

Minutes of the meeting of the Liquid Waste Management Plan (LWMP) Joint Technical and Public Advisory Committee (TACPAC) held on Monday, November 18, 2024, in the CVRD Civic Room at 770 Harmston Avenue, Courtenay, and via Zoom commencing at 9:02 am

PRESENT:

A. Habkirk, Chair and Facilitator	Facilitator
M. Rutten, General Manager of Engineering Services	CVRD
R. Sellentin, Manager of Wastewater Services	CVRD
D. Monteith, Manager of Liquid Waste Planning	CVRD
Z. Berkey, Senior Engineering Analyst	CVRD
M. Briggs, Branch Assistant – Engineering Services	CVRD
M. Desilets, WSP	WSP
P. Galvagno, Carollo Engineers	Carollo
C. Davidson, City of Courtenay	TAC
S. Ashfield, Town of Comox	TAC
M. Hall, Island Health	TAC
E. Derby, Island Health (Alternate)	TAC
M. Mamoser, Ministry of Environment and Parks	TAC
L. Johnson, Ministry of Health	TAC
M. Swift, Town of Comox Elected Official	PAC
I. Munro, Electoral Area A Alternate Director	PAC
N. Prins, BC Shellfish Growers Association	PAC
T. Clarke, Comox Valley Chamber of Commerce	PAC
C. Pierzchalski, Comox Valley Conservation Partnership	PAC
M. Proudfoot, Comox Valley Schools	PAC
S. Carey, City of Courtenay Resident Representative	PAC
L. Paulovich, City of Courtenay Resident Representative	PAC
J. Dacombe, City of Courtenay Resident Representative (Alternate)	PAC
K. van Velzen, Town of Comox Resident Representative	PAC
M. Crilly, Town of Comox Resident Representative	PAC
K. McPhail, Town of Comox Resident Representative	PAC
C. Finley, Town of Comox Resident Representative (Alternate)	PAC
N. Prince, Area A (Craigdarroch) Resident Representative	PAC
K. Newman, Area A (Royston) Resident Representative (Alternate)	PAC

J. Elliott, Area A (Union Bay) Resident Representative	PAC
M. Schaffer, Area B (CVWPCC) Resident Representative	PAC
(Alternate)	
M. Lang, Area B (Croteau Beach) Resident Representative	PAC
L. Aitken, Area B (Croteau Beach) Resident Representative	PAC
(Alternate)	

Item	Description
1.1 9:02 – 9:05	<p>Call to Order</p> <p>The meeting was called to order at 9:02 am.</p> <p>The CVRD acknowledged that the committee is meeting on and the Comox Valley Sewerage Service (CVSS) is operated on the traditional unceded territory of the K'ómoks First Nation.</p>
1.2 9:05 – 9:13	<p>Introductions</p> <p>The committee members introduced themselves to the committee.</p> <p>M. Rutten provided a summary of the agenda.</p>
1.3 9:13 – 10:10	<p>Review of Comox Valley Sewerage Service</p> <p>M. Rutten provided an overview of the Comox Valley Sewerage Service, including its participants, governance and operations. Provided a brief history of the service since its creation in 1984 and how wastewater was treated differently prior and after its creation.</p> <p>M. Mamoser joined the meeting at 9:17 am.</p> <p>Q: Did the standard of treatment improve to secondary or tertiary in 1984?</p> <p>A: Secondary treatment was constructed at time, although standards likely did not require it. Secondary treatment was not used by previous municipal systems. Treatment was originally planned as primary, but due to community concerns, it was adjusted to secondary treatment.</p> <p>Summarized the system infrastructure, including the regional pump stations and major sewer mains, and how they connect into the system and transport wastewater to the treatment plant. All treated effluent is discharged to outfall along Cape Lazo. Most of the foreshore forcemain was installed along intertidal zone, which allowed for easy installation but complicates replacement. Balmoral and Willemar Bluff pipe</p>

became exposed and work has been done to protect the forcemain, leading to the need for the now in-progress Sewer Conveyance Project.

