Comox Valley REGIONAL DISTRICT

Minutes

Minutes of the meeting of the Sewer Extension South (SES) Liquid Waste Management Plan (LWMP) Addendum Joint Technical and Public Advisory Committee (TACPAC) held on November 23, 2022 in the CVRD Civic Room at 770 Harmston Avenue, Courtenay, and via Zoom conference commencing at 9:01 am

**PRESENT:**

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| A. Habkirk, Facilitator | Facilitator |
| R. Dyson, Chief Administrative Officer | CVRD |
| J. Warren, Deputy Chief Administrative Officer | CVRD |
| M. Rutten, General Manager of Engineering Services | CVRD |
| D. Monteith, Manager of Liquid Waste Planning | CVRD |
| V. Van Tongeren, Environmental Analyst | CVRD |
| A. Mullaly, General Manager of Planning and Development Services | CVRD |
| M. Briggs, Branch Assistant – Engineering Services | CVRD |
| I. Snyman | WSP |
| M. Levin | WSP |
| D. Wilson | Zinc Strategies |
| S. Ashfield, Town of Comox | TAC |
| E. Derby, Island Health (Alternate) | TAC |
| R. Beise, Island Health (Alternate) | TAC |
| T. O'Dell, Ministry of Agriculture and Food | TAC |
| M. Mamoser, Ministry of Environment and Climate Change Strategy | TAC |
| L. Johnson, Ministry of Health | TAC |
| D. Arbour, Electoral Area A Director | PAC |
| I. Munro, Electoral Area A Alternate Director | PAC |
| M. Hewson, Association for Denman Island Marine Stewards | PAC |
| N. Prins, BC Shellfish Growers Association | PAC |
| M. Cowen, BC Shellfish Growers Association | PAC |
| C. Pierzchalski, Comox Valley Conservation Partnership | PAC |
| A. Gower, Comox Valley Chamber of Commerce | PAC |
| I. Heselgrave, School District No.71 | PAC |
| M. Atkins, Underwater Harvesters Association | PAC |
| N. Prince, Craigdarroch Resident Representative | PAC |
| R. Steinke, Craigdarroch Resident Representative | PAC |
| T. Donkers, Royston Resident Representative | PAC |
| K. Newman, Royston Resident Representative | PAC |
| J. Elliott, Union Bay Resident Representative | PAC |
| R. Lymburner, Union Bay Resident Representative | PAC |

| Item, Time | Description | Owner |
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| **2.1** 9:01-9:04am | **Call to Order and Territorial Acknowledgement**<br>The meeting was called to order at 9:01 am.<br><br>The CVRD acknowledged that the committee is meeting on and the proposed Sewer Extension South Project will be constructed and operated on the traditional unceded territory of the K'ómoks First Nation.<br><br>MOTION: Adopt the agenda – A. Gower<br>SECONDED: R. Lymburner<br>CARRIED UNANIMOUSLY | **A. Habkirk** |
| **2.2** 9:04-9:09am | **Welcome and Introductions**<br>The committee members introduced themselves to the committee. | **A. Habkirk** |
| **2.3** 9:09-9:13am | **TACPAC Meeting #1: Minutes, follow-up items**<br>D. Monteith addressed a question from TACPAC meeting #1: can we set water quality requirements within the area after the LWMP is adopted? Water quality criteria and restriction of discharges to sensitive water bodies can be included in scope of the LWMP addendum for those areas proposed to be serviced by project. Process could include bringing forward technical memo outlining considerations and then developing a policy.<br><br>M. Mamoser explained that the TACPAC can develop a policy as part of the LWMP addendum, but would need to be approved by the Minister and include evidence that stakeholders were consulted. Would not affect current applications until LWMP is approved, and then would impact any future applications or amendments to ongoing applications, since they cannot conflict with the LWMP.<br><br>Comment: This process is for future development, since it would only apply to systems that have a discharge of 22,700L/day as governed by the Municipal Wastewater Regulation.<br><br>MOTION: Adopt the minutes of the September 21, 2022 SES LWMP Addendum Joint TACPAC meeting – I. Munro<br>SECONDED: R. Lymburner<br>CARRIED UNANIMOUSLY | **A. Habkirk & D. Monteith** |
| **2.4** 9:13-9:32am | **Recap: Project overview, purpose and objectives**<br>A. Habkirk introduced the topics to be discussed and set the goals for the day.<br><br>D. Monteith gave a recap of the previous TACPAC meeting and summarized the history of wastewater planning in Electoral Area A. Provided an overview of the LWMP process, which includes the Sewer Extension South LWMP serving as addendum to the Comox Valley Sewer System (CVSS) LWMP, ending in a combined Stage 3 | **A. Habkirk & D. Monteith** |

