



*Technical Memorandum For:*

# **TOWN OF CLARESHOLM & MUNICIPAL DISTRICT OF WILLOW CREEK WATER SHORTAGE RESPONSE PLAN**

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# 1 INTRODUCTION

## 1.1 BACKGROUND

The Town of Claresholm (Town) and Municipal District of Willow Creek (MD) have retained MPE Engineering Ltd. (MPE) to prepare a Water Shortage Response Plan (WSRP) for the purposes of being submitted to Alberta Environment and Parks (AEP) as an attachment to existing, ongoing, and future Water Act applications.

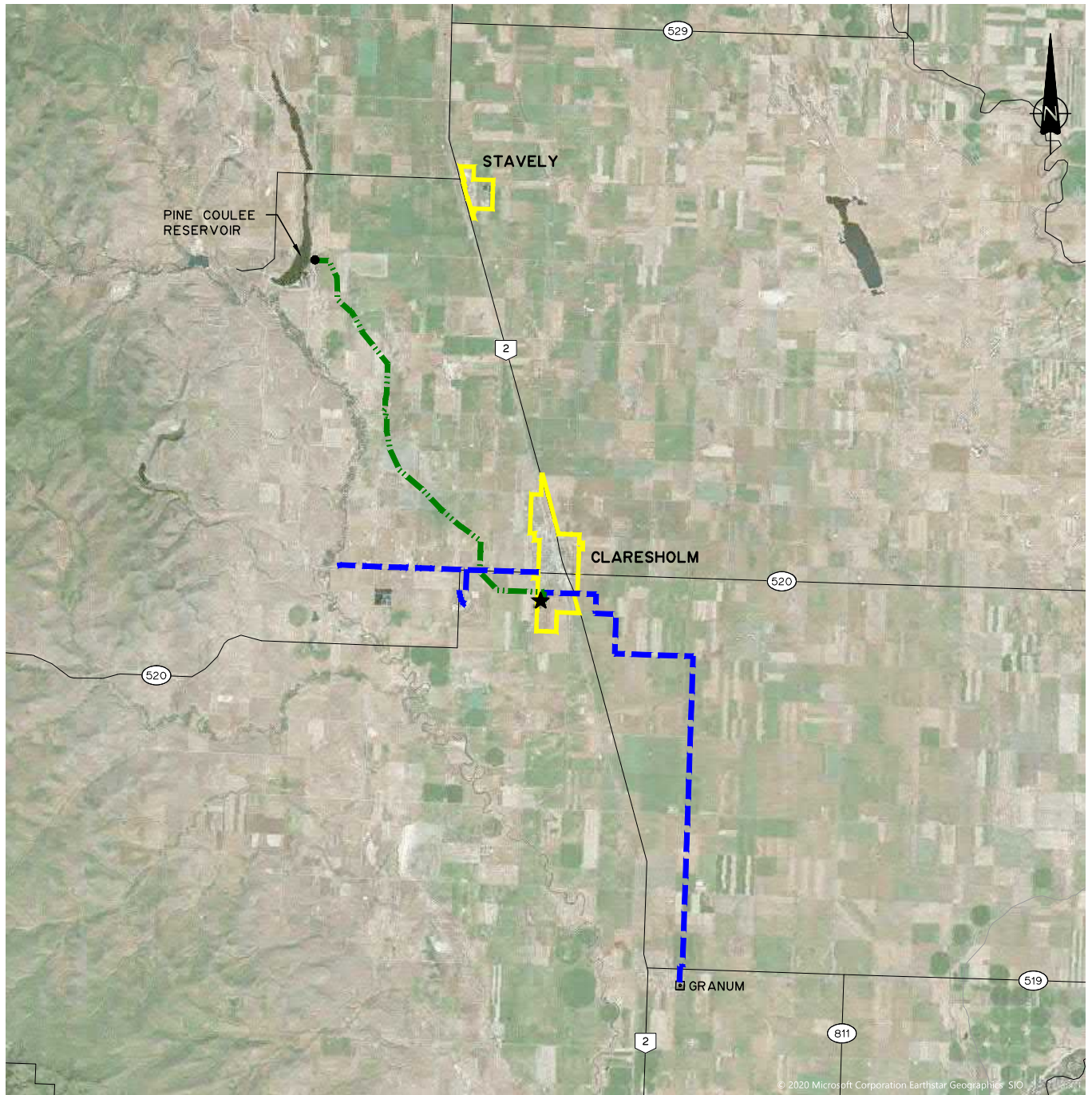
This technical memorandum will provide the Town and MD with a Water Shortage Response Plan for licences with a listed point of diversion as the *“NW 35-013-28 W4M through the work of the Town of Claresholm”* and source of water as *“Willow Creek”* and/or *“Willow Creek through the works of Alberta Environment and Parks (Pine Coulee Reservoir)”*. The source of water and point of diversion will herein be referred to as the Pine Coulee Reservoir (PCR) and Pine Coulee Reservoir Intake (PCR Intake), respectively.

Figure 1.1 on the following page indicates the overall area and municipalities identified in the WSRP. For the intent of the WSRP, the community of Granum is still referred to as the *“Town of Granum”* despite recently becoming part of the MD’s jurisdiction. The naming conventions in the report are based on the names identified within individual water licences.

## 1.2 SCOPE OF WORK

In general, the tasks completed for the WSRP included the following:

- Project Start-up Meeting with the Town and MD,
- Compile previously completed WSRPs for the Town and MD,
- Develop a summary of all existing water licenses held by the stakeholders,
- Identify all connections to the regional water supply network, including raw water and potable water connections,
  - Review of any existing water supply agreements related to potential impacts on the WSRP,
- Review AEP operating procedures for the PCR.
  - Including a meeting with appropriate AEP staff to discuss operations and the impacts on the region’s water supply,
- Review previously developed *“Triggering Criteria”* and modify as required, based upon critical PCR elevations,
- Conduct a stakeholder review meeting to review triggering criteria and to develop the municipality-specific actions that will be taken at each trigger,
- Develop comprehensive draft Water Shortage Response Plan for the region, incorporating the specific action items developed for each trigger,
- Review meeting with stakeholders to discuss comments on draft WSRP,
- Finalization of WSRP,
- Submission to AEP on behalf of stakeholders,
- Modifications, as required, per AEP comments.



**LEGEND**

- TOWN BOUNDARY
- POTABLE WATER PIPELINE
- EXISTING RAW WATER PIPELINE
- EXISTING RAW WATER INTAKE
- EXISTING WATER TREATMENT PLANT



TOWN OF CLARESHOLM AND  
M.D. OF WILLOW CREEK  
WATER SHORTAGE RESPONSE PLAN  
WATER SYSTEM OVERVIEW

SCALE: 1:250 000

DATE: AUGUST 2020

JOB: 1466-029-00

FIGURE: 1.1



## 2 SUMMARY OF WATER LICENCES

The following table outlines existing points of use and water licences associated with the PCR Intake. Information provided from the water licences includes priority date, maximum diversion rate, and total allocation. Existing licences are sorted by priority dates.

Table 2.1 – Summary of Points of Use and Water Licences

Licensee	Licence No.	Point of Use	Diversion Rate (m <sup>3</sup> /s)	Annual Allocation (m <sup>3</sup> /year)	Priority Date
Town of Granum	300464	Town of Granum	0.0032	98,272	1904
			0.0060	56,792	1976
Town of Claresholm	261922	Town of Claresholm	0.0800	1,301,235	1909
Town of Granum (Rural Community)	300466	SE 31-010-26 W4M NE 32-010-26 W4M SE 5-011-26 W4M	0.0008	4,936	1976
Town of Claresholm	19444	Claresholm Golf Course	0.0272	98,678	1979
Morkin Farms Ltd.*	310878	NE 20-012-27 W4M SW 28-012-27 W4M	0.0010	4,074	1979
Douglas Leeds	295699	SW 6-013-27 W4M SE 6-013-27 W4M	0.0010	1,234	1982
Scott Maurushat	295701	NE 13-013-28 W4M NE 24-013-28 W4M	0.0010	1,234	1982
Donald Glimsdale	279982	NE 12-013-28 W4M	0.0050	1,234	1983
Hutterian Brethern of Willow Creek	312178	SW 5-013-27 W4M NW 7-013-27 W4M	0.0010	2,099	2016
Dyce Bolduc	388815	NE 26-013-28 W4M	0.0003	370	2016
MD of Willow Creek	359529	Pipeline Water Co-op	0.0034	10,000	2016
	382750	Leavings Water Co-op	0.0055	156,200	--
	382770	Airport Industrial Park	0.0400	273,000	--

\* The land associated with the Morkin Farms Ltd. water license has since been acquired by the Granum Hutterite Colony and a subsequent water license transfer is required.

Licence information for the Leavings Water Co-op, Airport Industrial Park and Claresholm Golf Club are based on the following:

- Leavings Water Co-op - existing preliminary certificate (File No. 00292451),
- Airport Industrial Park – existing preliminary certificate (File No. 382770) and licence application,
- Claresholm Golf Club – existing water licence with the understanding that additional allocation has been applied for.

Table 2.2, below, provides a summary of the total maximum diversion rate and annual allocation for the licences utilizing the PCR Intake.

**Table 2.2 – Total Maximum Diversion Rate and Annual Allocation**

Licensee	Diversion Rate (m <sup>3</sup> /s)	Annual Allocation (m <sup>3</sup> /year)
Town of Granum	0.0102	160,000
Town of Claresholm	0.1072	1,399,913
Municipal District of Willow Creek	0.0489	439,200
Private Land Users	0.0093	10,245
<b>Total</b>	<b>0.1756</b>	<b>2,009,358</b>

The total diversion rate and annual allocation directly controlled by the MD and Town (excluding private land users) is **0.1663 m<sup>3</sup>/s and 1,999,113 m<sup>3</sup>**, respectively. The Town has existing agreements regarding water use with the private land users and should enforce water restrictions if required, however, water use restrictions will be much easier to enforce within existing developed areas.

## 2.1 WATER LICENCES – PRIORITY OVERVIEW

The Town of Granum and Town of Claresholm have relatively senior priority water licences dated 1904 and 1909, respectively. For water licences downstream of PCR in the Willow Creek watershed, only one licence has seniority. The licence with the most seniority is held by Lucasia Ranch Ltd. dated 1897 (File No. 00161).

The Lucasia Ranch Ltd. water licence is downstream of the PCR and will have negligible impact on the Town and MD based on normal operations of the PCR outlined in the following section.

## 2.2 WATER LICENCES – RESTRICTIONS

MPE reviewed the licences for restrictions on the available allocation. The following list summarizes the restrictions on the water licences:

- The Town of Granum and Claresholm licences have conditions in place to maintain instream flow needs in the Willow Creek,
- The Pipeline Water Co-op Licence has conditions to maintain instream flow needs and not to divert water when elevations in the PCR are below 1044.00 m,
- The Bolduc and Hutterian Brethren of Willow Creek Licences have conditions to maintain instream flow needs and not to divert water when elevations in the PCR are below 1044.00 m,
- All other privately held licences have conditions that outline the ability to divert water only when capacity is available to maintain instream flow needs.

### 3 PINE COULEE RESERVOIR

AEP provided MPE a copy of the “Normal Operation Plan – Pine Coulee Project” (normal operation plan), dated February 2020 for the purposes of reviewing the operations and the potential impact to the water supply for the Town and MD. The following sections outline details provided in the normal operation plan.

The PCR was constructed in 1998 with the intent of providing the following:

- Increased security of supply for municipal and domestic water users,
- A secure water supply for downstream livestock and irrigation water users,
- Water-based recreational opportunities near existing facilities at Willow Creek Provincial Park,
- Flow for meeting instream flow needs downstream of the PCR.

#### 3.1 PINE COULEE RESERVOIR LOCATION

The Pine Coulee Project consists of a dam and reservoir (PCR) on Pine Creek, diversion works on Willow Creek, and a canal linking the diversion works to the PCR. As shown on Figure 1.1, the PCR is located on Pine Creek within Sections 32 through 35 of 13-28 W4M and the diversion works are located on Willow Creek approximately 3 km west of the dam.

#### 3.2 PINE COULEE RESERVOIR OPERATIONS

The PCR is typically at its lowest water elevations throughout winter and spring as the diversion of water from Willow Creek into the PCR begins in mid-late April; there is no diversion out of Willow Creek during the winter months. The minimum operating level of the PCR is 1042.00 m. Water can only be diverted into the PCR from Willow Creek if instream flow needs are being met upstream of the diversion works.

Water elevations in the PCR typically rise until June or July when water begins to be released for downstream users and maintaining instream flow needs. The full supply level elevation of the PCR is 1052.50 m. Releases from the PCR typically occur from April to May for the pike spawning marsh below the dam and from June to October for normal operations (water supply for downstream users and maintaining instream flow needs).

If water elevations are at or below 1044.00 m, the PCR is considered at its minimum drawdown level and releases to Willow Creek for irrigation purposes are no longer made. The normal operation plan indicates that all storage below 1044.00 m is required to meet the downstream instream flow needs of Willow Creek.

##### 3.2.1 Willow Creek Instream Flow Needs

The following tables outline the instream flow needs outlined in the normal operation plan and “Pine Coulee Water Management Project” (WMP), completed in 1995, that govern the operations of the PCR. Table 3.1 summarizes the minimum flows required in Willow Creek prior to diverting water into the PCR. Table 3.2 summarizes the instream flow needs downstream of the PCR that will be augmented by the PCR and/or additional release from Chain Lakes.



**Table 3.1 – Minimum Willow Creek Instream Flow Need Prior to PCR Diversion.**

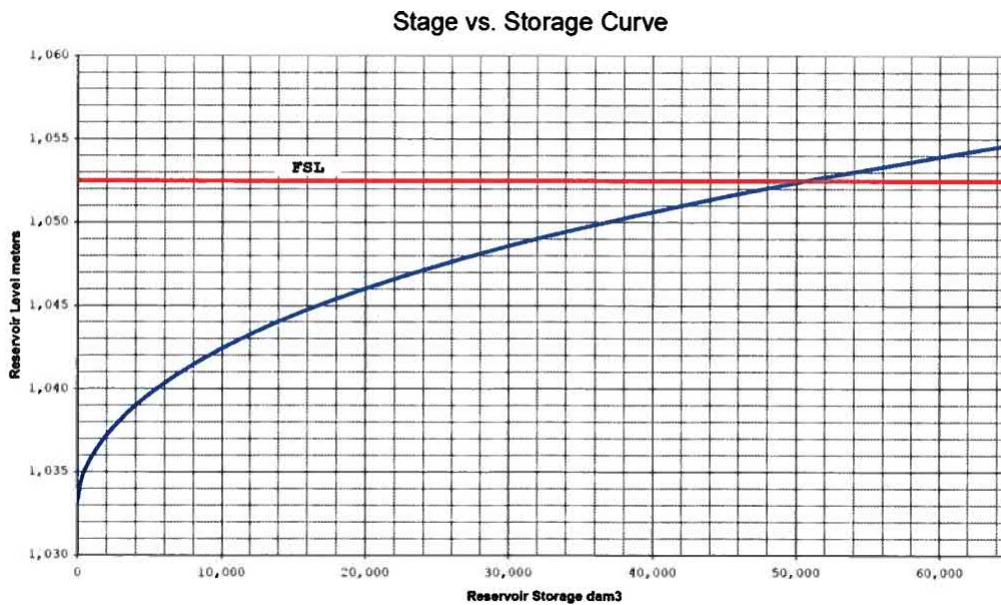
Date Range	Flow Requirement (m <sup>3</sup> /s)
March 1 to May 21	0.28
May 21 to June 28	1.00
June 29 to September 7	2.00
September 7 to October 15	0.40

**Table 3.2 – Minimum Willow Creek Instream Flow Need Downstream of PCR Diversion.**

Date Range	Flow Requirement (m <sup>3</sup> /s)
June 15 to June 30	0.40
July 1 to August 31	0.80
September 1 to October 15	0.40

### 3.3 PINE COULEE RESERVOIR STORAGE

Figure 3.1, below, is the storage curve for the PCR included in the normal operation plan. The following Table 3.1 is a summary of available storage at key elevations.



**Figure 3.1 – Pine Coulee Reservoir Storage Curve. Source: AEP Normal Operation Plan**

**Table 3.3 – Pine Coulee Reservoir Storage Volume at Key Elevations**

Water Elevation (m)	Storage Volume (dam <sup>3</sup> )	Storage Volume (m <sup>3</sup> )
1052.50	50,000	50,000,000
1050.00	36,000	36,000,000
1047.50	25,000	25,000,000
1046.00	20,000	20,000,000
1045.00	16,500	16,500,000
1044.00	14,000	14,000,000
1042.00	9,500	9,500,000

As noted in Section 3.2, the available storage between water elevations 1044.00m and the minimum operating level of 1042.00 m, is reserved for maintaining instream flow needs for Willow Creek.

Should a water shortage occur, and the Town and MD continue to utilize the PCR as a viable source of water, the total drawdown of the annual allocation would have minimal effect on the PCR. The following table outlines the approximate annual drawdown of the total allocation identified in Table 2.2 based on various starting elevations.

**Table 3.4 – Pine Coulee Reservoir Drawdown Levels**

Starting Water Elevation (m)	Total Allocation (dam <sup>3</sup> )	Approximate Annual Drawdown (mm)
1050.00	2,009	500
1046.00		650
1045.00		750
1044.00		900

Should the Town and MD implement demand reduction strategies during a water shortage, it is reasonable to expect the approximate annual drawdown to be reduced and further minimize the overall impact on the PCR.

## 4 WATER SHORTAGE RISK ASSESSMENT

MPE reviewed the simulations completed as part of the WMP in 1995, the historical PCR water elevations, and the physical constraints of the intake and treatment infrastructure when assessing the potential risk of a water shortage.

### 4.1 PINE COULEE RESERVOIR – WATER MANAGEMENT SIMULATIONS

As part of the WMP in 1995, a 77-year simulation model was utilized to generate a specific operating plan for the PCR. The simulation indicated that the minimum level of 1042.00 m could be reached in three years out of the 77-year period that was reviewed, and that the PCR could be below the minimum drawdown level of 1044.00 m over 11 winter seasons.

Based on the simulation conducted in the WMP, the Town and MD could experience a water shortage once every seven years and a severe water shortage once every 25 years. The results of the simulation indicate that the risk of a water shortage in the PCR and Willow Creek basin is minimal, however, they could occur, and a response plan should be generated in the event a water shortage does occur.

### 4.2 PINE COULEE RESERVOIR – HISTORICAL WATER ELEVATIONS

In conjunction with the simulation provided in the WMP, MPE reviewed historical water elevations for the PCR available from Environment Canada. Construction of the PCR was completed prior to 2000 and the following table provides the minimum annual water elevation for the past 20 years.

Table 4.1 – Pine Coulee Reservoir Minimum Annual Elevations

Year	Minimum Water Elevation (m)	Year	Minimum Water Elevation (m)
2000	1039.73	2010	1050.69
2001	1040.28	2011	1050.95
2002	1040.50	2012	1050.62
2003	1049.03	2013	1050.76
2004	1049.43	2014	1050.74
2005	1051.17	2015	1050.70
2006	1051.32	2016	1047.54
2007	1050.44	2017	Not Recorded
2008	1050.20	2018	1046.83
2009	1050.68	2019	1046.75

The PCR did not record a water elevation at its full supply level until 2005. This may have been a result of 2000 and 2001, the first two years of its operation, being historically dry years. The annual precipitation for 2000, 2001 and 2002 was 329.2 mm, 241.7 mm, and 550.2 mm, respectively.

Since reaching a water elevation of 1049.80 m in the summer of 2002, the PCR has not recorded a water elevation below 1044.00 m. This provides further evidence that the risk of a water shortage in the PCR is minimal.

### 4.3 MUNICIPAL INTAKE & INFRASTRUCTURE RESTRAINTS

The Town completed the construction of a regional raw water pipeline from the PCR in 2008. The pipeline replaced the existing water supply system from Willow Creek. The regional pipeline is 500 mm diameter PVC DR51 pipe. The pipeline has capacity to serve the Town of Claresholm, the Town of Granum, potential rural demand, and the projected future growth until 2033.

An existing water supply outlet structure, the PCR intake, on the east side of the PCR is the diversion point for water into the raw water pipeline. The PCR Intake was constructed by AEP as part of the Pine Coulee Project for the purpose of supplying irrigation water to irrigators and municipal water for Claresholm and Granum. Based on the normal operation plan, the top of the PCR Intake has an elevation of 1042.70 m. From record, the minimum water elevation to provide the full design flow of the raw water pipeline is 1043.50 m. Although capacity in the raw water pipeline may be limited at elevations below 1043.50 m, the intake may continue to operate to a water elevation of 1042.70 m, or 1043.70 m assuming a 1.0 m thick layer of ice. Based on the historical water elevations observed, the risk of not being able to use the intake is minimal and the need to augment the water supply from the PCR would be an infrequent occurrence.

It should also be noted that utilizing reservoir water from lower elevations in the reservoir will not affect the operation of the Town's water treatment plant (WTP). The WTP design allows the operator to take raw water directly from the PCR or utilize raw water from the raw water reservoir located adjacent to the WTP. When utilizing raw water from lower elevations of the PCR, operators have the flexibility to divert water into raw water storage located adjacent to the WTP. This reservoir would act as a sedimentation basin dropping out sediment load should it be present.

Supply to the raw water pipeline could also be supplemented by pumping from lower elevations of the PCR if allowed by AEP.

Overall, the municipal intake and infrastructure are well suited for use in the event of a water shortage and could continue to be utilized if required.

## 5 WATER SHORTAGE RESPONSE

In the event a water shortage does occur within the PCR, the Town and MD will be required to initiate a response plan to reduce consumption and augment the available water supply when necessary. The following sections provide the various levels of response that the Town and MD have developed to respond to varying degrees of water shortages.

### 5.1 WSRP TRIGGER CRITERIA

Based on the potential risk for a water shortage, and the normal operation plan of the PCR, the following trigger criteria were developed for the WSRP.

Table 5.1 – Water Shortage Response Plan Trigger Criteria

Reservoir Operating Level (m)	Stage	Restriction Details
1052.50 to 1046	Normal	No restrictions.
1046 to 1045	1	Begin limiting non-essential water use (i.e. lawn and garden watering limited to 3 days/week)
1045 to 1044.50	2	Further limit non-essential water use (i.e. lawn and garden watering limited to 2 days/week)
1044.50 to 1044	3	Further limit non-essential water use (i.e. lawn and garden watering limited to 1 days/week); Essential water use to be monitored.
1044 to 1043	4	Prohibit all water use associated with irrigation; non-essential water use limited to sanitation purposes only; Monitor essential water use; water supply augmentation may be required.  Water use for agricultural users to be restricted to livestock only.
1043 to 1042	5	All non-essential water use prohibited; limit essential water use; water supply augmentation required.  Water use for agricultural users to be restricted to livestock only.

As the licences indicated in Section 2.0 have a small total cumulative allocation, relative to the available storage in the PCR, an initial elevation of 1046.00 m was selected to initiate the first stage of the WSRP. By implementing the WSRP at elevations of 1046.00 m, or less, the goal is to prevent the PCR from being drawn down to an elevation of 1044.00 m. At elevations below 1044.00 m, diversion from the PCR for the purposes of irrigation is halted and some licences (indicated in Section 2.2) are also no longer able to divert water. AEP has also indicated the potential for future licences to have conditions requiring the PCR to be at an elevation of 1044.00 m or higher prior to diversion being allowed.

The above table provides brief descriptions for the types of water restrictions that will be put in place. The Town and MD have developed detailed response plans for residential, commercial/industrial, public institutional and agricultural users which are discussed the following section.

## 5.2 DEMAND REDUCTION

The Town and MD have developed the following response plans for residential, commercial/industrial, public institutional and agricultural users. The plans implement strategies to reduce water demand throughout various stages of the WSRP, and ultimately eliminate all non-essential water use in extreme water shortages. The primary objective of the demand reduction strategies is to avoid the need to implement water augmentation strategies.

Tables 5.2, 5.3, 5.4 and 5.5 provide the Town and MD's response plans for the various types of users utilizing the PCR Intake as a water source. The information provided by the Town and MD is provided in Appendix C.



Table 5.2 – Demand Reduction Strategy for Residential Users

Line	Activity	Normal	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	
A	Lawn & Garden Manual Sprinkling	General	Watering allowed 6 am to 10 am on assigned days.			Prohibited. Limited to essential water use only.		
		Odd Addresses	Tues., Thurs., Sat.	Tues., Sat.	Sat.			
		Even Addresses	Wed., Fri., Sun.	Wed., Sun.	Sun.			
B	Lawn & Garden Automatic Sprinkling	General	Watering allowed 12 am to 6 am on assigned days.					
		Odd Addresses	Tues., Thurs., Sat.	Tues., Sat.	Sat.			
		Even Addresses	Wed., Fri., Sun.	Wed., Sun.	Sun.			
C	Lawn & Aesthetic Garden Micro or Drip Irrigation	All Users	Anytime	All days 7 pm to 10 am	3 days per Line A 7 pm to 10 am			Thurs. & Fri. 7 pm to 10 am
D	Lawn & Aesthetic Garden Hand Watering	All Users	Anytime	Anytime	3 days per Line A 6 am to 10 am & 5 pm to 12 am			Wed. Only 6 am to 10 am & 7 pm to 12 am
E	New Lawns and Landscaping	All Users	Refer to Lines A-D	Refer to Lines A-D	Permit Required. Refer to Lines A-D			No new permits issued.
F	Garden Ponds, Fountains & Water Features	Schedule as Per Line A	Filling &Refilling 3 times/week	Filling &Refilling 2 times/week	Filling &Refilling 1 times/week			
G	Pools		Refer to Line A	Refer to Line A	Top up once on Wednesdays.			
H	Cleaning Outdoor Surfaces	Use a broom, spring loaded nozzle or mop and bucket.			Cleaning with a hose for health and safety only.		Prohibited	
I	Vehicle (car, boat, etc.) Washing	All Users			Wand wash only.		Limited to essential water use only.	
J	Artificial Turf and Tracks				Cleaning with a hose for health and safety only.			

