

**Deputation Clarksburg  
Ratepayers (B1)**

**Presentation to E & PW Committee of the TBM**

**March 24 09**

**INTRODUCTION**

Clarksburg Rate Payers Association  
Water / Sewer Team members

Paul Malone - 20 year resident former Ontario manager of K.J. Beamish Construction and an experienced carpenter / builder .

Jim Farmilo - Phd in Biology, extensive career inventing, building, selling medical diagnostic products.

Lindsa Wykes - active graphics business owner/operator in downtown Clarksburg advocating the restoration of the commercial core area .

John Reeves - worked at CBC for 34 years as a producer of many radio documentaries about public affairs in Canada and abroad. He also worked for 20 years helping to re-establish democracy in the Czech Republic , for which he received a government award for service to the state .

Fred Young - BAsC. MBA retired consultant and former engineer / manager on operations R&D for 30 years at Kodak Canada

- we are property owners in Clarksburg with wells and septic systems .

## **OUR PURPOSE TODAY**

- to report our findings on the following subjects based on our research over the past 3 months which has identified some interesting results and worthwhile options to installing municipal water and sewers in Clarksburg .
  - . water sampling map of Clarksburg
  - . annual estimated household costs for water / sewer pipes
  - . optional household water and waste water treatment systems
  - . estimated costs for household systems
  - . new municipal water and waste water systems
- to report the benefits of the household water & waste water treatment systems
- to provide recommendations for your consideration and future action

## **Water Sampling Map**

We believe the water sampling map illustrating adverse water properties in Clarksburg as of 2005/ 2006 is flawed and misleading .

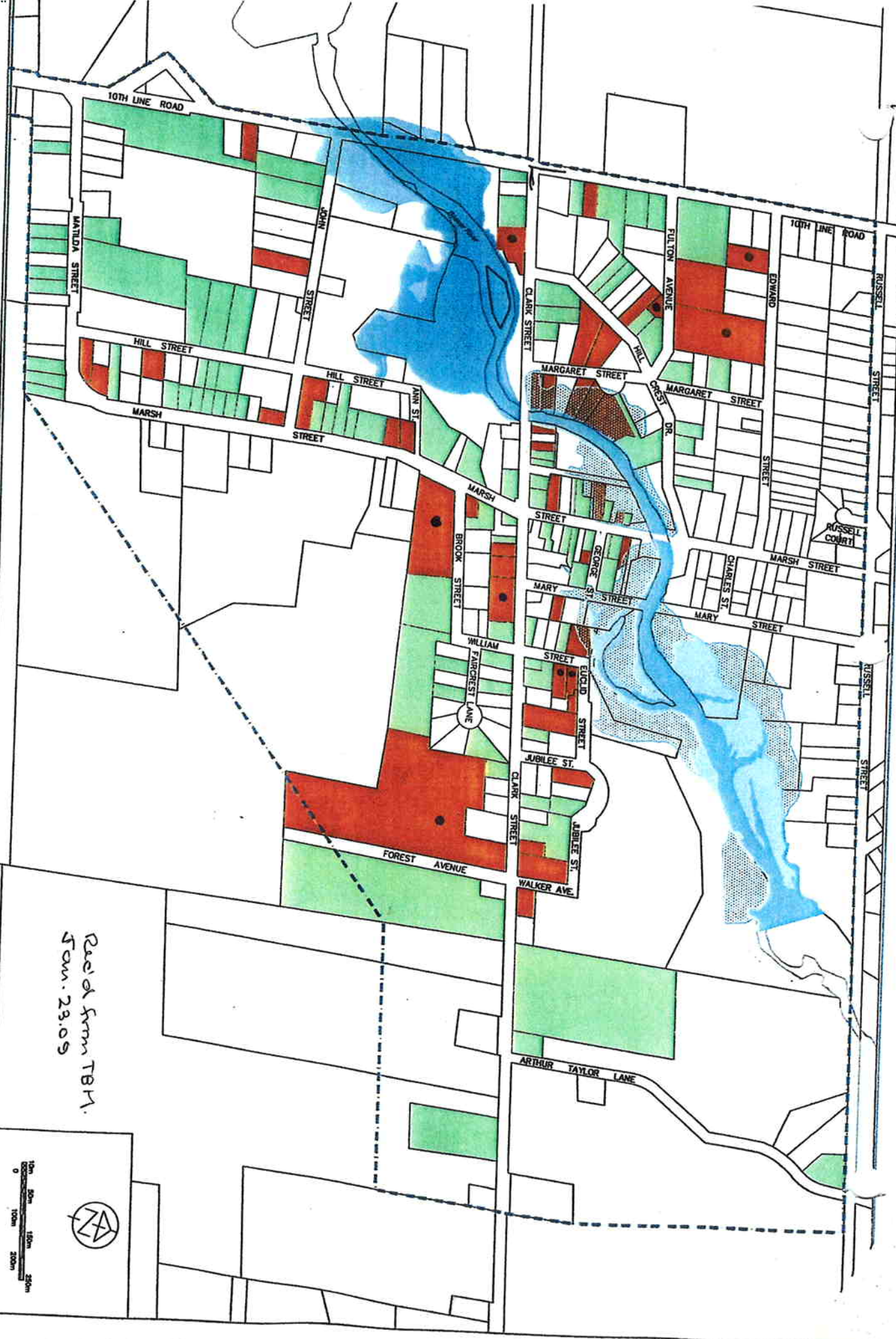
To date we have interviewed 8 of the 44 properties identified in red on the map of Clarksburg as having “ adverse “ water .One property was an apple orchard with no water on it .A second property was on Edwards St. and connected to Town Water. A third property , a B&B owner on Marsh St., reported that the kitchen tap strainer was not removed when the sample was taken and that her water tests are always good.. A fourth property with a newly drilled well at 90 ft. has just had her water tested good and has had no quality problems. Basically all the rest reported that their water tests were good.. 18% of the 44 “ red “ properties were errors.

