



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

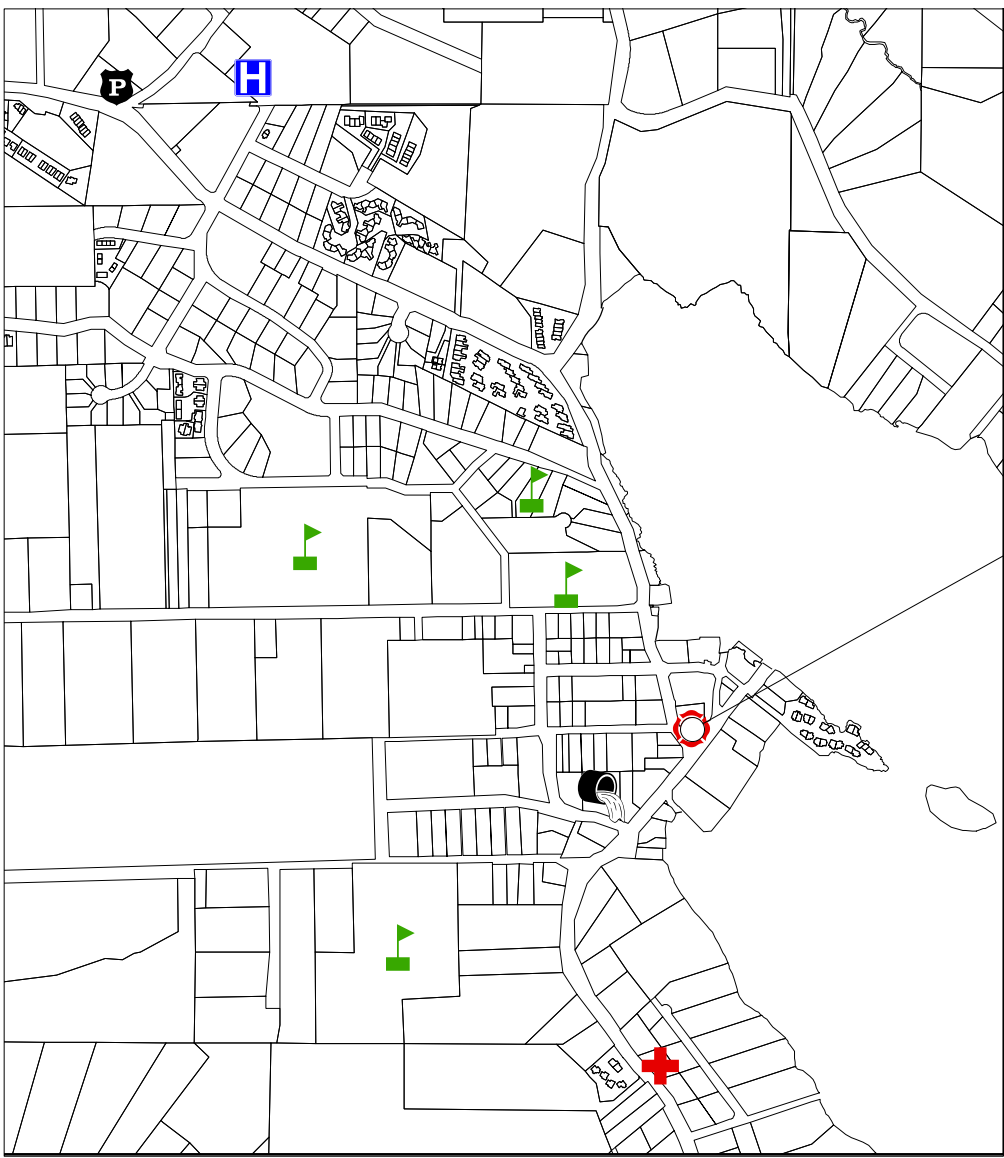
SALTSPRING ISLAND

**PREPARED BY
THUJA ARCHITECTURE STUDIO LTD.**

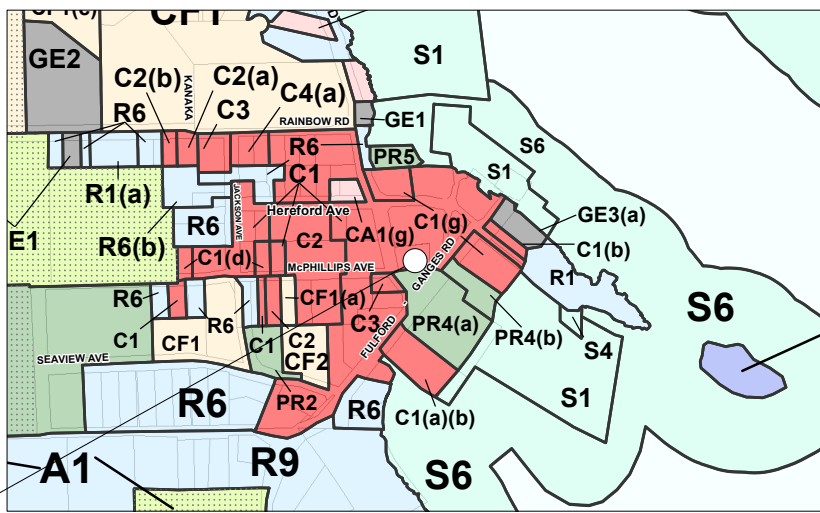
NOVEMBER 2025

ISSUED FOR REVIEW





3	LOCATION
A0.1	Scale: Half Actual Size



4	LAND USE
A0.1	Scale: Half Actual Size

SALT SPRING ISLAND
OFFICIAL COMMUNITY PLAN
Bylaw #434, 2008
MAP 2 - Existing Community Facilities