A synopsis of the treatment plant infrastructure and treatment process was provided. Wastewater is screened and primary treatment settles heavy material, followed by biological secondary treatment process. Two equalization basins are used to manage wet weather flows. Plant has long history of odour control. Biosolids originally treated on-site but moved to Cumberland landfill after class action lawsuit in 90s. Tanks recently covered, with odorous air treated through odour control system before being discharged.

Q: Is UV treatment used?

A: Not yet but will be included in the next upgrade.

Q: Is stormwater supposed to get into the system?

A: No, but it does, and it contributes to the peaking factor.

Q: Are the two large pits not covered? Is that where any potential odour comes from?

A: The storage basins are not covered. Secondary basin holds treated effluent so no odour. Primary basin would create odour, but only used when necessary and neighbours are notified if used. Primary basin usually only used for under 24 hours and is cleaned out afterwards. Used maybe once or twice a year.

Comment: System at its inception had long retention time in forcemain, as it was designed for today's flows and does contribute to odour.

M. Hall joined the meeting at 9:36 am.

Challenges with the treatment plant were discussed, including redundancy requirements under provincial legislation, the plant's age, peak wet weather flows, capacity required to accommodate growth, changing regulations, solids residuals management and proximity to residential properties.

Q: Have in-depth records of rainfall in Comox thanks to CFB Comox. Any idea what peak rainfall is planned for? Rainiest day on record is five inches. Are there plans to account for 100-year events?

A: Planning for peak wet weather flow. Sewer systems are designed for certain peaking factors and past practice based on population. Inflow and infiltration (I&I) increases over time, so proportion of rainfall getting into sewer also increases over time. Usually account for increasing I&I over time when planning out sewer systems, but no set value used.

Q: Any projection on growth and other factors for when current plant would exceed its parameters and require second plant?

A: Focus of the site master planning work underway is to review growth projections, flows and loads and develop master plan that determines how to expand the treatment plant to accommodate growth into the future rather than building a second treatment plant.

Q: I&I has always been a big problem. What program does the City of Courtenay and Town of Comox have to mitigate I&I? Has I&I declined, stayed the same or increased with programs in place?

A: City and Town have programs in place, and I&I mostly staying the same. Dense development tends to have less I&I, which is being built more often now. Ministry of Environment and Climate Change Strategy (MoE) requested as part of Stage 1&2 LWMP to better address I&I as part of Stage 3 process.

Q: Where are stats on I&I for City and Town compared to other communities?

A: Don't have information on hand, but don't believe any worse than other municipalities. Participants are aware of need to address I&I.

Summarized the challenges for the conveyance system and the factors leading to the Sewer Conveyance Project as a solution. Forcemain became exposed on beach and CVRD installed gabion baskets to reduce erosion. Performed modelling of environmental impact of a potential forcemain break, with significant amount of sewage anticipated to leak into Baynes Sound. Sewer Conveyance Project developed as means to avoid environmental risk by moving forcemain inland.

Q: Was there ever an analysis done on lessons learned from the failure of the planning and engineering system that caused this fault? Why did it happen?

A: Installation of foreshore pipe was planned out over 50 years ago when different environmental standards were in place. Installing in intertidal zone avoided other infrastructure. Required smaller pumps to pump along original alignment, whereas new inland forcemain will require larger pumps. Cost, ease of installation and efficiency likely had a major impact.

Note: The spill scenario shared at the meeting was modelling of a potential spill, not an actual spill event.

Q: Victoria installed sewer main across bay. How did that turn out?

A: Method used was horizontal directional drilling, so not on the ocean floor but underground instead.

Comment: Town of Comox does not have formal I&I program in place but addresses I&I as it comes up and when working on road improvements. Also documenting condition of assets while building asset management plan.

Q: If I&I is leaking into system, could effluent leak out of the pipes?

A: Pumped forcemain systems are completely sealed and don't usually leak. Gravity systems don't have pressure within the pipe so effluent doesn't tend to leak out, and groundwater pressure is higher than pressure in pipes so groundwater can seep in. I&I occurs through small gaps in joints. Hard to have 100 per cent sealed system.

Q: How is I&I detected?

