

December 18, 2018

Mr. Jeff Ostafichuk  
Planner  
Development Review Rural Services Branch  
Planning and Growth Management Department  
Infrastructure and Community Sustainability Portfolio  
City of Ottawa  
110 Laurier Avenue West, 4<sup>th</sup> Floor  
Ottawa ON K1P 1J1

Dear Mr. Ostafichuk:

**Subject: Response to Technical Circulation Comments**

Please find the following comments in response to the comments that were provided by you by November 8<sup>th</sup>, 2018 pertaining to the Site Plan Application for 5471 Boundary Road (Capital Region Resource Recovery Centre):

#	CITY COMMENT	APPLICANT RESPONSE
<b>Site Plan</b>		
1	Ensure the fire route is labeled on all plans.	Fire route was previously shown on the servicing plans, and has also now been added to the grading plans.
2	SP 12 Label the buildings as buildings and the pads.	Line work for buildings has been identified in the legend. Drawing SP12 has been updated accordingly.
3	SP 10 Label the buildings and items in the power generation area	Drawing SP10 has been updated accordingly.
4	Are fences shown on any plans?	Proposed fencing (chain link and page wire) is shown on the grading plans.
5	Is there any need for truck and trailer parking?	The client has not identified any need for truck and trailer parking.
6	SP 6 Should semi trailers also be shown in the stacking lanes at the inbound gates	A couple of semi length trailers have been added to the stacking lanes and these trucks have been moved to the correct queuing lane.
7	SP 5 I think the radius for the entrance to the site is too large. Reduce the radius and bring the straight part further out to the road.	As per the direction from the Road Modification Approval the radius for the entrance has been decreased slightly. (RMA revisions have been submitted for final approval)
8	SP 14 (and other plans) the truck tire wash must be removed if proposing to use water from the trickle feed system.	Water for the truck tire wash will not be sourced from the trickle feed system - Golder Servicing Report

9	SP 18 Is there not a need for the fire route to continue to the dump portion of the site?	Discussed with Fire Services and this is not required. If need be, a tanker shuttle can be set up utilizing the on-site water supply.
10	Retaining Wall designs for the container area needs to be shown.	A detail has been shown for the concrete block wall system.
11	C37 Water meter and Chamber details to be worked out. The warehouse site has removed the chamber out at the ROW and provided an area within the building. Will have to speak with operations and Golder and come to an agreement for this site.	A separate water building has been added adjacent to the Administration Building parking. Similar to the Amazon warehouse site, this building will include an area for the water meter and for the trickle feed pressure reducers.
12	C34 42m culvert is very long. If the entrance design changes this can be shortened. Need culvert thickness.	Based on the updated entrance design, the proposed culvert is a 40m long, 2.0mm thick CSP
<b><u>Storm Ponds</u></b>		
13	C 32 Storm pond 5A does not seem to have a forebay. NOTE: X-Ref Fire Department - comment # 101	Ponds 5A and 5B are connected and will function as a single pond with two cells. The majority of runoff from hard surfaces and main truck access routes will discharge to Pond 5A, which will function similar to a forebay. The MECP has reviewed the SWM design and has issued a draft ECA for approval of the stormwater works.
14	C32 Section 52 is labeled as 51 in the plan view	This has been updated correctly on the updated drawing set.
15	C32 why not show the fire connection equipment at Pond 5A	Piping and servicing details were shown on the servicing plans. These have now also been shown on the grading plans.
16	C32 Why is the culvert connecting the two ponds (5A and 58) perched 2m above the bottom of the pond.	Pond 5A serves as the fire pond, so it is critical to maintain the water level. Also the raised culvert helps pond 5A function as a forebay.
17	C32 The outlet from the materials recovery building is not shown into the pond.	Piping and servicing details were shown on the servicing plans. These have now also been shown on the grading plans.
18	Provide details and sections of all pond outlet structures!!	A typical pond outlet section/detail has been added to the pond drawings.
19	C31 Pond 48 Add rip rap from the inlet pipe or ditch to the invert of the pond.	Additional rip-rap has been added.
20	C30 Read up on Pond 4A more!! No outlet provided. Compost pad runoff retention.	Correct, Pond 4A is a holding pond for runoff from the compost pad area. There is not a normal discharge from this pond to a surface water receiver. The pond water level will be regulated based on re-use in the composting operations; also, if the water quality in Pond 4a is determined by analysis to be suitable, it will be used for site irrigation. See response to comment #85.
21	C30 Why is there an internal berm In the pond? There is no forebay shown.	There is no forebay within Pond 4A but there are two distinct cells. Runoff from active composting areas on the curing pad will enter the first cell. Runoff from final curing areas will drain to the second cell since it is expected to be cleaner runoff in terms of TSS. The water levels in each will be managed independently.

