# Table 1: Responses to Public Review Comments

| ENVIRONMENTAL COMPONENT | PUBLIC COMMUNICATIONS | KEY ISSUE / QUESTION # | KEY ISSUE / QUESTION RAISED | RESPONSE |
|---|---|---|---|---|
| **PHYSICAL ENVIRONMENT** | | | | |
| **Groundwater** | Email from Dennis LeNeveu, Feb. 22, 2021 | 1 | "*To prevent discharge of system water to the environment an impermeable membrane underlay would be required but none is specified. An impermeable underlay would be prone to overfill and spillage out the edges in a heavy rain. Without an underlay some runoff would be expected to infiltrate to the water table with potential undesirable environmental effects* ." | Wastewater and stormwater collection systems will be designed in accordance with acceptable industry standards and specifications. To manage the potential for water runoff, including potential for infiltration to groundwater, a fluid-separating geotextile will line the bottom of the stockpiles and French drain raceways. |
| | Email from Dennis LeNeveu, Feb. 22, 2021 | 2 | Concern that a "...*fouled and overflowing French drain* " would result in soluble contaminants entering the carbonate aquifer. | Refer to response #1. |
| **AQUATIC ENVIRONMENT** | | | | |
| **Surface Water Quality** | Email from Dennis LeNeveu, Feb. 22, 2021 | 3 | Concern that a "..*fouled and overflowing French drain* " would result in soluble contaminants entering the Brokenhead River. | Refer to response #1. |
| **PROJECT DESCRIPTION NOTICE OF ALTERATION - GENERAL** | | | | |
| | Email from Tangi (Tanzi) Bell, Feb. 19, 2021 | 4 | "*The letter does not provide any supporting information as to how these alterations work or schematics, calculations or engineering certificate* ." | Refer to response #1. |
| **PROJECT DESCRIPTION NOTICE OF ALTERATION - FRENCH DRAIN** | | | | |
| | Email from Tangi (Tanzi) Bell, Feb. 19, 2021 | 5 | "*Where are the calculations and design diagrams that support how this excess water from the French drain will successfully be dealt within the loop?* " | Refer to response #1. |
| | | 6 | "*How is equilibrium controlled and maintained?* " | Refer to response #1. |
| | | 7 | "*Does the onsite storage tank increase in size?* " | Refer to response #1. Should it be required, additional water storage will be reviewed. |
| | | 8 | "*What is this stored amount of this recycled water?* " | Approximately 135% of the slurry line loop system capacity will be required for water storage to allow for temporary decommissioning during winter months. |
| | | 9 | "*Since this water is not discharged but continually recycled, how is that achieved for the entire life of the plant which has now increased from 24 years to 100 years as revealed in the second online public meeting* " | To clarify, the life of the Project will be 24 years as indicated in Section 1.1 'Project Overview' in the Environment Act Proposal. Also refer to response #7. |

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| | Email from Dennis LeNeveu, Feb. 22, 2021 | 10 | "*Inadequate information for the French Drain style system minor alteration* " "*Insufficient information has been supplied by the proponent to determine the potential for adverse environmental effects from the French drain* ." | Refer to response #1. |
| | | 11 | "*The French drain should be designed to catch runoff from up to a 500 year rain event* ." "*For a 100 mm rain and a capture area of 30,000 square meters, the total volume of captured water would be 3000 cubic meters. This would be an underestimate of the largest rainfall capture event. If the event lasted an hour the capture rate of the French drain would be 50 cubic meters a minute. The flow through the clarifier tanks is given in the CWS EAP as 24.416 cubic meters per minute. Certainly the recycle water closed loop would not accept 50 cubic meters per minute, over twice the design volume flow of the loop. The French drain would have to send collected water to the onsite storage tank* ." | Refer to response #1. |
| | | 12 | "*The collection area for the French drain is not given* ." | The collection area for the French drain will be engineered for the size of the wet sand stockpile. Also refer to response #1. |
| | | 13 | "*The onsite tank has to be designed to hold the water from the French drain and all the wash water from the wash plant and most likely the slurry line water during winter* ." "*The capacity of the onsite storage tank is not given in the EAP. The tank capacity should be given as part of the required design specifications for the alteration* ." | Refer to response #1. |
| | | 14 | "*To properly determine the French drain design and water tank storage capacity detailed information is required for the sand and water extraction rates* ." | Refer to response #7. |
| | | 15 | "*Without detailed project specifications including the expected discharge to be collected in an extreme rainfall or snowmelt, the effectiveness of the drain from preventing discharge to the natural environment cannot be determined* ." | Refer to response #1. |
| | | 16 | Concern that deposits from "*iron bacteria* " (deposits of ferric hydroxide and gelatinous deposits) will clog the French drain and concern that "*Chlorination treatment to reduce bacterial growth can cause acidic conditions that mobilize heavy metals in the runoff particulate* ." | The water collection system will be designed for maintenance and flush. Chlorination treatments are not currently part of the French drain design. |