I spoke with Kate Cassidy at the Public Health Offices in Owen Sound regarding the Ainley survey and results . She informed me that she has not heard of any water quality problems in Clarksburg .She also is familiar with the household Trojan UV Water treatment systems and recommends its use along with filter systems .On the subject of septic tanks , she is of the opinion that a properly maintained septic system works well and why bother with the newer high tech versions .

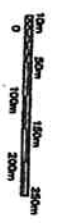
Accordingly, we are undertaking a survey of Clarksburg properties to determine how many properties really have water quality and septic problems . We will supply our results to you .

Let me stress that we certainly are in favour of helping those property owners who are experiencing water quality and / or septic problems . We feel there are available good options to water & sewer pipes which are cost effective and proven to be reliable .

- STUDY AREA
- ADVERSE WATER SAMPLES
- ICE JAM FLOOD LINE
- 100 YEAR FLOOD LINE
- PASSED WATER SAMPLES
- REGIONAL FLOOD LINE



Raid from TBH.  
Jan. 23.05



NO.	REVISION	DATE	BY

TOWN OF THE BLUE MOUNTAINS  
CLARKSBURG WATER & WASTEWATER  
SERVICING PROJECT - PHASE 1  
WELL WATER ADVERSE  
TEST RESULTS INVENTORY

figure 3  
CONTRACT No. W. Drawing 2



## Clarksburg Water and Sewer Proposals

Comparison of options for all residents

## Water and waste water options

### The original Proposal



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## The Original Proposal



- Connect all residents of Clarksburg to water and sewer by 2013
- Charge each house or business one third of the total charges
- Require hook up to your house or business as the lines are installed
- Start monthly charges as soon as the water is available, whether hooked up or not

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## What would this proposal cost?



- According to the town figures provided in Oct 2008, we would have had to pay
  - Installation of the main lines
  - Connection charges for house to main line
  - Monthly fees

So we have done some calculations

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## What have we assumed in these calculations?



