

Roundtable May 13, 2015

Cost and Level of Treatment

Table 1

Need something visual that people can grab to understand what a facility would look like in, for example, a park.

Q. Will there be a push for septic users to hook up to sewers?

A. Depends on municipality ... not in Colwood.

Q. How will a distributed system vs centralized affect cost?

A. Hard to say. Part of conversation.

Table Introductions

- Not assume that higher treatment implies higher cost.
- What's in sewage – microfiber towels, neutralize toxins, not just move them around.
- Saanich is moving fast. Westside seems thorough and thoughtful.
- Move forward ... we are past asking whether we need to do this.
- Path for greater sustainability for the region. Not about cost, about the right solution now and for the future.
- Want to understand all the costing.
- Cost vs. price. Cost to the environment. More value than money.
- Best investment for today and add to that investment to get where we want to go. If we can't afford the treatment we want today, we can work toward it.
- It's about getting it right. Fairly soon. Not a difficult thing to do. Has become politically difficult.
- 100 year plan so my kids don't have to come back to this table.
- Combine the responsibilities of the CRD – sewage, hospitals, kitchen scraps – seek opportunities.

Report out

- Who is leading the process - credibility is key.
- Transparency = TRUST
- Accountability to have a clear, concise conversation about costs/siting
- Status quo – distrust purposeful confusion – take full accounting before we can present realistic options
- Here is the measure against which we will ask citizens for support of options
- More granular than triple bottom line – series of metrics/values so people can say
- 'these are important to me' like; environment, scalable, future focused, based on previous discussions
- Trade-offs – need apples to apples comparison – things aren't being skewed
- There should be no losers Mitigate against detriments to choice of Site and technology
- Tested P3 – it depends on how you structure the deal – if revenue is generated, must be revenue sharing to support scalability of facility
- Community centric approach
- Thorough, independent and transparent analysis
- Investment, can make subsequent investments

Table 2

Introductory comments from group:

- Distributed facilities you can build as required
- Should be scalable, improvable
- Cost does not refer just to money
- We need to aim high
- Consider what was being proposed is just meeting regulations of today, maybe we should think about treating to a higher level so we don't have to do it again when regulations change
- Plan now for tertiary? Would cost more later to upgrade
- Theme: building for the future; a 100 year plan
- Mindset: not in favour of just using regulations, this is thinking small, not big. Think about the environmental issues not just regulations
- Most important: that we clean up the waste water to highest degree possible (Dockside Green). We can use this resource which encourages conservation and recycling
- Look what's happening in California with water: conservation.
- Cost perspective: water important; tertiary treatment can bring cost down, because don't need long outfall (cost of pipeline, etc)
- Wastewater vs resource is an established mindset in group. Looking at more than lowest cost.
- Introduce renewable aspects and bring costs down
- We're all concerned about environment, but there will be a cost associated with high level environmental protection.
 - Not necessarily – resource recovery, biosolids, the less that you have at the end of the cycle, the less costs.
- Different levels of treatment, closed system, leads to benign ash that can be used for a variety of things, it's a closed loop
- Scale of costs associated with level of treatment.
- Question: Can P3 be cheaper?
- There are health costs as well. Secondary doesn't take care of harmful substances. Need tertiary to deal with this.

Need lens of triple bottom line, equally weighted (not just financial costs)

Social costs/considerations (and values)

- Asset (beneficial) to the community (plant) – can be a destination, a venue, a learning centre, small and local, creates a sense of pride, represents community values
- Minimal negative impact on health
- Consistent with community values, integrated into community
- The Songhees Wellness Centre good example of integration into community and community pride/aesthetics
- Nimbyism disappears when there is pride and ownership in facility.
- Minimize future pandemics through taking care of wastewater to high level
- Value: creating employment
- Resource recovery to create new resources - Food security/systems, greenhouse

Environmental costs (values)

- Health is a part of the environmental category, as well as social
- Scalable to adapt to leading edge innovation (meeting future regulations)
- Build for the future right from the start – modular, scalable and adaptable

- Tie into existing infrastructure - less environmental impact

Financial

- Ensure minimal end product from process
- Scalable for future needs and population growth
- Values: sustainable infrastructure, reused to generate benefits
- Tie into existing infrastructure, save money
- Resource recovery as a revenue generator
- Resource recovery to create new resources - Food security/systems
- Value: overall life cycle cost, create awareness of overall life cycle costs
- Create employment

