALARA substance and is listed as an ACGIH A2, and International Agency for Research on Cancer (IARC) Notation 1 carcinogen (respectively 'confirmed' and 'carcinogenic to humans').

The ALARA principle applies to Silica, which means that although the B. C. Occupational Health & Safety Regulation specifies an eight-hour Exposure Limit (EL) of 0.025 mg/m^3 for Silica, worker exposures must be kept as low as reasonably achievable.

4.10 Radioactive Materials: Smoke alarms commonly contain small sealed radioactive sources in the form of Americium (Am^{241}). These materials are sealed into a metal case within the smoke detector and must not be damaged or tampered with. The Canadian Nuclear Safety Commission (CNSC) and the Canadian *Nuclear Safety Act* regulate radioactive materials. Smoke detectors intended for disposal must be handled in accordance with CNSC regulations, and are considered to pose a hazard if disposed of as, or with, common rubbish.

4.11 Bio-Hazardous Substances and Materials: Bio-hazards can include any organism or their byproducts that may present a health hazard to workers who come in contact with them.

One such hazard is the presence of pathogenic fungus ('mould') on wet building fabrics and materials, within voids and/or in areas with above normal Relative Humidity. One pathogenic genera, *Histoplasma capsulatum* occurs in bird roosts and areas inhabited by bats.

The related disease, Histoplasmosis primarily affects the lungs. Occasionally, other organs are affected (disseminated histoplasmosis), which can be fatal if untreated.

Hantavirus may be present in rodent-infected areas. Hantavirus pulmonary syndrome (HPS) is a deadly disease which can be contracted by persons in contact with infected rodents or their urine and droppings.

Baylisascaris procyonis is an intestinal roundworm commonly found in raccoon feces, with wide distribution across North America. A recent study in southwestern BC indicated that the number of raccoons infected with *B. procyonis* was 61%. The parasite can cause severe human neurological disease or even death if ingested.

Adult raccoons infected with *Baylisascaris* shed eggs that mature into infective larvae; these larvae remain viable for years, and can withstand harsh weather and decontamination. After ingestion, larvae migrate through the host to the brain in particular, but also the eyes and viscera. The most common vehicles for ingestion include soil, wood, leaves, bark, sand and stones, in addition to direct ingestion of raccoon feces.

Finally, substances and paraphernalia associated with the manufacture or use of contraband narcotics can present a health risk to workers. Potential hazards may include exposure to sharps (e.g. needles and syringes), as well as infectious exposure to blood borne diseases (e.g. HIV and Hepatitis), and contact with acutely or chronically toxic chemical substances.

5.0 Site Survey

We attended the site on May 19th, 2020. The purpose of this visit was to:

- conduct a visual reconnaissance of structures on the property;
- obtain samples of suspect materials for laboratory analysis;
- obtain photo documentation.

The building interior and exterior were visually inspected. At the time of our inspection the building was in good condition, with walls, ceilings and floors intact. As such, our inspection can be characterized as 'semi-intrusive' in nature.

We note that the areas listed in the following table could not be accessed for sampling:

Table 5.1 – Summary of Inaccessible Areas

Location	Materials	Comments
Exterior Washrooms – Lower Floor	All Finish Fabric	Doors locked & barred

Suspect materials must be further investigated prior to demolition.

6.0 Survey Results

6.1 Asbestos-Containing Materials (ACM): Suspect or typically Asbestos-containing materials (ACM) were bulk sampled as described in the appended Certificate of Analysis. Asbestos containing materials are summarized in the following table:

Table 6.1.1 – Summary of Asbestos-Containing Materials:

Sample No.	Location(s)	Material	Asbestos Content	Area (ft^2) [1,2]
F1444-1251-1	Room 108	Drywall Joint Compound	Chrysotile 1-5%	50,000±
F1444-1251-2	Medical Room	Drywall Joint Compound	Chrysotile 1-5%	Incl. Above
F1444-1251-3	Room 106	Drywall Joint Compound	Chrysotile 1-5%	Incl. Above
F1444-1251-4	Room 104	Drywall Joint Compound	Chrysotile 1-5%	Incl. Above
F1444-1251-5	Room102	Drywall Joint Compound	Chrysotile 1-5%	Incl. Above
F1444-1251-7	Stairwell	Drywall Joint Compound	Chrysotile 1-5%	Incl. Above
F1444-1251-8	Electrical Room	Drywall Joint Compound	Chrysotile 1-5%	Incl. Above
F1444-1251-10	Furnace Room	Drywall Joint Compound	Chrysotile 1-5%	Incl. Above
F1444-1251-14	Girls Washroom	Sheet Vinyl Flooring	Chrysotile 60-65%	70±
F1444-1251-19	Janitors Room	Vinyl Floor Tile	Chrysotile 1-3%	100±
F1444-1251-20	Stairwell Landing	Vinyl Floor Tile	Chrysotile 1-3%	25±
F1444-1251-21	Crawl Space	Duct Mastic	Chrysotile 5-10%	N/A
F1444-1251-22	Crawl Space	Duct Mastic	Chrysotile 5-10%	N/A
F1444-1251-23	Crawl Space	Duct Mastic	Chrysotile 5-10%	N/A
Prev Survey	Staff Washrooms	Leveling Compound	Not Reported	250±
Prev Survey	Lower Level Washrooms	Leveling Compound	Not Reported	Incl. Above

Note 1: N/E = Not Established, N/A = Not Applicable

Note 2: Area quoted is approximate, based on observable materials, and therefore may not include hidden ACM. It is the abatement contractors' responsibility to confirm reported quantities.

Asbestos sample locations described in Table 6.1.1 do not represent delineated areas that can be considered separate from other areas the building. All drywall joint compound, duct mastic and visually similar sheet vinyl flooring and vinyl floor tile throughout the building must be considered Asbestos-containing.

Due to the heterogeneous nature of the Drywall Joint Compound (DJC), all the DJC must be considered asbestos containing.

Bell & spigot soil pipe joints were observed on site however was not sampled and is assumed to contain. **Confirmed or suspected Asbestos-containing mechanical insulation such as pipe wrapping was not observed, however may be present in hidden building components, such as floor and wall vents.**

Older style light fixtures were observed on site however were not disassembled to inspect the light fixture gasket.

Asbestos containing cement pipes may be present underground in older buildings and have not been investigated.

6.2 Lead-Containing Materials: Based on the age of the building, it is possible that coatings containing Lead in excess of 90 ppm are present. Analysis for Lead content in paints and ceramic tile was therefore undertaken.

Sample examination was conducted in accordance with analytical methods adapted from EPA Method 6200 and ASTM F2853-10 using an X-ray Fluorescence (XRF) analyzer, in-situ, or ex-situ as indicated on the appended Certificate of Analysis.

Lead-based materials are summarized in the following table:

Table 6.2.1 – Summary of Lead-Containing Materials

No.	Sample Description	Location	Lead Content	Remarks
#2	Light Green Paint on Wood	Exterior Siding	Positive	90 - 600 ppm
#3	Medium Green Paint on Wood	Exterior Siding (Over Light Green)	Positive	90 - 600 ppm
#4	Dark Green Paint on Wood	Exterior Lower Siding	Positive	600 - 2000 ppm
#6	White Paint on Wood	Exterior Siding - North	Positive	600 - 2000 ppm
#7	White Paint on Plywood	Exterior Siding - North	Positive	90 - 600 ppm
#8	Dark Blue Paint on Wood	Exterior Lower Siding - North	Positive	2000 - 5000 ppm
#9	Light Blue Paint on Wood	Interior hallway - Kick Panels	Positive	90 - 600 ppm
#10	White Paint on Wood	Interior Trim	Positive	90 - 600 ppm
#11	Green Chalk Board	Interior Classroom	Positive	2000 - 5000 ppm

Samples determined as non-detect (ND) by XRF examination may be subject to confirmatory laboratory analysis.

Also note that the local landfill authority may require additional Toxicity Characteristic Leaching Procedure (TCLP) data before accepting material as 'Non-Hazardous Waste' as defined by the BC Hazardous Waste Regulations. TCLP analysis is not an automatic component of the HMS report, and it is the responsibility of the building owner or the owner's agent to arrange for this additional testing with LEA.

Due to the age of the building other suspect Lead-containing products, such as plumbing components may be present.

6.3 Arsenic-Containing Materials: Arsenic-containing or CCA treated lumber were not observed on the site.

6.4 Mercury-Containing Products: Mercury-containing fluorescent lights/bulbs were observed in the subject building.

6.5 Polychlorinated Biphenyl Products (PCBs): Light ballasts potentially containing PCBs were observed. Light fixtures were not disassembled to inspect for PCB-containing ballasts.

6.6 Bulk Petroleum and Hazardous Products: Bulk Petroleum is no longer stored on the site. Various Hazardous Products were present on the site.

6.7 Urea Formaldehyde Foam Insulation (UFFI): Based on visual (non-invasive) inspection of the structure, UFFI is not expected to be present.

6.8 Ozone-Depleting Substances: Potential sources of ozone-depleting substances (ODS) were not observed on the site.

6.9 Silica Products: Silica-containing materials on the site that will be affected by the site works include: concrete and drywall.

6.10 Radioactive Materials: Smoke alarms containing a radioactive source were not observed in the building.

6.11 Bio-Hazardous Substances and Materials: Fungal contamination was not evident in the building. Contamination may however be present on hidden building fabric and components, or occur in exposed areas where chronic water incursions occur.

Other Bio-hazardous materials were not seen in or around the building.

7.0 Risk Assessment and Hazard Management

Note: The Risk Assessment provided here is general in nature. Further risk assessment based on the specific material(s), area(s) and proposed method(s) of remediation must be obtained before proceeding with remediation.

7.1 Asbestos Containing Materials: The materials described as Asbestos containing in Table 6.1.1 must be removed or safely contained by a qualified Asbestos remediation contractor prior to general demolition. 'High Risk' procedures as described in the WorkSafe BC publication Safe Work Practices for Handling Asbestos (BK27), must be followed for removal of sheet vinyl flooring and leveling compound. (Occupational safety hazard – High)

Drywall joint compound, duct mastic and vinyl floor tile may be removed under Moderate Risk procedures, also as described in BK27. (Occupational safety hazard – Moderate)

Asbestos sample locations described in Table 6.1.1 do not represent delineated areas that can be considered separate from other areas the building. All drywall joint compound, duct mastic and visually similar sheet vinyl flooring and vinyl floor tile throughout the building must be considered Asbestos-containing.

The contaminated waste must be disposed of in a secure landfill. Sections 6.1 through 6.32 of the Regulations and related Guidelines (G6.1 through G6.32) also provide information regarding Asbestos-specific requirements.

7.2 Lead-Containing Materials: Although Lead content may be reported as <90 ppm, any level of Lead in these materials may present a significant exposure risk to workers, depending on the type and condition of the material(s) & upon the method(s) of removal and handling. If work disturbing Lead-containing materials is undertaken, a Risk Assessment, Exposure Control Plan and related Safe Work Procedures will be required to ensure exposure is kept to levels 'As Low as Reasonably Achievable'. (Occupational safety hazard assuming no dry stripping – Low to Moderate)

Respecting Lead, Arsenic, Mercury and other heavy metals, please note that the local landfill authority may require additional Toxicity Characteristic Leaching Procedure (TCLP) data before accepting material as 'Non-Hazardous Waste' as defined by the BC Hazardous Waste Regulations.

TCLP analysis is not an automatic component of the HMS report, and it is the responsibility of the building owner or the owner's agent to arrange for this additional testing with LEA.

Lead contaminated material must be separated from common waste, but may be land-filled as non-hazardous waste assuming that leachable Lead (as determined by the TCLP analysis) is <5 mg/l.

7.3 Mercury-containing Electrical Apparatus: Mercury containing switches should be removed intact for proper disposal. Fluorescent light bulbs/tubes should be removed intact for re-use or for disposal at an approved receiving facility. (Occupational safety hazard – Low)

Mercury is designated as an ALARA substance. Employers are required under Section 5.54 of the Occupational Health and Safety Regulation (OHSR) to develop an exposure control plan (ECP) when workers are, or may be, exposed to airborne concentrations of this material in excess of the Action Limit. (50% of the Permissible Exposure Limit)

7.4 Suspect PCB-containing Light Ballasts: Fluorescent fixtures should be removed intact. Ballasts confirmed as PCB-containing should be drummed, and transported off-site for proper disposal. (Occupational safety hazard – Low)

7.5 Silica-Containing Products: A respirable crystalline Silica Exposure Control Plan (ECP) must be developed & implemented for the site. The ECP should contain procedures for: Housekeeping, Decontamination, Ventilation in buildings and machines, and Hygiene & Dust Control (Occupational safety hazard - Moderate to High)

7.6 Additional Regulatory Requirements (as required):

7.6.1 Notice of Project: As required by Section 20.2 of the Occupational Health and Safety (OHS) Regulation (B.C. Reg. 296/97), a Notice of Project must be filed with WorkSafe BC at least 48 hours prior to commencement of work.

This can be completed online at: https://online.worksafebc.com/anonymous/NOP/default.asp

Supporting documentation for the NOP must include: (1) this Hazardous Materials Survey Report (2) site-specific Risk Assessments; (3) Safe Work Procedures (SWP's) for the proposed work as described in Part 6 of the Regulation; (4) a site Asbestos Exposure Control Plan (AECP); (5) a site Lead Exposure Control Plan (LECP); (6) a Mould ECP; and (7) a site Silica Exposure Control Plan (SECP).

7.6.2 Confirmation Letter: As required by Section 20.112 (8) of the BC OHS Regulations, a Confirmation Letter completed by a 'Qualified Person' may be required to certify proper removal or containment and final disposition of hazardous waste.

The foregoing must be completed before commencement of general demolition & may be required by the governing municipal authority before issuance of a Demolition Permit.

WARNING

Should work expose new suspect or confirmed ACM or other hazardous materials or conditions, work must stop subject to additional investigation and confirmatory sampling.

8.0 Report Use and Limitations

In preparing this report LEA Environmental Health & Safety reviewed historical records, conducted interviews with certain private and public officials, and conducted an on-site visual inspection of the property. We examined and relied upon documents referenced in the report and have relied on oral statements made by certain individuals but we have not conducted an independent examination of the facts contained in referenced materials and statements.

LEA Environmental Health & Safety assumes the genuineness of the documents and that the information provided in documents or statements is true and accurate.

LEA Environmental Health & Safety has prepared this report in a professional manner, using that level of skill and care normally exercised for similar projects under similar conditions by reputable and competent consultants and in accordance with our normal terms and conditions.

LEA Environmental Health & Safety shall not be responsible for conditions or consequences arising from relevant facts that were concealed, withheld, or not fully disclosed at the time the report was prepared.

We also note that the facts and conditions referenced in this report may change over time and the conclusions and recommendations set forth here are applicable only to the facts and conditions as described at the time of this report.

The methods employed for collection and analysis of samples are those of the American Conference of Governmental Industrial Hygienists (ACGIH), the National Institute for Occupational Safety and Health (NIOSH), provincial WCB, and/or other accepted scientific practices.

The data and commentary presented herein reflects these standards, however no other warranty is offered or implied respecting the acceptance of this report by any Regulatory authority.

Conclusions and recommendations were made within the operative constraints of the scope, budget, and schedule for this project. We believe the conclusions stated herein to be factual, but no guarantee is made or implied.

Lewkowich Engineering Associates Ltd., or LEA Environmental Health & Safety (LEA) shall not be named as the 'Consulting Firm' on any WSBC Notice of Project (NOP) and/or Risk Assessment(s) and/or Safe Work Procedure(s) unless we are actually engaged as the Project Consultant prior to commencement of work.

If LEA is engaged solely as the air monitoring agency, this distinction must be clearly indicated in the project documentation.

The information and opinions expressed in the Report, or any document forming part of the Report, are for the sole benefit of the Client. NO OTHER PARTY MAY USE OR RELY UPON THE REPORT OR ANY PORTION THEREOF WITHOUT OUR WRITTEN CONSENT AND SUCH USE SHALL BE ON SUCH TERMS AND CONDITIONS AS WE MAY EXPRESSLY APPROVE. The contents of the Report remain our copyright property. Any use which a third party makes of the Report, are the sole responsibility of such third parties.

We accept no responsibility for independent conclusions, interpretations, interpolations and/or decisions of the Client, or others who may come into possession of the Report, or any part thereof, which may be based on information contained in the Report, or for damages suffered by any third party resulting from use of the Report without our express written permission.

Preparation of this HMS Report is a limited undertaking, and does not constitute our automatic acceptance of responsibility for any project work beyond the provision of this report. LEA accepts no responsibility or liability for actions, interpretations, or abatement, demolition, disposal or construction activities by the Client or any other party, whether based on this report or not, unless we are specifically engaged at the outset of work as Project Consultant.

8.1 Professional Statement

Lewkowich Engineering Associates Ltd. (LEA Environmental Health & Safety) certifies that the persons signing this statement have demonstrable relevant experience, are 'qualified persons' as defined under BC OHSR Section 6.1, and are familiar with the work carried out on the site.

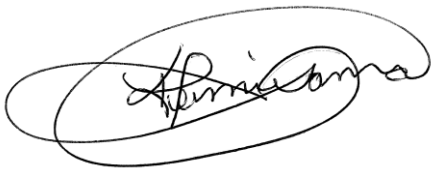
9.0 Closure

We thank you for the opportunity to be of service. Should you have any questions, or require further information, please contact the undersigned at (250) 756-0355.

Yours truly,

LEA ENVIRONMENTAL HEALTH & SAFETY

Prepared by:



Kamiko Tomiyama, B.Sc.N

EPA-AHERA Building Inspector #3508-19-C26-30358

E-mail: ktomiyama@lewkowich.com

Reviewed by:

Paul Johnston, D. Tech., RIHT

EPA-AHERA Building Inspector #13-0406
Certified Lead Risk Assessor #CLR13-0005

E-mail: pjohnston@lewkowich.com

Lewkowich Engineering Associates Ltd.