- Installation fees are spread over 20 years, at an interest rate of 6%
  - 20 years is the longest amortization offered by the town
  - Interest rate to be determined by town
- Connection fees are spread over 5 years, at an interest rate of 6%
  - You will have to borrow this amount (about \$10,000) from the bank
- Average water/sewer bill is \$127.00 per month
  - estimated by the Town

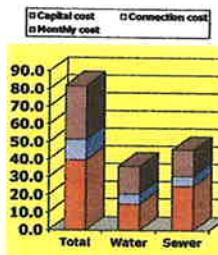
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## So...over the next 20 years...



- The total costs are almost \$82,000
  - \$36,190 for water
  - \$45,670 for sewer
- The breakdown is
  - \$39,800 capital cost
  - \$11,589 connection
  - \$30,480 usage

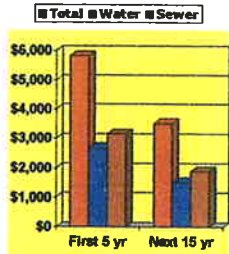


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### What would be the annual bill for water and sewer?

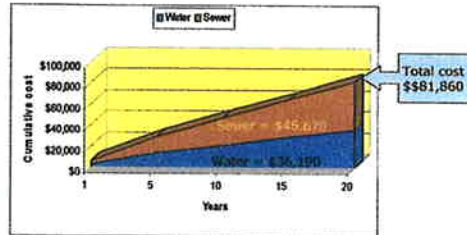
- Almost \$6,000 per year or \$500 per month for five years
- Over \$3,500 per year or \$300 per month for the next 15 years



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### The cumulative cost of water and sewer over 20 years would be almost \$82,000



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### There were other issues as well...

- If you sold your house, the remaining debt would have had to be paid off upon the sale, thereby reducing your return on the sale.
- The costs projected by the town were at 2007 levels, but the work would have been done in 2012-2013 so we don't know the real costs.

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### Water and waste water options



Options for water



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### And now for GOOD news...

- There are options for obtaining good water
  - Drill a deep well, most properties reach good water at about 100 feet.
  - Install a cistern and have water delivered
- Options for treatment if needed
  - Ultra-violet treatment, to eliminate live bacteria if any exist
  - Reverse Osmosis to obtain highest purity water

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### Drilling deep

- Many homes have dug wells, averaging 15-20 feet deep, OK for the early 1900's
  - Many run dry in hot weather
  - Many are surface water only
- Most properties in Clarksburg hit good water at about 100 feet.
- Quoted price on 100 foot well is around \$10,000 including source lines

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## Cisterns

- Large concrete container holding a truck-load of water
- Installed cost is about \$6,000
- Water for a family of three is about \$950 per year

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## Ultra-violet treatment

- Kills any living organism in the water
- Can handle solids and some "hardness"
- Approved by Grey-Bruce Health Authority as a treatment for drinkable water
- Installed cost is about \$3,000
- Requires bulb replacement at about \$100 every 3-5 years

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## Reverse Osmosis

- Involves a system of filters
- Removes solids, bacteria, viruses and some chemicals
- Water is "laboratory" quality—very good
- Also recognized by Health Authorities as a treatment for drinkable water
- Installed cost is about \$1,000
- Purchase of replacement filters at about \$200 each 1-3 years depending on water quality

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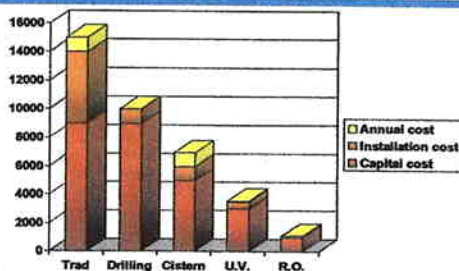
## Water softeners may be desired for the preceding treatments

- Remove calcium and iron from "hard" local water
- Do not provide protection from bacteria
- Optional expense, related to lifetime of plumbing facilities and taste of water
- Installed cost is about \$1,000
- Salt purchase at about \$50/yr depending on water quality

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## Cost comparison of water options



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## Some costs may vary depending on your house & property

