

UPGRADE OF A MUNICIPAL WATER SUPPLY SYSTEM FOR AN ONTARIO HAMLET



ELITA CHAN

BRIAN FRITZ

WODA LTD.

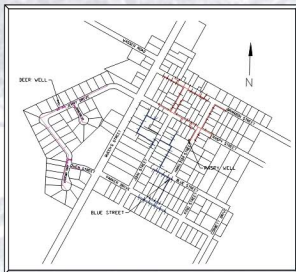
TOM GMYREK

JERRY WAGNER WATCHEL



BACKGROUND

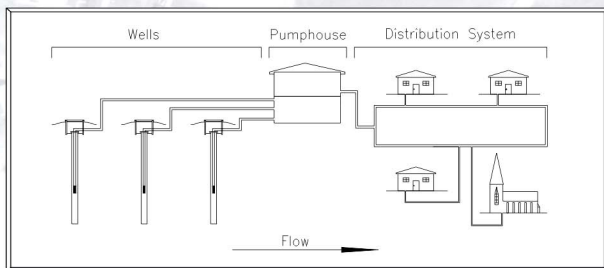
- In August 2000, the Government of Ontario introduced the Ontario Drinking Water Protection Regulation 459/00
- The Wasser municipal water supply systems must be upgraded to meet this regulation
- Wasser (current population of 246) is currently serviced by three individual systems and requires additional equipment



Layout of Wasser's three individual water distribution systems and property lots

DESIGN

- After analysing several alternatives to address the problem, the optimum design includes:
 - Directing the water from the three existing wells to a new, constructed pumphouse
 - Develop a reservoir and disinfection system
 - Install a single distribution system

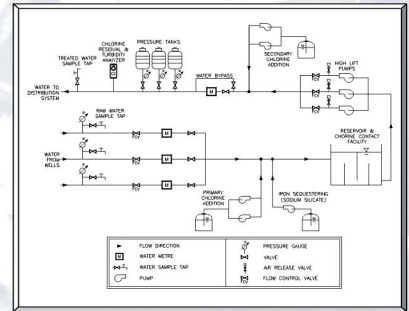


Flow of water from source extraction to consumer

- Design life: 20 years and a projected population of 640 people

PUMPHOUSE COMPONENTS

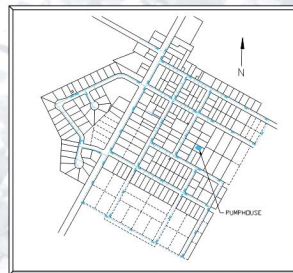
- Chlorinator
- Iron sequestering
- Reservoir
- High-lift pumps
- Water flow meter
- Pressure tanks
- Chlorine and turbidity monitors



Schematic layout of pumphouse

DISTRIBUTION SYSTEM

- Modeled using EPANET
- Looped configuration
- Easily expanded to meet population growth



Layout of Wasser's future water distribution system and property lots

CONCLUSIONS

- The new system will:
 - Be more efficient and economical in terms of operation and maintenance
 - Improve reliability of water quality standards
 - Adjustable and expandable to meet future requirements