

June 26<sup>th</sup>, 2014

Ms. Tracy Stewart, Acting Chief Administrative Officer  
Village of Bawlf  
PO Box 40  
Bawlf AB T0B 0J0

Dear Ms. Stewart:

RE: Compliance Inspection of the **Bawlf Wastewater System**, Registration # 400, on May 27, 2014

This letter confirms that Alberta Environment and Sustainable Resources Development (AESRD) conducted a compliance inspection on the Bawlf Wastewater System on May 27, 2014. The inspection was completed in order to assess the facility's compliance with the Code of Practice for Wastewater Systems Using a Wastewater Lagoon issued under the Environmental Protection and Enhancement Act (EPEA).

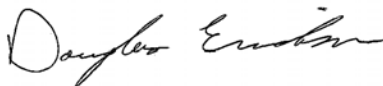
Attached for your information and attention is a copy of the inspection report prepared by AESRD as documentation of the inspection. Only the terms and conditions of the Code of Practice for Wastewater Systems Using a Wastewater Lagoon reviewed are detailed in the report and those not identified in the inspection report were not reviewed for compliance.

Three non-compliance items were discovered during the inspection. Twenty one items that require attention and follow-up were documented.

In order to gain assurance from the "Village of Bawlf" that all areas that require follow-up will be immediately addressed, AESRD requires that the "Village of Bawlf" provides AESRD with a written response by **July 25, 2014** outlining the actions taken to remedy the identified follow-up items.

If you have any questions or concerns, please do not hesitate to contact me at 780-679-1259.

Sincerely,



Douglas Erickson  
Environmental Protection Officer

Cc: Justin Jacobson, Public Works, Village of Bawlf  
Fengqin Yang, Approvals Engineer, AESRD, Edmonton

**CODE OF PRACTICE INSPECTION REPORT – Wastewater Systems Using a Wastewater Lagoon**

<b>Inspection Date:</b> May 27, 2014	<b>Name of Facility:</b> Bawlf Wastewater System
<b>Previous Inspection Date:</b>	<b>Registration No:</b> 400
<b>AENV Inspector:</b> Doug Erickson	<b>Phone:</b> 780-679-1259
<b>Facility Contact Person:</b> Justin Jacobson	<b>Phone:</b> 780-781-8010

**Purpose of Inspection:**

- Evaluate compliance with the terms and conditions of the Code of Practice for Wastewater Systems Using a Wastewater Lagoon that were reviewed at the time of inspection.
- Education/Awareness of the Alberta Environment Code of Practice for Wastewater Systems Using a Wastewater Lagoon.
- Inspect the facility and collect data on its condition.

**Comments:**

- The operation and maintenance of the wastewater system does not appear to be adequate. Additional attention is required to ensure the facility is following the legislative requirements of the Code of Practice and can produce the highest quality of treated effluent, to ensure that the system has appropriate measures to protect against failures of the treatment process, to protect the structural integrity of the berms, and to improve the overall condition of the site.

**Follow-up Required:**

- Report contraventions to 1-800-222-6514 -- Village of Bawlf did not compile and submit annual reports as required in the Code of Practice for Wastewater Systems Using a Wastewater Lagoon.
- Routine site visits by public works staff be increased to weekly, year round.
- The Village must be aware and document where the lagoon property is (e.g. is the barb wire fence the property line).
- Determine if the constructed ditches on the north and east sides of the lagoon were completed with the construction of the lagoon, were constructed at a later date and when, and if the Village or an independent third party constructed the ditches.