A: Run cameras through system or by monitoring difference between summer and winter flows.

Comment: Worked at Kelowna wastewater treatment plant. Believe I&I may have been at 10 per cent of daily flows. I&I is incredibly high if flows are tripling from summer to winter.

Q: Effluent during summer is more concentrated but effluent in winter is diluted due to I&I, so does it require less treatment?

A: Yes, more diluted in winter. Biological process is slower in winter due to the cold weather. Main difficulty is due to hydraulics of tanks, as extra flows max out capacity of system. Regarding I&I during winter, flows aren't always triple, just during extreme storm events. When cold and no rain, winter flows are comparable to summer flows. Peaking factor not high all the time.

	P. Galvagno joined the meeting at 10:02 am.
1.4 10:10 – 10:30	<p>Summary of LWMP Process and Decisions Made to Date</p> <p>M. Desilets presented on the Stage 1&2 LWMP process and decisions made to date. Elaborated on the purpose of a LWMP, the regulatory authorizations and requirements, the stages of the LWMP process, the establishment of an advisory committee, consultation with the public and First Nations, the focus and scope of the Stage 1&2 LWMP, the LWMP planning components and development of community specific goals and objectives.</p> <p>Q: Acknowledge that the sewer service is different than the CVRD, but LWMP is a CVRD plan and great amount of waste in CVRD is treated via septic systems. CVRD would benefit from regulations and bylaws for septic systems. How does that fit into bigger LWMP?</p> <p>A: On-site systems regulated by Island Health, although CVRD does have information on best practices. Generally, a plan area is chosen for a LWMP. For Stage 1&2 LWMP, service area was focused on CVSS and the treatment plant, but septic systems were discussed for south addendum.</p> <p>Q: Are the categories for the community goals and objectives the defaults ones or were the categories ranked?</p> <p>A: Categories were determined by TACPAC and options were weighted. Used triple bottom line approach, but TACPAC determined weighted ranking for categories.</p> <p>Provided an overview of the wastewater treatment options reviewed during the Stage 1&2 LWMP, which focused on level of treatment and capacity of plant. Shared evaluation matrix for treatment options, with focus on technical, affordability and environmental factors.</p> <p>Summarized proposed treatment options, based on either secondary or advanced treatment and flows up to two times average dry weather flows (2xADWF) or all flows, with secondary treatment with 2xADWF option removed by TACPAC. Option 2 (secondary treatment of all flows) was chosen, with option for inclusion of future treatment technology.</p>
	<p>Break</p> <p>The committee broke for recess at 10:30 am and reconvened at 10:42 am.</p>

1.4 10:42 – 10:57	Summary of LWMP Process and Decisions Made to Date (continued) <p>M. Desilets presented on resource recovery options for the sewer service, including reclaiming water, heat recovery, biogas production, beneficial use of biosolids, nutrient recovery and outfall hydroelectricity generation. Shared evaluation matrix for resource recovery, with 50 per cent weighting given to affordability due to not being mandatory. Most options deemed currently not feasible, but heat recovery is potentially viable and biosolids are being used for SkyRocket compost. Further assessment will be done as part of treatment plant Site Master Plan and Stage 3 LWMP.</p> <p>Outlined the Stage 1&2 conveyance options, which transitioned into the Sewer Conveyance Project. Shared evaluation matrix, with 45 per cent weighting given to technical. Option 2 (trenching/tunnel option) was chosen and taken out of LWMP process to fast-track implementation. Will not be considered under Stage 3 LWMP.</p> <p>Summarized Stage 1&2 LWMP key decisions and recommendations. Will need to apply for operational certificate during Stage 3, to be supported by an Environmental Impact Study (EIS). Site Master Plan to be developed in parallel with Stage 3 LWMP.</p>
1.5 10:57 – 11:20	How the South Addendum LWMP Fits <p>D. Monteith gave an overview of why a sewer service is needed for the south region, which includes concerns with Baynes Sound water quality, aging and failing septic systems, potential growth and high density of homes, benefits of higher wastewater treatment and long-term cost savings, and servicing K'ómoks First Nation (K'ómoks) treaty lands. Sewage Commission agreed to receive wastewater from south region in 2020, and CVRD and K'ómoks ratified Community Benefits Agreement for sewer in 2021. CVSS service area expanded in 2022 to include south region, to be included within Stage 3 LWMP. Shared map of proposed south region service area, which includes a 13 km forcemain, collection systems and pump stations, to be implemented in multiple stages. Summarized the Sewer Extension South LWMP Addendum report and timeline for the project, with approval anticipated in 2027.</p> <p>L. Johnson left the meeting at 10:59am.</p>

