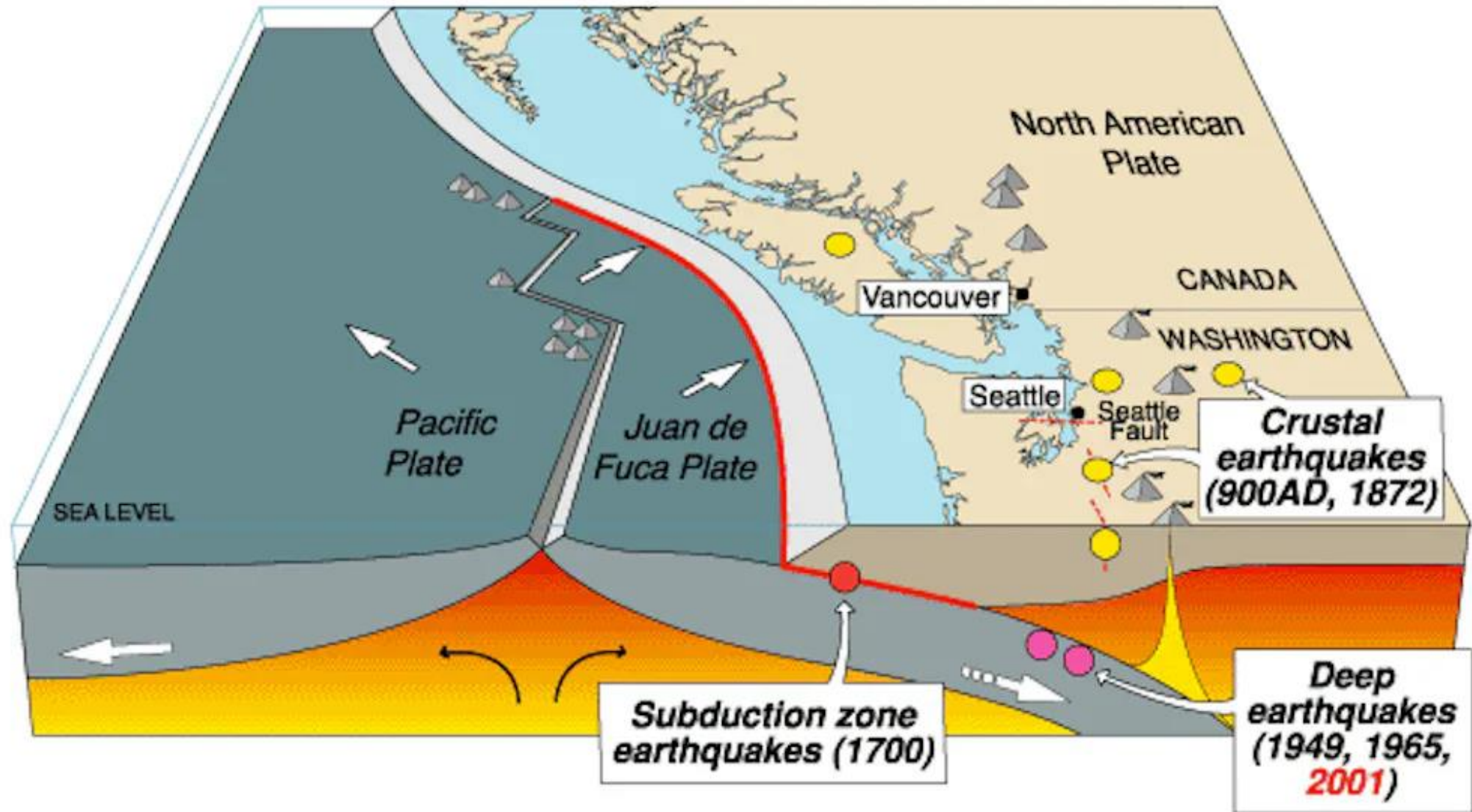


# Emergency Preparedness

December 14, 2023



# Earthquake



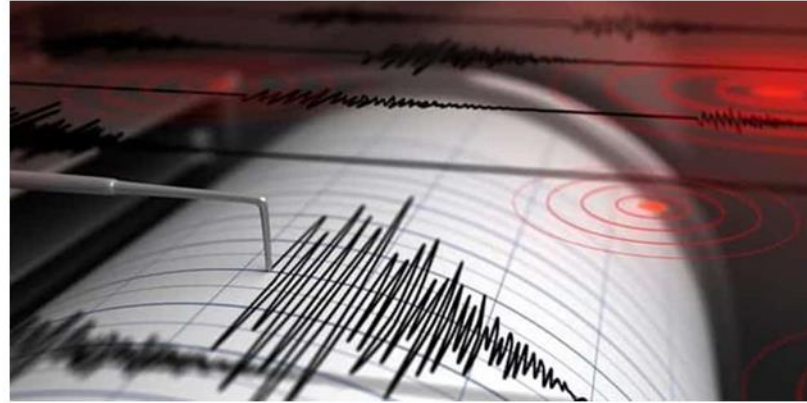
Province of British Columbia

# Exercise Coastal Response 2022 Ground Truth Document

Version 9  
September, 2021



## Scenario & Estimated Impacts to Delta (NRCAN Modelling)



At 6 AM, on January 28th, a deep, in-slab earthquake with a magnitude of 6.8 occurred immediately west of Richmond, BC. The earthquake did not trigger a tsunami.

- Buildings with significant Damage 319
- Building Collapse 4
- Major Injuries & Fatalities 15
- Initially Displaced 29,857
- Sustain Displacements (90 days) 1122
- Building and Assets Damage 700 million

# E-Day (Friday) Time

- 3 degree Celsius with precipitation
- 29,857 residents displaced
- George Massey Impassable
- Alex Fraser Bridge On/Off ramp collapse
- Traffic problems with congested traffic/roads clogged with vehicles
- **Telus/Internet: Communication down**
- Hydro is out
- Communication via simplex and satellite phones
- 2 days of fuel