- Drilling or digging through rock
- Digging in very wet surface areas
- Distance from supply to house
- Inside plumbing requirements

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## Water and waste water options



Options for waste water

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## Waste water treatment options

- A little more limited for single household solutions
  - Septic systems are still recommended by Health Authorities
  - High treatment septic systems are available
  - Eco-friendly systems are available

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## Eco-friendly waste water treatment

- Designed to handle multiple houses and businesses
- Operational in Canada in several sites
- Still require a collection system (sewers) but Clarksburg could all be gravity feed
- Could be run as a money-generating co-op for downtown or all of Clarksburg
- Cost for the plant is \$500K to \$1.5M depending on number of houses serviced

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## High treatment septic systems

- Closed system for treatment of individual house
- Requires pump and tanks in yard
- Guaranteed effluent water quality
- Installed price is about \$13,000

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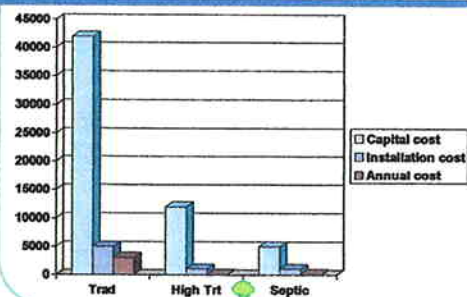
## Classic septic systems

- Still the top recommendation from the Health Authorities
- Difficult and expensive to replace
  - Needs space
  - New permit requirements are strict
- Needs maintenance with periodic pump out of tank and septic bacteria additive
- Installed price is about \$5,000

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## Cost comparison of waste water options



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## We did not investigate

- Rainwater collection options
- Grey water recycling options
- Conservation friendly appliances
- Other novel or experimental eco-friendly solutions
  
- There may be other partial solutions suitable to your particular situation

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## In conclusion

- It costs a lot less to treat incoming water individually than to have a traditional system
- These treatments are approved by the Health Authorities
- For waste water, the standard septic system is still perfectly acceptable and is the least expensive
- A high treatment septic system is far less costly than a centralized system and needs less space than a traditional septic system

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## **BENEFITS OF HOUSEHOLD TREATMENT SYSTEMS**

- Much Lower costs and more affordable for a household
- The additional cost will affect only households needing treatment systems .
- Maintenance and operating costs will be borne by the households using the treatment systems .
- These systems are available now and could be installed this year and be eligible for the new Federal Home Improvement grants .
- Avoids the municipal costs for project engineering and the acquisition of the capital costs of 100 future development units at an estimated cost of \$ 2,280,000 .
- Enhances the town's chances of obtaining Provincial and Federal grants for other needed facilities such as a Medical Centre or New Town Hall .
- Avoids major road construction costs and the related traffic and business disruptions .
- Avoids increasing the load on the existing water and waste water treatment facilities of the Town .
- Will be viewed by a majority of Clarksburg property owners ,who have good water supply and septic systems , as a reasonable solution for those who need new household treatment systems .
- Will retain the low density village ambience of historical Clarksburg .

## RECOMMENDATIONS

- Water sampling should be done by trained persons such as Public Health personnel who have no vested interest in the installation of a new water system .
- Contact Beckwith Township near Kanata Ontario regarding the installation of Trojan point of entry water treatment systems into 265 households last fall to deal with contamination from a nearby land fill site..
- Investigate Trojan Technologies in London , ON. regarding their installations of Trojan UV systems in New York City, China ,and Homer Glen Illinois a community of 25,000 where Trojan UV equipment is engaged in treating waste water effluent .
- Investigate Pinnacle Environmental Technologies microFAST waste water systems , a high tech system for households .
- Investigate Todd Ecological waste water municipal systems which utilizes a wastewater treatment greenhouse in South Burlington , Vermont.
- Provide technical help and information on approved systems to households who are building a new home or are having problems with either their water quality or septic system..
- Require applicants for building permits of new construction to provide detailed information on their plans for water supply and possible water treatment systems to assure acceptable water quality .
- Inspect and approve all new water supply installations.