



Engineering Ltd.

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CYPRESS RURAL WATER CO-OP LTD.

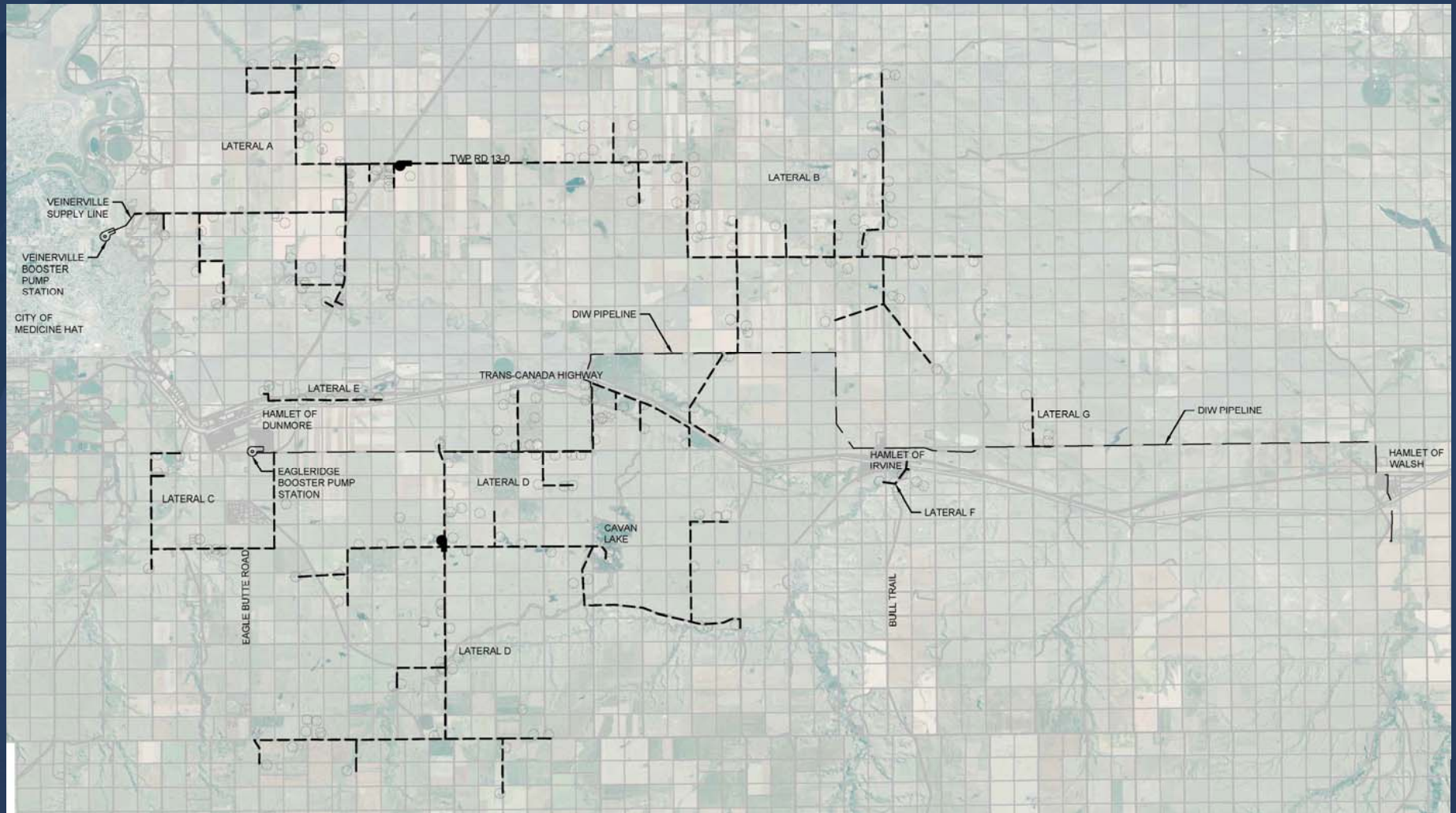
October 18, 2016

Overview

The Cypress Rural Water Co-op Ltd. (the Co-op) strives to provide, safe, reliable, high quality drinking water to rural residents of Cypress County along the Dunmore to Irvine corridor.

