District of North Vancouver
Community Monitoring & Advisory Committee
Seymour-Capilano Water Utility Projects

Meeting Notes – September 3, 2014

Agenda

1. Capilano Main No. 9
   a) Recent and upcoming meetings
   b) Revised construction schedule
   c) Construction impact summary
   d) Typical watermain construction
   e) Access to no exit streets
   f) Next Steps
2. 2014 Seymour-Capilano Projects
   a) E2 Shaft
   b) Second Narrows water supply tunnel
3. Seymour-Capilano Filtration Project
   a) Capilano Pumping Station
   b) Capilano Energy Recovery
   c) Twin Tunnels - Capilano Site
   d) Twin Tunnels – Seymour Site
   e) Tunnels CMAC Items
4. Public Involvement Program

Attendance (Bolded names indicate attendance)

Community Advisory Committee Members:

- Lorraine Jamieson — Capilano / Grouse Woods Residents Association
- **Peter Thompson** — Edgemont Community Association
- **Corrie Kost** — Edgemont Community Association
- **Norm Daniels** — Lynnmour South Inter-River Community Association
- Lee Gavel — Lynn Valley Community Association
- Dan Ellis — Lynn Valley Community Association
- Anne Cockle — Blueridge Community Association

District of North Vancouver Representatives:

- **Mayor Richard Walton** — DNV Council
- Councillor Robin Hicks — DNV Council
- **Carol Walker** — Manager – By-law Enforcement
- **Steve Ono** — Manager – Engineering Services/Deputy General Manager
- Erica Geddes — Engineering Services
- Mairi Welman — Strategic Communications & Community Relations

Metro Vancouver Representatives:

- Carol Mason — Chief Administrative Officer, Metro Vancouver
- Tim Jervis — General Manager - Water Services Department

- Frank Huber — Manager - Major Projects, Management Systems & Utility Support Division
- **Murray Gant** — Senior Engineer - Major Projects, Management Systems & Utility Support Division
- Steven Lewis — Senior Engineer - Water Services Department
- **Goran Oljaca** — Manager - Engineering & Construction Division
- **Hein Steunenberg** — Senior Engineer - Engineering & Construction Division
- Mark MacConnell — Senior Engineer - Engineering & Construction Division
- Andrew de Boer — Senior Engineer - Water Services Department
- **Vanessa Anthony** — Consultation & Community Relations Coordinator - Public Involvement Division
- **Steve Billington** — Community Liaison Officer - Public Involvement Division
- **Mike Mayers** — Superintendent - Environmental Management & LSCR, Watershed/ Environmental Management & Quality Control

Pacific Liaicon and Associates, Inc.

- **Jeff Spruston** — Construction Manager

Guests:

- **Scott Ellis** — Grouse Mountain
- **Will Schuurman** — Former CMAC member
- **Marc Josephson** — Grosvenor Americas
- **Dev Sharma** — Grosvenor Americas
- **Grig Cameron** — Area resident
- **Sue Kaffka** — Capilano Suspension Bridge
- **Christine Simpson** — Capilano Suspension Bridge
- **Bill Lloyd-Jones** — Delbrook Community Association
- **Jillian Cooke** — Area resident

Facilitator:

- **Raymond Penner** — the Strategic Action Group

- *Note: These notes have been prepared by the facilitator to capture the essence of the meeting and are not intended to be a verbatim record. CMAC member advice is noted in bold italics. Where it is appropriate, comments from Metro Vancouver, Pacific Liaicon and Associates Inc., MMM Group Inc. or the District of North Vancouver are noted as [MV], [PLA], [MMM] or [DNV] respectively.*

