

PENTAGON ENGINEERING LTD.

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Date: March 6, 2015

City of Penticton AWWTP
459 Waterloo Ave
Penticton, BC

Via email: randy.craig@penticton.ca

Attention: Randy Craig

RE: Penticton AWWTP – Alternate Measures of Control (AMC), Secondary Clarifier #2

Dear Mr. Craig,

The 200mm knife gate is of adequate engineering, construction and maintenance to hold back the head applied to it for the time required to be in the confined space.

The analysis of buried 750mm valve as a control measure assumes that all valves leak. However, there is no expectation that a properly installed and maintained valve will fail catastrophically if no work is being performed on it which this valve is. It is recognized that systems will often permit some leakage; a means of pumping out the fluid should be undertaken. The stilling well that feeds the clarifier should be pumped empty down to the 90 deg bend and visual checks performed every 20 minutes while space is occupied, if the water level is observed rising in the stilling well (leakage) that level should be measured and recorded and if required pump that liquid out. If excessive leakage is observed the confined space should be evacuated and the issue addressed prior to re-entry.

Given these facts it is our opinion that the proposed AMC for entering the Secondary Clarifier #2 confined is adequate. This AMC is adequate for one year and after that time it should be revisited to ensure its adequacy.

PENTAGON ENGINEERING LTD.

Per:



Rob Linder, P.Eng.
Director