Q: How does the status of Union Bay Estates (UBE) impact the Sewer Extension South Project?

A: Capital funding for the project includes grant funding, borrowing from service area and partner funding from K'ómoks and UBE. UBE is facing financial challenges and staff are unsure what outcome will be. CVRD committed to advancing project and hopeful foreclosure actions will be resolved, but staff are prepared to work with K'ómoks and province to proceed with project.

Q: If there should be significant changes to committed funding, would that require public consultation? Generally strong support for sewer, but significant concerns from residents about cost.

A: Costs recognized as primary concern, so any changes to costs will be brought back for public consultation.

Q: Will residents be required to connect to the new system?

A: Phased approach, so those in each phase will be required to connect during their phase.

Q: Does the siphon at the Courtenay River have capacity for the Sewer Extension South Project?

A: Yes, it has been reviewed and the syphon has capacity to accept flows.

Q: How long will grant funding remain available if timelines are delayed? Are there other options if UBE can't contribute, such as a scaled-down system that goes as far as Royston during the first phase?

A: Will be considering options with project partners. Will have discussions with province about grant extensions.

Q: Are there any updates on the draft or proposed bylaw for septic regulations?

A: Regulation of septic systems in Sewer Extension South service area for later phases considered as part of project. Separately have considered septic regulation for all electoral areas, which involves long process to gain authority for work. Staff conducted initial public engagement on mandatory pump-outs, mandatory inspection in high-risk areas, etc. General feedback not supportive of plan, so staff are working on addressing feedback and looking at next steps. Require order-in-council from province to regulate septic systems. Septic regulation can still be considered for service area within LWMP.

	<p>Q: So is it still within this committee's purview to consider septic systems as part of the LWMP?</p> <p>A: Yes. Still need approval from province, but LWMP can serve as elector approval for service area. Outside service area would require a separate elector approval process.</p> <p>Comment: Baynes Sound is impetus for septic regulation. Given age of systems, lot sizes, etc., there is significant risk if Sewer Extension South scope changes. Costs previously presented could be impacted. Necessary for committee to consider fate of south region.</p>
<p>1.6</p> <p>11:20 – 12:29</p>	<p>Work Underway – Stage 3 LWMP Scope</p> <p>M. Rutten provided an overview of the Stage 3 LWMP process and work underway. Staff received a letter from MoE outlining requirements for the Stage 3 LWMP, which includes a site master plan for the treatment plant, Phase 4 upgrade class B cost estimates, an EIS, outfall replacement timing, addressing source control and I&I, recommendations for resource recovery, addressing cost impacts to users, engagement with First Nations and the TACPAC, and establishment of a plan monitoring committee. Summarized the path towards submittal of the Stage 3 LWMP report. Key benefit of LWMP process is that it provides borrowing approval for needed upgrades. Detailed work underway for process optimization to maximize capacity of existing infrastructure.</p> <p>Q: Is the Sewer Extension South Project and treatment plant capacity upgrades tied together financially or do they have separate budgets and grant funding?</p> <p>A: Capital funding for Sewer Extension South will be paid through grant funding, partner contributions and residents in service area. Plant upgrades are paid by entire CVSS. South region has already paid lump sum contribution to be included into service. When properties are connected, residents will pay Capital Improvement Cost Charge to contribute towards impact on sewer service.</p> <p>Q: When do we receive feedback on Sewer Extension South report? How does it get folded into overall process? Would the combined committee consider any comments, or would the previous Sewer Extension South committee reconvene?</p> <p>A: Review time varies between six months to a year but expect comments back soon. Processes are now merged, so combined</p>

committee will consider updated designs and costs for project, but public consultation will be held separately.