2020-05-28

Bulk Asbestos Certificate of Analysis

Project #: F1444-1251 **Client: Herold Engineering Ltd.** **Site Address: 1536 Morden Road, Nanaimo, BC** **Sampled By: LEA (PJ/JP)**

Analyzed in accordance with NIOSH 9002 Asbestos (Bulk) by PLM
(Note: Estimated Limit of Detection (LOD) is <1% asbestos)

Legend:
ND Not Detected

Lab Sample #	Sample Description	Location	Phase Description	Phase %	Asbestos Type	Asbestos %	Other Material Type	Other Material	Analyst
F1444-1251-1	Drywall Joint Compound	Room 108	Paint - Beige	10	NO	ND	Non-Fibrous	100	JP
			Joint Compound	90	**YES - Chrysotile**	**1-5**	Non-Fibrous	95-99	JP
F1444-1251-2	Drywall Joint Compound	Medical Room	Paint - Beige	10	NO	ND	Non-Fibrous	100	JP
			Joint Compound	90	**YES - Chrysotile**	**1-5**	Non-Fibrous	95-99	JP
			Paper - Cream	20	NO	ND	Fibrous(Cellulose)	100	JP
			Joint Compound	90	**YES - Chrysotile**	**1-5**	Non-Fibrous	95-99	JP
F1444-1251-3	Drywall Joint Compound	Room 106	Paint - Beige	10	NO	ND	Non-Fibrous	100	JP
			Joint Compound	90	**YES - Chrysotile**	**1-5**	Non-Fibrous	95-99	JP
			Paper - Cream	20	NO	ND	Fibrous(Cellulose)	100	JP
			Joint Compound	90	**YES - Chrysotile**	**1-5**	Non-Fibrous	95-99	JP
F1444-1251-4	Drywall Joint Compound	Room 104	Paint - Beige	10	NO	ND	Non-Fibrous	100	JP
			Joint Compound	90	**YES - Chrysotile**	**1-5**	Non-Fibrous	95-99	JP
F1444-1251-5	Drywall Joint Compound	Room 102	Paint - Beige	10	NO	ND	Non-Fibrous	100	JP
			Joint Compound	90	**YES - Chrysotile**	**1-5**	Non-Fibrous	95-99	JP
F1444-1251-6	Drywall Joint Compound	Lower Entry	Paint - Beige	10	NO	ND	Non-Fibrous	100	JP
			Joint Compound	40	NO	ND	Non-Fibrous	100	JP
			Paper - Cream	20	NO	ND	Fibrous(Cellulose)	100	JP
			Joint Compound	30	NO	ND	Non-Fibrous	100	JP
F1444-1251-7	Drywall Joint Compound	Stairwell	Paint - Beige	10	NO	ND	Non-Fibrous	100	JP
			Joint Compound	90	**YES - Chrysotile**	**1-5**	Non-Fibrous	95-99	JP
F1444-1251-8	Drywall Joint Compound	Electrical Room	**Joint Compound**	40	**YES - Chrysotile**	**1-5**	Non-Fibrous	95-99	JP
			Paper - Cream	20	NO	ND	Fibrous(Cellulose)	100	JP
			Joint Compound	40	**YES - Chrysotile**	**1-5**	Non-Fibrous	95-99	JP
F1444-1251-9	Drywall Joint Compound	Crawl Space	Paint - Beige	5	NO	ND	Non-Fibrous	100	JP
			Joint Compound	95	NO	ND	Non-Fibrous	100	JP
F1444-1251-10	Drywall Joint Compound	Furnace Room	Paint - White	10	NO	ND	Non-Fibrous	100	JP
			Paper - Cream	20	NO	ND	Fibrous(Cellulose)	100	JP
			Joint Compound	10	**YES - Chrysotile**	**1-5**	Non-Fibrous	95-99	JP
			Paper - Tan	20	NO	ND	Fibrous(Cellulose)	100	JP
			Gypsum	40	NO	ND	Non-Fibrous	100	JP
F1444-1251-11	Ceiling Tile	Office	Paint - White	5	NO	ND	Non-Fibrous	100	JP
			Grey Mix	95	NO	ND	Fibrous(Cellulose/Glass)/Non-Fibrous(50/50)	100	JP

LEA Environmental Health & Safety

AIHA Proficiency Analytical Testing Programs

BAPAT Laboratory No.: 200065

Lewkowich Engineering Associates Ltd.

Bulk Asbestos Certificate of Analysis

Project #: F1444-1251 **Client: Herold Engineering Ltd.** **Site Address: 1536 Morden Road, Nanaimo, BC** **Sampled By: LEA (PJ/JP)**

Analyzed in accordance with NIOSH 9002 Asbestos (Bulk) by PLM
(Note: Estimated Limit of Detection (LOD) is <1% asbestos)

Legend:
ND Not Detected

Lab Sample #	Sample Description	Location	Phase Description	Phase %	Asbestos Type	Asbestos %	Other Material Type	Other Material	Analyst
F1444-1251-12	Ceiling Tile	Room 108	Paint - White	5	NO	ND	Non-Fibrous	100	JP
			Grey Mix	95	NO	ND	Fibrous(Cellulose/Glass)/Non-Fibrous(50/50)	100	JP
F1444-1251-13	Ceiling Tile	Staff Room	Paint - White	5	NO	ND	Non-Fibrous	100	JP
			Grey Mix	95	NO	ND	Fibrous(Cellulose/Glass)/Non-Fibrous(50/50)	100	JP
F1444-1251-14	Sheet Vinyl Flooring	Girls Washroom	Vinyl - Mosaic	90	NO	ND	Non-Fibrous	100	JP
			Paper Backing	10	**YES - Chrysotile**	**60-65**	Non-Fibrous	35-40	JP
F1444-1251-15	Sheet Vinyl Flooring	Boys Washroom	Vinyl - Beige	85	NO	ND	Fibrous(Cellulose)/Non-Fibrous(10/90)	100	JP
			Fibrous - Tan	5	NO	ND	Fibrous(Cellulose)	100	JP
			Adhesive - Amber	10	NO	ND	Non-Fibrous	100	JP
F1444-1251-16	Sheet Vinyl Flooring	Men's Washroom	Vinyl - Green	40	NO	ND	Non-Fibrous	100	JP
			Wood	60	NO	ND	Fibrous(Cellulose)	100	JP
F1444-1251-17	Sheet Vinyl Flooring	Room 104 & Throughout	Vinyl - White	80	NO	ND	Fibrous(Cellulose)/Non-Fibrous(10/90)	100	JP
			Jute	20	NO	ND	Fibrous(Cellulose)	100	JP
F1444-1251-18	Vinyl Floor Tile	Bottom of Stairs	Vinyl - White	98	NO	ND	Non-Fibrous	100	JP
			Mastic - Black	2	NO	ND	Fibrous(Cellulose)/Non-Fibrous(10/90)	100	JP
F1444-1251-19	Vinyl Floor Tile	Janitor's Room	**Vinyl - Tan**	98	**YES - Chrysotile**	**1-3**	Non-Fibrous	97-99	JP
			Mastic - Black	2	NO	ND	Fibrous(Cellulose)/Non-Fibrous(10/90)	100	JP
F1444-1251-20	Vinyl Floor Tile	Stairwell Landing	**Vinyl - Tan**	95	**YES - Chrysotile**	**1-9**	Non-Fibrous	97-99	JP
			Adhesive - Amber	5	NO	ND	Non-Fibrous	100	JP
F1444-1251-21	Duct Mastic	Crawl Space	**Black Mix**	100	**YES - Chrysotile**	**5-10**	Non-Fibrous	90-95	JP
F1444-1251-22	Duct Mastic	Crawl Space	**Black Mix**	100	**YES - Chrysotile**	**5-10**	Non-Fibrous	90-95	JP
F1444-1251-23	Duct Mastic	Crawl Space	**Black Mix**	100	**YES - Chrysotile**	**5-10**	Non-Fibrous	90-95	JP
F1444-1251-24	Window Mastic	Front Office	Black Mix	100	NO	ND	Fibrous(Cellulose)/Non-Fibrous(5/95)	100	JP
F1444-1251-25	Window Mastic	Front Office	Black Mix	100	NO	ND	Fibrous(Cellulose)/Non-Fibrous(5/95)	100	JP
F1444-1251-26	Window Mastic	Front Office	Black Mix	100	NO	ND	Fibrous(Cellulose)/Non-Fibrous(5/95)	100	JP

LEA Environmental Health & Safety

AIHA Proficiency Analytical Testing Programs

BAPAT Laboratory No.: 200065

Lewkowich Engineering Associates Ltd.

Bulk Asbestos Certificate of Analysis

Project #: F1444-1251 **Client: Herold Engineering Ltd.** **Site Address: 1536 Morden Road, Nanaimo, BC** **Sampled By: LEA (PJ/JP)**

Analyzed in accordance with NIOSH 9002 Asbestos (Bulk) by PLM
(Note: Estimated Limit of Detection (LOD) is <1% asbestos)

Legend:
ND Not Detected

Lab Sample #	Sample Description	Location	Phase Description	Phase %	Asbestos Type	Asbestos %	Other Material Type	Other Material	Analyst
F1444-1251-27	Building Paper	Exterior	Paint	5	NO	ND	Non-Fibrous	100	JP
			Fibrous - Black	95	NO	ND	Fibrous(Cellulose)	100	JP
F1444-1251-28	Concrete Pipe	Crawlspace	Cementitious - Grey	100	NO	ND	Non-Fibrous	100	JP
F1444-1251-29	Roofing	Roof	Aggregate / Tar Mix	25	NO	ND	Non-Fibrous	100	JP
			Fibrous / Tar Mix	50	NO	ND	Fibrous(Glass/Synthetic)/Non-Fibrous(50/50)	100	JP
			Foam	25	NO	ND	Non-Fibrous	100	JP

Lewkowich Engineering Associates Ltd.

5/28/20

Field Portable XRF Certificate of Analysis

Project #: F1444-1251 **Client: Herold Engineering Ltd.** **Site Address: 1536 Morden Road, Nanaimo, BC** **In-situ ☑** **Ex-situ ☐**

Analyzed in accordance with analytical methods adapted from EPA Method 6200 and ASTM F2853-10

Note: HPA defines lead based paint (LBP) as coating exceeding 90 ppm (0.009%) Lead content by weight

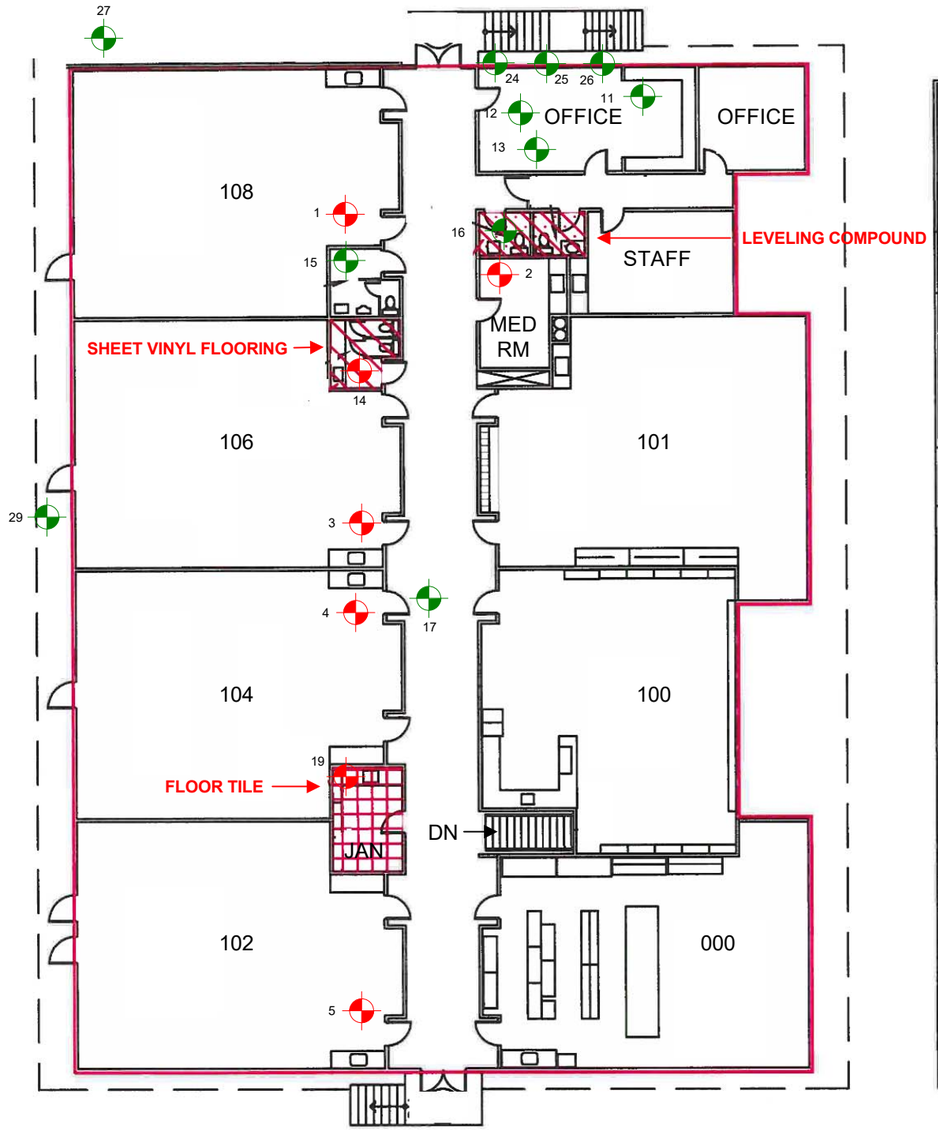
Legend:

POSITIVE Lead-content (> LOD for XRF)

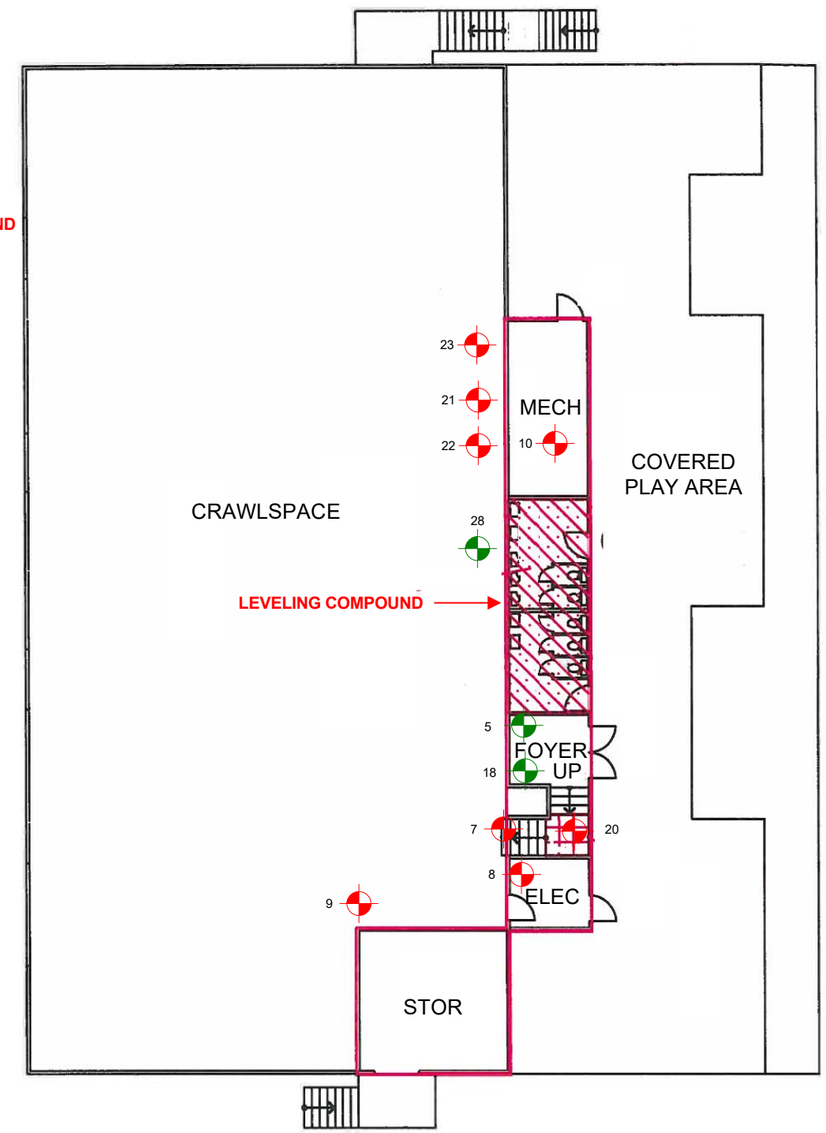
ND Non Detect (< LOD for XRF)

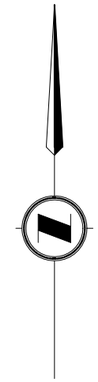
Test #	Sample Description	Location	Date	Time	Analyzer Mode	Element	Lead Content	Remarks	Analyst
#1	Calibration		5/19/20	14:12:49	Beam 1, 2, 40 KeV	PASS			PJ
#2	**Light Green Paint on Wood**	**Exterior Siding**	**May-19-20**	**14:14:14**	**Beam 1, 2, 40 KeV**	**Lead**	**POSITIVE**	**90 - 600 ppm**	**PJ**
#3	**Medium Green Paint on Wood**	**Exterior Siding (Over Light Green)**	**May-19-20**	**14:15:12**	**Beam 1, 2, 40 KeV**	**Lead**	**POSITIVE**	**90 - 600 ppm**	**PJ**
#4	**Dark Green Paint on Wood**	**Exterior Lower Siding**	**May-19-20**	**14:16:09**	**Beam 1, 2, 40 KeV**	**Lead**	**POSITIVE**	**600 - 2000 ppm**	**PJ**
#5	Grey Paint on Wood	Exterior Stairs	May-19-20	14:17:23	Beam 1, 2, 40 KeV	Lead	ND	Non Detect	PJ
#6	**White Paint on Wood**	**Exterior Siding - North**	**May-19-20**	**14:18:39**	**Beam 1, 2, 40 KeV**	**Lead**	**POSITIVE**	**600 - 2000 ppm**	**PJ**
#7	**White Paint on Plywood**	**Exterior Siding - North**	**May-19-20**	**14:19:38**	**Beam 1, 2, 40 KeV**	**Lead**	**POSITIVE**	**90 - 600 ppm**	**PJ**
#8	**Dark Blue Paint on Wood**	**Exterior Lower Siding - North**	**May-19-20**	**14:20:23**	**Beam 1, 2, 40 KeV**	**Lead**	**POSITIVE**	**2000 - 5000 ppm**	**PJ**
#9	**Light Blue Paint on Wood**	**Interior hallway - Kick Panels**	**May-19-20**	**14:21:52**	**Beam 1, 2, 40 KeV**	**Lead**	**POSITIVE**	**90 - 600 ppm**	**PJ**
#10	**White Paint on Wood**	**Interior Trim**	**May-19-20**	**14:22:37**	**Beam 1, 2, 40 KeV**	**Lead**	**POSITIVE**	**90 - 600 ppm**	**PJ**
#11	**Green Chalk Board**	**Interior Classroom**	**May-19-20**	**14:25:59**	**Beam 1, 2, 40 KeV**	**Lead**	**POSITIVE**	**2000 - 5000 ppm**	**PJ**