- 301 potential shareholders
- Generally located between the Hamlets of Dunmore and Irvine, Alberta
- Township Road 110 is the approximate south boundary and Township Road 132 is the approximate north boundary

Overall Plan



System Layout and Design

- 8 Connections to County System
 - 4 major laterals, 4 smaller service laterals
- The Co-op will be supplied with water from Cypress County from four general locations:
 - The Dunmore / Irvine / Walsh Regional Supply Pipeline (DIW Pipeline)
 - The Veinerville Booster Station and supply pipeline
 - Dunmore and Irvine's Water Distribution Systems
- Total length of pipe approximately 174 km
- Two Booster Pump Stations
- Above-ground gate connections, booster stations

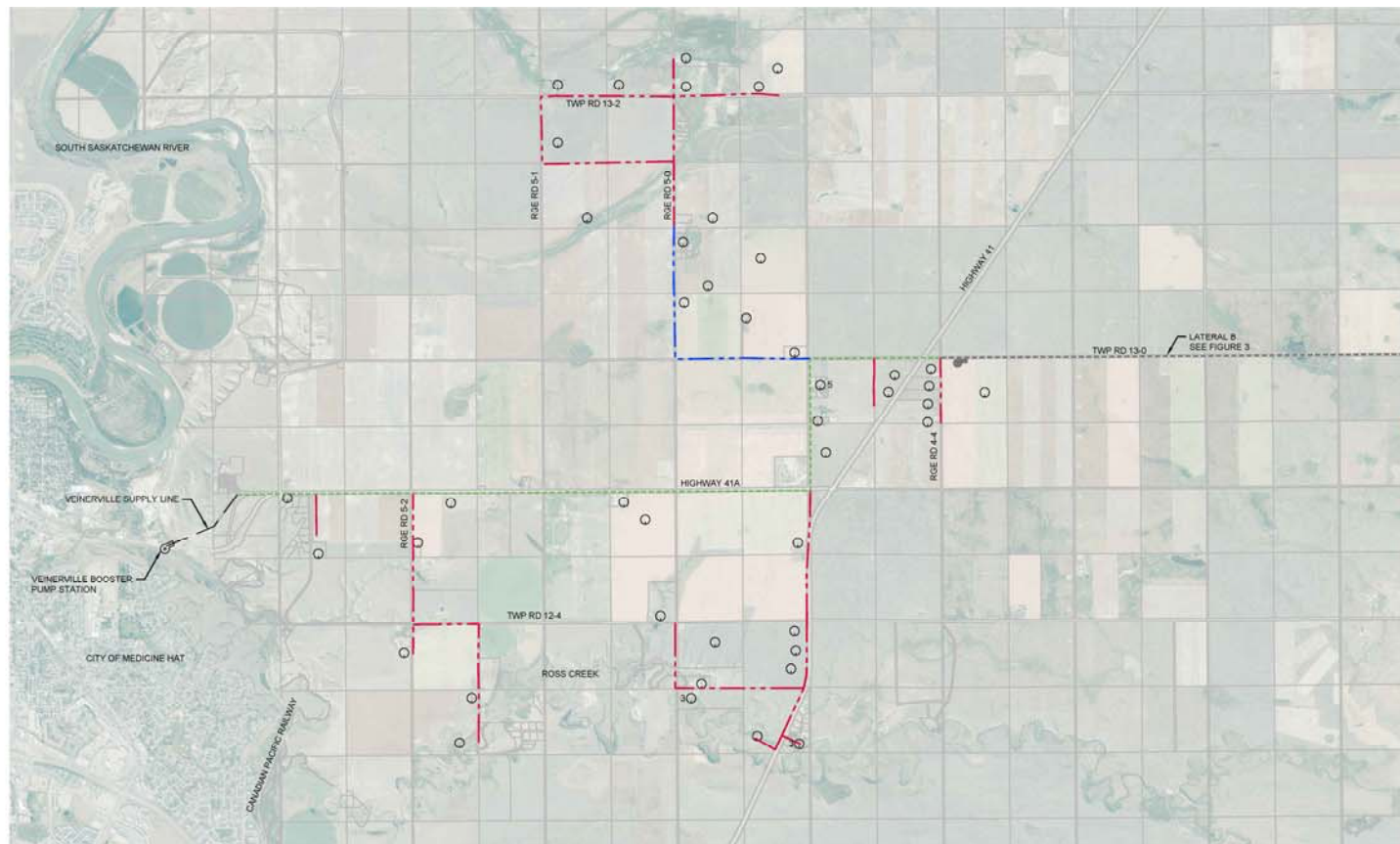
System Layout and Design

- Low flow trickle system
- 500 imperial gallons per day per service ($2.27 \text{ m}^3/\text{day}$)
- Restricted flow rate of 0.33 igpm (0.5 usgpm)