22	100 year ponding levels should be shown in the sections. Would be helpful for review.	1:2 and 1:100 year event levels are shown for each pond.
23	C27 Pond 1 6.0m overflow spillway is lower than the 100 year water elevation	Pond 1 and Pond 2 outlet configurations have been updated based on the modified final cover design for the landfill.
24	C27 There is a second inlet to the pond right near the outlet. No treatment will happen to that water.	The inlet to the northern end of Pond 1 is from a 150m section of ditch that will only capture runoff from the northern face of the landfill surface and, as such, is a relatively small drainage area. Most of the runoff from this landfill face will sheet drain across vegetated area to the ditch.
25	C27 There are not any grades shown on the sides of the pond that borders the dump. Grades should be shown at the lower end of the 7:1 sloping. Also, it appears that sheet flow will be entering the pond from the dump portion of the site. Will the dump portion be able to sheet flow from day 1 or only once the dump gets to a certain height? If it can't sheet flow from day 1, how is that runoff dealt with?	The perimeter berm along the outside of the landfill will be built along the entire length of Pond 1 on day 1 for the construction of the first landfill cell (Phase 1) and the pond. Only the northern portion of Pond 2 will be constructed for the first landfill phase, so the east side perimeter berm will also only be constructed for this northern extent of Pond 2 initially. Sheet flow from the perimeter berm and covered areas of the landfill will enter the pond. Active areas within the landfill will not drain to the ponds; this runoff water will be collected within the leachate collection system. Currently, in an undeveloped condition, the drainage in this area of the site is poor, and it is not expected to change significantly when the areas for future phases of the landfill are left unimproved during the initial phases of landfilling.
26	C27 From the top of the berm it is approx. 5m down to the property line at Pond 1. Do you have permission to drain onto the neighbours property? What will happen to the drainage on the neighbouring property? Are you creating a dam?	The extent of the Pond 1 toe of berm has been shifted away from the property line. A swale is now shown to direct the runoff from the exterior of the berm and any runoff from the adjacent property to the Simpson Drain.
27	C27 Sections P1A and P1B. Please indicate the grade at the PL.	Existing grades have been added around the perimeter of the site. Elevations have been added to the pond sections.
<b>Grading Plans</b>		
28	Provide grading information for all grass areas. Ex grading for grass area across from the inbound scale. In general more grading information is required. How does this site tie into the neighbouring properties? More existing spot grades should be provided to confirm any grade raise limitations	Additional existing grades have been added around the perimeter of the site. In terms of managing drainage, the proposed site grading is compatible with the grades on the adjacent properties.
29	CO? No% slopes are provided in the parking area for the admin building.	Slope directions and slopes are shown on the grading plan.
30	Provide structural information for all culverts crossing an internal road.	Culvert thicknesses have been added to the drawings.
31	C06 Culvert info is cut off on the drawing	This has been corrected.
32	Provide info in the legend for the fibre optic line	Coordination and discussion with local utilities within the project area are on-going for the fibre optic line to the site.