UPPER FLOOR



LOWER FLOOR





ASBESTOS SAMPLE - POSITIVE

ASBESTOS SAMPLE - NEGATIVE

PREVIOUSLY IDENTIFIED AC LEVELING COMPOUND &/OR SHEET VINYL FLOORING

PREVIOUSLY IDENTIFIED AC TILE FLOORING

0 3 5 10

METERS

LEA health, safety & environmental — Nanaimo, B. C. Canada

TITLE

SOUTH WELLINGTON SCHOOL SITE SAMPLING PLAN

GPS CEP ±140 CM	PROJECT NO. F1444-1251	DWG NO F1444-1251-1	DATE 2020-05-28	REV 0
	SCALE NTS	DRAWN WPJ	SHEET 1 OF 1	

Appendix E

Facility Condition Report

SD No. 68 1. DM - Nanaimo-Ladysmith -- SOUTH WELLINGTON ELEMENTARY

FACILITY DETAILS

Ministry Facility Code:	6868081	**VFA Current Replacement Value:**	1,965,697
Number of Assets:	2	**FCI Cost:**	772,863
Address:	1536 MORDEN RD RR 4	**Average FCI:**	0.39
City:	NANAIMO	**Total Requirement Cost:**	834,957
Postal Code:	V9X 1S2	**Average RI:**	0.42
Inspection Date:	-		

Asset Name:	SOUTH WELLINGTON ELEMENTARY
VFA Current Replacement Value:	1,463,659
FCI Cost:	708,555
Total Requirement Cost:	770,649
FCI:	0.48
RI:	0.53

Asset Name:	Site-SOUTH WELLINGTON ELEMENTARY
VFA Current Replacement Value:	502,038
FCI Cost:	64,308
Total Requirement Cost:	64,308
FCI:	0.13
RI:	0.13

ASSET DETAILS

Asset Name: SOUTH WELLINGTON ELEMENTARY

Asset Number: 106308

STATISTICS

FCI Cost:	708,555	**FCI:**	0.48
Total Requirement Cost:	770,649	**RI:**	0.53

Current Replacement Value	1,463,659	**Address1**	1536 MORDEN RD RR 4
Size	917 SM	**Address2**	-
Year Constructed	1969	**City**	NANAIMO
Year Renovated	-	**State**	-
Commission Date	-	**Zip/Postal Code**	V9X 1S2
Decommission Date	-	**Architect**	-
Ownership	School District Owned	**Historical Category**	-
Floors	1	**Construction Type**	Wood Frame
Type	Building	**Use**	Elementary School

Description

ARCHITECTURAL

General

The South Wellington Elementary School, Asset Number 106308, is in the British Columbia Ministry of Education's Nanaimo School District Number 68 and is located at 1536 Morden Road, RR 4, Nanaimo, B.C., V9X 1S2. The single story building was opened in 1969 and has a total of 917 SM (9,871 SF) of floor space that includes 4 regular classroom, a special education room, a kindergarten room, a computer room, a staff room and administration office space.

Substructure

The substructure includes reinforced cast in place concrete strip footings and foundation walls providing crawlspace and a large covered play area.

Superstructure

The superstructure consists of wood joist floor deck and wood plank roof decking supported by wood beams.

Exterior Construction

The exterior walls consist of load bearing stud wall assemblies with a painted wood panel siding finish. The exterior windows are metal and wood frame units with non-insulating glass. The exterior doors include single and double metal door leafs and frames. The building roof has a SBS Modified Bitumen Membrane type system.

The school site includes general landscaping, pedestrian walkways, vehicle parking, playing fields, basketball court, modular playground equipment, retaining walls and site fencing.

Interior Construction

The typical ceiling finishes include exposed wood plank ceilings with areas of 600mm x 1200mm (24-inch x 48-inch) suspended acoustical tile. Linoleum and broadloom carpet is found in the classrooms. Broadloom carpet is also located in the administration offices and staff room. Washrooms contain

painted gypsum walls and ceilings with epoxy type floor finishes. Service or mechanical spaces are located in the crawlspace area and typically have unfinished concrete floor finishes. Wall finishes throughout the facility are primarily painted plywood and gypsum wallboard with vinyl covered demountable partitions. The majority of the interior doors are solid core wood door leafs and frames. Interior door passage hardware is of knob type.

Hazardous Materials

Hazardous materials such as asbestos containing materials (ACM's) are not known to exist in this facility.

Vertical Transportation

There is no requirement for vertical transportation at this facility.

Accessibility

The building is not considered barrier free per the requirements of section 3.8 Building Requirements for Persons with Disabilities of the 2006 British Columbia Building Code.

Non-structural Seismic Vulnerability

This facility was assessed for non-structural seismic vulnerability and was determined to require seismic upgrades for the mechanical and electrical systems.

Occupancy Type

According to the 2006 British Columbia Building Code, Article 3.1.2.1. (1), the school is classified as an Assembly Group A, Division 2 occupancy. Article 3.2.2.24 allows the facility to be of non-combustible construction, sprinklered and with specific rated assemblies.

MECHANICAL

HVAC

The heating and fresh air for the South Wellington Elementary School are provided by four oil-fired warm air furnaces, equipped with distribution ductwork and diffusers.

Exhaust fans remove air from the spaces throughout the facility. The HVAC ventilation system includes rooftop exhaust fan and residential exhaust fans, located in the building.

HVAC controls include electric wall-mounted thermostats, control valves, and a basic local HVAC control system.

Plumbing

The building domestic water system includes main water supply line with associated distribution piping. Domestic water is feed from water well, located in the pump house. Water treatment system for well water is located in the mechanical furnace room.

The domestic hot water is provided by an electric water heater rated 3000 watts/184 litres, located in the furnace room. Hot and cold water is distributed to restroom fixtures, custodial sink and other points of use.

The restroom fixtures include vitreous china water closets, urinals and vitreous china or stainless steel lavatories. The plumbing fixtures also include classroom sinks and custodial sinks.

Rain water is removed from the roof by scuppers and downspouts which discharge to the surrounding property.

The building includes sanitary waste piping system with gravity discharge to the septic system located outside.

The building includes oil supply and distribution system for furnaces.

Fire Protection

The fire protection system includes a wet fire sprinkler system. A reservoir glycol water storage tank for fire water and an air compressor to pressurize the fire water holding tank is located in the storage room. Handheld type fire extinguishers are located throughout the building as required.

ELECTRICAL

Electrical Service and Distribution

The service provided to South Wellington Elementary School comes from the pole mounted transformer at 200Amps 120/240Volts 1-phase 3-wire to the main disconnect in the Electrical Room. The electrical service is rated at 200Amps 120/240Volts on the main disconnect and includes incoming feeders, disconnects, and metering. The distribution has feeders supplying sub-distribution panelboards and mechanical loads and includes panelboards rated at 100Amps and 200Amps with feeders, and associated equipment.

Lighting

Interior lighting is provided by fluorescent fixtures throughout the facility. The hallways are generally lighted with recessed 2'x4' fluorescent fixtures. Classrooms are generally lighted with surface mounted 1'x4' fluorescent fixtures. All lighting fixtures are equipped with T12 lamps. Exterior lighting is provided by wall mounted HID fixtures equipped with a photoelectric device and time clock for light control. Recessed lighting fixtures in the hallways are not seismically restrained.

Branch Wiring Devices

The branch wiring for this building includes a typical concentration of branch wiring, devices, and utilization equipment.

Fire Alarm System

The facility is provided with a zoned type fire alarm system consisting of Edwards 6500 main control panel with an annunciator panel located at the entrance; manual pull stations, smoke detectors, heat detectors and audible bell alarms.

Communications and Security

Telephone, Television and LAN Systems are installed in the building. LAN system is equipped with Cat5 wiring. Cable outlets are observed in various classrooms.

The building includes a Dukane public address system which includes amplifier, microphone, intercom/monitor, volume control, speakers, conduit and shielded wiring.

School is equipped with Simplex clock system.

The school is equipped with a Legend 100 security system which includes detection devices and keypads.

Emergency Lighting and Power

The school is provided with emergency battery packs with both self-contained and remote heads.

Illuminated exit signs are provided over exit doors and in strategic positions in the corridors to indicate the direction to means of egress.

REQUIREMENTS

Requirement Name	Prime System	Category	Priority	Action Date	Cost
Exit Signs - Egress Door Missing Pullstation	D5037-Fire Alarm Systems	Life Safety	1- Immediate	08/08/2012	722
Exhaust System - General Building Renewal	D3040-Distribution Systems	Beyond Useful Life	2- Short Term	08/08/2013	3,216
Exhaust System - Residential Type Renewal	D3040-Distribution Systems	Beyond Useful Life	2- Short Term	08/08/2013	2,055
Water Dist Complete Renewal	D2020-Domestic Water Distribution	Beyond Useful Life	2- Short Term	08/08/2013	18,662
Branch Wiring - Equipment & Devices Renewal	D5021-Branch Wiring Devices	Beyond Useful Life	3- Long Term	08/08/2014	11,685
Carpeting - Broadloom Renewal	C3020-Floor Finishes	Beyond Useful Life	3- Long Term	08/08/2014	54,272
Casework - Elementary School Renewal	E-Equipment and Furnishings	Beyond Useful Life	3- Long Term	08/08/2014	50,048
Classroom Sinks - 1969 Renewal	D2010-Plumbing Fixtures	Beyond Useful Life	3- Long Term	08/08/2018	11,818
Clock System Renewal	D5036-Clock and Program Systems	Beyond Useful Life	3- Long Term	08/08/2014	11,594
Custodial Sink Renewal	D2010-Plumbing Fixtures	Beyond Useful Life	3- Long Term	08/08/2014	4,725
Door Assembly - Double Renewal	B2030-Exterior Doors	Beyond Useful Life	3- Long Term	08/08/2014	12,780
Door Assembly - Single Renewal	B2030-Exterior Doors	Beyond Useful Life	3- Long Term	08/08/2014	19,821
Emergency Lighting Renewal	D5092-Emergency Light and Power Systems	Beyond Useful Life	3- Long Term	08/08/2017	6,998
Exit Signs Renewal	D5092-Emergency Light and Power Systems	Beyond Useful Life	3- Long Term	08/08/2017	4,403
Fire Alarm System Renewal	D5037-Fire Alarm Systems	Beyond Useful Life	3- Long Term	08/08/2014	21,119
LAN System Renewal	D5039-Local Area Networks	Beyond Useful Life	3- Long Term	08/08/2014	13,349
Lighting - Exterior Renewal	D5022-Lighting Equipment	Beyond Useful Life	3- Long Term	08/08/2014	3,793
Linoleum Sheet Goods Renewal	C3020-Floor Finishes	Beyond Useful Life	3- Long Term	08/08/2014	51,396
Main Electrical Service - 200A 120/240V Renewal	D5012-Low Tension Service and Dist.	Beyond Useful Life	3- Long Term	08/08/2014	10,970

Requirement Name	Prime System	Category	Priority	Action Date	Cost
Painted Finish - Average (1 Coat Prime - 2 Coats Finish) Renewal	C3010-Wall Finishes	Beyond Useful Life	3- Long Term	08/08/2018	12,702
Panelboards, Feeders and Disconnects - 120/240V Renewal	D5012-Low Tension Service and Dist.	Beyond Useful Life	3- Long Term	08/08/2014	22,715
Public Address System Renewal	D5031-Public Address and Music Systems	Beyond Useful Life	3- Long Term	08/08/2014	12,234
Reservoir Tank - Fire Water Renewal	D4011-Sprinkler Water Supply	Beyond Useful Life	3- Long Term	08/08/2018	66,779
Restroom Fixtures - 1969 Renewal	D2010-Plumbing Fixtures	Beyond Useful Life	3- Long Term	08/08/2014	17,611
SBS Modified Bitumen Membrane Renewal	B30-Roofing	Beyond Useful Life	3- Long Term	08/08/2014	144,565
Security System Renewal	D5038-Security and Detection Systems	Beyond Useful Life	3- Long Term	08/08/2014	12,135
Signage (Room Numbering and Identification) Renewal	C1035-Identifying Devices	Beyond Useful Life	3- Long Term	08/08/2014	4,271
Telephone System Renewal	D5033-Telephone Systems	Beyond Useful Life	3- Long Term	08/08/2014	10,121
Television System Renewal	D5035-Television Systems	Beyond Useful Life	3- Long Term	08/08/2014	2,653
Vinyl Composite Tile Standard Renewal	C3020-Floor Finishes	Beyond Useful Life	3- Long Term	08/08/2014	1,718
Water Heater - Electric Renewal	D2020-Domestic Water Distribution	Beyond Useful Life	3- Long Term	08/08/2017	3,653
Water Treatment System Renewal	D2020-Domestic Water Distribution	Beyond Useful Life	3- Long Term	08/08/2017	27,676
Windows - Metal Renewal	B2020-Exterior Windows	Beyond Useful Life	3- Long Term	08/08/2014	22,080
Windows - Wood Renewal	B2020-Exterior Windows	Beyond Useful Life	3- Long Term	08/08/2014	24,683
Wood Partitions Washrooms Renewal	C1030-Fittings	Beyond Useful Life	3- Long Term	08/08/2014	9,534
Branch Wiring Devices - Insufficient Quantity of Receptacles	D5021-Branch Wiring Devices	Capacity/Design	4- Recommended	-	15,178
Distribution Systems - HVAC Ductwork Dirty	D3040-Distribution Systems	Air and Water Quality	4- Recommended	-	3,540
Distribution Systems - Ventilation System Not Installed	-	Air and Water Quality	4- Recommended	-	3,118

Requirement Name	Prime System	Category	Priority	Action Date	Cost
Roof Access Hatch Lacking	-	Modernization	4- Recommended	-	9,556
Electrical Conduits - Fire Stopping Not Installed	D5012-Low Tension Service and Dist.	Building Code	5- Does Not Meet Current Codes / Standards	-	1,783
Exterior Doors - Automatic Door Openers Lacking at Entry	B2030-Exterior Doors	Accessibility	5- Does Not Meet Current Codes / Standards	-	13,408
Fire Safety Plan Not Visible	-	Building Code	5- Does Not Meet Current Codes / Standards	-	651
Interior Doors - Hardware Not Accessible	C1020-Interior Doors	Accessibility	5- Does Not Meet Current Codes / Standards	-	8,448
Various Mechanical Deficiencies	D2010-Plumbing Fixtures	Building Code	5- Does Not Meet Current Codes / Standards	-	437
Fire Protection - Sprinkler Piping - No Seismic Restraint	D40-Fire Protection	OFC's	6- Non Structural Seismic Vulnerability	-	1,727
Non-Seismic Luminaire - Corridors	D5022-Lighting Equipment	OFC's	6- Non Structural Seismic Vulnerability	-	4,246
				Total	**770,648**

SYSTEM LIST

Asset Name: SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Asset Size: 917 SM
Asset ReplacementValue: 1,463,659

System	System Name	Lifetime	SCI	Renewal FY	Renewal Cost	Replacement Cost
A-Substructure	Concrete Column Footings	75	0.00	2044	1,426	22,820
A-Substructure	Foundation Wall and Footings - Crawlspace	75	0.00	2044	5,959	95,349
B10-Superstructure	Flat Roof Assembly - Wood Beams and Decking	75	0.00	2044	8,722	139,555
B10-Superstructure	Floor Assembly - Wood Joists and Subfloor	75	0.00	2044	2,030	32,475
B10-Superstructure	Flat Roof Assembly - Wood Framing (Covered Play Area)	75	0.00	2044	802	12,832
B1015-Exterior Stairs and Fire Escapes	Exterior Stairs - Wood	20	0.00	2021	14,173	12,654
B1015-Exterior Stairs and Fire Escapes	Exterior Stairs - Concrete	50	0.00	2019	9,824	7,859
B2010-Exterior Walls	Wood Siding on Framing	50	0.00	2019	52,679	95,780
B2020-Exterior Windows	Windows - Metal	30	1.25	2014	22,080	17,664
B2020-Exterior Windows	Windows - Wood	30	1.25	2014	24,683	19,746
B2030-Exterior Doors	Door Assembly - Double	30	1.25	2014	12,780	10,224
B2030-Exterior Doors	Door Assembly - Single	30	1.25	2014	19,821	15,857
B30-Roofing	Scuppers and Downspouts	25	0.00	2024	8,664	6,931
B30-Roofing	SBS Modified Bitumen Membrane	20	1.25	2014	144,565	115,652
C1010-Partitions	GWB on Wood Stud	50	0.00	2019	12,137	19,419
C1010-Partitions	Demountable Partitions - Vinyl Clad	20	0.00	2021	45,129	36,103
C1010-Partitions	Plywood on Stud	50	0.00	2019	37,608	60,172
C1010-Partitions	Glazed Partition Openings - DM	50	0.00	2062	11,815	9,452
C1020-Interior Doors	Swinging Doors Wood and Metal	50	0.00	2019	104,648	83,718
C1030-Fittings	Wood Partitions Washrooms	40	1.25	2014	9,534	7,627
C1035-Identifying Devices	Signage (Room Numbering and Identification)	10	1.25	2014	4,271	3,417
C3010-Wall Finishes	Painted Finish - Average (1 Coat Prime - 2 Coats Finish)	10	1.25	2018	12,702	10,161
C3020-Floor Finishes	Linoleum Sheet Goods	25	1.25	2014	51,396	41,117

