Annual Customer Seminar

Water and Waste Department

December 13, 2006

Winnipeg

Water and Waste Department

Vision

Excellence in environmental services

Mission

To provide and continually improve drinking water, wastewater, land drainage, and solid waste services to the citizens of Winnipeg

Agenda

1. Welcome
2. Tips on commercial recycling
3. Water main cleaning program update
4. Tips on maintaining your private water service infrastructure
5. Backflow prevention
6. Water treatment program update

Agenda

7. Coffee break
8. Sewer main cleaning program
9. Tips on maintaining your private sewer infrastructure
10. Wastewater treatment update
11. Sewer bylaw update
12. 2007 water and sewer rates
13. Question period and closing remarks

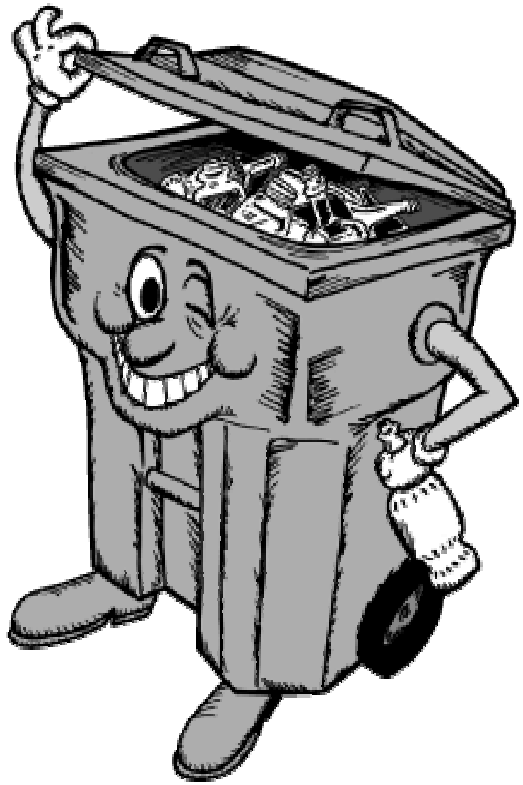
Recycling Tips for Businesses

Outline

- Why recycle?
- “Understand” your garbage
- Our role in recycling
- Resources available to you
- Tips for a successful recycling program
- Questions

Why recycle?

- Environmental
  - Consume less natural resources (e.g., trees, minerals, water)
  - Use less energy expended in recycling compared to producing new products
  - Produce less greenhouse gases
- Economics – may save money on garbage
- Integral with line of business – MEC



Know your garbage

- To develop an effective recycling program, you need to know:
  - how much garbage is generated
  - materials in your garbage that can be recycled (or not)
    - technical term is waste composition/waste audit study

www.stewardshipontario.ca/pdf/eefund/waste_audit_guide2005_sf.pdf

Recycling resources that may help

- Private sector recycling
  - 25 companies (see page 1134 in your MTS Yellow Pages)
- Province of Manitoba
  - Waste Reduction and Pollution Prevention (WRAPP) Fund
  - Sustainable Development Innovations Fund (SDIF)
  - Environmental Youth Corps
- University of Manitoba
  - Natural Resource Institute/Faculty of Engineering
- City of Winnipeg
  - small commercial service – 986-5858

Our role in recycling

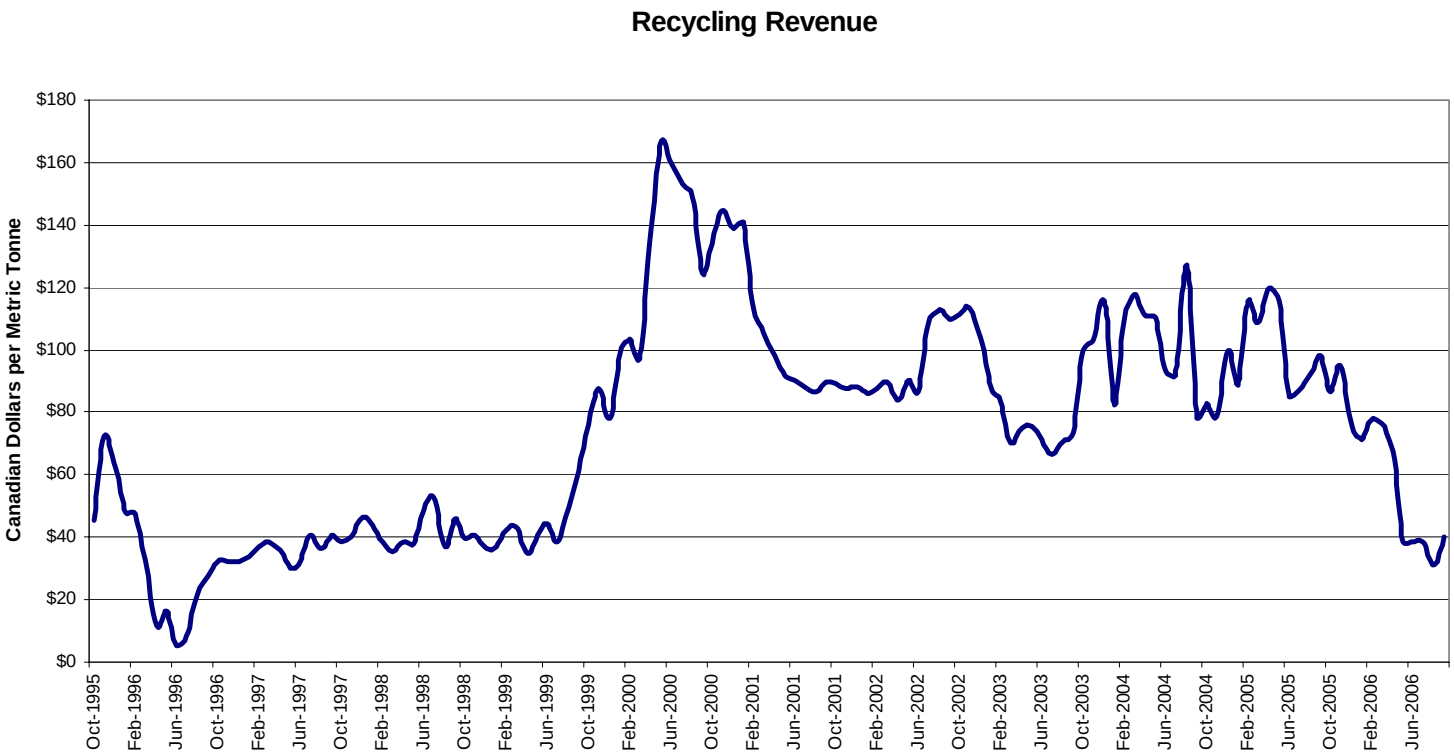
- We offer free recycling collection services:
  - To single family dwellings – 80% funding from Province
  - To apartments and other multi-family dwellings
  - At six depot locations
  - To small commercial establishments that sign up with us for fee for service garbage collection – available to businesses that generate more than 1.5 and less than 3.0 cubic metres of garbage per week

Recycling tip #6

- Each business operation is unique – one size does not fit all.
  - only recycle what makes sense to recycle (e.g., markets)
  - a waste composition study is key

Recycling tip #5

- Beware the recycling commodity markets



Recycling tip #4

- Recycling costs money
  - unless you are recycling a very valuable material, it normally costs more to recycle

Recycling tip #3

- The private sector recycling industry is very competitive
  - local companies offer many types of recycling service
  - speak with a few before signing up for a service

Recycling tip #2

- There is more than just “traditional” recycling
  - energy conservation
  - organics
  - water conservation and re-use
  - reduce and reuse (high environmental benefits)

Recycling tip #1

- There is an abundance of local knowledge
  - talk to your peers
  - many successes (and a few failures) in Winnipeg

Questions?