1. Capilano Main No. 9

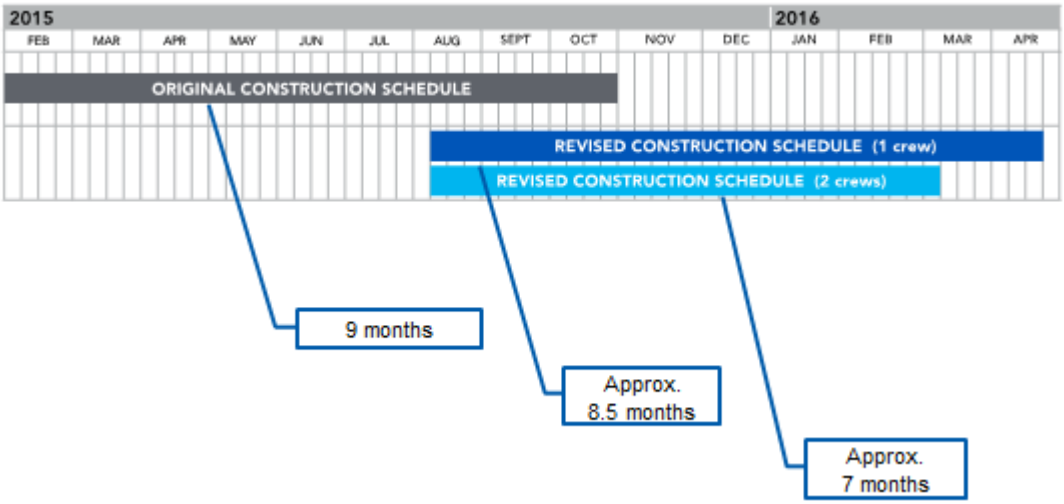
a. Recent and upcoming meetings

- June 17 DNV Committee of the Whole:
  Presented construction options and schedule for 1 crew vs. 2 crews
- July 2 CMAC:
  Presented construction options and schedule for 1 crew vs. 2 crews
- July 25 DNV Staff:
  Established a matrix for evaluating construction impacts of 1 crew vs. 2 crews
- September 3 CMAC:
  Revised schedule; construction impact evaluation and summary of 1 crew vs. 2 crews; typical watermain activities; and access to no exit streets

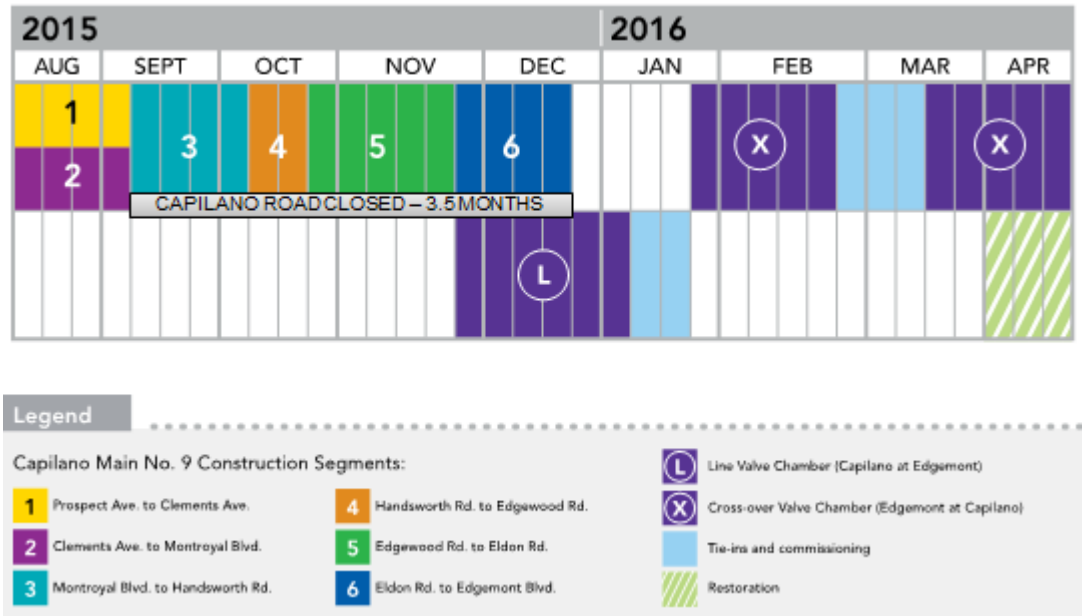
- TBD DNV Committee of the Whole:
  Revised schedule; construction impact evaluation and summary of 1 crew vs. 2 crews

b. Revised construction schedule

- based on input received and further analyis, we hae revised the construction schedule as shown on the next page:

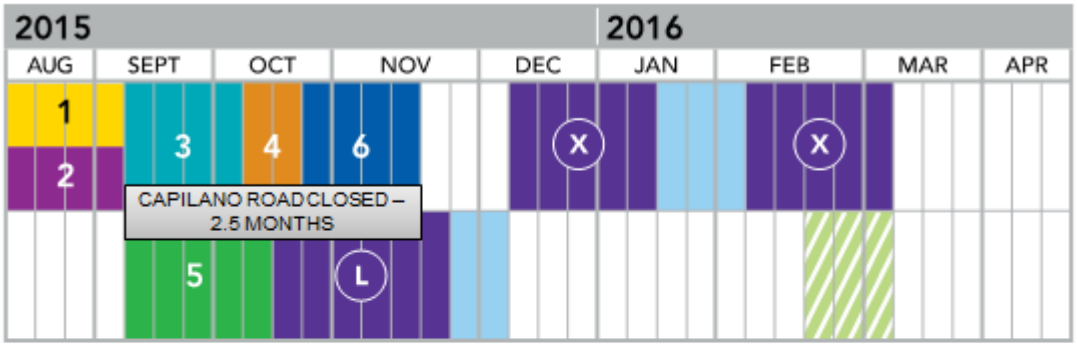


- revised detailed schedule with 1 crew is 8.5 months; earlier start date will ensure construction and tie-in completion in spring 2016; this would have less impact on Capilano Road closures – the total for Capilano road closures would be 3.5 months and



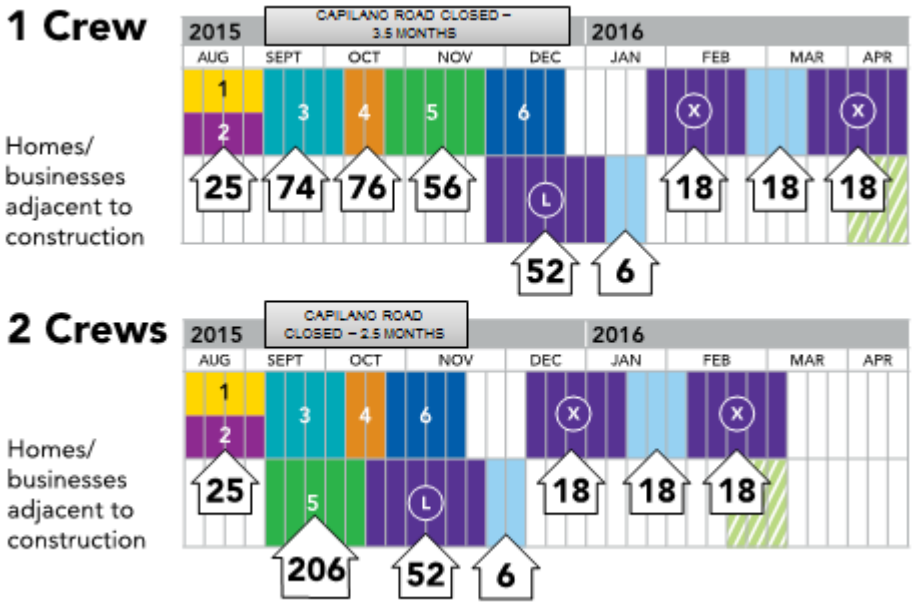
- revised detailed schedule with 2 crews would be7 months or an overall difference in about 6 weeks; this would result in a reduction in Capilano Road closures to approximately 2.5

months; we have some issues with the ability to do the restoration work if the weather in February isn't appropriate for paving – this would shrink the difference in time savings between the 1 and 2 crew options



c. Construction impact summary

- a summary of the impacts on households for the 1 and 2 crew options are shown below



Numbers are approximate

- construction impact summary - 1 crew (recommended)

- lower local traffic impacts
- decreased volume of construction traffic
- transit shuttle service is possible on Capilano Road
- emergency services will be able to arrive at properties faster
- fewer property access issues
- construction will not be slowed because of direct access to site

- construction impact summary - 2 crews
  - higher local traffic impacts
  - increased volume of construction traffic
  - construction traffic conflicts may increase schedule duration
  - transit shuttle service is not possible on Capilano Rd
  - emergency services will have more difficulty getting to and accessing properties
  - increased property access issues
- a comparison chart summarizing the impacts of the two options using a scale of 1 (low) to 5 (high) is seen in the following chart:

Construction Impact	1 Crew	2 Crews
Property access	16	22
Local travel time	14	20
Emergency access	17	23
Transit service	9	33
Construction traffic	23	31
Construction period	19	16
Construction risk	15	21
Construction cost	9	12
Total risk evaluation (out of 360)	122	178

Maximum individual score is 45

1 crew recommended

Evaluation Criteria

- High
- Medium
- Low

- a detailed section-by-section analysis of the impacts of a 1 crew option is seen in the following chart:

Construction Impact	1 & 2	3	4	5	6	L		X		Subtotal
Property access	1	3	2	3	3	1	1	1	1	16
Local travel time	1	2	2	2	2	2	1	1	1	14
Emergency access	1	3	2	3	3	2	1	1	1	17
Transit service	1	1	1	1	1	1	1	1	1	9
Construction traffic	3	3	3	3	3	2	2	2	2	23
Construction period	1	3	3	3	2	1	2	2	2	19
Construction risk	1	1	1	1	1	2	2	3	3	15
Construction cost	1	1	1	1	1	1	1	1	1	9
Total risk evaluation (out of a possible 360)										122

Evaluation Criteria
5 High
4
3 Medium
2
1 Low

Maximum individual score is 45

Legend

Capilano Main No. 9 Construction Segments:

1 Prospect Ave. to Clements Ave.
2 Clements Ave. to Montroyal Blvd.
3 Montroyal Blvd. to Handsworth Rd.
4 Handsworth Rd. to Edgewood Rd.
5 Edgewood Rd. to Eldon Rd.
6 Eldon Rd. to Edgemont Blvd.
L Line Valve Chamber (Capilano at Edgemont)
X Cross-over Valve Chamber (Edgemont at Capilano)
Tie-ins and commissioning

- a detailed section-by-section analysis of the impacts of a 2 crew option is seen in the following chart:

Construction Impact	1 & 2	3	4	5	6	L		X		Subtotal
Property access	1	5	4	5	3	1	1	1	1	22
Local travel time	1	4	4	4	2	2	1	1	1	20
Emergency access	1	5	4	5	3	2	1	1	1	23
Transit service	1	5	5	5	5	5	5	1	1	33
Construction traffic	3	5	5	5	4	3	2	2	2	31
Construction period	1	2	2	2	2	1	2	2	2	16
Construction risk	1	3	3	3	2	3	2	2	2	21
Construction cost	1	2	2	2	1	1	1	1	1	12
Total risk evaluation (out of a possible 360)										178

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L Line Valve Chamber (Capilano at Edgemont)
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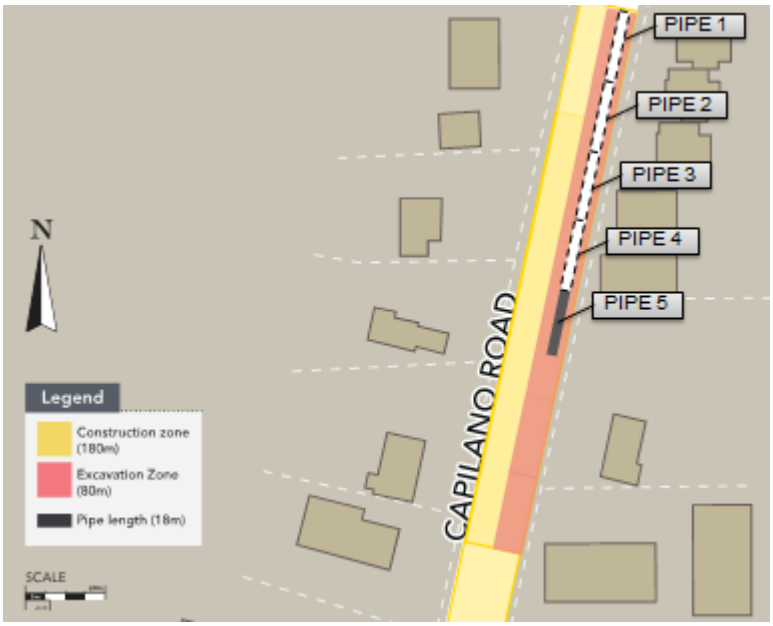
Tie-ins and commissioning

d. Typical watermain construction

- a typical watermain construction work site will look like the following diagram:

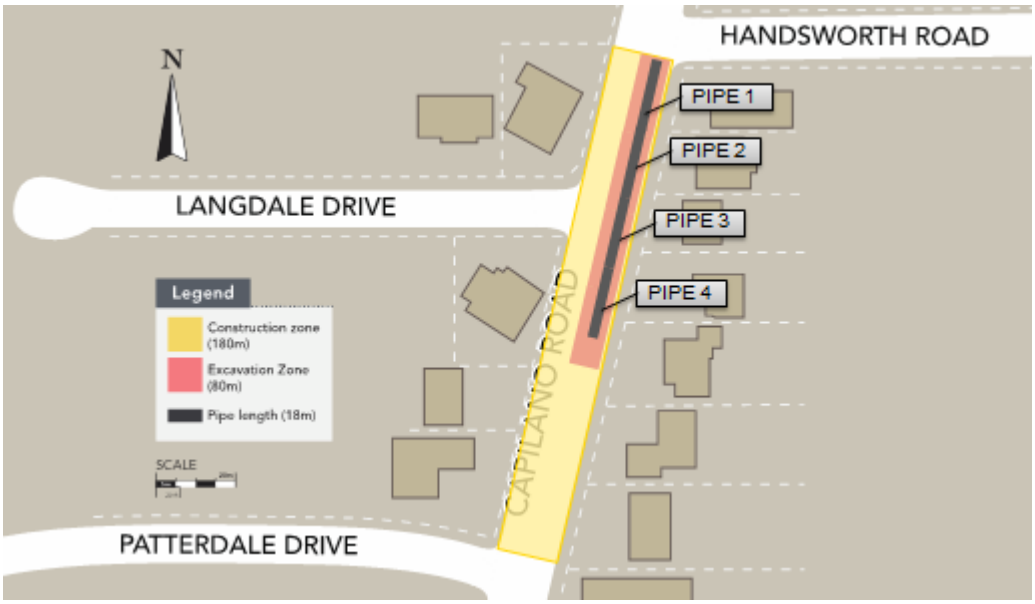


- the average property will be directly impacted by construction activities for approximately 10 days; activities will include:
  - equipment/material deliveries
  - excavation
  - pipe installation
  - backfilling
  - temporary restoration

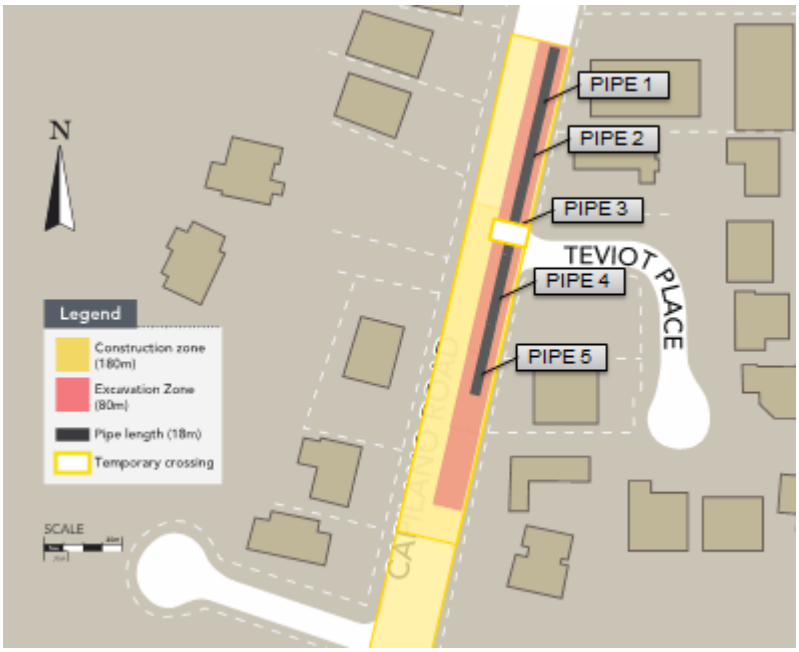
e. Access to no exit streets

- one of the issues that we face is how to accommodate residents who reside on “no exit” streets; the following diagram shows where those situations exist in the construction zone:

- for the short duration closures, the average property will have no daytime access to their driveway or street for 2 to 3 hours while the pipe is being installed