PROJECT INFO

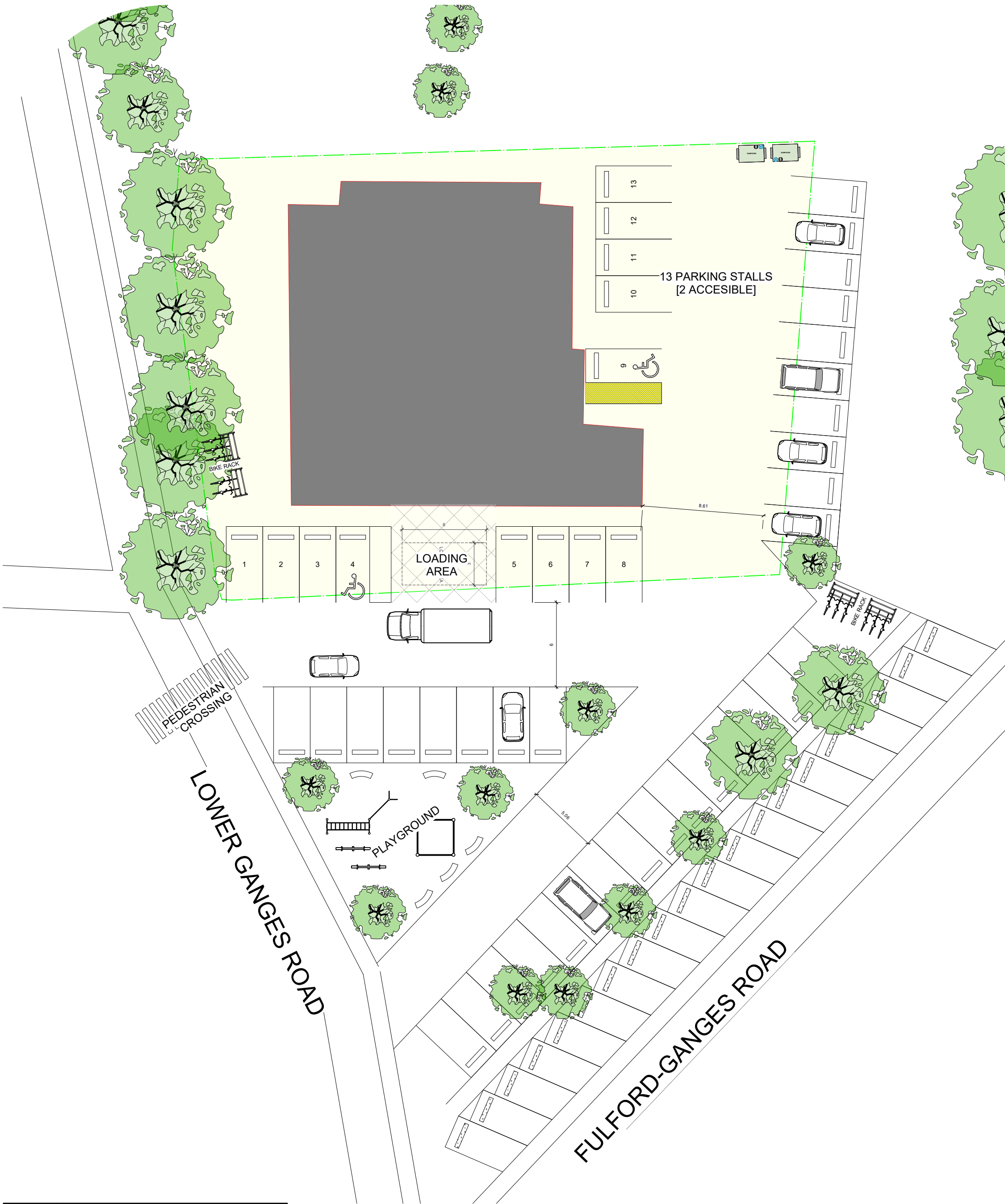
Hall name: Ganges Fire Hall (formerly Fire Hall No. 1)
Salt Spring Fire Rescue
Address: 105 Lower Ganges Road, Salt Spring Island, BC, Canada, V8K 2T1

