

January 30, 2020

**INVITATION TO TENDER "ITT" NO. PS20191496  
CONSTRUCTION SERVICES FOR PHASE 4 CLOSURE AND GAS SYSTEM UPGRADES -  
VANCOUVER LANDFILL**

**QUESTIONS AND ANSWERS NO. 6**

ISSUED ON January 30, 2020

<b>Q1</b>	Drawings 513/514 - For bidding the various pipe trench and tie-in items, what is the design elevation for refuse to be placed by City of Vancouver landfill operations on the crest prior to turnover of closure area to the contractor? For refuse material placed on slope, what is the offset from the design geomembrane that landfill operations crew are placing material to?
<b>A1</b>	At the time of construction, the actual elevation of complete surfaces, including waste and soil cover is unknown. The intent is to have the Owner completing the surface at the elevation required for the subliner gravel drainage installation. However, due to operational constraints, such target elevations might not be achieved (overfill or underfill). The Contractor will be responsible for additional grading as per the Contract Requirements.  Any and all excavations could encounter waste. The Contractor shall make all cost and schedule related allowances and shall implement the appropriate health and safety measures.
<b>Q2</b>	Item 5.08 measurement and payment language is incomplete: Includes all costs associated with blocking the end of stormwater culvert using.....???? Please also provide asphalt and concrete road crossing details and a pipe invert profile.
<b>A2</b>	For pay item 5.08 - Refer to Amendment No. 5 for clarifications.  For asphalt and road crossing details, refer to drawing 19017-311 and all other relevant Contract documents.  For the pipe invert, as described under pay item 5.08: "Contractor to confirm location, grades and inverts with Engineer prior to installation"
<b>Q3</b>	The Legacy Lake line extension identified RFEI No. PS20190859, noted with a construction timing of Sep 2020-Jan 2021, would likely impact material importing traffic on the main haul road. Can CoV confirm what if any, that impact would be? Single lane and delays?
<b>A3</b>	As per Section 01 14 00 - Work Restrictions, paragraph 1.03 - Time Restrictions: "All road closure is limited to between 8pm and 6am. The Contractor shall make all necessary provisions for night work or single traffic"
<b>Q4</b>	Is there a detail for the anchor trench between 30mil Temporary System Closure (103) and 40 mil Phase 4 North Liner Surface (102)? Would it be one larger trench?

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<b>A4</b>	<p>The 30mil geomembrane for the Temporary Closure is to be welded to the 40mil geomembrane for the Phase 4 North area.</p> <p>No anchor trench needed for the transition</p> <p>For clarifications, refer to Rev H drawings, Issued for Amendment #5 and all relevant Contract Documents for additional details.</p>
<b>Q5</b>	<p>On Drawing 202, the plan view has two Cleanouts labelled CO#1, Should we use the Profile view labelling?</p> <p>On Drawing 202 on the plan view, does CO#3 refer to detail AV-213?</p>
<b>A5</b>	<p>For clarifications regarding cleanouts labelling and detail references, refer to Rev H drawings, Issued for Amendment #5.</p>
<b>Q6</b>	<p>Do the Gas Sample Port #1,2,3 pipes have to be booted?</p>
<b>A6</b>	<p>Gas sample ports and manholes require liner penetration boots. Refer to Contract Documents for details.</p>
<b>Q7</b>	<p>On Drawing 213. Detail Z and Detail AA, Does not show a termination point of the 12oz geotextile. Where does the 12 oz terminate and the 8oz for the soil mound begin?</p>
<b>A7</b>	<p>The 12 oz geotextile shall extend over the entire road bench with and the 8oz geotextile shall be connected to it.</p> <p>For additional specifications refer to detail F-107 and detail AA-213 and all other relevant Contract Documents.</p>
<b>Q8</b>	<p>Drawing 103 Shows a slope factor of 3-3.5:1 for the temporary closure cover but Z-213 shows a 2:1 around the Temporary Road and Stormwater ditch, Which Slope factor should we use?</p>
<b>A8</b>	<p>On detail Z-213, the 2:1 slope factor is specified for construction of the temporary stormwater ditch and intercepts the temporary closure at a higher elevation.</p>
<b>Q9</b>	<p>There is no anchor trench line item for the Temporary Closure. What about the additional 943m of anchor trench for the Temporary Closure?</p>
<b>A9</b>	<p>For additional clarifications, refer to Rev H drawings, Issued for Amendment No. 5, and pay item 3.08 quantity as per the revised "<i>Schedule A - Schedule of Quantities and Prices v1 - Amendment 5</i>", and all other applicable Contract Documents.</p>
<b>Q10</b>	<p>Drawing 008 shows 53 Vertical Gas wells but the Tender and Drawing 504 Show 46. Which is correct? Are any of the new wells connected to waste?</p>
<b>A10</b>	<p>Refer to 500 series drawings for information pertaining to gasworks. Drawing 008 is intended</p>