Water Main Cleaning Program

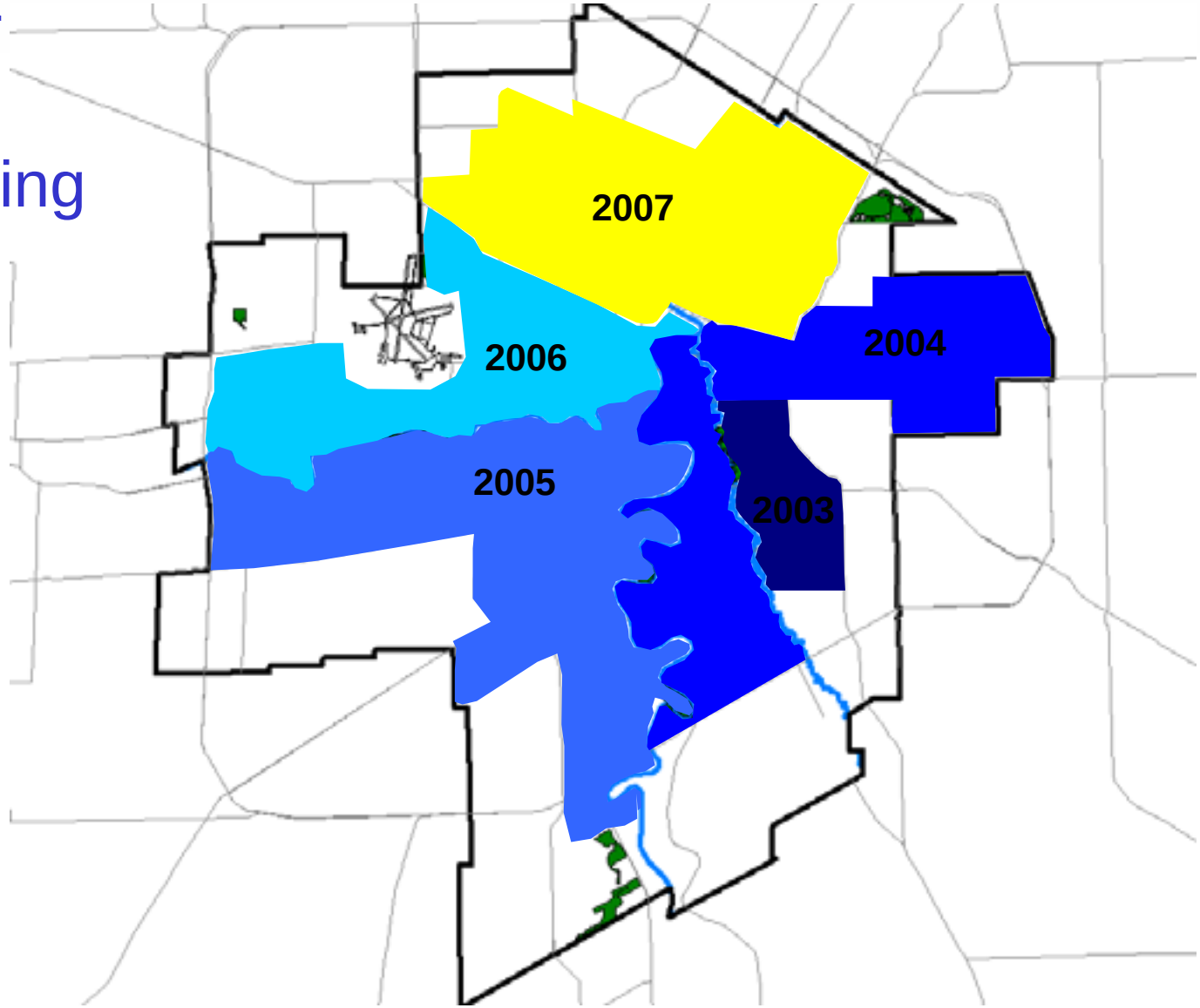
Outline

- Why are we cleaning the water mains?
- When and where are we cleaning water mains?
- What does water main cleaning mean to you?
- How long does it take to clean a water main?
- Monitoring water quality during cleaning
- Next steps

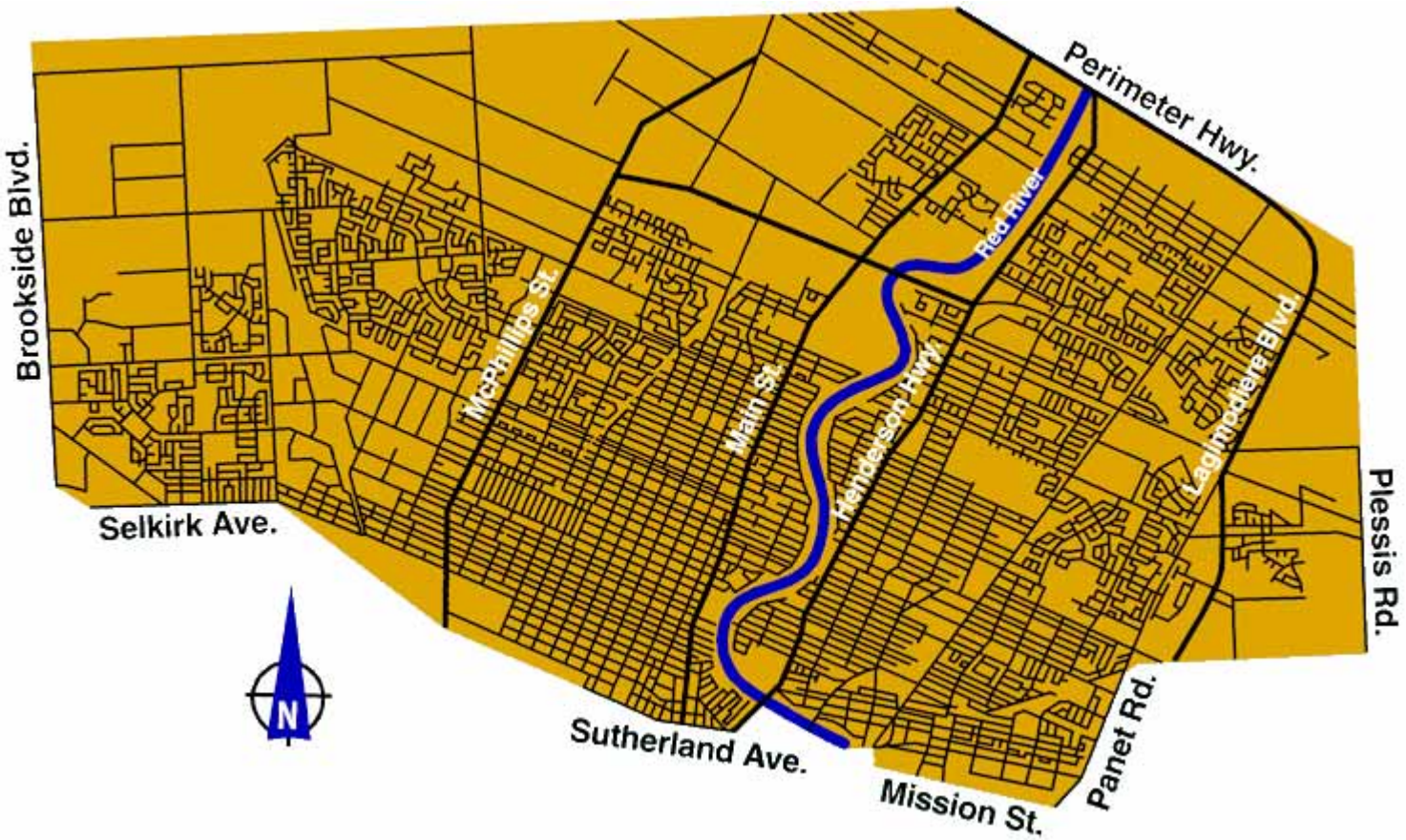
Why are we cleaning the water mains?

- Improve water quality
  - Sediments (primarily dead algae) accumulate in water mains and should be removed
  - Clean all water mains before the new water treatment plant begins operating
- Reduce “dirty water” complaints from water main breaks or valve operation
- Test the distribution system for deficiencies

Water Main Cleaning Plan



2007 Water Main Cleaning Area



How will you know when we are cleaning in your area?

- Notices placed monthly in community newspapers
- Q & A fact sheet on our Web site at winnipeg.ca/waterandwaste/water/maincleaning.stm

What does water main cleaning mean to you?

- Before cleaning
  - We will contact you in person 1 – 2 days in advance to advise when work will begin and how long work is expected to take
  - If you need water while we are cleaning, fill containers with water or contact our Customer Service Centre

What does water main cleaning mean to you?

- During cleaning
  - Don’t use water while we’re cleaning water mains on your street
  - Recommend turning off water supply to prevent sediment entering water pipes

How long does it take to clean a water main?

- Cleaning
  - Cleaning sequence usually completed in approximately 15 minutes

What does water main cleaning mean to you?