# Roadway Damage



# Roadway Damage



# Bridge Damage

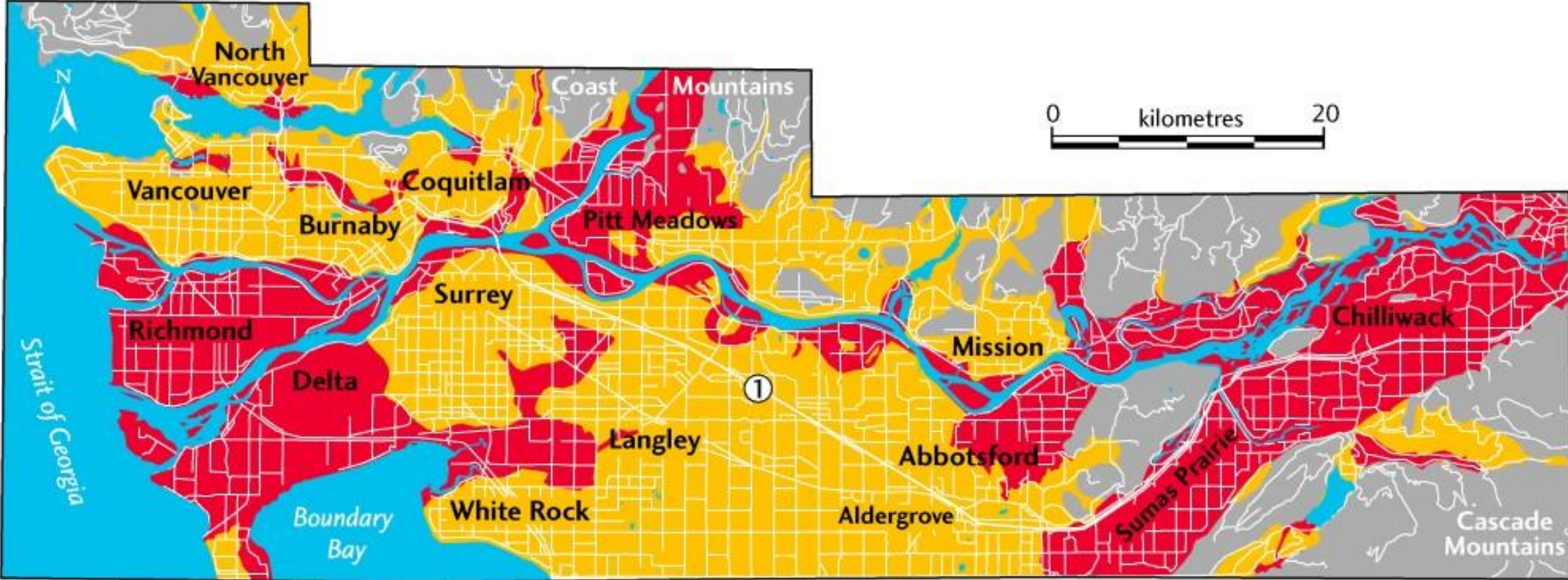




# Snowmageddon 2022



# Liquefaction



Risk of liquefaction during an earthquake



Moderate to high  
(modern lowland sediments  
and landfill)