System	System Name	Lifetime	SCI	Renewal FY	Renewal Cost	Replacement Cost
C3020-Floor Finishes	Epoxy Flooring	50	0.00	2019	7,918	6,335
C3020-Floor Finishes	Carpeting - Broadloom	10	1.25	2014	54,272	43,418
C3020-Floor Finishes	Vinyl Composite Tile Standard	10	1.25	2014	1,718	1,375
C3030-Ceiling Finishes	Painted Finish	10	0.00	2020	7,939	6,351
C3030-Ceiling Finishes	GWB Taped and Finished	30	0.00	2021	13,240	10,592
C3030-Ceiling Finishes	Suspended ACT	20	0.00	2021	13,232	10,586
D2010-Plumbing Fixtures	Restroom Fixtures	30	0.00	2029	22,466	17,973
D2010-Plumbing Fixtures	Classroom Sinks	30	0.00	2029	7,091	5,672
D2010-Plumbing Fixtures	Classroom Sinks - 1969	30	1.25	2018	11,818	9,454
D2010-Plumbing Fixtures	Custodial Sink - 1999	30	0.00	2029	4,558	3,646
D2010-Plumbing Fixtures	Restroom Fixtures - 1969	30	1.25	2014	17,611	14,089
D2010-Plumbing Fixtures	Custodial Sink	30	1.25	2014	4,725	3,780
D2020-Domestic Water Distribution	Water Dist Complete	30	1.12	2013	18,662	16,589
D2020-Domestic Water Distribution	Water Heater - Electric	10	1.12	2017	3,653	3,262
D2020-Domestic Water Distribution	Water Treatment System	18	1.12	2017	27,676	24,710
D2030-Sanitary Waste	Sanitary Waste - Gravity Disch	50	0.00	2019	27,562	22,049
D2090-Other Plumbing Systems	Oil Supply for Bldg	40	0.00	2039	7,375	5,900
D2090-Other Plumbing Systems	Air Compressor	20	0.00	2019	6,677	6,359
D3040-Distribution Systems	Exhaust System - General Building	25	1.25	2013	3,216	2,573
D3040-Distribution Systems	Distribution Ductwork - Furnaces	40	0.00	2021	64,943	51,954
D3040-Distribution Systems	Exhaust System - Residential Type	15	1.25	2013	2,055	1,644
D3050-Terminal and Package Units	Furnaces - Oil Fired	25	0.00	2028	32,672	26,138
D3060-Controls and Instrumentation	Electric Controls	20	0.00	2023	17,165	13,732
D40-Fire Protection	Fire Extinguishers	30	0.00	2029	340	324
D40-Fire Protection	Wet Sprinkler System	35	0.00	2034	52,429	41,943
D4011-Sprinkler Water Supply	Reservoir Tank - Fire Water	35	1.25	2018	66,779	53,424

System	System Name	Lifetime	SCI	Renewal FY	Renewal Cost	Replacement Cost
D5012-Low Tension Service and Dist.	Panelboards, Feeders and Disconnects - 120/240V	30	1.25	2014	22,715	18,172
D5012-Low Tension Service and Dist.	Main Electrical Service - 200A 120/240V	30	1.25	2014	10,970	8,776
D5021-Branch Wiring Devices	Branch Wiring - Equipment & Devices	30	1.25	2014	11,685	9,348
D5022-Lighting Equipment	Lighting - Interior	20	0.00	2031	31,046	24,837
D5022-Lighting Equipment	Lighting - Exterior	20	1.25	2014	3,793	3,035
D5031-Public Address and Music Systems	Public Address System	20	1.25	2014	12,234	9,787
D5033-Telephone Systems	Telephone System	20	1.06	2014	10,121	9,525
D5035-Television Systems	Television System	15	1.25	2014	2,653	2,123
D5036-Clock and Program Systems	Clock System	10	1.25	2014	11,594	9,275
D5037-Fire Alarm Systems	Fire Alarm System	20	1.29	2014	21,119	16,895
D5038-Security and Detection Systems	Security System	10	1.25	2014	12,135	9,708
D5039-Local Area Networks	LAN System	15	1.06	2014	13,349	12,563
D5092-Emergency Light and Power Systems	Exit Signs	10	1.25	2017	4,403	3,523
D5092-Emergency Light and Power Systems	Emergency Lighting	10	1.25	2017	6,998	5,598
E-Equipment and Furnishings	Casework - Elementary School	30	1.25	2014	50,048	40,038
				Total:	**1,340,100**	**1,463,659**

REQUIREMENT CROSSTAB

Asset Name: SOUTH WELLINGTON ELEMENTARY

Asset Number: 106308

Requirement Crosstab by Category and Priority

Category and Priority	1- Immediate	2- Short Term	3- Long Term	4- Recommended	5- Does Not Meet Current Codes / Standards	6- Non Structural Seismic Vulnerability	Total
Accessibility	0	0	0	0	21,856	0	**21,856**
Air and Water Quality	0	0	0	6,658	0	0	**6,658**
Beyond Useful Life	0	23,933	683,901	0	0	0	**707,834**
Building Code	0	0	0	0	2,871	0	**2,871**
Capacity/Design	0	0	0	15,178	0	0	**15,178**
Life Safety	722	0	0	0	0	0	**722**
Modernization	0	0	0	9,556	0	0	**9,556**
OFC's	0	0	0	0	0	5,973	**5,973**
Total	**722**	**23,933**	**683,901**	**31,392**	**24,727**	**5,973**	**770,648**

Requirement Crosstab by Category and System

Category and System Group	Exterior Enclosure	Interior Construction and Conveyance	Plumbing System	HVAC System	Fire Protection	Electrical System	Equipment and Furnishings	Not Applicable	Total
Accessibility	13,408	8,448	0	0	0	0	0	0	**21,856**
Air and Water Quality	0	0	0	3,540	0	0	0	3,118	**6,658**
Beyond Useful Life	223,929	133,893	84,145	5,271	66,779	143,769	50,048	0	**707,834**
Building Code	0	0	437	0	0	1,783	0	651	**2,871**
Capacity/Design	0	0	0	0	0	15,178	0	0	**15,178**
Life Safety	0	0	0	0	0	722	0	0	**722**
Modernization	0	0	0	0	0	0	0	9,556	**9,556**
OFC's	0	0	0	0	1,727	4,246	0	0	**5,973**
Total	**237,337**	**142,341**	**84,582**	**8,811**	**68,506**	**165,698**	**50,048**	**13,325**	**770,648**

Requirement Crosstab by System and Priority

System Group and Priority	1- Immediate	2- Short Term	3- Long Term	4- Recommended	5- Does Not Meet Current Codes / Standards	6- Non Structural Seismic Vulnerability	Total
Electrical System	722	0	143,769	15,178	1,783	4,246	**165,698**
Equipment and Furnishings	0	0	50,048	0	0	0	**50,048**
Exterior Enclosure	0	0	223,929	0	13,408	0	**237,337**
Fire Protection	0	0	66,779	0	0	1,727	**68,506**
HVAC System	0	5,271	0	3,540	0	0	**8,811**
Interior Construction and Conveyance	0	0	133,893	0	8,448	0	**142,341**
Not Applicable	0	0	0	12,674	651	0	**13,325**
Plumbing System	0	18,662	65,483	0	437	0	**84,582**
Total	**722**	**23,933**	**683,901**	**31,392**	**24,727**	**5,973**	**770,648**

REQUIREMENT DETAIL

Asset Name: SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 1- Immediate

Requirement Name	Exit Signs - Egress Door Missing Pullstation		
Linked System	Fire Alarm Systems	**Inspection Date**	08/08/2011
Prime System	D5037-Fire Alarm Systems	**Finish Date**	-
Category	Life Safety	**Status**	Open
Inspector	Kam Khattra	**Actual Cost**	0
Action Date	08/08/2012	**Estimated Cost**	722

REQUIREMENT DESCRIPTION

The exit door A does not have a pull station installed close to the door as per BCBC 3.2.4.16.1).

PHOTOS

ACTION DESCRIPTION

Install a pullstation close to Door A.

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
LELECJ	Electricians	8.00	hour	70.56	564
AD40909100550	Manual pull station	1.00	Ea.	157.85	158
				Subtotal:	722
				Adjustment Factor:	1.0000
				Total:	722

Asset Name: SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 2- Short Term

Requirement Name	Exhaust System - General Building Renewal		
Linked System	Distribution Systems	**Inspection Date**	08/08/2011
Prime System	D3040-Distribution Systems	**Finish Date**	-
Category	Beyond Useful Life	**Status**	Open
Inspector	System Renewal	**Actual Cost**	0
Action Date	08/08/2013	**Estimated Cost**	3,216

REQUIREMENT DESCRIPTION

Auto generated renewal for Exhaust System - General Building. System Description: The HVAC ventilation system includes rooftop exhaust fan.

PHOTOS

Exhaust System - General Building Renewal

-

ACTION DESCRIPTION

Estimated Cost= (System.Replacement Cost * System.Percent Renew)/100

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
X-	Sum for Exhaust System - General Building Renewal	1.00	Ea.	3,216.20	3,216
				Subtotal:	3,216
				Adjustment Factor:	1.0000
				Total:	3,216

Asset Name: SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 2- Short Term

Requirement Name	Exhaust System - Residential Type Renewal		
Linked System	Distribution Systems	**Inspection Date**	08/08/2011
Prime System	D3040-Distribution Systems	**Finish Date**	-
Category	Beyond Useful Life	**Status**	Open
Inspector	System Renewal	**Actual Cost**	0
Action Date	08/08/2013	**Estimated Cost**	2,055

REQUIREMENT DESCRIPTION

Auto generated renewal for Exhaust System - Residential Type. System Description: HVAC ventilation system includes residential type exhaust fans located in the building.

PHOTOS

Exhaust System - Residential Type Renewal

-

ACTION DESCRIPTION

Estimated Cost= (System.Replacement Cost * System.Percent Renew)/100

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
X-	Sum for Exhaust System - Residential Type Renewal	1.00	Ea.	2,054.85	2,055
				Subtotal:	2,055
				Adjustment Factor:	1.0000
				Total:	2,055

Asset Name: SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 2- Short Term

Requirement Name	Water Dist Complete Renewal		
Linked System	Domestic Water Distribution	**Inspection Date**	08/08/2011
Prime System	D2020-Domestic Water Distribution	**Finish Date**	-
Category	Beyond Useful Life	**Status**	Open
Inspector	System Renewal	**Actual Cost**	0
Action Date	08/08/2013	**Estimated Cost**	18,662

REQUIREMENT DESCRIPTION

Auto generated renewal for Water Dist Complete. System Description: The building domestic water system includes a main water supply line entering in the mechanical furnace room with associated distribution piping. Water is feed from a water well, located in the pump house (outside).

PHOTOS

Water Dist Complete Renewal

-

ACTION DESCRIPTION

Estimated Cost= (System.Replacement Cost * System.Percent Renew)/100

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
X-	Sum for Water Dist Complete Renewal	1.00	Ea.	18,662.39	18,662
				Subtotal:	18,662
				Adjustment Factor:	1.0000
				Total:	18,662

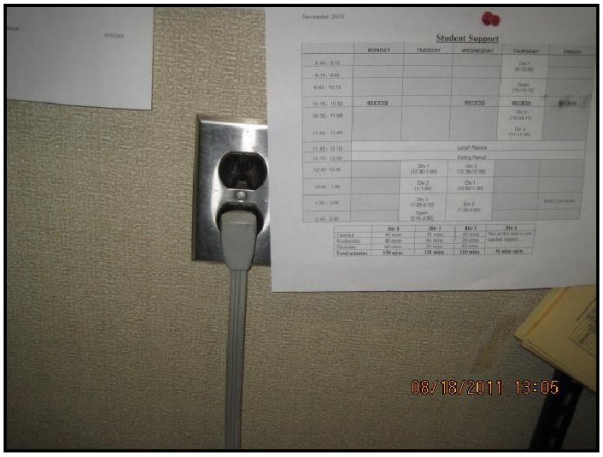
Asset Name: SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 3- Long Term

Requirement Name	Branch Wiring - Equipment & Devices Renewal		
Linked System	Branch Wiring Devices	**Inspection Date**	08/08/2011
Prime System	D5021-Branch Wiring Devices	**Finish Date**	-
Category	Beyond Useful Life	**Status**	Open
Inspector	System Renewal	**Actual Cost**	0
Action Date	08/08/2014	**Estimated Cost**	11,685

REQUIREMENT DESCRIPTION

Auto generated renewal for Branch Wiring - Equipment & Devices. System Description: Branch wiring for this building includes interior and exterior branch wiring, devices, and utilization equipment. The system is aged beyond the BOMA life expectancy of 30 years and replacement should be planned.

PHOTOS



Branch Wiring - Equipment Devices Renewal

-

ACTION DESCRIPTION

Estimated Cost= (System.Replacement Cost * System.Percent Renew)/100

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
X-	Sum for Branch Wiring - Equipment & Devices Renewal	1.00	Ea.	11,684.78	11,685
				Subtotal:	11,685
				Adjustment Factor:	1.0000
				Total:	11,685

Asset Name: SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 3- Long Term

Requirement Name	Carpeting - Broadloom Renewal		
Linked System	Floor Finishes	**Inspection Date**	08/08/2011
Prime System	C3020-Floor Finishes	**Finish Date**	-
Category	Beyond Useful Life	**Status**	Open
Inspector	System Renewal	**Actual Cost**	0
Action Date	08/08/2014	**Estimated Cost**	54,272

REQUIREMENT DESCRIPTION

Auto generated renewal for Carpeting - Broadloom. System Description: Floor finishes include medium priced carpeting and base. System quantities are estimated for budgetary purposes only. Actual replacement quantities are subject to site verification by others.

PHOTOS

Carpeting - Broadloom Renewal

Carpeting - Broadloom Renewal

ACTION DESCRIPTION

Estimated Cost= (System.Replacement Cost * System.Percent Renew)/100

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
X-	Sum for Carpeting - Broadloom Renewal	1.00	Ea.	54,272.07	54,272
				Subtotal:	54,272
				Adjustment Factor:	1.0000
				Total:	54,272

Asset Name: SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 3- Long Term

Requirement Name	Casework - Elementary School Renewal		
Linked System	Equipment and Furnishings	**Inspection Date**	08/08/2011
Prime System	E-Equipment and Furnishings	**Finish Date**	-
Category	Beyond Useful Life	**Status**	Open
Inspector	System Renewal	**Actual Cost**	0
Action Date	08/08/2014	**Estimated Cost**	50,048

REQUIREMENT DESCRIPTION

Auto generated renewal for Casework - Elementary School. System Description: The building includes typical classroom, library, kitchen, administration and office casework for an elementary school. System quantities are estimated for budgetary purposes only. Actual replacement quantities are subject to site verification by others.

PHOTOS

Casework - Elementary School Renewal

Casework - Elementary School Renewal

ACTION DESCRIPTION

Estimated Cost= (System.Replacement Cost * System.Percent Renew)/100

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
X-	Sum for Casework - Elementary School Renewal	1.00	Ea.	50,048.01	50,048
				Subtotal:	50,048
				Adjustment Factor:	1.0000
				Total:	50,048

Asset Name: SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 3- Long Term

Requirement Name	Classroom Sinks - 1969 Renewal		
Linked System	Plumbing Fixtures	**Inspection Date**	08/08/2011
Prime System	D2010-Plumbing Fixtures	**Finish Date**	-
Category	Beyond Useful Life	**Status**	Open
Inspector	System Renewal	**Actual Cost**	0
Action Date	08/08/2018	**Estimated Cost**	11,818

REQUIREMENT DESCRIPTION

Auto generated renewal for Classroom Sinks - 1969. System Description: The plumbing fixtures include sinks, located in the classrooms.

PHOTOS

ACTION DESCRIPTION

Estimated Cost= (System.Replacement Cost * System.Percent Renew)/100

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
X-	Sum for Classroom Sinks - 1969 Renewal	1.00	Ea.	11,817.63	11,818
				Subtotal:	11,818
				Adjustment Factor:	1.0000
				Total:	11,818

Asset Name: SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 3- Long Term

Requirement Name	Clock System Renewal		
Linked System	Clock and Program Systems	**Inspection Date**	08/08/2011
Prime System	D5036-Clock and Program Systems	**Finish Date**	-
Category	Beyond Useful Life	**Status**	Open
Inspector	System Renewal	**Actual Cost**	0
Action Date	08/08/2014	**Estimated Cost**	11,594

REQUIREMENT DESCRIPTION

Auto generated renewal for Clock System. System Description: The building has a Simplex clock system that includes master control station, clocks, wire, fittings. The system is aged beyond the BOMA life expectancy of 10 years and replacement should be planned.

PHOTOS

Clock System Renewal

-

ACTION DESCRIPTION

Estimated Cost= (System.Replacement Cost * System.Percent Renew)/100

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
X-	Sum for Clock System Renewal	1.00	Ea.	11,593.52	11,594
				Subtotal:	11,594
				Adjustment Factor:	1.0000
				Total:	11,594

Asset Name: SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 3- Long Term

Requirement Name	Custodial Sink Renewal		
Linked System	Plumbing Fixtures	**Inspection Date**	08/08/2011
Prime System	D2010-Plumbing Fixtures	**Finish Date**	-
Category	Beyond Useful Life	**Status**	Open
Inspector	System Renewal	**Actual Cost**	0
Action Date	08/08/2014	**Estimated Cost**	4,725

REQUIREMENT DESCRIPTION

Auto generated renewal for Custodial Sink. System Description: The plumbing fixtures include wall hung custodial sink.

PHOTOS

Custodial Sink Renewal

-

ACTION DESCRIPTION

Estimated Cost= (System.Replacement Cost * System.Percent Renew)/100

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
X-	Sum for Custodial Sink Renewal	1.00	Ea.	4,724.58	4,725
				Subtotal:	4,725
				Adjustment Factor:	1.0000
				Total:	4,725

Asset Name: SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 3- Long Term

Requirement Name	Door Assembly - Double Renewal		
Linked System	Exterior Doors	**Inspection Date**	08/08/2011
Prime System	B2030-Exterior Doors	**Finish Date**	-
Category	Beyond Useful Life	**Status**	Open
Inspector	System Renewal	**Actual Cost**	0
Action Date	08/08/2014	**Estimated Cost**	12,780

REQUIREMENT DESCRIPTION

Auto generated renewal for Door Assembly - Double. System Description: Exterior doors include double-leaf doors and frames with standard hardware.

PHOTOS

Door Assembly - Double Renewal

Door Assembly - Double Renewal

ACTION DESCRIPTION

Estimated Cost= (System.Replacement Cost * System.Percent Renew)/100

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
X-	Sum for Door Assembly - Double Renewal	1.00	Ea.	12,779.93	12,780
				Subtotal:	12,780
				Adjustment Factor:	1.0000
				Total:	12,780

Asset Name: SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 3- Long Term

Requirement Name	Door Assembly - Single Renewal		
Linked System	Exterior Doors	**Inspection Date**	08/08/2011
Prime System	B2030-Exterior Doors	**Finish Date**	-
Category	Beyond Useful Life	**Status**	Open
Inspector	System Renewal	**Actual Cost**	0
Action Date	08/08/2014	**Estimated Cost**	19,821

REQUIREMENT DESCRIPTION

Auto generated renewal for Door Assembly - Single. System Description: Exterior doors include single-leaf door and frames with standard hardware.

PHOTOS

Door Assembly - Single Renewal

Door Assembly - Single Renewal

ACTION DESCRIPTION

Estimated Cost= (System.Replacement Cost * System.Percent Renew)/100

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
X-	Sum for Door Assembly - Single Renewal	1.00	Ea.	19,821.15	19,821
				Subtotal:	19,821
				Adjustment Factor:	1.0000
				Total:	19,821

Asset Name: SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 3- Long Term

Requirement Name	Emergency Lighting Renewal		
Linked System	Emergency Light and Power Systems	**Inspection Date**	08/08/2011
Prime System	D5092-Emergency Light and Power Systems	**Finish Date**	-
Category	Beyond Useful Life	**Status**	Open
Inspector	System Renewal	**Actual Cost**	0
Action Date	08/08/2017	**Estimated Cost**	6,998

REQUIREMENT DESCRIPTION

Auto generated renewal for Emergency Lighting. System Description: The emergency lighting system includes self-contained battery packs and lights with both remote and unit mounted heads.