- Access road -- all weather access to the wastewater lagoon shall be provided.
- The fence around the site requires repair and should be maintained on a regular basis.
- Warning signs shall be provided at appropriate locations along the fenced perimeter of the wastewater lagoon. Each sign should identify the facility, the owner, advise against trespassing, and provide emergency contact phone numbers.
- Operate the storage cell with a once per year discharge, and according to the requirements in the Code of Practice document the dates of the discharge and the amount of wastewater discharged.
- Once the storage cell is discharged to its lowest allowable level install a staff gauge that will enable public works staff to monitor the rate that the storage cell volume increases throughout the year.
- Once the storage cell is discharged to its lowest allowable level ensure that the discharge pipe and the overflow pipes are in good working order.
- Ensure that the crossover structures between the facultative cell and the storage cell are inspected weekly to prevent the facultative cell from exceeded the intended operating level.
- Ensure that the wastewater flow control structures and valves are checked, maintained, and exercised at least yearly.
- Consider having a Geo-technical engineering assessment completed on the lagoon to determine the overall condition of the facility.
- Have a Geo-technical engineering assessment completed to determine the cause of and ensure of the proper repair of the existing borehole located on the north outside bank (near the northeast corner)
- Consider having an assessment completed on the amount of sludge in the anaerobic cells.
- Ensure that brush control on the berms and along the fence line is completed yearly as required.
- Rodent control is required at the lagoon site.
- Mowing of the grass on the berm tops and outside berms at least yearly is suggested.
- Ensure that the proper discharge easement documents are in place and easily accessible.
- Ensure that CBOD and TSS are tested for with the discharge each year.
- Ensure that all annual reports are completed and have been submitted to AESRD since the lagoon was put into operation.

**CODE OF PRACTICE INSPECTION COMPLIANCE SUMMARY**

I/C= In compliance

N/C= Not in compliance

R/C= Reviewed Term, Condition or Requirement

<b>Standards Review and Visual Condition Check</b>			
<b>Item or Standard Assessed:</b>	<b>Follow-up Required?</b>		<b>Comments:</b>
	<b>Yes</b>	<b>No</b>	
<b>Access Road:</b> <ul style="list-style-type: none"> <li>Does it provide all weather access to the Lagoon?</li> </ul>	X		Access road in place but it is not all weather and is impassable with heavy snow or rain.
<b>Lagoon Fencing:</b> <ul style="list-style-type: none"> <li>Is the Lagoon enclosed by a fence to prevent unauthorized access?</li> <li>Is the access gate locked?</li> <li>Is the fence in good condition?</li> </ul>	X  X	  X	Barb wire fence in place, is in poor condition  Gate is closed and locked. 3 strand barb wire. Requires repairs. Trees grown in fence.
<b>Lagoon Signage:</b> <ul style="list-style-type: none"> <li>Are warning / no trespassing signs present?</li> <li>Do the signs identify the facility owner?</li> <li>Is emergency contact information provided? (phone number)</li> </ul>	X X X		No Signs at the site.
<b>General Lagoon Information:</b> <ul style="list-style-type: none"> <li>Note the number and type of the lagoon cells. (anaerobic, facultative &amp; storage)</li> <li>Is local surface runoff diverted away from the lagoon system?</li> <li>Does the lagoon have groundwater monitoring wells?</li> <li>Is there a noticeable build up of sludge in the anaerobic cells?</li> </ul>	   X	X X X	Note: Storage cell level was nearing full capacity at the time of the inspection. 2 anerobics-1 facultative cell, 1 storage cell.  Yes  No Groundwater wells present.  Sludge is visible in west cell.
<b>Lagoon Berm Conditions:</b> <ul style="list-style-type: none"> <li>Do the berms have a minimum top width of 3 meters?</li> <li>Do the lagoon berm slopes appear to be</li> </ul>		X  X	Berm tops width is 3 meters  Interior and exterior berms appear to be safe.