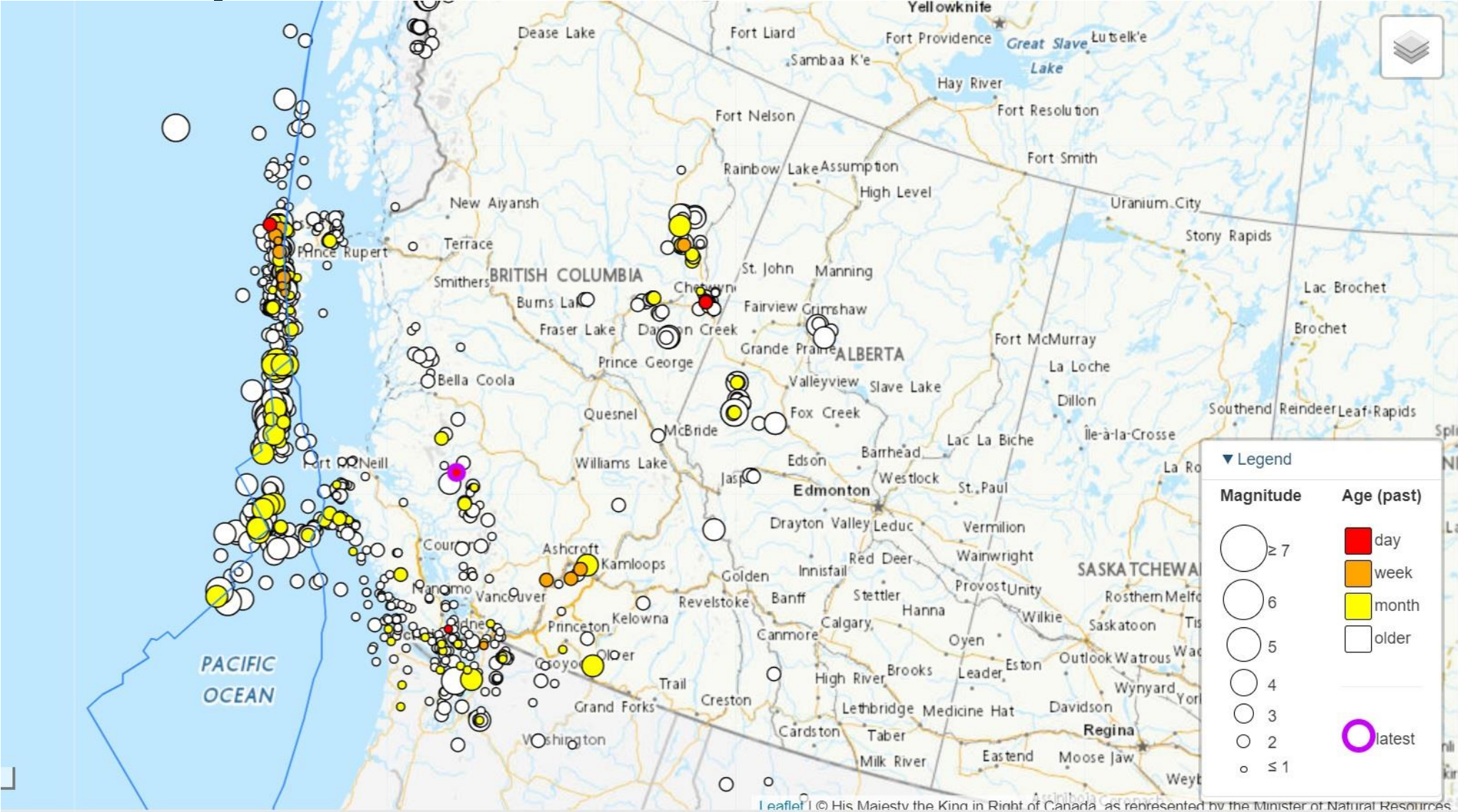


Low (Ice Age upland sediments)



None (bedrock)

# Earthquakes



# E + 96 Tuesday (Recovery)

- First Responder exhausted
- Casualties are high – (moved from rescue phase to body recovery phase)
- Debris still impacts response routes
- Attempts at power restoration creates sporadic fires in various places
- Fuel supplies are low
- ESS arrangements: 1122 will be displaced for 90 days minimum
- Food and water issues
- No power to grocery stores
- Casualties (TBD) with Richmond @190 and Surrey @490
- Building Damage: Gordon Foods, Pepsi
- CBSA Customs needs evacuation
- \*Shortage of assessors (Structural Eng.)
- Tsawwassen/Delta Port causeways damaged/rail line/debris in water
- (transport of goods/food impacted for Metro van)

# Provincial Earthquake Immediate Response Strategy



# Critical Resource List

Prior priorities: Search & Rescue, Damage Assessment, Transportation, Utilities, Fuel and Coordination

<b>15</b>	Water (Distribution and Storage)	<ul style="list-style-type: none"><li>• Storage for up to 15 million litres of bulk and bottled potable water per day.</li><li>• Includes large and small storage sites and distribution capabilities.</li></ul>
<b>15a</b>	Water Purification	<ul style="list-style-type: none"><li>• Up to five million tablets per day.</li><li>• Desalination capabilities.</li><li>• Mobile purification capabilities.</li><li>• Must meet World Health Organization (WHO) standards.</li></ul>
<b>16</b>	Food and Water Provisions (for public, first responders, and surge support)	Food and water for one million people: <ul style="list-style-type: none"><li>• three meals per day for an average of 2,100 calories per person.</li><li>• 15 litres of water/day for drinking, cooking, and hygiene.</li></ul>