- For reference, Cypress County Design Guidelines require rural country residential developments to provide 1,250 $\text{m}^3/\text{year}/\text{household}$ (0.523 igpm /household or 753 imperial gallons per day)

System Layout and Design

Lateral Summary			
Lateral	Location	# of Services	Supplied By
A	East of Veinerville	52	Veinerville
B	North of Irvine	53	Veinerville
C	South of Dunmore	22	DIW Pipeline
D	South of Highway 1	103	DIW Pipeline
E	Northeast of Dunmore	22	Dunmore Distribution System
F	South of Irvine	4	Irvine Distribution System
G	North of Highway 1	4	DIW Pipeline
	Monarch Subdivision	41	Dunmore Distribution System
	TOTAL	301	

Lateral A



LEGEND	
	PROPOSED SHAREHOLDER
	40mm DR11 HDPE
	50mm DR11 HDPE
	100mm DR11 HDPE
	EXISTING CYPRESS COUNTY 150mm DR21 PVC



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PRELIMINARY DESIGN REPORT
FIGURE 2
LATERAL A

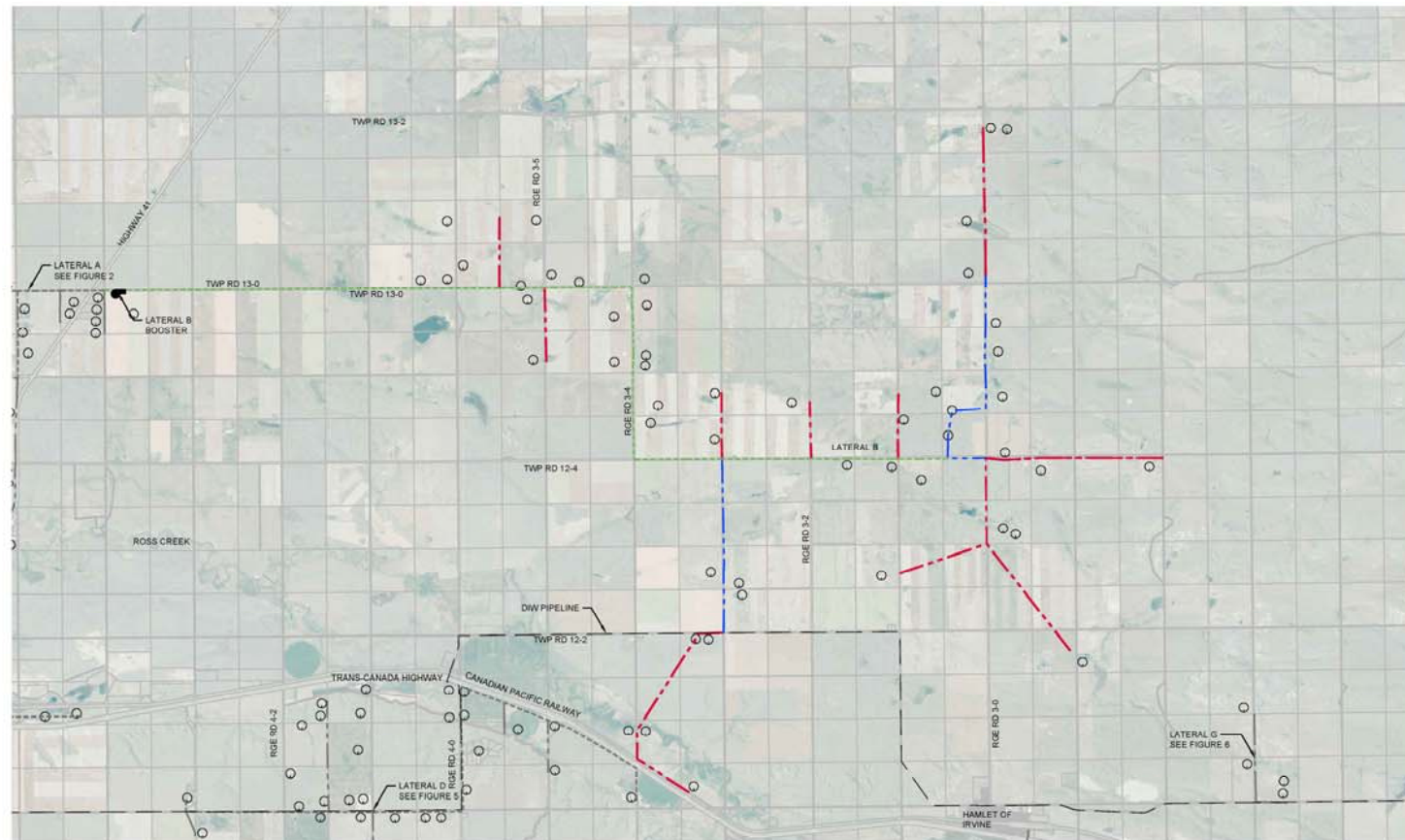
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DATE: MARCH 2016