Table 5.3 – Demand Reduction Strategy for Commercial/Industrial Users

Line	Activity	Normal	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	
A	Lawn, Garden & Plants for Sale Manual Sprinkling	General Odd Addresses Even Addresses	Watering allowed 6 am to 10 am and 7 pm to 12 am on assigned days.			Sat.		
			Tues., Thurs., Sat.	Tues., Sat.	Sun.			
B	Lawn, Garden & Plants for Sale Automatic Sprinkling	General Odd Addresses Even Addresses	Watering allowed 12 am to 6 am on assigned days.			Sun.		
			Tues., Thurs., Sat.	Tues., Sat.	Sat.			
C	Lawn, Garden & Plants for Sale Micro Irrigation	All Users	All days 7 pm to 10 am	3 days per Line A 7 pm to 10 am	Wed. & Fri. 7 pm to 10 am	Prohibited.	Limited to essential water use only.	
D	Lawn, Garden & Plants for Sale Handheld Sprinkling	All Users	Anytime	Hand water plants all days 6 am to 10 am & 5 pm to 12 am	Tues., Thurs., & Sun. 6 am to 10 am & 7 pm to 12 am			
E	New Lawns and Landscaping	All Users	Refer to Lines A-D	Permit Required. Refer to Lines A-D	No new permits issued.			
F	Garden Ponds, Fountains & Water Features	Schedule as Per Line A	Filling & Refilling 3 times/week	Filling & Refilling 2 times/week	Filling & Refilling 1 times/week			
G	Pools	Line A	Refer to Line A	Refer to Line A	Top up once on Wednesdays.			
H	Cleaning Outdoor Surfaces		Use a broom, spring loaded nozzle or mop and bucket.	Cleaning with a hose for health and safety only.				
I	Vehicle Washing Commercial, Fleets, Dealers	All Users	Use a commercial car wash or spring-loaded nozzle.	Wand washes and automated car washes only.			Prohibited	
J	Golf Courses		All days 7 pm to 6 am	Reduce watering of fairways	Reduce watering of tees and greens. Fairways limited to 2 days/week.	Hand watering of tees and greens only.	Limited to essential water use only.	
K	Artificial Turf and Tracks		Cleaning with a hose for health and safety only.					

Table 5.4 – Demand Reduction Strategy for Public Institutional Users

Line	Activity	Normal	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	
A	School Yards, Sports Fields, and Baseball Diamonds	Avoid irrigation between 10 am & 7pm	3 days per week. Tues., Thurs. & Sat. between 7 pm & 6 am	2 days per week. Tues. & Sat. between 7 pm & 6 am	Irrigate 1 day/week with minimum application to maintain usability.	Prohibited. Limited to essential water use only.		
B	Water Spray Parks and Indoor/Outdoor Pools	No Restrictions	Recirculating Water Only	No restrictions on spray parks with user-activated switches. Filling and topping of pools permitted.				
C	Aesthetic Fountains and Water Features	Recirculating Water Only		Filling prohibited unless recycled, reclaimed, or rainwater is used	Filling and refilling are prohibited. Drain to avoid health and safety issues.			
D	Municipal Parks and Cemeteries	Avoid irrigation between 10 am & 7pm	3 days per week. Tues., Thurs. & Sat. between 7 pm & 6 am	2 days per week. Tues. & Thurs. between 7 pm & 6 am	Irrigate 1 day/week with minimum application to maintain usability.			
E	Municipal Ornamental Lawns and Grass Boulevards							
F	Municipal Watermain Flushing and Hydrant Maintenance							No Restrictions
G	Artificial Turf and Tracks	Cleaning with a hose for health and safety only.						Prohibited.

Table 5.5 – Demand Reduction Strategy for Agricultural Users

User	Location	Normal	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
<b>General (All Agricultural Users)</b>		Maximum water use permitted	Maximum water use permitted. Increased monitoring & voluntary conservation	Mandatory reduction of water use by 25%	Mandatory reduction of water use by 50%	Mandatory reduction of water use by 50% <i>Licence Threshold</i>	Water use restricted to livestock only
<b>Brown</b>	NW 34-013-28 W4M	--	--	--	--	--	Livestock Only
<b>Bolduc</b>	NE 26-013-28 W4M	370 m <sup>3</sup>	370 m <sup>3</sup>	277 m <sup>3</sup>	185 m <sup>3</sup>	185 m <sup>3</sup>	
<b>Maurushat</b>	NE 13-013-28 W4M	1,234 m <sup>3</sup>	1,234 m <sup>3</sup>	925 m <sup>3</sup>	617 m <sup>3</sup>	617 m <sup>3</sup>	
	NE 24-013-28 W4M	1,234 m <sup>3</sup>	1,234 m <sup>3</sup>	925 m <sup>3</sup>	617 m <sup>3</sup>	617 m <sup>3</sup>	
<b>Glimsdale</b>	NE 12-013-28 W4M	1,234 m <sup>3</sup>	1,234 m <sup>3</sup>	925 m <sup>3</sup>	617 m <sup>3</sup>	617 m <sup>3</sup>	
<b>Hutterian Brethren of Willow Creek</b>	SW 5-013-27 W4M	2,099 m <sup>3</sup>	2,099 m <sup>3</sup>	1,574 m <sup>3</sup>	1,049 m <sup>3</sup>	1,049 m <sup>3</sup>	
	NW 7-013-27 W4M	1,234 m <sup>3</sup>	1,234 m <sup>3</sup>	925 m <sup>3</sup>	617 m <sup>3</sup>	617 m <sup>3</sup>	
<b>Leeds</b>	SW 6-013-27 W4M	1,234 m <sup>3</sup>	1,234 m <sup>3</sup>	925 m <sup>3</sup>	617 m <sup>3</sup>	617 m <sup>3</sup>	
	SE 6-013-27 W4M	4,074 m <sup>3</sup>	4,074 m <sup>3</sup>	3,055 m <sup>3</sup>	2,037 m <sup>3</sup>	2,037 m <sup>3</sup>	
<b>Morkin</b>	NE 20-012-27 W4M	4,074 m <sup>3</sup>	4,074 m <sup>3</sup>	3,055 m <sup>3</sup>	2,037 m <sup>3</sup>	2,037 m <sup>3</sup>	
	SW 28-012-27 W4M	--	--	--	--	--	
<b>Shear</b>		--	--	--	--	--	
<b>Notes</b>	1) Maximum water use permitted based on water licence held by individual users. 2) “—” indicates the noted user does not hold a water licence and/or does not have ability to divert water from the raw water pipeline. 3) Shear’s water use agreement is through the Town of Claresholm’s water licence.						

The water use restrictions indicated in Tables 5.2, 5.3, 5.4, and 5.5 apply to all facilities controlled and operated by the Town and MD as well; this includes the Claresholm Golf Club, Claresholm WTP, and all publicly owned facilities and lands.

### 5.3 SUPPLY AUGMENTATION

During periods of water shortage when the PCR is at or below an elevation of 1044.00 m, the Town and MD may be required to augment the water supply from the PCR via additional sources and/or infrastructure. Once the elevation of the PCR, reaches an elevation of 1044.00 m, the Town and MD should be in contact with AEP to evaluate various water supply alternatives.

#### 5.3.1 Supplemental Pumping from the Pine Coulee Reservoir

As per the Town of Granum and Town of Claresholm licences, the Town and MD may continue to divert water from the PCR so long as the instream flow needs of the Willow Creek are being met. Continued dialogue with AEP is recommended during periods when the reservoir is at or below 1044.00 m to ensure conditions of the water licence are being met.

Once the elevation of the PCR is at or below 1043.50 m, supplemental pumping may be utilized to maintain the available capacity in the raw water pipeline. Information and diagrams on how supplemental pumping may be utilized is included in Appendix D.

As discussed in Section 4.3, supplemental pumping from lower elevations of the PCR will have minimal effects on operations of the existing infrastructure if proper procedures are added to the WTP's operational procedures in the event of a water shortage.

#### 5.3.2 Water Hauling

At times when the instream flow needs of Willow Creek are not met, AEP may not allow supplemental pumping from lower elevations of the PCR. During these times, the Town and MD may need to augment their water supply by hauling water. MPE has reviewed two options for the Town and MD to consider for hauling water:

- 1) Municipal District of Willow Creek Groundwater Licences.
  - The MD holds 3 licences for the purposes of diverting water from groundwater wells throughout the MD. The licences are summarized in Table 5.5.
  - The water quality of the groundwater wells would need to be assessed prior to use and treatment at the WTP.
  - A review of the available water licences should be completed with AEP prior to utilizing for the purposes of augmenting the water supply from the PCR.

**Table 5.6 – Summary of Points of Use and Water Licences**

Licence No.	Point of Diversion	Well No.	Diversion Rate (m <sup>3</sup> /s)	Annual Allocation (m <sup>3</sup> /year)	Priority Date
27444	NE 34-013-27 W4M	89-09-12-01	0.0076	24,548	1989
32751	13 12-012-25 W4M	52-12-31-06	0.0038	9,092	1952
35391	NW 24-009-26 W4M	1170211	0.0076	49,552	1973

2) Town of Stavelly.

- The Town of Stavelly is the nearest municipality to the Claresholm WTP.
- The Town and MD could enter negotiations with the Town of Stavelly to utilize portions of their available water allocations in the event of a water shortage in the PCR.
- The Town of Stavelly utilizes groundwater wells as their source of water and the water quality would need to be assessed prior to being treated by the WTP.

The Town and MD can also review the potential for entering agreements with other municipalities such as the Town of Fort Macleod.

**5.4 ALLOCATION SHARING**

The Town and MD have agreed, in principle, to share their available allocations. The MD has taken over the Town of Granum and will be assuming control of their existing licence. Between the existing Granum and Claresholm licences, dated 1904 and 1909 respectively, the Town and MD should be able to maintain some form of water supply to all their users in the event of a water shortage in the PCR.

The Town and MD will need to determine if they will also be sharing the available allocation with those users whose own licences are no longer allowed to divert water once the water elevation of the PCR is below 1044.00 m. The same applies for all future licences that the Town and MD may obtain.



## 6 IMPLEMENTATION AND MONITORING

The Town and MD will need to implement and monitor the demand reduction and supply augmentation strategies discussed herein. The following steps may be followed to do so:

- Submit the “*Water Shortage Response Plan*” to AEP for review and acceptance. Update the WSRP based on comments received from AEP if required,
- Pass bylaws that outline and detail the demand reduction strategies within the WSRP,
- Devise procedures for implementing and enforcing the WSRP including public notification programs,
- Update operational procedures for the waterworks systems throughout the Town and MD to identify clear communication and response strategies such as below:
  - Identify elevations to begin discussions with AEP regarding potential water shortages (i.e. water elevation of 1046.50 m),
  - Identify elevations to begin discussions with AEP regarding water supply augmentation strategies (i.e. water elevation of 1044.50 m),
    - The need to augment the water supply will be determined by the instream flow needs of Willow Creek.
  - Submit supply augmentation strategies to AEP for approval (i.e. water elevation of 1044.00 m),
    - Ongoing dialogue with AEP to be maintained once elevations are below 1044.00 m to ensure requirements are met and augmentation strategies are revised as needed,
- Incorporate the WSRP into the Town and MD’s emergency operations plans,
  - The WSRP and emergency operations plans to be implemented by council or the Chief Administrative Officer in the absence of council,
- Throughout implementation of the WSRP and various stages of demand reduction, Town and MD operations staff will be required to monitor overall water demand to confirm successful implantation of the demand reduction strategies,
  - Should the demand reduction strategies appear not be successful, the Town and MD should consider the following:
    - Revised rate structures for water use during a water shortage,
    - Include possible penalties/fines for users not adhering to the demand reduction strategies within the passed bylaw,
    - Review additional measures for implementation to reduce water use.

## 7 REFERENCES

- (1) MPE Engineering Ltd., “Town of Claresholm – Water Shortage Response Plan”. May, 2009.
- (2) Alberta Environment and Parks, “Normal Operation Plan – Pine Coulee Project”. February, 2020.
- (3) NRCB/EARP Joint Review Panel, “Pine Coulee Water Management Project – Willow Creek Basin Southwest of Stavely, Alberta”. February 1995.
- (4) Environment Canada – Water Office. “Pine Coulee Reservoir Near Stavely – Historical Level Data”.  
[https://wateroffice.ec.gc.ca/report/data\\_availability\\_e.html?type=historical&station=05AB044&parameter\\_type=Level](https://wateroffice.ec.gc.ca/report/data_availability_e.html?type=historical&station=05AB044&parameter_type=Level). May 5, 2020.
- (5) Environment and Climate Change Canada. “Stavely AAFC Weather Station – Historical Data”.  
[https://climate.weather.gc.ca/climate\\_data/hourly\\_data\\_e.html?hlyRange=1996-11-06%7C2020-05-07&dlyRange=1996-11-01%7C2020-05-07&mlyRange=1997-02-01%7C2007-11-01&StationID=27200&Prov=AB&urlExtension=\\_e.html&searchType=stnName&optLimit=yearRange&StartYear=1840&EndYear=2020&selRowPerPage=25&Line=0&searchMethod=contains&Month=5&Day=7&txtStationName=stavely&timeframe=1&Year=2020](https://climate.weather.gc.ca/climate_data/hourly_data_e.html?hlyRange=1996-11-06%7C2020-05-07&dlyRange=1996-11-01%7C2020-05-07&mlyRange=1997-02-01%7C2007-11-01&StationID=27200&Prov=AB&urlExtension=_e.html&searchType=stnName&optLimit=yearRange&StartYear=1840&EndYear=2020&selRowPerPage=25&Line=0&searchMethod=contains&Month=5&Day=7&txtStationName=stavely&timeframe=1&Year=2020). May 6, 2020.
- (6) Alberta Environment and Parks, “Preparing Water Shortage Response Plans”. March, 2014.

# ***APPENDIX A:***

## ***WATER LICENSES***

This application form is for activities regulated under the *Water Act*.

The Crown claims ownership of the bed and shore of all permanent and naturally occurring bodies under Section 3(1) of the Public Lands Act.

A License of Occupation under the Public Lands Act is required for permanent occupation of public land.

Check one or more of the following to indicate type of application

Licence for Diversion of Water	<input checked="" type="checkbox"/>	Renewal of Diversion Licence	<input type="checkbox"/>	Approval for Constructing Works	<input type="checkbox"/>
Licence Amendment	<input type="checkbox"/>	Approval Amendment	<input type="checkbox"/>	Preliminary Certificate Amendment	<input type="checkbox"/>
<i>Water Act</i> File No. (for amendments or renewals)				Previous Prelim Cert File No. 00307585	

### Applicant

Name or Business Name : Municipal District of Willow Creek	Business Contact: Cynthia Vizzutti
Address : PO Box 550	Phone: 403-625-3351
City / Town : Claresholm	Cell #:
Province : Alberta	Fax No : 403-625-3886
Postal Code : T0L 0T0	Email : cindy@mdwillowcreek.com
Are you the owner of the said land or undertaking? <input checked="" type="radio"/> Yes <input type="radio"/> No	
If no, please attach copy of the consent from the landowner.	

### Authorized Representative

<input type="checkbox"/> Same as Applicant	
Name or Business Name: MPE Engineering Ltd.	Business Contact: Jody Petrone
Address: 300, 714 5th Avenue S	Phone: 403-317-3644
City / Town: Lethbridge	Cell #:
Province: Alberta	Fax No.: 403-329-9354
Postal Code: T1J 0V1	Email: jpetrone@mpe.ca

### Project Description

Tentative Construction Start Date:	01-May-2019	Duration of Construction:	on going
Tentative Water Diversion Start Date:	01-Aug-2019	Duration of Water Diversion/Use:	on going

## Application under the *Water Act* for Approvals and/or Licences

Provide a detailed description, including location of works and activities, relating to the project and attach plans:

Diversion from Pine Coulee Reservoir, re-diversion at the Claresholm Water Treatment Plant and point of use within the water distribution network in association with the Airport Industrial Park.

Requesting the documentation submitted as part of the previous application and Preliminary Certificate 00382770-00-00 be considered for this application.

### Water Sources (Location of Works and Activities):

Surface Water     Groundwater

### Surface Water - Point of Diversion or Activity

(if constructing works only, complete the first three columns)

+	Water Body e.g. lake, stream, or name of source, if known	Water Diversion/Activity Location					Is Construction Required?	Annual Volume of Water Required (cubic metres)	Maximum Pumping Rate (show units)	Purpose
		1/4	Sec	Twp	Rge	M				
X	Pine Coulee Reservoir	NW	35	13	28	4	No	273,000	0.04 m <sup>3</sup> /s	Municipal
	If available, provide: Plan/Block/Lot (Legal Sub-division)						UTM Coordinates	Zone:	Easting (m)	Northing (m)

+ - add additional row

x - remove current row

Indicate the 'Point of Use' if different than the 'Water Diversion Location(s)'

same location as source(s)

+	1/4	Sec	Twp	Rge	M	or provide a general description of where the water will be used (below)
X		16	12	27	4	Water distribution network in association with the Airport Industrial Park
X		21	12	27	4	

To ensure your application is complete, please refer to the 'Guidelines for Licensing Water Diversion Projects'  
<http://esrd.alberta.ca/water/education-guidelines/documents/LicensingWaterDiversionProjects-Guide.pdf>

### Amendment Description (Choose **one** of the following three options)

**Approval Amendment**

Please provide description of amendment required and attach plan if necessary

**Licence Amendment**

**Preliminary Certificate Amendment**


Complete applicable information below: ( Choose one or more of the following options)

Increase or decrease rate of diversion.

Please specify

Add a rate of diversion of water if none specified on the licence or preliminary certificate.

## Application under the *Water Act* for Approvals and/or Licences

Please specify			
<input type="checkbox"/> Add terms or conditions to the licence or preliminary certificate.			
Please specify			
<input type="checkbox"/> Add/change the timing of diversion or water specified in the licence or preliminary certificate.			
Please specify			
<input type="checkbox"/> Add/change the point of use			
Please specify			
<input type="checkbox"/> Move the point of diversion of water or add another point of diversion of water. (Licences only)			
Please specify			
<input type="checkbox"/> Notice of disposition of land or undertaking. (Change of ownership)			
Please specify			
<input type="checkbox"/> Other amendments requested.			
Please specify			
<b>Statement of Confirmation:</b>			
The information given on this form is true to the best of my knowledge.			
If you wish to sign the form with an electronic signature you are bound the same as though you had a fixed signature on paper.			
	Date: 2019.05.01 13:51:44 -06'00'	01-May-2019	Jody Petrone
<b>Signature</b>		<b>Date of Signing</b>	<b>Printed Name</b>
			MPE Engineering Ltd.
			<b>Company Name</b>



# Application under the *Water Act* for Approvals and/or Licences

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**Return the completed form to the Alberta Environment Regulatory Approvals Centre:**

<p><b>Regulatory Approvals Centre</b> Main Floor, Great West Life 9920 108 Street Edmonton Alberta T5K 2M4 Telephone: 780-427-6311 Fax: 780-422-0154</p>	<p>Submit by Email <a href="mailto:esrd.waapplications@gov.ab.ca">esrd.waapplications@gov.ab.ca</a></p>
<p><b>PERSONAL INFORMATION COLLECTION AND USE NOTIFICATION</b></p> <p><i>Personal information on this form is collected under the authority of section 33(c) of the Freedom of Information and Protection of Privacy (FOIP) Act and will be used to administer the Water Act and its associated regulations. <b>This form is a public record and is available to anyone.</b> All information contained on this form (including personal information) is disclosed by Alberta Environment and Parks to anyone requesting a copy in accordance with Section 15(1)(a) of the Water (Ministerial) Regulation. For further information about the collection and use of this information, please contact Alberta Environment and Parks Regulatory Approvals Centre at <a href="mailto:esrd.waapplications@gov.ab.ca">esrd.waapplications@gov.ab.ca</a> or call (780) 427-6311.</i></p>	
<p><b>WATER (MINISTERIAL) REGULATION - REQUEST FOR CONFIDENTIALITY</b></p> <p>As identified in Section 15(4) of the <i>Water (Ministerial) Regulation</i>, If the applicant wishes that a trade secret, process or technical information in the application be kept confidential, the applicant may make a written request to the Director within 30 days after the information is submitted, identifying the information, and requesting that the information be kept confidential and not be disclosed. The written request must identify the specifics of the information to be kept confidential and not to be disclosed. Ultimately, it is the Director who makes the decision regarding the confidentiality of the identified information.</p> <p>If you are submitting a request to assure confidentiality of certain information such as a trade secret, process or technical information for the Directors consideration, <b>submit this information in a separate attachment to the application form.</b></p>	

LICENCE TO DIVERT WATER
PROVINCE OF ALBERTA
WATER ACT, R.S.A. 2000, c.W-3, as amended

LICENCE NO.: 00388815-00-00

FILE NO.: 00388815

PRIORITY NO.: 2016-07-11-001

EFFECTIVE DATE: JUL 28 2017

EXPIRY DATE: July 27, 2042

SOURCE OF WATER: Willow Creek

POINT OF DIVERSION: NW 35-013-28-W4 through the works of Alberta Environment and Parks (Pine Coulee Reservoir) and through the works of the Town of Claresholm rediverted at NE 26-013-28-W4

POINT OF USE: NE 26-013-28-W4

LICENSEE: Dyce Bolduc

Pursuant to Division 2, of Part 4, of the Water Act, R.S.A. 2000, c. W-3, as amended and the Bow, Oldman and South Saskatchewan River Basin Water Allocation Order OC 356/2007, a licence is issued to the Licensee to:

operate a works and to divert up to 370 cubic metres of water annually at a maximum rate of diversion of 0.0003 cubic metres per second from the source of water for Agricultural (stockwatering) purposes.

subject to the attached terms and conditions.

Designated Director under the Act: Kathleen Murphy, P.Eng.

Date Signed: JUL 28 2017

## DEFINITIONS

- 1.0 All definitions from the Act and the Regulations apply except where expressly defined in this licence.
- 1.1 In all parts of this licence:
- (a) "Act" means the Water Act, RSA 2000, c. W-3, as amended;
  - (b) "Application" means the written submissions to the Director in respect of application number 00388815-00-00 and any subsequent applications for amendments of Licence No. 00388815-00-00;
  - (c) "Director" means an employee of the Government of Alberta designated as a Director under the Act;
  - (d) "Point(s) of diversion" means the location(s) where water is diverted from the source of water;
  - (e) "Point of use" means the location(s) in which the diverted water is used by the Licensee for the licensed purpose;
  - (f) "Regulations" means the regulations, as amended, enacted under the authority of the Act.
  - (g) "Instream Objective" means the water flow in the source of water that remains in the source of water immediately downstream of the point of diversion, during the diversion of water by the licensee.
  - (h) "Water Conservation Objective" means the amount and quality of water necessary for the protection of a natural water body or its aquatic environment including water necessary for the rate of flow or water level requirements.
  - (i) "Water Use Reporting System" means the secure internet website provided by Alberta Environment for submitting measuring and monitoring results electronically to the Director.

## GENERAL

- 2.0 The Licensee shall immediately report to the Director by telephone any contravention of the terms and conditions of this licence at 1-780-422-4505.
- 2.1 The terms and conditions of this licence are severable. If any term or condition of this licence is held invalid, the application of such term or condition to other circumstances and the remainder of this licence shall not be affected thereby.
- 2.2 The Licensee shall maintain an agreement with the Town of Claresholm pertaining to the delivery of raw water to the point of rediversion
- 2.3 The Licensee will implement the Water Shortage Response Plan (WSRP) dated May 12, 2017, as amended, when water supply shortages occur.

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- 2.5 The Licensee will review the WSRP after each implementation of the Plan and provide revisions to the Director for review and approval.
- 2.6 The Licensee will implement any revisions to the WSRP approved by the Director.
- 2.4 Within six months after permanently ceasing operation of the works or diversion of the water, the licensee shall submit an application to the Director for the decommissioning of the works.
- 2.4 The Licensee shall comply with the terms and conditions of the "Water Use Reporting System User Consent".

**DIVERSION OF WATER**

- 3.0 This licence is appurtenant to the following lands:
  - (a) the point of diversion described as the actual point of removal from Willow Creek on Pine Coulee Reservoir at NW 35-013-28-W4 as referenced on Plan No. 00261922-P002 (Town of Claresholm)
  - (b) the point of redirection on NE 26-013-28-W4 as referenced on Plan No.00388815-P001 approved on May 12, 2017; and
  - (c) the point(s) of use on NE 26-013-28-W4 as referenced on Plan No. 00388815-P002, approved on May 12, 2017.
- 3.1 The Licensee shall divert water only for the purpose(s) specified in this licence.
- 3.2 The Licensee shall divert water only from the source of water specified in this licence.
- 3.3 The Licensee shall divert water only from the following point of diversion; NW 35-013-28-W4.
- 3.4 The Licensee shall divert the water only to the point(s) of use on NE 26-013-28-W4 as described on Plan No 00388815-P002
- 3.5 The works used to divert the water authorized by this licence shall include, at a minimum, all of the following:
  - (a) the intake structure referred to in the Town of Claresholm licence (File 00436);
  - (b) the redirection structure located on NE 26-013-28-W4 referred to on Plan No. 00388815-P001;and
  - (c) the stockwater distribution network referred to on Plan No. 00388815-P002.
- 3.6 The Licensee shall not divert more than 370 cubic metres of water per year.
- 3.7 The Licensee shall not divert water at a rate of diversion greater than 0.0003 cubic metres per second.
- 3.8 Prior to diverting any water from the source of water, the Licensee shall equip the redirection works described in Condition 3.0 with water measuring devices, which measures:

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- (a) cumulatively, the quantity of all water diverted; and
  - (b) the instantaneous rate of diversion
- 3.9 The Licensee shall maintain each measuring device referred to in 3.8 at all times.
- 3.10 The Licensee shall calibrate each measuring device referred to in 3.8 in accordance with manufacturer's specifications.
- 3.11 The Director may amend this licence to replace the Instream Objectives, convert an Instream Objective to a Water Conservation Objective or change such Water Conservation Objective, upon a minimum of 12 months written notice to the Licensee.
- 3.12 The Instream Objectives for Willow Creek are 0.8 cubic metres per second in July and August and 0.4 cubic metres per second for the remainder of the year.
- 3.13 The Licensee shall divert the water authorized by this licence only when there is sufficient water flow in the source of water to meet or exceed the Instream Objectives as set out in condition 3.12.
- 3.14 Unless otherwise authorized in writing by the Director, the Instream Objectives in condition 3.12 are to be met immediately downstream of Pine Coulee Reservoir.
- 3.15 The Licensee shall ensure that water diverted from Willow Creek is either flow to which the Licensee is entitled or stored water from the Pine Coulee Reservoir for the use of this project.
- 3.16 Subject to Condition 3.12, the Licensee shall only divert water when the level of Pine Coulee Reservoir is above 1044.00 meters as described in the NRCB Report dated February 1995.

#### **MONITORING AND REPORTING**

- 4.0 Unless otherwise authorized in writing by the Director, the Licensee shall:
- (a) measure the total cumulative volume of water diverted each month using the meters specified in 3.8(a);
  - (b) measure the total cumulative rate of diversion on a continuous basis using the meters specified in 3.8(b);
- 4.1 The Licensee shall record and retain all of the following information for a minimum of 5 years after being collected:
- (a) the place, date and time of all monitoring and measuring;
  - (b) the results obtained pursuant to 4.0; and
  - (c) the name of the individual who conducted the monitoring and measuring stipulated in (a) and (b).
- 4.2 The Licensee shall report to the Director the results of the measuring and monitoring required in 4.0 (a) and 4.0 (b) using the "Water Use Reporting System" and any other information required in writing by the Director.

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4.3 The Licensee shall submit the report required in 4.2 on or before the end of the month following the month in which the information is based upon was collected.

**COMPLAINT INVESTIGATION**

5.0 The Licensee shall:

- (a) provide to all water users, within a distance specified in writing by the Director from the point of diversion, the contact name(s) and telephone numbers of the Licensee or representatives(s);
- (b) investigate all written complaints accepted by the Director relating to allegations of surface water and groundwater interference as a result of the diversion of the water or operation of the works; and
- (c) provide a written report to the Director, within a time specified in writing by the Director, detailing the results of the investigation relating to the complaint accepted by the Director in 5.0(b).