33	Provide% slopes for all ditches and swales onsite	Slope directions and slopes are shown on the grading plan.
34	C06 Provide back slope info and grades. Ditches get very close to the Property lines in the vicinity of the outbound scale.	A section has been added through the widest part of the access roads.
35	C06 The electric cable and the fibre lines run right over the water storage tank. Will this work? Is the tank buried that far below the ground?	The water cistern has been relocated.
36	C03 and 4. The two buildings show storm sewers inside the buildings. Are these sewers for floor drains or roof drains? Not sure if it is a good idea to have the sewers inside the building envelopes under the floor slabs.	The design approach has been changed. Storm sewers are now shown along the outside perimeter of the buildings. These will collect and convey roof runoff from the roof gutter and downspouts to the perimeter ditches or ponds.
37	C03 It looks like insulation will be required over the outlet pipes from the C&D and Materials Recovery buildings.	Insulation details and notes have been added where required.
38	Provide existing grades at all property lines on the grading plans.	Additional existing grades have been added around the perimeter of the site. See response to comment #28.
39	C01 Provide a hydrant symbol, fibre optic, etc.	These have been added to the legend.
40	Show an overland flow route.	Overland flow routes have been added to the drawings.
41	How will the CB's not get full of debris and sediment for areas like the composting pad?	Pond 4A has been relocated to be closer to the compost pad, eliminating the majority of the storm sewer. The majority of the drainage is also via sheet flow to perimeter ditches, reducing the potential for sediment accumulations within the catch basins.
42	C09 What is the surface of the primary reactor cell?	The primary reactor cells will be individual cells lined with a geomembrane and when filled to their design geometry will also have a geomembrane cover (similar to the PHC treatment cells). The perimeter access areas around the cells will be granular surfaced
43	C10 Runoff from one side of the Petro Hydrocarbon soil area will drain to a drive aisle? I assume this is not a desirable situation.	The PHC treatment areas are individual lined cells; runoff from the perimeter and the covered surface will drain to Pond 3.
44	C10 PHC Soil building FF is 76.90. Grade outside of building is also 76.90. check other buildings. Need positive drainage away from buildings. Aside from in front of a garage door, the grade outside the building has to be lower than the finished floor elevation.	The exterior grade has been lowered.
45	What is the surface of the Organics processing area??	The compost pad will be asphalt surfaced.
46	C12 Sludge dewatering pad See drawing "XXX"??	This drawing reference has been updated.
47	C 12 How does sludge get to the dewatering pad?	Sludge is pumped from the interior sludge holding tank to either the greenhouse or exterior sludge dewatering pad. This piping is shown on the servicing plans.

48	How are the effluent treatment ponds constructed? Provide a cross-section, List materials, liners etc.	A cross-section detail has been added for the leachate equalization and effluent holding ponds.
49	C13 No grading information for areas between the effluent treatment ponds and the drive aisle. 4: 1 sloping to nowhere.	The grading in this area has been updated.
50	C14 Why re-grade the roadside ditch on Devine and Boundary?	Some of the roadside ditching north of Devine and along Boundary Road currently drains to the existing tributary to the Wilson-Johnston Drain, which flows from west to east across the site. This tributary will be abandoned so the roadside ditches are proposed to be regraded, a portion of which will direct drainage to the north to the Simpson Drain and some eastward along Devine Road.
51	C14 There appears to be a swale at the bottom of the dump side slopes. No grades or flow direction arrows shown.	There is a perimeter swale on the perimeter landfill berm to direct runoff to the two ponds. These have been adjusted to make the grades more visible.
	<b>Servicing Plan</b>	
52	Storm Sewers are not labeled on the servicing plans.	These have been labelled.
53	Pipe materials for the fire watermain needs to be labeled	Labels are included on Drawing SS1.
54	C17 Arrow pointing to fire hydrant. No symbol shown on plan.	This has been updated.
55	What is the hatching over the Electrical and Fiber optic lines?	The solid coloring is concrete duct bank and the hatched diagonal lines area patio slabs over the buried line.
56	What is the watermain material on site? Not labeled.	The watermain material is included on Drawing SS1.
57	No fire protection for the Administration building?	Fire protection is not required as the building is less than 600 m2. This has been confirmed with Fire Services.
58	I think there should be valves at every junction of the watermain on site	These have been added.
59	C22 Water service provided to the secondary digester building. There are no toilets or sinks proposed. Why 50mm diameter pipe? This may add to your water age issues.	The secondary digester includes a water service for washdown but no potable use. The service has been reduced to 25 mm diameter.
60	C24 Looks like a Siamese connection to the leachate treatment building? No fire line to building	Connection is for standpipes inside building.
61	Leachate Pump Station not shown on Servicing Plans.	The label has been added to the plans.

