

NANOOSE BAY FIRE HALL RENEWAL PROJECT

WHY BUILD A NEW FIRE HALL



**The following information was presented to an information meeting held at
Nanoose Place on March 1, 2011.**

**In response to questions at the meeting, additional information regarding the
range of costs for upgrading versus new construction has been added to Slide
Number 4.**

NANOOSE BAY FIRE HALL RENEWAL PROJECT

WHY BUILD A NEW FIRE HALL



DISASTERS DON'T PLAN AHEAD

- Puget Sound between Tacoma & Olympia
 - **February 28, 2001** - Nisqually earthquake – 10:54 am – 6.8mR
 - Seattle – 206 persons injured due to falling masonry & non-structural building elements; major structural damage
 - City of Vancouver - relatively minor impacts but included gas line breaks, disrupted telephone service and structural damage
- Vancouver Island
 - **July 5, 2006** 3.7mR
 - **August 20, 2008** (200 kms offshore) 6.1mR
 - **July 19, 2010** 5.1mR
 - **February 15, 2011** 2.9 mR

(felt in Duncan and Saltspring Island - 3 wks after Great BC Shake Out drill)

NANOOSE BAY FIRE HALL RENEWAL PROJECT

WHY BUILD A NEW FIRE HALL ?

SEISMIC REVIEWS

- Operating Society commissioned seismic review in 2007 (Herold Engineering)
- Estimated cost of upgrades ~ \$500,000 – not to post-disaster standard -- no changes to electrical or mechanical systems, or building functionality
- Regional Board commissioned further review to consider cost and value to upgrade to post disaster standard for emergency services buildings under the BC Building Code

RESILIENT FACILITIES ENSURE THAT THE COMMUNITY VOLUNTEERS WHO RESPOND TO EMERGENCIES CAN DO SO UNDER THE MOST TRYING CIRCUMSTANCES.

NANOOSE BAY FIRE HALL RENEWAL PROJECT

WHY BUILD A NEW FIRE HALL ?



SEISMIC REVIEWS

- Seismic review of six other rural firehalls indicated construction cost to upgrade at \$331 per sq ft (2008) – does not include soft costs for detailed design, construction supervision, building permits and construction contingency
- New construction estimated at \$300 per sq ft
- Conclusion – cost to upgrade to post disaster standard high enough to warrant rebuilding
- Rebuilding could address functionality, volunteer health and safety and energy efficiency

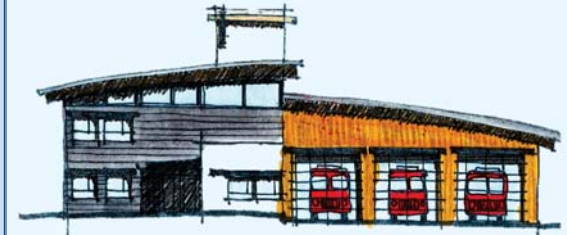
NANOOSE BAY FIRE HALL RENEWAL PROJECT

WHY BUILD A NEW FIRE HALL



GREEN BUILDING POLICY FOR REGIONAL DISTRICT BUILDINGS

- Integrated Design approach – involve all building disciplines in design meetings, as well as client to improve communications and design decisions
 - Achieve LEED Silver standard equivalent as a minimum
 - Improve energy efficiency and reduce greenhouse gas emissions
- Society members, RDN staff and consulting team have worked together to establish design of new building (July 2009 – Dec 2009)



NANOOSE BAY FIRE HALL RENEWAL PROJECT

WHY BUILD A NEW FIRE HALL



OPERATIONAL REQUIREMENTS

- Volunteers operate and maintain building
- Equipment access, storage and maintenance
- Volunteer health & safety
- Dispatching
- Training
- Administration – records management, training manuals, general office functions