- After cleaning
  - We will contact you to let you know that we are finished cleaning the water mains
  - Turn on cold tap water in building to see if water is clear

What does water main cleaning mean to you?

- What else you may notice after the water mains are cleaned:
  - Cloudy water
    - water is cloudy when air gets in it and makes tiny bubbles
  - Chlorine smell
    - we add enough chlorine to the water to keep it safe
  - Drop in pressure
    - water pressure will soon return to normal

We monitor water quality

- Water samples are taken during the cleaning
- Sampling is completed at regional/residential/business locations during the program

Water quality monitoring

- Water samples are tested to confirm chlorine levels in the distribution system
- We also complete onsite random testing of water samples for chlorine residual

Next steps

- Plan to clean all City water mains (2,400 km) once prior to the start-up of the water treatment plant
- Program to be continued as ongoing maintenance

Questions?

Maintaining Your Private Water System

Your water system

- You own and are responsible for the water pipe from the water main connection to your tap
- You own and are responsible for any water main systems on your property
  - pipes
  - valves
  - hydrants

How will you benefit from regular maintenance of your water system?

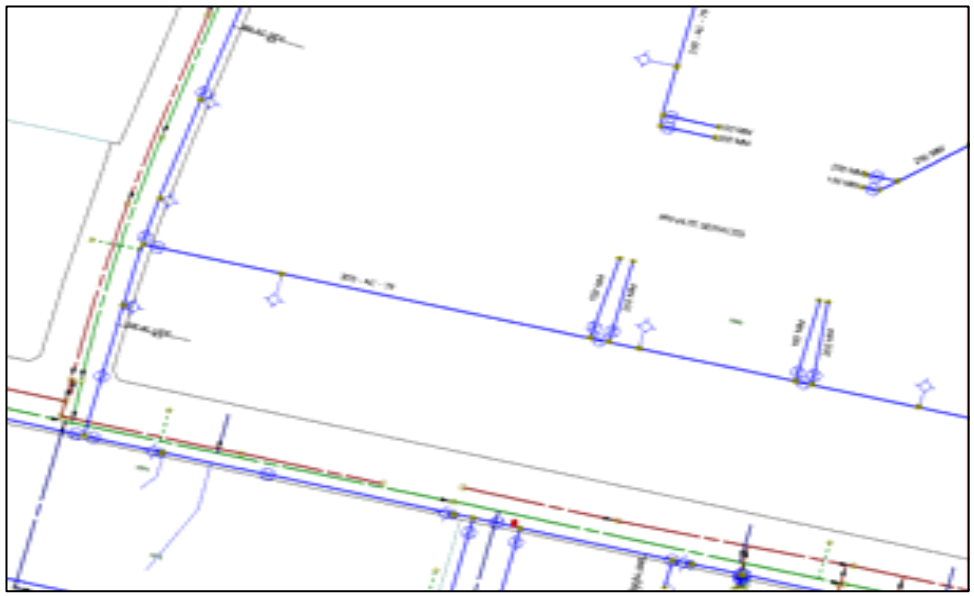
- Will ensure that your system will continue to work properly
- Can prevent pipe failures which may cause extensive damage to your property and others
- Can eliminate service disruptions which may result in costly business downtime
- Planned maintenance is more economic than emergency repairs

Recommended water system maintenance activities

- Accurate mapping
- Pipe condition assessment (inspection)
- Pipe rehabilitation
- Cleaning / flushing
- Emergency planning

Accurate mapping

- To give us your water system information, contact Ken Dalton, Supervisor of Drafting & Graphic Services by:
  - email at kdalton@winnipeg.ca or
  - phone at 986-4453



Pipe condition assessment

- Inspect and if necessary repair/replace your service connection or private water main system if your business depends on a reliable water supply
- Local qualified engineering consultants can assess which condition assessment technique is best suited to your system

Pipe rehabilitation

- Various techniques are available to rehabilitate your system
- If your business is dependent on a reliable water supply, you might choose to rehabilitate your water pipes before they cause any service disruption

Clean your private water system

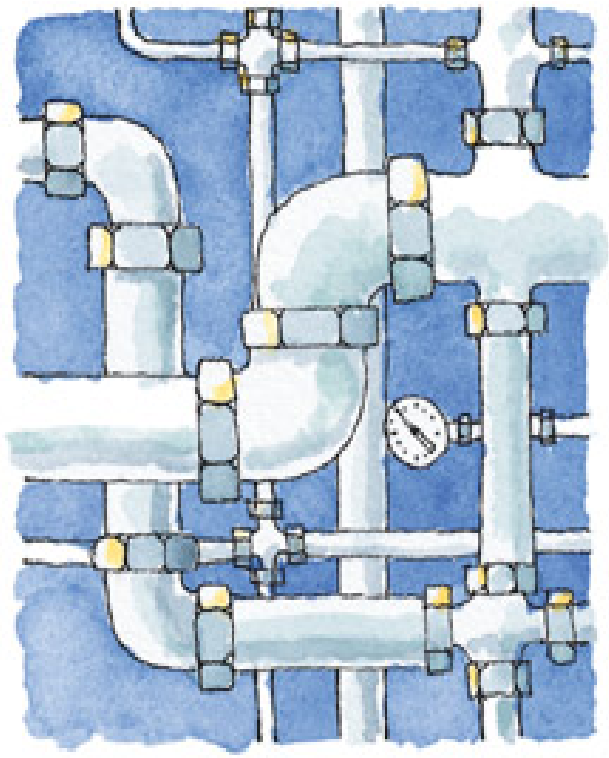
- Cleaning your private water system is important to maintaining high quality water
- Your water system should be cleaned at least every 5 years
- Coordinate cleaning of your private water system with our water main cleaning program

Maintenance of your internal plumbing is key to high quality water!

- Flushing / cleaning
  - Regular flushing of internal plumbing is required to maintain high quality water
- Backflow prevention
  - Devices must be maintained according to manufacturer's recommendations and tested annually

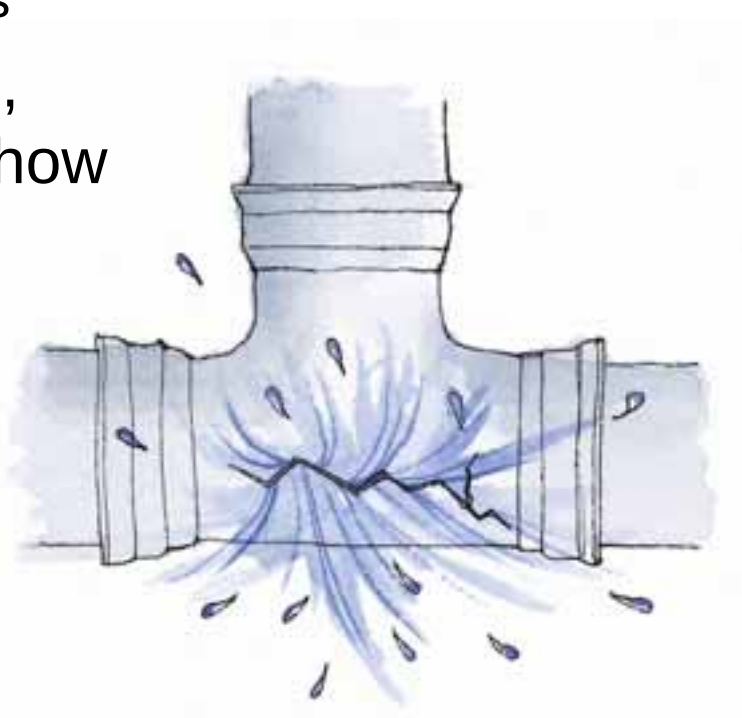
Maintenance of your internal plumbing is key to high quality water!

- Filters
  - Consider using filters or other water treatment systems if your business operation requires consistently high quality water
  - You must maintain these water treatment systems according to the manufacturer's recommendations



Emergency planning

- Emergencies can and do occur!
  - pipe breaks
  - internal water quality problems
- Develop an emergency plan, and ensure your staff know how to use it
  - procedures
  - communication plans
  - equipment
  - training



Summary

- Regular maintenance of your water system is important to your business
- If you need more advice regarding inspection and rehabilitation, contact an experienced engineering consultant
- Use experienced, qualified contractors
- Ensure you have an emergency plan

Questions?

Cross-Connection Control and Backflow Prevention

What is a cross-connection?

