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THE MUNICIPALITY OF THE VILLAGE OF LIONS BAY

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**INFRASTRUCTURE COMMITTEE MEETING  
OF THE VILLAGE OF LIONS BAY  
HELD ON MONDAY, MARCH 25, 2019 at 7:00 PM  
COUNCIL CHAMBERS, 400 CENTRE ROAD, LIONS BAY**

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**AGENDA**

- 1. Call to Order**
- 2. Appointment of Recorder**
- 3. Approval of the Agenda**
- 4. Public Questions & Comments**
- 5. Approval of Minutes**
  - A. Infrastructure Committee Meeting – February 25, 2019 (Page 3)
- 6. Business Arising from the Minutes**
- 7. Unfinished Business**
- 8. New Business**
  - A. Report from Dr. Steven Weis re. UBC Hydrology Study
- 9. Public Questions & Comments**
- 10. Adjournment**
- 11. Next Meeting**

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LIONS BAY INFRASTRUCTURE COMMITTEE MEETING  
THURSDAY 28 FEBRUARY, 2019 AT 7:00 PM  
COUNCIL CHAMBERS, 400 CENTER ROAD, LIONS BAY

MINUTES OF THE MEETING

In Attendance:

Fred Bain – Councilor and Committee Chair  
Norm Barmeier - Councilor  
Neville Abbott – Councilor  
Ron McLaughlin - Mayor  
Naizam Jaffer – Public Works Manager  
Peter Dejong - CAO  
Jim Mutrie – Resident  
Tony Greville – Resident  
Karl Buhr – Resident  
Brian Ulrich – Resident

**1. Call to Order**

Meeting was called to order at 7:00 pm.

**2. Appointment of Recorder**

Brian Ulrich was appointed Recorder.

Note from Recorder:

    Kelvin Grove hereafter referred to as 'KG'

    Waste Water Treatment Plant hereafter referred to as 'WWTP'

**3. Approval of the Agenda**

The Agenda was approved with the insertion of a new section 10 'Correspondence' to present on-table correspondence from residents.

**4. Public Questions & Comments**

Residents were allowed 2 minutes each to address the committee.

Dave Shore – was prepared to present a case with regard to Oceanview Road drainage however his request for delegation had not been received by Staff and therefore was not in the meeting package. The IC agreed to hear his last minute delegation with limited time in Section 5 of the meeting.

Elizabeth Hodgson – presented an on-table list of questions not previously seen by the committee regarding maintenance and replacement of the KG WWTP. Was there any predictive/preventative maintenance done on the WWTP? Who said it would last 40 years? Was our maintenance policy followed? The WWTP is on village property and private septic systems are on private property. Elizabeth indicated "I do not understand

why others (outside KG) do not benefit from the WWTP.”

George Liu – Indicated he had read all the documents regarding the KG WWTP. He wanted to emphasize that it’s unfair to ask KG residents to pay for a new WWTP. He made the analogy of a vehicle with tachometer showing operation at 70%-80% of maximum speed, and wanted to see data from the past 10-20 years showing the number of properties connected to the WWTP. What’s the motivation of connecting so many properties? Don’t allow any more connections to the system.

Tim McCutcheon – Moved here 6 years ago. Claims that everyone in the village benefits from the KG WWTP because if it fails and contaminates the KG beach, all residents suffer. Claims that the Oceanview drainage issue impacts all residents and KG residents are paying for that. Claims that there is only one KG resident member on the IC so any decisions would be skewed against KG residents. Mayor McLaughlin pointed out that Kelvin Grove’s proportion of 85 of 500 Lions Bay properties is essentially identical to the proportion of 1 in 5 councilors who live in KG, and 1 in 4 resident members on the IC lives in KG so representation is proportional. Tim said that the right thing to do is have all Lions Bay residents pay for the Kelvin Grove WWTP.

Bruce McLaughlin – Would like someone to come to Kelvin Grove and explain the finances regarding the WWTP operation. Where did all the money go back when it was installed? He alluded to the low cost per capita that residents are paying for their new \$700M WWTP that services West Van, and North Van City/District, and wanted to know why new WWTP costs to KG residents would be higher. Comments were made with regard to possible legal action against the village.

