

CVRD Forcemain Emergency Spill Response Plan

July 11, 2017

Forcemain Piping



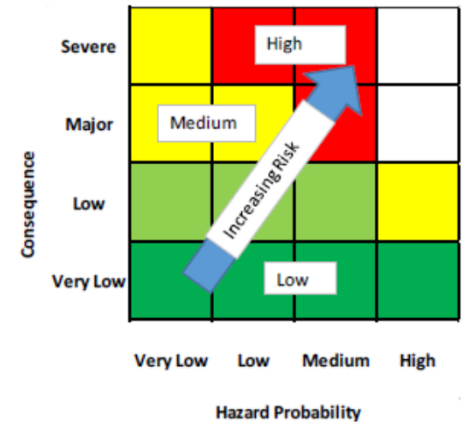
Background

- Willemar Bluffs for certain have been of concern since 2003
- At an in-camera meeting of the SC in May staff directed to undertake a risk assessment of this section
- NHC was retained and soon discovered that some of the gabion baskets installed in 2003 have broken open



NHC conclusions

- Without additional work:
 - 90% probability forcemain will be exposed within five years
 - 50% probability of a failure occurring once over that time
- Failure is most likely to happen during a winter storm
- Forcemain underwater much of the time in winter
- Failure very likely to last longer than 24 hours
- Direct costs of a single failure = \$1-\$2 M