- An actual or potential connection between a potable water system and any source of pollution or contamination (liquid, gas or solid)
- Typical contamination of a potable water supply occurs when a liquid pollutant backflows into potable water

What is backflow?

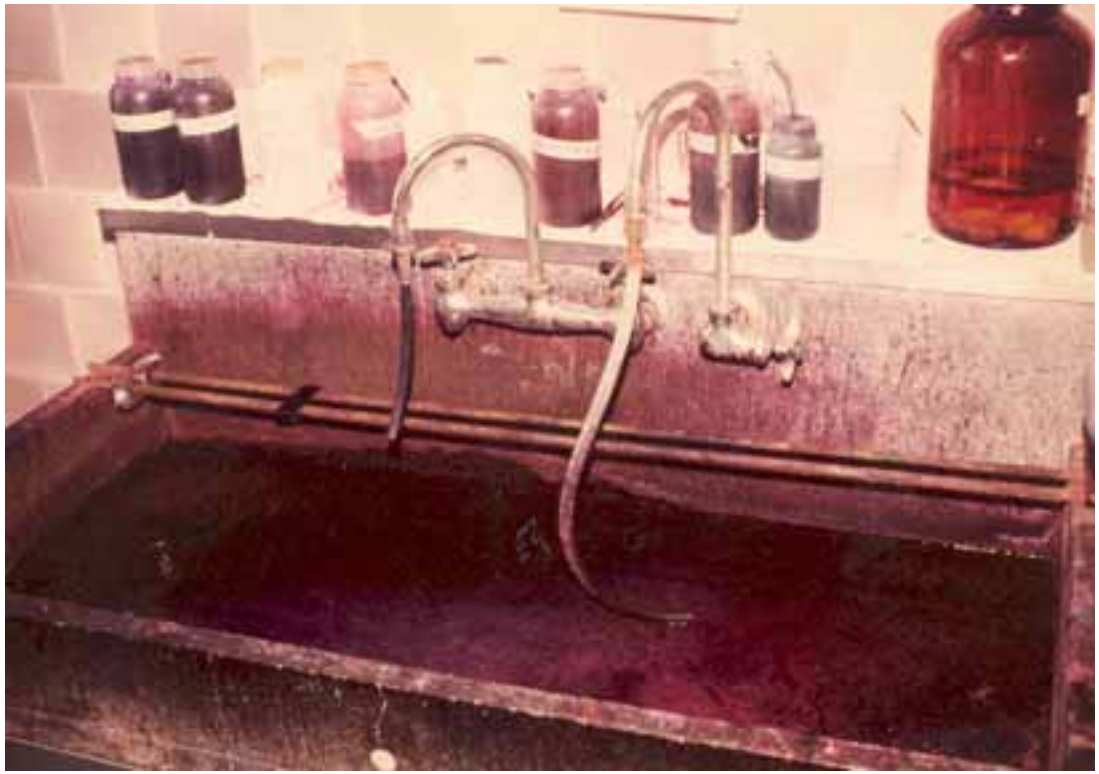
- A reversal of the normal direction of flow
- May be caused by:
  1. **Backpressure** — a non-potable system at a higher pressure than the potable system
     or
  2. **Backsiphonage** — negative or reduced pressure in the supply system

Cross-connections and backflow violate a City bylaw!

- Cross-connections and backflow violate the City of Winnipeg Waterworks Bylaw:

> "*No customer or person shall connect, cause to be connected, or allow to remain connected, any piping, fixture, fitting, container or appliance, in a manner which, under any circumstances, may allow water, wastewater, or any harmful liquid or substance to enter the City's water system*."

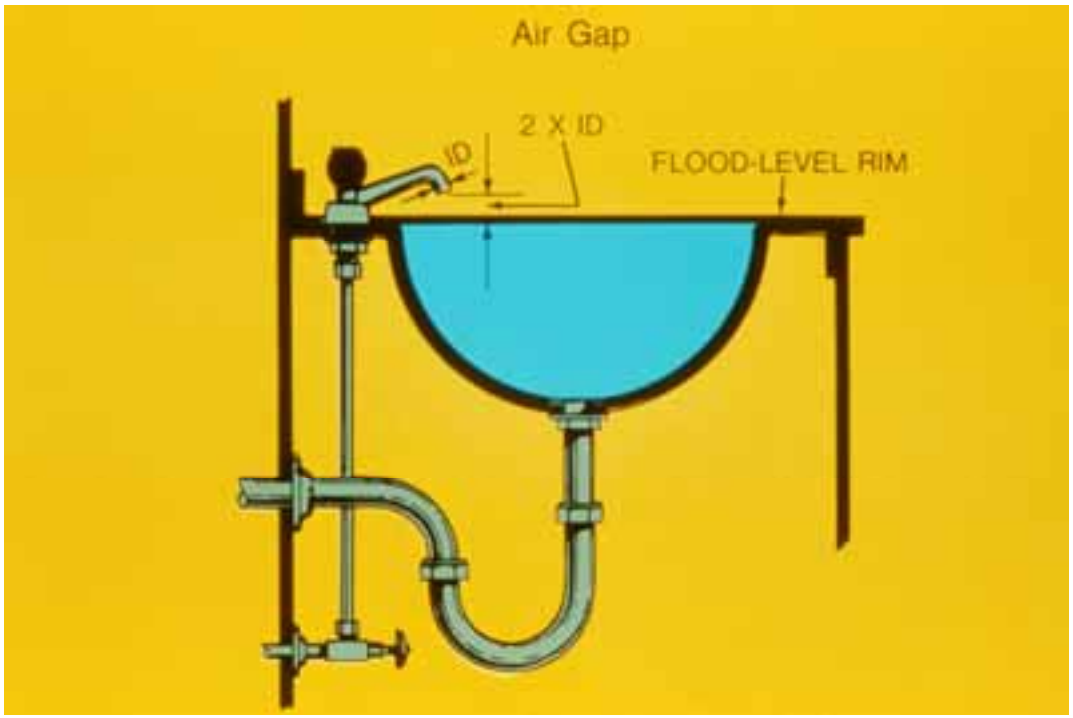
Example of a cross-connection



Example of a cross-connection

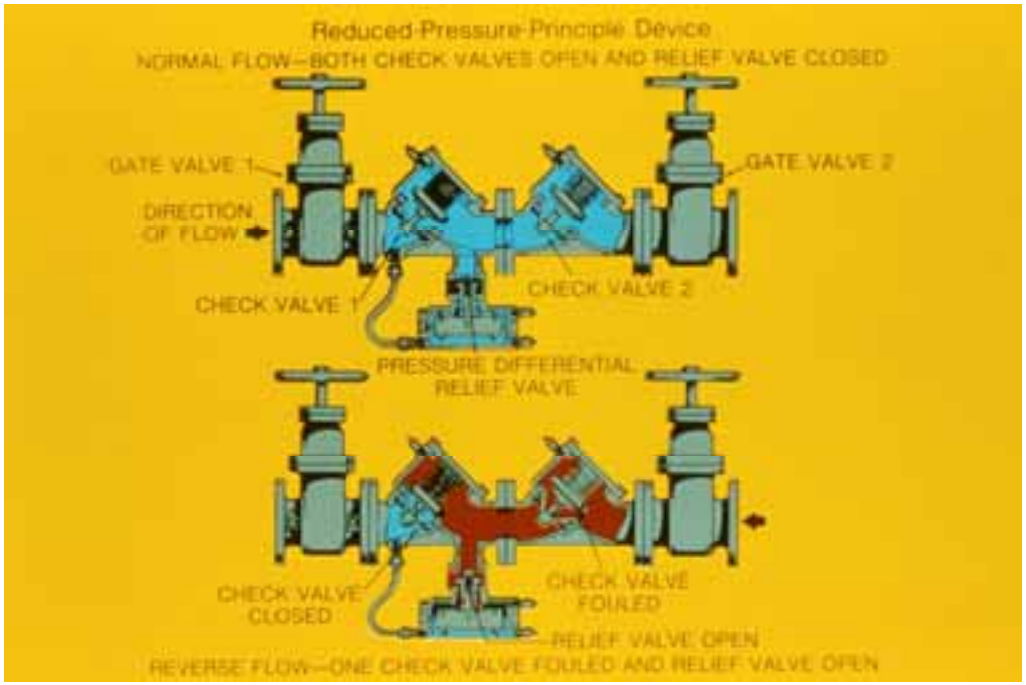
How do you prevent a cross-connection?