<p>safe? (both interior &amp; exterior slopes)</p> <ul style="list-style-type: none"> <li>▪ Is riprap provided for areas exposed to wave action and potential erosion?</li> <li>▪ Are there any apparent berm integrity problems?</li> <li>▪ Is a minimum of 0.6 meters of lagoon freeboard available?</li> </ul>	<p>X</p> <p>X</p> <p>X</p>		<p>Rip Rap is visible on the inside berms. Berm integrity problems noticed on the inside between facultative and storage cell from rodent problems. On the outside berm near the northeast corner is an open vertical borehole (with water in it) covered by a tire and signpost. Facultative cell freeboard was nearing 0.6 meters during a recent event where the crossover valve was plugged by muskrats and the facultative cell was not releasing to the storage cell.</p>
<p><b>Seepage Conditions:</b></p> <ul style="list-style-type: none"> <li>▪ Is any water ponding around the lagoon perimeter?</li> <li>▪ Could any ponded water be a result of external surface or subsurface drainage?</li> </ul>	<p>X</p> <p>X</p>		<p>Water is ponding in ditches on the north, east, and south sides, and in a low area on the west side. Undetermined where the water that is in these ditches and low areas is coming from.</p>
<p><b>Lagoon Vegetation:</b></p> <ul style="list-style-type: none"> <li>▪ Is lagoon vegetation managed to protect it from the development of trees and habitation by burrowing rodents?</li> <li>▪ Was any vegetation consistent with wet conditions observed around the lagoon perimeter? (i.e. cattails)</li> </ul>	<p>X</p> <p>X</p>		<p>Brush and trees are growing along the fence lines on the outside toe of the berms. Require cutting. Grass on the site is mowed. Mowing the grass allows the operator to inspect the berm top and slopes for overall condition and to check for rodent problems.</p> <p>Vegetation in low areas are consistent with wet conditions. Adjoining land on the North side of the lagoon has a wet area with alkaline that the owner claims is due to the lagoon leaking.</p>
<p><b>Lagoon Discharge Conditions:</b></p> <ul style="list-style-type: none"> <li>▪ What is the lagoon discharge frequency?</li> <li>▪ Is the condition of the lagoon outfall structure adequate? (no leakage or erosion issues)</li> <li>▪ Does the lagoon drain to a ditch or other defined drainage course?</li> <li>▪ If needed is there an easement to allow lagoon drainage?</li> </ul>	<p>X</p> <p>X</p> <p>X</p>	<p>X</p> <p>X</p>	<p>1 discharge per year allowed. The lagoon has not been discharged yearly. Outfall structure appears in good condition without erosion.</p> <p>Concrete outfall into drainage ditch.</p> <p>Village to ensure that proper easements for drainage are in place.</p>

Code Review					
Terms and Conditions	I/C	N/C	R/C	Code of Practice Wording or Related Questions	Comments:
2.2.1			X	<p>With respect to any sample required to be taken pursuant to this Code of Practice, all samples shall be:</p> <ul style="list-style-type: none"> <li>(a) collected;</li> <li>(b) preserved;</li> <li>(c) stored;</li> <li>(d) handled; and</li> <li>(e) analyzed</li> </ul> <p>in accordance with:</p> <ul style="list-style-type: none"> <li>(i) the <i>Standard Methods for the Examination of Water and Wastewater</i>,</li> <li>(ii) the <i>Methods Manual for Chemical Analysis of Water and Wastes</i>, or</li> </ul> <p>a method authorized in writing by the Director.</p>	Use proper bottles, shipping procedures and an approved laboratory.
2.3.1		X		<p>In addition to any reporting required under the Act, the regulations and this Code of Practice, the registration holder shall immediately report any contravention of this Code of Practice to the Director, either:</p> <ul style="list-style-type: none"> <li>(a) by telephone at (780) 422-4505; or</li> <li>(b) by a method:                             <ul style="list-style-type: none"> <li>(i) in accordance with the release reporting provisions in the Act and regulations, or</li> </ul> </li> </ul> <p>authorized in writing by the Director.</p>	Annual reports were not completed or submitted as required. All contraventions must be reported.
2.3.2			X	<p>In addition to the immediate report in 2.3.1, the registration holder shall provide a report to the Director in writing within seven (7) calendar days after the discovery of the contravention, or within another time period specified in writing by the</p>	The Code of Practice requires that a letter detailing the contravention be submitted to AESRD within 7 days of the reporting of the contravention.