JOB: 3927-001-00

FIGURE: 2

Lateral B



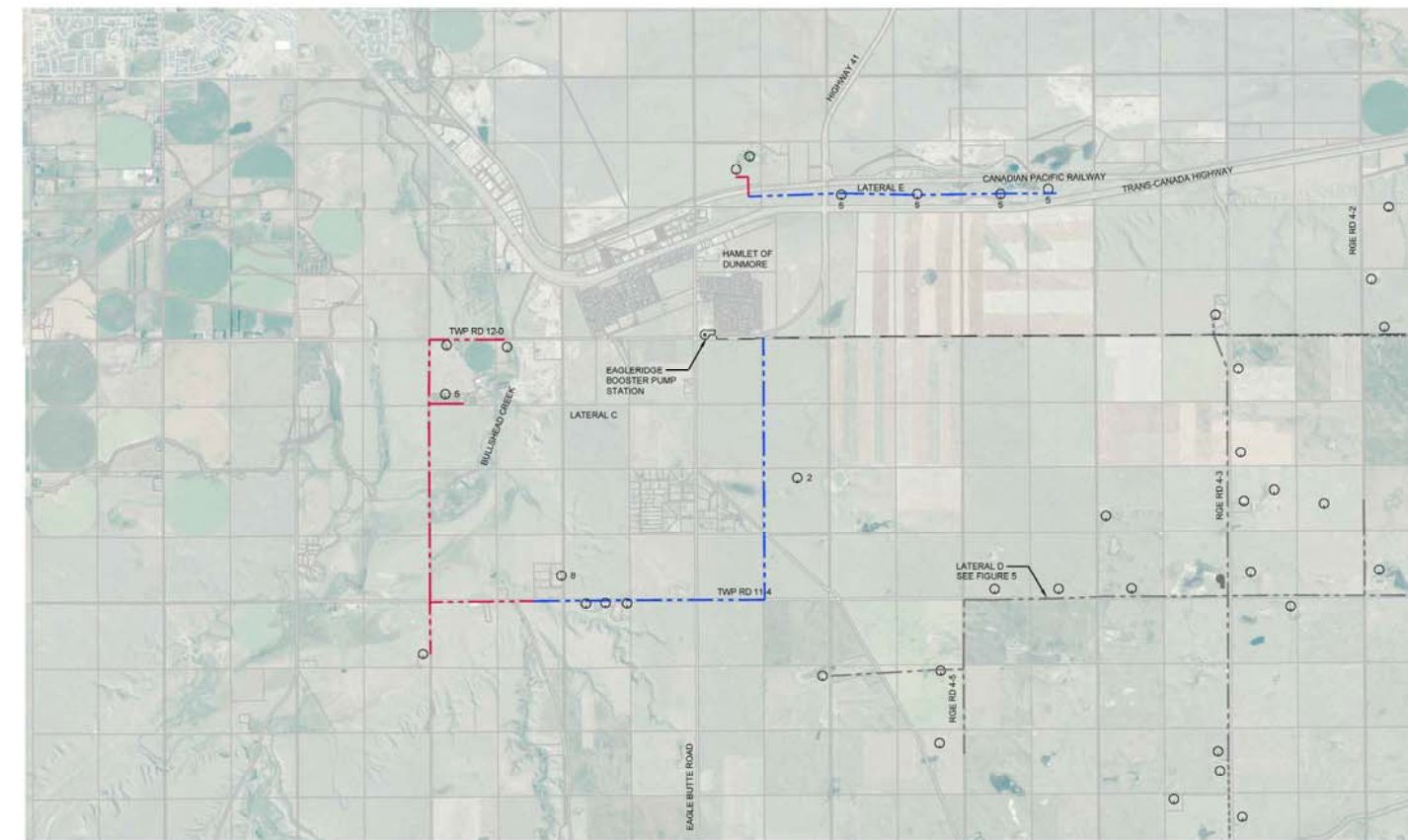
LEGEND	
○	PROPOSED SHAREHOLDER
—	40mm DR11 HDPE
- - -	50mm DR11 HDPE
- - -	100mm DR11 HDPE
- - -	EXISTING CYPRESS COUNTY WATER LINE