62	What works are to be completed on the municipal drains onsite?	There is no work proposed by Taggart Miller on the portions of the two Municipal Drains that are on-site that relates to their conveyance of water. The Simpson Drain crosses the site from west to east; there are two culverts to be installed within this drain for internal road crossings, and a leachate forcemain and landfill gas header are to be installed below the base of the Drain. At the north end of the Site, the upstream end portion of the western tributary to the Regimbald Drain is to be decommissioned. Approvals are in place from DFO and SNC for this proposed work; a work permit will be obtained from SNC prior to commencing the work described. Any works that may be required on the Simpson Drain will be determined by the Engineer's Report under the Drainage Act approval process for implementation of the CRRRC, which is in progress.
63	Watermain construction detail City or OPSD standard drawing	City details.
<b><u>Servicing Report</u></b>		
64	Section 2.1 - 15 equivalent connections is 40,000L/d. The water demand calculations call for 28,000L/d. 15 connections not needed.	The 15 equivalent connections were based on initial site designs. We understand that this number of units have been allocated to the project and was the basis of the construction cost share agreement. The 28,000 L/day is the current estimate based on current staffing and shift projections.
65	Section 2.1.1 - A flow of 0.47L/s is larger than you need. Please revise	The 0.47L/s is the flow rate from the 15 equivalent connections, which we understand have been allocated to this project.
66	Section 2.1.2 - Truck tire wash service has been deleted. It is still shown on a number of drawings.	The tire wash is still proposed. The water source is not from the trickle feed system.
67	1 don't understand your water age section 2.1.3. You stated that the working capacity of the cistern will be 27,000 L/d. Your consumption will be 28,000 L/d. It is stated that the water will sit in the tank for 3 days. How can that be if you only have 1 day of storage. In your water age tables in appendix b, it is stated that water could be 23.5 days old for the secondary digester. Please review.	The water age calculation is based on the average day flow, which is estimated to be about 1/3 of the building code estimates based on similar facilities. The cistern has been updated to include 1.5 times the average daily flow such that this volume combined with the incoming water over a 10 hour period will exceed the maximum day demand. The secondary digester includes a water service for washdown but no potable use.
68	Section 2.2 Please consult with the MECP on the last statement of the paragraph. I would expect that MECP approval will be required for the leachate treatment facility.	The MECP confirmed during pre-consultation on the ECA application in fall 2017 that approval of the leachate pre-treatment facility is not required as part of an ECA for this project. Pre-treated wastewater that discharges to another licensed facility prior to discharge to the natural environment is exempt from Section 53 OWRA. A draft OWRA Section 53 ECA has been issued by the MECP, and it does not reference the on-site leachate pre-treatment facility.
69	No culvert design calculations have been provided	Culvert design sheets have been included in the SWM report.