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| | LWMP. Reviewed overall project concept, which includes a 13km forcemain from Union Bay to Courtenay, local collection systems and pump stations.<br><br>Q: Was a crossing from Gartley Point to Goose Spit considered?<br>A: Not considered in most recent technical analysis but was looked at during South Sewer Project. Concerns about raw wastewater crossing the estuary.<br>Q: Doesn't it already have to cross somewhere?<br>A: Currently crosses at Courtenay River siphon, which has capacity for south flows and is a much shorter crossing.<br><br>A. Habkirk acknowledged that the project is heavily focused on connection to CVSS due to other options having been removed due to previous studies or referendums, and requested that the committee share any concerns with this focus. Past analyses can be provided if requested.<br><br>Q: Do we have information on how the boundaries were determined that the committee can share?<br>A: Planning process based on past work, so boundaries are historic boundaries. Based on residential lot density and cost impacts.<br><br>Q: Noted that Cameron Estates not included. Wouldn't it be more cost effective to include as many properties as possible, especially the more concentrated areas?<br>A: The committee can consider recommending specific neighbourhoods be added to the service area if there is interest. Would need to consider system age, lot size and costs for connection in the analysis. Staff can provide additional information on boundaries.<br><br>Q: Has age been considered for included properties? Old or new systems will have to connect. Need to communicate how those who have installed new systems will be accommodated or compensated.<br>A: Generally looking at cumulative impact of septic systems. Will present later during meeting on this topic.<br><br>Q: Would the conveyance line have capacity for future flow volume not included in initial phase?<br>A: Planning includes entire proposed service area.<br><br>Comment: Union Bay residents are concerned about communication. There haven't been letters since TACPAC formed, so follow-up letters would be appreciated. | |
| **2.5.1**<br>9:32-10:20am | **CVRD Updates**<br>**Septic system records (Island Health)**<br>R. Beise provided a high-level overview on septic systems. Septic systems provide an environmentally friendly and economical solution | **R. Beise** |

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| | when no domestic wastewater treatment system exists, but failing systems may pose significant risk to environment. Typical lifespan is 15-40 years depending on type. Type 1 system requires less maintenance but is designed to slowly fail and be replaced at end of life. Type 2 and 3 systems require more maintenance and involve engineered treatment.<br><br>Q: Are all three types of systems permitted now or did the regulation change at one point?<br>A: All included in Sewerage System Regulation (SSR).<br><br>Complexity of system depends on property constraints (setbacks, property lines, water bodies, onsite soil conditions, lot size, etc.). Island Health (IH) recommends minimum lot size of 1Ha for properties with well water and 0.2Ha for properties with municipal water.<br><br>Explained how treatment in septic system works. Wastewater treated in septic tank and then effluent is moved to distribution system and dispersed to ground.<br><br>Responsibility for maintenance placed on owner. Must be done by Authorized Person (AP), which includes Registered Onsite Wastewater Practitioners (ROWP) and Professional Engineers (P.Eng.), or under supervision of AP.<br><br>Q: Is P.Eng. required for Type 1-3 systems with over 9,100L/day or just Type 3 system no matter the flow?<br>A: P.Eng. can approve all systems, but P.Eng. is required for Type 3.<br><br>Shared example of Capital Regional District (CRD) septic system bylaw requirements. Type 1 must pump out tank every 5 years. Type 2 and 3 must have AP provide maintenance plan and complete annual maintenance.<br><br>Estimated costs for septic system replacement were shared: $10k-20k for Type 1, $20k-30k for Type 2, and $30k-50 for Type 3. These estimates are likely low.<br><br>Q: Is there any CVRD bylaw for septic systems?<br>A: No bylaw at moment, but will speak to this later.<br><br>Q: Septic regulation bylaws are a moot point if no enforcement. How can these be enforced?<br>A: CRD has compliance threshold. Does not often resort to hard enforcement but may send warning letters.<br><br>Q: Are there any provincial guidelines? | |