Code Review					
Terms and Conditions	I/C	N/C	R/C	Code of Practice Wording or Related Questions	Comments:
				Director, unless the requirement for the report is waived by the Director.	
<b>A4.1.2</b>			X	Treated wastewater from a wastewater lagoon shall be disposed of only: <ul style="list-style-type: none"> <li>(a) by discharge in accordance with this Code of Practice;</li> <li>(b) by treated wastewater irrigation in accordance with this Code of Practice; or</li> <li>(c) by other methods in compliance with the Act and the regulations.</li> </ul>	Discharge of treated wastewater from the storage cell has not been taking place yearly.
<b>A4.1.3</b>			X	Sludge from a wastewater lagoon shall be disposed of only; <ul style="list-style-type: none"> <li>(a) by application to land in accordance with this Code of Practice; or</li> <li>(b) by other methods in compliance with the Act and the regulations.</li> </ul>	Sludge removal may be required soon.
<b>A4.1.4</b>			X	The registration holder shall: <ul style="list-style-type: none"> <li>(a) at least one week prior to the wastewater lagoon discharge, notify downstream landowners who have expressed interest in the wastewater lagoon discharge; and</li> <li>(b) retain documentation of the notification given.</li> </ul>	The Village is responsible to ensure that this takes place if required.
<b>A4.1.5</b>			X	A wastewater lagoon shall be discharged into the environment only: <ul style="list-style-type: none"> <li>(a) at a frequency not exceeding the designed frequency of discharge, or a frequency specified in writing by the Director;</li> <li>(b) between April 1<sup>st</sup> and November 30<sup>th</sup>; and</li> <li>(c) in a manner so that each discharge is completed within a period of three</li> </ul>	Facility must follow the Code of Practice requirements but may ask AESRD for an extension or extended discharge time lines if an emergency situation arises.

Code Review														
Terms and Conditions	I/C	N/C	R/C	Code of Practice Wording or Related Questions	Comments:									
				consecutive weeks, or a period authorized in writing by the Director.										
A4.1.7			X	No discharge from the wastewater lagoon shall cause flooding of downstream adjacent lands or erosion of any watercourse or land over which the treated wastewater discharge flows.	The Village is responsible to ensure that flooding does not take place.									
A4.1.8	X			At all times, the operation of the wastewater <b>collection</b> system shall be performed by, or under the direction of, a person who holds a valid wastewater collection certificate of qualification at the applicable level as set out in Table A4-1.	Village has a certified operator for this facility									
A4.1.9	X			At all times, the operation of the wastewater <b>lagoon</b> shall be performed by, or under the direction of, a person who holds a valid wastewater treatment certificate of qualification at the applicable level as set out in Table A4-1.	Village has a certified operator for this facility									
A5.1.1			X	<p>The wastewater lagoon discharge shall be monitored as specified in Table A5-1.</p> <p><b>TABLE A5-1: WASTEWATER LAGOON DISCHARGE MONITORING</b></p> <table border="1"> <thead> <tr> <th>Parameters</th> <th>Sample Type</th> <th>Sampling Location</th> <th>Minimum Monitoring Frequency</th> </tr> </thead> <tbody> <tr> <td>Carbonaceous Biochemical Oxygen Demand</td> <td rowspan="2">Grab</td> <td rowspan="2">Point at which treated wastewater is discharged from the wastewater lagoon</td> <td rowspan="2">Once during discharge, after the first day of discharge</td> </tr> <tr> <td>Total Suspended Solids</td> </tr> </tbody> </table>	Parameters	Sample Type	Sampling Location	Minimum Monitoring Frequency	Carbonaceous Biochemical Oxygen Demand	Grab	Point at which treated wastewater is discharged from the wastewater lagoon	Once during discharge, after the first day of discharge	Total Suspended Solids	Facility is required to test CBOD and TSS as required in the Code of Practice.
Parameters	Sample Type	Sampling Location	Minimum Monitoring Frequency											
Carbonaceous Biochemical Oxygen Demand	Grab	Point at which treated wastewater is discharged from the wastewater lagoon	Once during discharge, after the first day of discharge											
Total Suspended Solids														