70	I agree, they have too much storage and too many equivalent unit allocations. I think it would make sense to ask them to re-evaluate their max day, perhaps having a closer look at data from similar facilities elsewhere, given the potential for disinfection residual issues. Even based on the max day values they have provided (3X expected daily demand), they should only be allocated 11 or 12, rather than 15 equivalent units. They may also need to make provisions for on-site disinfection should the need arise.	The maximum day proposed is based on OBC flow estimates. The average day is based on actual average day from generally similar facilities. It turns out that the maximum day is about 3 times the average day, which is considered reasonable. The site has been allocated 15 equivalent units. Once in operation the actual use for this site will be monitored as site operations increase to their full capacity. The holding capacity of the cistern can be adjusted based on actual use. Provisions have been made to include on-site disinfection should it be required.
71	Furthermore, the typical water age at the street is likely to be somewhat higher than they have indicated. The Stantec report that supported the system extension indicates that under existing conditions, the incremental water age from the head of the trickle feed system to their point of connection, is in the order of 3 days. To this must be added the time from source (Lemieux Island), as well as the time in their internal storage and distribution system. Based on our central system model, we expect that the normal water age is about 3.5 days. Therefore the expected water age at their connection should be roughly 6.5 days. The City has had a regular flushing program for the system in order to maintain adequate residuals, which does not allow for significant on-site water aging.	Based on the Stantec report, it was expected that the water age to the site would be about 3.8 days plus 1.6 days. It is expected that the water age to the site will, however, change as the City discontinues flushing programs and as the Amazon project comes on-line. As mentioned above, the actual use will be monitored and the cistern holding capacity can be adjusted. Provisions will be made to include on-site disinfection if need be.
72	Overall the landscape plan species are good as there are lots of native species but Norway spruce, Austrian pine and Colorado green spruce could be replaced with native species	Plan has been updated to delete the non-native and invasive species. Eastern White Cedar has been introduced as an alternative.
73	No clearing of vegetation between April 15 and August 15, unless a qualified biologist has determined that no nesting is occurring within 5 days prior to the clearing should be added to the site plan	This requirement is acknowledged, and it is proposed that it be included as a condition in the Agreement. No action for plans.
74	Please provide width of tree screening on the drawings	Condition for inclusion in the agreement, no action for plans

75	Drawing SP 14-16, shows a 25m buffer for the Simpson drain when it should be a min. of 20 m on each side of the drain	The appropriate buffer width adjacent to the Simpson Drain has been discussed with the City Rural Drainage group during the EA process during preparation of the site development plan. For periodic maintenance purposes, a setback of 15 m is required along one side of a drain. The site development plan satisfies this requirement, and provides buffer on each side of the Drain. There is also additional undeveloped area between the buffer strip and site features. It is proposed to leave the existing natural vegetation within this buffer strip untouched on both sides of the Simpson Drain. It is noted that there is an approval required for the Simpson Drain under the Drainage Act to implement the CRRRC project, which is in progress; setback requirements will be confirmed as part of finalizing the Site Plan and Drainage Act approval processes.
76	There is supposed to be a 15 - 20 m wide vegetated screen around the perimeter of the site however on drawing SP 18 it does not show a continuous buffer	Drawing SP18 only shows the proposed constructed features (treed screening berms and stormwater ponds) in the buffer area around the landfill footprint. In the remainder of the buffer area, the existing vegetation will remain to provide the 15-20m wide continuous treed screen, This is shown on Landscape Drawing L-B.
77	There are discrepancies between the landscape plan and the vegetation screening figure prepared by Golder, Golder's figure shows a constructed screening feature from the entrance off Frontier Rd. all the way to the pond where the landscape plan shows as low maintenance seed areas (L4, L5)	In the approved EA, there were two approaches to providing visual screening of the view from Highway 417 in the northeast corner of the property. One was to provide a constructed vegetation berm along the north part of the east site boundary from the secondary site access off Frontier Road to the pond. The second was to plant trees to infill the existing gap in the trees along Highway 417 at the north end of Frontier Road. Taggart Miller has decided to proceed with the second option, and have approval from MTO to do so under a Land Use Permit. As such, this portion of the screening berm feature does not need to be constructed, as correctly shown on the landscape plan.
<b><u>Landscaping Plans</u></b>		
78	The plans should consider the recommendations made by the Conservation Partners concerning the loss of headwater features DD1 and DD2 in letters dated July 25, 2018 and June 27, 2018. Apart from the areas around the stormwater ponds where visual screenings are proposed, no plantings are indicated, and where plantings are proposed adjacent to the ponds, they are not sufficient to meet the intent of SN C's recommendation. In addition, riparian habitat along the Simpson Municipal Drain could be enhanced to address the recommendation. The previous letters	We are of the opinion that the mitigation measures as proposed in the letter to SNC dated September 6, 2018, and as shown on the Site Plan, are appropriate mitigation. It is noted that enhancements along or within the Simpson Drain are not appropriate because the area adjacent to this Municipal Drain has to be available for the City for Drain maintenance, requiring access for equipment and for spreading of material removed from the Drain during periodic maintenance.