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PRELIMINARY DESIGN REPORT
FIGURE 3
LATERAL B

SCALE: 1:75 000	DATE: MARCH 2016	JOB: 3927-001-00	FIGURE: 3
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Lateral C and Lateral E



LEGEND
 O PROPOSED SHAREHOLDER
 --- 40mm DR11 HDPE
 --- 50mm DR11 HDPE
 --- EXISTING CYPRESS COUNTY WATER LINE



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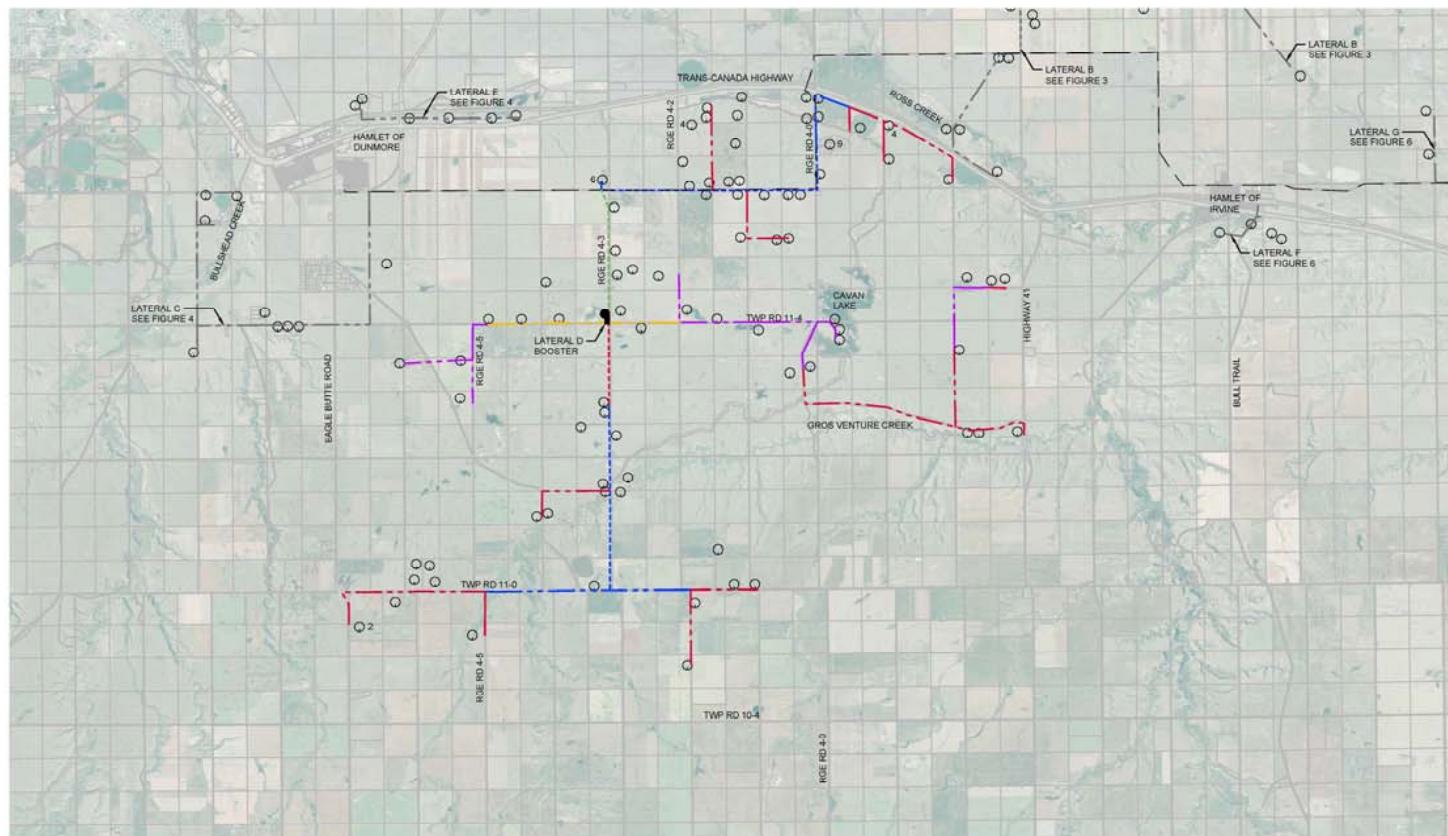
PRELIMINARY DESIGN REPORT
 FIGURE 4
 LATERAL C, LATERAL E

