

**Water Advisory Committee Report on:
Irrigation to acreage under 2 acres
April/2016**

The water advisory committee was requested to review the current policies on the availability of irrigation water supplied to land parcels that are under 2 acres in size, and attempt to come up with suggestions that would help the basic questions:

- Should irrigation water be supplied to properties under 2 acres, and if so should there be criteria or minimal lot size.
- how should irrigation rates be billed to these parcels?
- should there be meters installed to these parcels?

The issue is somewhat complicated by a number of issues.

1. Currently, there are a number of parcels under 2 acres that have irrigation water supplied from a non-metered separate water service.
2. Historically, there were many parcels over 1/2 acre that had irrigation connections that were removed.
3. The cost of installing meters to the present parcels having irrigation under 2 acres is projected to be approximately \$375,000

The committee has reviewed as much information as is available at the present time, and has made the following recommendations to address some basic queries:

1. Yes, there is reason/instances for irrigation water to be supplied to properties under 2 acres. There are properties where the domestic service supplies inadequate flow and pressure. There are properties that have been on the Irrigation Roll for many years, that have arable land.
2. There should be a minimal lot size of 1/2 acre. Referencing the definition of "domestic water" in both the old Water Act and the newly introduced Water Sustainability Act, there is a limit of 1000 square meters (1/4 acre) that can be serviced with irrigation for domestic purposes. Assuming a lot size of 1/2, the house and driveway would have a footprint of half the property, leaving approximately 1/4 acre remaining that can be irrigated with domestic.

In an attempt to help direct decision making as to possible solutions to the many questions arising from the different issues, the committee has come up with 2 different scenarios that take different approaches to the possible directions that can be taken.

Scenario #1

There are properties under 2 acres in size which should qualify for irrigation water. In the new Water Sustainability Act there is a **limit for 'domestic purpose' 'irrigation** of a garden not exceeding 1,000 square meters (1/4 acre) that is adjoining and occupied with a dwelling'. That indicates that the limit should be at least 1/2 acre or .51 acres legal lot size with over 1/4 acre of arable land (assuming the footprint of house and parking area does not exceed 1/4 acre)

In some situations domestic service provides inadequate flow and pressure to grow food. Some of these properties have been on the Irrigation roll for years and have helped create the water system.

Billing rates should be at irrigation rates limiting to 3 categories: 1 acre, 1.5 acres and 2 acres. See below to Fees and Charges Bylaw excerpt – we would delete the .5 and less category and deal with them under Domestic – for many of them the solution is installing a pit meter for Domestic.

Meters should be installed over time as budget allows with a priority for problem properties. If no meters, then criteria should be that lots must have flow control valves and time clocks operating irrigation zones equivalent to volumes allowed. Flow and volume allocations should be the same as other irrigation allocations – 800mm and 6 Imperial Gallons Per Minute Per Acre.

- Options:
- develop proposal for infrastructure funding for all at once
 - create annual budget allotment for a certain number/year
 - create reserve and install meters when \$ is there
 - allow property owners to have meters installed at their cost
 - allow property owners to have pit meters installed on their domestic services to service their underground irrigation systems as well as domestic

FEES AND CHARGES BYLAW

Domestic Second Water Service

Where a property is under .81 arable ha (2.0 arable acres) and there service in place as of July 1, 2015, and the purpose of the second water service is Domestic Seasonal Water Use, the annual charge shall be as follows: (Arable acres of .5 or less \$44) **delete**

Arable acres of .51 to 1.0 \$112 should be \$144 or current per acre charge

Arable acres of 1.01 to 1.5 \$184 should be \$216 or 1.5 X current per acre charge

Arable acres of 1.51 to 1.99 \$254 should be \$288 or 2 X current per acre charge

Scenario #2:

Investigate the possibility of utilizing domestic meters on small parcels for dual billing: both domestic and irrigation in order to circumvent the problem of installing second connections for such parcels.

Problem: the present domestic rate structure does not allow for the flexibility of using domestic meters to address the irrigation requirements of larger lots.

one possibility to consider:

Implement a change in the domestic rate structure in order to negate the questions:

- for second irrigation connections
- who qualifies for irrigation water.

Rather than deciding who gets a second connection, investigate devising a structure that can utilize domestic water meters for dual purpose.