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| | A: Requirement for maintenance is included in SSR, which covers systems under 22,700L/day. Some measures for enforcement included, but delegated to local health authorities. For health authority to enforce, they need to issue order under Public Health Act, but this requires active health hazard.<br><br>Comment: Only ever seen enforcement in response to a complaint.<br>Response: IH is keeper of septic documents and permits, and addresses complaints.<br><br>Q: If IH's role is to ensure all buildings with plumbing have system in compliance and IH is not ensuring compliance, are they then not carrying out their mandate?<br>A: Regulatory change in 2005 saw shift of obligation to AP and removed direct role of IH from ensuring correct installation and maintenance of septic systems. IH may investigate instances where non-AP installing or maintaining systems, as well as following up on complaints.<br><br>Comment: Local government also involved in septic systems because local government won't approve building permits unless evidence shown that property will have sewer servicing.<br><br>Comment: CRD sets policy for septic systems, so CVRD could follow a similar method.<br><br>Staff clarified that the Ministry of Transportation and Infrastructure is the approving authority for rural areas. Ultimately comes back to AP and reliance on their approval of a system.<br><br>Statistics on septic systems were shared with the committee, which included the total number of lots in Union Bay, Craigdarroch and Royston with septic systems that are below the 0.2Ha IH recommendation for minimum lot size and without any septic records. Also included age of systems and system types. Noted that 30 per cent of all lots had no septic records, indicating they were likely built before requirement of records (pre-1970s) or installed without a permit.<br><br>Q: Is it fair to assume that the 30 per cent of lots with no records are likely older septic systems?<br>A: Yes, systems would most likely predate 1970s.<br><br>Q: Did the breakdown of system type assume that the systems without records were Type 1 or were those numbers not included?<br>A: Excluded, since nothing can be interpreted from them without records. | |

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| | Q: Did Type 2 and 3 systems exist pre-70s? Is it safe to assume most unknown systems are Type 1?<br>A: Unsure if Type 2 and 3 existed, but legislation at time tended to push people to install Type 1. May have had alternative designs, which would have required approval of health authority to install. Likely that unknown systems are Type 1.<br><br>Lot size and proximity to ocean likely will require more complex and expensive options when replacing failing systems. Without records of system, would require entire system to be dug up to verify what is there before repairs or upgrades, so replacing system may be cheaper option. Without regular maintenance, Type 1 has lifespan of 10-15 years.<br><br>Estimated replacement and maintenance cost over 25 years: $25k for Type 1, $60k for Type 2, and $80k for Type 3.<br><br>Q: When discussing need to replace system, this would be based on system failure rather than just age? Is it possible there may be older systems functioning properly?<br>A: Yes, need to replace system is based on failure. Older systems may be functioning properly.<br><br>Q: Without evidence of failure, how can we tell if older systems are prone to failure? How many complaints has IH responded to in the proposed service area over the last five years?<br>A: Don't have numbers available, but there have been complaints in the area. Complaints is one way of telling when system is failing. System may be failing in area where not noticeable.<br><br>CVRD staff noted that a groundwater study was conducted for the area showing evidence of failing systems.<br><br>When following up on complaint and finding evidence of failure, IH follows up with health order. Usually greatest issue with ensuring compliance is lack of funds to replace system. Connection to municipal service can often be amortized through property tax, and frees up space where field was located.<br><br>Q: Should include comparison of both capital and maintenance costs, as well as impact on property taxes, for septic systems and to connect to municipal system. Do we know incremental costs to connect to municipal sewer service?<br>A: Will cover per property and annual costs at next meeting.<br><br>Comment: Would appreciate cost comparison showing cost to homeowners rather than just overall costs. | |