- Install a backflow prevention device (e.g., air gap)



How do you prevent a cross-connection?

- Install a backflow prevention device (e.g., reduced pressure principle backflow device)



How do you know if you need a backflow prevention device?

- Make sure you consult qualified experienced people.
- The designer of the original building construction/major renovation should identify whether or not you need a device (they are required to design a system that meets the plumbing code and bylaw)
- The journeyman plumber should identify whether or not you need a device when changing the plumbing system (e.g., adding a boiler, a chemical feed system)
- *If you are unsure, call us at 986-5858.*

What do you need to know when installing backflow prevention devices?

- Ensure that a plumbing permit is obtained to install testable backflow prevention devices
- Ensure backflow prevention devices are installed in an accessible location and in the proper orientation
- Backflow prevention devices are part of the plumbing system, not part of a fire control system.

Once your backflow prevention devices are installed, what are you required to do?

- You are required to:
  - Maintain the device as per the manufacturer's instructions
  - Test the device (if it is a testable device) on installation and then annually

What do you need to know when maintaining backflow prevention devices?

- Do not install a spool piece (short length of pipe) when a device is removed
- Do not install a backflow prevention device that is missing parts while awaiting replacement parts

What do you need to know about testing backflow prevention devices?

- Backflow prevention devices must be:
  - tested at initial installation
  - tested annually thereafter
  - retested if moved or repaired
  - tested with a calibrated test kit
  - tagged with the test date, testing company, tester name and licence number each time the device is tested

Who can test backflow prevention devices?

- Backflow prevention devices must be tested by licensed testers.
- Testers are licensed by us (we can provide you with a list)

What is our role with cross-connections?

- We have a cross-connection and backflow control program:
  - Inspect new construction and major renovations
  - Approve the type of backflow prevention device and installation
  - License testers
  - Ensure initial and annual testing of devices
  - Ensure test kits are calibrated annually
  - Ensure public water outlets (hydrants and standpipes) are protected from cross-connections
  - Enforce the bylaw

How do you benefit by installing and maintaining backflow prevention devices?

- ensure a safe water supply throughout your private water system
- protect your employees and customers
- protect your business operations
- prevent law suits

Questions?

Water Treatment Program Update

Outline

- Background
- Why we need water treatment
- Update on progress of water treatment
- Future change in disinfection

Background

- Since 1919, Winnipeg has enjoyed a high quality reliable water supply from Shoal Lake
- In 1993 Council, established a Water Treatment Reserve Fund for a future water treatment plant
- On November 22, 2000, Council adopted a plan for water treatment that includes multiple processes to safeguard our drinking water

Why do we need water treatment?

- Water treatment is about protecting public health
  1. Reduce the risk of a waterborne disease outbreak caused by chlorine-resistant micro-organisms
  2. Reduce chlorine disinfection by-products

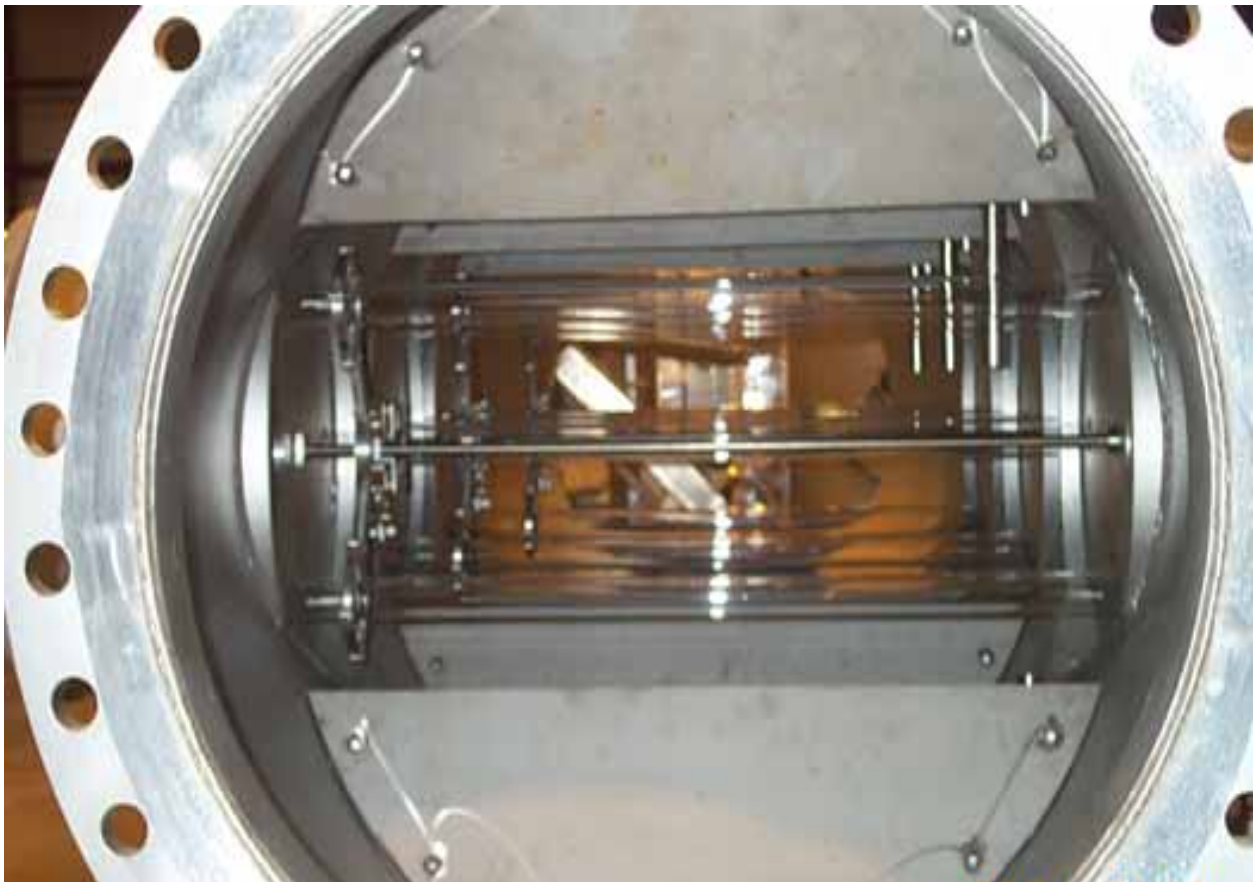
Ultraviolet light disinfection installed

- installed in the existing Deacon pumping station at a cost of $9 million
- protects the water against parasites such as *Cryptosporidium* and *Giardia*
- does not change the taste, odour, appearance, or the general chemistry of the water
- in the final stages of testing and will make a formal announcement in the near future

How does UV disinfection work?

- six stainless steel chambers
- inside each chamber are nine lamps, similar to fluorescent bulbs
- water travels through chambers
- the UV light rays penetrate micro-organisms and destroy their ability to cause infection and illness
- water needs only a few seconds of exposure to the light

Ultraviolet light disinfection



Ultraviolet light chamber - 48” in diameter

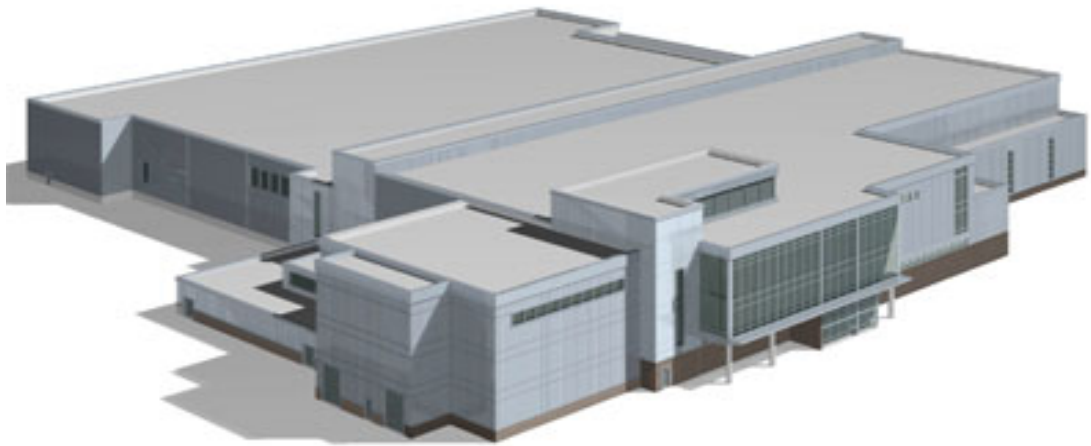

2004 11 22

Our new water treatment plant

- being built at the Deacon Reservoir site
- will house the remaining water treatment processes, including, DAF, ozonation, filtration, and chloramination