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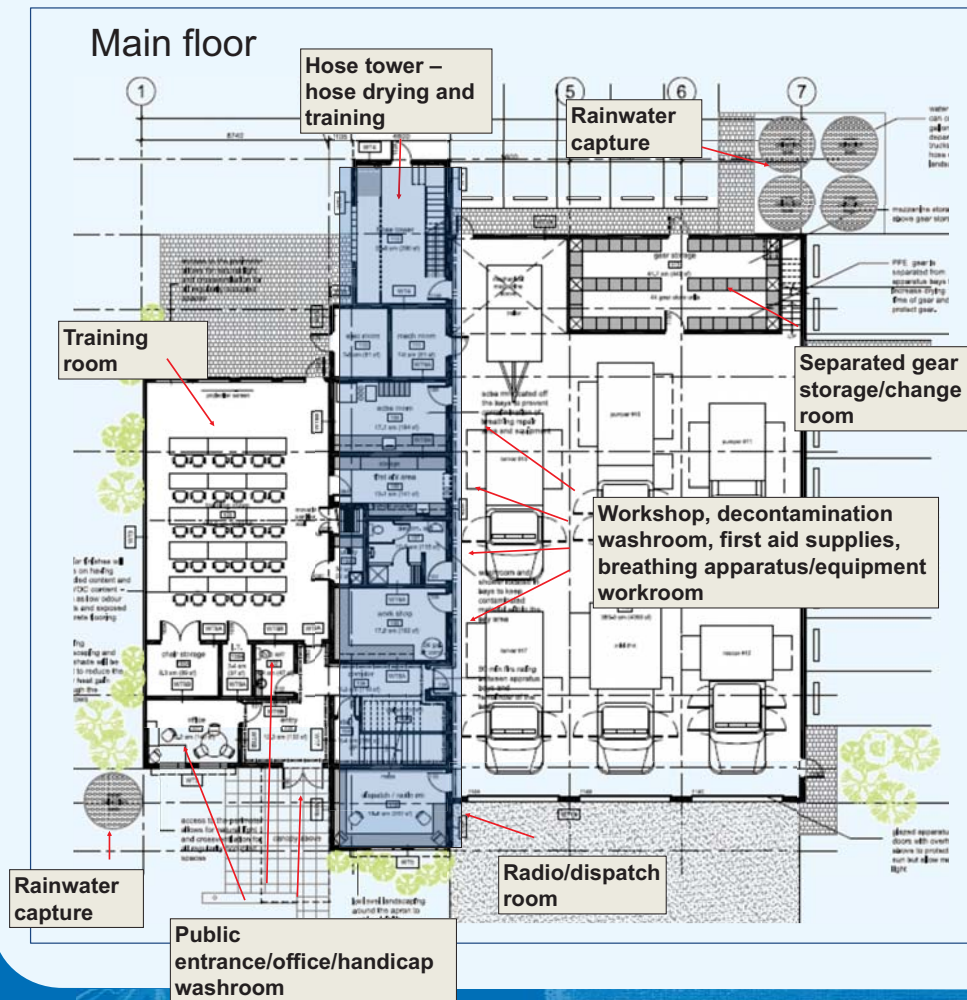
WHY BUILD A NEW FIRE HALL



BUILDING FUNCTIONALITY

- Improve layout of and use of space for training and maintaining equipment
- Separate contaminated spaces from clean spaces (WorkSafe BC)
- Reduce energy use and carbon footprint
- Flexible space – changing use over time