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| | Comment: May see changes to groundwater flow and nutrients when taking all these properties off septic. May see trees drying up and thus leading to change in water use, such as additional irrigation. Should consider potential impacts and plan accordingly. | |
| **2.6**<br>10:20-10:32am | **Break**<br>The committee broke for recess at 10:20 am and reconvened at 10:32 am. | |
| **2.5.2**<br>10:32-10:43am | **CVRD Updates (continued)**<br>**Septic system regulatory options**<br>V. Van Tongeren gave an overview of septic system regulatory options. CVRD launched septic education workshops in 2018, and a maintenance program options study was completed in 2020 that determined Royston and Union Bay as priority areas for septic failure.<br><br>Maintenance program options include mandatory pump-out, mandatory inspection, and mandatory inspection and maintenance, with estimated costs ranging from $330k to 1.8 million.<br><br>Maintenance program can have limited effect in resolving septic issues in areas with high density, poor soil quality, and high winter water table.<br><br>Q: Are program costs for regulatory efforts, not mandatory pump ups?<br>A: Costs presented include administrative and enforcement costs and mandatory pump outs. Mandatory pump outs could be paid by owner to reduce program property tax impacts.<br><br>Option of using zoning bylaw as means of regulating septic systems. Current zoning bylaw allows secondary dwelling, but could revise to restrict secondary dwellings until sewer servicing in place.<br><br>Comment: Seems unfair to penalize those willing to install septic systems properly.<br><br>Q: Is it practical to inspect Type 1 systems if they're designed to fail? Sounds like you can't tell they're failing until they fail, so would enforcement even be effective?<br>A: Pump out isn't necessarily all the maintenance that is required.<br>Q: Inspection can spot other issues?<br>A: Can spot issues with condition of tank or field.<br><br>**Value planning workshop**<br>V. Van Tongeren gave an overview of the value planning workshop held for the Sewer Extension South Project. Third-party review by a team of experts to consider project function vs resources lens. | **V. Van Tongeren** |
| **2.7** | **Discussion Paper #1: Forcemain design, costs, phasing considerations** | **I. Snyman** |

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| 10:43-11:59am | Ian Snyman provided an overview of Discussion Paper #1.<br><br>Utilized population projections for service area from 2020 to 2070.<br><br>Shared map of proposed pump station catchment areas, as well as expected flows (peaking factor, dry & wet weather flows, I&I, etc.) for 2025 and 2070. Large variance of flows, so need to design system accordingly. Need minimum of 0.75m/s velocity, which will limit what size pipe and wet well can be use based on expected flows.<br><br>Q: Calculations used provincial standards. Will final projections be based on actual water usage? I&I may be less for new system, which may lead to oversizing system.<br>A: Values are conservative. Don't have actual data for some values, so have to go off provincial standards.<br><br>The longer sewage stands still in the system, the more likely it will become anaerobic and cause odour. Needs to be in motion at all times.<br><br>Q: What is the overall system design window in terms of years?<br>A: Based on 2070 figures.<br><br>Q: Do we have the water to support that population base? Has this been planned for?<br>A: Union Bay Water Master Plan recently completed, so good understanding of water capacity. Agreement in place to supply water from Comox Valley Water System to K'ómoks southlands, which covers bulk of supply for water in area.<br><br>Q: What is the analysis for full build-out for area? What will happen beyond 2070? Development of treaty lands could be size of Town of Comox at full build-out.<br>A: Medium growth scenario used, looking at low, medium, and high growth projections for each area, with projections from UBE used for their development. Expect minimal new development on existing lots. Looking beyond 2070 is difficult due to many unknowns. Not sure when K'ómoks will proceed with development, but designed to be easily scaled.<br>Q: So design or analysis was looked at for full build-out but scaled down? Understand can't design for full build-out without issues with stagnancy and flows due to oversizing. How has the CVRD planned out for future development? Is the density that's used from the Regional Growth Strategy (RGS)?<br>A: RGS plans for 20-year planning horizon. Difficult to plan out so far into future, with accuracy decreasing the further ahead you look. Important to keep both infrastructure and land-use planning in mind moving forward. | |

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| | Comment: LWMP process is meant to be reviewed every five years, so can be revised as new issues arise.<br><br>Comment: Regional growth proposes significant problem to infrastructure planning. May need to coordinate with land-use planning.<br><br>CVRD staff noted that there is existing zoning and land-use policies in place. CVRD has also coordinated with K'ómoks for water and sewer. Treaty lands not subject to RGS and other CVRD policies, so collaboration with K'ómoks key to providing service.<br><br>Q: How can zoning change for sewer for commercial lots? How will commercial properties affect flows?<br>A: Commercial properties were considered, but data shown as population projection for simplicity.<br><br>Q: Regarding extreme weather events, values show that wet weather events may have large impact on flows. To what extent can we model that?<br>A: Sewage and stormwater should be separate. Shouldn't have to accommodate for it, and should be channeled away from system. New system should have less I&I. Infiltration will dilute system, but impact should be minimal compared to combined systems.<br><br>I. Snyman detailed the phases of pump stations, with a series of pump stations from Union Bay to Royston required to maintain flows over such a long distance. Phase 1 is focused on Pump Station #6 (PS6) in Union Bay and Pump Station #1 (PS1) in Royston, with PS6 pumping 8km to PS1 and then PS1 pumping to the Courtenay River siphon. Phase 1B includes addition of Pump Station #3 (PS3) near Craigdarroch, connecting between PS6 and PS1. The long-term phasing includes a future regional pump station in Royston, with PS3 and PS1 feeding into it and then pumping on to siphon.<br><br>Ultimate buildout includes several pump stations and future twinning of conveyance pipeline. Pipeline won't be twinned initially to avoid having to pay now for infrastructure that won't be used for 20-30 years. Better to design infrastructure to allow for easier future installation, with large culvert that adds space for twinned pipe.<br><br>Q: Is ultimate build-out for beyond 2070?<br>A: Proposed ultimate build-out is for 2070.<br>Q: Has impact on Courtenay River siphon and infrastructure from siphon to treatment plant been considered?<br>A: Provision for south flows being made within CVSS LWMP and CVWPCC site master plan. Sewer System Conveyance Project (SSCP) is for 2100 and proposed to accommodate south flows. | |

