



Dec 12 2025

Capital Regional District
#108, 121 McPhillips Avenue
Salt Spring Island, BC V8K 2T6

RE: Ganges Firehall Repurposing Evaluation

BC BUILDING CODE REPORT OUTLINE

INTRODUCTION:

This assessment report has been prepared to support consideration for the renovation and change of use of the former Ganges Fire Hall (constructed circa 1960) into a community assembly facility suitable for uses such as a community hall or indoor farmers market.

The report identifies applicable provisions of the British Columbia Building Code (BCBC 2024), evaluates the existing conditions based on existing engineering reports, and outlines mandatory upgrades required to support a new assembly occupancy with an occupant load of 150 persons.

We conducted a site review on October 17 2025 and measured the existing building, along with a general exploratory review of the condition of the building, its current configuration, and limitations from a code perspective.

PROJECT SCOPE:

The assessment report includes two concept design options to bring the building into compliance. Each option requires:

- Change of occupancy from Fire Hall (F2 / F3) to Assembly Occupancy, Group A2/A3.
- Upgrading all mechanical and electrical systems.
- Complete roof replacement and building envelope repairs.

- Interior renovation including new washrooms sized for 150-person occupancy.
- Required accessibility upgrades per BCBC Section 3.8.
- Hazardous materials abatement.
- Installation of fire protection and life-safety systems required for Assembly Use.

Supporting documentation from prior assessments confirms significant deficiencies in existing building systems, supporting the need for complete modernization.

APPLICABLE CODES & STANDARDS

- **BC Building Code (BCBC), 2018 or 2024 edition**, Division A, B & C
- **BC Fire Code**
- **ASHRAE 62.1 – Ventilation for Acceptable Indoor Air Quality**
- **NFPA 13 – Installation of Sprinkler Systems**
- **CAN/ULC S524 – Installation of Fire Alarm Systems**
- **CAN/CSA B651 – Barrier-Free Design**
- Local authority bylaws and heritage conservation area requirements

OCCUPANCY CLASSIFICATION (BCBC 3.1.2)

Primary Occupancy:

Group A, Division 2 or 3 (Assembly Occupancy) – consistent with community hall, meeting space, or farmers market.

Secondary/Accessory Areas:

- Group D – Administrative / office spaces
- Group E – Small mercantile (if included as vendor space)
- Service rooms – boiler/mechanical/electrical rooms

BUILDING HEIGHT & AREA (BCBC 3.2.2)

- **Existing Building:** 1 storey, wood-frame over concrete slab-on-grade.
- **Estimated Building Area:** Approx. 1,385 m² (site size; building footprint ~90% of site).

Conversion to Group A typically demands non-combustible construction or sprinkler protection for compliance.

Given the age and combustible construction, adding a fire suppression system to the building will be the most practical compliance path.

LIFE SAFETY UPGRADES REQUIRED FOR ASSEMBLY USE

Sprinkler System (BCBC 3.2.5)

The existing fire hall is non-sprinklered. Assembly occupancies of this size (>150 persons) require:

- Full NFPA 13 automatic sprinkler system throughout.
- New water service sizing to support sprinkler demand.
- Fire Department Connection (FDC).

Fire Alarm System (BCBC 3.2.4)

A new addressable two-stage fire alarm is required for assembly use, including:

- Manual pull stations
- Smoke/heat detection
- Audible/visual signal devices
- Fire alarm annunciator
- Monitoring

Egress Requirements (BCBC 3.3 & 3.4)

For 150-person occupant load, required upgrades include:

- Minimum 2 remote exits
- Exit width sized for 150 people (6 mm per person)
- Maximum travel distance compliance
- Barrier-free egress
- Exit signage with emergency power
- Exterior exit discharge pathway improvements
- Increase in health facilities (water closets).

