

# AMENDING APPROVAL

## PROVINCE OF ALBERTA

### ENVIRONMENTAL PROTECTION AND ENHANCEMENT ACT R.S.A. 2000, c.E-12, as amended.

APPROVAL NO.: 518-03-01 .....

APPLICATION NO.: 011-518 .....

EFFECTIVE DATE: May 1, 2017 .....


EXPIRY DATE: January 1, 2026 .....

APPROVAL HOLDER: Aquatera Utilities Inc. ....

ACTIVITY: construction, operation and reclamation of a wastewater system .....

that serves the Hamlet of Clairmont and service area

is amended as per the attached terms and conditions.

Designated Director under the Act:  .....

Okey Obiajulu

Date Signed: May 1, 2017 .....

**TERMS AND CONDITIONS ATTACHED TO APPROVAL**

*Environmental Protection and Enhancement Act* Approval No. 518-03-00 is hereby amended as follows:

1. Condition 1.1.2 is amended by replacing (s) and adding (t), (u) and (v) as follows:

1.1.2 In all PARTS of this approval:

- (s) "year" means calendar year;
- (t) "COD" means chemical oxygen demand which is used as a measure of the oxygen equivalent of the organic matter content of a sample that is susceptible to oxidation by a strong chemical oxidant;
- (u) "EC" means electrical conductivity and is measured in deciSiemens per metre; and
- (v) "SAR" means the sodium adsorption ratio which is the ratio of available sodium, calcium, and magnesium in the soil solution which can be used to indicate whether or not the accumulation of sodium in the soil exchange complex will lead to a degradation of soil structure.

2. Conditions 3.1.1 through 3.1.3 are deleted and substituted with the following:

3.1.1 The approval holder shall upgrade the wastewater system as required in the approval or as described in the application.

3.1.2 An application for changes to the existing wastewater system, as required under the Act and the regulations, shall contain, at a minimum, all of the following:

- (a) engineering design drawings and specifications for the wastewater system, including the design capacity, stamped and signed by a professional engineer; and
- (b) any other information required by the Director in writing.

3.1.3 The pipeline that shall transport treated wastewater from the Clairmont wastewater system to the Aquatera wastewater treatment plant in Grande Prairie shall be operational by December 31, 2018, unless otherwise authorized in writing by the Director.

**TERMS AND CONDITIONS ATTACHED TO APPROVAL**

3. Condition 4.1.2 is deleted and substituted with the following:

**BEFORE PIPELINE UPGRADE**

4.1.2 The approval holder shall operate a wastewater system which shall include:

- (a) the wastewater collection system and transmission line(s), within and outside the Clairmont municipal boundaries, including lift station(s);
- (b) a wastewater lagoon, consisting of the following:
  - (i) anaerobic cells,
  - (ii) facultative cell with bubble aeration, and
  - (iii) storage cell with partial bubble aeration.
- (c) a pilot scale willow research plantation with subsurface release of treated wastewater; and
- (d) a treated wastewater outfall that discharges to Ferguson Creek.

**AFTER PIPELINE UPGRADE**

4.1.2(A) The approval holder shall operate a wastewater system which shall include:

- (a) the wastewater collection system and transmission line(s), within and outside the Clairmont municipal boundaries, including lift station(s);
- (b) a wastewater lagoon, consisting of the following:
  - (i) anaerobic cells,
  - (ii) facultative cell with bubble aeration, and
  - (iii) storage cell with partial bubble aeration.
- (c) a pilot scale willow research plantation with subsurface release of treated wastewater; and
- (d) treated wastewater effluent discharging to a pipeline to the approved Aquatera wastewater treatment plant within the City of Grande Prairie for further treatment.

**TERMS AND CONDITIONS ATTACHED TO APPROVAL**

4. Conditions and Table of Section 5.1 are deleted and substituted with the following:

**BEFORE PIPELINE UPGRADE**

5.1.1 Treated wastewater from the outfall of the wastewater storage cell shall be discharged as follows:

- (a) to Ferguson Creek and Bear Creek located at NE 19-072-06-W6M, as follows:
  - (i) a maximum of two discharges per year between April 1 and November 30, and
  - (ii) each discharge shall be at a maximum period of three weeks per discharge; or
- (b) to the pilot willow research plantation, according to this approval; or
- (c) for reuse in drilling, fracking, and other related industrial uses;

unless otherwise authorized in writing by the Director.

**AFTER PIPELINE UPGRADE**

5.1.1(A) Treated wastewater from the wastewater storage cell shall be discharged as follows:

- (a) to the pipeline to the approved Aquatera wastewater treatment plant within the City of Grande Prairie for further treatment.
- (b) to the pilot willow research plantation, according to this approval; or
- (c) for reuse in drilling, fracking, and other related industrial uses;

unless otherwise authorized in writing by the Director.

5.1.2 The approval holder shall ensure that the treated wastewater released from the storage cell complies with the limits specified in TABLE 5-1 or TABLE 5-2.