PHOTOS

ACTION DESCRIPTION

Estimated Cost= (System.Replacement Cost * System.Percent Renew)/100

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
X-	Sum for Emergency Lighting Renewal	1.00	Ea.	6,998.11	6,998
				Subtotal:	6,998
				Adjustment Factor:	1.0000
				Total:	6,998

Asset Name: SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 3- Long Term

Requirement Name	Exit Signs Renewal		
Linked System	Emergency Light and Power Systems	**Inspection Date**	08/08/2011
Prime System	D5092-Emergency Light and Power Systems	**Finish Date**	-
Category	Beyond Useful Life	**Status**	Open
Inspector	System Renewal	**Actual Cost**	0
Action Date	08/08/2017	**Estimated Cost**	4,403

REQUIREMENT DESCRIPTION

Auto generated renewal for Exit Signs. System Description: The school has LED exit signs and includes single and double sided Exit signs, conduit, wire, boxes, conduit bends, connections and circuit breakers.

PHOTOS

ACTION DESCRIPTION

Estimated Cost= (System.Replacement Cost * System.Percent Renew)/100

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
X-	Sum for Exit Signs Renewal	1.00	Ea.	4,403.13	4,403
				Subtotal:	4,403
				Adjustment Factor:	1.0000
				Total:	4,403

Asset Name: SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 3- Long Term

Requirement Name	Fire Alarm System Renewal		
Linked System	Fire Alarm Systems	**Inspection Date**	08/08/2011
Prime System	D5037-Fire Alarm Systems	**Finish Date**	-
Category	Beyond Useful Life	**Status**	Open
Inspector	System Renewal	**Actual Cost**	0
Action Date	08/08/2014	**Estimated Cost**	21,119

REQUIREMENT DESCRIPTION

Auto generated renewal for Fire Alarm System. System Description: The building is provided a fire alarm system that includes Edwards 6500 master control panel, annunciator, manual pull stations, smoke detectors, heat detectors, and audible bell and visual alarms. The system is aged beyond the BOMA life expectancy of 20 years and replacement should be planned.

PHOTOS

Fire Alarm System Renewal

-

ACTION DESCRIPTION

Estimated Cost= (System.Replacement Cost * System.Percent Renew)/100

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
X-	Sum for Fire Alarm System Renewal	1.00	Ea.	21,119.08	21,119
				Subtotal:	21,119
				Adjustment Factor:	1.0000
				Total:	21,119

Asset Name: SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 3- Long Term

Requirement Name	LAN System Renewal		
Linked System	Local Area Networks	**Inspection Date**	08/08/2011
Prime System	D5039-Local Area Networks	**Finish Date**	-
Category	Beyond Useful Life	**Status**	Open
Inspector	System Renewal	**Actual Cost**	0
Action Date	08/08/2014	**Estimated Cost**	13,349

REQUIREMENT DESCRIPTION

Auto generated renewal for LAN System. System Description: The building includes local area network wiring Cat5/Cat5e and RJ-45 Terminations.

Ethernet equipment such as routers and switches is considered owner equipment, hence, is excluded here.

The system is approaching the end of BOMA life expectancy of 15 years and replacement should be planned.

PHOTOS

LAN System Renewal

-

LAN System Renewal

-

ACTION DESCRIPTION

Estimated Cost= (System.Replacement Cost * System.Percent Renew)/100

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
X-	Sum for LAN System Renewal	1.00	Ea.	13,348.57	13,349
				Subtotal:	13,349
				Adjustment Factor:	1.0000
				Total:	13,349

Asset Name: SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 3- Long Term

Requirement Name	Lighting - Exterior Renewal		
Linked System	Lighting Equipment	**Inspection Date**	08/08/2011
Prime System	D5022-Lighting Equipment	**Finish Date**	-
Category	Beyond Useful Life	**Status**	Open
Inspector	System Renewal	**Actual Cost**	0
Action Date	08/08/2014	**Estimated Cost**	3,793

REQUIREMENT DESCRIPTION

Auto generated renewal for Lighting - Exterior. System Description: Exterior lighting consists of wall mounted and under canopy HID fixtures. The system is aged beyond the BOMA life expectancy of 20 years and replacement should be planned.

PHOTOS

Lighting - Exterior Renewal

-

Lighting - Exterior Renewal

-

ACTION DESCRIPTION

Estimated Cost= (System.Replacement Cost * System.Percent Renew)/100

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
X-	Sum for Lighting - Exterior Renewal	1.00	Ea.	3,793.48	3,793
				Subtotal:	3,793
				Adjustment Factor:	1.0000
				Total:	3,793

Asset Name: SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 3- Long Term

Requirement Name	Linoleum Sheet Goods Renewal		
Linked System	Floor Finishes	**Inspection Date**	08/08/2011
Prime System	C3020-Floor Finishes	**Finish Date**	-
Category	Beyond Useful Life	**Status**	Open
Inspector	System Renewal	**Actual Cost**	0
Action Date	08/08/2014	**Estimated Cost**	51,396

REQUIREMENT DESCRIPTION

Auto generated renewal for Linoleum Sheet Goods. System Description: Floor finishes include areas of linoleum and or marmoleum sheet goods flooring and related base. System quantities are estimated for budgetary purposes only. Actual replacement quantities are subject to site verification by others.

PHOTOS

Linoleum Sheet Goods Renewal

Linoleum Sheet Goods Renewal

ACTION DESCRIPTION

Estimated Cost= (System.Replacement Cost * System.Percent Renew)/100

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
X-	Sum for Linoleum Sheet Goods Renewal	1.00	Ea.	51,395.99	51,396
				Subtotal:	51,396
				Adjustment Factor:	1.0000
				Total:	51,396

Asset Name: SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 3- Long Term

Requirement Name	Main Electrical Service - 200A 120/240V Renewal		
Linked System	Low Tension Service and Dist.	**Inspection Date**	08/08/2011
Prime System	D5012-Low Tension Service and Dist.	**Finish Date**	-
Category	Beyond Useful Life	**Status**	Open
Inspector	System Renewal	**Actual Cost**	0
Action Date	08/08/2014	**Estimated Cost**	10,970

REQUIREMENT DESCRIPTION

Auto generated renewal for Main Electrical Service - 200A 120/240V. System Description: The building includes a typical electrical service, which includes incoming feeders, 200A main disconnect, disconnects, CT section, and metering. The system is aged beyond the BOMA life expectancy of 30 years and replacement should be planned.

PHOTOS

Main Electrical Service - 200A 120/240V Renewal

-

ACTION DESCRIPTION

Estimated Cost= (System.Replacement Cost * System.Percent Renew)/100

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
X-	Sum for Main Electrical Service - 200A 120/240V Renewal	1.00	Ea.	10,969.85	10,970
				Subtotal:	10,970
				Adjustment Factor:	1.0000
				Total:	10,970

Asset Name: SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 3- Long Term

Requirement Name	Painted Finish - Average (1 Coat Prime - 2 Coats Finish) Renewal		
Linked System	Wall Finishes	**Inspection Date**	08/08/2011
Prime System	C3010-Wall Finishes	**Finish Date**	-
Category	Beyond Useful Life	**Status**	Open
Inspector	System Renewal	**Actual Cost**	0
Action Date	08/08/2018	**Estimated Cost**	12,702

REQUIREMENT DESCRIPTION

Auto generated renewal for Painted Finish - Average (1 Coat Prime - 2 Coats Finish). System Description: Interior wall finishes include standard paint finish.

PHOTOS

ACTION DESCRIPTION

Estimated Cost= (System.Replacement Cost * System.Percent Renew)/100

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
X-	Sum for Painted Finish - Average (1 Coat Prime - 2 Coats Finish) Renewal	1.00	Ea.	12,701.83	12,702
				Subtotal:	12,702
				Adjustment Factor:	1.0000
				Total:	12,702

Asset Name: SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 3- Long Term

Requirement Name	Panelboards, Feeders and Disconnects - 120/240V Renewal		
Linked System	Low Tension Service and Dist.	**Inspection Date**	08/08/2011
Prime System	D5012-Low Tension Service and Dist.	**Finish Date**	-
Category	Beyond Useful Life	**Status**	Open
Inspector	System Renewal	**Actual Cost**	0
Action Date	08/08/2014	**Estimated Cost**	22,715

REQUIREMENT DESCRIPTION

Auto generated renewal for Panelboards, Feeders and Disconnects - 120/240V. System Description: The electrical distribution system includes 100 and 200 amp panelboards, disconnects and associated equipment. The system is aged beyond the BOMA life expectancy of 30 years and replacement should be planned.

PHOTOS

Panelboards, Feeders and Disconnects - 120/240V Renewal

-

ACTION DESCRIPTION

Estimated Cost= (System.Replacement Cost * System.Percent Renew)/100

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
X-	Sum for Panelboards, Feeders and Disconnects - 120/240V Renewal	1.00	Ea.	22,714.65	22,715
				Subtotal:	22,715
				Adjustment Factor:	1.0000
				Total:	22,715

Asset Name: SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 3- Long Term

Requirement Name	Public Address System Renewal		
Linked System	Public Address and Music Systems	**Inspection Date**	08/08/2011
Prime System	D5031-Public Address and Music Systems	**Finish Date**	-
Category	Beyond Useful Life	**Status**	Open
Inspector	System Renewal	**Actual Cost**	0
Action Date	08/08/2014	**Estimated Cost**	12,234

REQUIREMENT DESCRIPTION

Auto generated renewal for Public Address System. System Description: The public address system includes a Dukane master console, speakers, conduit and shielded wiring. The system is aged beyond the BOMA life expectancy of 20 years and replacement should be planned.

PHOTOS

Public Address System Renewal

-

ACTION DESCRIPTION

Estimated Cost= (System.Replacement Cost * System.Percent Renew)/100

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
X-	Sum for Public Address System Renewal	1.00	Ea.	12,233.79	12,234
				Subtotal:	12,234
				Adjustment Factor:	1.0000
				Total:	12,234

Asset Name: SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 3- Long Term

Requirement Name	Reservoir Tank - Fire Water Renewal		
Linked System	Sprinkler Water Supply	**Inspection Date**	08/08/2011
Prime System	D4011-Sprinkler Water Supply	**Finish Date**	-
Category	Beyond Useful Life	**Status**	Open
Inspector	System Renewal	**Actual Cost**	0
Action Date	08/08/2018	**Estimated Cost**	66,779

REQUIREMENT DESCRIPTION

Auto generated renewal for Reservoir Tank - Fire Water. System Description: The system includes a reservoir water storage tank for fire water.

PHOTOS

ACTION DESCRIPTION

Estimated Cost= (System.Replacement Cost * System.Percent Renew)/100

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
X-	Sum for Reservoir Tank - Fire Water Renewal	1.00	Ea.	66,779.49	66,779
				Subtotal:	66,779
				Adjustment Factor:	1.0000
				Total:	66,779

Asset Name: SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 3- Long Term

Requirement Name	Restroom Fixtures - 1969 Renewal		
Linked System	Plumbing Fixtures	**Inspection Date**	08/08/2011
Prime System	D2010-Plumbing Fixtures	**Finish Date**	-
Category	Beyond Useful Life	**Status**	Open
Inspector	System Renewal	**Actual Cost**	0
Action Date	08/08/2014	**Estimated Cost**	17,611

REQUIREMENT DESCRIPTION

Auto generated renewal for Restroom Fixtures - 1969. System Description: The restroom fixtures include vitreous china water closets and lavatories.

PHOTOS

Restroom Fixtures - 1969 Renewal

-

ACTION DESCRIPTION

Estimated Cost= (System.Replacement Cost * System.Percent Renew)/100

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
X-	Sum for Restroom Fixtures - 1969 Renewal	1.00	Ea.	17,611.31	17,611
				Subtotal:	17,611
				Adjustment Factor:	1.0000
				Total:	17,611

Asset Name: SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 3- Long Term

Requirement Name	SBS Modified Bitumen Membrane Renewal		
Linked System	Roofing	**Inspection Date**	08/08/2011
Prime System	B30-Roofing	**Finish Date**	-
Category	Beyond Useful Life	**Status**	Open
Inspector	System Renewal	**Actual Cost**	0
Action Date	08/08/2014	**Estimated Cost**	144,565

REQUIREMENT DESCRIPTION

Auto generated renewal for SBS Modified Bitumen Membrane. System Description: The building's insulated roof is finished with an SBS Granulated Bitumen Membrane type. The cost estimate includes rigid insulation.

PHOTOS

SBS Modified Bitumen Membrane Renewal

SBS Modified Bitumen Membrane Renewal

ACTION DESCRIPTION

Estimated Cost= (System.Replacement Cost * System.Percent Renew)/100

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
X-	Sum for SBS Modified Bitumen Membrane Renewal	1.00	Ea.	144,564.68	144,565
				Subtotal:	144,565
				Adjustment Factor:	1.0000
				Total:	144,565

Asset Name: SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 3- Long Term

Requirement Name	Security System Renewal		
Linked System	Security and Detection Systems	**Inspection Date**	08/08/2011
Prime System	D5038-Security and Detection Systems	**Finish Date**	-
Category	Beyond Useful Life	**Status**	Open
Inspector	System Renewal	**Actual Cost**	0
Action Date	08/08/2014	**Estimated Cost**	12,135

REQUIREMENT DESCRIPTION

Auto generated renewal for Security System. System Description: The school is equipped with a security system which monitors access and unauthorized entry with keypads, motion detectors and alarm monitoring audible sound systems. The system includes Legend100 control panel. The system is aged beyond the BOMA life expectancy of 10 years and replacement should be planned.

PHOTOS

Security System Renewal

-

ACTION DESCRIPTION

Estimated Cost= (System.Replacement Cost * System.Percent Renew)/100

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
X-	Sum for Security System Renewal	1.00	Ea.	12,135.01	12,135
				Subtotal:	12,135
				Adjustment Factor:	1.0000
				Total:	12,135

Asset Name: SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 3- Long Term

Requirement Name	Signage (Room Numbering and Identification) Renewal		
Linked System	Identifying Devices	**Inspection Date**	08/08/2011
Prime System	C1035-Identifying Devices	**Finish Date**	-
Category	Beyond Useful Life	**Status**	Open
Inspector	System Renewal	**Actual Cost**	0
Action Date	08/08/2014	**Estimated Cost**	4,271

REQUIREMENT DESCRIPTION

Auto generated renewal for Signage (Room Numbering and Identification). System Description: The building has way finding signage which typically includes door numbers, names and graphics. System quantities are estimated for budgetary purposes only. Actual replacement quantities are subject to site verification by others.

PHOTOS

Signage (Room Numbering and Identification) Renewal

Signage (Room Numbering and Identification) Renewal

ACTION DESCRIPTION

Estimated Cost= (System.Replacement Cost * System.Percent Renew)/100

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
X-	Sum for Signage (Room Numbering and Identification) Renewal	1.00	Ea.	4,270.86	4,271
				Subtotal:	4,271
				Adjustment Factor:	1.0000
				Total:	4,271

Asset Name: SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 3- Long Term

Requirement Name	Telephone System Renewal		
Linked System	Telephone Systems	**Inspection Date**	08/08/2011
Prime System	D5033-Telephone Systems	**Finish Date**	-
Category	Beyond Useful Life	**Status**	Open
Inspector	System Renewal	**Actual Cost**	0
Action Date	08/08/2014	**Estimated Cost**	10,121

REQUIREMENT DESCRIPTION

Auto generated renewal for Telephone System. System Description: The school has Nortel telephone system that includes cabling, RJ-11 Terminations and BX-panels. The system is aged beyond the BOMA life expectancy of 20 years and replacement should be planned.

PHOTOS

Telephone System Renewal

-

Telephone System Renewal

-

ACTION DESCRIPTION

Estimated Cost= (System.Replacement Cost * System.Percent Renew)/100

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
X-	Sum for Telephone System Renewal	1.00	Ea.	10,120.68	10,121
				Subtotal:	10,121
				Adjustment Factor:	1.0000
				Total:	10,121

Asset Name: SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 3- Long Term

Requirement Name	Television System Renewal		
Linked System	Television Systems	**Inspection Date**	08/08/2011
Prime System	D5035-Television Systems	**Finish Date**	-
Category	Beyond Useful Life	**Status**	Open
Inspector	System Renewal	**Actual Cost**	0
Action Date	08/08/2014	**Estimated Cost**	2,653

REQUIREMENT DESCRIPTION

Auto generated renewal for Television System. System Description: The television system includes demarcation, master control station, wall outlets, conduits, and cables. Minor distribution was observed. The system is aged beyond the BOMA life expectancy of 15 years and replacement should be planned.

PHOTOS

ACTION DESCRIPTION

Estimated Cost= (System.Replacement Cost * System.Percent Renew)/100

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
X-	Sum for Television System Renewal	1.00	Ea.	2,653.25	2,653
				Subtotal:	2,653
				Adjustment Factor:	1.0000
				Total:	2,653

Asset Name: SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 3- Long Term

Requirement Name	Vinyl Composite Tile Standard Renewal		
Linked System	Floor Finishes	**Inspection Date**	08/08/2011
Prime System	C3020-Floor Finishes	**Finish Date**	-
Category	Beyond Useful Life	**Status**	Open
Inspector	System Renewal	**Actual Cost**	0
Action Date	08/08/2014	**Estimated Cost**	1,718

REQUIREMENT DESCRIPTION

Auto generated renewal for Vinyl Composite Tile Standard. System Description: Floor finishes include areas of standard VCT flooring and related base. System quantities are estimated for budgetary purposes only. Actual replacement quantities are subject to site verification by others.

PHOTOS

Vinyl Composite Tile Standard Renewal

Vinyl Composite Tile Standard Renewal

ACTION DESCRIPTION

Estimated Cost= (System.Replacement Cost * System.Percent Renew)/100

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
X-	Sum for Vinyl Composite Tile Standard Renewal	1.00	Ea.	1,718.25	1,718
				Subtotal:	1,718
				Adjustment Factor:	1.0000
				Total:	1,718

Asset Name: SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 3- Long Term

Requirement Name	Water Heater - Electric Renewal		
Linked System	Domestic Water Distribution	**Inspection Date**	08/08/2011
Prime System	D2020-Domestic Water Distribution	**Finish Date**	-
Category	Beyond Useful Life	**Status**	Open
Inspector	System Renewal	**Actual Cost**	0
Action Date	08/08/2017	**Estimated Cost**	3,653

REQUIREMENT DESCRIPTION

Auto generated renewal for Water Heater - Electric. System Description: The domestic hot water is provided by an electric water heater rated 3000 watts/184 litres, located in the furnace room.

