

## The Apex Healthy House Project

The City of Iqaluit has received a grant and a loan for a demonstration project proposed for Apex called the Healthy House Project. The purpose of the proposed project is to demonstrate an alternative method for providing water and sewer services to homes in the Arctic.

### Why we are interested in an alternative method for delivering water and sewer services

- The cost of delivering water and sewer services to a residence in the Arctic is approximately 125 times greater than in Southern Canada.
- Piped services are very difficult and expensive to build and operate in the arctic, especially where it is hilly and rocky.
- Trucked water systems are cheap to build but cost considerably more than piped systems to operate.
- Municipalities or other levels of government subsidize consumers of trucked water.
- Consumers pay only a small fraction of the cost of service delivery.
- Trucked service is less reliable and consumers run out of water from time to time.
- Trucked Water Systems are environmentally unsound.

### The Healthy House Project – why is it different?

The proposed project will differ from standard trucked service in important ways:

- Fresh Water will be automatically delivered to a homes existing water tank from a communal tank that is refilled by truck.
- Sewage will be pumped automatically to a local treatment station where it is treated to tertiary standards and tested so that it can be recycled for flushing toilets.
- Residences can choose to use recycled treated water to flush toilets and/or wash clothes.
- Participating by recycling will reduce homeowner water bills substantially (up to 60%).
- Excess reclaimed water goes for disposal in an environmentally sound way.

### The Healthy House System – how does it effect a house?

If your house participates in the project, this is what you can expect:

- A neighbourhood Healthy House system will be built to serve your home and your neighbours who are also participating.

- Pipes will be run (shallow buried) across your back yard between the Healthy House System and your home.
- A fresh water pipe will be connected to your existing water tank with a new level sensor. The pipe will have an automatic valve that adds water to keep the tank full.
- A new tank will be added to collect sewage before it reaches your existing sewage tank. Inside this tank a pump will pump sewage to the Healthy House System.
- If you choose, a new pipe will be run to your toilet(s) to bring in recycled water for flushing.

### The Healthy House System – how does it effect a neighbourhood?

If your neighbours participate in the project, this is what you can expect:

- A neighbourhood Healthy House system will be built to serve your home and your neighbours who are also participating. The system will be contained in a small building about the size of a two car garage.
- Water deliveries will be much less frequent since every water delivery will use the whole truckload to fill the communal tank.
- Sewage pick-ups will be less frequent.
- It is likely that the neighbourhood will receive a some visitors that want to see the Healthy House System.

### The Healthy House System – how does it help the environment?

The Healthy House System is better for the environment because:

- Water service requires much less trucking.
- Less water is used for water service.
- Smelly, messy sewage pickups are eliminated.
- Sewage is cleaned so it can be reused for flushing toilets, better than the City's existing systems.
- Less greenhouse gases because of less trucking.
- Less wear and tear on roads.

### The Healthy House System – how does it help our community?

The Healthy House Project has been proposed so that the City of Iqaluit can address the following needs:

- The City Water Treatment plant is near capacity, this project will reduce water demand.
- The City water and sewer truck fleet is expensive to maintain, this project will reduce wear and tear on the truck fleet.

- The City needs a way to provide water and sewer services that is cheaper to operate than standard trucked water services.
- The City needs a way to provide water and sewer services that is less expensive to install than conventional utility infrastructure.
- The City needs to reduce wear and tear on city streets.

### The Healthy House System – what are the benefits to the participants?

The benefits to participating households include:

- More reliable water delivery.
- Eliminate smelly, noisy sewage pump outs.
- Eliminate water truck deliveries, you can park a car in front of the pump connections.
- Reduce your water bills by up to 60%.
- The City is paying all capital costs for installation, there is no cost to homeowners.

### How is my water delivery and water quality guaranteed ?

The Healthy House System proposed for this project includes some safeguards and backups:

- Your existing water tank will be left in place, if water delivery pipes freeze, you can simply get trucked delivery like you are doing now.
- Your existing sewage tank will be left in place, should your sewage pump fail, or pipes freeze, you can simply get a sewage pumped out like you do now until things are fixed.
- Recycled water will be tested continuously using automatic equipment.
- Recycled water will be laboratory tested regularly in addition to automatic tests.
- If Recycled water is not up to standards, or delivery pipes freeze, potable water will automatically take over to flush your toilets.

### When will the Healthy House System be built?

The project is planned for this year, here are the approximate milestone dates:

- End of February, 2002 - Report to council on the results of the neighbourhood meeting.
- Middle of March, 2002 - Concept study complete – the concept study includes a recommended site and a list of participants along with a rough design.
- End of April, 2002 - Final design complete.

- Middle of June, 2002 - Construction begin
- Early October, 2002 - Construction is projected to be complete.
- Early November, 2002 - The system is commissioned, it is tested and calibrated before being turned on.
- The system starts operating.

### Who can I contact if I have concerns?

A number of people have responsibility for the project.

- Mr. Kirt Ejesiak is the councilor for Apex and has taken an interest in the project. The telephone number for Kirt is 979 0333, he can be reached by email at [kirt@uqsiq.com](mailto:kirt@uqsiq.com).
- Mr. Mathew Hough is the director of Public Works and is the chief staff person in charge of the project for the city, his telephone number is 979-5633, he can also be reached by email at [engineering@city.iqaluit.nu.ca](mailto:engineering@city.iqaluit.nu.ca).
- Mr. Rolf Paloheimo is the designer and person to ask about any practical questions, his number is 416 466 5172, or 416 574 0611, his email is [rolf@healthyhousesystem.com](mailto:rolf@healthyhousesystem.com).

Name

House

Phone#

Comments