NANOOSE BAY FIRE HALL RENEWAL PROJECT

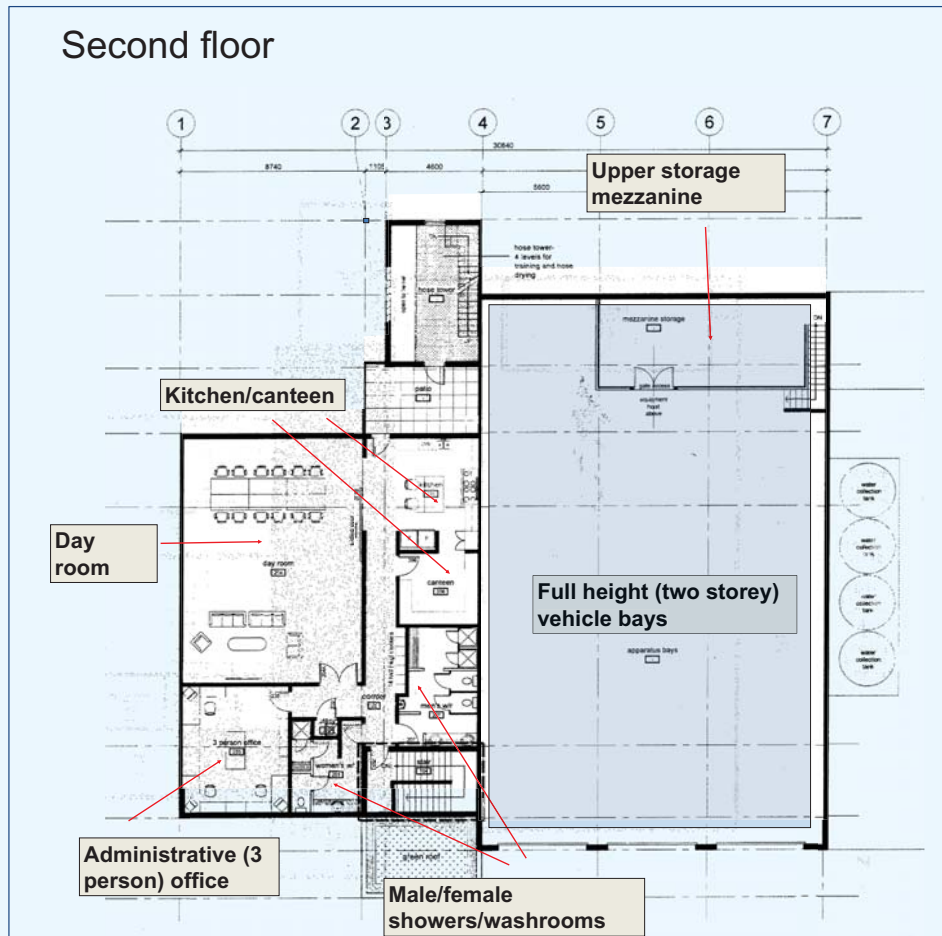


FUNCTIONAL LAYOUT

- Central workshop/electrical & mechanical spine flanked by two storey training/administrative/“living” space
- Tandem parking for seven vehicles
- Enclosed turnout gear storage/changing room in rear of vehicle bays
- Dispatch office forward of departing vehicles – better visibility and communication
- Hose tower significantly improved for training
- Training room – can be divided in two for simultaneous sessions
- Public entrance visible from street with small adjoining office

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Second floor



FUNCTIONAL LAYOUT

- Administration office – 3 person layout
- Personal effects lockers
- Open “day room” – can be converted to overnight accommodation in future
- Kitchen to serve day room
- Washrooms and showers

NANOOSE BAY FIRE HALL RENEWAL PROJECT

QUESTIONS REGARDING DESIGN RECOMMENDATIONS



Wood versus Structural Steel Construction

- both materials are used in post-disaster buildings
- steel prices have been increasing and are currently volatile
- wood requires more detailed finishing, but local trades are experienced with wood construction ; expect competitive tender prices as a result
- wood, if locally sourced, is overall a more environmentally sound alternative than steel

Glulam Beams

- structural spans required regardless of material
- wood chosen both for its structural capacity and visual impact in this rural/wooded area
- the structure is also the finished product – no ceiling panels or other materials required to finish underside of roof structure

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QUESTIONS REGARDING DESIGN RECOMMENDATIONS



Water Based Heat Pumps

- water has a more stable base temperature allowing these types of heat pumps to maintain a high coefficient of performance over all temperature ranges
- air based heat pump equipment less efficient at lower temperatures and requires refrigerant coils for cooling – equipment installation requires specialized trade and overall capital cost will be relatively equal to or slightly more expensive
- water based equipment has water connections which can be done by general plumbing trades, reducing installation costs

Radiant Floor Heating

- has a proven track record, although, in earlier years there were problems with breaks and leaks
- efficient for heating large open spaces by using mass of the floor material
- heat is located close to underside of vehicles and in turnout gear room where it is desirable for drying in wet conditions