- for the longer duration closures at no-exit streets, there will be no daytime access for 1-2 days and overnight access will be maintained between 8 p.m. and 7a.m. using a temporary crossing



f. Next steps

Date	Meeting and Topics
TBD	DNV Committee of the Whole: Revised schedule; construction impact evaluation and summary of 1 crew vs. 2 crews
November (TBD)	CMAC: Project update and traffic management items

Project Schedule	Public Process
2014 – 2016	CMAC: Ongoing meetings for updates and input
2014 – 2016	DNV: Ongoing meetings with staff and Mayor and Council as required
2014 – 2016	Public Communications: Ongoing
Winter 2015	Public Meeting
Fall 2015	Public Meeting
Summer 2015 – Spring 2016	Construction

Discussion

When you talk about Capilano being closed, will there still be one lane available outside of construction hours?

[MV] Yes, and our preference at this point would be to have construction from Monday to Saturday.

How long is the work day?

[MV] I believe from 7 a.m. to 8 p.m.

[DNV] Can any of Capilano Road be restored during the Fall? Otherwise, it is a long time to expect a cold patch to hold up.

[MV] We think that we would have no issue restoring Sections 1 and 2 in Fall, weather dependent. We also need to determine what the minimum length is required to get a good final product for the pavement.

Do you have any contingency time built into the schedule?

[MV] The schedule is based on installing 1 pipe per day – each of these are 18 meters long. The actual installation will depend on what methodologies are used. At the start, they likely won't achieve this rate but overall, we expect that this can be achieved as an average. We will pre-qualified contractors that have lots of experience and high ratings in all areas.

Is there any reason that Section 6 could not proceed at the same time as Sections 1 and 2 for the 2 crew option?

[MV] As soon as we start doing Section 6, we have to shut down Capilano Road. If we did as you suggested, the road closure would be longer. Based on the width of the road and geotechnical conditions, we know what the slope of the trench wall need to be. When the construction installation front is anywhere between Montroyal and Edgemont, we cannot have safe one-way traffic and will have to shut down the road.

[DNV] My understanding is that once each section is finished, local traffic will be able to pass that section. When you say Capilano Road is closed, is it that you won't be able to all the way through because the next section will still be closed?

[MV] Yes, this will be a moving section of approximately 180 meters. We also want to avoid people taking side roads and cutting through neighbourhoods. We want a well-established, accepted detour route.

Under the 2 crew option, is there any reason that the start of the project couldn't be delayed until September and end in December? For Grouse Mountain, our traffic is greater in August than in September.

[MV] Yes - as it is, Sections 1 and 2 would be done in August and September but we wouldn't have to close Capilano between Edgemont and Montroyal until the second week in September.

[DNV] The heavy use of the park at the dam is in August. Will that parking lot still be accessible using the route you described?

[MV] Phase 1 is the construction of the valve chamber that is happening right now. The first pipe installation will go to the edge of the parking lot. When we come back to do Phase 2, the entrance to the parking lot and the parking lot itself will be available. We also can incorporate into the tender document that the contractor will not be allowed to use the parking lot at the park.

Have you been able to do a summary of all of the impacts to compare the options for a 1 or 2 crew approach?

[MV] We have tried to look at the difference in time that individual homes would be impacted as CMAC had requested.

I understand the process you have used but I am wondering how many people did the scoring and what was the composition of the group?

[MV] Initially 2 people in Metro Vancouver did the scoring and then 4 other people reviewed that and the scoring was slightly adjusted. We sent the information to DNV for review and comments and they have agreed with our ratings.

[DNV] I don't see some other items for consideration – bikes, pedestrians, dust and noise.

[MV] We always considered that bikes and pedestrians would be able to go through so there wouldn't be any difference. We could add noise and dust – in my mind, these would both favour the 1 crew option.

[DNV] In your analysis, there is no quantification to how the public would value a shorter closure of Capilano Road.

[MV] We tried to consider that in the construction period.

I am concerned with the overall weighting of the factors. The 1 crew option impacts would take place over a shorter period of time.

[DNV] There are also the losses to Grouse Mountain and Capilano Suspension Bridge which aren't reflected here.

[MV] We have used an equal weighting in our analysis. However we heard from CMAC that the shuttle bus was an important element. When we started to talk to Coast Mountain about the two options, they were adamant that they could not provide the shuttle service with the 2 crew option because they would have to revise their routes every 2-3 weeks which they would have difficulty doing and would need more busses.