Fire Separations (BCBC 3.2.1)

Renovation must provide compliant fire separations between:

- Assembly spaces
- Service rooms

- Storage rooms
- Mechanical/electrical rooms

Mechanical report confirms existing boiler room is not compliant due to unsealed penetrations and lack of ventilation controls.

2020 Rocky Point Engineering Mechanical Assessment Report

MECHANICAL SYSTEM COMPLIANCE (BCBC PART 6)

The mechanical system is obsolete, unsafe, and unsuitable for assembly occupancy.

Key findings from the Mechanical Assessment:

- Oil-fired boiler is beyond service life, inefficient, and unventilated properly.

2020 Rocky Point Engineering Mechanical Assessment Report

- No carbon monoxide detection in areas containing combustion appliances.
- Ventilation relies on operable windows and recirculating fans—not BCBC-compliant.
- Apparatus bay exhaust system nonfunctional, posing air contamination risk to public spaces.
- Plumbing systems undersized and hot water tanks unrestrained/undersized.

Required Mechanical Upgrades

- Install complete new HVAC system with:
 - Mechanical ventilation per ASHRAE 62.1
 - Heating/cooling suitable for assembly occupancy
 - CO detection if any combustion appliances remain
- Full replacement of domestic water piping and hot water systems
- Provide ventilation for kitchen or food vendor areas (BCBC 6.2.2)
- Mechanical room upgrades with fire separations and proper combustion air

ELECTRICAL SYSTEM COMPLIANCE

Electrical upgrades required (per mechanical/equipment assessments and new occupancy needs):

- Replace all end-of-life electrical systems

- Increase electrical service capacity
- Add dedicated circuits for HVAC, lighting, accessibility devices
- Install emergency lighting and exit signage
- Provide additional receptacles for market vendors if applicable

Electrical report (Appendix F) was referenced in the Scope of Work but not provided; however, based on mechanical report conditions, full upgrade is assumed.

ACCESSIBILITY REQUIREMENTS (BCBC 3.8)

A full barrier-free upgrade is required:

Required improvements:

- Accessible building entrance
- Barrier-free path through all public spaces, including exterior areas and access to building
- New universal washroom(s)
- Accessible stalls & fixtures within multi-user washrooms
- Door hardware upgrades
- Clear floor space, turning radii, and maneuvering areas
- Visual alarms connected to the fire alarm system

PLUMBING FIXTURE REQUIREMENTS

For an occupant load of 150 persons:

Minimum Fixture Counts (BCBC Table 3.7.2.2)

Final fixture count required after programming; typical requirements include:

- **Water closets:**
 - 1 per 75 males + 1 per 75 females
- **Lavatories:**
 - 1 per 100 occupants
- **Universal washroom:** Minimum one required

The existing facility contains only one staff shower and minimal fixtures; full washroom construction is required.

Mechanical report confirms undersized and unrestrained hot water tanks.

BUILDING ENVELOPE & STRUCTURAL REQUIREMENTS

Roof Replacement

Roof is at end of life, exhibiting failure indicators:

- Severe ponding
- Biological growth
- Multiple patches and tarped areas
- Deteriorated flashings & membrane failure

2020 Herold Engineering Building Condition Assessment Report

A full replacement of both roofing assemblies is required, with slope correction and new drainage.

Structural Considerations

- Confirm structural capacity for assembly live loads (typically 4.8 kPa for assembly spaces).
- Review termite-damaged framing areas (previous repairs noted).

2020 Herold Engineering Building Condition Assessment Report

- Confirm lateral resistance capacity given age and change of use.

HAZARDOUS MATERIALS ABATEMENT

The Stage 1 PSI notes:

- Likely asbestos-containing materials in walls, ceilings, and older building components.

North West Engineering Stage 1 Preliminary Site Investigation

WorkSafeBC requires a full hazardous materials survey and abatement prior to renovation.

ENVIRONMENTAL CONSIDERATIONS

The Stage 1 PSI concludes:

- No further environmental investigation required.
- No contamination on-site; surrounding contamination previously remediated with a Certificate of Compliance.
- *North West Engineering Stage 1 Preliminary Site Investigation*

No environmental remediation required prior to renovation.