Mayor McLaughlin thanked all the speakers and explained that the Infrastructure Committee is a technical body that does not make decisions but rather makes recommendations to Council. For non-technical issues, of which there were many in the previous presentations/discussions, Village Council is the appropriate audience. Given the complexity of the issues and where things stand in the process of addressing them, nobody will get an answer immediately (i.e. not tomorrow).

Mr. McCutcheon responded to the Mayor “ We don’t care about the details (technical). We just don’t want to be assessed \$20K-\$30K. We lose. It’s not fair.”

Time expired for the Public Questions and Comments and Councillors Abbott and Barmeier again clarified that this was a technical committee only and political issues need to be presented to Council.

## **5. Delegations**

### **A. Marek Sredska – 260 Oceanview Road Drainage.**

Mr. Sredska introduced himself and indicated that he was an engineer specializing in water flow. He summarized his 3-page presentation previously distributed to the Infrastructure Committee, arguing that re-establishing the original upper Oceanview

Road stormwater drainage back into Rundle Creek is a wrong solution. Much of the presentation was non-technical therefore discussion was limited in this forum.

Karl Buhr noted that Mr. Sredski states in the presentation that there is no practical way to measure the water flow along Oceanview Road but it also states that less than 1/8 rain water drains from the top end of the road to the point of culvert at 270 driveway. When asked how he knew that only 1/8 of the rainwater drains if it cannot be measured, Mr. Sredski he estimated it.

**B. Dave Shore – Oceanview Road Drainage.**

Mr. Shore indicated that his area of specialty is software, not infrastructure, but he can still see the issue along the section of Oceanview between 210 and 220. The black pipe that is installed on Oceanview between 245 and the intersection with Highview Place only occupies the lower half of that length of ditch. If drainage is redirected to Rundle Creek, the issue with drainage along the above mentioned section of ditch still needs to be addressed. More pipe is needed to capture water in the section of ditch where there currently is no black pipe. He indicated that a half pipe open trench is infinitely less costly to maintain and clear than a closed culvert.

**6. Approval of the Minutes**

A. The 26 November 2018 IC meeting minutes were approved as is.

B. Review of Action items from 24 Sept 2018 minutes was deferred until next meeting.

**7. Business Arising from the Minutes**

Oceanview Road Stormwater Engineering Study.

ISL Engineering has been retained to perform the Oceanview drainage study. Work will start the week of March 4<sup>th</sup>.

The RFP stipulated that the work be done in two phases

First phase: Calculate Oceanview flows using current IDF curves and determine flow all the way to Harvey Creek, and determine if the ditches and culverts along that flow path are appropriately sized for this flow.

Second phase: Conduct a study of the flow to Rundle Creek and provide a cost estimate of the better technical option.

**8. Unfinished Business (in reverse order with section 9)**

A. Magnesia Intake Status – no update.

B. Oceanview Road Stormwater System – Topic fully addressed in Section 7 discussion.

**9. New Business**

A. Kelvin Grove WWTP – failure, current status and prognosis.

- i. Update and FAQ's - Nai gave a presentation to update everyone on the failure and current status of the KG WWTP with many good photos and video.
- Maintenance and inspection procedures were described. Solids in the WWTP are pumped out each September. Because the roof is removed for this operation, this is the best opportunity for a complete visual inspection of the mechanical components of the plant. The last inspection revealed no signs of failure.
  - The subsequent recent failure was described with photos showing the damage to the sprocket/chain drive and the media packs.
  - During the failure, the broken parts jammed the rotating media disc packs so they could not rotate. The motor, which has no fuse or overload protection continued to apply torque to the drive train, damaging the chain, sprocket and gearbox. The motor did not burn out, but it is not known if it was damaged from the overload.
  - Parts that were ordered in December arrived and were installed in February and the plant is up and running again at about 80-90% capacity.
  - Some historical photos were presented showing previous work to raise the roof for inspection safety reasons and previously replaced media discs.
  - Karl Buhr provided additional theory on how the system works. Even though it's only a set of plastic discs rotating in a concrete box, it's a complex chemical process; much more so than any private septic system.
  - This plant is a patented RotoDisc pre-1980 'small package design' installed in 1981. The design of all parts is proprietary.
  - The supplier of this plant, BlueMetric, no longer makes this particular system, however they will supply replacement parts but they must be custom made from the proprietary design drawings.
  - We are currently waiting for cost and lead time for replacement media packs and other failed parts to restore the system to 100% capacity again.
  - Effluent BOD counts for the first three weekly tests after the failure were 135, 195 and 209 (maximum permissible under our permit is 45). We are awaiting the first test results taken after the plant was repaired and operational again. Results will be available early next week (March 4<sup>th</sup>)