5.1 The Licensee shall satisfy the Director that the report submitted pursuant to 5.0(c) has identified remedial and/or mitigative measures relating to the alleged interference.

Designated Director under the Act

  
Kathleen Murphy, P. Eng.

Dated

JUL 28 2017





**LICENCE TO DIVERT WATER  
PROVINCE OF ALBERTA  
WATER ACT, R.S.A. 2000, c.W-3, as amended**

**This licence is issued to give effect to the transfer of a water allocation from a licence issued to the Town of Claresholm on May 25, 1979.**

LICENCE NO.: 00261922-00-00

FILE NO.: 00436

PRIORITY NO.: 1909-06-16-001

**SEP 17 2009**

EFFECTIVE DATE: \_\_\_\_\_

EXPIRY DATE: \_\_\_\_\_

*September 16, 2034*

SOURCE OF WATER: Willow Creek

POINT OF DIVERSION: NW 35-013-28-W4 through the works of AENV (Pine Coulee Reservoir)

POINT OF USE: Town of Claresholm

LICENSEE: Town of Claresholm

Pursuant to Division 2, of Part 4, of the *Water Act*, R.S.A. 2000, c.W-3, as amended and the Bow, Oldman and South Saskatchewan River Basin Water Allocation Order OC 356/2007, a licence is issued to the Licensee to:

operate a works and to divert up to 1,301,235 cubic metres of water annually at a maximum \*\* rate of diversion of 0.08 cubic metres per second from the source of water for the purpose(s) of municipal

subject to the attached terms and conditions.

\*\* see terms and conditions for details of the rate of diversion

Designated Director under the Act: \_\_\_\_\_

*Robert Burland*  
Robert Burland


**SEP 17 2009**

Date Signed: \_\_\_\_\_

## **DEFINITIONS**

- 1.0 All definitions from the Act and the Regulations apply except where expressly defined in this licence.
- 1.1 In all parts of this licence:
- (a) "Act" means the Water Act, RSA 2000, c. W-3, as amended;
  - (b) "Application" means the written submissions to the Director in respect of application number 00261922-00-00
  - (c) "Director" means an employee of the Government of Alberta designated as a Director under the Act;
  - (d) "Point(s) of diversion" means the location(s) where water is diverted from the source of water;
  - (e) "Point of use" means the location(s) in which the diverted water is used by the Licensee for the licenced purpose;
  - (f) "Diversion works on Willow Creek at NE 23-012-28-W4" means any structure, device or contrivance made by persons, or part of it, including a dam and canal and land associated with it and mitigative measures associated with it for the diversion of water from the source of water;
  - (g) "Regulations" means the regulations, as amended, enacted under the authority of the Act.

## **GENERAL**

- 2.0 The Licensee shall immediately report to the Director by telephone any contravention of the terms and conditions of this licence at 1-780-422-4505.
- 2.1 The terms and conditions of this licence are severable. If any term or condition of this licence is held invalid, the application of such term or condition to other circumstances and the remainder of this licence shall not be affected thereby.
- 2.2 The Licensee shall not deposit or cause to be deposited any substance in, on or around the source of water that has or may have the potential to adversely affect the source of water.
- 2.3 The licensee shall submit an application to the Director for the removal of the works within six months after ceasing operation of the works or diversion of the water.
- 2.4 This licence is subject to the Use of Works agreement dated August 25, 2008, as amended, between the Town of Claresholm and Her Majesty the Queen in right of Alberta as represented by the Minister of Environment.
- 

- 2.5. The licensee will implement the Town of Claresholm Water Shortage Response Plan (WSRP) dated May 2009, as amended, when the water elevation in Pine Coulee Reservoir is at elevation 1045.0.
- 2.6 The licensee will review the WSRP after each implementation of the Plan and provide revisions to the Director for review and approval.
- 2.7 The licensee will implement any revisions to the WSRP approved by the Director
- 2.8 Subject to clause 3.0, this licence is appurtenant to the undertakings as follows:
- (a) to the diversion works operated by the Town of Claresholm at the point of diversion at NE 23-012-28-W4 up to October 31, 2010.
- 2.9 The works used to divert the water at NE 23-012-28-W4 shall include, at a minimum, the following:
- |                   |                        |
|-------------------|------------------------|
| Plan No. 00436-15 | SW Intake Plan/Profile |
| Plan No. 00436-16 | NE Intake Plan/Profile |
- 2.10 The licensee may divert water from the diversion works on Willow Creek at NE 23-012-28-W4 up to October 31, 2010.
- 2.11 The sum of water diverted annually, up to October 31, 2010 from Willow Creek on the NE 23-012-28-W4 and the NW 35-013-28-W4 will not exceed the total water allocation of 1, 301, 235 cubic metres per year.
- 2.12 The maximum combined rate of diversion from Willow Creek and Pine Coulee Reservoir will not exceed the rate of diversion of 0.12 cubic metres per second as per condition 3.8 of this licence.
- 2.13 The licensee will include in the Annual Water Use Reports for 2009 and 2010 the volume of water diverted and the rate of diversion at the NE 23-012-28-W4 and NW 35-013-28-W4 respectively.
- 2.14 The licensee will submit within eighteen months of the effective date of this licence:
- (a) An application for the removal of the diversions works on Willow Creek at NE 23-012-28-W4
- (b) Plans and supporting documentation for the reclamation of the diversion works on Willow Creek at NE 23-012-28-W4

**DIVERSION OF WATER**

- 3.0 This licence is appurtenant to the undertaking as follows:
- (a) The diversion works operated by the Town of Claresholm at the point of diversion at NW 35-013-28-W4; and

- (b) The water supply pipeline between the diversion works and the Town of Claresholm at SW 23-012-27-W4 for the delivery of water to the Town of Claresholm
- (c) The water distribution network in association with the Town of Claresholm municipal water supply within the municipal boundary of the Town of Claresholm.

- 3.1 The Licensee shall divert water only for the purpose(s) specified in this licence.
- 3.2 The Licensee shall divert water only from the source of water specified in this licence.
- 3.3 Subject to clause 2.10, the Licensee shall divert water only from the NW 35-013-28-W4.
- 3.4 The Licensee shall divert the water only to the point of use at the municipal boundaries of the Town of Claresholm.
- 3.5 The works used to divert the water authorized by this licence shall include, at a minimum, all of the following:

Plan Number	Title
00261922-P001	G2 Block Profile Legend
00261922-P002	G4 Site Plan
00261922-P003	C1 Plan Profile Station 0.000 to Station 0.650
00261922-P004	C30 Plan Profile Station 18.850 to Station 19.450
00261922-P005	C31Pine Coulee Reservoir Connection
00261922-P006	C32Claresholm Treatment Plant Connection Details
00261922-P007	C34Turnout – Station 18.920

- 3.6 The Licensee shall not divert more than 1,301,235 cubic metres of water per year.
- 3.7 Subject to clause 3.8, the Licensee shall not divert water at a rate of diversion greater than 0.08 cubic metres per second
- 3.8 The maximum rate of diversion may be increased from 0.08 cubic metres per second up to 0.12 cubic metres per second only when all licensee and registrants with a numerically lower priority than 2007-12-10-001 in the Willow Creek sub-basin have

sufficient water to divert their whole allocation of water specified under the licence or registration

- 3.9 Prior to diverting any water from the source of water, the Licensee shall equip the raw water meter vault for the Town of Claresholm at Station 18+290 and the Water Treatment Plant with measuring devices, which measures:
- (a) cumulatively, the quantity of all water diverted, and
  - (b) the instantaneous rate of diversion.
- 3.10 The Licensee shall maintain each measuring device referred to in 3.9 when diverting any water.
- 3.11 The Licensee shall calibrate each measuring device referred to in 3.9 in accordance with manufacturer's specifications.

#### **MONITORING AND REPORTING**

- 4.0 Unless otherwise authorized in writing by the Director, the Licensee shall:
- (a) measure the total volume of water diverted each day using the measuring devices specified in 3.9(a); and
  - (b) measure the rate of diversion on a continuous basis using the measuring devices specified in 3.9(b).
- 4.1 The Licensee shall record and retain all of the following information for a minimum of 5 years after being collected:
- (a) the place, date and time of all monitoring and measuring;
  - (b) the results obtained pursuant to 4.0; and
  - (c) the name of the individual who conducted the monitoring, measuring and sampling stipulated in (a) and (b).
- 4.2 The Licensee shall compile an Annual Water Use Report on or before February 28<sup>th</sup> of each year following the calendar year in which the information on which the report is based was collected.
- 4.3 The Licensee shall retain each Annual Water Use Report for a minimum of 5 years.
- 4.4 The Licensee shall submit an Annual Water Use Report to the Director:
- (a) on or before February 28<sup>th</sup> of each year following the calendar year in which the information on which the report is based was collected; or
  - (b) within a time period specified in writing by the Director.




- 4.5 The Annual Water Use Report shall include, at a minimum, the following information collected during the previous calendar year:
- (a) the total annual number of cubic metres of water diverted from the source of water;
  - (b) the results obtained pursuant to 4.0; and
  - (c) any other information required in writing by the Director.

**COMPLAINT INVESTIGATION**

- 5.0 The Licensee shall:
- (a) provide to all water users, within a distance specified in writing by the Director from the point of diversion, the contact name(s) and telephone numbers of the licensee or representative(s);
  - (b) investigate all written complaints accepted by the Director relating to allegations of surface water and groundwater interference as a result of the diversion of the water or operation of the works; and
  - (c) provide a written report to the Director, within a time specified in writing by the Director, detailing the results of the investigation relating to the complaint accepted by the Director in 5.0(b).

5.1 The Licensee shall satisfy the Director that the report submitted pursuant to 5.0(c) has identified remedial and/or mitigative measures relating to the alleged interference.

Date Signed: SEP 17 2009

  
\_\_\_\_\_  
Designated Director under the Act  
Robert Burland

LICENCE TO DIVERT WATER
PROVINCE OF ALBERTA
WATER ACT, R.S.A. 2000, c.W-3, as amended

This licence is issued to give effect to the transfer of part of the water allocation from Licence No. Dated 1984 12 17 issued to Donald Glimsdale to Licence No. 00279982-00-00

LICENCE NO.: 00279982-00-00

FILE NO.: 00279982

PRIORITY NO.: 1983-04-08-003

EFFECTIVE DATE: DEC 06 2010

EXPIRY DATE: December 5, 2035

SOURCE OF WATER: Willow Creek

POINT OF DIVERSION: NW 35-013-28-W4 through the works of the Town of Claresholm
rediverted at NE 12-013-28-W4

POINT OF USE: NE 12-013-28-W4

LICENSEE: Donald Glimsdale

Pursuant to Division 2, of Part 4, of the Water Act, R.S.A. 2000, c. W-3, as amended and the Bow, Oldman and South Saskatchewan River Basin Water Allocation Order OC 356/2007, a licence is issued to the Licensee to:

operate a works and to divert up to 1,234.56 cubic metres (1.0 acre-feet) of water annually at a maximum rate of diversion of 0.0049 cubic metres per second (2 Imperial gallons per minute) from the source of water for the purpose of tree and garden watering.

subject to the attached terms and conditions.

Designated Director under the Act: Robert Burland, P. Biol.

Date Signed: DEC 06 2010

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## **DEFINITIONS**

- 1.0 All definitions from the Act and the Regulations apply except where expressly defined in this licence.
- 1.1 In all parts of this licence:
- (a) "Act" means the Water Act, RSA 2000, c. W-3, as amended;
  - (b) "Application" means the written submissions to the Director in respect of application number 00279982-00-00;
  - (c) "Director" means an employee of the Government of Alberta designated as a Director under the Act;
  - (d) "Point(s) of diversion" means the location(s) where water is diverted from the source of water;
  - (e) "Point of use" means the location(s) in which the diverted water is used by the Licensee for the licenced purpose;
  - (f) "Regulations" means the regulations, as amended, enacted under the authority of the Act.
  - (g) "Instream Objective" means the water flow in the source of water that remains in the source of water immediately downstream of the point of diversion, during the diversion of water by the licensee.
  - (h) "Water Conservation Objective" means the amount and quality of water necessary for the protection of a natural water body or its aquatic environment including water necessary for the rate of flow or water level requirements.

## **GENERAL**

- 2.0 The Licensee shall immediately report to the Director by telephone any contravention of the terms and conditions of this licence at 1-780-422-4505.
- 2.1 The terms and conditions of this licence are severable. If any term or condition of this licence is held invalid, the application of such term or condition to other circumstances and the remainder of this licence shall not be affected thereby.
- 2.2 The Licensee shall not deposit or cause to be deposited any substance in, on or around the source of water that has or may have the potential to adversely affect the source of water.
- 2.3 Within six months after permanently ceasing operation of the works or diversion of the water, the licensee shall submit an application to the Director for the decommissioning of the works.





- 2.4 This licence is subject to any operating plan(s) attached to the Licence issued to her Majesty as represented by the Minister of Environment for the Pine Coulee Dam Reservoir.

### **DIVERSION OF WATER**

- 3.0 This licence is appurtenant to the following lands:
- (a) the point of diversion described as the actual point of removal from Willow Creek on Pine Coulee Reservoir at NW 35-013-28-W4 as referenced on Plan No. 00266734-P001 (Town of Claresholm)
  - (b) the point of rediversion on NE 12-013-28-W4 as referenced on Plan No.00279982-P001; and
  - (c) the point of use on NE 12-013-28-W4 designated as the total area watered on Plan No. 00279982-P002.
- 3.1 The Licensee shall divert water only for the purpose(s) specified in this licence.
- 3.2 The Licensee shall divert water only from the source of water specified in this licence.
- 3.3 The Licensee shall divert water only from the following point(s) of diversion:
- (a) NW 35-013-28-W4.
- 3.4 The works used to divert the water authorized by this licence shall include, at a minimum, all of the following:
- (a) the water delivery and distribution system referred to in the plan number 00279882-P002 approved on November 29, 2010 and;
  - (b) a screen on the pump intake with:
    - (i) openings no larger than 2.54 millimetres;
- 3.5 The licensee shall cause any water entering a pump to first pass through the screen required in 3.4(b).
- 3.6 The Licensee shall not divert more than 1234.56 cubic metres of water per year.
- 3.7 The Licensee shall not divert water at a rate of diversion greater than 0.0049 cubic metres per second.
- 3.8 Prior to diverting any water from the source of water, the Licensee shall equip the point of rediversion at NE 12-013-28-W4 with a measuring device, which measures:
- (a) cumulatively, the quantity of all water diverted; and



(b) the instantaneous rate of diversion.

- 3.9 The Licensee shall maintain each measuring device referred to in 3.8 at all times.
- 3.10 The Licensee shall calibrate each measuring device referred to in 3.8 in accordance with manufacturer's specifications.
- 3.11 The Director may, upon a minimum of 12 months written notice to the licensee, amend this licence to change the Instream Objectives, convert an Instream Objective to a Water Conservation Objective or change such Water Conservation Objective.
- 3.12 The Instream Objectives are 0.8 cubic metres per second in July and August and 0.4 cubic metres per second for the remainder of the year.
- 3.13 The licensee shall divert the water authorized by this licence only when there is sufficient water flow in the source of water to meet or exceed the Instream Objectives set out in 3.12.
- 3.14 Unless otherwise authorized in writing by the Director, the Instream Objectives in 3.12 is to be met at the specified point of diversion.

#### **MONITORING AND REPORTING**

- 4.0 Unless otherwise authorized in writing by the Director, the Licensee shall:
- (a) measure the total volume of water diverted each month using the measuring device specified in 3.8(a); and
  - (b) measure the rate of diversion on a continuous basis using the measuring device specified in 3.8(b).
- 4.1 The Licensee shall record and retain all of the following information for a minimum of 5 years after being collected:
- (a) the place, date and time of all monitoring, measuring and sampling;
  - (b) the results obtained pursuant to 4.0; and
  - (c) the name of the individual who conducted the monitoring, measuring and sampling stipulated in (a) and (b).
- 4.2 The licensee shall compile an Annual Water Use Report on or before February 28<sup>th</sup> of each year following the year in which the information on which the report is based was collected.
- 4.3 The licensee shall retain each Annual Water Use Report for a minimum of 5 years.
- 4.4 The Licensee shall submit an Annual Water Use Report to the Director:



- (a) on or before February 28<sup>th</sup> of each year following the year in which the information on which the report is based was collected; or
- (b) within a time period specified in writing by the Director.
- 4.5 The Annual Water Use Report shall include, at a minimum, the following information collected during the previous year:
- (a) the total annual number of cubic metres of water diverted from the source of water;
- (b) the results obtained pursuant to 4.0; and
- (c) any other information required in writing by the Director.

### **COMPLAINT INVESTIGATION**

- 5.0 The Licensee shall:
- (a) provide to all water users, within a distance specified in writing by the Director from the point of diversion, the contact name(s) and telephone numbers of the licensee or representative(s);
- (b) investigate all written complaints accepted by the Director relating to allegations of surface water and groundwater interference as a result of the diversion of the water or operation of the works; and
- (c) provide a written report to the Director, within a time specified in writing by the Director, detailing the results of the investigation relating to the complaint accepted by the Director in 5.0(b).
- 5.1 The Licensee shall satisfy the Director that the report submitted pursuant to 5.0(c) has identified remedial and/or mitigative measures relating to the alleged interference.

DATE SIGNED: DEC 06 2010

  
DESIGNATED DIRECTOR UNDER THE ACT  
Robert Burland, P. Biol.

**LICENCE No.** Dated 1983 07 26  
**FILE No.** 19444  
**PRIORITY No.** 1979-08-23-003  
**EFFECTIVE DATE** MAR 0 5 2011  
**AMENDMENT No.** 00031805-00-01

Town of Claresholm

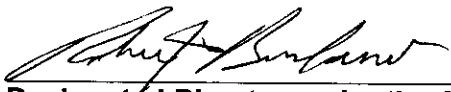
The licence is amended as follows:

1. Delete condition 1 and substitute with the following:
  - 1.0 The Licensee shall:
    - (a) measure the total volume of water diverted on a monthly basis; and
    - (b) monitor the rate of diversion on a daily basis.
  - 1.1 The Licensee shall record and retain all of the following information for a minimum of 5 years after being collected:
    - (a) the place, date and time of all measuring and monitoring and monitoring; and
    - (b) the results obtained pursuant to 1.0.
  - 1.2 The Licensee shall report to the Director the results of the measuring and monitoring required in 1.0 using the "Water Use Reporting System" and any other information required in writing by the Director.
  - 1.3 The Licensee shall submit the report required in 1.2 on or before the end of the month following the month in which the information is based upon was collected.
  - 1.4 "Water Use Reporting System" means the secure internet website provided by Alberta Environment at <http://www.environment.alberta.ca/1286.html> for submitting measuring and monitoring results electronically to the Director.



**AMENDMENT**

- 1.5 The licensee shall comply with the terms and conditions of the "Water Use Reporting System User Consent"



Designated Director under the Act  
Rob Burland

FEB 03 2011

Dated



ENVIRONMENT

CLARESHOLM GOLF COURSE

**LICENCE**  
to DIVERT AND USE WATER

Pursuant to Sections 11 and 33  
THE WATER RESOURCES ACT

File No. 19444

Priority No. 1979-08-23-03

Purpose Other

Drainage Basin Oldman River

First Issued 1983 07 26

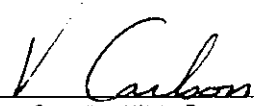
Town of Claresholm  
Box 1000  
Claresholm, Alberta  
T0L 0T0

HAVING COMPLIED with the applicable provisions of The Water Resources Act and the regulations thereunder and Interim Licence No. 12396, a copy of which is attached hereto and incorporated herein,

IS HEREBY GRANTED LICENCE to divert and use the quantities of water prescribed in the Interim Licence in accordance with and subject to all other applicable provisions of that Act and the regulations thereunder, and the terms and conditions attached hereto and incorporated herein, at locations described in the Interim Licence,

BY MEANS AND THROUGH works and undertakings described in the Interim Licence.

1983 07 26

  
Controller of Water Resources





ENVIRONMENT

# INTERIM LICENCE

Pursuant to Section 18  
THE WATER RESOURCES ACT

**Nº 12396**

Town of Claresholm  
Box 1000  
Claresholm, Alberta  
T0L 0T0

File No. 19444

Priority No. 1979-08-23-03

having complied with the applicable provisions of The Water Resources Act and the regulations thereunder is hereby authorized, as soon as right-of-way is obtained:

A. To construct works as shown on plans and reports filed, approved and identified in departmental records as:

See list on attached Terms and Conditions

B. To divert and use water as hereinafter specified and described subject to the terms and conditions attached hereto and incorporated herein:

PURPOSE: Other (recreation)

SOURCE OF SUPPLY: Coulee tributary to Willow Creek

POINT OF DIVERSION: NW 23-12-27-4

GROSS DIVERSION: Up to 80.0 acre-feet annually consisting of:

1. Estimated Consumptive Use: 71.0 acre-feet
2. Estimated Losses: 9.0 acre-feet
3. Estimated Return Flow: NIL

RESERVOIR CAPACITY: 23.0 acre-feet

RATE OF DIVERSION: 0.96 cubic feet per second  
(357.4 gallons per minute)

The construction of the works hereby authorized is to be completed within (constructed)  
from the date hereof

1983 07 25

Date Issued

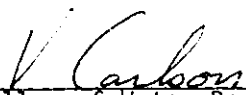
A handwritten signature in cursive script, appearing to read 'V. Carlson', written over a horizontal line.

Controller of Water Resources

TERMS AND CONDITIONS INTERIM LICENCE NO. 12396

1. The licensee shall submit an annual water use return to the Controller of Water Resources, Alberta Environment on or before January 31st in each year for the preceding calendar year showing:
  - (a) the total annual quantity of water diverted;
  - (b) the total area irrigated;
  - (c) such other information as may be required from time to time.
2. The licensee shall provide facilities for the release of water to riparians and prior licensees when requested to do so by the Controller of Water Resources.
3. To protect the prior rights of other water users on this source of supply the licensee may be required to reduce the rate of diversion or to cease diverting when requested to do so by the Controller of Water Resources, a Watermaster or other authorized officer of the department.
4. The licensee is responsible for the operation and maintenance of the works and for any damages that may result therefrom.
5. The rights and privileges hereby granted are subject to periodic review and to modification to ensure the most beneficial use of the water in the public interest and more particularly to ensure preservation of the rights of other water users.
6. The rights and privileges hereby granted can only be extended or modified with the approval of the Controller of Water Resources and are subject to cancellation or modification as provided in the Water Resources Act.
7. Following completion of the works herein authorized this interim licence and its terms and conditions shall be attached to and become part of the licence to use water issued under the provisions of Section 33 of the Water Resources Act.

1983 07 26  
Dated at Edmonton

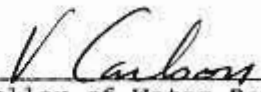
  
Controller of Water Resources



LIST OF APPROVED PLANS AND REPORTS - INTERIM LICENCE NO. 12396

<u>W. R. NO.</u>	<u>DRAWING NO.</u>	<u>TITLE</u>
19444-2	5 of 10	Pumphouse Details
19444-3	4	Culvert Details
19444-4	3	Culvert Details
19444-5	6	Culvert Details
19444-7	8	Centerline and Bank Profile
19444-8	7	Golf Course
19444-9	2 of 10	Grading Plan

1983 07 26  
Dated at Edmonton

  
Controller of Water Resources

LICENCE TO DIVERT WATER
PROVINCE OF ALBERTA
WATER ACT, R.S.A. 2000, c.W-3, as amended

This licence is issued to give effect to the transfer of part of the water allocation from Licence No. 00251023-00-00 issued to the Town of Granum to Licence No. 00300464-00-00

LICENCE NO.: 00300464-00-00

FILE NO.: 00283A (Project 2)

PRIORITY NO.: 1904-09-12-001
1976-11-03-002

EFFECTIVE DATE: DEC 12 2011

EXPIRY DATE: December 11, 2036

SOURCE OF WATER: Willow Creek

POINT OF DIVERSION: NW 35-013-28-W4 through the works of the Town of Claresholm rediverted at NW 24-012-27-W4

POINT(S) OF USE: Town of Granum

LICENSEE: Town of Granum

Pursuant to Division 2, of Part 4, of the Water Act, R.S.A. 2000, c. W-3, as amended and the Bow, Oldman and South Saskatchewan River Basin Water Allocation Order OC 356/2007, a licence is issued to the Licensee to:

operate works and to divert up to 155,064 cubic metres of water annually at a maximum rate of diversion of 0.0092 cubic metres per second\*\* from the source of water for municipal purposes as follows:

- 1. Priority Number: 1904-09-12-001
Volume: 98,272 cubic metres
Rate of Diversion: 0.0032 cubic metres per second
2. Priority Number: 1976-11-03-002
Volume: 56,792 cubic metres
Rate of Diversion: 0.006 cubic metres per second

subject to the attached terms and conditions.

\*\* see terms and conditions for details of the rate of diversion

Designated Director under the Act: [Signature]
Robert Byland, P. Biol.

Date Signed: DEC 12 2011

## **DEFINITIONS**

- 1.0 All definitions from the Act and the Regulations apply except where expressly defined in this licence.
- 1.1 In all parts of this licence:
- (a) "Act" means the Water Act, RSA 2000, c. W-3, as amended;
  - (b) "Application" means the written submissions to the Director in respect of application number 00300464-00-00;
  - (c) "Director" means an employee of the Government of Alberta designated as a Director under the Act;
  - (d) "Point(s) of diversion" means the location(s) where water is diverted from the source of water;
  - (e) "Point of use" means the location(s) in which the diverted water is used by the Licensee for the licenced purpose;
  - (f) "Regulations" means the regulations, as amended, enacted under the authority of the Act.
  - (g) "Instream Objective" means the water flow in the source of water that remains in the source of water immediately downstream of the point of diversion, during the diversion of water by the licensee.
  - (h) "Water Conservation Objective" means the amount and quality of water necessary for the protection of a natural water body or its aquatic environment including water necessary for the rate of flow or water level requirements.
  - (i) "Water Use Reporting System" means the secure internet website provided by Alberta Environment at <http://www.environment.alberta.ca/1286.html> for submitting measuring and monitoring results electronically to the Director.

## **GENERAL**

- 2.0 The Licensee shall immediately report to the Director by telephone any contravention of the terms and conditions of this licence at 1-780-422-4505.
- 2.1 The terms and conditions of this licence are severable. If any term or condition of this licence is held invalid, the application of such term or condition to other circumstances and the remainder of this licence shall not be affected thereby.
- 2.2 The Licensee shall not deposit or cause to be deposited any substance in, on or around the source of water that has or may have the potential to adversely affect the source of water.