SUMMARY OF REQUIRED UPGRADES

To convert the Fire Hall into a community assembly building, the following upgrades are mandatory:

Life Safety

- Full sprinkler system
- New fire alarm system
- Adequate egress & signage

Mechanical/Electrical

- Complete HVAC replacement
- New plumbing systems
- New electrical systems
- New kitchen exhaust (if applicable)

Architectural

- New washrooms (150-person occupancy)
- Barrier-free upgrades
- Repair/replace doors, windows, finishes

Envelope/Structural

- Full roof replacement
- Structural verification of roof and floor loads
- Envelope repairs (cladding, windows, flashing)

Environmental

- Hazardous materials abatement (asbestos/lead)
- No soil remediation required

Site

- Removal of existing parking configuration and access points
- Regrading to provide access to building and new parking layout (13 stalls provided, **variance required**).
- Landscaping as required by AHJ development bylaws.

CONCLUSION

Based on the uploaded reports and BC Building Code requirements, the existing Fire Hall building cannot support assembly occupancy without substantial upgrades. The proposed renovation must include complete modernization of building systems, new fire and life-safety protection, accessibility compliance, interior reconfiguration, and building envelope replacement.

Once these upgrades are completed to the satisfaction of the Authority Having Jurisdiction, the building may be safely reclassified as an Assembly Occupancy intended for public use.

We have provided two Class D estimates for the work, attached. The first is for the renovation of the existing space into a usable Assembly Occupancy. This estimate includes the Summary of Required Upgrades as listed above.

The second estimate is for the demolition of the existing building, including asbestos abatement and removal of foundations. Class D estimates are accurate to approximately +/-30%.

Sincerely,



Tanis Frame
Architect AIBC, LEED AP

GANGES FIREHALL REPURPOSE

SALTSpring ISLAND

PREPARED BY
THUJA ARCHITECTURE STUDIO LTD.