NANOOSE BAY FIRE HALL RENEWAL PROJECT

SUMMARY OF PROPOSED DESIGN



THE PROPOSED DESIGN OF THE FIRE HALL ACCOMPLISHES:



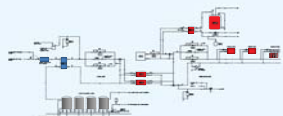
CONSTRUCTION TO THE *POST-DISASTER* REQUIREMENTS OF THE BC BUILDING CODE



IMPROVED SPACES FOR TRAINING, EQUIPMENT STORAGE AND MAINTENANCE



IMPROVED INTERIOR *AIR QUALITY* AND SEPARATION OF SMOKE CONTAMINATED SURFACES FOR VOLUNTEER HEALTH AND SAFETY



**ENERGY EFFICIENT HEATING & COOLING WITH WATER SOURCE HEAT PUMPS
– REDUCING EMISSIONS FROM THE CURRENT SYSTEM BY *95%***

NANOOSE BAY FIRE HALL RENEWAL PROJECT

SUMMARY OF PROPOSED DESIGN



THE PROPOSED DESIGN OF THE FIRE HALL INCLUDES:



WOOD USED AS A LOCALLY SOURCED AND EARTHQUAKE RESISTANT STRUCTURAL MATERIAL



RAINWATER COLLECTION FOR VEHICLE FILLING, WASHING AND LANDSCAPE MAINTENANCE



IN-FLOOR HEATING IN VEHICLE BAYS, IDEAL FOR DRYING WET VEHICLES AND EQUIPMENT



LOW MAINTENANCE EXTERIOR FINISHES AND DROUGHT TOLERANT NATIVE PLANTS

NANOOSE BAY FIRE HALL RENEWAL PROJECT

WHAT WILL IT COST



CONSTRUCTION ESTIMATE	\$3,214,000
CONSTRUCTION PHASE FEES:	
<i>Design team project management, civil, geo-technical and landscape supervision</i>	\$106,200
FUNDS ON HAND:	(\$117,655)
REMAINDER TO FINANCE :	\$3,202,545
RECOMMENDED AMOUNT TO BORROW:	\$3,200,000

HOW WILL PROPERTY TAXES BE AFFECTED?

EXAMPLES OF ADDITIONAL COST FOR THE NEW FIRE HALL FOR DIFFERENT PROPERTY VALUES:

ESTIMATED COST PER \$100,000 OF PROPERTY VALUE:

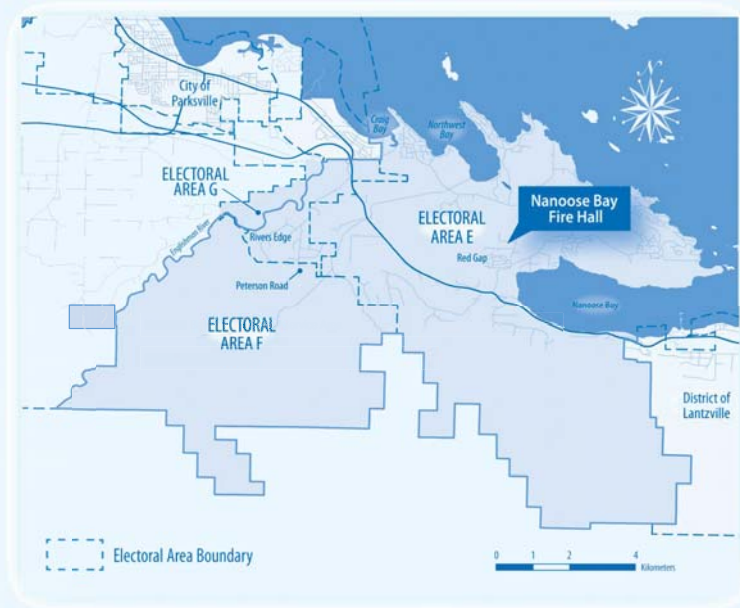
\$13.70 per year

\$200,000	\$27.40/yr
\$300,000	\$41.10/yr
\$400,000	\$54.80/yr
\$500,000	\$68.50/yr