- 2.3 Within six months after permanently ceasing operation of the works or diversion of the water, the licensee shall submit an application to the Director for the decommissioning of the works.
- 2.4 This licence is subject to any operating plan(s) attached to the Licence issued to her Majesty as represented by the Minister of Environment for the Pine Coulee Dam Reservoir.
- 2.5 The licensee shall maintain an agreement between the Town of Claresholm and the Municipal District of Willow Creek pertaining to the delivery of potable water within the Town of Granum.
- 2.6 The licensee will implement the Town of Granum Regional Water Supply Pipeline Water Shortage Response Plan (WSRP) dated November 2009, as amended, when water supply shortages occur.
- 2.7 The licensee will review the WSRP after each implementation of the Plan and provide revisions to the Director for review and approval.
- 2.8 The licensee will implement any revisions to the WSRP approved by the Director.
- 2.9 The licensee shall comply with the terms and conditions of the "Water Use Reporting System User Consent".

### **DIVERSION OF WATER**

- 3.0 This licence is appurtenant to the following undertakings:
  - (a) The diversion works at the actual point of removal from Willow Creek on Pine Coulee Reservoir at NW 35-013-28-W4 as referenced on Plan No. 00266734-P001 (Town of Claresholm)
  - (b) The redirection works located on NW 24-012-27-W4 as referenced on Plan No.00300464-P001, approved on December 12, 2011;
  - (c) The water supply pipeline referenced on Plan No. 00300464-P002, approved on December 12, 2011 for the delivery of water to the Town of Granum
  - (d) The water delivery works at the Town of Granum located on the NE 31-010-26-W4 as referenced on Plan No.00300464-P003, approved on December 12, 2011 ; and
  - (e) The water distribution network in association with the Town of Granum municipal water supply within the municipal boundary of the Town of Granum.
- 3.1 The Licensee shall divert water only for the purpose(s) specified in this licence.
- 3.2 The Licensee shall divert water only from the source of water specified in this licence.

- 3.3 The Licensee shall divert water only from the following point(s) of diversion:
- (a) NW 35-013-28-W4.
- 3.4 The Licensee shall divert the water only to the point of use at the municipal boundaries of the Town of Granum.
- 3.5 The works used to divert the water authorized by this licence shall include, at a minimum, all of the following:
- (a) the intake structure referred to in the Town of Claresholm licence (File 00436);
  - (b) the tie-in structure at NW 24-012-27-W4 referred to in plan number 00300464-P001 dated December 12, 2011; and
  - (c) the pipeline referred to as the Town of Granum Regional Water Supply Pipeline on Plan No.00300464-P002 dated December 12, 2011 submitted with the Application.
- 3.6 The Licensee shall not divert more than 155,064 cubic metres of water per year.
- 3.7 Subject to clause 3.8, the Licensee shall not divert water at a rate of diversion greater than 0.0092 cubic metres per second
- 3.8 The maximum rate of diversion may be increased from 0.0092 cubic metres per second up to 0.0153 cubic metres per second only when all licensee and registrants with a numerically lower priority than 2009-06-03-002 in the Willow Creek sub-basin have sufficient water to divert their whole allocation of water specified under the licence or registration
- 3.9 Prior to diverting any water from the source of water, the Licensee shall equip the point of rediversion at NW 24-012-27-W4 and the point of delivery at NE 31-010-26-W4 with measuring device(s), which measure:
- (a) cumulatively, the quantity of all water diverted; and
  - (b) the instantaneous rate of diversion.
- 3.10 The Licensee shall maintain each measuring device referred to in 3.9 at all times.
- 3.11 The Licensee shall calibrate each measuring device referred to in 3.9 in accordance with manufacturer's specifications.
- 3.12 The Director may, upon a minimum of 12 months written notice to the licensee, amend this licence to change the Instream Objectives, convert an Instream Objective to a Water Conservation Objective or change such Water Conservation Objective.
- 3.13 The Instream Objectives are 0.8 cubic metres per second in July and August and 0.4 cubic metres per second for the remainder of the year.



- 3.14 The licensee shall divert the water authorized by this licence only when there is sufficient water flow in the source of water to meet or exceed the Instream Objectives set out in 3.12.
- 3.15 Unless otherwise authorized in writing by the Director, the Instream Objectives in 3.13 is to be met at the specified point of diversion.

#### **ADMINISTERING PRIORITY**

- 4.0 In the event of any complaint, priority will be administered at the original point of diversion on Willow Creek at SW 36-010-27-W4.
- 4.1 In the event of any water shortage complaint by the Licensee, the priority of this licence will apply to licensees and registrations upstream on Willow Creek from the original point of diversion at SW 36-010-27-W4.

#### **MONITORING AND REPORTING**


- 5.0 Unless otherwise authorized in writing by the Director, the Licensee shall:
- (a) measure the total volume of water diverted each day using the measuring devices specified in 3.9(a); and
  - (b) measure the rate of diversion on a continuous basis using the measuring devices specified in 3.9(b).
- 5.1 The Licensee shall record and retain all of the following information for a minimum of 5 years after being collected:
- (a) the place, date and time of all monitoring, measuring and sampling;
  - (b) the results obtained pursuant to 5.0; and
  - (c) the name of the individual who conducted the monitoring, measuring and sampling stipulated in (a) and (b).
- 5.2 The Licensee shall report to the Director the results of the measuring and monitoring required in 5.0 (a) and 5.0 (b) using the "Water Use Reporting System" and any other information required in writing by the Director.
- 5.3 The Licensee shall submit the report required in 5.2 on or before the end of the month following the month in which the information is based upon was collected.



**COMPLAINT INVESTIGATION**

- 6.0 The Licensee shall:
- (a) provide to all water users, within a distance specified in writing by the Director from the point of diversion, the contact name(s) and telephone numbers of the licensee or representative(s);
  - (b) investigate all written complaints accepted by the Director relating to allegations of surface water and groundwater interference as a result of the diversion of the water or operation of the works; and
  - (c) provide a written report to the Director, within a time specified in writing by the Director, detailing the results of the investigation relating to the complaint accepted by the Director in 5.0(b).
- 6.1 The Licensee shall satisfy the Director that the report submitted pursuant to 6.0(c) has identified remedial and/or mitigative measures relating to the alleged interference.

DATE SIGNED: DEC 12 2011

  
\_\_\_\_\_  
DESIGNATED DIRECTOR UNDER THE ACT  
Robert Burland, P. Biol.

LICENCE TO DIVERT WATER
PROVINCE OF ALBERTA
WATER ACT, R.S.A. 2000, c.W-3, as amended

This licence is issued to give effect to the transfer of part of the water allocation from Licence No. 00251023-00-00 issued to the Town of Granum to Licence No. 00300466-00-00

LICENCE NO.: 00300466-00-00

FILE NO.: 00283A (Project 3)

PRIORITY NO.: 1976-11-03-002

EFFECTIVE DATE: DEC 12 2011

EXPIRY DATE: December 11, 2036

SOURCE OF WATER: Willow Creek

POINT OF DIVERSION: NW 35-013-28-W4 through the works of the Town of Claresholm
rediverted at NW 24-012-27-W4

POINT(S) OF USE: SE 31 & NE 32-010-26-W4 and SE 05-011-26-W4

LICENSEE: Town of Granum

Pursuant to Division 2, of Part 4, of the Water Act, R.S.A. 2000, c. W-3, as amended and the Bow, Oldman and South Saskatchewan River Basin Water Allocation Order OC 356/2007, a licence is issued to the Licensee to:

operate works and to divert up to 4936 cubic metres of water annually at a maximum rate of diversion of 0.001 cubic metres per second from the source of water for municipal (rural community) purposes:

subject to the attached terms and conditions.

Designated Director under the Act: [Signature]
Robert Burland, P. Biol.

Date Signed: DEC 12 2011



## **DEFINITIONS**

- 1.0 All definitions from the Act and the Regulations apply except where expressly defined in this licence.
- 1.1 In all parts of this licence:
- (a) "Act" means the Water Act, RSA 2000, c. W-3, as amended;
  - (b) "Application" means the written submissions to the Director in respect of application number 00300466-00-00;
  - (c) "Director" means an employee of the Government of Alberta designated as a Director under the Act;
  - (d) "Point(s) of diversion" means the location(s) where water is diverted from the source of water;
  - (e) "Point of use" means the location(s) in which the diverted water is used by the Licensee for the licenced purpose;
  - (f) "Regulations" means the regulations, as amended, enacted under the authority of the Act.
  - (g) "Rural Community Water Supply" means water used for human consumption, sanitation, fire prevention and watering of animals, gardens, lawns and trees. Agricultural, commercial, industrial, irrigation and the injection of water into the ground for oil and/or gas recovery are not included in this licence.
  - (h) "Instream Objective" means the water flow in the source of water that remains in the source of water immediately downstream of the point of diversion, during the diversion of water by the licensee.
  - (i) "Water Conservation Objective" means the amount and quality of water necessary for the protection of a natural water body or its aquatic environment including water necessary for the rate of flow or water level requirements.
  - (j) "Water Use Reporting System" means the secure internet website provided by Alberta Environment at <http://www.environment.alberta.ca/1286.html> for submitting measuring and monitoring results electronically to the Director.

## **GENERAL**

- 2.0 The Licensee shall immediately report to the Director by telephone any contravention of the terms and conditions of this licence at 1-780-422-4505.
- 2.1 The terms and conditions of this licence are severable. If any term or condition of this licence is held invalid, the application of such term or condition to other circumstances and the remainder of this licence shall not be affected thereby.



- 2.2 The Licensee shall not deposit or cause to be deposited any substance in, on or around the source of water that has or may have the potential to adversely affect the source of water.
- 2.3 Within six months after permanently ceasing operation of the works or diversion of the water, the licensee shall submit an application to the Director for the decommissioning of the works.
- 2.4 This licence is subject to any operating plan(s) attached to the Licence issued to her Majesty as represented by the Minister of Environment for the Pine Coulee Dam Reservoir.
- 2.5 The licensee shall maintain an agreement between the Town of Claresholm and the Municipal District of Willow Creek pertaining to the delivery of potable water.
- 2.6 The licensee will implement the Town of Granum Regional Water Supply Pipeline Water Shortage Response Plan (WSRP) dated November 2009, as amended, when water supply shortages occur.
- 2.7 The licensee will review the WSRP after each implementation of the Plan and provide revisions to the Director for review and approval.
- 2.8 The licensee will implement any revisions to the WSRP approved by the Director.
- 2.9 The licensee shall comply with the terms and conditions of the "Water Use Reporting System User Consent".

### **DIVERSION OF WATER**

- 3.0 This licence is appurtenant to the following undertakings:
  - (a) The diversion works at the actual point of removal from Willow Creek on Pine Coulee Reservoir at NW 35-013-28-W4 as referenced on Plan No. 00266734-P001 (Town of Claresholm)
  - (b) The rediversion works located on NW 24-012-27-W4 as referenced on Plan No.00300464-P001, approved on December 12, 2011;
  - (c) The water supply pipeline referenced on Plan No. 00300464-P002, approved on December 12, 2011 for the delivery of water to the Town of Granum
  - (d) The water supply turnouts at SE 31 & NE 32-010-26-W4 and SE 05-011-26-W4 as referenced on Plan No.00300466-P001, approved on December 12, 2011 ;  
and
- 3.1 The Licensee shall divert water only for the purpose(s) specified in this licence.
- 3.2 The Licensee shall divert water only from the source of water specified in this licence.



- 3.3 The Licensee shall divert water only from the following point(s) of diversion:
- (a) NW 35-013-28-W4.
- 3.4 The Licensee shall divert the water only to the point(s) of use designated on Plan No. 00300466-P001, approved on December 12, 2011.
- 3.5 The works used to divert the water authorized by this licence shall include, at a minimum, all of the following:
- (a) the intake structure referred to in the Town of Claresholm licence (File 00436);
- (b) the tie-in structure at NW 24-012-27-W4 referred to in plan number 00300464-P001 dated December 12, 2011; and
- (c) the pipeline referred to as the Town of Granum Regional Water Supply Pipeline on Plan No. 00300464-P002 dated December 12, 2011 submitted with the Application
- (d) the turnout locations on Plan No. 00300466-P001 dated December 12, 2011 submitted with the Application.
- 3.6 The Licensee shall not divert more than 4936 cubic metres of water per year.
- 3.7 The Licensee shall not divert water at a rate of diversion greater than 0.001 cubic metres per second.
- 3.8 Prior to diverting any water from the source of water, the Licensee shall equip the turnout locations at SE 31 & NE 32-010-26-W4 and SE 05-011-26-W4 with measuring device(s), which measure:
- (a) cumulatively, the quantity of all water diverted; and
- (b) the instantaneous rate of diversion.
- 3.9 The Licensee shall maintain each measuring device referred to in 3.8 at all times.
- 3.10 The Licensee shall calibrate each measuring device referred to in 3.8 in accordance with manufacturer's specifications.
- 3.11 The Director may, upon a minimum of 12 months written notice to the licensee, amend this licence to change the Instream Objectives, convert an Instream Objective to a Water Conservation Objective or change such Water Conservation Objective.
- 3.12 The Instream Objectives are 0.8 cubic metres per second in July and August and 0.4 cubic metres per second for the remainder of the year.
- 3.13 The licensee shall divert the water authorized by this licence only when there is sufficient water flow in the source of water to meet or exceed the Instream Objectives set out in 3.12.



- 3.14 Unless otherwise authorized in writing by the Director, the Instream Objectives in 3.12 is to be met at the specified point of diversion.

#### **ADMINISTERING PRIORITY**

- 4.0 In the event of any complaint, priority will be administered at the original point of diversion on Willow Creek at SW 36-010-27-W4.
- 4.1 In the event of any water shortage complaint by the Licensee, the priority of this licence will apply to licensees and registrations upstream on Willow Creek from the original point of diversion at SW 36-010-27-W4.

#### **MONITORING AND REPORTING**

- 5.0 Unless otherwise authorized in writing by the Director, the Licensee shall:
- (a) measure the total volume of water diverted each month using the measuring device(s) specified in 3.8(a); and
  - (b) measure the rate of diversion on a continuous basis using the measuring device(s) specified in 3.8(b).
- 5.1 The Licensee shall record and retain all of the following information for a minimum of 5 years after being collected:
- (a) the place, date and time of all monitoring, measuring and sampling;
  - (b) the results obtained pursuant to 5.0; and
  - (c) the name of the individual who conducted the monitoring, measuring and sampling stipulated in (a) and (b).
- 5.2 The Licensee shall report to the Director the results of the measuring and monitoring required in 5.0 (a) and 5.0 (b) using the "Water Use Reporting System" and any other information required in writing by the Director.
- 5.3 The Licensee shall submit the report required in 5.2 on or before the end of the month following the month in which the information is based upon was collected.



**COMPLAINT INVESTIGATION**

- 6.0 The Licensee shall:
- (a) provide to all water users, within a distance specified in writing by the Director from the point of diversion, the contact name(s) and telephone numbers of the licensee or representative(s);
  - (b) investigate all written complaints accepted by the Director relating to allegations of surface water and groundwater interference as a result of the diversion of the water or operation of the works; and
  - (c) provide a written report to the Director, within a time specified in writing by the Director, detailing the results of the investigation relating to the complaint accepted by the Director in 5.0(b).
- 6.1 The Licensee shall satisfy the Director that the report submitted pursuant to 6.0(c) has identified remedial and/or mitigative measures relating to the alleged interference.

DATE SIGNED: DEC 12 2011

  
DESIGNATED DIRECTOR UNDER THE ACT  
Robert Burland, P. Biol.

LICENCE TO DIVERT WATER
PROVINCE OF ALBERTA
WATER ACT, R.S.A. 2000, c.W-3, as amended

LICENCE NO.: 00312178-00-00

FILE NO.: 00312178

PRIORITY NO.: 2016-06-08-002

EFFECTIVE DATE: JUL 28 2017

EXPIRY DATE: July 27, 2042

SOURCE OF WATER: Willow Creek

POINT OF DIVERSION: NW 35-013-28-W4 through the works of Alberta Environment and Parks (Pine Coulee Reservoir) and through the works of the Town of Claresholm rediverted at SW 05-013-27-W4 and rediverted at NW 07-013-27-W4

POINT(S) OF USE: SW 05 & NW 07-013-27-W4

LICENSEE: Hutterian Brethren of Willow Creek

Pursuant to Division 2, of Part 4, of the Water Act, R.S.A. 2000, c. W-3, as amended and the Bow, Oldman and South Saskatchewan River Basin Water Allocation Order OC 356/2007, a licence is issued to the Licensee to:

operate a works and to divert up to 2099 cubic metres of water annually at a maximum rate of diversion of 0.001 cubic metres per second from the source of water for Agricultural (stockwatering) purposes.

subject to the attached terms and conditions.

Designated Director under the Act: Kathleen Murphy, P. Eng

Date Signed: JUL 28 2017

## **DEFINITIONS**

- 1.0 All definitions from the Act and the Regulations apply except where expressly defined in this licence.
- 1.1 In all parts of this licence:
- (a) "Act" means the Water Act, RSA 2000, c. W-3, as amended;
  - (b) "Application" means the written submissions to the Director in respect of application number 00312178-00-00 and any subsequent applications for amendments of Licence No. 00312178-00-00;
  - (c) "Director" means an employee of the Government of Alberta designated as a Director under the Act;
  - (d) "Point(s) of diversion" means the location(s) where water is diverted from the source of water;
  - (e) "Point of use" means the location(s) in which the diverted water is used by the Licensee for the licensed purpose;
  - (f) "Regulations" means the regulations, as amended, enacted under the authority of the Act.
  - (g) "Instream Objective" means the water flow in the source of water that remains in the source of water immediately downstream of the point of diversion, during the diversion of water by the licensee.
  - (h) "Water Conservation Objective" means the amount and quality of water necessary for the protection of a natural water body or its aquatic environment including water necessary for the rate of flow or water level requirements.
  - (i) "Water Use Reporting System" means the secure internet website provided by Alberta Environment for submitting measuring and monitoring results electronically to the Director.

## **GENERAL**

- 2.0 The Licensee shall immediately report to the Director by telephone any contravention of the terms and conditions of this licence at 1-780-422-4505.
- 2.1 The terms and conditions of this licence are severable. If any term or condition of this licence is held invalid, the application of such term or condition to other circumstances and the remainder of this licence shall not be affected thereby.

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- 2.2 The Licensee shall maintain an agreement with the Town of Claresholm pertaining to the delivery of raw water to the point of rediversion
- 2.3 The Licensee will implement the Water Shortage Response Plan (WSRP) dated May 12, 2017, as amended, when water supply shortages occur.
- 2.5 The Licensee will review the WSRP after each implementation of the Plan and provide revisions to the Director for review and approval.
- 2.6 The Licensee will implement any revisions to the WSRP approved by the Director.
- 2.4 Within six months after permanently ceasing operation of the works or diversion of the water, the licensee shall submit an application to the Director for the decommissioning of the works.
- 2.4 The Licensee shall comply with the terms and conditions of the "Water Use Reporting System User Consent".

#### **DIVERSION OF WATER**

- 3.0 This licence is appurtenant to the following lands:
  - (a) the point of diversion described as the actual point of removal from Willow Creek on Pine Coulee Reservoir at NW 35-013-28-W4 as referenced on Plan No. 00261922-P002 (Town of Claresholm)
  - (b) the point of rediversion on SW 05-013-27-W4 as referenced on Plan No.00312178-P001 approved on May 12, 2017;
  - (c) the point of rediversion on NW 07-013-27-W4 as referenced on Plan No.00312178-P002; and
  - (d) the point(s) of use on SW 05 & NW 07-013-27-W4 as referenced on Plan No. 00312178-P003, approved on May 12, 2017.
- 3.1 The Licensee shall divert water only for the purpose(s) specified in this licence.
- 3.2 The Licensee shall divert water only from the source of water specified in this licence.
- 3.3 The Licensee shall divert water only from the following point of diversion; NW 35-013-28-W4.
- 3.4 The Licensee shall divert the water only to the point(s) of use on SW 05 & NW 07-013-27-W4 as described on Plan No 00312178-P003
- 3.5 The works used to divert the water authorized by this licence shall include, at a minimum, all of the following:

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- (a) the intake structure referred to in the Town of Claresholm licence (File 00436);
  - (b) the redirection structure located on SW 05-013-27-W4 as referred to on Plan No. 00312178-P001;
  - (c) the redirection structure located on NW 07-013-27-W4 as referred to on Plan 00312178-P002; and
  - (d) the stockwater distribution network referred to on Plan No. 00312178-P003.
- 3.6 The Licensee shall not divert more than a total of 2099 cubic metres of water per year as follows:
- (a) 1965 cubic metres per year at the point of redirection on SW 05-013-27-W4; and
  - (b) 134 cubic metres per year at the point of redirection on NW 07-013-26-W4.
- 3.7 The Licensee shall not divert water at a rate of diversion greater than 0.001 cubic metres per second as follows:
- (a) 0.0006 cubic metres annually at the point of redirection on SW 05-013-27-W4; and
  - (b) 0.0004 cubic metres annually at the point of redirection on NW 07-013-27-W4.
- 3.8 Prior to diverting any water from the source of water, the Licensee shall equip the redirection works described in Condition 3.0 with water measuring devices, which measures:
- (a) cumulatively, the quantity of all water diverted; and
  - (b) the instantaneous rate of diversion
- 3.9 The Licensee shall maintain each measuring device referred to in 3.8 at all times.
- 3.10 The Licensee shall calibrate each measuring device referred to in 3.8 in accordance with manufacturer's specifications.
- 3.11 The Director may amend this licence to replace the Instream Objectives, convert an Instream Objective to a Water Conservation Objective or change such Water Conservation Objective, upon a minimum of 12 months written notice to the Licensee.

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- 3.12 The Instream Objectives for Willow Creek are 0.8 cubic metres per second in July and August and 0.4 cubic metres per second for the remainder of the year.
- 3.13 The Licensee shall divert the water authorized by this licence only when there is sufficient water flow in the source of water to meet or exceed the Instream Objectives as set out in condition 3.12.
- 3.14 Unless otherwise authorized in writing by the Director, the Instream Objectives in condition 3.12 are to be met immediately downstream of Pine Coulee Reservoir.
- 3.15 The Licensee shall ensure that water diverted from Willow Creek is either flow to which the Licensee is entitled or stored water from the Pine Coulee Reservoir for the use of this project.
- 3.16 Subject to Condition 3.12, the Licensee shall only divert water when the level of Pine Coulee Reservoir is above 1044.00 meters as described in the NRCB Report dated February 1995.

#### **MONITORING AND REPORTING**

- 4.0 Unless otherwise authorized in writing by the Director, the Licensee shall:
  - (a) measure the total cumulative volume of water diverted each month using the meters specified in 3.8(a);
  - (b) measure the total cumulative rate of diversion on a continuous basis using the meters specified in 3.8(b);
- 4.1 The Licensee shall record and retain all of the following information for a minimum of 5 years after being collected:
  - (a) the place, date and time of all monitoring and measuring;
  - (b) the results obtained pursuant to 4.0; and
  - (c) the name of the individual who conducted the monitoring and measuring stipulated in (a) and (b).
- 4.2 The Licensee shall report to the Director the results of the measuring and monitoring required in 4.0 (a) and 4.0 (b) using the "Water Use Reporting System" and any other information required in writing by the Director.
- 4.3 The Licensee shall submit the report required in 4.2 on or before the end of the month following the month in which the information is based upon was collected.

*KM*

**COMPLAINT INVESTIGATION**

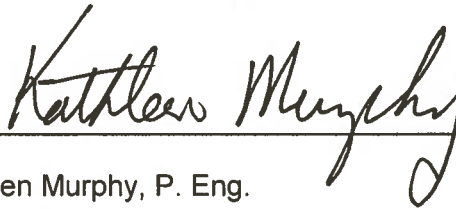
5.0 The Licensee shall:

- (a) provide to all water users, within a distance specified in writing by the Director from the point of diversion, the contact name(s) and telephone numbers of the Licensee or representatives(s);
- (b) investigate all written complaints accepted by the Director relating to allegations of surface water and groundwater interference as a result of the diversion of the water or operation of the works; and
- (c) provide a written report to the Director, within a time specified in writing by the Director, detailing the results of the investigation relating to the complaint accepted by the Director in 5.0(b).

5.1 The Licensee shall satisfy the Director that the report submitted pursuant to 5.0(c) has identified remedial and/or mitigative measures relating to the alleged interference.

Designated Director under the Act \_\_\_\_\_

Kathleen Murphy, P. Eng.



Dated JUL 28 2017

# PRELIMINARY CERTIFICATE

PURSUANT TO THE PROVISIONS  
OF THE WATER ACT

**PRELIMINARY  
CERTIFICATE No.** 00382750-00-00

**FILE No.** 00292451

Municipal District of Willow Creek

will receive a licence to divert 156,200 cubic metres of water annually at a rate of 0.0055 cubic metres per second from Willow Creek through the works of Alberta Environment and Parks (Pine Coulee Reservoir) and through the works of the Town of Claresholm in NW 35-013-28-W4 with priority no. 2016-02-18-001 for Municipal (Rural Community Water) purposes upon compliance with attached conditions.

July 12, 2021

Expiry Date

Kathleen Murphy

Designated Director under the Act

JUL 13 2016

Dated



Conditions

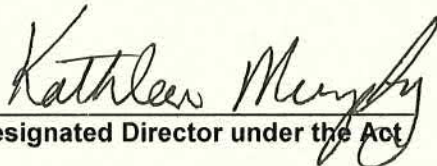
**GENERAL**

1. The Preliminary Certificate is appurtenant to the following undertakings:
  - (a) The diversion works at the actual point of removal from Pine Coulee Reservoir at the point of diversion on the NW 35-013-28-W4 referenced on Plan No. 00261922-P002 (Town of Claresholm Licence File 00436), approved on September 17, 2009;
  - (b) The redirection works located on NW 24-012-27-W4 referenced on Plan No.00300464-P001 (Town of Granum Licence File 00283A), approved on December 12, 2011;
  - (c) The Claresholm-Granum Pipeline referenced on Plan No. 00300464-P002 (Town of Granum Licence File 00283A, approved on December 12, 2011);
  - (d) The redirection works located on road allowance between SW 16 & SE 17-012-26-W4 (Line 1) referenced on Plan No. 00292451-P002 approved July 13, 2016;
  - (e) The redirection works located on road allowance between SW 04 & SE 05-012-26-W4 (Line 2 & 3) referenced on Plan No.00292451-P003 approved July 13, 2016;
  - (f) The redirection works located on road allowance between SW 28 & SE 29-011-26-W4 (Line 4) referenced on Plan No. 00292451-P004 approved July 13, 2016;
  - (g) The redirection works located on road allowance between SW 16 & SE 17-011-26-W4 (Line 5) referenced on Plan No.00292451-P004 approved July 13, 2016;
  - (h) The redirection works located on road allowance between SW 04 & SE 05-011-26-W4 (Line 6 & 7) referenced on Plan No. 00292451-P005 approved July 13, 2016; and
  - (i) The points of use within the water distribution lateral network in association with the Leavings Water Co-op Ltd. water supply within the Municipal District of Willow Creek referenced on Plan No. 00292451-P001 approved July 13, 2016.
2. The preliminary certificate holder shall install water flow and volume measuring devices in all the water redirection works that will measure the rate and volume of water diverted from the water source at NW 35-013-28-W4 (pump site location) for the use of the Leavings Water Co-op Ltd..
3. The preliminary certificate holder must apply for an Approval and/or Codes of Practice for any activity conducted in Willow Creek and in or around any wetlands.
4. The preliminary certificate holder must submit copies of the consents or approvals obtained for lands not owned by the preliminary certificate holder that may be affected by the works, prior to the commencement of any construction of the project.
5. The preliminary certificate holder must submit copies of the as-built drawings for the project, prior to the granting of a licence for the diversion of water.