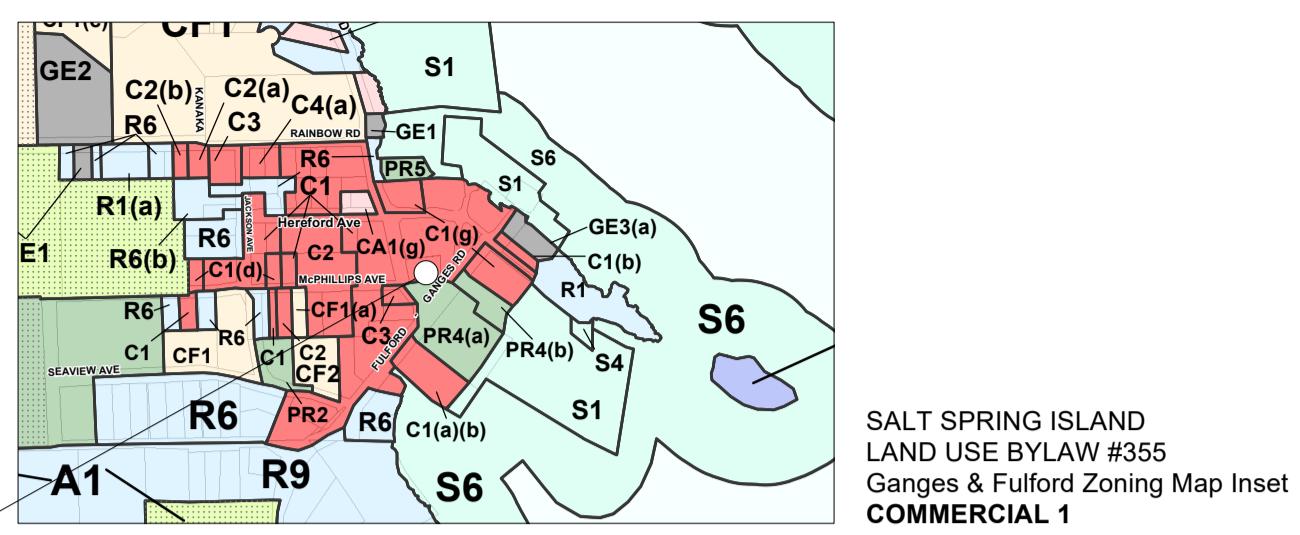
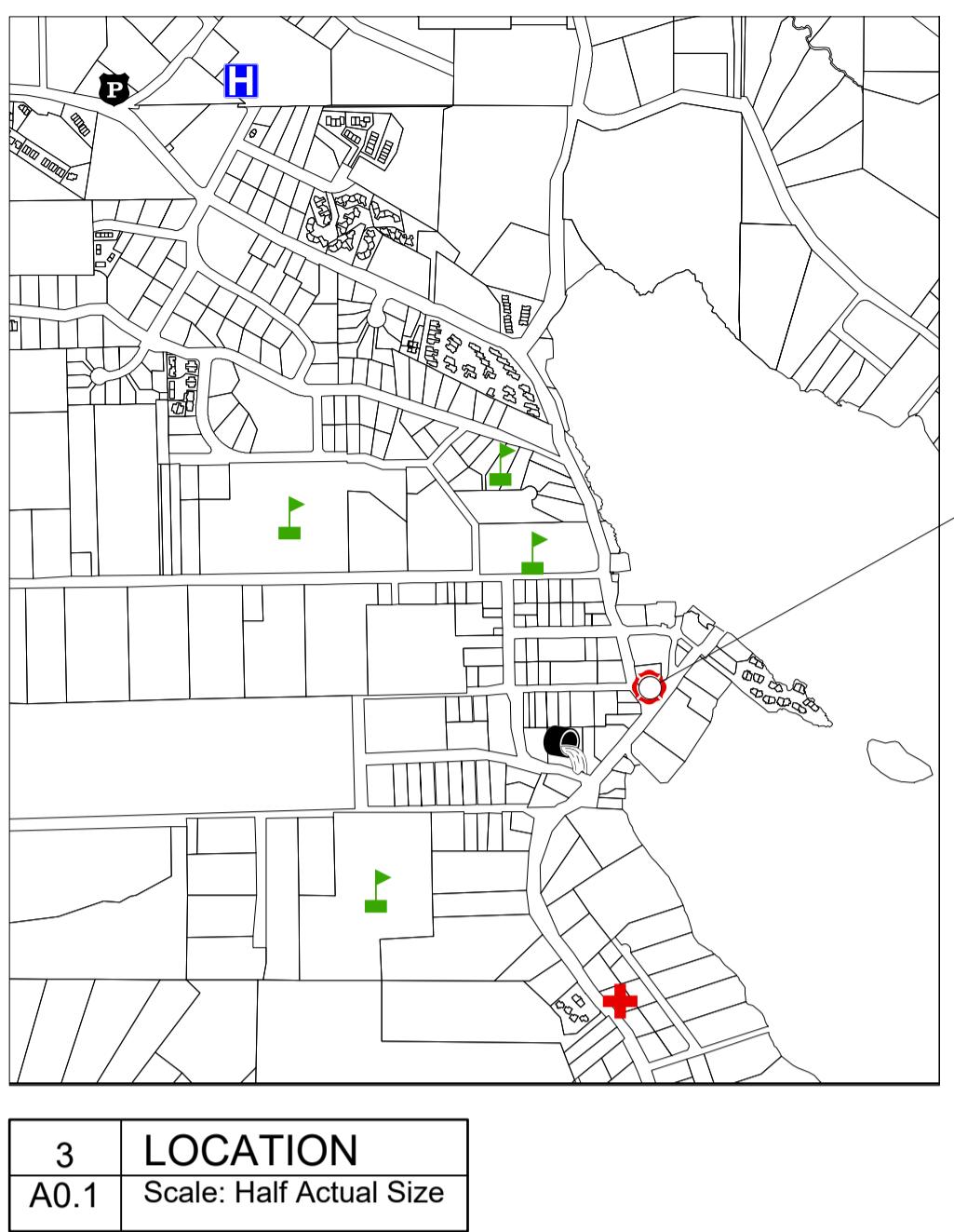
NOVEMBER 2025