SCALE: 1:50 000 DATE: MARCH 2016

JOB: 3927-001-00

FIGURE: 4

Lateral D



LEGEND	
○	PROPOSED SHAREHOLDER
---	40mm DR9 HDPE
---	40mm DR11 HDPE
---	50mm DR9 HDPE
---	50mm DR11 HDPE
---	75mm DR9 HDPE
---	75mm DR11 HDPE
---	100mm DR11 HDPE
---	EXISTING CYPRESS COUNTY WATER LINE



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PRELIMINARY DESIGN REPORT
FIGURE 5
LATERAL D

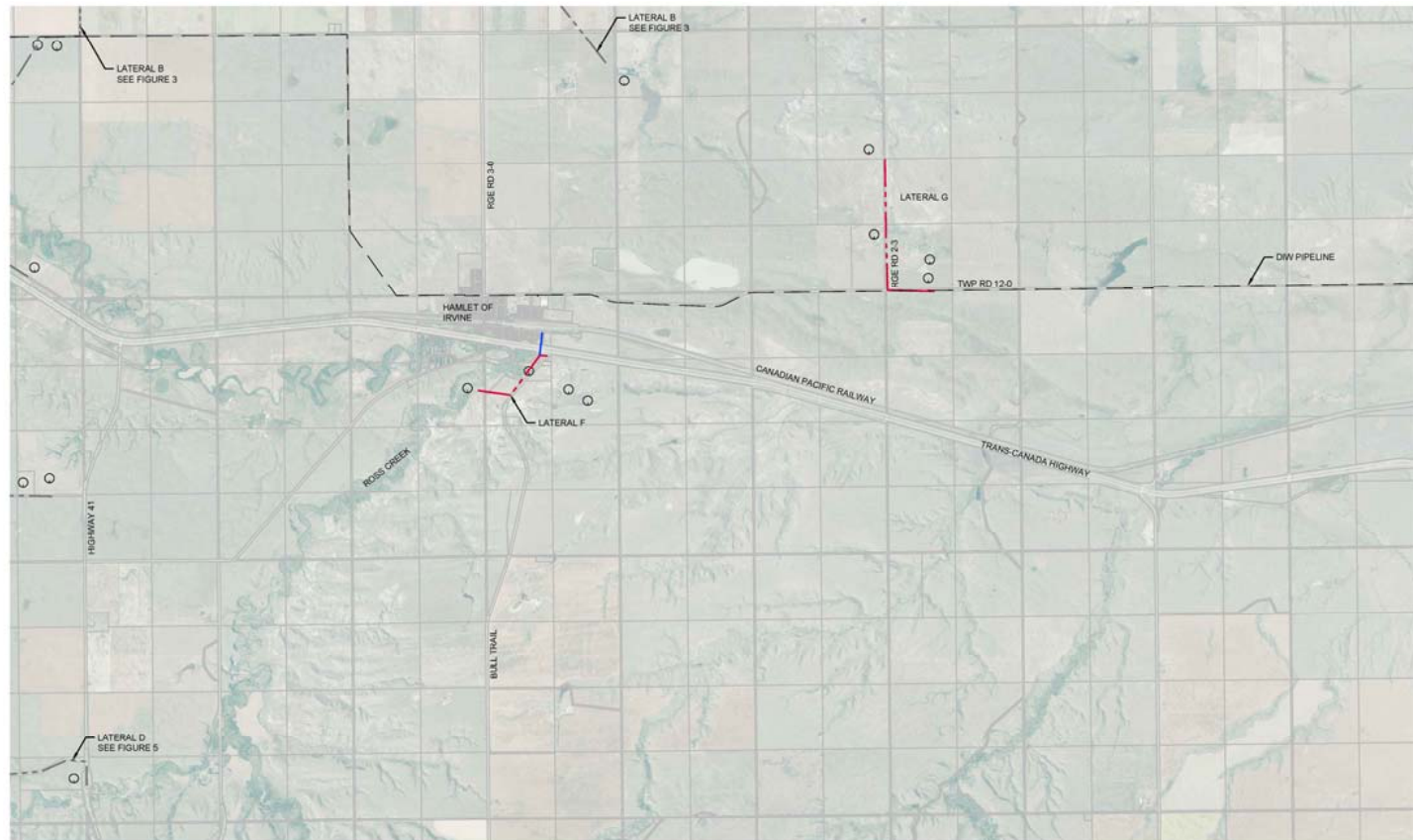
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DATE: MARCH 2016