Q: Sewer Extension South has 13 km pipeline with no branch lines shown. Are there extra costs for arterial lines to pipe waste to shoreline?

A: Map is oversimplified, as it does not show designs for collection systems. K'ómoks and UBE responsible for their own collection systems.

Q: Has someone determined total cost for servicing a parcel of land in south region?

A: Grant funding and partner contributions will alleviate cost pressures. Calculations were included in LWMP addendum and will be updated with development of class B cost estimates. Public consultation was focused on balancing costs for property owners and ensuring the project goes forward.

M. Desilets gave an update on actions to date and proposed plans for the Stage 3 LWMP. The LWMP is an umbrella for multiple projects (treatment plant upgrades, Sewer Extension South, etc.) but will become individual projects after LWMP complete. Reviewed roadmap for Stage 3 LWMP, with next steps including addressing MoE comments and requirements, seeking TACPAC input, further public consultation and finalization of LWMP commitments and implementation schedule.

M. Proudfoot rejoined the meeting at 11:38 am.

Q: Understand that conveyance was removed from the LWMP, but won't the costs be folded back into the overall cost to the system? How does that happen within the LWMP process?

A: Public consultation on cost impacts for Sewer Conveyance Project held separate from LWMP process and approved through Alternate Approval Process. Total project costs and cost impact per year were addressed. Costs going forward will include Sewer Conveyance Project, but it won't be re-highlighted as part of LWMP. As project is happening now, the costs are already there and the borrowing has already happened.

Q: Do the costs for Sewer Extension South include the cost impact of the Sewer Conveyance Project?

A: Yes.

M. Desilets provided an overview of source control and its objectives, which includes best practices of preventing pollutants detrimental to the treatment process being introduced into the sewer system. Commented on drivers for source control, which includes provincial guidelines and requirements and to address public feedback. Approaches to source control mostly involve education for residential users and regulatory sewer use bylaws for non-domestic users. Reviewed work already done on source control and work to be done going forward, with recommendations developed. Summarized outcome and benefits of source control. Source control commitments need to be included in Stage 3 LWMP and must be addressed within a set timeline afterwards.

Q: Why is source control addressed at a regional or municipal level? Seems a larger issue that would be consistent across communities, so why not addressed at higher level?

A: Many regional districts moved to implement region-focused source control as they often manage treatment. Good practice for municipalities operating their own system to have their own regulation in place to protect their infrastructure. Harmonization between CVRD and City of Courtenay and Town of Comox would ensure consistency on what to do regarding source control.

Q: Why doesn't the province do their own public consultation or education campaign to avoid duplication of material and effort?

A: There are various educational programs, but local governments have taken on most responsibility.

Q: Will the information presented at this meeting, such as on source control, come back to the TACPAC for consideration?

A: Yes.

M. Desilets provided a brief overview of I&I. Reduction of I&I driven by provincial guidelines and requirements and to address public feedback. CVRD has committed to treating all flows, so I&I has a significant impact on planning for capacity of infrastructure. Will need to consider jurisdictional boundaries as I&I typically happens within collection

system, which are owned and operated by the municipalities. Reviewed work done and to be done for reducing I&I.

Presented on the treatment plant operational certificate. Will need to update to higher maximum discharge flow. Currently working on completion of Information Requirements Table and submittal of final operational certificate application. Process optimization, Site Master Plan, EIS and Phase 4 detailed design all feed into the Information Requirements Table and operational certificate application.

Q: Will each of these pieces come back to the committee and will the committee provide recommendations or comments to the Sewage Commission?

A: Yes.

Q: What is the current maximum volume permitted to be discharged into the strait per day?

A: 18,500 m³.

Q: What is the environmental or engineering rationale for having a limit on the amount discharged? Why can't we discharge as much as we need?

A: Effluent volume and quality impact the receiving environment, so need to undergo EIS to determine impact. Permits generally need to be updated over time as communities grow.