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	for illustration of the road network. Drawing 504 shows the correct number (46) and location of vertical gas wells.
<b>Q11</b>	<b>Line Item 7.40 states 22x Type 2 boots which is the quantity of Pressure Relief Pipes. A-532 shows the Pressure Relief Pipes having a Type 1 boot typically. Drawing 505 shows 20x Type 1 boots and 2x Type 2. Is the drawing 505 the correct count of Type 1 and Type 2 for Pressure Relief Pipes?</b>
<b>A11</b>	<b>For "Item 7.40 Cover Penetration Seal, Type 2, for 100 mm Pipe", the quantity is 22. Section A on Drawing 532 has been revised to show a Type 2 Cover Penetration Seal. See Amendment 5.</b>
<b>Q12</b>	<b>Line Item 7.41 states 41x Type 2 boots. The only details that show Type 2 penetrations on 150mm pipe is A-533. Drawing 508 has 4x Well Head manifold and 509 has 4x Well head Manifold. Where are the rest of the Cover Penetration Seal , Type 2 for 150mm Pipe?</b>
<b>A12</b>	<b>The remaining quantity for "Item 7.41 Cover Penetration Seal, Type 2 for 150 mm Pipe" is associated with the gas conveyance branch pipes from the horizontal gas collectors on the west slope of the Phase 4 area. These pipes penetrate the final cover system at the top of the slope adjacent to the gas conveyance sub-header pipe. Most of these occur at the well head manifold assemblies on Drawing 509. There are also several locations with just one pipe penetrating the geomembrane for a remote well head control assembly next to the gas sub-header pipe.</b>
<b>Q13</b>	<b>On Drawing 514 through 517 show the "LAT" Pipes penetrating the geomembrane cover. The detail for this is 5-548 and A-548. These details do not show the pipes penetrating the liner. Are there penetrations here?</b>
<b>A13</b>	<b>The gas conveyance lateral pipes do not penetrate the final cover system. The subgrade and geosynthetics are recess in a trough so the gas pipe remains on top of the geomembrane. See Detail 4 on Drawing 544 for typical gas pipe trench for the gas lateral pipe profiles shown on Drawings 515 through 517.</b>
<b>Q14</b>	<b>On Drawing 512, Does the Repeater Tower penetrate the liner?</b>
<b>A14</b>	<b>The intent is to not have the precast concrete base of the repeater tower penetrate the geomembrane. The subgrade and geosynthetics shall be recess as necessary or additional soil shall be placed above the surface to secure the concrete base.</b>
<b>Q15</b>	<b>Are 18 the existing Vertical Gas Wells that are not being decommissioned on Drawing 503 being booted? What detail are they?</b>
<b>A15</b>	<b>Drawing 503 shows the decommissioning of all the remaining active vertical gas wells in the Phase 4 Closure area. All other vertical gas wells have been previously decommissioned.</b>