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

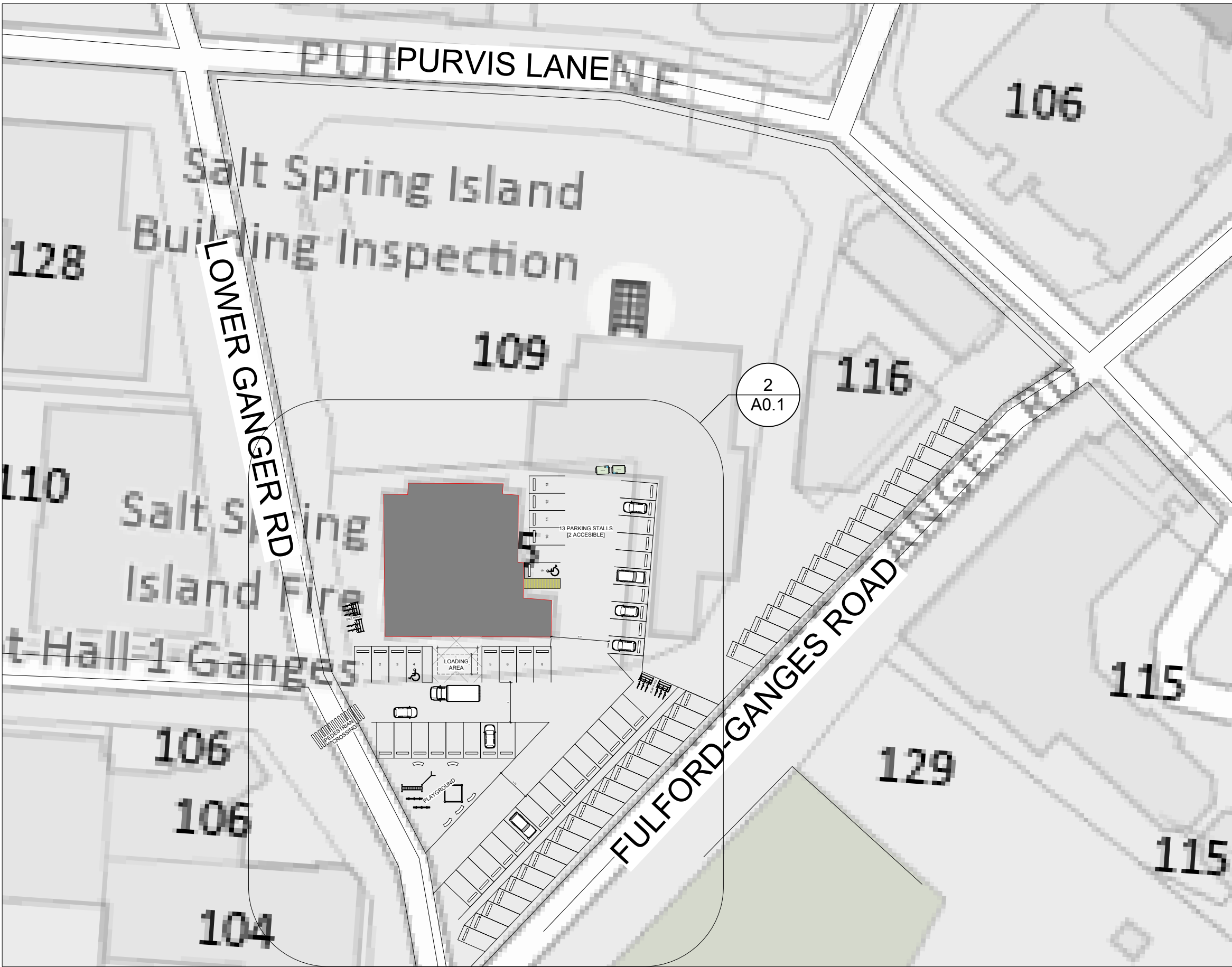
Zoning info
Salt Spring Island Land Use Bylaw No. 355
Schedule A zoning maps

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

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



2	SITE PLAN - Proposed
A0.1	Scale: 1:240



2	SITE PLAN - Lot 545
A0.1 -2	Scale: 1:600

CONTRACTOR TO VERIFY ALL LINES, LEVELS, SURVEYS, DIMENSIONS, LOCATION OF BUILDING 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.

COPYRIGHT RESERVED. THESE PLANS ARE THE PROPERTY OF THUJA ARCHITECTURE STUDIO. TO BE USED SOLELY FOR THE PROJECT SHOWN. UNAUTHORIZED REPRODUCTION OR USE IN ANY MANNER IS NOT PERMISSIBLE.



THUJA
architecture + design

Tanis Frame Architect AIBC LEED AP
PO Box 1326 Cumberland BC V0R 1S0
T: 250.650.7901 E: info@thujaarchitecture.ca

NO. DATE

ISSUED FOR REVIEW NOV 2025

PROJECT

GANGES FIREHALL REPURPOSE

DRAWING

**PROJECT DATA
SITE**

SCALE AS NOTED PROJECT NO.

DATE NOV.27, 2025 DRAWN BY TF-GA

SHEET

A1.0

COPYRIGHT RESERVED. THESE PLANS ARE THE
PROPERTY OF THUJA ARCHITECTURE STUDIO. TO
BE USED SOLELY FOR THE PROJECT SHOWN.
UNAUTHORIZED REPRODUCTION OR USE IN ANY
MANNER IS NOT PERMISSIBLE.