PHOTOS

ACTION DESCRIPTION

Estimated Cost= (System.Replacement Cost * System.Percent Renew)/100

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
X-	Sum for Water Heater - Electric Renewal	1.00	Ea.	3,653.43	3,653
				Subtotal:	3,653
				Adjustment Factor:	1.0000
				Total:	3,653

Asset Name: SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 3- Long Term

Requirement Name	Water Treatment System Renewal		
Linked System	Domestic Water Distribution	**Inspection Date**	08/08/2011
Prime System	D2020-Domestic Water Distribution	**Finish Date**	-
Category	Beyond Useful Life	**Status**	Open
Inspector	System Renewal	**Actual Cost**	0
Action Date	08/08/2017	**Estimated Cost**	27,676

REQUIREMENT DESCRIPTION

Auto generated renewal for Water Treatment System. System Description: Water treatment system for well water is located in the mechanical furnace room.

PHOTOS

ACTION DESCRIPTION

Estimated Cost= (System.Replacement Cost * System.Percent Renew)/100

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
X-	Sum for Water Treatment System Renewal	1.00	Ea.	27,675.64	27,676
				Subtotal:	27,676
				Adjustment Factor:	1.0000
				Total:	27,676

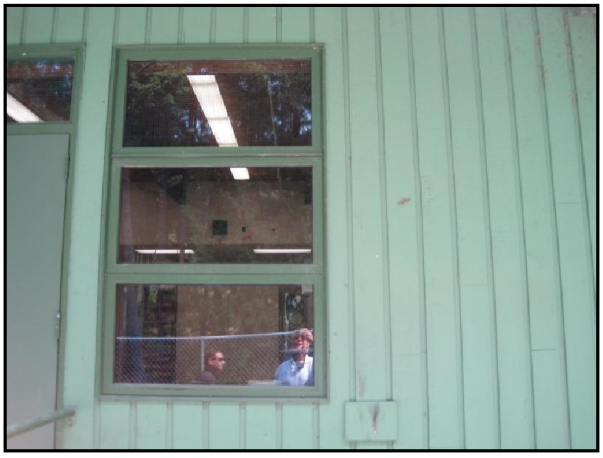
Asset Name: SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 3- Long Term

Requirement Name	Windows - Metal Renewal		
Linked System	Exterior Windows	**Inspection Date**	08/08/2011
Prime System	B2020-Exterior Windows	**Finish Date**	-
Category	Beyond Useful Life	**Status**	Open
Inspector	System Renewal	**Actual Cost**	0
Action Date	08/08/2014	**Estimated Cost**	22,080

REQUIREMENT DESCRIPTION

Auto generated renewal for Windows - Metal. System Description: The building includes metal framed exterior units with non-insulating glass. System quantities are estimated for budgetary purposes only. Actual replacement quantities are subject to site verification by others.

PHOTOS



Windows - Metal Renewal

Windows - Metal Renewal

ACTION DESCRIPTION

Estimated Cost= (System.Replacement Cost * System.Percent Renew)/100

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
X-	Sum for Windows - Metal Renewal	1.00	Ea.	22,080.19	22,080
				Subtotal:	22,080
				Adjustment Factor:	1.0000
				Total:	22,080

Asset Name: SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 3- Long Term

Requirement Name	Windows - Wood Renewal		
Linked System	Exterior Windows	**Inspection Date**	08/08/2011
Prime System	B2020-Exterior Windows	**Finish Date**	-
Category	Beyond Useful Life	**Status**	Open
Inspector	System Renewal	**Actual Cost**	0
Action Date	08/08/2014	**Estimated Cost**	24,683

REQUIREMENT DESCRIPTION

Auto generated renewal for Windows - Wood. System Description: The building includes wood framed exterior units with non-insulating glass. System quantities are estimated for budgetary purposes only. Actual replacement quantities are subject to site verification by others.

PHOTOS

Windows - Wood Renewal

Windows - Wood Renewal

ACTION DESCRIPTION

Estimated Cost= (System.Replacement Cost * System.Percent Renew)/100

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
X-	Sum for Windows - Wood Renewal	1.00	Ea.	24,682.63	24,683
				Subtotal:	24,683
				Adjustment Factor:	1.0000
				Total:	24,683

Asset Name: SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 3- Long Term

Requirement Name	Wood Partitions Washrooms Renewal		
Linked System	Fittings	**Inspection Date**	08/08/2011
Prime System	C1030-Fittings	**Finish Date**	-
Category	Beyond Useful Life	**Status**	Open
Inspector	System Renewal	**Actual Cost**	0
Action Date	08/08/2014	**Estimated Cost**	9,534

REQUIREMENT DESCRIPTION

Auto generated renewal for Wood Partitions Washrooms. System Description: The washrooms are equipped with floor mounted painted wood toilet partitions.

PHOTOS

Wood Partitions Washrooms Renewal

Wood Partitions Washrooms Renewal

ACTION DESCRIPTION

Estimated Cost= (System.Replacement Cost * System.Percent Renew)/100

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
X-	Sum for Wood Partitions Washrooms Renewal	1.00	Ea.	9,533.80	9,534
				Subtotal:	9,534
				Adjustment Factor:	1.0000
				Total:	9,534

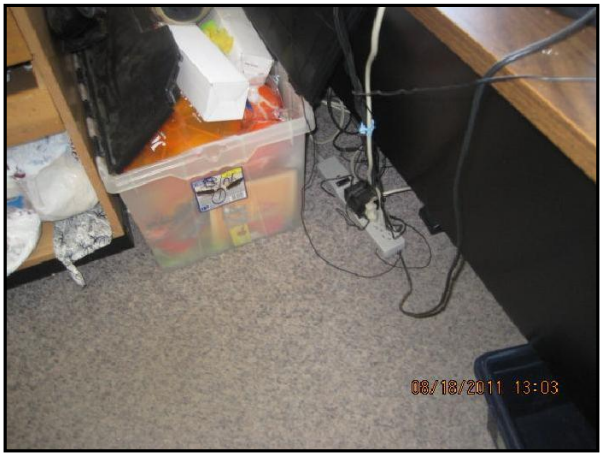
Asset Name: SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 4- Recommended

Requirement Name	Branch Wiring Devices - Insufficient Quantity of Receptacles		
Linked System	Branch Wiring Devices	**Inspection Date**	08/08/2011
Prime System	D5021-Branch Wiring Devices	**Finish Date**	-
Category	Capacity/Design	**Status**	Open
Inspector	Kam Khattra	**Actual Cost**	0
Action Date	-	**Estimated Cost**	15,178

REQUIREMENT DESCRIPTION

The number of branch circuits and receptacles is insufficient in some of the rooms and multi-outlet extensions were observed.

PHOTOS



Branch Wiring Devices - Insufficient Quantity of Receptacles

-

ACTION DESCRIPTION

Provide additional circuits in the classrooms.

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
LELECJ	Electricians	40.00	hour	70.56	2,822
LHELPJ	Helpers Average (5 trades)	40.00	hour	46.80	1,872
LPORDJ	Painters, Ordinary	8.00	hour	52.25	418
LPLASJ	Plasterers	8.00	hour	55.89	447
AD50201250520	Receptacle duplex 120 V grounded, 15 A with box, plate, 3/4" EMT & wire	44.00	Ea.	218.60	9,618
				Subtotal:	15,178
				Adjustment Factor:	1.0000
				Total:	15,178

Asset Name: SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 4- Recommended

Requirement Name	Distribution Systems - HVAC Ductwork Dirty		
Linked System	Distribution Systems	**Inspection Date**	08/08/2011
Prime System	D3040-Distribution Systems	**Finish Date**	-
Category	Air and Water Quality	**Status**	Open
Inspector	Sukhjit Sidhu	**Actual Cost**	0
Action Date	-	**Estimated Cost**	3,540

REQUIREMENT DESCRIPTION

Observed during the assessment were many supply and exhaust diffusers were coated with dust and dirt. Ductwork cleaning is recommended.

PHOTOS

Distribution Systems - HVAC Ductwork Dirty

-

Distribution Systems - HVAC Ductwork Dirty

-

Distribution Systems - HVAC Ductwork Dirty

-

ACTION DESCRIPTION

Clean all supply, return and the exhaust ductwork throughout the building. Repaired as necessary and rebalance all ductwork after cleaning.

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
LCLABJ	Common Building Laborers	16.00	hour	49.14	786
U019313150820	Ductwork, rectangular, clean, 6" x 12" (max)	100.00	L.F.	3.12	312
U019313150830	Ductwork, rectangular, clean, 8" x 16" (max)	100.00	L.F.	4.16	416
U019313150920	Ductwork, round, clean, 6"	100.00	L.F.	2.45	245
U013113200140	Field personnel, field engineer, maximum	0.25	Week	2,441.25	610
LSHEEJ	Sheet Metal Workers	16.00	hour	73.17	1,171
				Subtotal:	3,540
				Adjustment Factor:	1.0000
				Total:	3,540

Asset Name: SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 4- Recommended

Requirement Name	Distribution Systems - Ventilation System Not Installed		
Linked System	Not Applicable	**Inspection Date**	08/08/2011
Prime System	-	**Finish Date**	-
Category	Air and Water Quality	**Status**	Open
Inspector	Sukhjit Sidhu	**Actual Cost**	0
Action Date	-	**Estimated Cost**	3,118

REQUIREMENT DESCRIPTION

The electrical room does not have any exhaust ventilation system installed. Installation of one would improve work place safety and indoor air quality.

PHOTOS

Distribution Systems - Ventilation System Not Installed

-

ACTION DESCRIPTION

Install exhaust fan for the electrical room.

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
LELECJ	Electricians	8.00	hour	70.56	564
U233423106550	Fans, propeller exhaust, V belt drive, residential, whole house, ceiling/wall, 115 V, 17,025 CFM, 1/2 H.P., 54" x 54"	1.00	Ea.	1,458.66	1,459
U024119200100	Selective demolition, dump charges, typical urban city, building construction materials, includes tipping fees only	1.00	Ton	109.86	110
U024119190910	Selective demolition, rubbish handling, dumpster, alternate pricing method, delivery, average for all sizes, cost to be added to demolition cost.	1.00	Ea.	107.18	107
LSHEEJ	Sheet Metal Workers	12.00	hour	73.17	878

Subtotal:	3,118
Adjustment Factor:	1.0000
Total:	3,118

Asset Name: SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 4- Recommended

Requirement Name	Roof Access Hatch Lacking		
Linked System	Not Applicable	**Inspection Date**	08/08/2011
Prime System	-	**Finish Date**	-
Category	Modernization	**Status**	Open
Inspector	Peter Polet	**Actual Cost**	0
Action Date	-	**Estimated Cost**	9,556

REQUIREMENT DESCRIPTION

The existing roofs at this facility lack a proper roof access hatch. Installation of a roof access hatch is recommended to provide safe access to the roof for facilities maintenance staff.

PHOTOS

ACTION DESCRIPTION

Reatin consultant to specify materials and determine appropriate location for a roof access hatch. Supply labour, equipment and materials for the installation of a roof access hatch.

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
LCARPJ	Carpenters	24.00	hour	62.24	1,494
U090505100240	Ceiling demolition, gypsum board, on suspension system, remove	25.00	S.F.	1.12	28
U013113200100	Field personnel, field engineer, minimum	1.00	Week	1,653.75	1,654
RB30131200500	Flashing repairs, 2 S.F. per sq. repaired, modified bitumen/thermoplastic	25.00	S.F.	4.19	105
U055133130020	Ladder, shop fabricated, steel, 20" W, bolted to concrete, incl cage	15.00	V.L.F.	116.32	1,745
RB30131200300	Minor thermoplastic membrane repairs, 2% of roof area	5.00	Sq.	355.04	1,775
RC30331070010	Repair gypsum board ceiling - (2% of ceilings)	1.00	C.S.F.	489.50	490
U077233100540	Roof Hatches, with curb, 1" fiberglass insulation, galvanized steel curb & cover, 2'-6" x 3'-0"	1.00	Ea.	995.21	995
LROFCJ	Roofers, Composition	16.00	hour	57.92	927
U024119200300	Selective demolition, dump charges, typical urban city, rubbish only, includes tipping fees only	1.00	Ton	93.79	94
U070505100870	Selective demolition, thermal and moisture protection, insulation removal, rigid board	25.00	B.F.	0.11	3
U070505104320	Selective demolition, thermal and moisture protection, roofing, single ply membrane, attached at seams	5.00	Sq.	38.31	192

Code	Description	Quantity	Unit	Unit Cost	Total Cost
U060505106090	Selective demolition, wood framing, sheathing, 1/2", from roof	25.00	S.F.	0.58	15
U050505100370	Selective metals demolition, manufactured or fabricated specialty item, 81 - 120 lb, remove whole or cut up into smaller pieces, excl shoring, bracing, cutting, loading, hauling, dumping	1.00	Ea.	42.10	42
				Subtotal:	9,556
				Adjustment Factor:	1.0000
				Total:	9,556

Asset Name: SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 5- Does Not Meet Current Codes / Standards

Requirement Name	Electrical Conduits - Fire Stopping Not Installed		
Linked System	Low Tension Service and Dist.	**Inspection Date**	08/08/2011
Prime System	D5012-Low Tension Service and Dist.	**Finish Date**	-
Category	Building Code	**Status**	Open
Inspector	Kam Khattra	**Actual Cost**	0
Action Date	-	**Estimated Cost**	1,783

REQUIREMENT DESCRIPTION

The electrical conduits in electrical room 1319 do not have fire stopping installed as required by BCBC 2006 Section 3.1.9.1.

PHOTOS

Electrical Conduits - Fire Stopping Not Installed

-

ACTION DESCRIPTION

Install fire stopping for the electrical conduits in the electrical room 1319.

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
LCARPJ	Carpenters	8.00	hour	62.24	498
U078413100810	Firestopping, construction joints, floor slab to concrete/masonry partition, flat joint	4.00	L.F.	30.63	123
U078413100200	Firestopping, metallic piping, insulated, through walls, 2" dia	2.00	Ea.	59.47	119
U078413100210	Firestopping, metallic piping, insulated, through walls, 4" dia	8.00	Ea.	74.59	597
LPLASJ	Plasterers	8.00	hour	55.89	447
				Subtotal:	1,783
				Adjustment Factor:	1.0000

Total:	1,783

Asset Name: SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 5- Does Not Meet Current Codes / Standards

Requirement Name	Exterior Doors - Automatic Door Openers Lacking at Entry		
Linked System	Exterior Doors	**Inspection Date**	08/08/2011
Prime System	B2030-Exterior Doors	**Finish Date**	-
Category	Accessibility	**Status**	Open
Inspector	Peter Polet	**Actual Cost**	0
Action Date	-	**Estimated Cost**	13,408

REQUIREMENT DESCRIPTION

The entrance doors do not have automatic door openers installed in accordance with BC Building Code Article 3.8.2.17.

PHOTOS

Exterior Doors - Automatic Door Openers Lacking at Entry

Exterior Doors - Automatic Door Openers Lacking at Entry

ACTION DESCRIPTION

Provide automatic door openers at the handicap access doors.

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
AD50102301200	Branch installation 600 V, including EMT conduit and THW wire, 15 A	500.00	L.F.	5.95	2,975
LCARPJ	Carpenters	16.00	hour	62.24	996
U087113101500	Door hardware, automatic openers, commercial, electronic door opener, for single swing doors, pair, per opening, incl. motion sensor, 12 V control box, motor	1.00	Opng.	7,646.31	7,646
U087113101750	Door hardware, automatic openers, commercial, for handicap actuator buttons (2), incl. 12 V DC wiring, add	1.00	Pr.	762.38	762
LSKWKJ	Skilled Workers Average (35 trades)	16.00	hour	64.31	1,029

Subtotal:	13,408
Adjustment Factor:	1.0000
Total:	13,408

Asset Name: SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 5- Does Not Meet Current Codes / Standards

Requirement Name	Fire Safety Plan Not Visible		
Linked System	Not Applicable	**Inspection Date**	08/08/2011
Prime System	-	**Finish Date**	-
Category	Building Code	**Status**	Open
Inspector	Peter Polet	**Actual Cost**	0
Action Date	-	**Estimated Cost**	651

REQUIREMENT DESCRIPTION

A fire safety plan for the building was not visible during the field assessment. Retention of a fire safety plan is required as per National Fire Code of Canada, Article 3.8.2.5. It is recommended that a fire safety plan be provided in a prominent, secure location near the main entrance of the building.

PHOTOS

ACTION DESCRIPTION

Provide a fire safety plan in a prominent, secure location near the main entrance to the building.

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
U013113200260	Field personnel, superintendent, average	0.20	Week	3,255.00	651
				Subtotal:	651
				Adjustment Factor:	1.0000
				Total:	651

Asset Name: SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 5- Does Not Meet Current Codes / Standards

Requirement Name	Interior Doors - Hardware Not Accessible		
Linked System	Interior Doors	**Inspection Date**	08/08/2011
Prime System	C1020-Interior Doors	**Finish Date**	-
Category	Accessibility	**Status**	Open
Inspector	Peter Polet	**Actual Cost**	0
Action Date	-	**Estimated Cost**	8,448

REQUIREMENT DESCRIPTION

The knob door hardware in the facility does not conform to the requirements of the 2006 British Columbia Building Code section 3.3.1.13.10)c) as the door handles require tight grasping or twisting of the wrist to operate.

PHOTOS

Interior Doors - Hardware Not Accessible

Interior Doors - Hardware Not Accessible

ACTION DESCRIPTION

Provide lever type hardware on all doors for student and public use. Assume 30 doors.