Ownership and Cost Structure

- Procurement types and financing affects costs, can also affect ownership
- Debt and liability additional concerns
- Category of costs:
 - Capital/Construction (make scalable)
 - Operating
 - Treatment
 - Conveyance system (minimize)
 - Site (use existing land)
 - Maintenance (consistent with existing systems in place)
- Ownership should be public (we are talking about resource and resource recovery, this is public) – a public trust?
- Possible to have a blended ownership model
- Run by a public trust to allow for unions
- Proper design will minimize all costs
- Using existing infrastructure will minimize costs
- Go to existing public land as a priority
- Treatment: must be innovative, others around the world visiting us to see this innovation
- Where will the money come from?
 - From all levels of government (including municipality)
- What about P3?
 - Should be public/public partnership
 - Host community should benefit financially?
- Will a facility really generate a great deal of interest from other countries or tourists? Will this lead to revenue?
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Wrap up and expression of table

Delicate balance between treatment and cost. Got specific about what costs mean: triple bottom line, equally weighing all three costs, with the addition of community values.

Group discussion.

Only P3, or only public? Why not 100% private? Need more discussion here. In private entity, who would control the water? Focus on values and principles.

Table 3

- want to ensure that there is a visualization of the solution as part of the communications strategy moving forward
- treatment and cost matrix: benefits, concerns and conditions for acceptability
- how to pay for this?
- how to govern?
- costs are location-dependent

Introductions:

- excited about level of knowledge around table and ideas
- concerned that we have a problem like halifax
- 50years is too long, technology is changing so fast, population changing
- can we discuss risks and mitigation of them
- would have liked to have been at all 3- didn't think she could attend all three
- did a survey of 6 neighbours— two on sewer don't care what goes on, two worried about costs, two on septic don't think they should have to pay anything
- worried about government grant and eastside/westside fighting for money- who gets what? divided by flow rate (lee explained flow rate)
- concern- so many municipality will decide how to charge individual citizens— will we have a regional system and then each municipality charges differently— sounds confusing
- needs to be a standard rate for each area— what am I really paying for this? What am I getting?
- I think the ocean approach is good enough however from Esquimalt so learning about all of this
- we are spending the \$- life cost of over \$2B, what about the young people and their costs, how will this affect the affordability of our community
- big costs and not able to dig ourselves out of it
- we need to do tertiary treatment, but different levels and different standards, and depends on what we do with the outflows
- gasification and toxins, etc, we need to handle this— need tertiary
- RFP responders— some said we should plan for short-term, go modular that will build and meet the needs as we go to increase levels by modular construction
- technology is such that it can fit in the room
- keep costs down
- big costs are digging pipes into the ground, work closely to the original pipe and existing infrastructure
- original plan is building a whole bunch of new pipes and want to avoid that
- wrote letters to the Minister and really upset about McLaughlan— didn't like that it was going into inner harbour
- want discussion of risks— original plan had one pipe— pipes break! So not a great way to handle risks

Start of Discussion:

- Public-private partnership- has received bad press and good press
- mistake of Halifax— contract to design and build but not to operate so they took shortcuts, but that was because of the way the contract was written
- huge problems and needed to fix it
- around how the contract was written