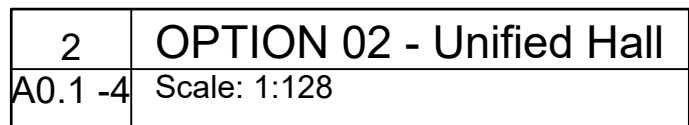
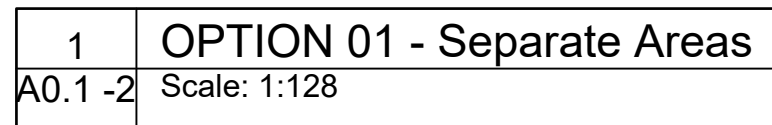
NO.	DATE
-----	------

PROJECT

GANGES FIREHALL REPURPOSE

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

A1.1



ASSEMBLY USE / Group A2/A3
Tailored for a Community Centre

BCBC Compliance Checklist

EXIT TRAVEL DISTANCES (BCBC 3.4.2)

NUMBER AND WIDTH OF EXITS (3.4.2.1, 3.4.3)

Provided exit widths:

0.75 m²/person (BCBC Table 3.1.17.1)

1100 mm clear for assembly use.
Accessible route turning clearance: 1500 mm at T intersections and at door swings.

Accessible ramp design includes:

Max slope 1:12
Landings every 9 m

Landings every 9 m
Handrails and guard

Width min 1100 mm

Width 1mm + 100 mm

Fire extinguishers every 23 m (BCFC).

Exit signs (internally illuminated).
Emergency lighting along all egress paths.

Emergency lighting along all egress
Fire alarm panel / initiating devices

fire-resistance ratings -
1 hr rated walls between uses

ASSEMBLY

STORAGE
MEQU: 51

MECH + ELEC. RMS

Net floor area	-	m2
Occupant load factor	-	0.75/m2
Total	-	150 persons

For 150 occupants:

Women: 3 toilets
Men: 2 toilets + 1

Men: 2 toilets + 1 urinal
Accessible: 1 universal

Required lavatories accessible

frequency (2000 Hz) (Fig. 2).