JOB: 3927-001-00

FIGURE: 5

Lateral F and Lateral G



LEGEND

○ PROPOSED SHAREHOLDER

--- 40mm DR11 HDPE

--- 50mm DR11 HDPE

--- EXISTING CYPRESS COUNTY WATER LINE



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PRELIMINARY DESIGN REPORT
FIGURE 6
LATERAL F, LATERAL G

SCALE: 1:50 000

DATE: MARCH 2016

JOB: 3927-001-00

FIGURE: 6

Summary of Findings

- DIW Regional Pipeline hydraulically capable of supplying the required flows
- Veinerville Booster Station would require upsizing of pumps
- Two new booster stations
- Seven above-ground gate connections with chlorine boost capabilities
- 174 km of pipe
- Order-of-magnitude cost estimate: \$11,865,000 or \$46,529 per share

What does the Co-op Request from Cypress County?

- Water Rights
- Permission to adjust the Dunmore/Irvine/Walsh Pipeline design capacity
- Upgrade the Veinerville Booster Pump Station to include the Co-op
- Grant Applications

Water Rights

The Co-op requests that:

- Cypress County allocates 250,000 m³/year (203 acre/feet) of water to the Co-op for rural use through the Gates and transfer licenses to the CMH as required.

Co-op Water Usage			
Location	Number of Services	Co-op Usage (m ³ /year)	Co-op Usage (acre/feet)
Dunmore/Irvine/Walsh Pipeline	132	109,500	89
Veinerville	102	84,600	68
Dunmore's Distribution System	63	52,300	43
Irvine's Distribution System	4	3,300	3
TOTAL	301	250,000	203

Dunmore/Irvine/Walsh Pipeline

- Currently on paper, 1.88 l/s is allocated for rural use through the D/I/W Pipeline - Good for 75 services.
- The Co-op has a total of 132 proposed shareholders to be serviced from the DIW Pipeline (3.21 l/s)
- Revising the hydraulic capacities of the pipeline to account for actual Co-op service locations will allow for all of the 132 proposed shareholders to be serviced from the DIW Pipeline with no modifications to the County's system

Veinerville Gate

The Co-op requests that:

- Cypress County upgrade the pump station to provide the required flow and pressure of the Co-op
- Transfer water rights to the City of Medicine Hat



Grant Applications

The Co-op requests that:

- Cypress County apply for grants on behalf of the Co-op
- Finance the project (assuming sufficient grants are obtained) and recover their investment through a Local Improvement Tax

Thank you

Questions?