If you could overcome the issue with transit, the difference between the options seems to go down quite a bit. This seems to be the major difference in your analysis.

If you were not a transit rider, you would not weigh that one as high.

[Facilitator] I am hearing some dissatisfaction with the evaluation and some encouragement to Metro Vancouver to see how the 2 crew option could be made to work.

[DNV] I think that Metro has done an excellent job and I also think that there is a desire to see how we can shorten the impact. I think we should work on the transit more and figure out who that impacts and what their thoughts are.

When we discussed the shuttle previously, the concept was that this would use side roads, not Capilano.

[MV] The main concern with the 2 crews is that they would have to adjust their schedule so often and this is difficult to get communication out ahead of time.

We shouldn't discount the emergency access factor. With 2 crews, any confusion of where the access could be could carry over to emergency situations.

Would there be access to Capilano Road to wherever you have finished installing pipe?

[MV] We are doing temporary paving on a block-by-block basis, weather permitting.

It seems that it will be a lot easier to understand where anyone would be impacted if you use the 1 crew option. Also, people below or above the construction would always have a way out compared to being trapped between 2 construction sites.

I am not sure that we are ready to come to closure on this yet and I think it would be hard to explain to the community based on your analysis why you have come to this conclusion.

What will happen if there was an emergency in a no-exit road house where you have a short or longer term closure?

[MV] The emergency vehicles would be able to access these residents along the boulevard – we have discussed this with emergency services. On this type of project, they would visit the site every day or every few days to ensure that they are keeping up with the changes along the way.

You rated emergency access as a "5" for high impact with a 2 crew option but you also said that they would be coming by every day or so. Why the difference in rating?

[MV] In our mind, the access for a 2 crew option has more potential issues.

[Facilitator] In addition to what the committee has asked for Metro to consider, are there any other issues that they should look at prior to coming back to CMAC about the 1 or 2 crew options?

One of the things that would be good to clarify would be the actual transit routes and the detour routes for the community. This will help to determine how necessary these are. Alternate routes for shuttles would be helpful.

It would also be helpful to have a better analysis of the emergency access differences.

I am concerned about the matrix. It would be better if there was a larger group involved.

One of the issues is risk management – it seems intuitively that risk management with a 2 crew option is more problematic. It would be worthwhile to have some more thought on this.

[DNV] For the 2 crew option, where would the pipe delivery be?

[MV] In our mind, this would be up Capilano. However, if pipe is being installed in the southern construction area and pipe is to be delivered to the northern area, the pipe delivery vehicles would have to park in the road which has an impact on residents and on other elements of the construction site. We have allowed that risk in the cost.

There would have to be 2 supervisory crews as well that would add to cost.

Could the matrix be given to those attending to see what we would rate the impacts to be?

[MV] We are very open to working with you to do this.

NOTE – it was agreed that a group of Metro, DNV and CMAC members/guests will meet next week to review the matrix criteria and bring a wider perspective to rating the two options under consideration.

You need to be very clear how the pipes would be delivered for the 2 crew option.

[DNV] Pipe deliveries could not be done from the north as the Montroyal bridge is timber and there are weight restrictions. They would have to come up Capilano.

It would also be good to have better definition for each of the matrix categories.

2. 2014 Seymour-Capilano Projects

a. E2 Shaft

- site mobilization completed in July; drilling commenced on July 28, 2014
- drilling of up to 3 drains, each about 180 m long
- as of Aug. 29th, first drill hole approx. 35% complete
- each hole to take up to 30 days to drill followed by a 10 day monitoring period
- project scheduled to be completed by late November 2014
- depending on weather conditions, may need to stop work through the winter and complete next spring
- public impacts include:
  - intermittent trail closures – very limited
  - protective fencing and descriptive signage in place
  - portions of the drilling will require 24/7 work (soil drilling only); DNV Noise Bylaw variance granted April 7, 2014 to allow 24/7 drilling
  - noise mitigation measures implemented; noise consultant (BKL) performed noise monitoring during drilling; results indicate noise levels at back of Capilano Road residences is same as background (44 dBA)

- work area will be permanent to provide on-going access to the drains

Discussion

Have you had any comments from the people living on the slope above the project?

[MV] We haven't had any complaints from residents, trail users or the hatchery.