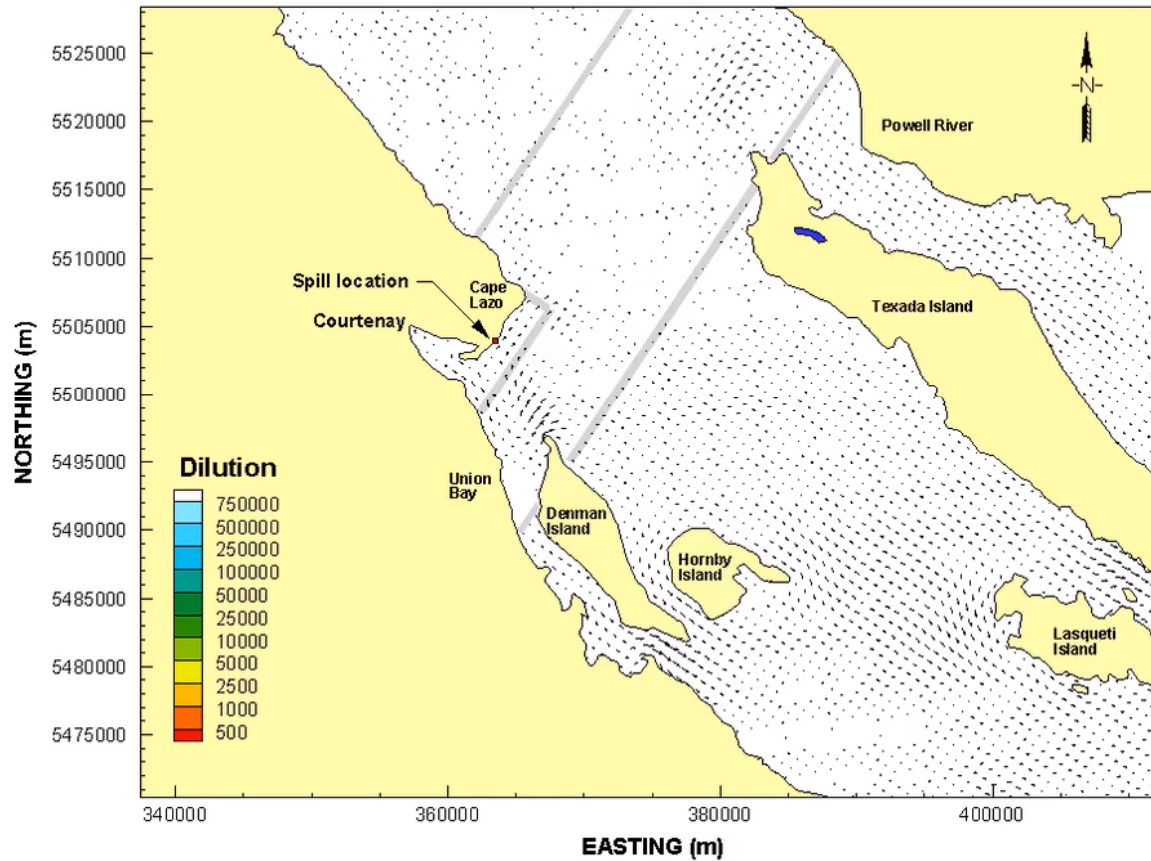


Effect on water quality

Spill Event 3 - 24 hours starting on Dec 18, 5:00 with river inflow, Elevation at -2 m GD

17-Dec-2015 12:00:00

— boundary between coupled models



Purpose of Spill Response Plan

- Provide the CVRD with a tool to respond quickly to a failure in the wastewater force main
- Minimize downtime of system by minimizing repair time
- Minimize the amount of wastewater discharged into environment



Spill Response Plan

- Identified different spill scenarios and failure locations
- Determined regulatory compliance and notifications, along with health and safety requirements
- Laid out steps for spill response and repair methodologies
- Determined piping inventory requirements for CVWPCC

Coordination with Municipalities

- Working with municipalities to review procedures including:
 - Extending pump station shut-down periods
 - Notifications and borrowing of equipment
 - Communications with the public



<u>Task No.</u>	<input checked="" type="checkbox"/>	<u>Initials</u>	<u>Date/time of completion</u>	<u>Description</u>	<u>Section No.</u>
IDENTIFY INCIDENT					
1	<input type="checkbox"/>			Fill out Environmental Incident form (Table 3-2).	4.1.1
NOTIFY					
2	<input type="checkbox"/>			Notify CVRD personnel on Table 4-1.	4.1.2
3	<input type="checkbox"/>			Notify appropriate organizations MoE, WorkSafeBC, Coast Guard, etc.	4.1.2
4	<input type="checkbox"/>			Carry out Initial Spill Response Meeting includes assigning Incident Commander, reviewing the repair steps, delegating tasks, identifying required 3rd parties, etc.	4.1.2
5	<input type="checkbox"/>			Carry out non-mandatory notifications (see Table 3-1).	4.1.2
6	<input type="checkbox"/>			Contact 3rd party contractors and consultants (Table 4-2).	4.1.2
7	<input type="checkbox"/>			If possible, attempt to contain and collect leaking wastewater.	4.1.2
EXCAVATE					
8	<input type="checkbox"/>			Identify location of leak, if this has not already been done.	4.1.3
9	<input type="checkbox"/>			Secure the site, implement traffic control plan, if required.	4.1.3
10	<input type="checkbox"/>			Contact BC One Call (1-800-474-6886) prior to excavation.	4.1.3
11	<input type="checkbox"/>			Expose damaged/leaking pipe.	4.1.3
ASSESS					
12	<input type="checkbox"/>			Visit and assess spill site with key parties.	4.1.4
13	<input type="checkbox"/>			Attempt to contain and collect leaking wastewater.	4.1.4
14	<input type="checkbox"/>			Fill out Emergency Repair Questionnaire and distribute to appropriate parties.	4.1.4 / Appendix D
15	<input type="checkbox"/>			Update Environmental Incident form (Table 3-2) & update the previously notified parties.	4.1.4
16	<input type="checkbox"/>			Carry out Repair Planning Meeting with key parties to determine/document the Repair Methodology	4.1.4
REPAIR					
17	<input type="checkbox"/>			Gather required crew, equipment, tools and materials to site.	4.2.2.1 to 4.2.2.3
18	<input type="checkbox"/>			Shut down pump stations and lock out.	4.2.2.4 / Appendix G
19	<input type="checkbox"/>			Close any isolation valves upstream and downstream of leak, if available.	4.2.2.4

Next Steps

- Complete operator and contractor training
- Coordinate with Town and City to review procedures
- Procure all required repair materials
 - Pipe spools, steel patches, adaptors, gaskets, couplings etc.