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| | Q: If this is to 2070 and SSCP is to 2100, the SSCP then is designed for full build-out?<br>A: Yes.<br><br>Q: Variation in pump station flows throughout phasing may lead to challenges to design. Will this considered when sizing wet wells and pump configuration?<br>A: Will be addressed in later presentation.<br><br>Q: Is Kilmarnock included with original pipeline or twinned line?<br>A: Will be included in original pipe. Pumps will be upgraded when line is twinned.<br><br>Maps of the proposed catchment areas were shared. South Royston Forcemain will be HDPE pipe and follow Highway 19A as much as possible, as most conservative proposal.<br><br>Q: Any consideration for K'ómoks southlands, especially those closer to Highway 19 (Inland Island Highway), connecting via different route or catchment?<br>A: Other options considered, such as pumping upland and then utilizing gravity main, but forcemain considered best option.<br><br>North Royston Forcemain runs through City of Courtenay. Route designed to avoid as many utilities as possible.<br><br>Class C cost estimate for forcemain currently at $31,590,000, including both contingency and engineering. Costs can be further refined as design proceeds, which is accounted for in the contingency.<br><br>Q: Do these costs exclude UBE and K'ómoks?<br>A: These are overall costs for the system. UBE and K'ómoks contributions may cover part of overall costs.<br>Q: Is $31,590,000 for the entire project?<br>A: Amount is just for the forcemain.<br><br>D. Monteith advised the committee that the project will need to be phased. First phase will include historic Royston and Union Bay core. Identified as area with most environmental impact. Initial phase is limited in scope to better improve chances of receiving grant funding and to minimize overall costs.<br><br>Q: So Phase 1 is for the forcemain to Union Bay and piping to individual lots?<br>A: Infrastructure will include forcemain from Union Bay to Courtenay, two pump stations in Royston and Union Bay, and collection system for Royston between Highway 19A and Marine Dr, as well as the core Union Bay area. | |

Q: Noticed Royston Elementary not included in Phase 1 despite concerns about septic system. Why is it not included?
A: Investigating options for connecting Royston Elementary sooner rather than later, and will be discussing further with SD71.

Q: Will costs for additional connections in later phases be different amounts depending on available grant funding?
A: Unsure what costs will be, but may be different. Later connections will be paying for their collection system rather than previous infrastructure.
Q: How is that fair? Need to consider that people may want to connect during earlier phase if they think it will be cheaper. Should be able to communicate that those connecting to same sewer system will pay same amount.
A: Two main high-cost aspects of project: the collection systems, and the forcemain and pump stations. Can't guarantee what future costs will be, but will be aiming to keep them as close as possible. Limited by amount of available grant funding. Will be investigating other funding options when looking at installation of later collection systems.

Comment: Royston Elementary is currently 50 per cent over capacity. Septic system is tested annually, and only allows for 315 students. Prefer to be added to earlier phase, and recognize that as larger user would bear greater costs.

Comment: Existing residents make up about 20 per cent of proposed service area, with 80 per cent for future development. Ideally future development should be paying for bulk of costs. Grants ultimately come from taxpayers, so should not rely solely on grants.
Response: Will be looking more in-depth at numbers next meeting. Not intended for residents to pay for future developments.

Comment: Should show that funds from partners will go to shared infrastructure such as forcemain and pump stations.

Comment: Some neighbourhoods will cost more to service, so argument could be made that it's unfair for residents with cheaper connection to pay as much as more expensive connections. Have to balance costs across system and be able to explain these costs.
Response: Phase 1 will service high density areas first because it will be cheaper.