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6. Only on submission of a satisfactory certificate of completion and upon compliance with all the conditions in this preliminary certificate, will the preliminary certificate holder be granted a licence for the diversion of water including the operation of works with the proposed conditions identified in the attached Appendix 1.
7. The preliminary certificate holder shall submit a certificate of completion on or before the preliminary certificate expiry date that certifies:
- (a) the conditions of this preliminary certificate are complied with,
  - (b) the construction of all works is complete, including installation of measuring devices,
  - (c) any applicable licence fees have been paid, and
  - (d) the works identified in Condition 1 of this preliminary certificate are constructed in accordance with the plans filed in the following Departmental records:

NUMBER	TITLE
00292451-P001	Leavings Rural Water Project Site Plan
00292451-P002	Leavings Rural Water Project Plan 6 of 22
00292461-P003	Leavings Rural Water Project Plan 10 of 22
00292451-P004	Leavings Rural Water Project Plan 13 of 22
00292451-P005	Leavings Rural Water Project Plan 18 of 22

  
Kathleen Murphy

Designated Director under the Act

JUL 13 2016

Dated



## **DEFINITIONS**

- 1.0 All definitions from the Act and the Regulations apply except where expressly defined in this licence.
- 1.1 In all parts of this licence:
- (a) "Act" means the Water Act, RSA 2000, c. W-3, as amended;
  - (b) "Application" means the written submissions to the Director in respect of application number 00292451-00-00 and any subsequent applications for amendments of Licence No. 00292451-00-00;
  - (c) "Director" means an employee of the Government of Alberta designated as a Director under the Act;
  - (d) "Point(s) of diversion" means the location(s) where water is diverted from the source of water;
  - (e) "Point of use" means the location(s) in which the diverted water is used by the Licensee for the licensed purpose;
  - (f) "Regulations" means the regulations, as amended, enacted under the authority of the Act.
  - (g) "Rural Community Water Supply" means water used for human consumption, sanitation, fire prevention and watering of animals, gardens, lawns and trees.
  - (g) "Instream Objective" means the water flow in the source of water that remains in the source of water immediately downstream of the point of diversion, during the diversion of water by the licensee.
  - (h) "Water Conservation Objective" means the amount and quality of water necessary for the protection of a natural water body or its aquatic environment including water necessary for the rate of flow or water level requirements.
  - (i) "Water Use Reporting System" means the secure internet website provided by Alberta Environment at <http://www.environment.alberta.ca/1286.html> for submitting measuring and monitoring results electronically to the Director.

## **GENERAL**

- 2.0 The Licensee shall immediately report to the Director by telephone any contravention of the terms and conditions of this licence at 1-780-422-4505.

*KM*

- 2.1 The terms and conditions of this licence are severable. If any term or condition of this licence is held invalid, the application of such term or condition to other circumstances and the remainder of this licence shall not be affected thereby.
- 2.2 The licensee shall maintain an agreement with the Town of Claresholm pertaining to the delivery of potable water to the Leavings Water Co-op Ltd.
- 2.3 The licensee will implement the Water Shortage Response Plan (WSRP) dated July 13, 2016, as amended, when water supply shortages occur.
- 2.5 The licensee will review the WSRP after each implementation of the Plan and provide revisions to the Director for review and approval.
- 2.6 The licensee will implement any revisions to the WSRP approved by the Director.
- 2.4 Within six months after permanently ceasing operation of the works or diversion of the water, the licensee shall submit an application to the Director for the decommissioning of the works.
- 2.4 The licensee shall comply with the terms and conditions of the "Water Use Reporting System User Consent".

### **DIVERSION OF WATER**

- 3.0 This licence is appurtenant to the following undertakings:
  - (a) The diversion works at the actual point of removal from Pine Coulee Reservoir at the point of diversion on the NW 35-013-28-W4 referenced on Plan No. 00261922-P00 (Town of Claresholm Licence File 00436), approved on September 17, 2009;
  - (b) The redirection works located on NW 24-012-27-W4 referenced on Plan No.00300464-P001 (Town of Granum Licence File 00283A), approved on December 12, 2011;
  - (c) The Claresholm-Granum Pipeline referenced on Plan No. 00300464-P002 (Town of Granum Licence File 00283A), approved on December 12, 2011;
  - (d) The redirection works located on road allowance between SW 16 & SE 17-012-26-W4 (Line 1) referenced on Plan No.00292451-P002, approved on July 13, 2016;
  - (e) The redirection works located on road allowance between SW 04 & SE 05-012-26-W4 (Line 2 & 3) referenced on Plan No.00292451-P003, approved on July 13, 2016;
  - (f) The redirection works located on road allowance between SW 28 & SE 29-011-26-W4 (Line 4) referenced on Plan No. 00292451-P004, approved on July 13, 2016;



- (g) The redirection works located on road allowance between SW 16 & SE 17-011-26-W4 (Line 5) referenced on Plan No. 00292451-P004, approved on July 13, 2016;
- (h) The redirection works located on road allowance between SW 04 & SE 05-011-26-W4 (Line 6 & 7) referenced on Plan No. 00292451-P005, approved on July 13, 2016; and
- (i) The points of use within the water distribution network in association with the Leavings Water Co-op Ltd. water supply within the Municipal District of Willow Creek referenced on Plan No. 00292451-P001, approved on July 13, 2016.

- 3.1 The Licensee shall divert water only for the purpose(s) specified in this licence.
- 3.2 The Licensee shall divert water only from the source of water specified in this licence.
- 3.3 The Licensee shall divert water only from the following point of diversion; NW 35-013-28-W4.
- 3.4 The Licensee shall divert the water only to the point(s) of use within the distribution network as described on Plan No 00292451-P001..
- 3.5 The works used to divert the water authorized by this licence shall include, at a minimum, all of the following:
  - (a) the intake structure referred to in the Town of Claresholm licence (File 00436);
  - (b) the redirection structure referred to in the Town of Granum File 00283A;
  - (c) the pipeline referred to in the Town of Granum File 00283A;
  - (d) the redirection structures located on the road allowances for Laterals 1-7 referred to on plans approved July 13, 2016; and
  - (e) the water distribution network for the Leavings Water Co-op Ltd referred to on the plan approved July 13, 2016.
- 3.6 The Licensee shall not divert more than 156, 200 cubic metres of water per year.
- 3.7 The Licensee shall not divert water at a rate of diversion greater than 0.0055 cubic metres per second.
- 3.8 Prior to diverting any water from the source of water, the Licensee shall equip all of the redirection works described in Condition 3.0 with water measuring devices, which measures:
  - (a) cumulatively, the quantity of all water diverted; and
  - (b) the instantaneous rate of diversion

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- 3.9 The Licensee shall maintain each measuring device referred to in 3.8 at all times.
- 3.10 The Licensee shall calibrate each measuring device referred to in 3.8 in accordance with manufacturer's specifications.
- 3.11 The Director may amend this licence to replace the Instream Objectives, convert an Instream Objective to a Water Conservation Objective or change such Water Conservation Objective, upon a minimum of 12 months written notice to the licensee.
- 3.12 The Instream Objectives for Willow Creek are 0.8 cubic metres per second in July and August and 0.4 cubic metres per second for the remainder of the year.
- 3.13 The licensee shall divert the water authorized by this licence only when there is sufficient water flow in the source of water to meet or exceed the Instream Objectives as set out in condition 3.12.
- 3.14 Unless other wise authorized in writing by the Director, the Instream Objectives in condition 3.12 are to be met at immediately downstream of Pine Coulee Reservoir.
- 3.15 The licensee shall ensure that water diverted from Willow Creek is either flow to which the licensee is entitled or stored water from the Pine Coulee Reservoir for the use of this project.
- 3.16 Subject to Condition 3.12, the licensee shall only divert water when the level of Pine Coulee Reservoir is above 1044.00 meters as described in the NRCB Report dated February 1995.

#### **MONITORING AND REPORTING**

- 4.0 Unless otherwise authorized in writing by the Director, the Licensee shall:
- (a) measure the total cumulative volume of water diverted each month using the meters specified in 3.8(a);
  - (b) measure the total cumulative rate of diversion on a continuous basis using the meters specified in 3.8(b);
- 4.1 The Licensee shall record and retain all of the following information for a minimum of 5 years after being collected:
- (a) the place, date and time of all monitoring, measuring and sampling;
  - (b) the results obtained pursuant to 4.0; and
  - (c) the name of the individual who conducted the monitoring, measuring and sampling stipulated in (a) and (b).
- 4.2 The Licensee shall report to the Director the results of the measuring and monitoring required in 4.0 (a) and 4.0 (b) using the "Water Use Reporting System" and any other information required in writing by the Director.

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- 4.3 The Licensee shall submit the report required in 4.2 on or before the end of the month following the month in which the information is based upon was collected.

**COMPLAINT INVESTIGATION**

5.0 The Licensee shall:

- (a) provide to all water users, within a distance specified in writing by the Director from the point of diversion, the contact name(s) and telephone numbers of the licensee or representatives(s);
- (b) investigate all written complaints accepted by the Director relating to allegations of surface water and groundwater interference as a result of the diversion of the water or operation of the works; and
- (c) provide a written report to the Director, within a time specified in writing by the Director, detailing the results of the investigation relating to the complaint accepted by the Director in 5.0(b).

5.1 The Licensee shall satisfy the Director that the report submitted pursuant to 5.0(c) has identified remedial and/or mitigative measures relating to the alleged interference.

DATE SIGNED: \_\_\_\_\_

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DESIGNATED DIRECTOR UNDER THE ACT

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**LICENCE TO DIVERT WATER  
PROVINCE OF ALBERTA  
WATER ACT, R.S.A. 2000, c.W-3, as amended**

This licence is issued to give effect to the transfer of part of the water allocation from Licence No. Dated 1983 08 24 issued to J. Douglas Leeds to Licence No. 00295699-00-00

LICENCE NO.: 00295699-00-00

FILE NO.: 00295699

PRIORITY NO.: 1982-02-22-015

EFFECTIVE DATE: AUG 23 2011

EXPIRY DATE: August 22, 2036

SOURCE OF WATER: Willow Creek

POINT OF DIVERSION: NW 35-013-28-W4 through the works of the Town of Claresholm  
rediverted at SW & SE 06-013-27-W4


POINT(S) OF USE: SW & SE 06-013-27-W4

LICENSEE: Doug & Irene Leeds

Pursuant to Division 2, of Part 4, of the Water Act, R.S.A. 2000, c. W-3, as amended and the Bow, Oldman and South Saskatchewan River Basin Water Allocation Order OC 356/2007, a licence is issued to the Licensee to:

operate a works and to divert up to 1,234.56 cubic metres (1.0 acre-feet) of water annually at a maximum rate of diversion of 0.001 cubic metres per second from the source of water for the purpose of stockwatering.

subject to the attached terms and conditions.

Designated Director under the Act:   
Robert Burland, P. Biol.

Date Signed: AUG 23 2011

## **DEFINITIONS**

- 1.0 All definitions from the Act and the Regulations apply except where expressly defined in this licence.
- 1.1 In all parts of this licence:
- (a) "Act" means the Water Act, RSA 2000, c. W-3, as amended;
  - (b) "Application" means the written submissions to the Director in respect of application number 00295699-00-00;
  - (c) "Director" means an employee of the Government of Alberta designated as a Director under the Act;
  - (d) "Point(s) of diversion" means the location(s) where water is diverted from the source of water;
  - (e) "Point of use" means the location(s) in which the diverted water is used by the Licensee for the licenced purpose;
  - (f) "Regulations" means the regulations, as amended, enacted under the authority of the Act.
  - (g) "Instream Objective" means the water flow in the source of water that remains in the source of water immediately downstream of the point of diversion, during the diversion of water by the licensee.
  - (h) "Water Conservation Objective" means the amount and quality of water necessary for the protection of a natural water body or its aquatic environment including water necessary for the rate of flow or water level requirements.

## **GENERAL**

- 2.0 The Licensee shall immediately report to the Director by telephone any contravention of the terms and conditions of this licence at 1-780-422-4505.
- 2.1 The terms and conditions of this licence are severable. If any term or condition of this licence is held invalid, the application of such term or condition to other circumstances and the remainder of this licence shall not be affected thereby.
- 2.2 The Licensee shall not deposit or cause to be deposited any substance in, on or around the source of water that has or may have the potential to adversely affect the source of water.
- 2.3 Within six months after permanently ceasing operation of the works or diversion of the water, the licensee shall submit an application to the Director for the decommissioning of the works.



- 2.4 This licence is subject to any operating plan(s) attached to the Licence issued to her Majesty as represented by the Minister of Environment for the Pine Coulee Dam Reservoir.
- 2.5 The licensee shall maintain an agreement with the Town of Claresholm pertaining to the delivery of raw water to the points of rediversion.
- 2.6 The licensee will implement the Water Shortage Response Plan (WSRP) dated April 28, 2011, as amended, when water supply shortages occur.
- 2.7 The licensee will review the WSRP after each implementation of the Plan and provide revisions to the Director for review and approval.
- 2.8 The licensee will implement any revisions to the WSRP approved by the Director.

### **DIVERSION OF WATER**

- 3.0 This licence is appurtenant to the following lands:
  - (a) the point of diversion described as the actual point of removal from Willow Creek on Pine Coulee Reservoir at NW 35-013-28-W4 as referenced on Plan No. 00266734-P001 (Town of Claresholm)
  - (b) the point(s) of rediversion on SW & SE 06-013-27-W4 as referenced on Plan No.00295699-P001 and 00295699-P002; and
  - (c) the point of use on SW & SE 06-013-27-W4 as referenced on Plan No. 00295699-P003.
- 3.1 The Licensee shall divert water only for the purpose(s) specified in this licence.
- 3.2 The Licensee shall divert water only from the source of water specified in this licence.
- 3.3 The Licensee shall divert water only from the following point(s) of diversion:
  - (a) NW 35-013-28-W4.
- 3.4 The works used to divert the water authorized by this licence shall include, at a minimum, all of the following:
  - (a) the water delivery and distribution system referred to in the plan number 00295699-P003 approved on August 23,2011 and;
  - (b) a screen on the pump intake with:
    - (i) openings no larger than 2.54 millimetres;
- 3.5 The licensee shall cause any water entering a pump to first pass through the screen required in 3.4(b).



- 3.6 The Licensee shall not divert more than 1234.56 cubic metres of water per year.
- 3.7 The Licensee shall not divert water at a rate of diversion greater than 0.001 cubic metres per second.
- 3.8 Prior to diverting any water from the source of water, the Licensee shall equip the point(s) of redirection at SW & SE 06-013-27-W4 with measuring device(s), which measure:
- (a) cumulatively, the quantity of all water diverted; and
  - (b) the instantaneous rate of diversion.
- 3.9 The Licensee shall maintain each measuring device referred to in 3.8 at all times.
- 3.10 The Licensee shall calibrate each measuring device referred to in 3.8 in accordance with manufacturer's specifications.
- 3.11 The Director may, upon a minimum of 12 months written notice to the licensee, amend this licence to change the Instream Objectives, convert an Instream Objective to a Water Conservation Objective or change such Water Conservation Objective.
- 3.12 The Instream Objectives are 0.8 cubic metres per second in July and August and 0.4 cubic metres per second for the remainder of the year.
- 3.13 The licensee shall divert the water authorized by this licence only when there is sufficient water flow in the source of water to meet or exceed the Instream Objectives set out in 3.12.
- 3.14 Unless otherwise authorized in writing by the Director, the Instream Objectives in 3.12 is to be met at the specified point of diversion.

#### **MONITORING AND REPORTING**

- 4.0 Unless otherwise authorized in writing by the Director, the Licensee shall:
- (a) measure the total volume of water diverted each month using the measuring device specified in 3.8(a); and
  - (b) measure the rate of diversion on a continuous basis using the measuring device specified in 3.8(b).
- 4.1 The Licensee shall record and retain all of the following information for a minimum of 5 years after being collected:
- (a) the place, date and time of all monitoring, measuring and sampling;
  - (b) the results obtained pursuant to 4.0; and

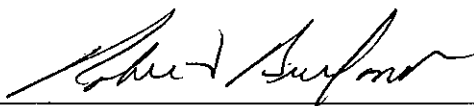


- (c) the name of the individual who conducted the monitoring, measuring and sampling stipulated in (a) and (b).
- 4.2 The licensee shall compile an Annual Water Use Report on or before February 28<sup>th</sup> of each year following the year in which the information on which the report is based was collected.
- 4.3 The licensee shall retain each Annual Water Use Report for a minimum of 5 years.
- 4.4 The Licensee shall submit an Annual Water Use Report to the Director:
- (a) on or before February 28<sup>th</sup> of each year following the year in which the information on which the report is based was collected; or
- (b) within a time period specified in writing by the Director.
- 4.5 The Annual Water Use Report shall include, at a minimum, the following information collected during the previous year:
- (a) the total annual number of cubic metres of water diverted from the source of water;
- (b) the results obtained pursuant to 4.0; and
- (c) any other information required in writing by the Director.

#### **COMPLAINT INVESTIGATION**

- 5.0 The Licensee shall:
- (a) provide to all water users, within a distance specified in writing by the Director from the point of diversion, the contact name(s) and telephone numbers of the licensee or representative(s);
- (b) investigate all written complaints accepted by the Director relating to allegations of surface water and groundwater interference as a result of the diversion of the water or operation of the works; and
- (c) provide a written report to the Director, within a time specified in writing by the Director, detailing the results of the investigation relating to the complaint accepted by the Director in 5.0(b).
- 5.1 The Licensee shall satisfy the Director that the report submitted pursuant to 5.0(c) has identified remedial and/or mitigative measures relating to the alleged interference.

DATE SIGNED:           AUG 23 2011          

  
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DESIGNATED DIRECTOR UNDER THE ACT  
Robert Burland, P. Biol.



**LICENCE TO DIVERT WATER  
PROVINCE OF ALBERTA  
WATER ACT, R.S.A. 2000, c.W-3, as amended**

This licence is issued to give effect to the transfer of part of the water allocation from Licence No. Dated 1983 08 24 issued to J. Douglas Leeds to Licence No. 00295701-00-00

LICENCE NO.: 00295701-00-00

FILE NO.: 00295701

PRIORITY NO.: 1982-02-22-015

EFFECTIVE DATE: AUG 23 2011

EXPIRY DATE: August 22, 2031

SOURCE OF WATER: Willow Creek

POINT OF DIVERSION: NW 35-013-28-W4 through the works of the Town of Claresholm  
rediverted at SE 13 & SE 24-013-28-W4

POINT(S) OF USE: NE 13 & NE 24-013-28-W4

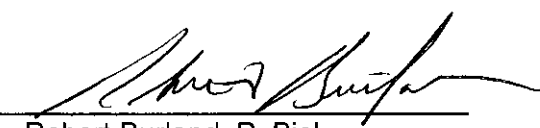
LICENSEE: Scott Maurushat

Pursuant to Division 2, of Part 4, of the Water Act, R.S.A. 2000, c. W-3, as amended and the Bow, Oldman and South Saskatchewan River Basin Water Allocation Order OC 356/2007, a licence is issued to the Licensee to:

operate a works and to divert up to 1,234.56 cubic metres (1.0 acre-feet) of water annually at a maximum rate of diversion of 0.001 cubic metres per second from the source of water for the purpose of stockwatering.

subject to the attached terms and conditions.

Designated Director under the Act:

  
Robert Burland, P. Biol.

Date Signed: AUG 23 2011

## **DEFINITIONS**

- 1.0 All definitions from the Act and the Regulations apply except where expressly defined in this licence.
- 1.1 In all parts of this licence:
- (a) "Act" means the Water Act, RSA 2000, c. W-3, as amended;
  - (b) "Application" means the written submissions to the Director in respect of application number 00295701-00-00;
  - (c) "Director" means an employee of the Government of Alberta designated as a Director under the Act;
  - (d) "Point(s) of diversion" means the location(s) where water is diverted from the source of water;
  - (e) "Point of use" means the location(s) in which the diverted water is used by the Licensee for the licenced purpose;
  - (f) "Regulations" means the regulations, as amended, enacted under the authority of the Act.
  - (g) "Instream Objective" means the water flow in the source of water that remains in the source of water immediately downstream of the point of diversion, during the diversion of water by the licensee.
  - (h) "Water Conservation Objective" means the amount and quality of water necessary for the protection of a natural water body or its aquatic environment including water necessary for the rate of flow or water level requirements.

## **GENERAL**

- 2.0 The Licensee shall immediately report to the Director by telephone any contravention of the terms and conditions of this licence at 1-780-422-4505.
- 2.1 The terms and conditions of this licence are severable. If any term or condition of this licence is held invalid, the application of such term or condition to other circumstances and the remainder of this licence shall not be affected thereby.
- 2.2 The Licensee shall not deposit or cause to be deposited any substance in, on or around the source of water that has or may have the potential to adversely affect the source of water.
- 2.3 Within six months after permanently ceasing operation of the works or diversion of the water, the licensee shall submit an application to the Director for the decommissioning of the works.

- 2.4 This licence is subject to any operating plan(s) attached to the Licence issued to her Majesty as represented by the Minister of Environment for the Pine Coulee Dam Reservoir.
- 2.5 The licensee shall maintain an agreement with the Town of Claresholm pertaining to the delivery of raw water to the points of redirection.
- 2.6 The licensee will implement the Water Shortage Response Plan (WSRP) described on Plan No 00295701-P003, as amended, when water supply shortages occur.
- 2.7 The licensee will review the WSRP after each implementation of the Plan and provide revisions to the Director for review and approval.
- 2.8 The licensee will implement any revisions to the WSRP approved by the Director.

### **DIVERSION OF WATER**

- 3.0 This licence is appurtenant to the following lands:
  - (a) the point of diversion described as the actual point of removal from Willow Creek on Pine Coulee Reservoir at NW 35-013-28-W4 as referenced on Plan No. 00266734-P001 (Town of Claresholm)
  - (b) the point(s) of redirection on SE 13 & SE 24-013-28-W4 as referenced on Plan No.00295701-P001 and 00295701-P002; and
  - (c) the point(s) of use on NE 13 & NE 24-013-28-W4 as referenced on Plan No. 00295701-P003.
- 3.1 The Licensee shall divert water only for the purpose(s) specified in this licence.
- 3.2 The Licensee shall divert water only from the source of water specified in this licence.
- 3.3 The Licensee shall divert water only from the following point(s) of diversion:
  - (a) NW 35-013-28-W4.
- 3.4 The works used to divert the water authorized by this licence shall include, at a minimum, all of the following:
  - (a) the water delivery and distribution system referred to in the plan number 00295701-P003 approved on August 23, 2011 and;
  - (b) a screen on the pump intake with:
    - (i) openings no larger than 2.54 millimetres;
- 3.5 The licensee shall cause any water entering a pump to first pass through the screen required in 3.4(b).



- 3.6 The Licensee shall not divert more than 1234.56 cubic metres of water per year.
- 3.7 The Licensee shall not divert water at a rate of diversion greater than 0.001 cubic metres per second.
- 3.8 Prior to diverting any water from the source of water, the Licensee shall equip the point(s) of redirection at SE 13 & SE 24-013-28-W4 with measuring device(s), which measure:
- (a) cumulatively, the quantity of all water diverted; and
  - (b) the instantaneous rate of diversion.
- 3.9 The Licensee shall maintain each measuring device referred to in 3.8 at all times.
- 3.10 The Licensee shall calibrate each measuring device referred to in 3.8 in accordance with manufacturer's specifications.
- 3.11 The Director may, upon a minimum of 12 months written notice to the licensee, amend this licence to change the Instream Objectives, convert an Instream Objective to a Water Conservation Objective or change such Water Conservation Objective.
- 3.12 The Instream Objectives are 0.8 cubic metres per second in July and August and 0.4 cubic metres per second for the remainder of the year.
- 3.13 The licensee shall divert the water authorized by this licence only when there is sufficient water flow in the source of water to meet or exceed the Instream Objectives set out in 3.12.
- 3.14 Unless otherwise authorized in writing by the Director, the Instream Objectives in 3.12 is to be met at the specified point of diversion.

#### **MONITORING AND REPORTING**

- 4.0 Unless otherwise authorized in writing by the Director, the Licensee shall:
- (a) measure the total volume of water diverted each month using the measuring device specified in 3.8(a); and
  - (b) measure the rate of diversion on a continuous basis using the measuring device specified in 3.8(b).
- 4.1 The Licensee shall record and retain all of the following information for a minimum of 5 years after being collected:
- (a) the place, date and time of all monitoring, measuring and sampling;
  - (b) the results obtained pursuant to 4.0; and

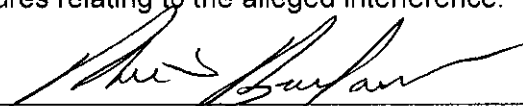


- (c) the name of the individual who conducted the monitoring, measuring and sampling stipulated in (a) and (b).
- 4.2 The licensee shall compile an Annual Water Use Report on or before February 28<sup>th</sup> of each year following the year in which the information on which the report is based was collected.
- 4.3 The licensee shall retain each Annual Water Use Report for a minimum of 5 years.
- 4.4 The Licensee shall submit an Annual Water Use Report to the Director:
  - (a) on or before February 28<sup>th</sup> of each year following the year in which the information on which the report is based was collected; or
  - (b) within a time period specified in writing by the Director.
- 4.5 The Annual Water Use Report shall include, at a minimum, the following information collected during the previous year:
  - (a) the total annual number of cubic metres of water diverted from the source of water;
  - (b) the results obtained pursuant to 4.0; and
  - (c) any other information required in writing by the Director.

**COMPLAINT INVESTIGATION**

- 5.0 The Licensee shall:
  - (a) provide to all water users, within a distance specified in writing by the Director from the point of diversion, the contact name(s) and telephone numbers of the licensee or representative(s);
  - (b) investigate all written complaints accepted by the Director relating to allegations of surface water and groundwater interference as a result of the diversion of the water or operation of the works; and
  - (c) provide a written report to the Director, within a time specified in writing by the Director, detailing the results of the investigation relating to the complaint accepted by the Director in 5.0(b).
- 5.1 The Licensee shall satisfy the Director that the report submitted pursuant to 5.0(c) has identified remedial and/or mitigative measures relating to the alleged interference.

DATE SIGNED:           AUG 23 2011          

  
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DESIGNATED DIRECTOR UNDER THE ACT  
Robert Burland, P. Biol.