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
LCARPJ	Carpenters	30.00	hour	62.24	1,867
U087120600015	Door hardware, entrance locks, cylinder, grip handle, deadlocking latch	30.00	Ea.	219.36	6,581
				Subtotal:	8,448
				Adjustment Factor:	1.0000
				Total:	8,448

Asset Name: SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 5- Does Not Meet Current Codes / Standards

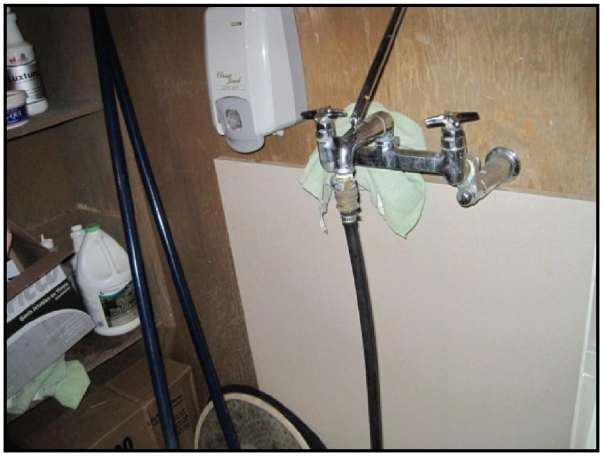
Requirement Name	Various Mechanical Deficiencies		
Linked System	Plumbing Fixtures	**Inspection Date**	08/08/2011
Prime System	D2010-Plumbing Fixtures	**Finish Date**	-
Category	Building Code	**Status**	Open
Inspector	Sukhjit Sidhu	**Actual Cost**	0
Action Date	-	**Estimated Cost**	437

REQUIREMENT DESCRIPTION

1) CNFC section 6.2.1.1 refers to NFPA Chapter 10 for installation of fire extinguishers. According to NFPA Chapter 10 Section 7.2.4.3 monthly inspection of fire extinguishers should be conducted and initials of the person performing the inspection shall be recorded.

2) The custodial sinks do not have back-siphonage protection as required by 2006 BCBC Section 7.6.2.2.

PHOTOS



Various Mechanical Deficiencies

-

Various Mechanical Deficiencies

-

ACTION DESCRIPTION

Repair mechanical deficiencies.

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
LPLUMJ	Plumbers	2.00	hour	75.65	151
LSKWKJ	Skilled Workers Average (35 trades)	2.00	hour	64.31	129
U221119502030	Vacuum breaker, anti-siphon non-continuous pressure type, hot or cold water, bronze body, 125 psi - 210Deg. F, 1/4" size	2.00	Ea.	78.67	157
				Subtotal:	437
				Adjustment Factor:	1.0000
				Total:	437

Asset Name: SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 6- Non Structural Seismic Vulnerability

Requirement Name	Fire Protection - Sprinkler Piping - No Seismic Restraint		
Linked System	Fire Protection	**Inspection Date**	08/08/2011
Prime System	D40-Fire Protection	**Finish Date**	-
Category	OFC's	**Status**	Open
Inspector	Sukhjit Sidhu	**Actual Cost**	0
Action Date	-	**Estimated Cost**	1,727

REQUIREMENT DESCRIPTION

The sprinkler piping in the classrooms is not seismically restrained to prevent falling. When rated per National Standard of Canada - CAN/CSA - S832-06 entitled "Seismic Risk Reduction of Operational and Functional Components of Building", these sprinkler piping had a risk index score of 20.4000.

PHOTOS

Fire Protection - Sprinkler Piping - No Seismic Restraint

-

ACTION DESCRIPTION

Anchor sprinkler piping to the wall/ceiling structure using designated and tested anchors per the requirements of 2006 BCBC 4.1.8.17, Section 8, Earthquake Load and Effects, Non-Structural Components. Anchor points should not be slotted.

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
U051223400476	Angle framing, structural steel, 3"x3"x3/8", field fabricated, incl cutting & welding	12.00	L.F.	43.12	517
U013113200120	Field personnel, field engineer, average	0.30	Week	2,152.50	646
U220529109070	Pipe / duct, hanger / support, wire cutter, wire cable support system	12.00	Ea.	46.97	564
				Subtotal:	1,727
				Adjustment Factor:	1.0000
				Total:	1,727

Asset Name: SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 6- Non Structural Seismic Vulnerability

Requirement Name	Non-Seismic Luminaire - Corridors		
Linked System	Lighting Equipment	**Inspection Date**	08/08/2011
Prime System	D5022-Lighting Equipment	**Finish Date**	-
Category	OFC's	**Status**	Open
Inspector	Kam Khattra	**Actual Cost**	0
Action Date	-	**Estimated Cost**	4,246

REQUIREMENT DESCRIPTION

Light fixtures, especially recessed type, in the corridors are not seismically secured.

PHOTOS

Non-Seismic Luminaire - Corridors

-

ACTION DESCRIPTION

Light fixtures are required to be securely tied to the building structure. Lenses are also required to be seismically clipped.

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
LELECJ	Electricians	24.00	hour	70.56	1,693
U265113100420	Fixture hangers, flexible, 1/2" diameter, 12" long	40.00	Ea.	63.82	2,553
				Subtotal:	4,246
				Adjustment Factor:	1.0000
				Total:	4,246

ASSET DETAILS

Asset Name: Site-SOUTH WELLINGTON ELEMENTARY

Asset Number: 106308

STATISTICS

FCI Cost:	64,308	**FCI:**	0.13
Total Requirement Cost:	64,308	**RI:**	0.13

Current Replacement Value	502,038	**Address1**	1536 MORDEN RD RR 4
Size	1 Each	**Address2**	-
Year Constructed	1969	**City**	NANAIMO
Year Renovated	1996	**State**	-
Commission Date	-	**Zip/Postal Code**	V9X 1S2
Decommission Date	-	**Architect**	-
Ownership	School District Owned	**Historical Category**	-
Floors	-	**Construction Type**	-
Type	Site Structures/Furnishings/Appurtenances	**Use**	-

Description

ARCHITECTURAL

General

The South Wellington Elementary School, Asset Number 106308, is in the British Columbia Ministry of Education's Nanaimo School District Number 68 and is located at 1536 Morden Road, RR 4, Nanaimo, B.C., V9X 1S2. The school site includes general landscaping, vehicle parking, playing fields, basketball court, modular playground equipment, retaining walls and site fencing.

The site size is listed as 1.20 hectares in area. The legal description is; P.I.D. 006-308-376, Lot 4, Section 11, Range 7, Cranberry District, Plan 3153

MECHANICAL

Plumbing

The site includes main water supply line with associated valves and distribution piping. The water is feed from the water well, located in the pump house.

A septic system with holding tanks and pumps serving the school is located on the property line.

An underground oil storage tank is located on the property line.

Pump house

A diaphragm booster pump with chlorine tank for well water and an electric cabinet unit is located in the pump house.

ELECTRICAL

No electrical systems are found on the site.

REQUIREMENTS

Requirement Name	Prime System	Category	Priority	Action Date	Cost
Underground Oil Tank - Steel Renewal	G3063-Fuel Storage Tanks	Beyond Useful Life	2- Short Term	08/08/2013	35,963
Water Supply Piping Renewal	G3010-Water Supply	Beyond Useful Life	3- Long Term	08/08/2016	21,565
Water Well Renewal	G3013-Well Systems	Beyond Useful Life	3- Long Term	08/08/2014	6,781
				Total	**64,309**

SYSTEM LIST

Asset Name: Site-SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Asset Size: 1 Each
Asset ReplacementValue: 502,038

System	System Name	Lifetime	SCI	Renewal FY	Renewal Cost	Replacement Cost
E10-Equipment	Goal Posts - Soccer	25	0.00	2021	2,916	2,333
G2010-Roadways	Roadway - Gravel	25	0.00	2021	7,505	12,008
G2020-Parking Lots	Parking Lot - Gravel - Vehicle	25	0.00	2021	7,978	12,764
G2030-Pedestrian Paving	Asphalt Play Area	25	0.00	2021	16,266	26,026
G2030-Pedestrian Paving	Stairs (Concrete)	40	0.00	2036	5,754	4,603
G2040-Site Development	Concrete Retaining Wall 1800mm	40	0.00	2036	3,134	20,894
G2041-Fences and Gates	Perimeter Fencing/Gate (Chain Link)	20	0.00	2021	67,790	54,232
G2047-Playing Fields	Sports Field - Soccer/Football	25	0.00	2021	66,830	106,929
G2047-Playing Fields	Playground Equipment	25	0.00	2021	101,183	80,946
G2047-Playing Fields	Asphalt Basketball Court with Hoops	25	0.00	2021	12,929	20,687
G2049-Miscellaneous Structures	Metal Pumphouse	30	0.00	2026	22,681	18,145
G2055-Planting	Landscaping	50	0.00	2019	4,884	7,814
G3010-Water Supply	Water Supply Piping	30	1.13	2016	21,565	19,169
G3013-Well Systems	Water Well	30	0.50	2014	6,781	13,561
G3026-Septic Tanks	Septic System	50	0.00	2019	91,447	73,157
G3063-Fuel Storage Tanks	Underground Oil Tank - Steel	25	1.25	2013	35,963	28,770
				Total:	**475,605**	**502,038**

REQUIREMENT CROSSTAB

Asset Name: Site-SOUTH WELLINGTON ELEMENTARY **Asset Number:** 106308

Requirement Crosstab by Category and Priority

Category and Priority	2- Short Term	3- Long Term	Total
Beyond Useful Life	35,963	28,346	**64,309**
Total	**35,963**	**28,346**	**64,309**

Requirement Crosstab by Category and System

Category and System Group	Site	Total
Beyond Useful Life	64,309	**64,309**
Total	**64,309**	**64,309**

Requirement Crosstab by System and Priority

System Group and Priority	2- Short Term	3- Long Term	Total
Site	35,963	28,346	**64,309**
Total	**35,963**	**28,346**	**64,309**

REQUIREMENT DETAIL

Asset Name: Site-SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 2- Short Term

Requirement Name	Underground Oil Tank - Steel Renewal		
Linked System	Fuel Storage Tanks	**Inspection Date**	08/08/2011
Prime System	G3063-Fuel Storage Tanks	**Finish Date**	-
Category	Beyond Useful Life	**Status**	Open
Inspector	System Renewal	**Actual Cost**	0
Action Date	08/08/2013	**Estimated Cost**	35,963

REQUIREMENT DESCRIPTION

Auto generated renewal for Underground Oil Tank - Steel. System Description: An underground oil storage tank is located on the property line.

PHOTOS

Underground Oil Tank - Steel Renewal

-

ACTION DESCRIPTION

Estimated Cost= (System.Replacement Cost * System.Percent Renew)/100

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
X-	Sum for Underground Oil Tank - Steel Renewal	1.00	Ea.	35,962.84	35,963
				Subtotal:	35,963
				Adjustment Factor:	1.0000
				Total:	35,963

Asset Name: Site-SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 3- Long Term

Requirement Name	Water Supply Piping Renewal		
Linked System	Water Supply	**Inspection Date**	08/08/2011
Prime System	G3010-Water Supply	**Finish Date**	-
Category	Beyond Useful Life	**Status**	Open
Inspector	System Renewal	**Actual Cost**	0
Action Date	08/08/2016	**Estimated Cost**	21,565

REQUIREMENT DESCRIPTION

Auto generated renewal for Water Supply Piping. System Description: The site includes main water supply line with associated valves and distribution piping. The water is feed from the water well, located in the pump house.

PHOTOS

Water Supply Piping Renewal

-

ACTION DESCRIPTION

Estimated Cost= (System.Replacement Cost * System.Percent Renew)/100

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
X-	Sum for Water Supply Piping Renewal	1.00	Ea.	21,564.74	21,565
				Subtotal:	21,565
				Adjustment Factor:	1.0000
				Total:	21,565

Asset Name: Site-SOUTH WELLINGTON ELEMENTARY
Asset Number: 106308
Priority: 3- Long Term

Requirement Name	Water Well Renewal		
Linked System	Well Systems	**Inspection Date**	08/08/2011
Prime System	G3013-Well Systems	**Finish Date**	-
Category	Beyond Useful Life	**Status**	Open
Inspector	System Renewal	**Actual Cost**	0
Action Date	08/08/2014	**Estimated Cost**	6,781

REQUIREMENT DESCRIPTION

Auto generated renewal for Water Well. System Description: System includes water well located in the pump house that supplies domestic water to the facility.

PHOTOS

Water Well Renewal

-

ACTION DESCRIPTION

Estimated Cost= (System.Replacement Cost * System.Percent Renew)/100

ESTIMATE

Code	Description	Quantity	Unit	Unit Cost	Total Cost
X-	Sum for Water Well Renewal	1.00	Ea.	6,780.71	6,781
				Subtotal:	6,781
				Adjustment Factor:	1.0000
				Total:	6,781

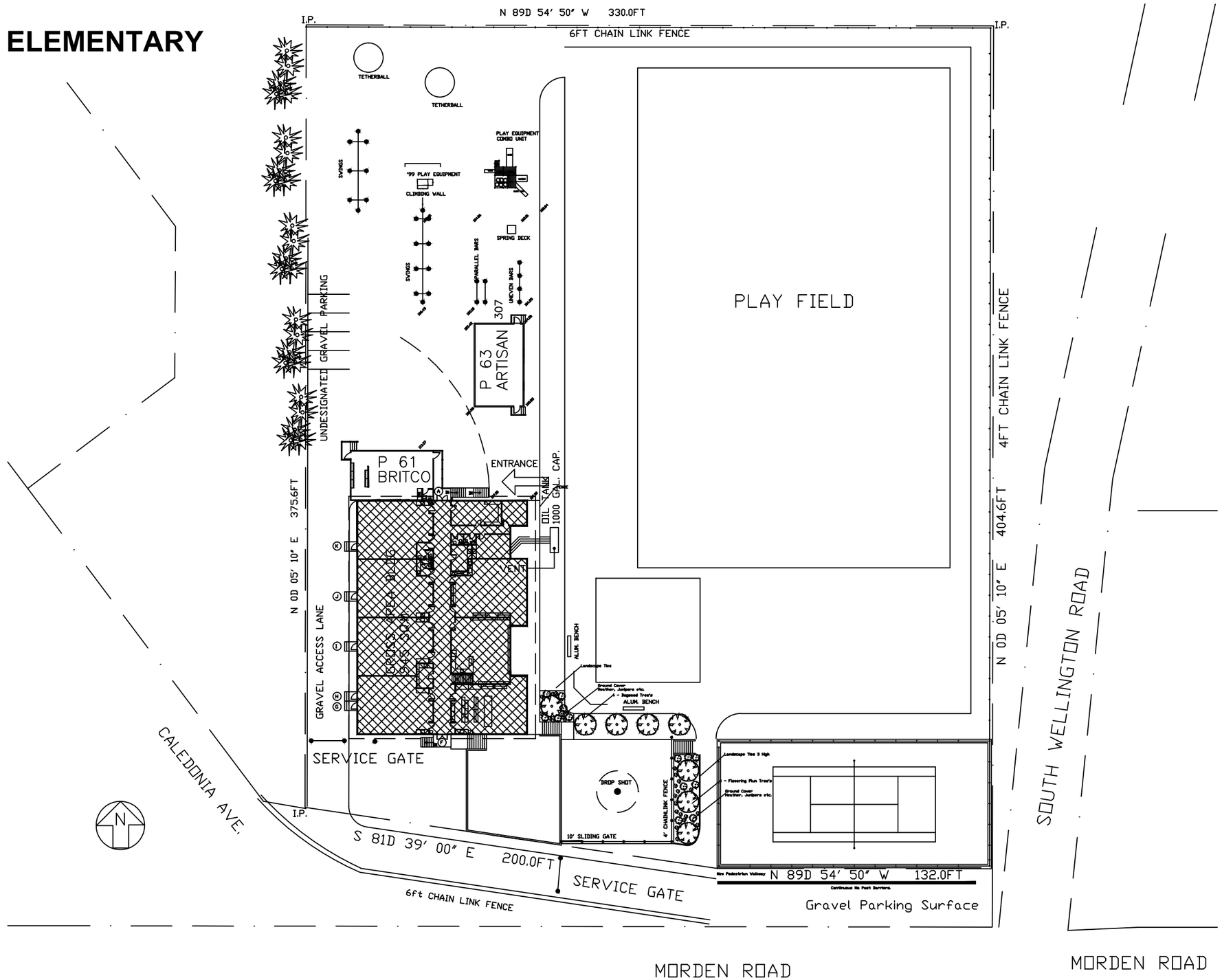
Table of Contents

SOUTH WELLINGTON ELEMENTARY

RR#4, 1536 MORDEN ROAD,
NANAIMO, V9R 5X9

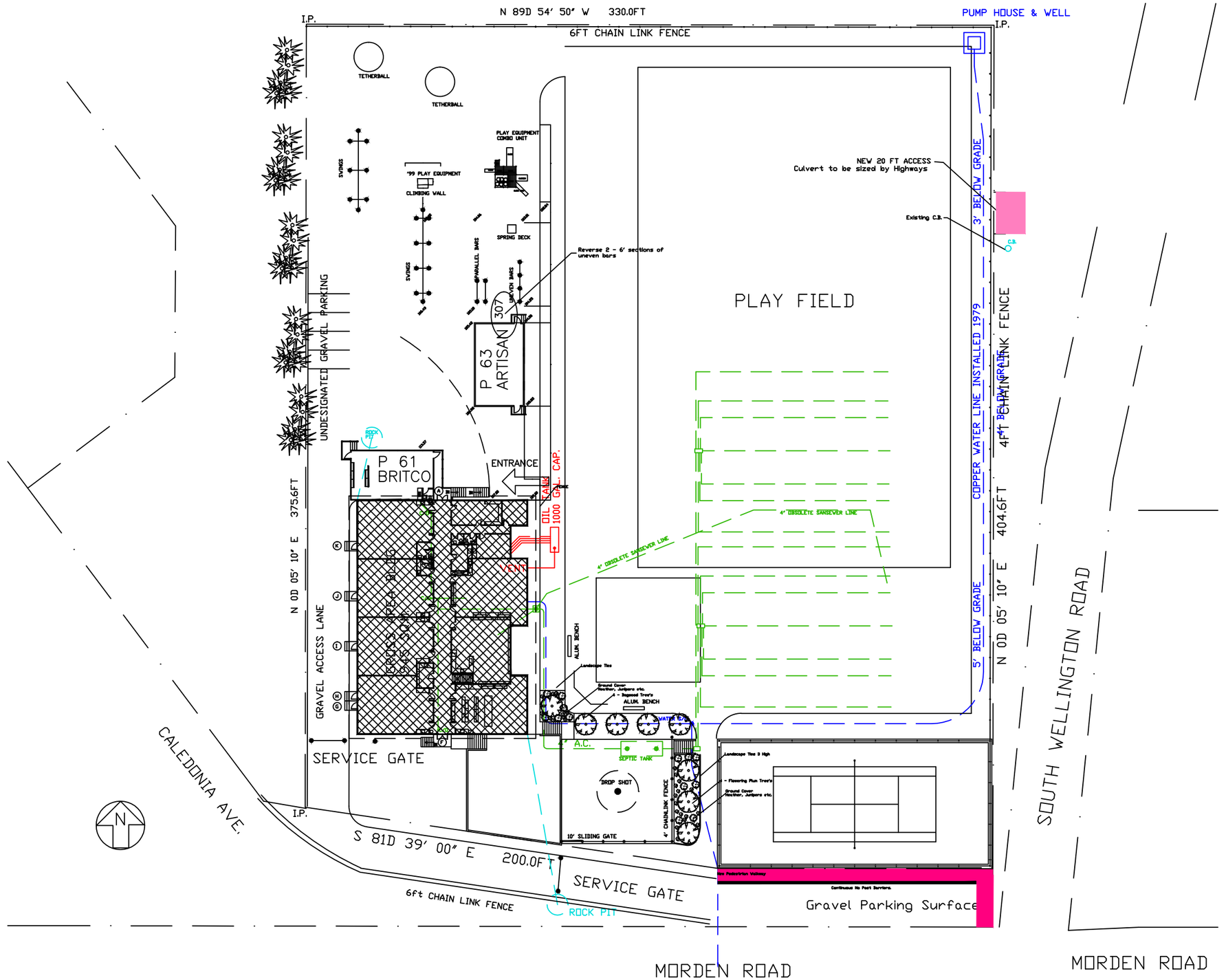
LEGAL DESCRIPTION

Legal Description: P.I.D. 006-308-376, Lot 4, Section 11, Range 7, Cranberry District, Plan 3153
Revised: 08/08, By Facilities Department. GLW