Q: Will we see different costs for different phases and be able to share them?
A: Challenge with knowing when next phase will be developed. Difficult to estimate inflation as well.

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| | Q: Understood that residents wouldn't have choice to opt out, but earlier stated that neighbourhood can choose to join in later phases. Will it be opt-in/opt-out?<br>A: If neighbourhood costing for an area isn't included in LWMP, an amendment would be required later as areas are added. Could also resort to referendum or Alternate Approval Process. Should be outlined in LWMP how new phases will be added. Must amend LWMP if costs have changed significantly, which requires public consultation and approval by the Minister.<br><br>Q: Will costs be on property taxes or separate entity? There are many people that defer property taxes, but can't defer certain things. Would especially impact seniors. Would there be option to pay full amount up-front?<br>A: Will discuss these topics at next meeting. | |
| **2.8**<br>11:59am-12:02pm | **Committee Process: Forcemain alignment, project phasing**<br>D. Monteith explained the committee process and what the TACPAC should prepare to discuss for next meeting. Looking for the committee to make decisions on initial phasing and criteria for future phasing.<br><br>Comment: Documents roughly cover what costs will be per meter, so can deduce from that what people will be paying.<br>Response: Property connection costs shared are for costs of connecting from house to property line. There will be additional costs for community collection and conveyance infrastructure. | **D. Monteith** |
| **2.11**<br>12:02-12:35pm | **Lunch**<br>The committee broke for lunch at 12:02 pm and reconvened at 12:35 pm. | |
| **2.9**<br>12:35-1:10pm | **Discussion Paper #2: Collection system options, cost comparison**<br>M. Levin gave an overview of Discussion Paper #2. Seven collection system alternatives considered: Gravity Sewer (GS) System, Low Pressure Sewer (LPS) System, Vacuum Sewer (VS) System, Septic Tank Effluent Gravity/Pump (STEG/STEP), and combinations of the first three. Gravity requires less maintenance and is preferred where possible, but limited by topography. STEP uses septic tank to treat solids and then effluent is distributed to system. LPS with grinder pumps is similar but utilizes grinder pump to break up solids and distributes all waste to system. VS utilizes centralized vacuum station to pull wastewater towards itself, and works well in flat areas. GS/VS is cheapest option, but VS rarely used in Canada and requires specialists for maintenance and monitoring. GS/LPS hybrid was highest rated system.<br><br>GS is ideal where usable. Could be impacted by high water table like in Union Bay. LPS has small holding tank on property, meaning sewage is sitting for less time. Less impacted by topography due to pumping. | **M. Levin** |

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| | Comment: With LPS the homeowner owns the pump and the local government only owns from main to the service box. Places additional burden on homeowner.<br>Response: Yes, pump is owned by homeowner. Needs to be properly maintained or may cause blockages in main. May be concerns with pump not working without power, with tank usually having 24-hour storage.<br><br>Hybrid GS/LPS allows for flexibility and to utilize benefits of both systems.<br><br>Q: Is the system shown on the Low Pressure Sewer System slide a GS/LPS system? Mentions gravity sewer from house.<br>A: Gravity flow from home to LPS tank. Main is still pressurized. Could have some properties pumping via LPS tank into gravity system, but most neighbourhoods investigated will be either GS or LPS.<br><br>Short-term conceptual design includes 18 highway crossings, review of GS foreshore installation to replace with LPS, and phased approach to buildout.<br><br>Q: Which catchment areas are LPS and which are GS?<br>A: Considering LPS for waterfront properties in Union Bay. Most other catchment areas will be gravity.<br><br>Cost estimate for PS1 catchment area (Royston) is $11,099,000, which includes engineering and contingency. Cost estimate for PS6 (Union Bay) is $10,615,000.<br><br>Q: Will septic system tanks be connected to system?<br>A: No.<br>Q: Does LPS use old septic tank?<br>A: Will need new tank since smaller size is required, but there is possibility of reusing old infrastructure.<br>Q: With properties where septic tank is not on street side, will the new tank need to be installed in new location?<br>A: Depends on where it makes most sense to have tank.<br><br>Q: Is there noticeable difference in maintenance costs for the CVRD with LPS with residents maintaining their own tanks? Imagine if resident is paying to maintain own grinder that they will be more careful with what they flush.<br>A: Maintenance costs could be lower for CVRD.<br><br>Comment: Recommend that pump stations be referred to by location rather than number to make them more recognizable. | |