**LICENCE TO DIVERT WATER  
PROVINCE OF ALBERTA  
WATER ACT, R.S.A. 2000, c.W-3, as amended**

This licence is issued to give effect to the transfer of part of the water allocation from Licence No. Dated 1987 01 19 issued to Morkin Farms Ltd to Licence No. 00310878-00-00

LICENCE NO.: 00310878-00-00

FILE NO.: 00310878

PRIORITY NO.: 1979-10-01-001

EFFECTIVE DATE: JUN 01 2012

EXPIRY DATE: May 31, 2037

SOURCE OF WATER: Willow Creek

POINT OF DIVERSION: NW 35-013-28-W4 through the works of the Town of Claresholm  
rediverted at SE 28-012-27-W4

POINT(S) OF USE: NE 20 & SW 28-012-27-W4

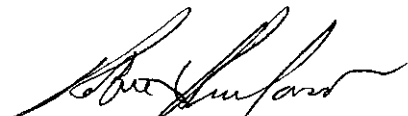
LICENSEE: Morkin Farms Ltd.

Pursuant to Division 2, of Part 4, of the Water Act, R.S.A. 2000, c. W-3, as amended and the Bow, Oldman and South Saskatchewan River Basin Water Allocation Order OC 356/2007, a licence is issued to the Licensee to:

operate a works and to divert up to 4074 cubic metres (3.3 acre-feet) of water annually at a maximum rate of diversion of 0.001 cubic metres per second from the source of water for the purpose of stockwatering.

subject to the attached terms and conditions.

Designated Director under the Act:

  
Robert Burland, P. Biol.

Date Signed: JUN 01 2012

## **DEFINITIONS**

- 1.0 All definitions from the Act and the Regulations apply except where expressly defined in this licence.
- 1.1 In all parts of this licence:
- (a) "Act" means the Water Act, RSA 2000, c. W-3, as amended;
  - (b) "Application" means the written submissions to the Director in respect of application number 00310878-00-00;
  - (c) "Director" means an employee of the Government of Alberta designated as a Director under the Act;
  - (d) "Point(s) of diversion" means the location(s) where water is diverted from the source of water;
  - (e) "Point of use" means the location(s) in which the diverted water is used by the Licensee for the licenced purpose;
  - (f) "Regulations" means the regulations, as amended, enacted under the authority of the Act.
  - (g) "Instream Objective" means the water flow in the source of water that remains in the source of water immediately downstream of the point of diversion, during the diversion of water by the licensee.
  - (h) "Water Conservation Objective" means the amount and quality of water necessary for the protection of a natural water body or its aquatic environment including water necessary for the rate of flow or water level requirements.

## **GENERAL**

- 2.0 The Licensee shall immediately report to the Director by telephone any contravention of the terms and conditions of this licence at 1-780-422-4505.
- 2.1 The terms and conditions of this licence are severable. If any term or condition of this licence is held invalid, the application of such term or condition to other circumstances and the remainder of this licence shall not be affected thereby.
- 2.2 The Licensee shall not deposit or cause to be deposited any substance in, on or around the source of water that has or may have the potential to adversely affect the source of water.
- 2.3 Within six months after permanently ceasing operation of the works or diversion of the water, the licensee shall submit an application to the Director for the decommissioning of the works.



- 2.4 This licence is subject to any operating plan(s) attached to the Licence issued to her Majesty as represented by the Minister of Environment for the Pine Coulee Dam Reservoir.
- 2.5 The licensee shall maintain an agreement with the Town of Claresholm pertaining to the delivery of raw water to the point of redirection.
- 2.6 The licensee will implement the Water Shortage Response Plan (WSRP) dated June 1, 2012, as amended and attached to this licence, when water supply shortages occur.
- 2.7 The licensee will review the WSRP after each implementation of the Plan and provide revisions to the Director for review and approval.
- 2.8 The licensee will implement any revisions to the WSRP approved by the Director.

**DIVERSION OF WATER**

- 3.0 This licence is appurtenant to the following lands:
  - (a) the point of diversion described as the actual point of removal from Willow Creek on Pine Coulee Reservoir at NW 35-013-28-W4 as referenced on Plan No. 00266734-P001 (Town of Claresholm)
  - (b) the point of redirection on SE 28-012-27-W4 as referenced on Plan No. 00310878-P001 approved on June 1, 2012; and
  - (c) the point(s) of use on NE 20 & SW 28-012-27-W4 as referenced on Plan No. 00310878-P001, approved on June 1, 2012.
- 3.1 The Licensee shall divert water only for the purpose(s) specified in this licence.
- 3.2 The Licensee shall divert water only from the source of water specified in this licence.
- 3.3 The Licensee shall divert water only from the following point(s) of diversion:
  - (a) NW 35-013-28-W4.
- 3.4 The works used to divert the water authorized by this licence shall include, at a minimum, all of the following:
  - (a) the water delivery and distribution system referred to in the plan number 00310878-P001 approved on June 1, 2012 and;
  - (b) a screen on the pump intake with:
    - (i) openings no larger than 2.54 millimetres;
- 3.5 The licensee shall cause any water entering a pump to first pass through the screen required in 3.4(b).





- 3.6 The Licensee shall not divert more than 4074 cubic metres of water per year.
- 3.7 The Licensee shall not divert water at a rate of diversion greater than 0.001 cubic metres per second.
- 3.8 Prior to diverting any water from the source of water, the Licensee shall equip the point of redirection at SE 28-012-27-W4 with a measuring device, which measures:
  - (a) cumulatively, the quantity of all water diverted; and
  - (b) the instantaneous rate of diversion.
- 3.9 The Licensee shall maintain each measuring device referred to in 3.8 at all times.
- 3.10 The Licensee shall calibrate each measuring device referred to in 3.8 in accordance with manufacturer's specifications.
- 3.11 The Director may, upon a minimum of 12 months written notice to the licensee, amend this licence to change the Instream Objectives, convert an Instream Objective to a Water Conservation Objective or change such Water Conservation Objective.
- 3.12 The Instream Objectives are 0.8 cubic metres per second in July and August and 0.4 cubic metres per second for the remainder of the year.
- 3.13 The licensee shall divert the water authorized by this licence only when there is sufficient water flow in the source of water to meet or exceed the Instream Objectives set out in 3.12.
- 3.14 Unless otherwise authorized in writing by the Director, the Instream Objectives in 3.12 is to be met at the specified point of diversion.
- 3.15 The Licensee shall divert the water only to the points of use specified in this licence.

#### **MONITORING AND REPORTING**

- 4.0 Unless otherwise authorized in writing by the Director, the Licensee shall:
  - (a) measure the total volume of water diverted each month using the measuring device specified in 3.8(a); and
  - (b) measure the rate of diversion on a continuous basis using the measuring device specified in 3.8(b).
- 4.1 The Licensee shall record and retain all of the following information for a minimum of 5 years after being collected:
  - (a) the place, date and time of all monitoring, measuring and sampling;
  - (b) the results obtained pursuant to 4.0; and

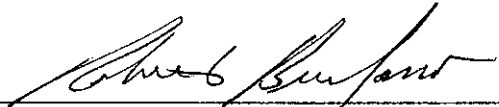


- (c) the name of the individual who conducted the monitoring, measuring and sampling stipulated in (a) and (b).
- 4.2 The licensee shall compile an Annual Water Use Report on or before February 28<sup>th</sup> of each year following the year in which the information on which the report is based was collected.
- 4.3 The licensee shall retain each Annual Water Use Report for a minimum of 5 years.
- 4.4 The Licensee shall submit an Annual Water Use Report to the Director:
- (a) on or before February 28<sup>th</sup> of each year following the year in which the information on which the report is based was collected; or
- (b) within a time period specified in writing by the Director.
- 4.5 The Annual Water Use Report shall include, at a minimum, the following information collected during the previous year:
- (a) the total annual number of cubic metres of water diverted from the source of water;
- (b) the results obtained pursuant to 4.0; and
- (c) any other information required in writing by the Director.

**COMPLAINT INVESTIGATION**

- 5.0 The Licensee shall:
- (a) provide to all water users, within a distance specified in writing by the Director from the point of diversion, the contact name(s) and telephone numbers of the licensee or representative(s);
- (b) investigate all written complaints accepted by the Director relating to allegations of surface water and groundwater interference as a result of the diversion of the water or operation of the works; and
- (c) provide a written report to the Director, within a time specified in writing by the Director, detailing the results of the investigation relating to the complaint accepted by the Director in 5.0(b).
- 5.1 The Licensee shall satisfy the Director that the report submitted pursuant to 5.0(c) has identified remedial and/or mitigative measures relating to the alleged interference.

DATE SIGNED:                     JUN 01 2012                    

  
\_\_\_\_\_  
DESIGNATED DIRECTOR UNDER THE ACT  
Robert Burland, P. Biol.

LICENCE TO DIVERT WATER
PROVINCE OF ALBERTA
WATER ACT, R.S.A. 2000, c.W-3, as amended

LICENCE NO.: 00359529-00-00

FILE NO.: 00359529

PRIORITY NO.: 2016-02-18-003

EFFECTIVE DATE: JUL 13 2016

EXPIRY DATE: July 12, 2041

SOURCE OF WATER: Willow Creek through the works of Alberta Environment and Parks (Pine Coulee Reservoir)

POINT OF DIVERSION: NW 35-013-28-W4 through the works of Town of Claresholm (Licence File 00436)

POINT OF USE: Pipeline Water Co-op Ltd. within the Municipal District of Willow Creek

LICENSEE: Municipal District of Willow Creek

Pursuant to Division 2, of Part 4, of the Water Act, R.S.A. 2000, c. W-3, as amended and the Bow, Oldman and South Saskatchewan River Basin Water Allocation Order OC 356/2007, a licence is issued to the Licensee to:

operate a works and to divert up to 10,000 cubic metres of water annually at a maximum rate of diversion of 0.0034 cubic metres per second from the source of water for the purpose of municipal (rural community water).

subject to the attached terms and conditions.

Designated Director under the Act: Kathleen Murphy, P. Eng.

Date Signed: JUL 13 2016

**DEFINITIONS**

- 1.0 All definitions from the Act and the Regulations apply except where expressly defined in this licence.
- 1.1 In all parts of this licence:
- (a) "Act" means the Water Act, RSA 2000, c. W-3, as amended;
  - (b) "Application" means the written submissions to the Director in respect of application number 00359529-00-00 and any subsequent applications for amendments of Licence No. 00359529-00-00;
  - (c) "Director" means an employee of the Government of Alberta designated as a Director under the Act;
  - (d) "Point(s) of diversion" means the location(s) where water is diverted from the source of water;
  - (e) "Point of use" means the location(s) in which the diverted water is used by the Licensee for the licensed purpose;
  - (f) "Regulations" means the regulations, as amended, enacted under the authority of the Act.
  - (g) "Rural Community Water Supply" means water used for human consumption, sanitation, fire prevention and watering of animals, gardens, lawns and trees.
  - (h) "Instream Objective" means the water flow in the source of water that remains in the source of water immediately downstream of the point of diversion, during the diversion of water by the licensee.
  - (i) "Water Conservation Objective" means the amount and quality of water necessary for the protection of a natural water body or its aquatic environment including water necessary for the rate of flow or water level requirements.
  - (j) "Water Use Reporting System" means the secure internet website provided by Alberta Environment at <http://www.environment.alberta.ca/1286.html> for submitting measuring and monitoring results electronically to the Director.

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**GENERAL**

- 2.0 The Licensee shall immediately report to the Director by telephone any contravention of the terms and conditions of this licence at 1-780-422-4505.
- 2.1 The terms and conditions of this licence are severable. If any term or condition of this licence is held invalid, the application of such term or condition to other circumstances and the remainder of this licence shall not be affected thereby.
- 2.2 The licensee shall maintain an agreement with the Town of Claresholm pertaining to the delivery of potable water to the Pipeline Water Co-op Ltd.
- 2.3 The licensee will implement the Water Shortage Response Plan (WSRP) dated July 13, 2016, as amended, when water supply shortages occur.
- 2.5 The licensee will review the WSRP after each implementation of the Plan and provide revisions to the Director for review and approval.
- 2.6 The licensee will implement any revisions to the WSRP approved by the Director.
- 2.4 Within six months after permanently ceasing operation of the works or diversion of the water, the licensee shall submit an application to the Director for the decommissioning of the works.
- 2.4 The licensee shall comply with the terms and conditions of the "Water Use Reporting System User Consent".

**DIVERSION OF WATER**

- 3.0 This licence is appurtenant to the following undertakings:
- (a) The diversion works at the actual point of removal from Pine Coulee Reservoir at the point of diversion on the NW 35-013-28-W4 referenced on Plan No. 00261922-P002 (Town of Claresholm Licence File 00436);
  - (b) The redirection works located on SW 23-012-27-W4 referenced on Plan No. 00307585-P001 (Town of Claresholm Existing Water Treatment Plant) approved on July 13, 2016;
  - (c) The pipeline referenced on Plan No. 00307585-P001 (Town of Claresholm Pipeline) approved on July 13, 2016;
  - (d) The meter vault on SW 28-012-27-W4 referenced on Plan No. 00307585-P002 approved July 13, 2016;
  - (e) The pipeline referenced on Plan Nos. 00359529-P001 and 00359529-P002, approved on July 13, 2016; and

*KM*

(f) The points of use within the water distribution network in association with the Pipeline Water Co-op Ltd. water supply within the Municipal District of Willow Creek referenced on Plan Nos. 00359529-P001 and 00359529-P002, approved on July 13, 2016

- 3.1 The Licensee shall divert water only for the purpose(s) specified in this licence.
- 3.2 The Licensee shall divert water only from the source of water specified in this licence.
- 3.3 The Licensee shall divert water only from the following point of diversion; NW 35-013-28-W4.
- 3.4 The Licensee shall divert the water only to the point(s) of use within the distribution network of the Pipeline Water Co-op Ltd. as described on Plan Nos. 00359529-P001 and 00359529-P002.
- 3.5 The works used to divert the water authorized by this licence shall include, at a minimum, all of the following:
  - (a) the intake structure referred to in the Town of Claresholm licence (File 00436);
  - (b) the redirection structure at the Town of Claresholm Water Treatment Plant;
  - (c) the pipeline referred to on Plan No 00307585-P001, approved on July 13, 2016
  - (d) the water vault and metering devices located at SW 28-012-27-W4 referred to on Plan N0 00307585-P002 approved July 13, 2016,
  - (e) The pipeline referenced on Plan Nos. 00359529-P001 and 00359529-P002, approved on July 13, 2016; and
  - (f) the water distribution network for the Pipeline Water Co-op Ltd. referred to on Plan Nos. 00359529-P001 and 00359529-P002, approved on July 13, 2016.
- 3.6 The Licensee shall not divert more than 10,000 cubic metres of water per year.
- 3.7 The Licensee shall not divert water at a rate of diversion greater than 0.0034 cubic metres per second.
- 3.8 Prior to diverting any water from the source of water, the Licensee shall equip the meter vault location at SW 28-012-27-W4, which measures:
  - (a) cumulatively, the quantity of all water diverted; and
  - (b) the instantaneous rate of diversion
- 3.9 The Licensee shall maintain each measuring device referred to in 3.8 at all times.
- 3.10 The Licensee shall calibrate each measuring device referred to in 3.8 in accordance with manufacturer's specifications.

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- 3.11 The Director may amend this licence to replace the Instream Objectives, convert an Instream Objective to a Water Conservation Objective or change such Water Conservation Objective, upon a minimum of 12 months written notice to the licensee.
- 3.12 The Instream Objectives for Willow Creek are 0.8 cubic metres per second in July and August and 0.4 cubic metres per second for the remainder of the year.
- 3.13 The licensee shall divert the water authorized by this licence only when there is sufficient water flow in the source of water to meet or exceed the Instream Objectives as set out in condition 3.12.
- 3.14 Unless otherwise authorized in writing by the Director, the Instream Objectives in condition 3.12 are to be met at immediately downstream of Pine Coulee Reservoir.
- 3.15 The licensee shall ensure that water diverted from Willow Creek is either flow to which the licensee is entitled or stored water from the Pine Coulee Reservoir for the use of this project.
- 3.16 Subject to Condition 3.12, the licensee shall only divert water when the level of Pine Coulee Reservoir is above 1044.00 meters as described in the NRCB Report dated February 1995.

#### **MONITORING AND REPORTING**

- 4.0 Unless otherwise authorized in writing by the Director, the Licensee shall:
  - (a) measure the total volume of water diverted each month using the meters specified in 3.8(a);
  - (b) measure the rate of diversion on a continuous basis using the meters specified in 3.8(b);
- 4.1 The Licensee shall record and retain all of the following information for a minimum of 5 years after being collected:
  - (a) the place, date and time of all monitoring, measuring and sampling;
  - (b) the results obtained pursuant to 4.0; and
  - (c) the name of the individual who conducted the monitoring, measuring and sampling stipulated in (a) and (b).
- 4.2 The Licensee shall report to the Director the results of the measuring and monitoring required in 4.0 (a) and 4.0 (b) using the "Water Use Reporting System" and any other information required in writing by the Director.
- 4.3 The Licensee shall submit the report required in 4.2 on or before the end of the month following the month in which the information is based upon was collected.

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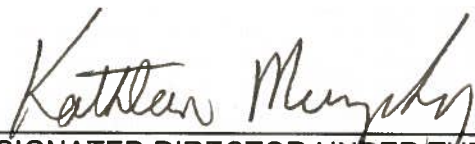
**COMPLAINT INVESTIGATION**

5.0 The Licensee shall:

- (a) provide to all water users, within a distance specified in writing by the Director from the point of diversion, the contact name(s) and telephone numbers of the licensee or representatives(s);
- (b) investigate all written complaints accepted by the Director relating to allegations of surface water and groundwater interference as a result of the diversion of the water or operation of the works; and
- (c) provide a written report to the Director, within a time specified in writing by the Director, detailing the results of the investigation relating to the complaint accepted by the Director in 5.0(b).

5.1 The Licensee shall satisfy the Director that the report submitted pursuant to 5.0(c) has identified remedial and/or mitigative measures relating to the alleged interference.

DATE SIGNED: JUL 13 2016

  
\_\_\_\_\_  
DESIGNATED DIRECTOR UNDER THE ACT  
Kathleen Murphy, P. Eng.



# ***APPENDIX B:***

## ***NORMAL OPERATION PLAN – PINE COULEE PROJECT***

# Normal Operation Plan Pine Coulee Project

February, 2020

## Purpose of the Project

The purpose of the Pine Coulee Project is *to divert and impound water for water management, water supply (including irrigation and municipal), flow regulation, conservation and recreation.*

The primary consumptive users of the water impounded by the project are private irrigators who divert water from Willow Creek downstream of the Pine Coulee Project. The operation of this structure provides:

- increased security of supply for municipal and domestic water users;
- a secure water supply for downstream livestock and irrigation water users;
- water-based recreational opportunities near existing facilities at Willow Creek Provincial Park;
- Flows for meeting instream flow needs downstream of the reservoir.

## Location of the Project

The Pine Coulee Project consists of a dam and reservoir on Pine Creek, diversion works on Willow Creek, and a canal linking the diversion works to the reservoir.

The dam is located on Pine Creek, 10 kilometres west of Stavely in southwestern Alberta, specifically section 32-33-34-35-of 13-28 W4

The diversion is located on Willow Creek, 3 kilometres west of the dam.

## Description of the Works

The principal project structures include:

- An earthfill dam on Pine Creek with a maximum height of 22 m above original valley bottom level and a crest length of 470 m.
- An earthfill saddle dyke joining on the left abutment of the main dam with a maximum height of 14 m and a crest length of 3 km.
- An earthfill diversion embankment on Willow Creek with a maximum height of 12 m and crest length of 250 m.

- An overflow concrete weir located in the diversion embankment on Willow Creek with a width of 48 m.
- A concrete sluiceway structure located adjacent to the diversion embankment with 3 m wide channel and radial control gate.
- A concrete headgate structure with three 1.8 m square slide gates located at the upstream end of the diversion canal adjacent to the diversion facilities on Willow Creek.
- A diversion canal with base width of 7 m, side slopes of 3H: 1V and a total length of 3.2 km.
- A canal fish screen structure in the diversion canal.
- A low level outlet structure consisting of a drop inlet includes fish screens, a 1220 mm precast concrete inlet pipe coupled to an overflow gate well housing two 1220 mm slide gates, a 600 mm slide gate, and a 1220 mm precast concrete outlet pipe .
- A water supply outlet facility for the Town of Claresholm, including an intake and gatewell structure and a connecting 900 mm diameter precast concrete pipe. Fish screens are provided on the intake structure and two 915 mm square slide gates are provided in the gatewell.
- A raised causeway embankment and 65 m long two span bridge at the Highway 527 crossing on the reservoir. The earthfill embankment has a maximum height of approximately 18 m and the highway surface is paved with asphalt concrete for a length of approximately 700 m across the valley.
- A causeway embankment at the Fireguard Road crossing on the reservoir which has a maximum height of 6 m and includes a concrete drop inlet structure with 300 mm square slide gate and CSP inlet and a 1600 mm diameter CSP outlet pipe.
- An Aquifer pumping system consisting of 3 production wells complete with pumps, control building, supervisory controls and a 1500 M pipeline to return water to the reservoir
- A 4" aquifer pump located on the saddle dyke

Ancillary project components include:

- SCADA system that includes water level transmitters, gate actuators, control buildings, fiber optic communication lines between diversion and reservoir outlets and a radio tower.
- Two instrumentation gauge houses.
- Pike spawning area.
- Access and site roads.

The project site plan is shown on Figure 1

The project fact sheet listed as Table 1-1 provides a quick reference for the various components.

### ***Diversion Works***

The diversion works consist of a diversion embankment, a weir, a riparian pipe, a sluiceway and the canal headgates.

The ***diversion embankment*** is 260 metres long and has a crest elevation of 1056.50 metres.

The ***weir*** has a crest elevation of 1053.25 metres. It is 48.00 metres wide. Its purpose is to pass high flows during the spring and early summer when diversion operations are in progress, and all creek flow during mid and late summer when diversion operations have ceased.

The ***riparian pipe*** is intended for the passage of low to moderate flows to satisfy instream flow needs downstream of the diversion works. The pipe is 0.762 metres in diameter and has a capacity of 2 m<sup>3</sup>/s. It is gated with a 0.762 metre-diameter slide gate. The invert elevation of the upstream end of the pipe is 1048.50 metres.

The ***sluiceway*** is intended for the passage of streamflow during the winter months. The sill elevation of the sluiceway is 1050.50 metres. The sluiceway consists of a single bay, 3.00 metres in width that is controlled by a radial gate. This gate is normally either fully closed (spring and summer) or fully open (autumn and winter).

There are three canal ***headgate*** bays. The sill elevation of the bays is 1051.70 metres. Each bay is 1.828 metres wide and is controlled by a slide gate.

The **Headpond** at the normal operating level of El. 1035.25 will create a pond with a surface area of 41 ha (100 acres) and a storage area of 890 acre-feet of water.

An **overflow section** on the west abutment with a elevation of 1055.75.



Figure 1 Site Plan for Pine Coulee Reservoir

### ***The diversion canal***

The ***diversion canal*** is approximately 3.15 kilometres long. The slope of the canal is 0.00018. The design flow capacity of the canal is 8.5m<sup>3</sup>/s.

A ***fish exclusion device*** is placed in the canal immediately downstream of the headgates. The device consists of a V-shaped metal screen with the point of the V at the downstream end. At the point of the V, there is a drain through the bottom of the canal that carries fish out of the canal back to the sluiceway and into Willow Creek below the diversion works.

The canal enters the Pine Coulee Reservoir through a ***baffled chute***. The crest elevation of the head of the chute is 1051.20 metres.

### The dam and reservoir

The **main dam** is located at the south end of the reservoir. The dam is approximately 470 metres long and 22 metres high at its highest point. The crest elevation of the dam is 1055.25 metres. The primary works of the main dam is a **low-level** outlet to Willow Creek.

A **saddle dyke** is located on the east side of the reservoir. The saddle dyke is approximately 3,000 metres long and has a crest elevation of 1055.25 metres.

A **water supply outlet** for the Town Of Claresholm located on the saddle dyke

The **reservoir** was designed to operate at a full supply level (FSL) of 1052.50 metres. The total capacity of the reservoir at this level is 50,000 dam<sup>3</sup>. The following graph is a depiction of the elevation vs. storage for the reservoir. Attached to this document is the table showing storage vs. stage.

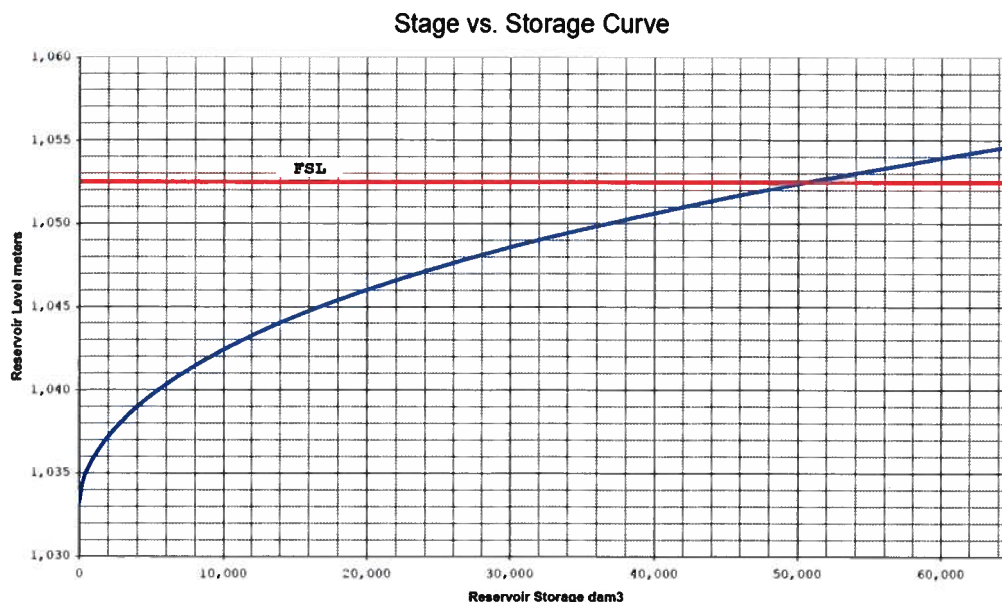


Figure 2: Storage vs. Elevation curve

The **low-level outlet** consists of a 1.22 metre-diameter precast concrete pipe with a drop inlet.

The sill level of the **drop inlet** is 1041.00 metres. The inlet is screened to prevent fish from exiting the reservoir through the low-level outlet.

The flow through the low-level outlet is controlled by a **main slide gate** and a **bypass gate**. The elevation of the outlet conduit invert at the slide gate is 1035.00 metres. The flow capacity of the low-level outlet through the main slide gate is 12.0m<sup>3</sup>/s at FSL. The capacity through the bypass gate is 3.0m<sup>3</sup>/s. The outlet empties into a stilling basin that has a floor elevation of 1030.06 metres.

The **water supply outlet** through the saddle dike consists of a 0.915 metre-diameter precast concrete pipe controlled by slide gates. The invert elevation of the pipe is 1041.00 metres.