Q: So is the outfall having an impact on the receiving environment?

A: Goal is to have no impacts but need to review as part of LWMP process. If there are impacts, will need to implement additional treatment.

Q: Will the new operational certificate change the treatment criteria?

A: Yes, will follow relatively new legislation implemented after plant was built.

Q: Will the impact of the outfall on the shellfish production area be included as part of the EIS?

A: Yes.

M. Desilets briefly explained the purpose, requirements and objectives of an EIS. A Stage 1 EIS has been completed, with a Stage 2 EIS scheduled for 2025.

	<p>L. Johnson rejoined the meeting at 12:10pm.</p> <p>M. Rutten confirmed that everything presented at the meeting is a preview, with the TACPAC to consider the issues at a later date with more information provided.</p> <p>P. Galvagno presented on the Site Master Plan and upgrades to the treatment plant, reviewing the parts integrated into the Stage 3 LWMP. Will need to revise population projections to incorporate Sewer Extension South and account for Bill 44. Shared dry weather flows for 2023 and compared to wet weather flows, with intention to determine costs of additional processes required to treat the diluted wastewater. Investigating potential of utilizing heat recovery and reusing treated effluent for irrigation, toilet flushing and process applications. Biosolids currently composted into SkyRocket, but investigating potential alternate methods such as anaerobic digestion. Developing cost estimates for the headworks, administrative building, UV disinfection, electrical upgrades, and bioreactor and EQ basin improvements. Provided highlight of proposed upgrades and what will be involved, with these topics to be addressed at later meetings.</p>
	<p>Lunch</p> <p>The committee broke for lunch at 12:29 pm and reconvened at 12:49 pm.</p>
<p>1.7 12:49 – 1:02</p>	<p>Next Steps and TACPAC Engagement</p> <p>M. Rutten provided an overview of the role of the TACPAC and timeline for the Stage 3 LWMP. Drafting Stage 3 LWMP and reviewing components until fall 2025. Reviewing the final draft report from fall 2025 to winter 2026, with report to be submitted to province for review in 2026. Stage 3 LWMP report approval anticipated in 2027, followed by beginning of Phase 4 upgrades. Next TACPAC meetings currently anticipated for spring 2025, fall 2025 and winter 2026 to review Site Master Plan and draft Stage 3 LWMP. Work to be conducted under Stage 3 process is to address how decisions made during Stage 1&2 are implemented.</p> <p>A. Habkirk confirmed with the committee that the members have seen the committee's terms of reference. Decisions will be made by consensus. Opened the meeting to questions about each person's roles, the committee's role and the process going forward.</p>

	<p>Q: When we make a decision, is it to put a seal of approval on the quality of the decision and advise the final decision makers? Are we making recommendations as detailed as needed, rather than providing blanket approval?</p> <p>A: Yes. Major decisions were already made on level of treatment, conveyance route, capacity of treatment plant, etc. Now looking at how to implement those decisions and the associated costs. The TACPAC will provide feedback to the Sewage Commission, but not revisiting previous decisions.</p> <p>Comment: Current TACPAC seems to be focused on how-to decisions rather than what-to decisions and addressing the impacts to residents in the service area.</p> <p>Q: Will the focus at the next meeting be on the draft Site Master Plan?</p> <p>A: Some technical components will be brought back for consideration. TACPAC will look at upgrades at plant for next 50 years. Goal for spring meeting is to share Site Master Plan and seek comments and questions on 50-year phasing plan. Will give additional information to review beforehand.</p> <p>Comment: Glad to see staff are addressing Bill 44.</p> <p>Q: Do we have any updates on the schedule and budget of the Sewer Conveyance Project?</p> <p>A: Regular updates are provided to the Sewage Commission. Project overall is on schedule and on budget.</p>
1.8	Adjournment
1:02	The committee adjourned at 1:02 pm.

GENERAL:

The next LWMP Joint TACPAC meeting will be scheduled for spring 2025 and will be hosted in the CVRD Civic Room at 770 Harmston Avenue, Courtenay, and via Zoom.

TERMINATION:

The meeting terminated at 1:02 pm.