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| | Q: What is the usability of the two options? With GS can residents be less careful with what we flush into the system since there's no pump to go through?<br>A: Additional material still needs to be screened out, just at treatment plant instead of at tank.<br>Q: So those with LPS will have more to worry about than GS?<br>A: Yes, since they have infrastructure on property.<br><br>Q: How would we address power outages for LPS? Would a VS work instead with a generator for the vacuum?<br>A: Power failures are a concern. Would have roughly 24 hours of storage in tank. Many communities have LPS systems, so there are examples to look to for dealing with power outages. VS would limit power concerns to one station, but system cannot be used effectively over long distances and requires special training to maintain and monitor. Also risk of blockages impacting suction and causing sewage to sit in the line until vacuum is restored.<br><br>Comment: Vacuum system would have greater cost overall for residents in comparison to LPS.<br><br>Q: Can we put the pump chamber in the septic tank? If there is a reason to remove tank, need good explanation for why.<br>A: Agree, but will be on case-to-case basis depending on condition of tank. Using the septic tank for storage may cause odour issues.<br>Comment: Recommend putting pump chamber in septic tank, not using tank as pump chamber.<br><br>Q: Will certain setbacks be required for tanks?<br>A: Likely yes, but with less conditions. Most setbacks are tied to the dispersal field, which will be eliminated with using the pump.<br><br>Q: Would location of existing septic system be factor if being used to store pump?<br>A: Location, condition of tank, and costs of keeping in same location but with longer service line that would be considered.<br><br>Q: Would footprint be less than with septic tank?<br>A: Yes, since no dispersal field and smaller pump chamber.<br><br>Comment: LPS are often maintenance nightmares. Should resort to gravity wherever possible.<br><br>Q: Understanding from previous South Sewer Project that it would be deep trench gravity-fed system. What has changed? What would be cost difference between using GS vs LPS for those being considered for LPS?<br>A: System will be primarily gravity-fed. LPS will be for those along foreshore to avoid installing pipe on foreshore. | |

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| | Q: Understood that foreshore properties were originally going to be gravity-fed but changed to deep trenching beneath the road. What are the cost difference between these options and why might this no longer be feasible?<br>A: Deep trench installations have very high up-front capital costs and difficult to justify to owners.<br><br>Q: Not at discretion of owner what type of system will be used, so will it be moot point from perspective of owner? Residents aren't going to be given an option.<br>A: May be circumstances where LPS is ideal for some properties, in which case the option may be given to the property owner.<br><br>Q: Can we get a map of those fed by gravity and those with LPS?<br>A: Will be shared later.<br><br>Q: Will installation of LPS pump chamber be included in project costs and maintenance covered by owner?<br>A: Yes, project will cover costs of pump installation. Infrastructure would become homeowner's responsibility afterwards.<br><br>Q: Will project pay for gravity connection from house to property line?<br>A: No. Project will only cover pumps and chambers but not connections – same for both LPS and GS. | |
| **2.10**<br>1:10pm-1:15pm | **Committee Process: Collection system options**<br>D. Monteith advised the committee on what input is being sought for next meeting. Seeking decision on proposed configuration and if broader application of LPS vs GS would be preferred.<br><br>A. Habkirk noted the need to allow time to discuss these options and ask questions at the next meeting. May need additional meeting in new year.<br><br>Q: Are we voting on this at next meeting?<br>A: Yes, will seek consensus at next meeting after providing more information. If additional meeting is added decisions can be deferred to that meeting.<br><br>Comment: Archaeology on list but we haven't discussed.<br>Response: Will be bringing forward Environmental Impact Study to next meeting.<br><br>Comment: Might be worth connecting with Town of View Royal regarding offsets and setbacks since they utilize LPS. | **D. Monteith** |
| **2.12**<br>1:15-1:48pm | **Discussion Paper #3: Pump station design options, cost comparison** | **CVRD** |