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**TERMS AND CONDITIONS ATTACHED TO APPROVAL**

**BEFORE PIPELINE UPGRADE**

**TABLE 5-1: LIMITS FOR TREATED WASTEWATER**

	<b>DESIGNATED SAMPLING LOCATION</b>	<b>LIMIT</b>
CBOD <sub>5</sub>	EFFLUENT LEAVING STORAGE CELL	≤ 25 mg/L of a grab sample taken

**AFTER PIPELINE UPGRADE**

**TABLE 5-2: LIMITS FOR TREATED WASTEWATER**

<b>PARAMETERS</b>	<b>DESIGNATED SAMPLING LOCATION</b>	<b>LIMIT</b>
CBOD <sub>5</sub>	EFFLUENT LEAVING STORAGE CELL	< 100 mg/L of a grab sample taken
COD	EFFLUENT LEAVING STORAGE CELL	< 150 mg/L of a grab sample taken
TSS	EFFLUENT LEAVING STORAGE CELL	< 100 mg/L of a grab sample taken
EC	EFFLUENT LEAVING STORAGE CELL	< 2.5 ds/m of a grab sample taken
SAR	EFFLUENT LEAVING STORAGE CELL	< 9 of a grab sample taken
pH	EFFLUENT LEAVING STORAGE CELL	6.5 to 9.5 of a grab sample taken

**TERMS AND CONDITIONS ATTACHED TO APPROVAL**

5. Condition 6.1.1 is deleted and substituted with the following:

6.1.1 The approval holder shall monitor the wastewater system as required in TABLE 6-1:

**TABLE 6-1: MONITORING – WASTEWATER SYSTEM**

PARAMETERS	FREQUENCY (MINIMUM)	SAMPLE TYPE	SAMPLING LOCATION	REPORTING FREQUENCY
<b>TREATED WASTEWATER – BEFORE PIPELINE UPGRADE</b>				
CBOD <sub>5</sub>	Once during each authorized discharge	Grab	Effluent leaving the aerated storage cell	Annually as per 6.2.1
TSS	Once during each authorized discharge	Grab	Effluent leaving the aerated storage cell	Annually as per 6.2.1
Ammonia-Nitrogen, pH and temperature				
Volume to Ferguson Creek		Estimated		
Volume and rate of application	Daily or weekly applied to the site of the pilot scale willow research plantation	Continuous		
<b>TREATED WASTEWATER – AFTER PIPELINE UPGRADE</b>				
CBOD <sub>5</sub>	Samples collected twice annually prior to and on completion of an application event to the pilot scale willow research plantation	Grab	Effluent leaving the aerated storage cell	Annually as per 6.2.1
COD				
TSS				
EC				
SAR				
pH				
Volume and rate of application	Daily or weekly applied to the site of the pilot scale willow research plantation	Continuous	Effluent leaving the aerated storage cell	Annually as per 6.2.1

**TERMS AND CONDITIONS ATTACHED TO APPROVAL**

PARAMETERS	FREQUENCY (MINIMUM)	SAMPLE TYPE	SAMPLING LOCATION	REPORTING FREQUENCY
<b>UNAUTHORIZED RELEASES</b>				
Release Volume	Total Volume	Estimated	Wastewater bypassing the wastewater treatment plant, accidental spills or overflows	Immediately as per 2.1.1
			Wastewater bypassing the lift station(s), accidental spills or overflows	
			Wastewater bypasses the on-site pilot willow research plantation, accidental spills, leakages or overflows	
			At the release point(s)	
BOD <sub>5</sub> , TSS, pH, temperature, faecal and total coliforms, <i>E. coli</i> , Phosphorus and Ammonia-Nitrogen	During the unauthorized discharge	Grab	At the release point(s)	Annually as per 6.2.1
<b>SLUDGE DISPOSAL</b>				
Sludge Volume	Total Volume	Estimated	Amount of sludge being hauled off-site according to the approval	Annually as per 6.2.1

6. Condition 6.2.1 is deleted and substituted with the following:

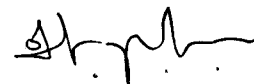
6.2.1 The approval holder shall compile an Annual Wastewater Report which shall include the following:

- (a) the date when each allowable discharge of the storage cell, as outlined in 5.1.1 or 5.1.1(A), started and the date when the discharge was completed;

**TERMS AND CONDITIONS ATTACHED TO APPROVAL**

- (b) the results of the treated wastewater discharge monitoring, as outlined in TABLE 6-1;
- (c) a pilot willow research summary report including the monitoring, as outlined in TABLE 6-1;
- (d) the name of the supervising operator responsible for the operation of the wastewater system;
- (e) a summary of any incidents and any operational problems which required reporting in accordance with 2.1.1;
- (f) a wastewater reuse summary, as follows:
  - (i) daily records on the amount of wastewater reused,
  - (ii) a description of the activity that receives the reused wastewater, and
  - (iii) the legal land location where reused wastewater is applied;
- (g) a calculation of the uncommitted hydraulic reserve capacity for the wastewater treatment plant;
- (h) a summary of any operational problems; and
- (i) any changes to the Operations Program according to 4.1.6.

DATED: May 1, 2017



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DESIGNATED DIRECTOR UNDER THE ACT  
Okey Obiajulu