Nai indicated that at some (currently undetermined) level of repairs may be construed as a 'major upgrade', at the discretion of the Environmental Protection Officer. In that event, a review would be triggered and the 'upgraded' system would have to comply with the newer and more strict effluent requirements.

Tony Greville explained that it is really the dissolved organics (mostly solids) that imposes the 'load' on the plant. It appears that this load is now higher than it was before, in the same amount of water flowing into the system. The reason for this is not clear. The solids that settle to the bottom of the plant are an indication that the plant is doing its job. However, we may soon have to empty the solids from the system twice a year at about \$25k per visit. The solids are currently emptied only once a year.

- ii. 2018 KG WWTP Annual Report – The annual report was included in the meeting package and the highlights were reviewed. There was some question about anomalies in the flow numbers in the report and it was noted that they are manually recorded since we have not SCADA at the WWTP. Council has authorized Staff to go out and engage an Engineer to assess what should be done with the plant going forward, i.e., what should the eventual new plant be; ‘best’ meaning technical process and system with no regard for how it’s paid for. We don’t yet know the timeline as to when a full plant replacement will be triggered but we need to be prepared when it happens.

Nai indicated that he needs more info and terms of reference for this study (in addition to the terms Councilor Barmeier indicated that Council has already given: a) the cost of ‘like for like’ system, subject to treatment requirements and, b) maximum expandable capacity system possible on the existing real estate)

Tony also indicated that a recent challenge with WWT plants is how to deal with pharmaceuticals and personal care products. The industry does not yet know how to deal with these. Consequently, requirements for processing these won’t likely be imposed on us in the near future but they will be coming eventually.

Brian Ulrich asked if, given that our system is simply rotating parts inside a concrete box, can we install a different system (same or different biological process) or at least stronger structural parts to the existing design so it doesn’t fail so often. The structural hardware is not part of the biological ‘process’ so beefing it up should not trigger a major upgrade review. Alternatively, if it’s possible to tailor the plant supplier’s more modern process design(s) to fit in our concrete box, it may be the practical way to go, even if it does trigger a review and new requirements.

**ACTION:** Nai to ask the WWTP supplier if the ‘guts’ to our current plant (concrete box) can be replaced with more modern ‘version 2.0’ process parts and what it would cost.

**ACTION:** Nai to circulate the revised Terms of Reference for the study to the IC before it’s tendered.

**ACTION:** Nai to circulate the BOD test results of the first samples taken from the WWTP after it was rendered operational again.

- iii. Membrane Bioreactor Packaged Plans.  
This item was not discuss due to time constraints.

B. Infrastructure Committee Terms of Reference - This item was not discussed due to time constraints.

#### **10. Correspondence Received**

On-table correspondence was received at the meeting from:

- Marek Sredski – delegation topic relating to solution(s) to Oceanview drainage.
- Tina Schneider – relating to Oceanview drainage and water disappearing under that road and into properties below, and damaging the road bed.
- Elizabeth Hodgson – questions related to preventative maintenance of the WWTP.

**ACTION:** Nai to provide the materials received from Marek Sredski and Tina Schneider to ISL as part of their review for the Oceanview Drainage project.

#### **11. Public Questions and Comments**

KG Resident Clara George wanted to make sure that any future WWTP was “the best in the world” in terms of effluent treatment, essentially wanting to raise the bar and have performance way better than the minimum required by the regulators.

#### **12. Adjournment**

Meeting was adjourned at 9:24 pm.

#### **13. Next Meeting**

The next meeting is scheduled for Monday 25 March 2019 at 7:00 pm.