# Shared Responsibility

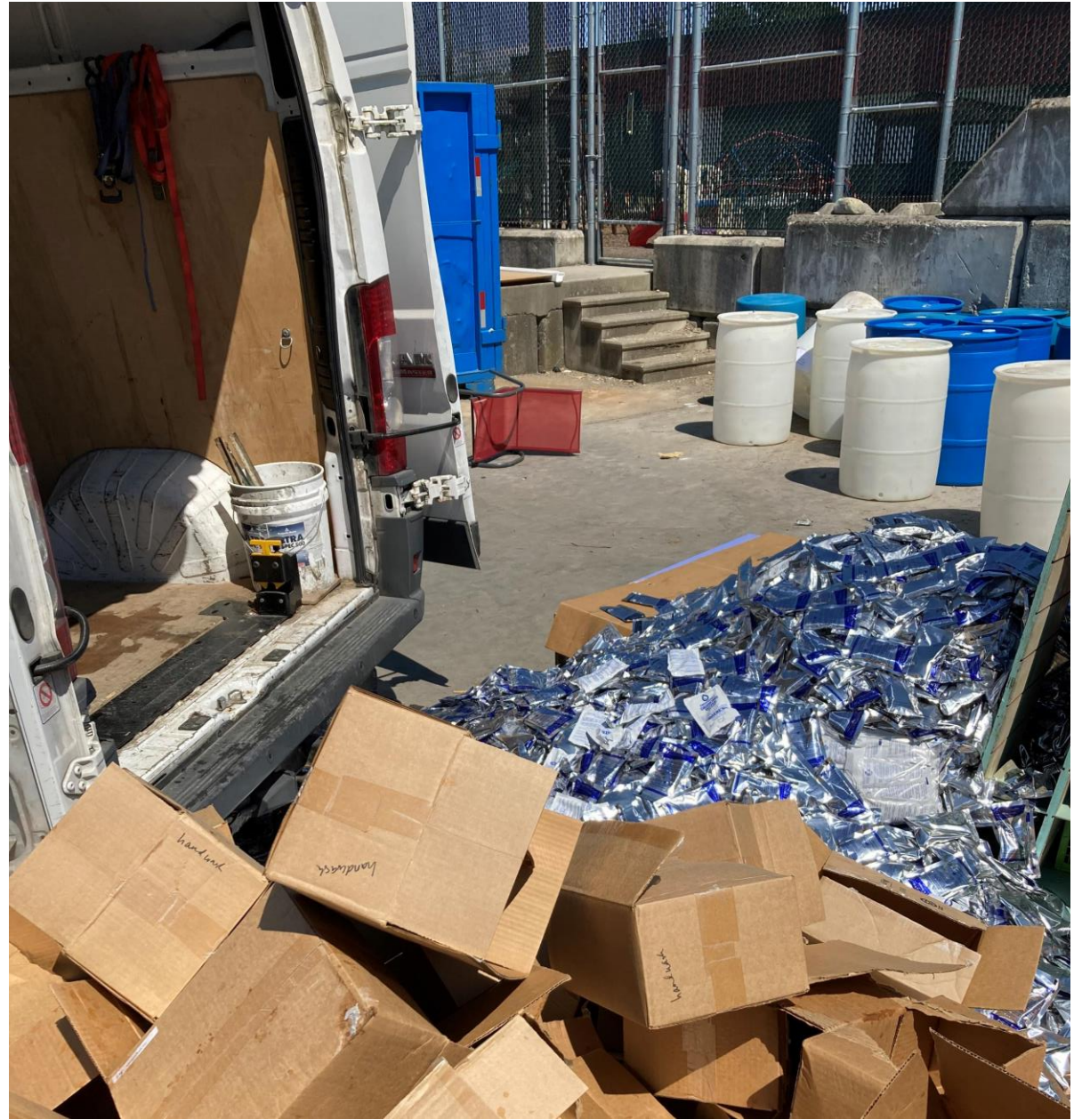
- Personal & Family Preparedness
- School Preparedness
- City Preparedness – Get Ready Delta