1. Legal:

Under the Water Act (being phased out) and the Water Sustainability Act, domestic water can be used for irrigation use for up to 1,000 m² or 1/4 acre. Therefore, using the same district example listed (below the following table), using a .5 ha property, cannot be utilized, as 70% of .5 = .35ha or 3500m²

3500m² is .86 acre, therefore should be considered in the meters for under 2 acre issue.

1000m² is roughly 1/4 acre, which would fit into most residential parcels of being 1/2 acre and under.

2. Modelling:

The current model sets a base rate of \$28.45 with no water used, plus a rate structure for water used. this was to be revenue neutral.

The old structure:

was based on a rate of roughly \$34/month with no meters.

This was guaranteed to cover budgeted and included basically non charged amount of water usage.

Suggestion:

Change the domestic rate structure so that the model includes a volume of water that is available. For example, a maximum domestic use of 25 cubic meters per month (or some other appropriate amount), for 12 months a year, with the rate kept at \$34/month. (or whatever the equivalent 2016 rate would be) This would reflect the amount of inside domestic water use that is available per household.

(this is similar to the irrigation roll, if you are on you are on, you pay for the right to have required amount of water. If you are a resident and are away for 6 months of the year, you should still pay, just as an irrigator who does not have anything planted.)

ie: the base rate in both systems should include a base allocation, not just a fee.

For the months of April thru October, consumption over 25 cubic meters would be charged at a "domestic irrigation rate", a rate that would be much more in line with what irrigation rates would be. Or, exactly what irrigation are. Over consumption would be based as the current domestic model - on the following table.

Monthly Domestic Irrigation Allotments for Billing

#	Month	Reading Day	Depth Allotment (m)	Per Dwelling Allotment (m³)
1	January	28	0.0000	25.00
2	February	28	0.0000	25.00
3	March	28	0.0000	25.00
4	April	28	0.0350	25.00
5	May	28	0.0950	25.00
6	June	28	0.1500	25.00
7	July	28	0.1800	25.00
8	August	28	0.1919	25.00
9	September	28	0.0931	25.00
10	October	28	0.0500	25.00
11	November	28	0.0000	25.00
12	December	28	0.0000	25.00

Example: August: Lot size is 3/4 acre.

assuming house and parking area footprint is 1/4 acre.

$3/4 \text{ acre} - 1/4 \text{ acre} = 1/2 \text{ acre} = 2023 \text{ square meters.}$

referring to above chart, August allotment is .1919m

Calculation of maximum consumption allowed :
 $2023 \times .1919 = 388 \text{ cubic meters}$

say, for example, rate for "domestic irrigation" was \$.08, which is much more in line with irrigation roll rates, and is much lower than the current \$.31 being charged.

irrigation charge for August would be \$31.00 if maximum amount of water used.

An over consumption charge would be charged for anything over the monthly allotment limits.

Questions:

- would this solve the problem of putting in second meters to many properties?
- Is there still sufficient initiative to domestic users to manage water sufficiently?
- Is this a "made in Summerland" solution?

4500 domestic connections X 25 cubic feet/month X 12 months = 1,350,000 cubic meters/year = 1094 acre-feet/year

Summerland has license for around 2500 acre/feet of domestic?

To understand of above monthly allotment chart, refer to the spreadsheet below. Notice yearly allotments for both irrigation and domestic are virtually the same, 795mm vs 800mm. The domestic has been broken down into monthly allotments to reflect the monthly domestic billing system

Month	depth allotment meters	depth allotment mm	cubic meters per acre	cubic meters per ha
Jan	0.0000	0.0000	0.0000	0.0000
Feb	0.0000	0.0000	0.0000	0.0000
Mar	0.0000	0.0000	0.0000	0.0000
April	0.0350	35	141	350
May	0.0950	95	384	950
June	0.1500	150	607	1500
July	0.1800	180	728	1800
Aug	0.1919	192	777	1919
Sept	0.0931	93	376	931
Oct	0.0500	50	202	500
Nov	0.0000	0.0000	0.0000	0.0000
Dec	0.0000	0.0000	0.0000	0.0000
total	0.7950	795	3215	7941

seasonal domestic allotment already in place = 795mm

proposed irrigation allotment = 800 mm

problems:

- to accurately calculate footprint vs irrigated portion of property?