- depends on the scale of a project— big industrial plant may require P3 but for smaller plants, not as much \$ and government can borrow at cheaper cost
- must be owned by the people at the end
- PPP can be done poorly or done well
- avoiding a blunder, what are the potential with a PPP? better design, better integration, with a cheaper cost to build
- depends on the scale of the project— smaller distributed system is cheaper to build
- capital, debt and operating costs are important to discuss
- future regulations will change- yes? Yes, so to avoid future costs, build to tertiary
- modular
- secondary treatments are guided by regulatory stipulations
- tertiary treatment is on the horizon and how do we best provide for that?
- 50 year lifespan is beyond comprehension— need to look at 5-10 years
- technology is moving so fast— perhaps look out two years
- different scales and different sizes of plants based on different needs
- perhaps different municipalities band together in different ways
- but what if there is a size of plant that is technically and economically ideal, then different municipalities can link into it
- we are talking about modular approach:
- build something now and recognize that this will change over time and different technologies
- growing population— so what we need now can be added on as more people turn up
- we are blending it by keeping costs reasonable into the future, while increasing level of environmental practice
- another issue is resource recovery and where can we use the outflow, so many factors to think about
- Comox/Courtney— sells 50 lb bags of 'sky rocket'; Saanich peninsula send Pen Grow— problem is concentrated heavy metals so stopped that— environmental concerns
- with tertiary treatment you can remove metals? only with gasification
- gasification develops a resource you can sell and heat capture
- creates a propane-like gas... that doesn't sound all that bad
- there may be issues around public health
- digesters can blow up— that's a risk!
- conventional plant costs this much, or can build another cost that is higher but get resources back so net cost is lower, or can build something that provides economic benefit in other ways
- Colwood parking lot— waste water treatment under parking lot and then building on top
- creates property that generates revenue, sell water and heat to neighbouring homes and Colwood downtown
- when we look at costs, need to look at big picture— cost to build building and what benefits does it generate down the road... water is much more precious resource than we valued in past
- what does creation of building do on a larger economic picture
- would we be willing to pay more now in order to generate more benefit?
- heat
- greywater to flush toilets— CRD regulations will not allow it, very risk adverse
- ministry of environment has levels of tertiary treatment depending on end use— irrigation requires higher level of treatment because it will touch human hands

Conditions of Acceptability- where do we sit on this right now?

- hard to say if we don't know what we are dealing with
- esquimalt flow rate is high so worried that we are going to be paying a whole lot
- here are some principles:
- robust and high survivability— risks from earthquakes, sewage
- risks related to contract with builders
- climate change- sea level rise
- health risks are considered and mitigated
- allow for growth in population and technology
- governance model that produces a standard rate across the municipalities
- cost sharing that feels fair
- reducing costs by getting offsets from benefits
- the benefits will be getting increasingly valuable- ie- water recapture
- selling the resource
- becoming a economic generator
- so many opportunities out there that can be accrued based on it 'depends'
- need a resource analysis in catchment area— what can we immediately enhance today and what needs to be planned for tomorrow
- one big plant is too big for local firms to take on; smaller plants = local firms can take this on and local jobs can be created
- we don't want to do a distributed system that is all different— make sure that the plants are all the same with the same parts
- local building by-laws need to start requiring development follows the criteria and addresses these issues and ask developers to pick it up a notch and move towards Dockside Green
- regional development standards that are adopted across the municipalities; shift the negative perception of those amenities to a positive value
- what do we do with the 40% of houses on septic— does everyone's taxes go up? Septic— I pay differently— replace field and get pumped out, switch to sewage = replumbing my house so big initial cost; but many of those folks might be on failing septic systems who want to hook up to municipal system
- distributed system might be more resilient in case of emergency or crisis
- each plant should be fed by two substations in case of earthquake + back up emergency generators
- discussion about earthquake proofing— can make it resistant and make it to a level that will mitigate most risks, and pay to build and compare against cost to fix in case of earthquake
- other biological materials we are handling (kitchen waste, etc), if we bring it together do we create a certain economies of scale? Can save \$ by bringing together rather than shipping off shore- can we expand the definition of waste management to include all our waste management and make it more integrated into the whole waste management system
- it is too abstract— until we get a model in front of us, hard to discuss and make decisions on this— without that, we end up in a nebulous discussion
- private land increases the cost as compared to municipal land— how does this change the
- cost

Summary

- we need to look at costs and benefits
- 50 years is too long- shorter time frame
- modular approach for future proofing

- distributed system needs to be similar components to keep maintenance and upkeep costs down
- decrease risk even if it increases up front cost
- pricing that is equal/standard across region
- publicly owned
- economic costs as well as jobs, economic generator/benefits
- social acceptance can influence things like land purchase
- building in uncertain conditions— hard to know the costs and benefits and economic opportunities so creating something that has the potential for flexible and adaptable to an uncertain future

It depends on...