Will this project make the slope any safer?

[MV] It has the potential for doing that. It is aimed at lowering the ground water table somewhat but the focus is particularly to reduce the gradient of the underground water table. By having a steeper groundwater table, the fine particles are migrating to the E2 shaft and we want that material to stay in place while we get the water out. The slope is stable at this time and the project will likely contribute somewhat to more stability.

b. Second Narrows Water Supply Tunnel

- we are at the end of the preliminary design phase so the consultants are still working on the final deliverables which we are reviewing
- we are preparing a two-stage proposal process – first a request for qualification and then a request for proposal for a detail design phase that will start next year; these steps will take place this Fall
- detailed design will take place over a period of 2 years (2015-2016) and then we will tender in 2016; we anticipate starting construction for the tunnel crossing in 2017
- the issues that CMAC have raised with this project have been:
  - construction access in the area of the Beach Yard
  - impacts to the businesses in that area
  - noise
  - dust
  - truck traffic removing the tunnel muck
- the consultants have determined in the preliminary design and have based their cost estimate on is the construction of a new barge loading facility at the Beach Yard to use to remove the shaft and tunnel muck for sea disposal; it is still possible that a contractor may suggest a different approach that could involve land disposal
- we don't have any truck traffic counts yet but that will come out during detailed design

3. Seymour-Capilano Filtration Project

a. Capilano Pumping Station

- complete

b. Capilano Energy Recovery/Break Head Tank

- final electrical work in progress
- turbine and generator equipment complete
- overall, turbine installation is approximately 95% completecable installation between switchgear and panels in electrical room continues

c. Twin Tunnels - Capilano Site

- sandblasting and lining in progress
- RWT vertical shaft pipe installation and backfill complete
- top tees, valve chamber, and tie-in to pumping station in progress

d. Twin Tunnels – Seymour Site

- shaft vertical pipe installation and backfill complete
- top tees and pipelines in progress to tie-in to filtration plant
- valve chamber and restoration to follow
- shaft pipe lining in progress

e. Tunnels CMAC Items

- Capilano shaft work 24 hours/day – noise complaints have been received in the past month related to backfill operations; MV has been in daily communication with the resident
- operations at Capilano are nearing completion and noise is reducing
- Seymour backfilling operation also received some noise complaints; contractor addressed these by improving noise attenuation

4. Public Involvement Program

- since the last CMAC meeting:
  - we installed signage in the LSCR regarding the geotechnical work that is being done for Seymour Main No. 5
  - there were some complaints about contractor parking at Cleveland Dam parking lot - we have asked the contractor to have their workers park in other locations and have been monitoring this; we also installed some signs
  - the Cleveland Dam spillway road repaving was a short project so we erected some signage – the spillway remained open to the public
  - with regard to the E2 Shaft, we issued some information to the immediate community about the mobilization in July as well as about the overnight drilling; there was some misunderstanding from one resident about this work being related to the night work at the tunnel shaft that we had received previous complaints on so we cleared that up – we have not heard anything directly about that project to date
- this weekend the Coho Walk is taking place which is put on by Metro Vancouver Parks that will take place along the Capilano; we will be talking to people about the twin tunnel project and the valve chamber going in at the Cleveland Dam parking lot
- more of the twin tunnel work is now happening at the surface so we are now attending the site meetings to ensure that we can communicate with the public about activities that might impact them

Discussion

The next thing that I can see happening at the Capilano end is the restoration and cleanup. Is there a plan for this and what can be accomplished?

[PLA] At the Capilano end, the entire pump station is in the Metro work yard and behind a fence. All equipment will be removed from the viewing platform below the dam and it will be reopened to the public.

[Facilitator] There was discussion that the viewing platform would be upgraded in some way.

[MV] Our Parks Department have some type of plans to do something there but I am not clear what these are.

It seems that this is an opportunity that would be too bad to let go.

[MV] When I come to the next meeting, I will speak to the restoration of this area.

[DNV] Just considering the Fall schedule and the upcoming municipal elections, it is important if Metro has any other potential requirements for noise exemptions that we get those to CMAC as soon as possible – likely early October.

NEXT MEETING

The next CMAC meeting will be Wednesday, October 22, 2014 from 5-7:00 at the North Vancouver District Operation Centre at 1370 Crown Street.