	have been included with this submission for reference.	
79	The species list provided contains seven non-native species. The species proposed around the entrance and administration building are ornamental and acceptable (i.e., the 11 Crabapple, 20 Mugho Pine, 20 Spirea, 3 Colorado Spruce, and 6 Austrian Pine).	Noted. No action
80	Native species should be substituted for the non-native species on the remainder of the site. Scots Pine should be removed from the plan completely as this species can be invasive. Austrian Pine are not considered invasive; however, they do self-prune, making them unsuitable as a screening tree as they will lose lower branches over time. The Colorado Spruce are also not invasive but will not provide the same benefits to the local habitat as they do not readily promote succession. Norway Spruce are often used in screening plantings and are not invasive, however native White Spruce or Eastern White Cedar would be preferable alternatives.	Plan has been updated to delete the non-native and invasive species. Eastern White Cedar has been introduced as an alternative.
81	The majority of proposed plantings along the perimeter of the site consist of a single row of coniferous trees (see drawings L4, LS, L6, L8, L9, L10, L11, and L12). Where there is no additional existing vegetation in those areas, the plantings should be enhanced to also include various native deciduous trees to provide a more diverse, resilient and ecologically beneficial habitat.	Native deciduous trees introduced along the perimeter (screen) planting
82	Where feasible, the block areas of seeding with low maintenance grass, especially when adjacent to existing blocks of vegetation or proposed plantings (e.g. drawings L6, L7, L10, L11, L12), should consist of a native grass/wildflower mix to promote diversity and benefit pollinator species. Low maintenance seed	Low maintenance seed mix specified on all pan drawings

	mixes of this type are readily available and can be mown periodically if desired.	
83	A note should be added on drawing L 13 stipulating that the steel t-post stakes and arbor ties be removed after no more than 3 years post-planting. If left too long, the ties can girdle and kill the trees. After 2 or 3 years the trees should have stabilized to the point that the stakes are no longer needed.	Note added on Typical Planting Details to remove stakes and guy fastening after one (1) growing season.
<b><u>Surface Water Quality and Quantity</u></b>		
84	The report should provide calculations demonstrating how the imperviousness was determined.	A table has been prepared to show the breakdown of surface types to support the imperviousness values.
85	It is noted that it is intended to irrigate the site with stormwater from Pond 4a. What is the proposed amount to be irrigated?	The water from Pond 4a is proposed to be used for both moisture conditioning of the curing compost windrows (primary use, essentially re-use from Pond 4a) and also for general site irrigation purposes. Prior to being used for site irrigation, the water quality would be analyzed to determine its suitability for this purpose. It is proposed to assess the water quality in Pond 4a during the initial demonstration scale operations of the organics processing facility. If it is found to not be of suitable quality for irrigation, and is surplus to waste processing facility needs, it would be sent to the on-site leachate pre-treatment facility. The quantity to be used for irrigation is undetermined, since it depends on a combination of water runoff to the pond, water needs for processing and water quality at any particular time.
86	Where will the runoff from this irrigation drain to?	As described above, only water determined by analysis to be of suitable quality for irrigation will be used for this purpose. Any surplus runoff of water used for irrigation will drain to the stormwater management system.
87	What is the sampling frequency and sample parameters for the water quality sampling?	The requirements for sampling of the surface water and the stormwater ponds (frequency, parameters) is currently under discussion with the MECP and will be finalized under the OWRA Section 53 ECA for the CRRRC.
88	It is noted that temporary surface storage will be provided on the compost pad in the event sewers are unable to convey all the flow. What is the capacity of the temporary storage?	Pond 4A has been relocated to be closer to the compost pad, eliminating the majority of the storm sewers which were previously limiting and necessitated temporary storage.