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<b>Q16</b>	<b>Do geotextiles in intimate contact with the LLDPE liner have to be installed by the LLDPE installers?</b>
<b>A16</b>	The Contract Documents, including Amendment No. 5, include requirements regarding qualification and experience for the contractor and staff installing geosynthetics. Such Geotextile, GCL and Liner installers, as long as in compliance with the Contract Documents, doesn't have to be the same subcontractor. However, as per our previous experiences, having different specialized subcontractors for Geotextile, GCL and Liner installation could generate significant schedule and coordination challenges and is highly inadvisable.
<b>Q17</b>	<b>Schedule of quantities &amp; measurement &amp; Payment title for Item 6.11 indicates pipe is DR17, but drawings show DR11. Please confirm it is DR11.</b>
<b>A17</b>	The 450mm Ø forcemain shall be DR11 as specified under Section 21 20 00 - Measurement and Payments and Series 300 of the Drawings.  For additional details refer to the revised "Schedule A - Schedule of Quantities and Prices v1 - Amendment 5"
<b>Q18</b>	<b>Measurement &amp; Payment description for Item 6.17 indicates cleanout diameter of 600mm, as does plan view of CO#6 on drawing 310. Please confirm these cleanouts are 450mm diameter.</b>
<b>A18</b>	Pond discharge pipe and associated cleanouts shall be 450mm Ø.  For additional clarifications, refer to Rev H drawings, Issued for Amendment #5
<b>Q19</b>	<b>Please confirm pay item 7.01 Locate Existing Utilities Using Hydro-Vac Method, will be paid for locating any "Marker - Potential Conflict with Existing Infrastructure" noted in legend on drawing 19017-002.</b>
<b>A19</b>	Pay item 7.01 - Locate Existing Utilities Using Hydro-Vac Method shall be applied to all locations where hydrovac investigation is deemed necessary, as per the Owner and Engineer's expectations.  The Drawings show the intended location of such hydrovac investigation but the final number and actual locations of such investigations will be determined based on the site conditions and shall be confirmed with the Engineer.  The Tenders are advised that, in addition to the scope covered under pay item 7.01, other pay items also include the cost associated with locating and exposing the existing infrastructure, including manual excavation and other requirements as per the Contract Documents. The Tenderers shall make proper allowances.
<b>Q20</b>	<b>The "clean energy gas line" with "conditioned gas" going to Village Farms, crosses both items 5.17 and 6.15 and possibly other works. Please provide elevation, proximity information and any special requirements for work around this live gas line.</b>

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A20	<p>The actual elevation of the Village Farms gas header is unknown. For additional clarifications regarding the approximate location, refer to Rev H drawings, Issued for Amendment #5</p> <p>Please be advise that it is the Contractor's responsibility to locate and protect all underground utilities. The Tenderers shall make sufficient allowances to include all costs associated with those requirements into the most appropriate pay item.</p>															
Q21	<p>Item 3.16 specs. Please clarify %sand, %peat, %Wood Chips, %Compost. The table shown is unclear.</p> <table><tr><th>Ratio</th><th>Compost</th><th>Sand</th><th>Wood Chips</th><th>Peat</th></tr><tr><td>By Weight</td><td>1</td><td>6</td><td>3</td><td>5</td></tr><tr><td>By Volume (Approx.)</td><td>3 (1)</td><td>4 (1)</td><td>9 (3)</td><td>25 (8)</td></tr></table>	Ratio	Compost	Sand	Wood Chips	Peat	By Weight	1	6	3	5	By Volume (Approx.)	3 (1)	4 (1)	9 (3)	25 (8)
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A21	<p>The table shows the estimated ratio, measured by volume, for the biocover components. In other words, the estimated blend (3:4:9:25) shall include: 3 units of compost, 4 units of sand, 9 units of wood chips and 25 units of peat. One could associate the "unit" with an excavator bucket, a truck box, a tote, or any other consistent method for volumetric measurements.</p>															
Q22	<p>Part C - Form of Tender Schedule E</p> <p>Please confirm force account rates to be provided in Table 1 are to be inclusive of applicable markups listed under GC. 73?</p>															
A22	<p>Labour and equipment rates must be inclusive of all taxes except for GST, and all assessments, benefits, small tools, overhead and profits. If Force Account rates are used over the course of the work the markups described in GC.73 will be applied at the time of invoice.</p>															

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**All other conditions and specifications remain unchanged.**

Brian Brennan, Contracting Specialist