Farmers market / assembly spaces require minimum mechanical ventilation rates

AREA CALCULATIONS



1 HALL
248.106 sq m

2 EXTERIOR COVERED
85.306 sq m

3 VSHRM
38.832 sq m

4 KITCHEN
52.751 sq m

5 OFFICES
33.48 sq m

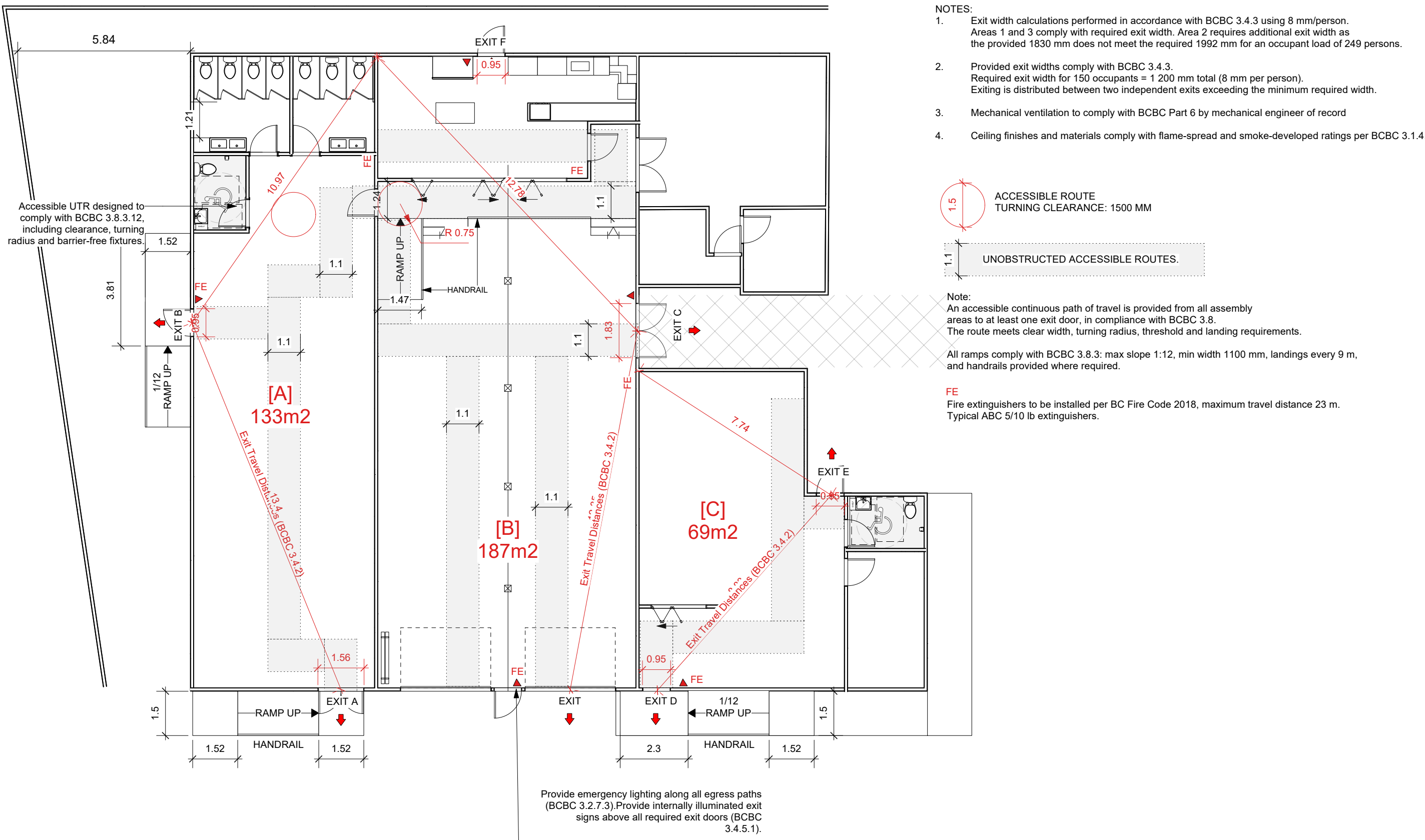
6 MECH
6.836 sq m

7 TOWER
7.714 sq m

N#	SPACE NAME	AREA
0	NET AREA	469.074 sq m
1	HALL	248.106 sq m
2	EXTERIOR COVERED	85.396 sq m
3	WSHRM	35.832 sq m
4	KITCHEN	32.751 sq m
5	OFFICES	33.48 sq m
6	MECH.	6.836 sq m
7	TOWER	7.714 sq m

CONTRACTOR TO VERIFY ALL LINES, LEVELS, SURVEYS, DIMENSIONS, LOCATION OF BUILDING 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.

COPYRIGHT RESERVED. THESE PLANS ARE THE PROPERTY OF THUJA ARCHITECTURE STUDIO. TO BE USED SOLELY FOR THE PROJECT SHOWN. UNAUTHORIZED REPRODUCTION OR USE IN ANY MANNER IS NOT PERMISSIBLE.



2	BCBC Safety Review - Diagram
A0.1 -3	Scale: 1:128



Tanis Frame Architect AIBC LEED AP
PO Box 1326 Cumberland BC V0R 1S0
T: 250.650.7901 E:info@thujaarchitecture.ca

NO.	DATE
-----	------

ISSUED FOR REVIEW NOV 2025

A1.1

Project Name: **Ganges Firehall**

Project Number: renovation

Project Address:

Estimator:

Date:

GFA: 4,187 SF

Site Area:

\$/SF 533.02 (NIC soft & site costs)

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 - SITEWORK							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	Includes 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

Project Address:

Estimator:

Date:

GFA: 4,137 SF

Site Area:

\$/SF 69.67 (NIC soft & site costs)

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