ISSUED FOR REVIEW



CONTRACTOR TO VERIFY ALL LINES, LEVELS, SIZES AND DIMENSIONS, LOCATION OF BUILDINGS ON SITE AND LOCATION OF ALL SERVICES PRIOR TO CONSTRUCTION. ALL WORK TO BE DONE IN ACCORDANCE WITH THE B.C. BUILDING CODE, CURRENT EDITION AND ALL LOCAL BUILDING BYLAWS.

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PROJECT INFO

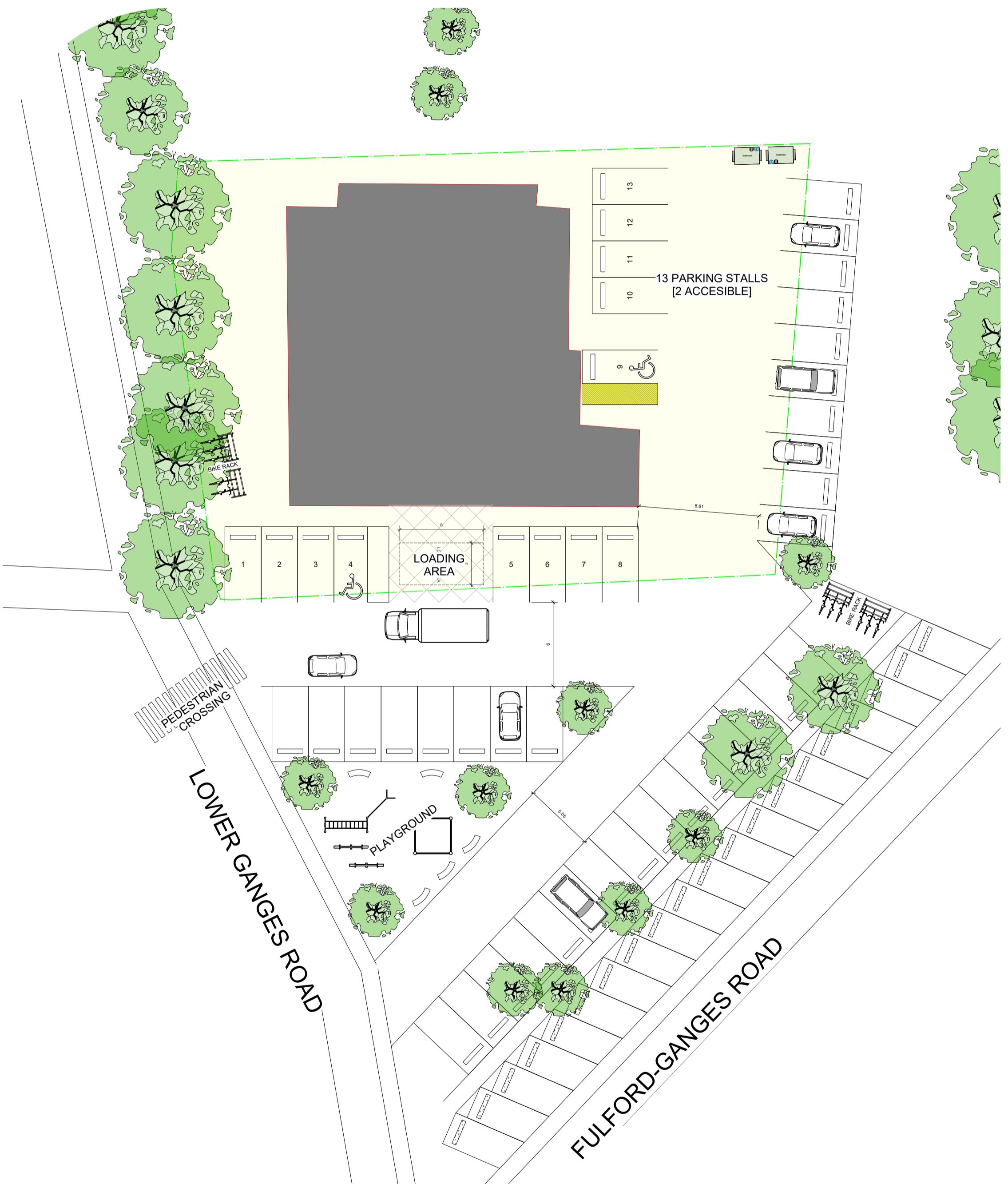
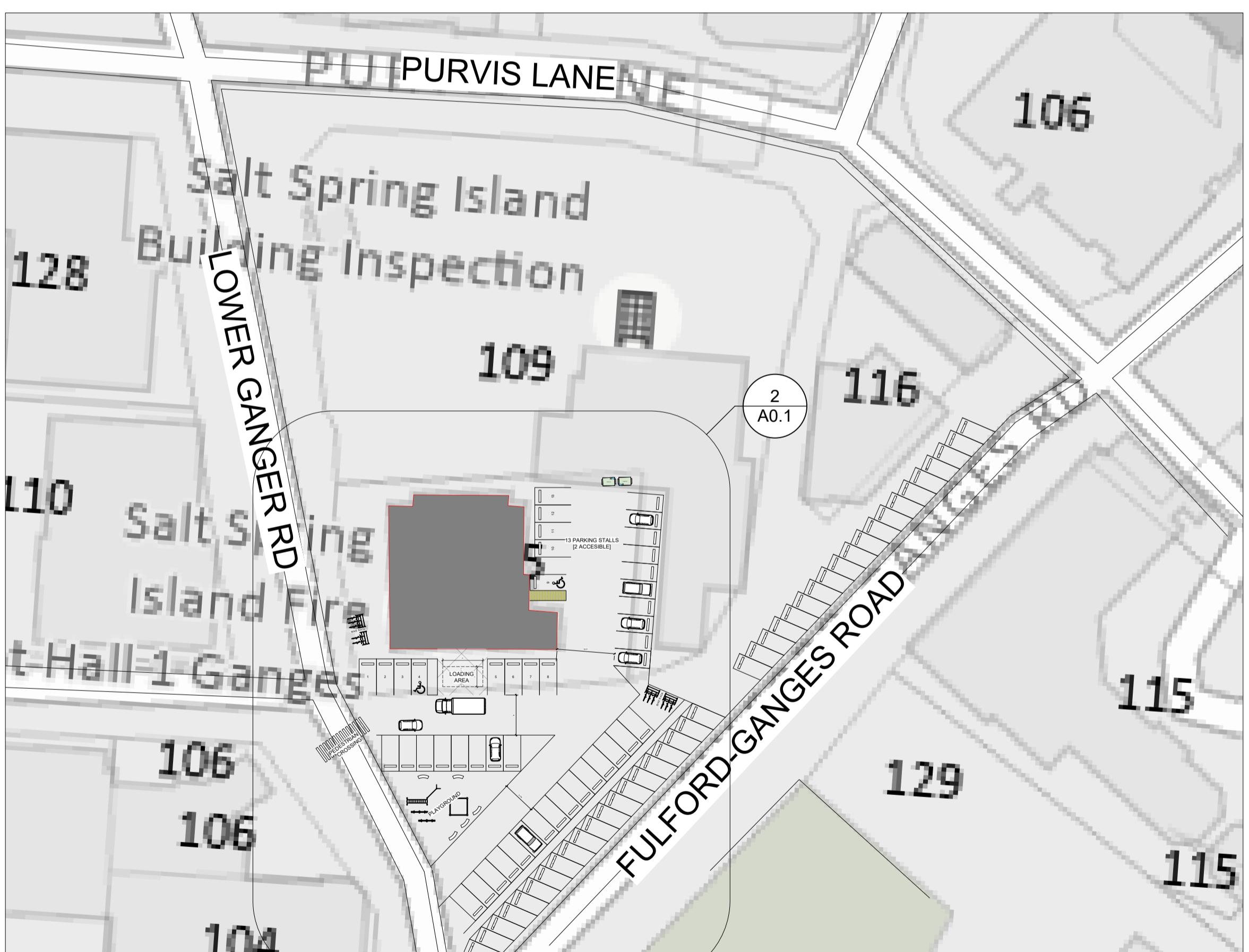
Hall name: Ganges Fire Hall (formerly Fire Hall No. 1)
Salt Spring Fire Rescue
Address: 105 Lower Ganges Road, Salt Spring Island, BC, Canada, V8K 2T1