Our new water treatment plant

- about 12,000 square metres
  (about the size of the MTS Centre)
- the plant will be a state-of-the-art, modern facility designed for performance, safety, and environmental sustainability
- $300 million



Our new water treatment plant - Nov 2006

Our new water treatment plant

Construction in progress

Approximately $175 M committed

Construction in progress

Water treatment plant construction

Construction to be completed Dec 2008

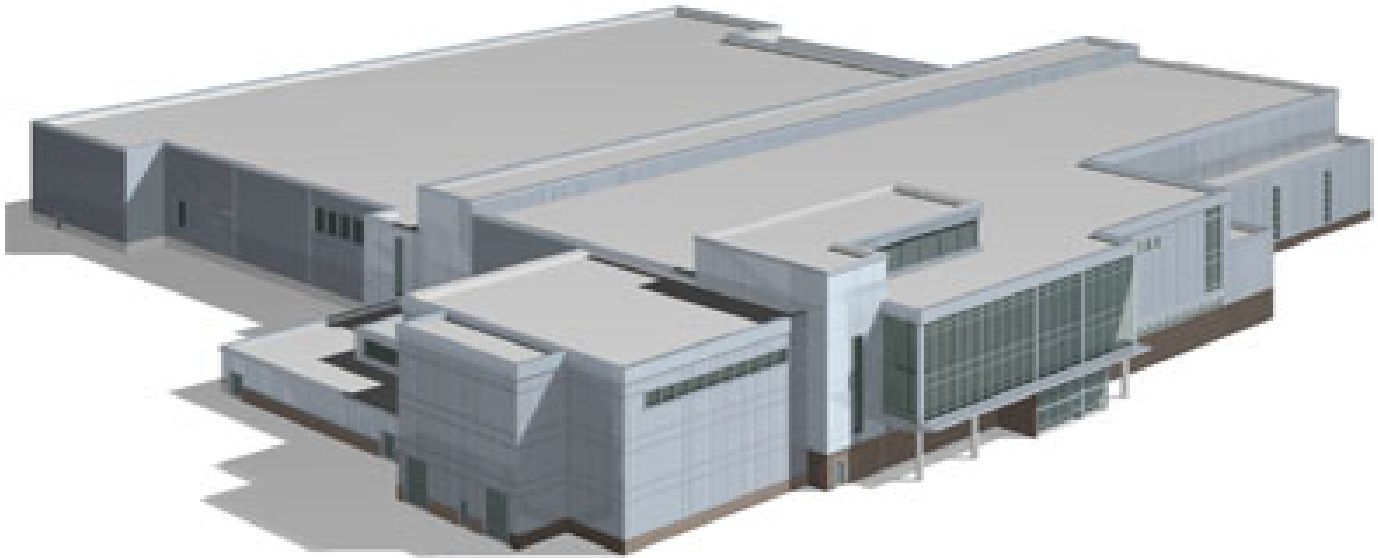
Changing from chlorine to chloramine

- Chlorine and ammonia combine to form chloramines
- Chloramine is a more persistent disinfectant than chlorine
- Precautions for:
  - Medical treatment, kidney dialysis
  - Fish tanks
- Will be put in place within a year after the treatment plant begins operating
- We will notify the public in advance

Testing and reporting of water quality

- General water quality information
  - MTS white pages
  - Web site: www.winnipeg.ca/waterandwaste
- Annual water quality report
  - Available on Web site
- Drinking Water Safety Act
  - Reporting and accountability to public

Questions?

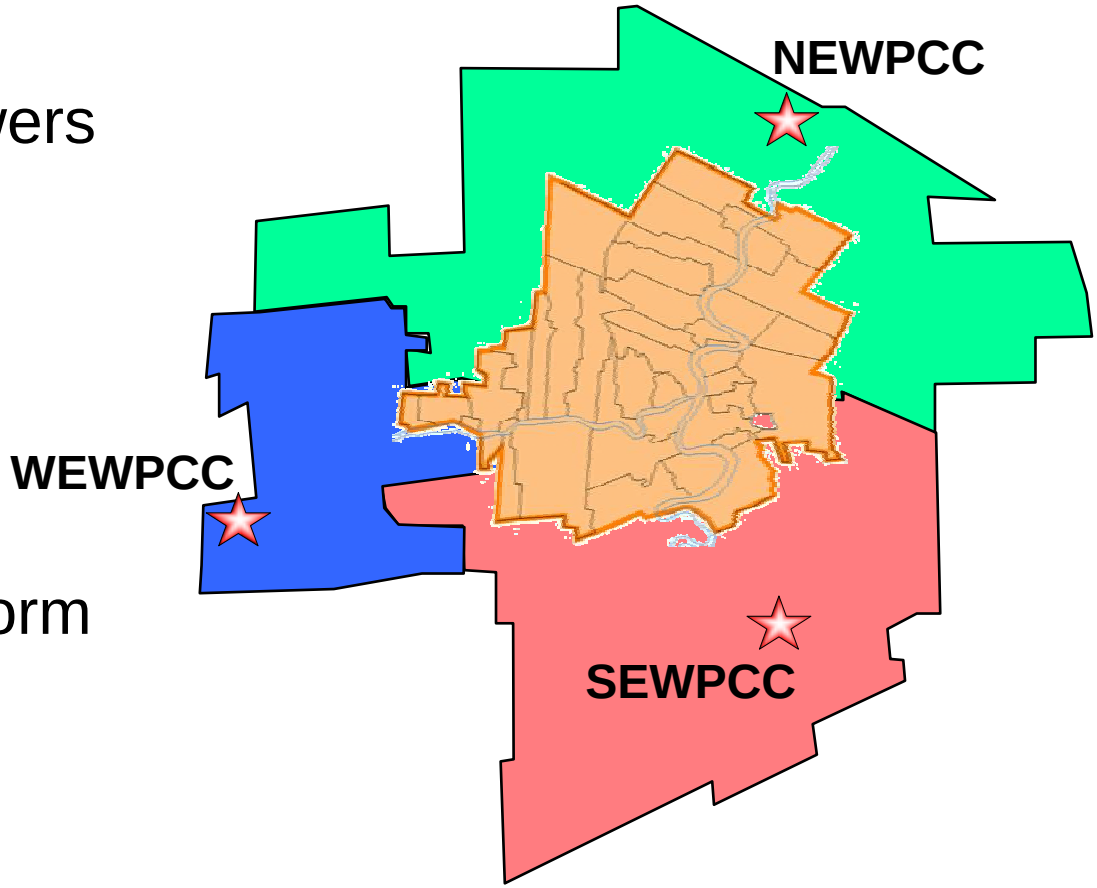


Supporting the long-term health and well being of our community

Sewer Cleaning and Inspection Program

Winnipeg sewer system

- 1057 km of combined sewers
- 1286 km of wastewater sewers
- 1110 km of storm sewers



Sewer infrastructure has an approximate replacement value of $4 billion

- Before 1998
  - repairs were done reactively (after major problems had already developed)
- In 1998
  - began our Sewer Cleaning and Inspection Program (proactive approach)
  - annual sewer rehabilitation budget of $12 million
  - $3 million of the budget allotted for cleaning and inspection

Why do we clean sewers?

- To remove built-up debris
  (e.g., grease, tree roots, road sand)
- To prevent blockages and sewer backup

Why do we inspect sewers?

- To assess sewer condition and complete repairs before collapse and possible danger to public

How do we clean sewers?

- Step 1
  High pressure water jets force dirt and debris down the sewer towards manholes

How do we clean sewers?

- Step 2
  Vacuum trucks remove the dirt and debris from the manholes

How do we clean sewers?

- Step 3
  Debris is hauled to Brady Road Landfill

How do we inspect sewers?