89	How will leachate be prevented from entering the storm ponds? What is the contingency plan in case leachate is detected?	The leachate will be retained within the landfill footprint by its leachate containment system, consisting of: GCL (Geosynthetic Clay Liner) lined, 3.5 m high perimeter berms; the native silty clay deposit below the base of the landfill, and; a leachate collection and removal system to maintain a low leachate level within the landfill. This will prevent the leachate from getting into the stormwater Ponds 1 and 2 located adjacent to the landfill. The southern portion of the CRRRC where the landfill is located is separated from the northern part of the site by the Simpson Drain; the pumped leachate will be conveyed from the landfill to the on-site leachate pre-treatment building via a sealed forcemain system. Contingency measures in the event that leachate-impacted water was to reach stormwater management features have been prepared and are described in the Design & Operations report that has been approved by MECP.
90	The report should include orifice sizing calculations demonstrating how the allowable release rates will be achieved.	A stage/storage table has been included for each pond as well as an orifice sizing summary.
91	How were the values used in Tables a.1.2 and A.1.3 determined? Which soil group was used?	Description has been added to describe the assumptions for these values.
92	As per our previous correspondence, the SWMMS modelling files should be provided.	The modelling files have been included.
93	A pre and post drainage plan showing the areas identified in Tables A.1.4 and A.1.5 should be provided.	The drainage areas described in Tables A.1.4 and A.1.5 are shown on Figures 2, 3 and 4.
94	The Grading Plans should include elevations extending outside of the property boundary to ensure no external runoff is contributing to the site.	Additional existing spot elevations have been added around the site. Existing contours also extend beyond the site boundary.
95	Hard copies of the plans should be provided.	No additional hard copies are being made for the second submission
96	South Nation Conservation (SNC) implements Ontario Regulation 170/06, Development Interference with Wetlands and Alterations to Shorelines and Watercourses, developed under Section 28 of the Conservation Authorities Act. It is understood that watercourses will be decommissioned to facilitate the development. Any interference with a watercourse may require a permit prior to commencement of the work from SNC, and restrictions may apply.	It is acknowledged that a work permit will be required from SNC to carry out work related to watercourses on the site.
97	Will there be any objection to allowing the Fire Department to access the standpipe at the pond to fight fires on nearby sites if they need an additional source of water?	The Owner has confirmed that accommodations can be made to allow Fire Department access to the dry hydrant at the fire pond.

98	Standpipe - should be min of 300 mm off of floor of pond	This has been updated.
99	How have you accounted for potential for freezing of water within the standpipe (heat tracing, sleeve?)	Piping to the wetwell will be below the frost depth. A vertical turbine diesel powered pump located within a heated building above the wet well is proposed. No heat tracing is proposed for the suction pipe.
100	standpipe can be 6"., they normally use 5" so the adapter will work more efficiently with the 5"	The dry hydrant adjacent to the fire pond is shown as 6" (150mm).
101	Confirm that there will be at least the minimum of 5 feet of water above the top of the inlet valve on the bottom of the pond at all times	A wet well has been added to provide additional depth of water above the intake.
102	Question as to water quality in the pond - will they be pumping anything other than rain water - i.e. leachate?	The source of water to the fire pond(s) is only surface water runoff from the northern portion of the site, as described in Section 4.1.6 of the Golder SWM Report.
103	Why are 5A and 5B separate? Are both available for fire fighting?	Pond 5A is proposed as the dedicated fire pond. Pond 5B will also have a permanent pool of water available for firefighting if needed, but a dry hydrant or standpipe will not be provided to that pond.
104	Guarantees for the volume of water in the pond - how will it be regulated to ensure that it is full?	The pond will be lined as required to blank off the existing silty sand soil layer. The normal water level is well above the minimum required for firefighting to accommodate evaporation between rain events and ice thickness during the winter. A staff gauge will be added to allow visual checks of the water level. If the pond needs to be topped up, water can be transferred from Pond 5B.
105	Fire Department's questioning the fire fighting methodology - size of fire fighting main, pressurization, ability of building connection and hydrants to both be supported - 1 for the building and to support the need for hose lines simultaneously, how is the calculation done to support these buildings - is the site being considered 1 building? NOTE: this appears to be an issue - I understand that due to changes to the buildings the overall design is changing, and the fire pump etc. needs to be clarified.	A meeting was held with Fire Services to confirm the preferred approach. The fire pump is sized based on the demand required for the MRF and additional flow due to the spatial separation to the C&D. The fire mains will be charged.

Regards,

Katie Morphet, MCIP, RPP  
Planner  
J.L. Richards & Associates Ltd.