District Lot 545
Cowichan Portion Salt Spring Island, Fire Hall (105 Lower Ganges Road, PID 007 007 876).

Zoning info
Salt Spring Island Land Use Bylaw No. 355
Schedule A zoning maps

Ganges village core
Community Facility (CF) and General Employment (GE)
CF2 + GE1

Area (m²) 1385.3891
Property ID 007-007-876



THUJA
architecture + design

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NO. DATE

ISSUED FOR REVIEW NOV 2025

PROJECT
GANGES FIREHALL REPURPOSE

PROJECT DATA
SITE

SCALE	AS NOTED	PROJECT NO.
DATE	NOV.27, 2025	DRAWN BY
		TF-GA

SHEET

A1.0

Project Name: **Ganges Firehall**

Project Number: renovation

GFA: 4,187 SF

Project Address:

Site Area:

Estimator:

\$/SF

533.02 (NIC soft & site costs)

Date:

Est. Duration:

12.00 months

DESCRIPTION	NOTES	QTY	UNIT	\$/UNIT	SUB TOTAL	TOTAL
SOFT COSTS						198,527
Blue Print Copies					1,000	
Licenses & Permits					10,000	
DCC Charges						
Project Insurance					8,027	
Bonding					0	
BC Hydro Hook-up	permanent power connection, if applicable				3,000	
Coordinating Reg. Professional					63,000	
Building Envelope Engineer					10,000	
Structural Engineer					30,000	
Mechanical Engineer					30,000	
Electrical Engineer					15,000	
Civil Engineer					5,000	
Landscape Architect					3,000	
Surveyor	not building layout, see 01895 for construction surveying				4,500	
Consultant Contingency					16,000	
DIVISION 1 - GENERAL REQUIREMENTS						544,820
Project Management & Administration					150,000	
Site Supervisor					155,520	
General Labour					67,200	
First Aid & Safety					9,000	
Site Office & Storage Facilities					8,400	
Site Signage	safety/directional/project sign				5,000	
Safety Fencing & Temporary Barriers					9,000	
Sanitary Facilities					6,000	
Access Roads & Traffic Control					10,000	
Environmental Protection & ESC					10,000	
Temporary Power & Utilities	Start-up framing power				16,500	
Hoarding					15,000	
Temporary Heating & Lighting					0	
Tools Allowance					5,000	
Construction Fuel	building related rentals				2,400	
Equipment Rentals	*Increase Rate by 25% for Out of town jobs				26,000	
Lift Equipment & Material Handling					21,000	
Construction Waste Management & Dispc	check local costs				12,000	
Final Cleaning	progress and final				5,400	
Building Survey					0	
Testing & Inspections					5,400	
Quality Assurance					5,000	
Manuals & As-Builts					1,000	
DIVISION 2 - SITWORK						50,540
Site Demolition	general, hazmat, rock breaking, etc.				12,000	
Site Concrete	sidewalks, sign base, retaining walls, bollards, aprons				0	16,000
Paving	grade changes					19,040
Paving Crush & Prep.						3,500
Site Furnishings						
DIVISION 2 - BUILDING EXCAVATION						137,420
Building Demolition						12,900
Demolition Disposal Bins						27,520
Haz-Mat Removal						97,000
DIVISION 5 - METALS						10,000
DIVISION 6 - WOOD & PLASTICS						60,000
Architectural Woodwork	Allowance for kitchen/ public areas					60,000