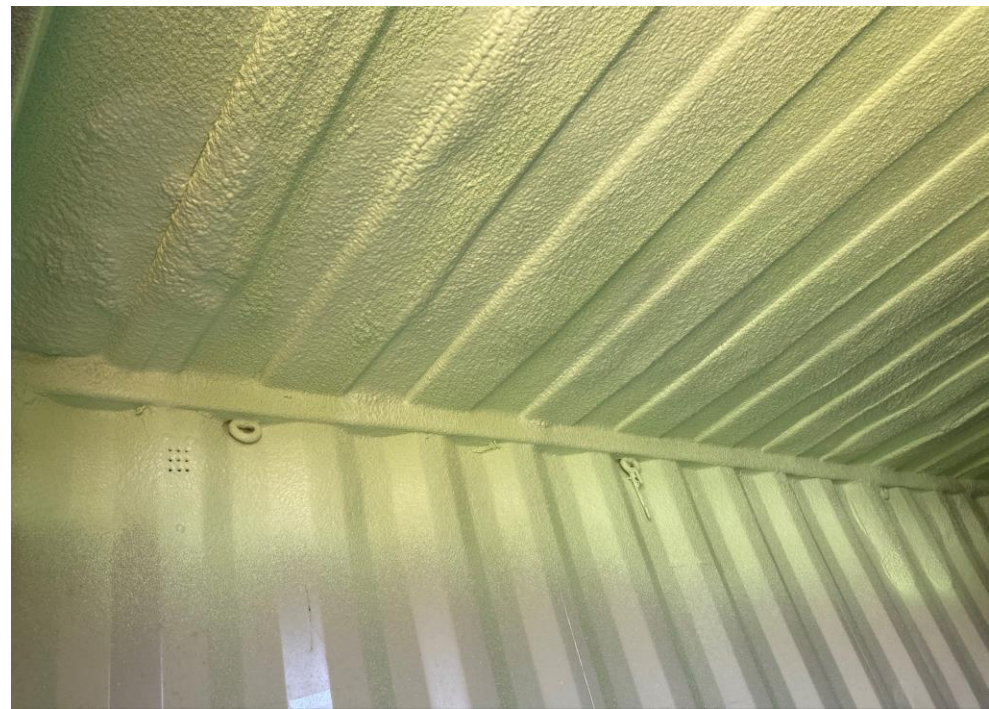
# Emergency Containers











Before



After





## Reorganizing

Light & Comms

Hygiene / PPE

Shelter/Comfort

Command Post Kit

Sanitation

Search & Rescue

First Aid

Food & Water

Tools

# Food & Water Quantities

Example: School population approx 290 (students & staff)

## Food Rations – 3600 cal bar – 5 year shelf

Food - 100% pop			Food - 50% pop			Food - 33 % pop		
3 day	2 days	1 day	3 days	2 days	1 day	3 days	2 days	1 day
290	193	97	145	97	48	96	64	32

## 15L Water Jugs – 2 year shelf

Water - 100% pop			Water - 50% pop			Water - 33 % pop		
3 day	2 days	1 day	3 days	2 days	1 day	3 days	2 days	1 day
58	39	19	29	19	10	19	13	6

# EMERGENCY CONTAINERS

- Established minimum quantities
- [Food & Water Inventory](#)





# WHERE DID WE START

- Delivery of 12,000 rations – 5 year shelf life
- Enough to feed:
  - 100 % pop – 1 day
  - 50% pop – 2 day
  - 33% - 3 days