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| | Ian Snyman gave an overview of Discussion Paper #3. Provided two options for PS1 (Royston) and PS6 (Union Bay), Option A being the building design and Option B being the kiosk design.<br><br>PS1 expect low flows at system initiation, so need to mitigate potential odour impacts. Don't want to have constrained access. Option for public washrooms with Option A. Option B has less visual impact.<br><br>Q: Have you looked at above ground valve chambers?<br>A: Did not include because wanted to minimize visual impact and will have less space constraints.<br><br>PS6 will start with two pumps, one duty and one standby. Room will be left for additional pumps to address future flows. In future will have a duty pump, assist pump, and standby pump. As with PS1, Option B will have less visual impact.<br><br>Option A (building) has the advantage of opportunity for public washrooms, but has higher construction costs and greater visual impact. Option B has less visual impact and costs, but does not provide public facilities and is at risk of being vandalized or producing more noise when generator in operation.<br><br>Comment: For PS1 (Royston), the public washrooms would be considered a disadvantage by neighbours.<br><br>Proposed locations for PS1 is along Marine Dr near Royston Rd. Chosen due to low-lying area and property within Ministry of Transportation and Infrastructure road right of way. Provided visual comparison of Option A and B for two locations.<br><br>Q: Will this be a fenced compound?<br>A: Will be up to CVRD and residents. Does not need to be fenced.<br><br>Q: How high up will this facility need to be to meet post-disaster standards?<br>A: Will just be smaller pump station, with options to move controls across road. Location was originally indicated by 2016 study. It is at risk to future coastal flooding that is a consideration going forward.<br><br>Comment: May want fencing for security, but could also landscape property. There are examples of pump stations landscaped so you can't tell they're even there. Something to consider when we start looking at designs.<br>Response: Examples of unfenced kiosks in Comox Valley exist, and lack of fencing does significantly reduce visual impact.<br><br>Comment: Two-story building would avoid flooding risks. | |

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| | Response: Would be expensive to build two-story building and greater visual impact on waterfront.<br><br>Q: Are we at the level of detail where we are comparing site locations? Royston location may see pushback if not treated sensitively since it's a popular recreational area.<br>A: Locations are presented to committee to discuss and put forward recommendations to Steering Committee.<br><br>Comment: Very easy to make pump station not look like pump station.<br><br>Q: Is odour control for the building?<br>A: Odour control takes odour out of the sewage.<br>Q: Is it only included with the building option?<br>A: Will be in both.<br><br>PS6 (Union Bay) locations proposed on UBE property. Previous LWMP recommended parking lot opposite Highwayman Pub.<br><br>Future Regional Pump Station will be constructed when additional capacity required, and convey wastewater from all pump stations to Courtenay River siphon. Should be located close to forcemain.<br><br>Option A (building) estimated to cost $4,640,000 for all pump stations and Option B (kiosk) estimated to cost $3,784,000, including engineering and contingency. Operation and maintenance costs for PS1 and PS6 over 50 years are estimated to be $15,177,689 and $13,988,260 respectively for Option A and $10,538,323 and $9,712,446 for Option B.<br><br>Q: What does odour control do? Is it down to no smell or minimal smell?<br>A: Goal is to treat all odour.<br><br>Q: When will we talk about other pump station siting?<br>A: So far just focused on Phase 1 pump stations, but can look at others if TACPAC interested.<br><br>Q: Will we be reaching a consensus at a later meeting about building type and location?<br>A: Will be considering at a later meeting and putting forward recommendation. Can book an additional meeting if more time is needed for discussion.<br><br>Comment: Need to lay out what decision points are before each meeting. | |

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| | Comment: Campbell River built a number of pump stations along waterfront with washrooms. Should be considered for areas along walking paths. | |
| **2.13** | **Committee Process: Pump station design options**<br>This agenda item was skipped due to time constraints. | |
| **2.14**<br>1:47-1:51pm | **TACPAC Meeting #3 Preview**<br>D. Monteith gave an overview of the next meeting, which will be more focused on discussion than providing information. Staff will be bringing forward a draft Stage 1 Environmental Impact Study, briefing note on sewer service structure, high-level resident costs, and a discussion on committee decisions. | **D. Monteith** |
| **2.15**<br>1:51-1:53pm | **Roundtable**<br>A. Habkirk asked the committee if there were any questions, concerns, or comments about the process for the next meeting.<br><br>Comment: Communication about project and TACPAC work is important. Should share on social media.<br>Response: Public open houses are scheduled for spring 2023, with one in Union Bay, one in Royston, and one held virtually. Will send out project update with invitation to open houses. | **A. Habkirk** |
| **2.16**<br>1:53pm | **Adjournment**<br>The meeting adjourned at 1:53 pm. | **A. Habkirk** |

**GENERAL:**
The next SES LWMP Addendum Joint PACTAC meeting will be held on December 12, 2022 commencing at 9:00 am in the CVRD Civic Room at 770 Harmston Avenue, Courtenay, and via Zoom conference.

**TERMINATION:**
The meeting terminated at 1:53 pm.