DESCRIPTION	NOTES	QTY	UNIT	\$/UNIT	SUB TOTAL	TOTAL
DIVISION 7 - THERMAL & MOISTURE						347,230
Fenestration						147,000
Roofing	modified bitumen roof System					200,230
DIVISION 8 - DOORS & WINDOWS						278,360
Doors & Hardware	commercial steel doors with panic					9,360
Overhead Doors	re&re to energy compliant					24,000
Skylights	existing locations					6,000
Commercial Glazing	100SF of window wall/ aluminum doors and windows					195,000
DIVISION 9 - FINISHES						300,750
Drywall, Insulation & Steel Stud						140,000
Tile	washroom floors and entry					31,000
Int Finishes	Trim and Casing					20,150
Flooring	Includs Flash cove.					80,000
FRP	washroom walls					7,600
Paint						22,000
DIVISION 10 - SPECIALTIES						19,150
Washroom Accessories/Partitions						14,700
Interior Signage						1,250
Flag Poles						
DIVISION 11 - EQUIPMENT						66,000
Appliances	Commercial Kitchen					66,000
DIVISION 12 - FURNISHINGS						0
Window Treatments						
DIVISION 15 - MECHANICAL						352,000
Plumbing & Mechanical	Commercial washrooms & RTU					264,000
Fire Protection & Sprinklers						88,000
DIVISION 16 - ELECTRICAL						116,000
Electrical						116,000
MISCELLANEOUS						0
Cash Allowance						
Contingency Allowance						
					Sub Total	2,480,797
					Overhead (4%)	99,232
					Contracting Fee (10%)	258,003
					TOTAL	2,838,032

Project Name: **Ganges Firehall**

Project Number: Demolition

GFA: 4,137 SF

Project Address:

Site Area:

Estimator:

\$/SF

69.67 (NIC soft & site costs)

Date:

Est. Duration:

4.00 months

DESCRIPTION	NOTES	QTY	UNIT	\$/UNIT	SUB TOTAL	TOTAL
SOFT COSTS						9,975
DIVISION 1 - GENERAL REQUIREMENTS						75,620
Project Management & Administration	ALL JOBS					12,500
Site Supervisor						25,920
General Labour						11,200
First Aid & Safety						1,500
Site Office & Storage Facilities						2,900
Site Signage	safety/directional/project sign					900
Safety Fencing & Temporary Barriers						1,300
Sanitary Facilities						900
Temporary Power & Utilities	Start-up framing power					9,000
Hoarding						3,500
Building Survey						1,500
Testing & Inspections	soil sampling once building is removed					4,500
DIVISION 2 - SITEWORK						59,025
Site Demolition	foundation removal					27,900
Concrete Cutting & Grinding	demo, exterior					3,000
Site Prep & Clear	After Building demo					6,000
Trucking	concrete spoil					3,600
Dump Fees	if it is reinforced or not free .19/lb					18,525
DIVISION 2 - BUILDING EXCAVATION						212,603
Building Demolition	everything but concrete					78,603
Demolition Disposal Bins						37,000
Haz-Mat Removal						97,000
MISCELLANEOUS						0
Cash Allowance						
Contingency Allowance						
				Sub Total	357,223	
				Overhead (4%)	14,289	
				Contracting Fee (10%)	37,151	
				TOTAL	408,663	