# Resupply Plan – Water Options



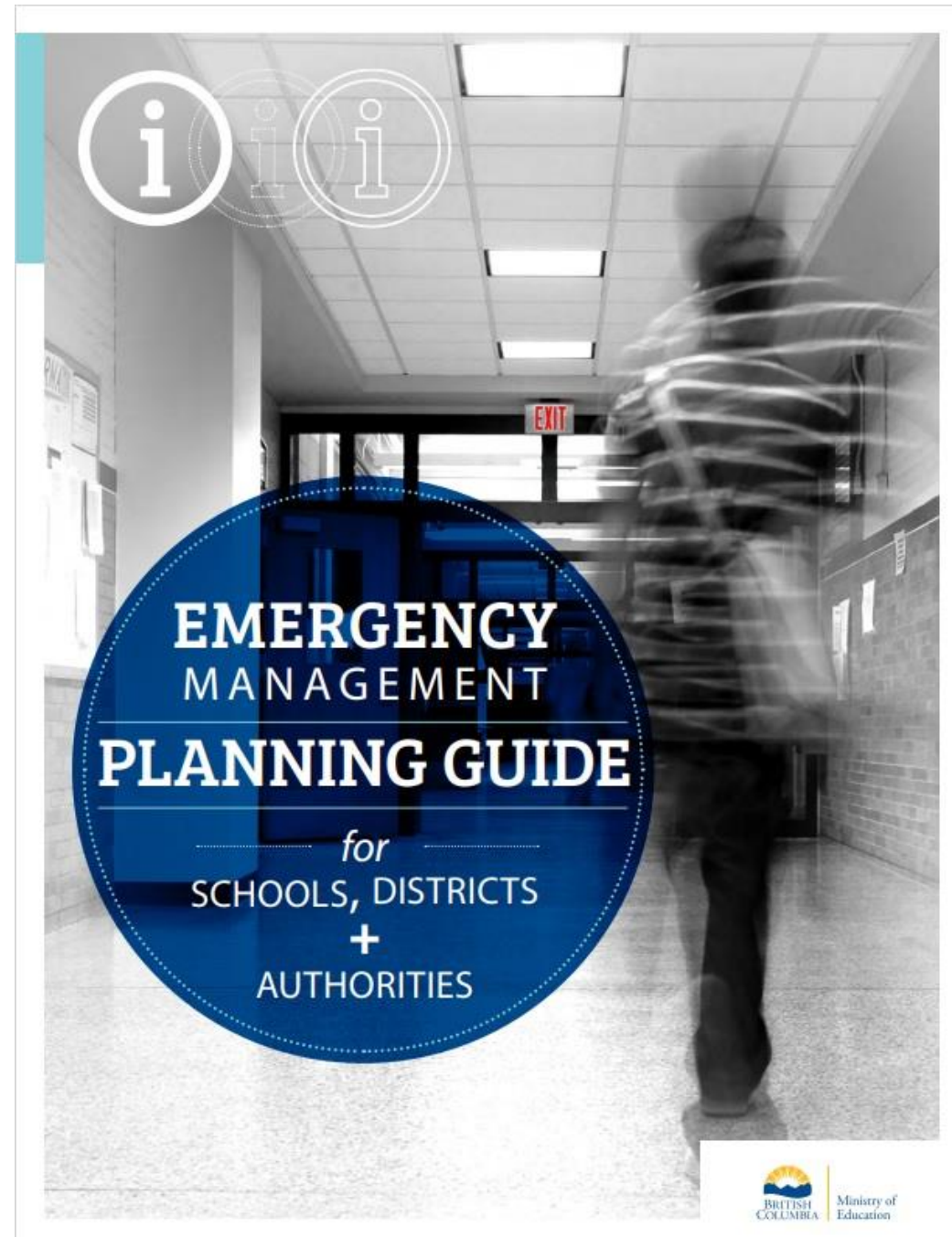
Box = **12 Litres** (*5 year shelf*)  
Cost **\$53.00** per box



Jug = **15 Litres** (*2 year shelf*)  
Cost **\$3.85** per jug

# Role of parents & PAC's

- Parents play an important part in the support of the school's emergency preparedness
- Help to acquire and organize emergency supplies on an ongoing basis.



# New Emergency Prep Funding Model

- Centralizing the collection of fees
- Increase fee \$10
- Collected by schools
- Held in trust by District to replenish and enhance supplies
- First letter to be sent in January 2024

Dear Parents/Guardians,

## Introduction of an Annual Emergency Preparedness Fee – September 2024

To date, schools have organized the collection and maintenance of emergency supplies for their students. Some schools have charged parents/guardians a small fee for these provisions, while at other schools, the PAC has raised funds for them.

Over the last two years, the district has reviewed what is in place at each school and determined that schools are in varying states of readiness for a large-scale incident, such as an earthquake. We believe there needs to be an equitable, centralized and coordinated approach to emergency preparedness. Ultimately, the aim is to ensure that all schools have what they need to care for students in the event of an incident that may require students to remain at school for up to 72 hours until they are picked up by their parents/guardians and it is safe for them to return home.