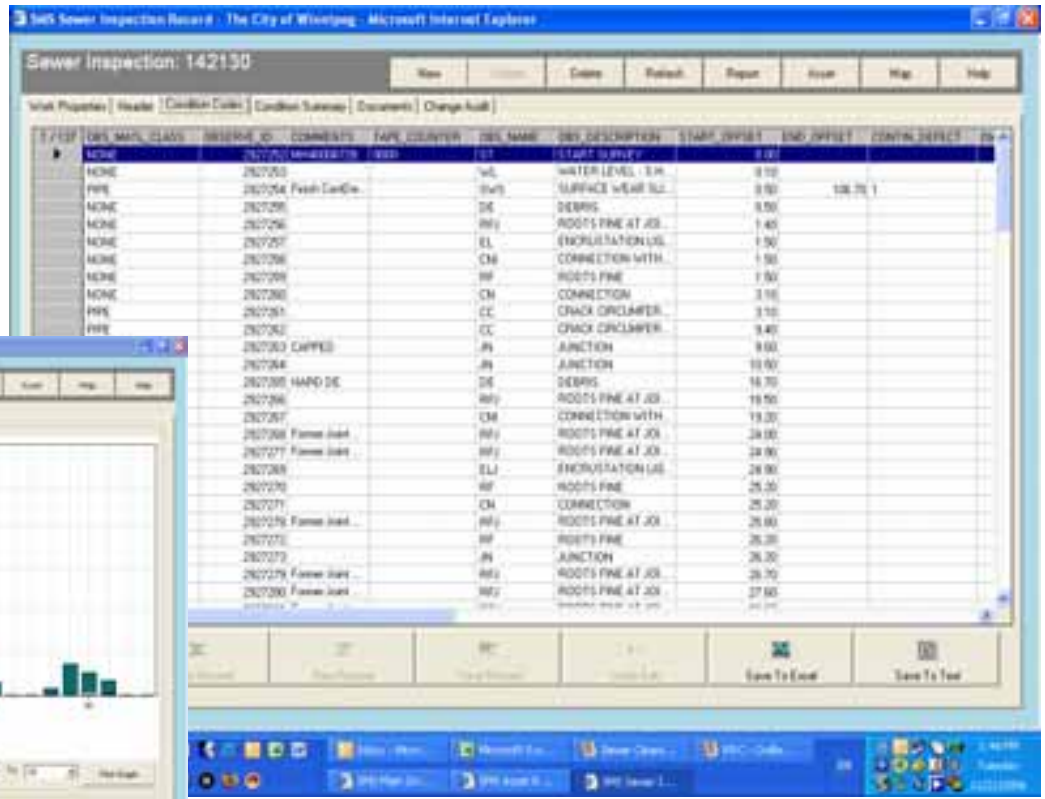
- After cleaning we insert a remotely operated video camera into the sewer

How do we inspect sewers?

- The condition of the sewer is recorded in the Sewer Management System (SMS)

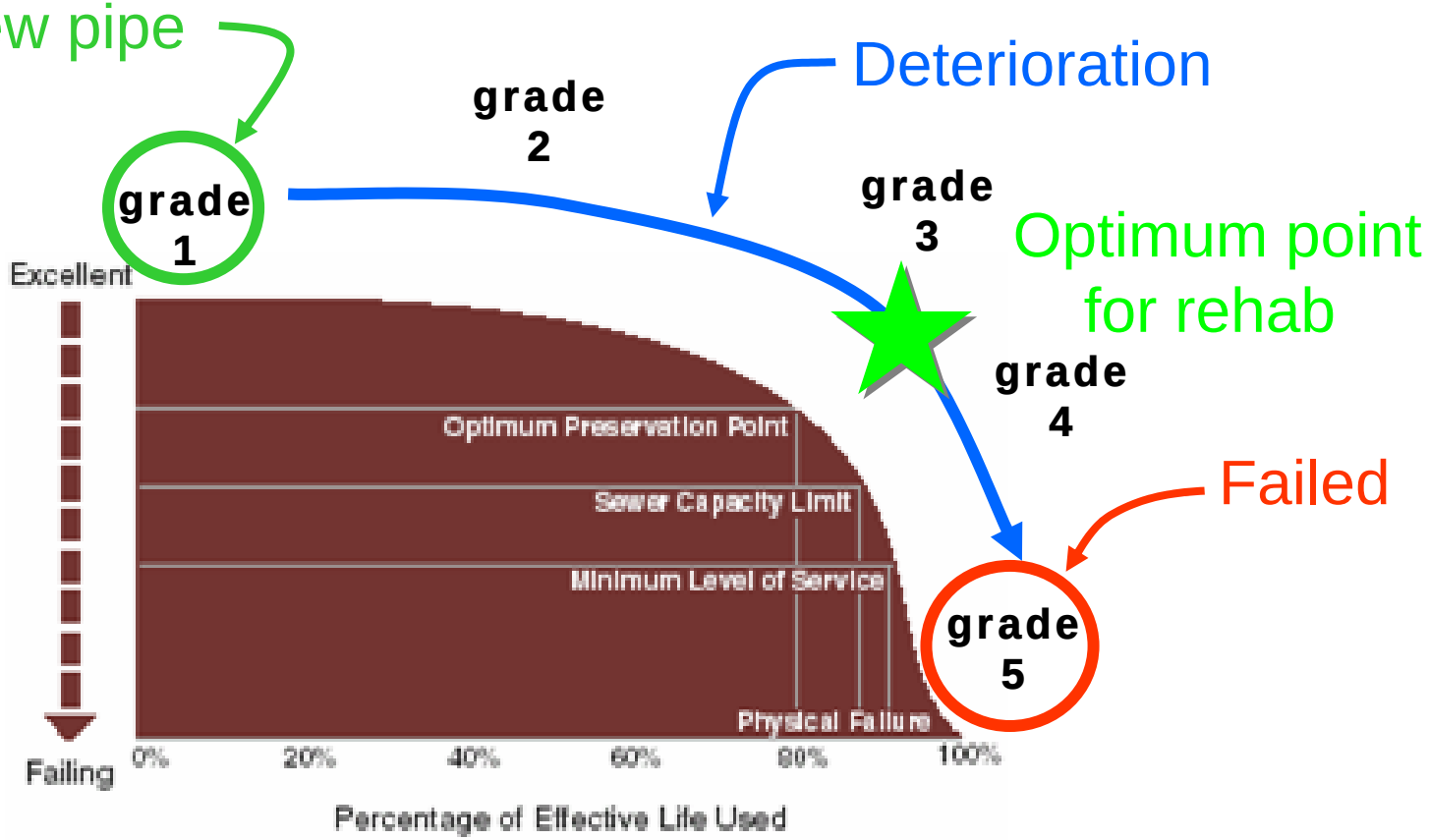
Sewer Management System

- Video inspections are reviewed by certified pipeline inspectors



Sewer Management System

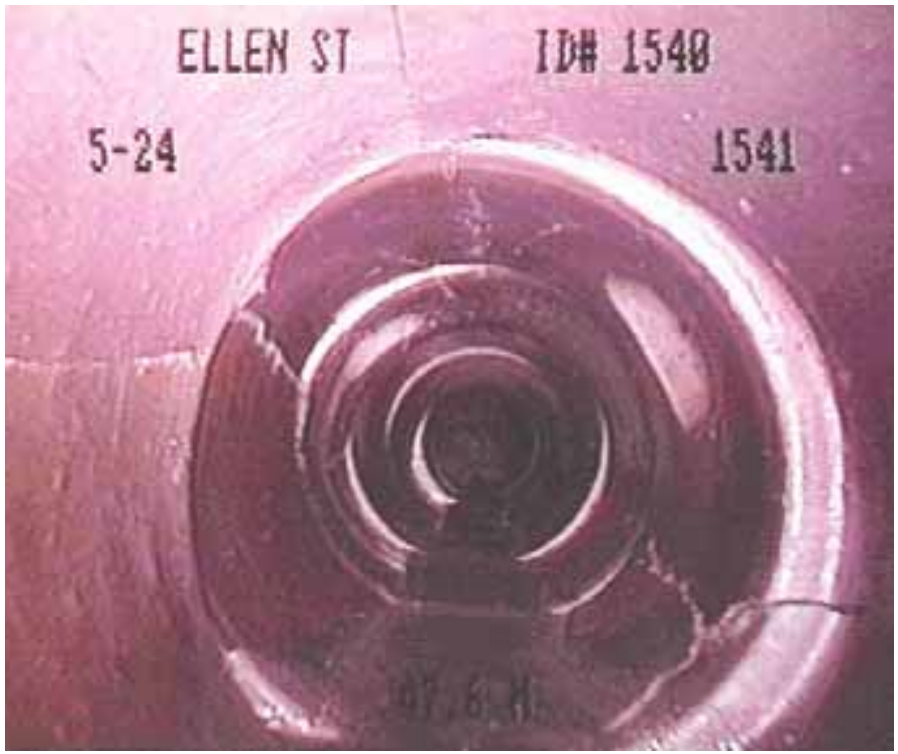
- Sewers are assigned a condition grade from 1 to 5