- existing infrastructure
- where the land is
- land costs
- secondary or tertiary
- taxes or how we pay for it/ my tax increase
- ownership
- what is available in technology in order to get the benefits— modular and rolling trajectory towards better outcomes
- value of resources
- design— invisible to pretty/ugly
- community presence— can we see it? can we smell it?
- site— determines cost, contingency, community buy-in, etc
- community perception- political will and how the conversation is hosted
- money and financing— what is available now versus what might be available in the future amount of environmental harm
- amount of environmental benefit

Questions and Concerns

- Public private partnerships
- Functionality, cost and life cycle of project
- Costs
- Triple bottom line – planet, people, and financial costs
- How do we make the existing infrastructure work for us
- Taking responsibility for what we make
- Which option provides greater opportunity for private investment? Public funding?
- Can you structure a P3 to actually get risk and reward in the right place?
- Is issuing bonds an option?

Table 4

Lowest cost:

Benefits:

- People might find it easy to accept
- Meeting mandated
- Could be fewer barriers to completion
- Affordability
- Modular – low cost now to be upgraded

Concerns:

- Takes most space
- What if regulations change?
- What if we have to go through this process again if standards and expectations change?
- Won't fit into the neighbourhood
- Environmental concerns
- Public safety concerns
- Pathogens, micro plastics, etc.

Lowest cost over 50 years:

Benefits:

- Modular construction
- Recovery of resources
- Can distribute costs over time – add to it as conditions change and may end up not having the resource recovery dollar potentials

Concerns:

- Making assumptions now that may not be correct

Best practices for the future:

Benefits:

- Life sustaining
- Could be easier accepted as a benefit by community

Concerns:

- None identified

Conditions for acceptability (applicable to all)

- You can start from the point of view of resource recovery
- Taking responsibility for what we make – what we create in our region is dealt with in our region
- Get the most we can out of our resources
- Affordable – the way in which you pay for it
- Issue of palatability – per door costs – need to talk about what the public will accept in general to pay for treatment at any level
- Value for money – what we pay for has to have value now and in the future
- DCCs charged to new development

- All costs and benefits need to be factored in over the life cycle of the facility(s)
- Factor in capital and operating costs – and factor the possible revenue
- Factor in ecological benefits/costs
- Make assumption of what we can do with resource recovery and then factor in capital and operating costs
- Look at a long term investment
- High quality treatment with low environmental impact
- Affordable
- Level of treatment provides economic value – not just directly – but things like tourism, food supply, etc. – ancillary benefits
- Ecological capital
- No pathogens, superbugs, micro plastics, heavy metals
- Community benefit that comes with the plant – public amenity – to the host community(s) – park, wet land
- Planning and costing – climate change is factored in
- Architectural design compatible with the visual look of neighbourhood
- Education on ecosystem – ie. Film showing public the plant is eco-friendly
- Choose a plant that large enough over time for growth
- Don't truck in sewage from outside communities
- Gain public support through full disclosure

Table 5

General:

Tertiary treatment is regarded as the minimum. Any decision on the number of sites and their location must be done in a collaborative manner, building on existing infrastructure and provide room for future growth.

Central to any proposal is transparency and accountability.

Overall themes of the discussion included that:

- Technical information needs to be shared with the public
- Decisions on sites and technology need to be made in public
- CRD needs to take the lead in educating the public on treatment options
- This is a public problem, needing a public solution to what can be regarded as a public resource
- Ideal is to have a collaborative process involving all 8 municipalities so as to have the highest level of treatment possible.

Favour a distributive system that:

- Is scalable, modular and capable of taking on future growth
- Makes resource recovery a priority
- Is tertiary and close to existing infrastructure
- Leaves a small “footprint”
- Employs different treatment modes at different sites as appropriate and cost effective
- Views treatment as an economic driver – e.g. zoning changes to increase density or attract light industry near a facility and use resource recovery to provide energy to those homes or businesses thereby reducing their costs.

- Uses Development Cost Charges to help fund future growth at the treatment facility
- Looks to best available technology including gasification

Concerns:

- Lack of clarity on what level of government is funding what and what are the conditions of that funding
- Need to have an open discussion/presentation on the actual costs of the land that would have to be acquired, the various technological options available and a life-cycle costing of the various options (operational and capital costs)
- Too little is in the public domain for most citizens to make a determination on what is best with regard to the trade off of current costs to future or defrayed costs.
- That newest technology is being discounted as untried and too expensive. Need to take a leadership role as a region to develop world class and world leading treatment.
- There is little apparent concern about fixing “I ‘n l” in the region as a condition for moving forward with new treatment options.