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| | | 17 | Concern that "*The soluble contamination from the French drain and from the clarifier tank such as barium, arsenic, acid, acrylamide monomer and polyacrylamide would accumulate in the water of the recycle loop* ." and that "*The clarifier would only remove suspended solids not dissolved contaminants* ." | Project systems will be designed in accordance with acceptable industry standards and specifications based on actual minerology from a hydrogeological study for the Project. |
| | | 18 | Concern that "*…disposal of the effluent stream from removal of contaminants in the water loop is not included in the proponent letter* [Notice of Alteration]." | As indicated in Section 2.3.1 'Wastewater' in the Environment Act Proposal, there will be no discharge of wastewater. Water will be recycled for reuse in the slurry system loop and the Wet Plant. |
| **PROJECT DESCRIPTION - PREVIOUSLY DESCRIBED IN DECEMBER 15, 2020 PUBLIC MEETING (NOT PART OF THIS NOTICE OF ALTERATION)** | | | | |
| | Email from Tangi (Tanzi) Bell, Feb. 19, 2021 | 19 | "*In the summary that CanWhite provided to the Environmental Approvals Branch from their 2nd online public meeting, December 15,2020, they indicated disposal of the mud cakes from the clarifier tank yet no information is provided on said disposal. I request information on this alteration* " | For information regarding mud cake (or 'Filter Cake') disposal, refer to response #128 in the 'Proponent Response to Public Comments' file regarding the Environment Act Proposal posted in the Public Registry (file 6057.00) by the Environmental Assessment Branch on Nov. 5, 2020. |
| | | 20 | "*Also in the 2nd online meeting, CanWhite stated that the flocculent will be treated with UV. I would like your department to look into this additional alteration and provide information on whether it is indeed safe to treat polyacrylamide with UV in this particular situation I.e. silica sand processing plant, slurry loop system and chemicals present in this environment and possible interactions* " | Project systems will be designed in accordance with acceptable industry standards and specifications based on actual minerology from a hydrogeological study for the Project. |
| | Email from Dennis LeNeveu, Feb. 22, 2021 | 21 | Regarding mud cake information stated in the Public Meeting report in the public registry posted Dec. 29, 2020; request that a Notice of Alteration be provided for disposal of the mud cakes. | Refer to response #19. |
| | | 22 | Regarding statement from 2nd online public meeting, December 15, 2020 on the use of UV lighting to encourage the degradation of flocculant within the water loop; concern that "*The high intensity UV lighting has not been properly researched or designed* ." and concern that "*Because the degradation time is longer than the recycle time, polyacrylamide and the acrylamide monomer will accumulate in the loop* ." | Project systems will be designed in accordance with acceptable industry standards and specifications based on actual minerology from a hydrogeological study for the Project. |

**Note:**
For 'Key Issue / Question Raised' column, wording in italics is direct wording from the comments submitted. Where wording is not italicized, the comment / question has been summarized for clarity.