### **The Pike Spawning Marsh**

A **pike spawning marsh** has been constructed immediately below the dam for the purpose of enhancing pike-spawning habitat in Willow Creek. Water is diverted into the marsh from the dam outlet channel for several weeks in the spring of each year. The marsh consists of a series of low dykes with small weirs that allow water to cascade from one section of the marsh to the next. After water circulates through the marsh, it is returned to Willow Creek down the original Pine Creek channel. The marsh is operational only during the spring.

### **Hydrology of the Project**

Pine Creek, an intermittent stream providing minimal water supply, feeds the reservoir directly, flowing south and entering at the north end of the reservoir.

The primary source of supply for the Pine Coulee Reservoir is Willow Creek. Willow Creek flows southeasterly from its headwaters in the Rocky Mountains.

Much of the water that feeds the reservoir through the diversion works comes from melting snow. The mountain snowpack accumulates from November to April. Normally, this snowpack melts in May. A rainy season usually occurs from mid-May to the end of June. Floods sometimes occur in Willow Creek as a result of heavy rainfall. Contributing precipitation prior to

mid-May normally falls as snow. Rainfall after the end of June is generally light and does not contribute significantly to the water supply.

The median April to June runoff volume in Willow Creek at the Pine Coulee Diversions is approximately 18,000 acre-feet. A graph of the normal range of flow for this period is shown in Figure 3. For the purposes of this document, the *“normal range of flow”* is defined as bounded by the upper and lower quartile values of the historical record of flow conditions.

Figure 3 shows the normal range of flow diverted from Willow Creek into the Pine Coulee Reservoir.

The water diverted into the Pine Coulee Reservoir is stored and later released for users along Willow Creek, primarily irrigators. The water is delivered to these users from the reservoir normally beginning in late May and ending in mid-September. Figure 4 graphs the normal range of delivery for this period as defined by the upper and lower quartile values.

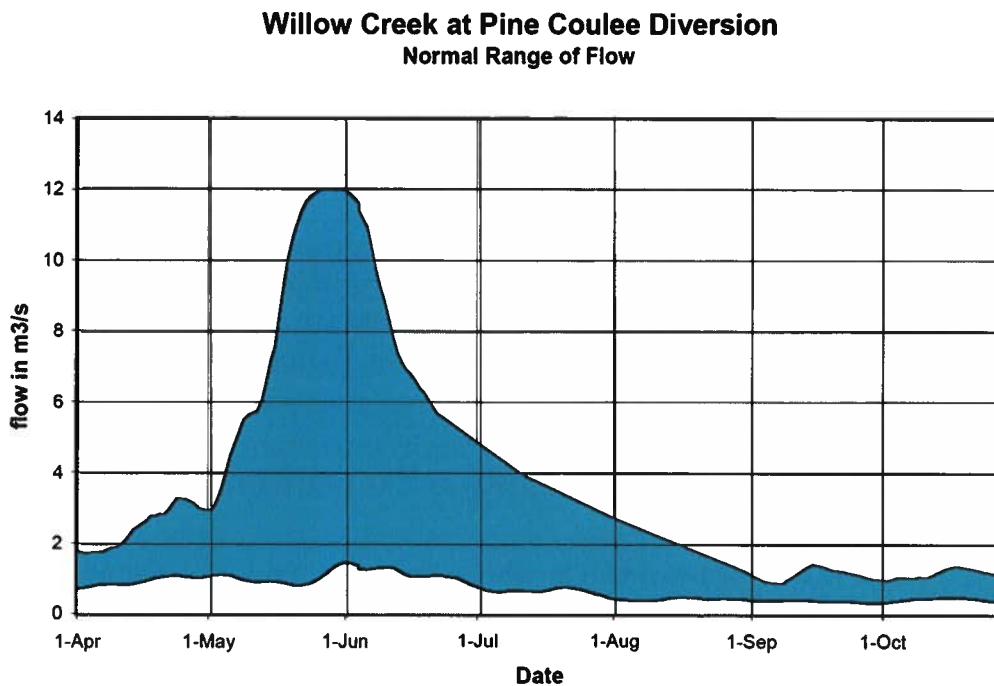


Figure 3



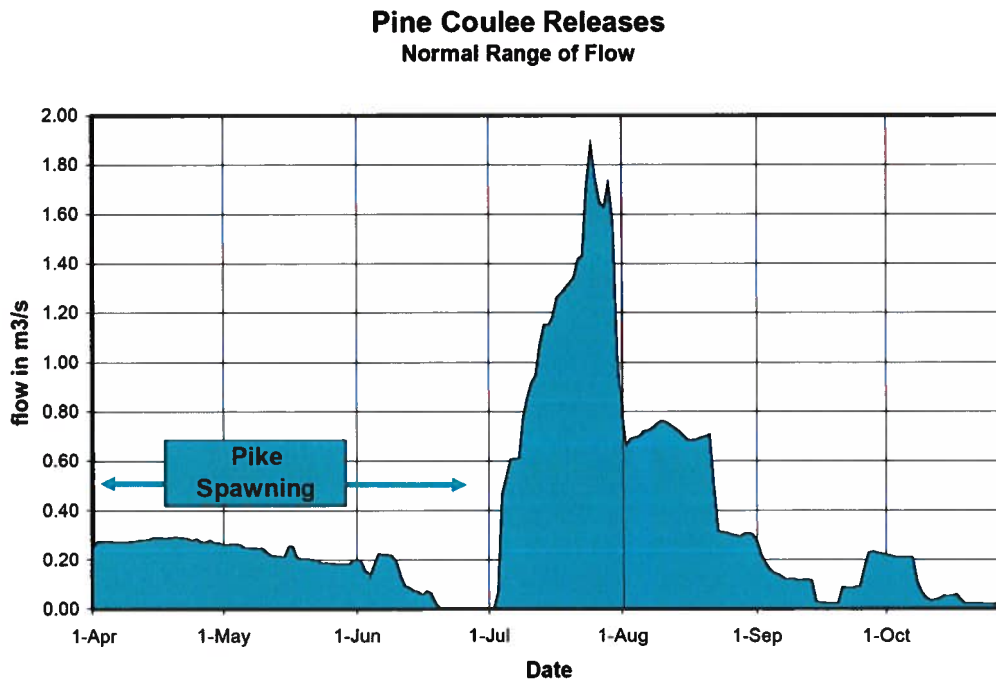


Figure 4

The drawdown level limit for irrigation usage is 1044.0 metres. When the reservoir is at or below this level, no water releases are made from the reservoir to Willow Creek for irrigation. Water in the 1044.0 metres to 1042.0 metres is reserved for release to meet Willow Creek IFN (instream flow needs).

The reservoir storage capacity for irrigation and other uses between the Full Supply Level (1052.5 metres) and 1044.0 metres is about 36,000 dam<sup>3</sup>.

The reservoir level will be above the 1044.0 metre level most of the time. A graph of the frequency of reservoir levels, assuming full irrigation development, is shown in Figure 5.

Referring to Figure 5, fifty percent of the time, reservoir levels are expected to be above the green zone. Twenty-five percent of the time, levels are expected to be in the green zone. Fifteen percent of the time, levels are expected to be in the yellow zone. Ten percent of the time, levels are expected to be in the red zone.

### Pine Coulee Reservoir - Level Statistics

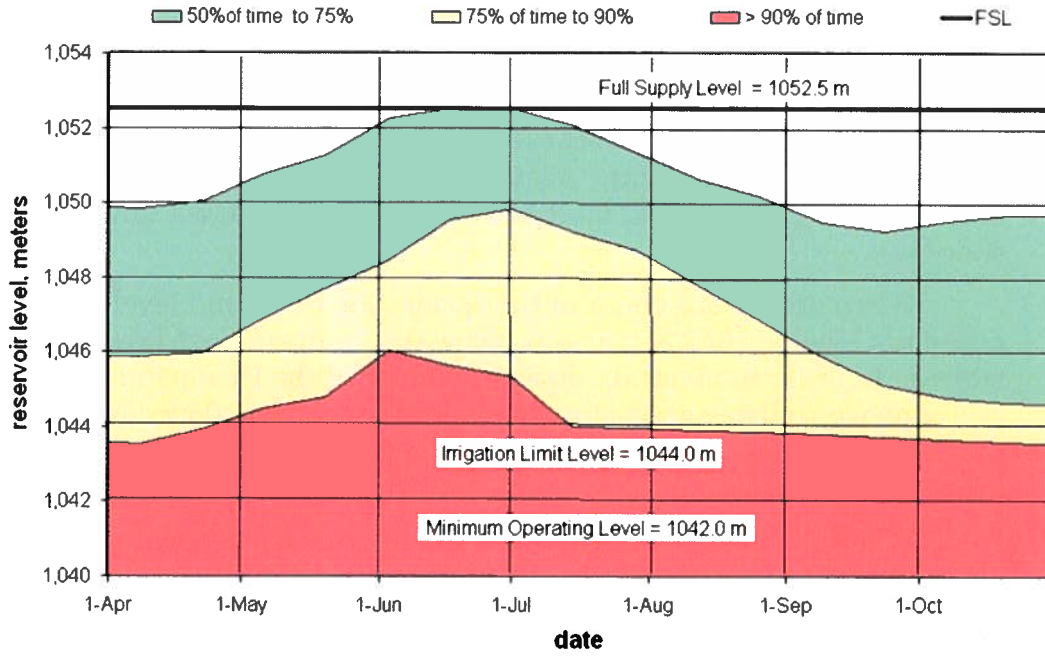


Figure 5

## Normal Operation

### *The Diversion*

The diversion works normally begin operation during the third week of April. Operations may begin earlier or later, depending upon weather and water supply conditions.

During the winter months (November to March), the diversion headpond level is just slightly above the sluiceway invert elevation of 1050.50 metres. During this period, all flow in Willow Creek passes through the sluiceway.

When operations begin in the spring, the headpond level is raised to a minimum level of 1052.8, which is below the spillway crest level of 1053.25 metres. In order to maintain downstream flows the Headpond is usually raised above spillway crest elevation allowing water to flow downstream of the diversion works. Once the headpond is full water can be diverted down the canal into the reservoir.

When the headpond is full, and during times when water is being diverted to the reservoir, riparian flow needs downstream of the diversion works are met primarily by passing water from the headpond.

Water can only be diverted from Willow Creek if the flows are maintained as described in the following table. If flows immediately downstream of the diversion fall below these values then water cannot be diverted into Pine Coulee and either flows are augmented as described later or flows are maintained by releases from Chain Lakes.

Period	Riparian Flow Requirement m <sup>3</sup> /s
March 1 to May 21	0.28
May 22 – June 28	1.00
June 29 to September 7	2.00
September 8 to October 15	0.40

When water is no longer being diverted from Willow Creek the elevation in the canal is the same as the reservoir elevation.

### ***The Canal***

The canal between the diversion headworks and the reservoir has water flowing in it from the time diversion operations begin in the spring to the time when diversions are terminated because of lack of supply in Willow Creek (usually in July), or until the reservoir has been filled. The elevation of the water in the canal will be the same as the elevation in the reservoir until the reservoir elevation is below 1050.74, which is the outlet invert of the canal.

At times when the reservoir elevation drops quickly or the Reservoir elevation is below 1050.74 there is possibility of fish that have moved from the reservoir into the diversion canal, being trapped in the canal. Operators during these times will observe the diversion canal and attempt mitigative measures. These could include making a small diversion flow to slow the drop in the reservoir while maintaining river flows or by other methods such as capturing these fish and releasing them back into the reservoir.

### ***The Reservoir***

The reservoir is normally kept as full as possible at all times.

Usually, the reservoir level is low in the spring as a result of usage for irrigation during the previous summer. The reservoir level rises as water is diverted from Willow Creek during the spring and early summer. The level begins to fall again in June or July as water is released from the reservoir for downstream users.

Water deliveries from the reservoir through the low-level outlet back into Willow Creek for irrigation use along Willow Creek usually start in late June, and run through September. Deliveries are largely dependent upon weather conditions.

Releases are made from the reservoir to ensure Riparian flow targets are met. These minimum flow targets are set for Willow Creek at the Highway 811 crossing (near the confluence with the Oldman River) are as follows:

Period	Riparian Flow Requirement m <sup>3</sup> /s
June 15 to 30	0.40
July 1 to August 31	0.80
September 1 to October 15	0.40

During the irrigation season, or when water is being diverted to the Pine Coulee Reservoir from Willow Creek, these flow targets are met by either reducing the rate of diversion from Willow Creek, or by supplementing the flow in the creek from the Pine Coulee Reservoir. If the reservoir elevation is at or below 1044.0 m then releases will not be made and flows in Willow Creek will be solely from releases from Chain Lakes, which may result in cessation of irrigation downstream of Pine Coulee.

### ***The Pike Spawning Marsh***

Water is diverted to the pike spawning marsh below the dam in April and May at a maximum rate of 0.5m<sup>3</sup>/s as long as the level of the reservoir is above 1046.0 metres. This ensures that suitable conditions for spawning are provided approximately 3 years out of 4. If the reservoir level is below 1046.0 metres, no diversion to the pike spawning marsh will take place.

After the spawning period is over, no diversions to the marsh occur.

## Appendices:

**TABLE 1-1  
PINE COULEE  
FACT SHEET**

### **Reservoir**

Full Supply Level Elevation	1052.5 m
Live Reservoir Storage	54,000 dam <sup>3</sup>
Reservoir Area	625 ha.
Reservoir Length at FSL	13 km
Maximum Reservoir Level Elevation (PMF Surcharged)	1055.23 m
Minimum Drawdown Level Elevation (Normal Operation )	1044.0 m
Probable Maximum Flood	
- Maximum Instantaneous Discharge	224.3 m <sup>3</sup> /s
- Flood Volume	26,224 dam <sup>3</sup>

### **Main Dam**

Crest Elevation	1055.25⇒1055.75 m
Crest Length	470 m
Crest Width	10 m
Maximum Height	22 m
Freeboard at FSL	2.75 m
Maximum Base Width	240 m
Average Slopes	
- Upper Dam Slope	3.5H: 1V
- Lower Dam Slope	6H: 1V
Length of Grout Curtain	
- East Abutment	182 m
- West Abutment	86 m
Guardrail Length (Both sides)	500 m

**Saddle Dyke**

Crest Elevation	1055.25 m
Crest Length	3,000 m
Crest Width (Dyke Only)	5 m
Crest Width (Dyke and Roadway)	9 m
Maximum Height	14 m
Guardrail Length (Reservoir Side Only)	500 m

**Low Level Outlet**

Invert Elevation at Drop Inlet	1041.0 m
Invert Elevation at Diversion Inlet	1035.0 m
Invert Elevation at Outlet Stilling Basin	1030.06 m
Invert Elevation of Outlet Channel	1031.23 m
Diameter of Hyprescon Precast Concrete Pipe	1220 mm
Length of Pipe	187 m
Discharge Capacity	12 m <sup>3</sup> /s
Size of Slide Gates (square)	
- Main Gates (2)	1220 mm
- Bypass Gate (1)	610 mm
No. of Fish Screen Panels	32
Size of Fish Screen Panels	2438 x 578 mm
Top Elevation of Fish Screens	1042.8 m
Bottom Elevation of Fish Screens	1040.4 m
Gatewell overflow section	1052.5

**Water Supply Outlet**

Invert Elevation of Water Supply Outlet Pipe	1041 m
Diameter of Hyprescon Precast Concrete Pipe	915mm
Length of Pipe	87 m
Size of Slide Gates (2 square)	915 mm
No. of Fish Screen Panels	24
Size of Fish Screen Panels	2438 x 578 mm
Top Elevation of Fish Screens	1042.7 m
Bottom Elevation of Fish Screens	1040.3 m

**Instrument Gauge Houses**

Number of Instrument Gauge Houses	2
Lower Gauge House at Dam (#1)	
- No. of Piezometers	43
- No. of Liquid Level Settlement Gauges	9

Upper Gauge House at Dam (#2)  
- No. of Piezometers

36

**Diversion Embankment**

Crest Elevation	1055.75 to 1056.65 m
Crest Length	260 m
Crest Width	4.5 m
Maximum Height	12 m
Freeboard at Normal Operating Level	3.25 m
Maximum Base Width	70 m
Upstream Embankment Slope	3H: 1V
Downstream Embankment Slope	2.5H: 1V
Length of Grout Curtain	
- West Abutment	60 m
No. of Piezometers	3

**Headpond**

Normal Operating Level Elevation	1053.25 m
Storage	1,100 dam <sup>3</sup>
Headpond Area	41 ha.
Maximum Operating Level Elevation	1055.75 m
Minimum Drawdown Level Elevation (Normal Operation)	1050.5 m
Overflow section elevation	1055.75 m
Overflow section Length	15 m



**Diversion Weir**

Elevation at Weir Crest	1053.25 m
Elevation at Outlet Stilling Basin	1042.75 m
Invert Elevation of Outlet Channel	1045.00 m
Discharge Capacity	395 m <sup>3</sup> /s
Invert Elevation of Riparian Outlet	1048.50 m
Riparian Outlet Pipe Diameter	762 mm
Slide Gate (1) Diameter	762 mm

**Sluiceway**

Invert Elevation at Inlet	1050.50 m
Invert Elevation at Stilling Basin	1040.85 m
Invert Elevation at Outlet Stilling Basin	1040.85 m
Invert Elevation of Outlet Channel	1044.00 m
Discharge Capacity	22 m <sup>3</sup> /s
Size of Radial Gate	
- Height	3.0 m
- Width	3.0 m
- Radius	3.9 m

**Canal Headgate Structure**

Width of Approach Channel	10.0 m
Invert Elevation at Approach Channel	1050.50 m
Invert Elevation at Gate Inlet	1051.70 m
Discharge Capacity	8.5 m <sup>3</sup> /s
Size of Slide Gates (square) (3)	1.828 m

**Diversion Canal**

Invert Elevation at Diversion	1051.70 m
Invert Elevation at Reservoir Inlet	1050.74 m
Capacity	8.5 m <sup>3</sup> /s
Flow Depth	1.47 m
Bed Slope	0.00018
Bed Width	7 m
Canal Velocity	0.5 m <sup>3</sup> /s
Drain Inlets (26)	
- Length	8.7 to 12.0 m
- Diameter	400 mm
Overflow section Elevation on canal	1053.5 m

**Reservoir Inlet Structure**

Invert Elevation of Approach slab	1050.74 m
Elevation at Top of Weir	1051.20 m
Invert Elevation at Outlet of Chute	1040.00 m

**Walleye Spawning Area**

Top Rock Surface Elevation	1045 m to 1050m
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**Pike Spawning Area**

Pine Creek Channel Elevation	1030.2 m
Culvert Invert Elevation	1030.5 m
Diversion Berm Elevation	1031.0 m
Upper Cell FSL Elevation	1031.0 m
Lower Cell FSL Elevation	1030.3 m
Size of Culverts (2)	800 mm
Size of Slide Gates (2)	800 mm

**Highway 527 Crossing**

Bridge Deck Top Elevation	1056.55 m
Base Bridge Deck Girders Elevation	1054.65 m
Freeboard at FSL	2.15 m
Freeboard at 1:100 year Flood	0.9 m
Invert Bridge Opening Elevation	1042.0 m
Embankment Slopes	
- Side Slopes	4H: 1V to 3H: 1V
- Abutment Slopes	2.5H: 1V

**Fireguard Road Crossing**

Crest Minimum Elevation	1054.25 m
Freeboard at FSL	1.75 m
Maximum Height	6 m
Crest Width	10 m
Average Slopes	4H: 1V
Guardrail Length (north side & south side)	333 m & 377 m
Invert Elevation of Drop Inlet	1052.5 m
Invert Elevation of Inlet and Outlet Pipe	1048.5 m
Diameter of Pipes	
- Inlet	300 mm
- Outlet	1600 mm
Discharge Capacity	
- Peak Discharge	11.9 m <sup>3</sup> /s
- Volume Discharge	2450 dam <sup>3</sup>
Size of Slide Gates (1)	305 mm
Mitigation Pond FSL Elevation	1052.5 m

**Canal Fish Screen**

Invert Elevation of Structure	1051.68 m
Invert Elevation of Discharge Pipe at Inlet	1050.50 m
Invert Elevation of Discharge Pipe at Outlet	1044.50 m
Discharge Pipe Capacity	0.5 m <sup>3</sup> /s
Pipe Diameter	600 mm
Manhole Invert Elevation	1049.10 m
Fish Chute Capacity	0.5 m <sup>3</sup> /s

***Related Documents***

1. "Interim Licence: File Number 21149", Alberta Environmental Protection, 23 May 1996
2. "Pine Coulee Project Preliminary Operating Plan", Alberta Environment, 1 December 1992
3. "Willow Creek Instream Flow Analysis Summary Report", Alberta Environment, December 1992
4. "Approval No. 7, Natural Resources Conservation Board, 26 January 1996
5. "Pine Coulee Project Operation, Maintenance and Surveillance Manual", Alberta Public Works, Supply and Services, March 1999
6. "Pine Coulee Project Emergency Preparedness Plan", Alberta Environmental Protection, March 1999

Reviewed by:



**Dennis Matis**  
**Operations & Infrastructure Manager**  
**Water Infrastructure & Operations Branch**

February 14, 2020  
Date

# ***APPENDIX C:***

## ***TOWN OF CLARESHOLM WATER USE RESTRICTIONS***

## Town of Claresholm Water Restriction Guide Residential Water Use

	RESIDENTIAL Water Use Restrictions	NORMAL	STAGE 1	STAGE 2	STAGE 3	STAGE 4	STAGE 5
		PINE COULEE FULL SUPPLY LEVEL 1052.5 m	PINE COULEE SUPPLY LEVEL 1046.0 m	PINE COULEE SUPPLY LEVEL 1045.0 m	PINE COULEE SUPPLY LEVEL 1044.0 m	PINE COULEE SUPPLY LEVEL 1043.0 m	PINE COULEE MINIMUM SUPPLY LEVEL 1042.0 m
	ACTIVITY	Restriction Details	Restriction Details	Restriction Details	Restriction Details	Restriction Details	Restriction Details
A	Lawn, Garden and Plants - Manual Sprinkling	Anytime	Water allowed 6am-10am 7pm-12am 3 days per week.	Water allowed 6am-10am 7pm-12am 2 days per week	Water allowed 6am-10am 7pm-12am 1 day per week	Use of Town water for all forms of aesthetic lawn and garden watering is prohibited.	Use of Town water for all forms of aesthetic lawn and garden watering is prohibited.
	Odd Address Schedule	Anytime	Tues, Thurs and Sat	Tues and Sat	Sat		
	Even Address Schedule		Wed, Fri and Sun	Wed and Sun	Sun		
B	Lawn, and Aesthetic Garden Watering - Auto Sprinkling	Anytime	Water allowed 12am-6am up to 3 days per week.	Water allowed 12am-6am up to 2 days per week	Water allowed 12am-6am up to 1 day per week		
	Odd Address Schedule	Anytime	Tues, Thurs and Sat	Tues and Sat	Sat		
	Even Address Schedule		Wed, Fri and Sun	Wed and Sun	Sun		
C	Lawn, and Aesthetic Garden Micro or Drip Irrigation	Anytime	Watering allowed any day between 7pm-10am	Watering up to 3 days a week 7pm-10am (Line A)	Watering allowed Thurs and Fri between 7pm-10am		
D	Lawn, and Aesthetic Garden Watering - Hand Sprinkling (hose or water can)	Anytime	Anytime	Watering allowed 3 days a week 6am-10am, 5pm-12am Stage 1 (Line A).	Watering allowed Wed and Sun between 6am-10am and 7pm-12am		
E	New (non-established) Lawns and Landscaping sprinkling. Permit required.	Follow supplier recommended watering schedule. (Lines A-D)	Follow supplier recommended watering schedule. (Lines A-D)	Sprinkler permit required. Seeding to start before April 30 or after Sept 1	No new permits issued for seeded lawns. New lawns watering Stage 3 (Lines A-D)	No new permits issued or renewed. Use of Town water prohibited.	No new permits issued or renewed. Use of Town water prohibited.
F	Garden Ponds, Fountains and Water Features	Filling and refilling is permitted (Line A)	Filling and refilling is permitted (Line A)	Filling and refilling is permitted (Line A)	Filling and refilling with Town water is prohibited.	Filling and refilling with Town water is prohibited.	Filling and refilling with Town water is prohibited.
G	Pools	Filling and refilling is permitted (Line A)	Filling and refilling is permitted (Line A)	Filling and refilling is permitted (Line A)	Topping up allowed once per week on Wednesdays.	Filling and refilling with Town water is prohibited.	Filling and refilling with Town water is prohibited.
H	Cleaning Outdoor Surfaces (driveways, sidewalks etc.)	Use a broom, spring loaded nozzle or mop and bucket.	Use a broom, spring loaded nozzle or mop and bucket.	Cleaning with a hose for health and safety only.	Cleaning with a hose for health and safety only.	Cleaning with a hose for health and safety only.	All hosing of outdoor surface with Town water prohibited.
I	Car-Boat Washing	Use spring loaded nozzle.	Use spring loaded nozzle.	Wand wash only.	Wand wash only.	Wand wash only.	No washing or rinsing of any vehicles.
J	Artificial turf and outdoor tracks	Cleaning with a hose for health and safety only.	Cleaning with a hose for health and safety only.	Cleaning with a hose for health and safety only.	Cleaning with a hose for health and safety only.	Cleaning with a hose for health and safety only.	Cleaning outdoor surfaces with Town water prohibited.

\* These restrictions are for water supplied by the Town of Claresholm only. They do not apply to the use of reclaimed water, grey water or rainwater. Customers are encouraged to utilize rainwater for appropriate uses such as garden irrigation.