**This year**, the school district has used one-time funding from its budget to ensure all schools have the emergency provisions they need, including food, water and first aid items. We anticipate that we have enough supplies to support all students for one day, two thirds of students for two days and one third of students for three days, recognizing that students will leave school and return to their families as soon as they are able to.

While we have sufficient supplies in place now, we need to plan for the maintenance and replenishment of these supplies as they will expire over time. **As a result, starting in September 2024, the district will be introducing a new annual Emergency Preparedness Fee of \$10 per student.**

These fees are non-refundable. They will be held in trust and only used to replenish and enhance emergency supplies. Any emergency supplies may be re-distributed between schools to meet urgent needs recognizing that parts of the district may be more severely impacted by an incident than others. This would occur at the discretion of the school district in consultation with school administration.

The district will also accept donations for the Emergency Preparedness fund, so if you would like to give more than the suggested amount of \$10 per student, it would be much appreciated. Please note: Donations of \$25 or more will receive a taxable donation receipt. We recognize that some families are struggling financially, especially in the current economic climate. Please contact your school principal if your family needs assistance with this fee. Discretion will be maintained.

This is also a good opportunity to remind families to ensure that the **emergency contact and emergency release information** your school has on file for your child is current. You can review this information on Parent Connect. Also, for suggestions on putting together an at-home emergency preparedness plan and kit, please [click here](#).

If you have any questions, please do not hesitate to contact us or your school principal. Thank you for your support with our Emergency Preparedness program.

Sincerely,

Nicola Christ

Vanessa Heal

# Role of parents & PAC's

- Inventory Management

Paper based



District TEAMS database

Outdoor Emergency Container Supply List

Category	Item	Description	Min Qty	Act Qty	Current	Expiry Date
Water	125 Water Pack	5 year shelf life				
	15 L Water Jug	2 year shelf life				
	500 ml water bottle	18 months shelf life				
Food	3600 Calorie Food Ration	5 year shelf life				
First Aid	Trauma Kit	Level 2 - 1 kit per 150 person				
Sanitation	Garbage Bags	200 bags per 100 students/staff				
	Toilet Paper	20 rolls per 100 students/staff				
	5L bucket w/seat	3 per 100 students/staff				
	Wet wipes	300 per 100 students/staff				
Hygiene	Hand Sanitizer	Various use				
	Rubber Gloves	For sanitation purposes				
	Nitril Gloves	Various use				
	Dust mask	Various use				

School	Category	Item Description	Qty	Expiry date	Created	Last updated	Notes
Burnsview	Minimum Amount	Ration Bar	585		September 14, 2022	September 14, 2022	
Burnsview	Food	Ration Bar	168	03/01/2025	September 20, 2022	September 20, 2022	12x20 march 2025 80 bars November 2023 4x20 October 2022 3x20 October 2025
Burnsview	Food	Ration Bar	80	11/01/2023	September 20, 2022	September 20, 2022	
Burnsview	Food	Ration Bar	80	10/01/2022	September 20, 2022	September 20, 2022	
Burnsview	Food	Ration Bar	60	10/01/2025	September 20, 2022	September 20, 2022	
Burnsview	Food	Ration Bar	580	08/01/2027	September 20, 2022	September 20, 2022	
Burnsview	Water	125 ml water packet	384	11/01/2023	September 20, 2022	September 20, 2022	
Burnsview	Water	125 ml water packet	96	04/01/2022	September 20, 2022	September 20, 2022	
Burnsview	Water	125 ml water packet	480	10/01/2025	September 20, 2022	September 20, 2022	

# Thank you!

Vanessa Heal

Emergency Preparedness Officer

[vheal@deltaschools.ca](mailto:vheal@deltaschools.ca)