NANOOSE BAY FIRE HALL RENEWAL PROJECT

REFERENDUM TO AUTHORIZE BORROWING

ALL ELIGIBLE VOTERS IN THE NANOOSE BAY FIRE PROTECTION SERVICE AREA



THE NANOOSE BAY FIRE PROTECTION SERVICE AREA INCLUDES ALL OF ELECTORAL AREA 'E' – NANOOSE

THE PETERSON ROAD NEIGHBOURHOOD IN ELECTORAL AREA 'F'

AND THE RIVERS EDGE NEIGHBOURHOOD IN ELECTORAL AREA 'G'

NANOOSE BAY FIRE HALL RENEWAL PROJECT

THE BALLOT QUESTION WILL BE



*ARE YOU IN FAVOUR OF “NANOOSE BAY FIRE PROTECTION SERVICE
LOAN AUTHORIZATION BYLAW NO. 1616, 2011”, WHICH IF APPROVED,
WOULD AUTHORIZE THE REGIONAL DISTRICT OF NANAIMO TO
BORROW UP TO \$3.2 MILLION TO DEMOLISH THE CURRENT FIRE HALL
AND CONSTRUCT A NEW FIRE HALL AT 2471 NANOOSE ROAD,
NANOOSE BAY, B.C.?*

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IF YES:

THE REGIONAL DISTRICT OF NANAIMO WILL HAVE APPROVAL FROM THE ELECTORS TO BORROW \$3.2 MILLION, AND WILL HAVE AUTHORITY TO PROCEED WITH DEMOLITION AND CONSTRUCTION OF THE NEW FIRE HALL.

IF NO:

THE REGIONAL DISTRICT OF NANAIMO WILL NOT HAVE APPROVAL FROM THE ELECTORS TO BORROW \$3.2 MILLION.

THE PROJECT WILL NOT PROCEED AT THIS TIME.

NANOOSE BAY FIRE HALL RENEWAL PROJECT

WHO IS ELIGIBLE TO VOTE



RESIDENT VOTERS

- 1. 18 years of age or older on the voting day, and a Canadian citizen;*
- 2. Have lived in the Province of BC for at least 6 months before voting day;*
- 3. Must have lived in the voting jurisdiction for at least 30 days before voting day;*
- 4. Not otherwise disqualified under the Local Government Act or any other enactment from voting in an election or otherwise disqualified by law.*

**If you need to register at the time of voting, bring 2 documents verifying your identity, one of which must contain your signature (e.g. Driver's License).*

NANOOSE BAY FIRE HALL RENEWAL PROJECT

WHO IS ELIGIBLE TO VOTE



NON-RESIDENT VOTERS

- 1. Must not be entitled to register as a resident voter;*
- 2. 18 years of age or older on the voting day, and a Canadian citizen;*
- 3. Have lived in the Province of BC for at least 6 months before voting day;*
- 4. Must be an individual registered as an owner of real property in the jurisdiction for at least 30 days immediately before the voting day (owners holding the property in trust for a corporation or another trust are not eligible to vote);*
- 5. Only one registered owner may vote as a non-resident voter; if there are multiple owners, one owner must be designated in writing by the other owners as the non-resident voter for the property;*
- 6. A non-resident voter may only vote with respect to one parcel in the service area;*
- 7. Must not be otherwise disqualified under the Local Government Act, or any other enactment from voting in an election or otherwise disqualified by law.*

**Non-resident voters needing to register at the time of voting must complete an application form, provide 2 documents verifying the applicant's identity with at least one including the applicant's signature (e.g. Driver's License), and a copy of the land title registration or tax notice which shows proof of ownership.*

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WHERE and WHEN TO VOTE



ADVANCE VOTING – 8am to 8pm

Wednesday, March 16, 2011: Nanoose Place

Wednesday, March 23, 2011: Nanoose Place

GENERAL VOTING DAY – 8am to 8pm

Saturday, March 26, 2011: Nanoose Place

More information is available at www.rdn.bc.ca