## Town of Claresholm Water Restriction Guide Commercial Water Use

	COMMERCIAL Water Use Restrictions	NORMAL	STAGE 1	STAGE 2	STAGE 3	STAGE 4	STAGE 5		
		PINE COULEE FULL SUPPLY LEVEL 1052.5 m	PINE COULEE SUPPLY LEVEL 1046.0 m	PINE COULEE SUPPLY LEVEL 1045.0 m	PINE COULEE SUPPLY LEVEL 1044.0 m	PINE COULEE SUPPLY LEVEL 1043.0 m	PINE COULEE MINIMUM SUPPLY LEVEL 1042.0 m		
	ACTIVITY	Restriction Details	Restriction Details	Restriction Details	Restriction Details	Restriction Details	Restriction Details		
A	Lawn, Garden and plants for sale - Manual Sprinkling	Water allowed 6am-10am 7pm-12am 3 days per week	Water allowed 6am-10am 7pm-12am 3 days per week	Water allowed 6am-10am 7pm-12am 2 days per week	Water allowed 6am-10am 7pm-12am 1 day per week	Use of Town water for all forms of aesthetic lawn and garden watering is prohibited.	Use of Town water for all forms of aesthetic lawn and garden watering is prohibited.		
	Odd Address Schedule	Anytime	Tues, Thurs and Sat	Tues and Sat	Sat				
	Even Address Schedule		Wed, Fri and Sun	Wed and Sun	Sun				
B	Lawn, Garden and plants for sale - Auto Sprinkling	Anytime	Water allowed 12am-6am up to 3 days per week	Water allowed 12am-6am up to 2 days per week	Water allowed 12am-6am up to 1 day per week				
	Odd Address Schedule	Anytime	Tues, Thurs and Sat	Tues and Sat	Sat				
	Even Address Schedule		Wed, Fri and Sun	Wed and Sun	Sun				
C	Lawn, Garden and plants for sale Micro irrigation	Anytime	Watering allowed any day between 7pm-10am	Watering up to 3 days a 7pm-10am (Line A)	Watering allowed Wed and Fri between 7pm-10am				
D	Lawn, Garden and plants for sale handheld sprinkling	Anytime	Anytime	Hand watering plants any day 6am-10am & 5pm-12am Stage 1 (Line A).	Hand water plants Tue, Thru and Sun between 6am-10am and 7pm-12am				
E	New (non-established) Lawns and Landscaping sprinkling. Permit required.	Follow supplier recommended watering schedule. (Lines A-D)	Follow supplier recommended watering schedule. (Lines A-D)	Sprinkler permit required. Seeding to start before April 30 or after Sept 1	No new permits issued for seeded lawns. New lawns watering Stage 3 (Lines A-D)			No new permits issued or renewed. Use of Town water prohibited.	No new permits issued or renewed. Use of Town water prohibited.
F	Garden Ponds, Fountains and Water Features	Filling and refilling is permitted (Line A)	Filling and refilling is permitted (Line A)	Filling and refilling is permitted (Line A)	Filling and refilling with Town water is prohibited.			Filling and refilling with Town water is prohibited.	Filling and refilling with Town water is prohibited.
G	Pools	Filling and refilling is permitted (Line A)	Filling and refilling is permitted (Line A)	Filling and refilling is permitted (Line A)	Topping up allowed once per week on Wednesdays.	Filling and refilling with Town water is prohibited.	Filling and refilling with Town water is prohibited.		
H	Cleaning Outdoor Surfaces (driveways, sidewalks etc.)	Use a broom, spring loaded nozzle or mop and bucket.	Use a broom, spring loaded nozzle or mop and bucket.	Cleaning with a hose for health and safety only.	Cleaning with a hose for health and safety only.	Cleaning with a hose for health and safety only.	All hosing of outdoor surface with Town water prohibited.		
I	Car Washing - commercial, dealerships and fleets	Use a commercial car wash or spring loaded nozzle.	Use a commercial car wash or spring loaded nozzle.	Wand wash and automated car washes may operate.	Wand wash and automated car washes may operate.	Wand wash and automated car washes may operate.	No washing or rinsing of any vehicles.		
J	Golf courses	Irrigation should only occur between 7pm-6am	Reduce watering to fairways (Line B)	Reduce watering of greens, tees, Fairways 2 days-week.	Hand watering greens and tees only.	Hand watering greens and tees only.	Hand watering greens and tees only.		
K	Artificial turf and outdoor tracks	Cleaning with a hose for health and safety only.	Cleaning with a hose for health and safety only.	Cleaning with a hose for health and safety only.	Cleaning with a hose for health and safety only.	Cleaning with a hose for health and safety only.	Cleaning outdoor surfaces with town water prohibited.		

\* These restrictions are for water supplied by the Town of Claresholm only. They do not apply to the use of reclaimed water, grey water or rainwater. Customers are encouraged to utilize rainwater for appropriate uses such as garden irrigation.

## Town of Claresholm Water Restriction Guide Public Institutional Water Use

	Public Institutional Water Use Restrictions	NORMAL	STAGE 1	STAGE 2	STAGE 3	STAGE 4	STAGE 5		
		PINE COULEE FULL SUPPLY LEVEL 1052.5 m	PINE COULEE SUPPLY LEVEL 1046.0 m	PINE COULEE SUPPLY LEVEL 1045.0 m	PINE COULEE SUPPLY LEVEL 1044.0 m	PINE COULEE MINIMUM SUPPLY LEVEL 1043.0 m	PINE COULEE MINIMUM SUPPLY LEVEL 1042.0 m		
	ACTIVITY	Restriction Details	Restriction Details	Restriction Details	Restriction Details	Restriction Details	Restriction Details		
A	School Yards, Sports Fields and Baseball Diamonds	Avoid Irrigation between 10am-7pm	Limit Irrigation to 3 Times per week Tuesday, Thursday, Saturday Avoid irrigation 10am-7pm	Limited irrigation to 2 times per week (Tuesday & Saturday) and avoid between 10am-7pm	Irrigate 1 day/week at minimum levels permitted to maintain areas in usable condition.	Use of Town water for all irrigation and recreational purposes is prohibited.	Use of Town water for all irrigation and recreational purposes is prohibited.		
B	Water Spray Parks and Indoor/Outdoor Pools	No restrictions.	Recirculating pool water only.	No restrictions on spray parks with user-activated switches. Filling and topping of pools permitted.	No restrictions on spray parks with user-activated switches. Filling and topping of pools permitted.				
C	Aesthetic Fountains and Water Features	Recirculating water only.	Recirculating water only.	No filling permitted unless using recycled, reclaimed water or rainwater.	Filling and refilling are prohibited. To avoid health and safety problems drain and use to irrigate.				
D	Municipal Parks and Cemeteries	Avoid Irrigation between 10am-7pm.	Limit Irrigation to 3 times per week and Avoid irrigation 10am-7pm.	Irrigation allowed 2 days per week, Tuesday and Thursday between 7pm-6am.	Irrigate 1 day/week minimum levels permitted to maintain areas in usable condition.				
E	Municipal Ornamental Lawns and Grassed Boulevards	Avoid Irrigation between 10am-7pm	Limit Irrigation to 3 times per week Tuesday, Thursday, Saturday, between 7pm-6am unless authorized.	Two days per week, Tuesday and Thursday between 7pm-6am.	Irrigate 1 day/week minimum levels permitted to maintain areas in usable condition.				
F	Municipal Water Main Flushing and Hydrant Maintenance	No Restrictions.	No Restrictions.	Only for unscheduled safety or public health reasons. Flushing to ensure free chlorine residual only.	Only for unscheduled safety or public health reasons. Flushing to ensure free chlorine residual only.			Only for unscheduled safety or public health reasons. Flushing to ensure free chlorine residual only.	Only for unscheduled safety or public health reasons. Flushing to ensure free chlorine residual only.
G	Artificial Turf and Outdoor Tracks (i.e. bicycle and running)	Cleaning, with a hose or sprinkler, permitted for health and safety only.	Cleaning, with a hose or sprinkler, permitted for health and safety only.	Cleaning, with a hose or sprinkler, permitted for health and safety only.	Cleaning, with a hose or sprinkler, permitted for health and safety only.			Cleaning, with a hose or sprinkler, permitted for health and safety only.	All forms of cleaning of outdoor surfaces with town water are prohibited.

\* These restrictions are for water supplied by the Town of Claresholm only. They do not apply to the use of reclaimed water, grey water or rainwater. Customers are encouraged to utilize rainwater for appropriate uses such as garden irrigation.



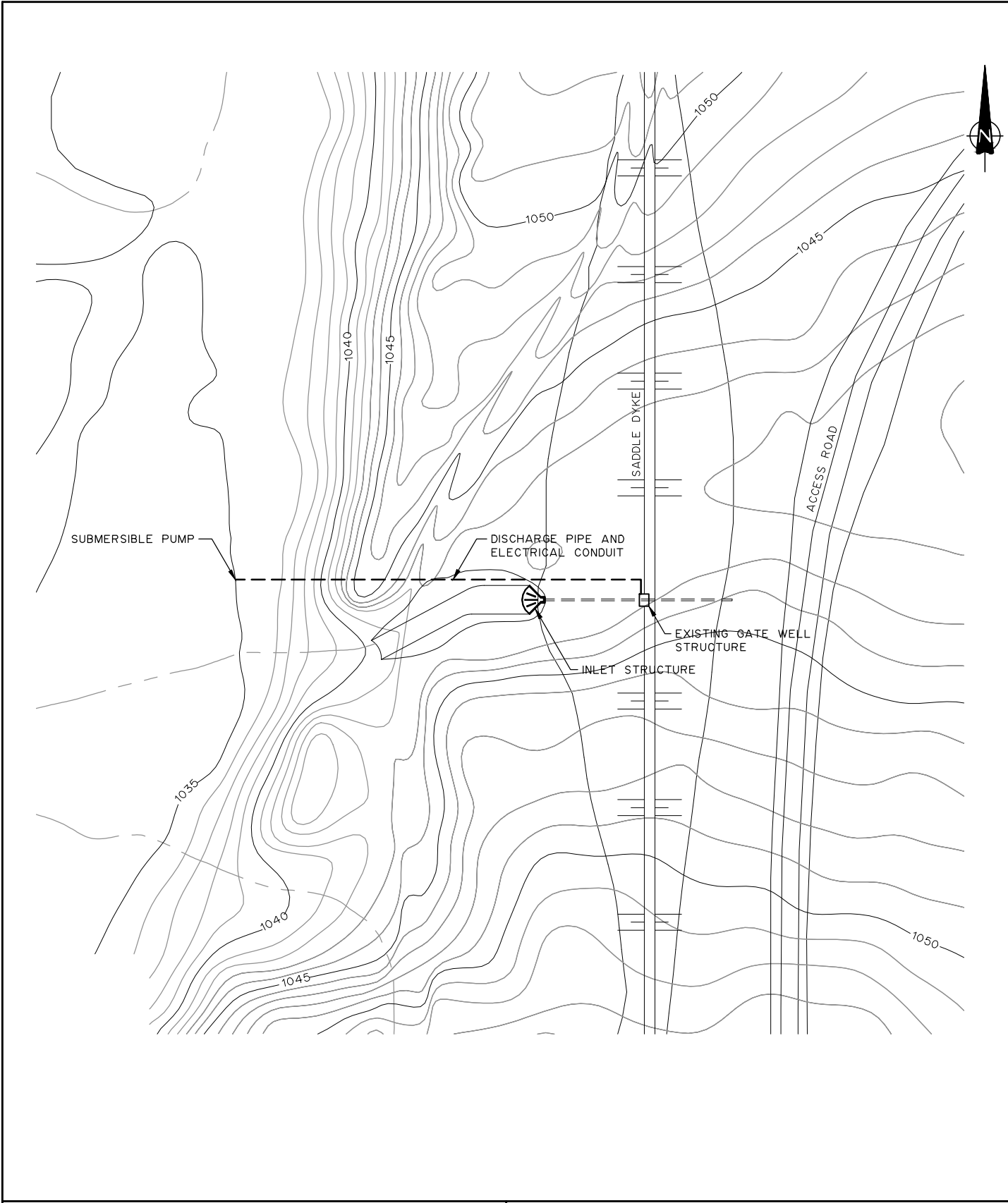
## Town of Claresholm Water Restriction Guide Agricultural Water Use

	AGRICULTURAL Water Use Restrictions	NORMAL	STAGE 1	STAGE 2	STAGE 3	STAGE 4	STAGE 5
		PINE COULEE FULL SUPPLY LEVEL 1052.5 m	PINE COULEE SUPPLY LEVEL 1046.0 m	PINE COULEE SUPPLY LEVEL 1045.0 m	PINE COULEE SUPPLY LEVEL 1044.0 m	PINE COULEE SUPPLY LEVEL 1043.0 m	PINE COULEE MINIMUM SUPPLY LEVEL 1042.0 m
	ACTIVITY	Restriction Details	Restriction Details	Restriction Details	Restriction Details	Restriction Details	Restriction Details
Location	Crop Irrigation in Town Limits	Maximum water use as permitted per individual license to a maximum of 5000 m3	Maximum water use 5000 m3 for season Increased surveillance voluntary conservation	Mandatory reduction of water use by 25% up to 3750 m3 for season Town to control turnoff	Mandatory reduction of water use by 50% up to 2500 m3 for season Town to control turnoff	Mandatory reduction of water use by 50% up to 2500 m3 for season Town to control turnoff	Mandatory water restrictions  Outdoor water use for Livestock only Town to control turnoff
0+008	M.D Willow Creek	No License/No Hydrant	No License/No Hydrant	No License/No Hydrant	No License/No Hydrant	No License/No Hydrant	Livestock only
0+300	Brown	No License/Hydrant	No License/Hydrant	No License/Hydrant	No License/Hydrant	No License/Hydrant	Livestock only
2+834	Bolduc	320 m3 Total	320 m3 Total	240 m3	160 m3	Licence Restricted	Livestock only
4+350	Maurushat	No Hydrant	No Hydrant	No Hydrant	No Hydrant	No Hydrant	Livestock only
6+565	Maurushat	1234.56 m3	1234.56 m3	925.92 M3	617.28 m3	617.28 m3	Livestock only
7+507	Fire Hydrant	Fire Fighting Only	Fire Fighting Only	Fire Fighting Only	Fire Fighting Only	Fire Fighting Only	Fire Fighting Only
7+906	Glimsdale	1234.56 m3	1234.56 m3	925.92 M3	617.28 m3	617.28 m3	Livestock only
8+217	Hutterian Willow Creek	2099 m3 Total	2099 m3 Total	1574.25 m3 Total	1049.5 m3	Licence Restricted	Livestock only
10+385	Leeds	1234.56 m3 Total	1234.56 m3 Total	925.92 M3	617.28 m3	617.28 m3	Livestock only
10+700	Leeds	1234.56 m3 Total	1234.56 m3 Total	925.92 M3	617.28 m3	617.28 m3	Livestock only
11+434	Hutterian Willow Creek	2099 m3 Total	2099 m3 Total	1574.25 m3 Total	1049.5 m3	1049.5 m3	Livestock only
11+510	Fire Hydrant	Fire Fighting Only	Fire Fighting Only	Fire Fighting Only	Fire Fighting Only	Fire Fighting Only	Fire Fighting Only
15+865	Morkin	4564 m3	4564 m3	3423 m3	2282 m3	2282 m3	Livestock only
17+100	Shear	No License/No Hydrant	No License/No Hydrant	No License/No Hydrant	No License/No Hydrant	No License/No Hydrant	Livestock only
17+110	Town of Claresholm	No Hydrant	No Hydrant	No Hydrant	No Hydrant	No Hydrant	Livestock only
18+927	Claresholm Golf Course	No License/Metered Turnout	No License/Metered Turnout	No License/Metered Turnout	No License/Metered Turnout	No License/Metered Turnout	Livestock only
19+403	Claresholm Water Plant	1,301,235 m3	1,301,235 m3	Initiate WSRP	Initiate WSRP	Initiate WSRP	Initiate WSRP

\* These restrictions are for water supplied by Pine Coulee Reservoir only. They do not apply to reclaimed water, grey water or rainwater.

# ***APPENDIX D:***

## ***SUPPLEMENTAL PUMPING DIAGRAMS***



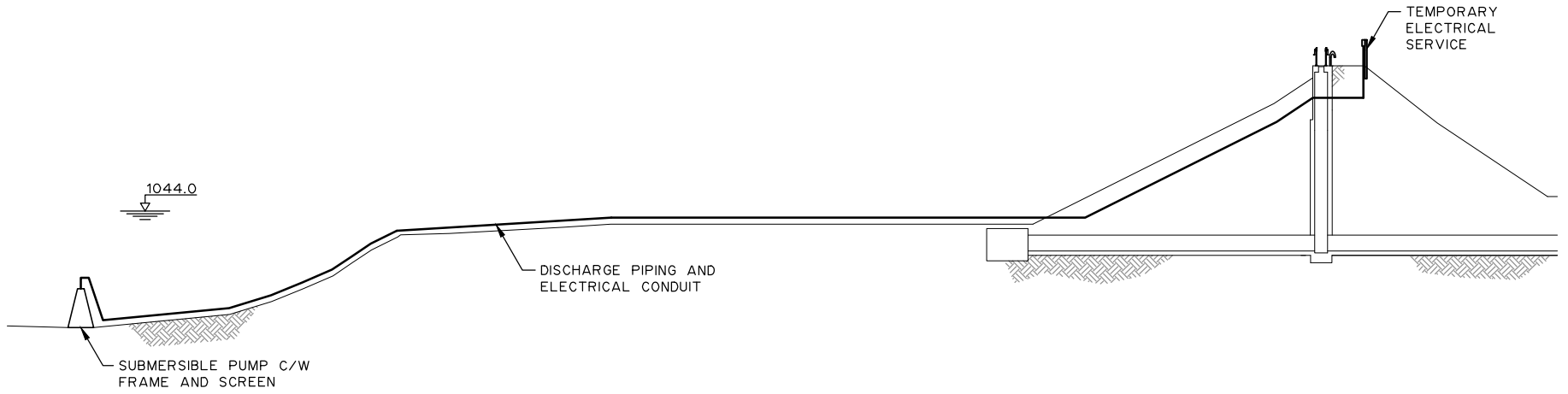
TOWN OF CLARESHOLM AND  
M.D. OF WILLOW CREEK  
TEMPORARY PUMPING LAYOUT PLAN

SCALE: 1:2500

DATE: MAY 2020

JOB: 1466-029-00

FIGURE: --



**Engineering Ltd.**

TOWN OF CLAREHOLM AND  
M.D. OF WILLOW CREEK  
TEMPORARY PUMPING LAYOUT SECTION

SCALE: H1:1000 V1:500 | DATE: MAY 2020

JOB: 1466-029-00

FIGURE: --

## **Supplemental Pumping Outline**

The decision to install pumping equipment is to be made prior to October 1 in any given year. This will allow the pumping equipment to be installed prior to any ice formation on Pine Coulee Reservoir.

- Obtain approval from Alberta Environment – Water Management Operations
- Obtain Letter of Authorization from Transport Canada in regard to Navigable Waters Protection

### **Pump Installation:**

- Load the pump, discharge piping and electrical cables onto the barge on the shoreline
- Launch the barge into the reservoir
- Lower the pump into the reservoir
- Lay out the piping and cables to the shoreline
- Sleeve the discharge pipe and electrical cables through a section of HDPE or steel pipe at the shoreline area to protect from potential ice damage
- Install the end of discharge piping into the wet well on East Saddle Dyke
- Close the upstream slide gate in the wet well
- Connect electrical to temporary power supply

### **Equipment and labour:**

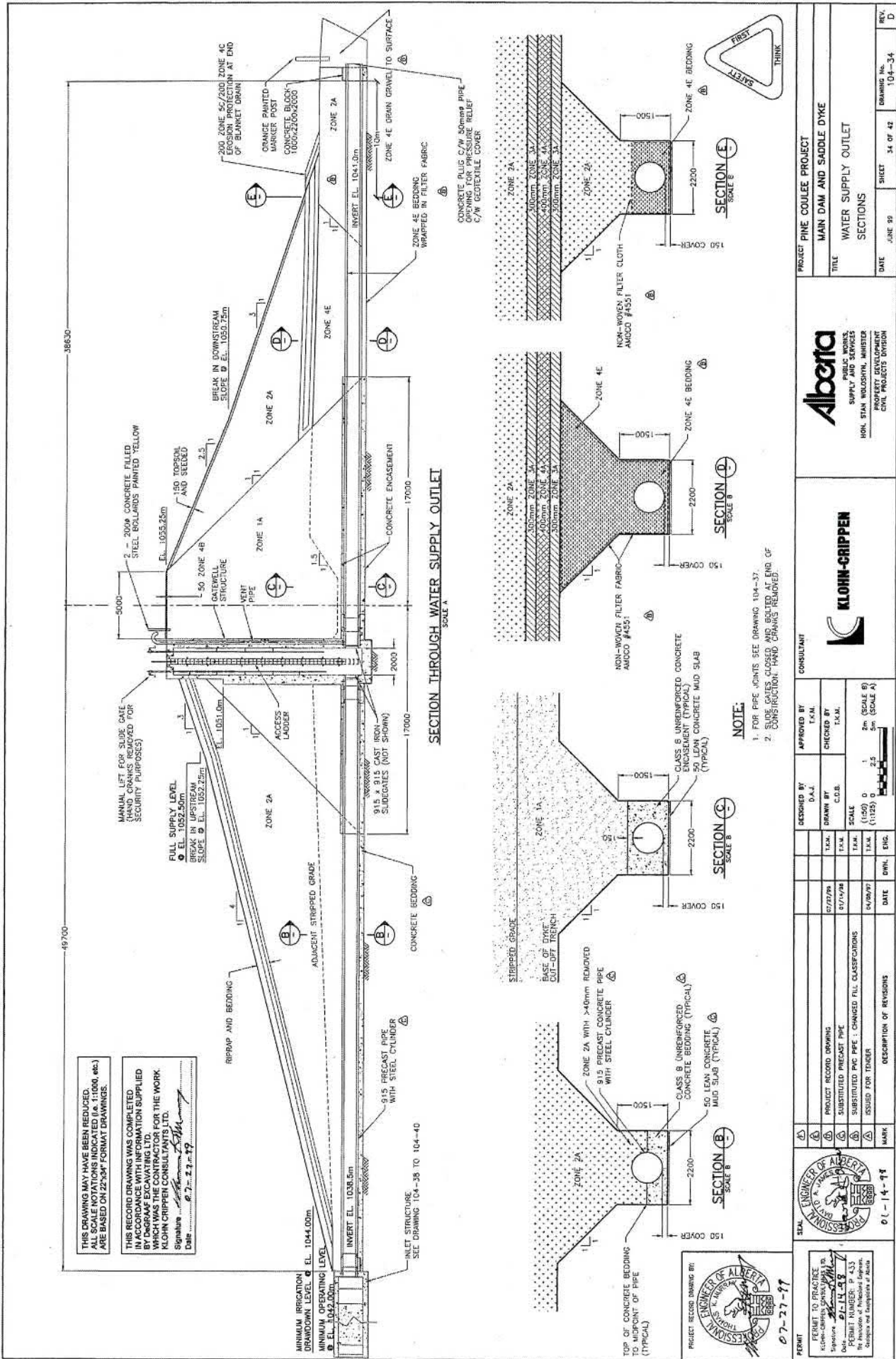
- Barge c/w winch to float the pump into reservoir and lower into operating position; a barge of this type is available from the St. Mary River Irrigation District in Lethbridge or from other commercial operations
- Excavator or picker truck to load pump onto barge and to assist in launching the barge
- Submersible pump c/w frame, discharge piping and electrical cables
- Crew of four to install pump , discharge piping and cables
- Electrician to connect to electrical utility

Drawings of the installation are shown on the previous pages.



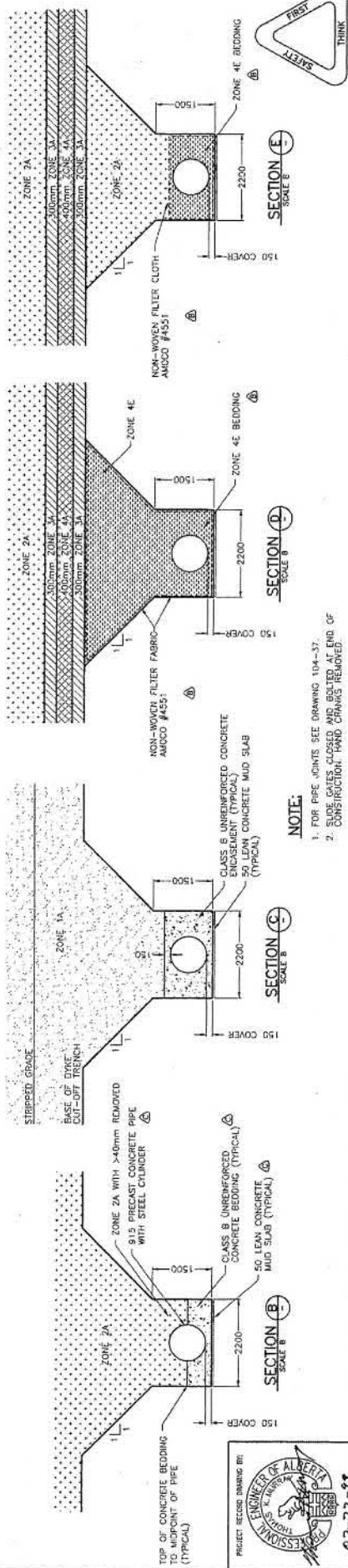






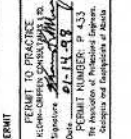

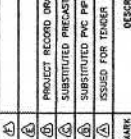
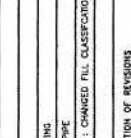
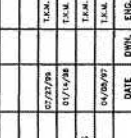
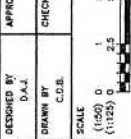
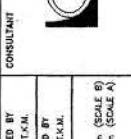



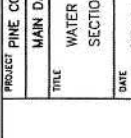
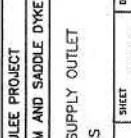
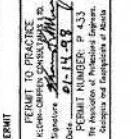

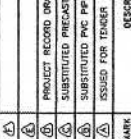
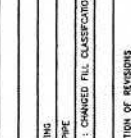
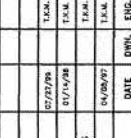
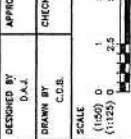
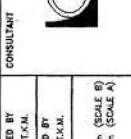



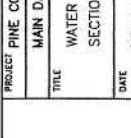
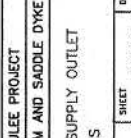
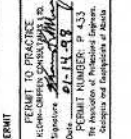

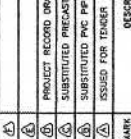
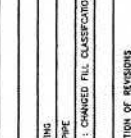
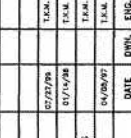
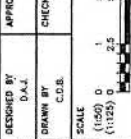
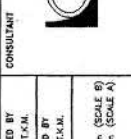



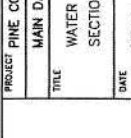
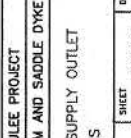
SECTION THROUGH WATER SUPPLY OUTLET

SCALE A



NOTE:

- 1. FOR PIPE JOINTS SEE DRAWING 104-37.
- 2. SLIDE GATES CLOSED AND BOLTED AT END OF CONSTRUCTION, HAND CRANKS REMOVED.

																															
DESIGNED BY	T.A.K.	CHECKED BY	T.A.K.	DATE	01-14-97	DESCRIPTION OF REVISIONS		DATE	04/08/97	SCALE	1:100	DATE	07/27/96	SCALE	1:100	DATE	07/27/96	SCALE	1:100	DATE	07/27/96	SCALE	1:100	DATE	07/27/96	SCALE	1:100	DATE	07/27/96	SCALE	1:100
																															
																															



CONSULTANT

APPROVED BY T.A.K.  
 DESIGNED BY T.A.K.  
 CHECKED BY T.A.K.  
 DRAWN BY C.D.B.  
 DATE 04/08/97

PROJECT RECORD DRAWING  
 SUBSTITUTED PRECAST PIPE  
 SUBSTITUTED PVC PIPE 1 CHANGED FULL CLASSIFICATIONS  
 ISSUED FOR TENDER

PERMIT TO PRACTICE  
 KLOHN-CRIPPEN CONSULTANTS LTD.  
 Signature: [Signature]  
 Date: 01/14/97  
 By the Association of Professional Engineers and Geoscientists of Alberta

PROJECT PINE COULLEE PROJECT  
 MAIN DAM AND SADDLE DYKE  
 WATER SUPPLY OUTLET  
 SECTIONS

DATE JUNE 95 SHEET 34 OF 42 DRAWING No. 104-34  
 REV. D