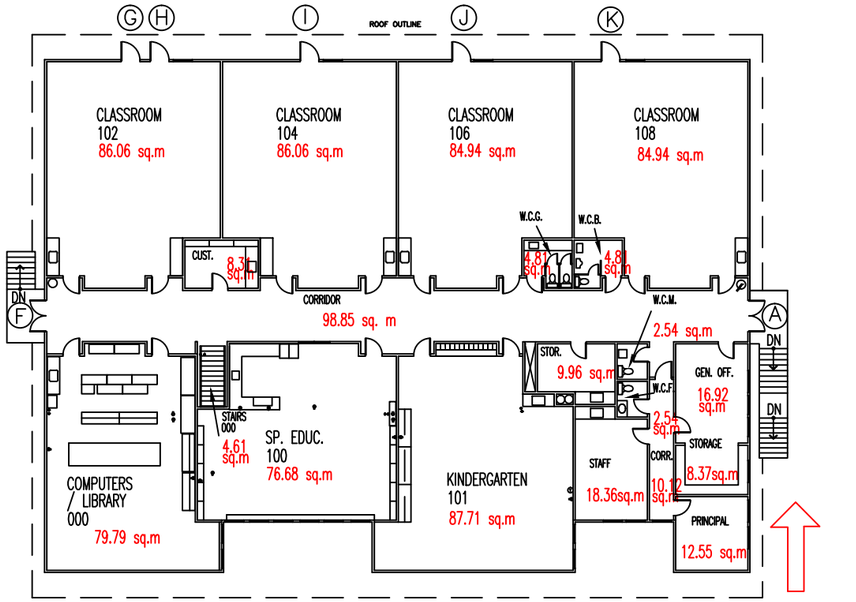


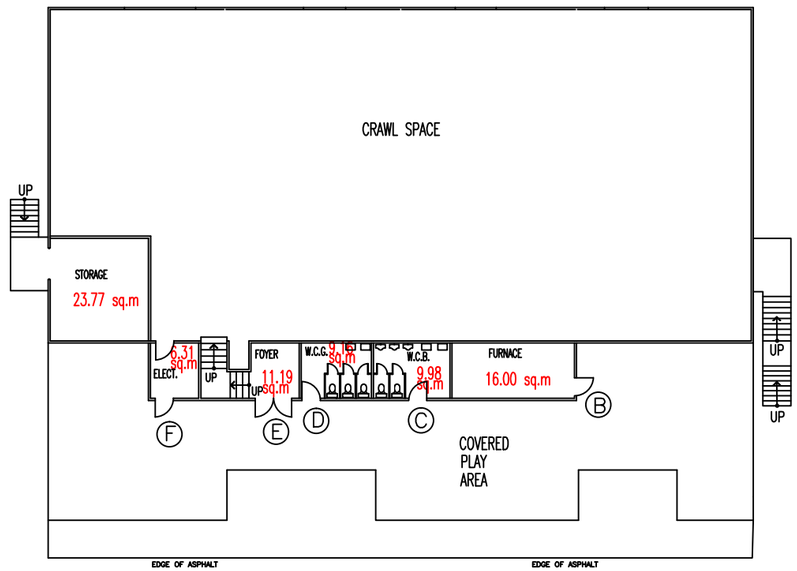
LOCATION	ADDRESS	DRAWING TITLE	DATE:	SHEET SIZE:	DRAWN BY:
SOUTH WELLINGTON ELEMENTARY	RR#4, 1536 MORDEN ROAD, NANAIMO, V9R 5X9	SITE PLAN - LEGAL	2018	B	BB
			SCALE: 1:600	SHEET #: 1 OF 1	APPROVED BY: MR

NANAIMO LADYSMITH PUBLIC SCHOOLS



	LOCATION	ADDRESS	DRAWING TITLE	DATE: 2018	SHEET SIZE: B	DRAWN BY: BB	THE NANAIMO-LADYSMITH SCHOOL DISTRICT DOES NOT GUARANTEE THE ACCURACY OF THE INFORMATION CONTAINED IN THESE DRAWINGS. ALL DRAWING DETAILS AND MEASUREMENTS SHOULD BE VERIFIED IF IMPORTANT.
NANAIMO LADYSMITH PUBLIC SCHOOLS	SOUTH WELLINGTON ELEMENTARY	RR#4, 1536 MORDEN ROAD, NANAIMO, V9R 5X9	SITE PLAN - UTILITIES	SCALE: 1:600	SHEET #: 1 OF 1	APPROVED BY: MR	





CONFINED SPACES

1 – Water Cistern Located At Well Site
2 – Water Holding Tank 3000 Gal.
In Crawl Space Under The Bldg.
18' Oval Access Hatch

ENCLOSED SPACES

Floor Hatches

1 – Door To Crawl Space Through Storage Room #
2 – Furnace Filter Hatch (Furn. Rm.)
3 – Furnace Filter Hatch (Furn. Rm.)

NANAIMO LADYSMITH PUBLIC SCHOOLS

LOCATION:
381 S. WELLINGTON ELEMENTARY SCHOOL

ADDRESS:
RR#4, 1536 MORDEN ROAD, NANAIMO, B.C., V9X 1S2

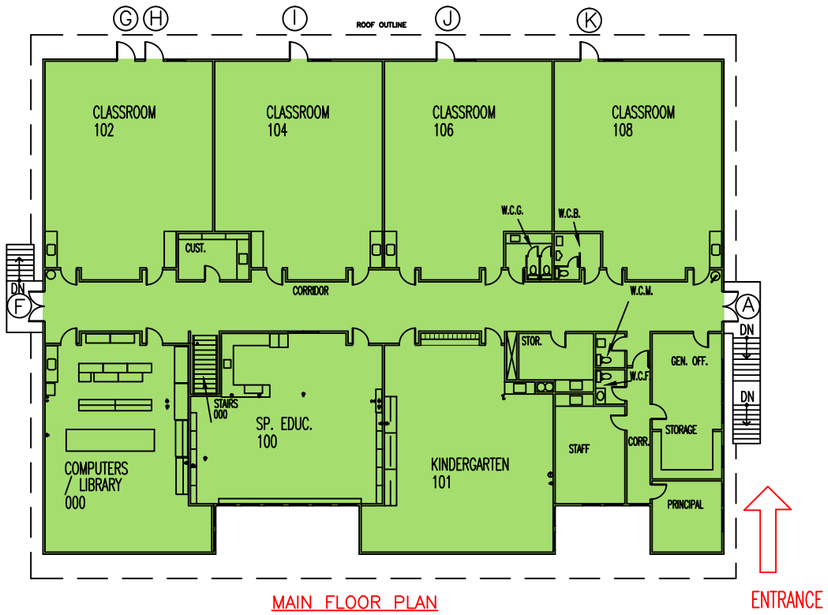
DRAWING TITLE:
FLOOR PLAN - 03

DRAWN BY:	APPROVED BY:
G.L.W.	B.H

UPDATED BY: G.L.W. & O.J.

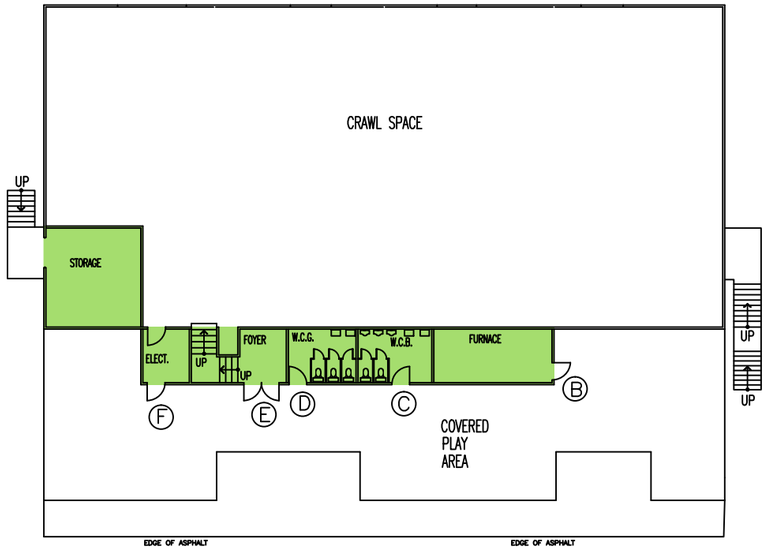
DATE:	SCALE:
08-2019	SCALE

SHEET SIZE:	SHEET #:
B	-



MAIN FLOOR PLAN

ENTRANCE



N

1969 ORIGINAL = 944.0m2

TOTAL AREA BLDG. = 944.0m2

NANAIMO LADYSMITH PUBLIC SCHOOLS

LOCATION:
381 S. WELLINGTON ELEMENTARY SCHOOL

ADDRESS:
RR#4, 1536 MORDEN ROAD, NANAIMO, B.C., V9X 1S2

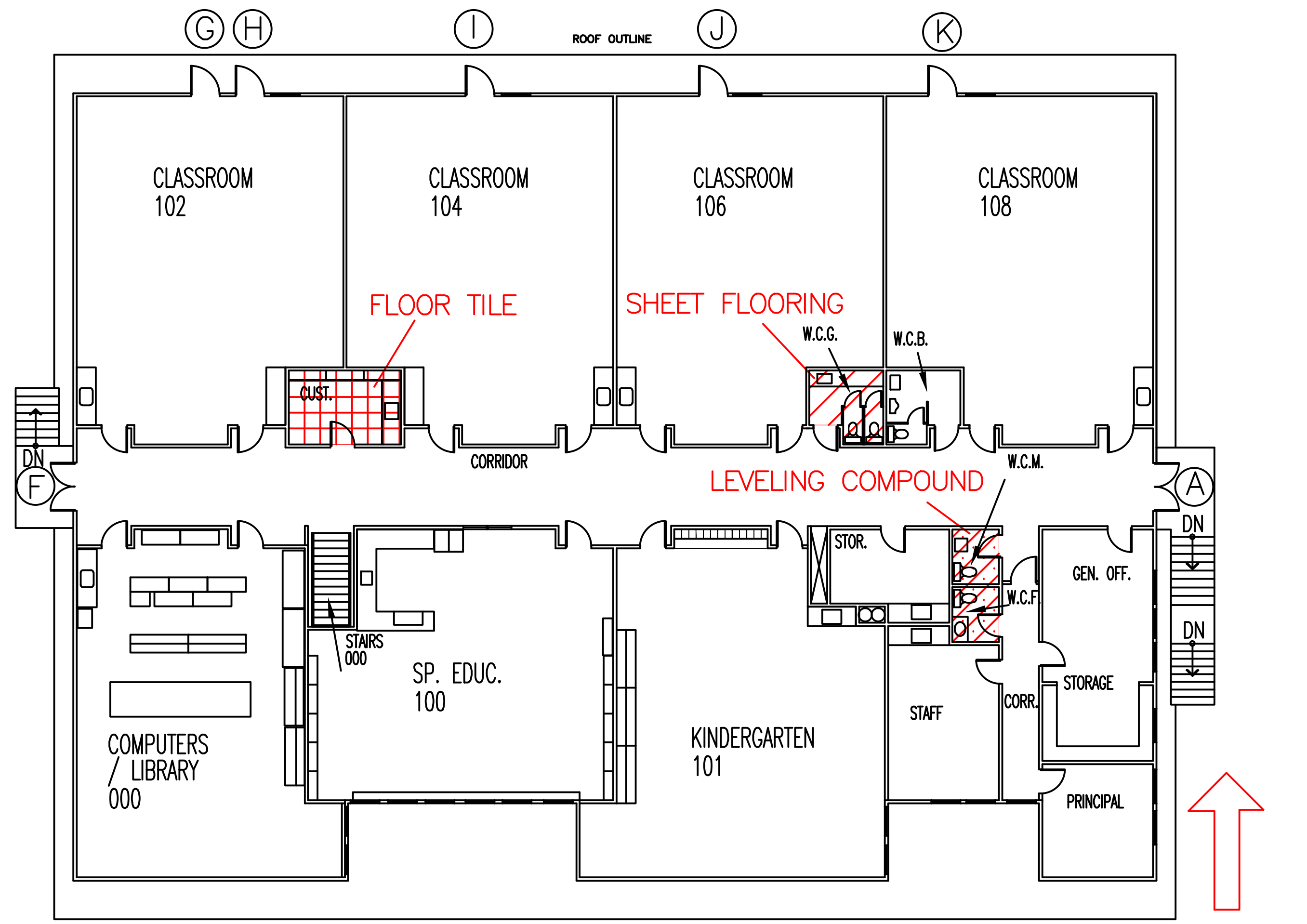
DRAWING TITLE:
CONST. HISTORY - 04

DRAWN BY:	APPROVED BY:
G.L.W.	B.H

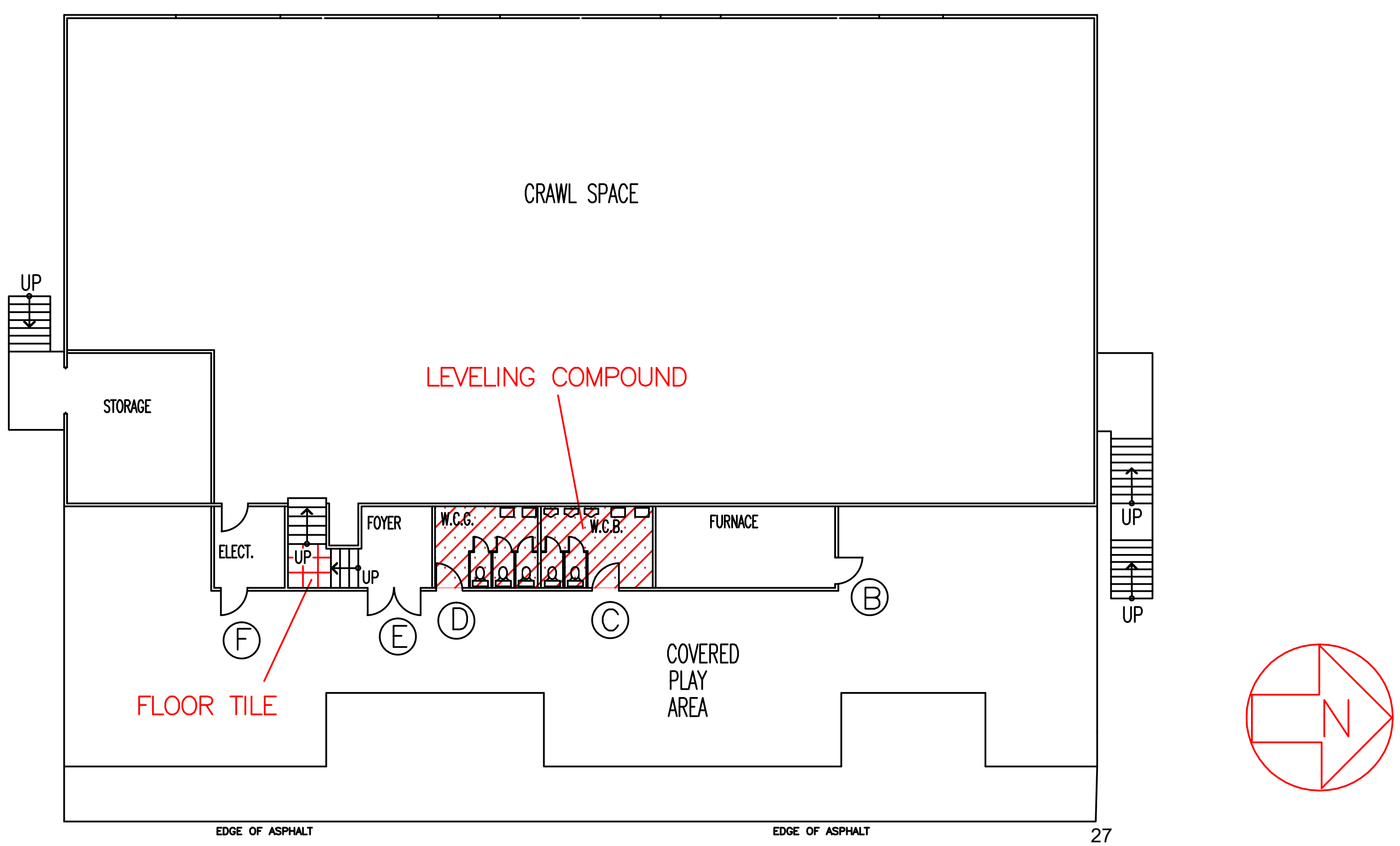
UPDATED BY:
G.L.W. & O.J.

DATE:	SCALE:
08-2019	SCALE

SHEET SIZE:	SHEET #:
B	-



MAIN FLOOR PLAN



27

LEGEND

- SHEET FLOORING
- FLOOR TILE
- LEVELING COMPOUND
- DRYWALL FILLER THROUG
- DUCT CAULKING IN CON(LOCATIONS.
- CONCRETE BLOCKS MAY FILLED WITH ASBESTOS–CONTAINING VERMICULITE.

AREAS THAT MAY CONTAI ASBESTOS

- ARTISAN PORTABLE – FL

NANAIMO LADYS
PUBLIC SCH(

NANAIMO - LADYSMITH PUBLIC SCHOOLS
395 WAKESIAH AVENUE
NANAIMO, B.C., V9R 3K6

PROJECT TITLE
ASBESTOS ASSESSMENT SU

DRAWING TITLE
381–South Wellington Elem. S
1536 Morden Road
Nanaimo, B.C.

DRAWN BY / UPDATED BY	DATE
GLW, KM	FEB. 2
APPROVED DB	DATE –
INSPECTED / UPDATED DB, BS, KE	SHEET NO. 1 OF