Code Review					
Terms and Conditions	I/C	N/C	R/C	Code of Practice Wording or Related Questions	Comments:
A5.1.2			X	In addition to the monitoring of the wastewater lagoon required pursuant to A5.1.1, the following information shall also be recorded for each wastewater discharge: (a) the measurement, or, if measurement is not possible, estimate of the total volume of discharge; and (b) the dates during which discharge took place.	Facility is required to keep this information on record.
A5.1.6			X	The groundwater monitoring program shall consist, at a minimum, of the following: (a) for: (i) a new wastewater lagoon or a lagoon that has undergone a structural change that has the potential to affect the treatment, obtain one sample from each groundwater monitoring well:	There are not any groundwater monitoring wells at the site.
A5.1.7			X	The following measurements shall be taken at the location of each groundwater monitoring well: (b) after the first year of operation of the wastewater lagoon, the depth to water at each groundwater monitoring well shall be measured: (i) immediately before wastewater lagoon discharge; (ii) immediately after each wastewater lagoon discharge is complete, and (iii) approximately one month after the end of each wastewater lagoon discharge.	There are not any groundwater monitoring wells at the site.

Code Review					
Terms and Conditions	I/C	N/C	R/C	Code of Practice Wording or Related Questions	Comments:
A7.1.1		X		In addition to any other reporting required under the Act, the regulations, and this Code of Practice, the registration holder shall submit an annual report to the Director by February 28 of the year following the year in which the information was collected.	Village has not compiled or submitted annual reports. Ensure that annual reports get submitted yearly as required with the required information attached. An annual report is required even if the lagoon has not been discharged.
A7.1.2		X		The annual report required in A7.1.1 shall contain, at a minimum, all of the following information: <ul style="list-style-type: none"> <li>(a) the results of the treated wastewater discharge monitoring and measurements required in A5.1.1 and A5.1.2;</li> <li>(b) the groundwater monitoring information required in A5.1.6 and A5.1.7, and an interpretation of the analytical results with respect to any potential adverse effect or unsatisfactory liner performance;</li> <li>(c) information regarding treated wastewater irrigation, as required under B6.1.1 and B6.1.2; and</li> <li>(d) information regarding sludge application to land, as required under C5.1.1.</li> </ul>	<b>Ensure that all of the required information is include with the annual report.</b>
B			X	<p>B. TREATED WASTEWATER IRRIGATION</p> <p>PART B3.1: ADMINISTRATION, DESIGN AND CONSTRUCTION REQUIREMENTS</p> <p>PART B4.1: OPERATIONAL REQUIREMENTS</p> <p>PART B5.1: LIMITS AND MONITORING REQ.</p> <p>PART B6.1: REPORTING REQUIREMENTS</p> <p>PART B7.1: RECORD KEEPING REQ.</p> <ul style="list-style-type: none"> <li>- have they irrigated this year.</li> <li>- if so, were there any problems with the irrigation campaign.</li> </ul>	Not irrigating

Code Review					
Terms and Conditions	I/C	N/C	R/C	Code of Practice Wording or Related Questions	Comments:
C3.1.1			X	No person shall commence application of sludge: (a) to agricultural land, unless the Director has been informed in writing of the intention to apply sludge to agricultural land; or (b) to land other than agricultural land, except in accordance with the written authorization of the Director for the sludge application.	The Village is responsible to ensure that this takes place if required.
C4.1.1			X	Sludge from a wastewater lagoon shall be disposed of only: (a) by application to land in accordance with this Code of Practice; (b) in accordance with the written authorization of the Director, or (c) by other methods in compliance with the Act and the regulations.	The Village is responsible to ensure that this takes place if required.
C4.1.3			X	No person shall apply sludge on land unless that person has obtained prior written consent to the proposed application from: (a) all owners of land on which sludge is applied; and (b) the local authority of all municipalities in which land that is affected by the project is located.	The Village is responsible to ensure that this takes place if required.
C4.1.5			X	Sludge shall not be released from the land on which it was applied.	The Village is responsible to ensure that this takes place if required.