This is not the best time to repair a sewer…

Video is used to determine repair strategy grade 3 rated sewers

- may be repaired with “trenchless technology”, such as an epoxy resin liner
  - cost efficient
  - minor disruptions to traffic and area residents



Video is used to determine repair strategy grade 5 rated sewers

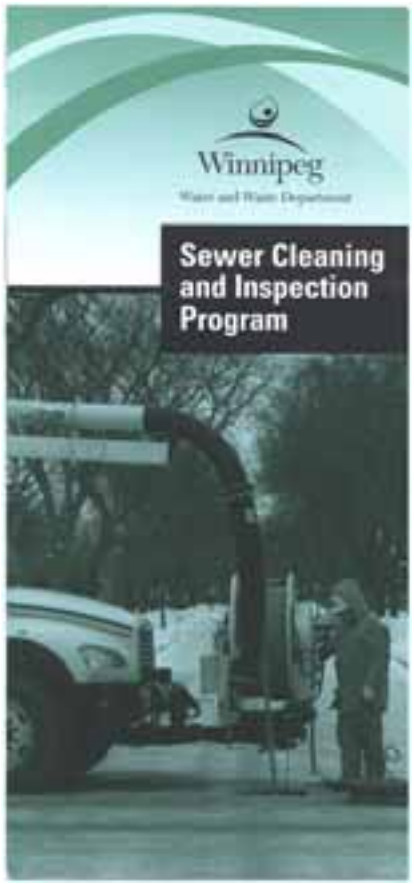
- require total replacement by open cut excavation
  - more expensive
  - major disruption to traffic and area residents

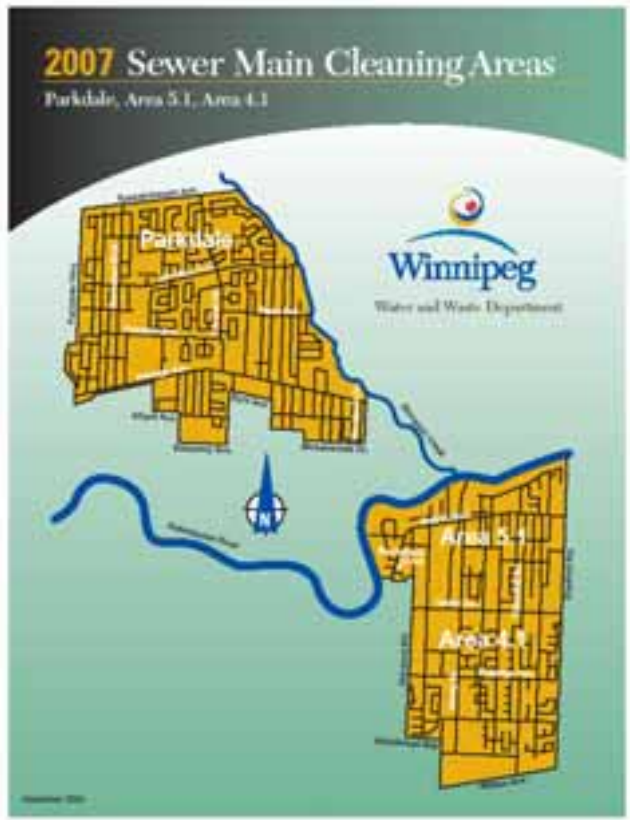
Repair strategy

- Repairs are made according to their condition and location
- Grade 5 before 4 and then 3
- Very large or deep sewers or those on major roadways have highest priority

How will you know when we are cleaning and inspecting sewers in your area?

- We deliver an information package to residents and businesses 1 - 2 days before the sewer cleaning
- We post the sewer cleaning area on our Web site





Will sewer cleaning and inspection affect your business operations?

- Not for most commercial businesses (served by larger sewers)

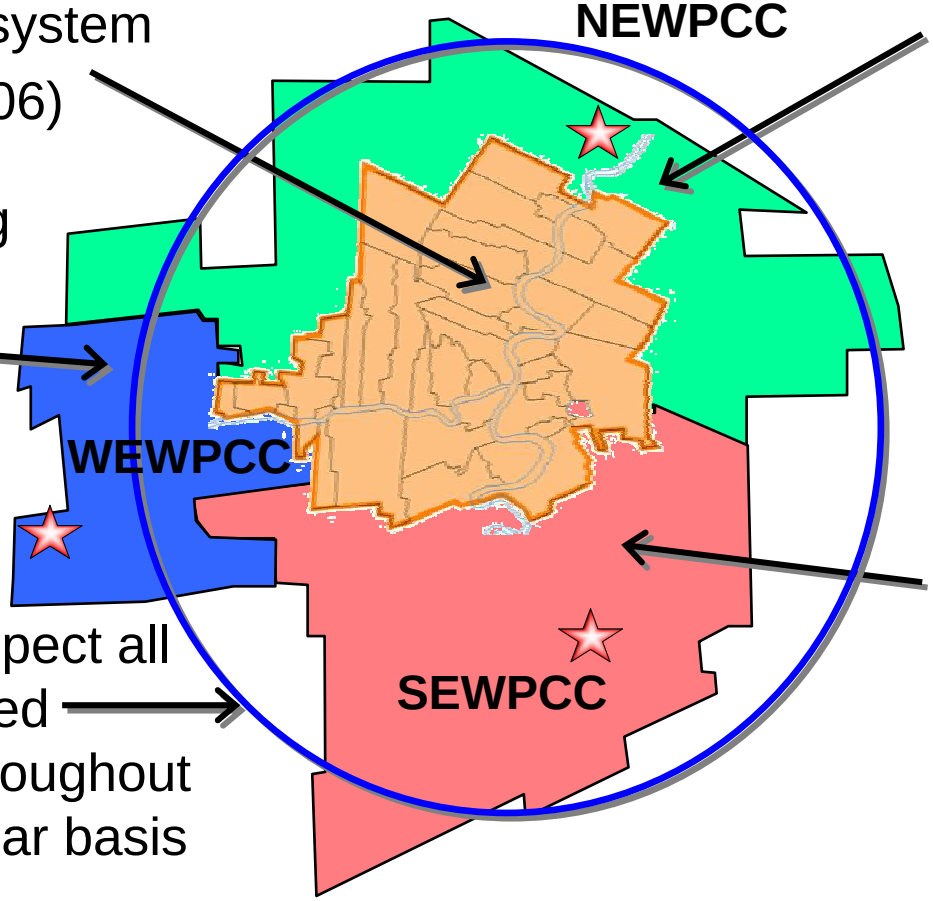
  - sewer service continues as usual during cleaning
- For residents and businesses served by smaller sewers, occasionally air pressure in the sewer during cleaning can cause water to splash out through toilets, sinks and drains.
- Some traffic disturbances can be expected (e.g., lane closures and detours around cleaning equipment

Progress and future plans

Began in 1998 on the older combined sewer system (Completed in 2006)

Currently cleaning and inspecting wastewater sewers in the West End collection area

Continue to re-inspect all previously identified problem areas throughout the city on a regular basis

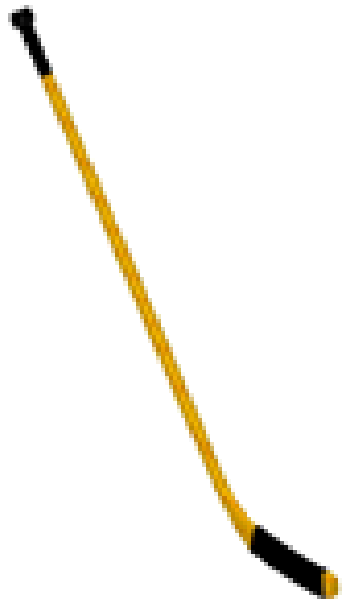


Planned cleaning and inspection of wastewater sewers in the North End collection area from 2008 to 2011

Planned cleaning and inspection of wastewater sewers in the South End collection area from 2011 to 2014

We have found some unusual things in our sewers…

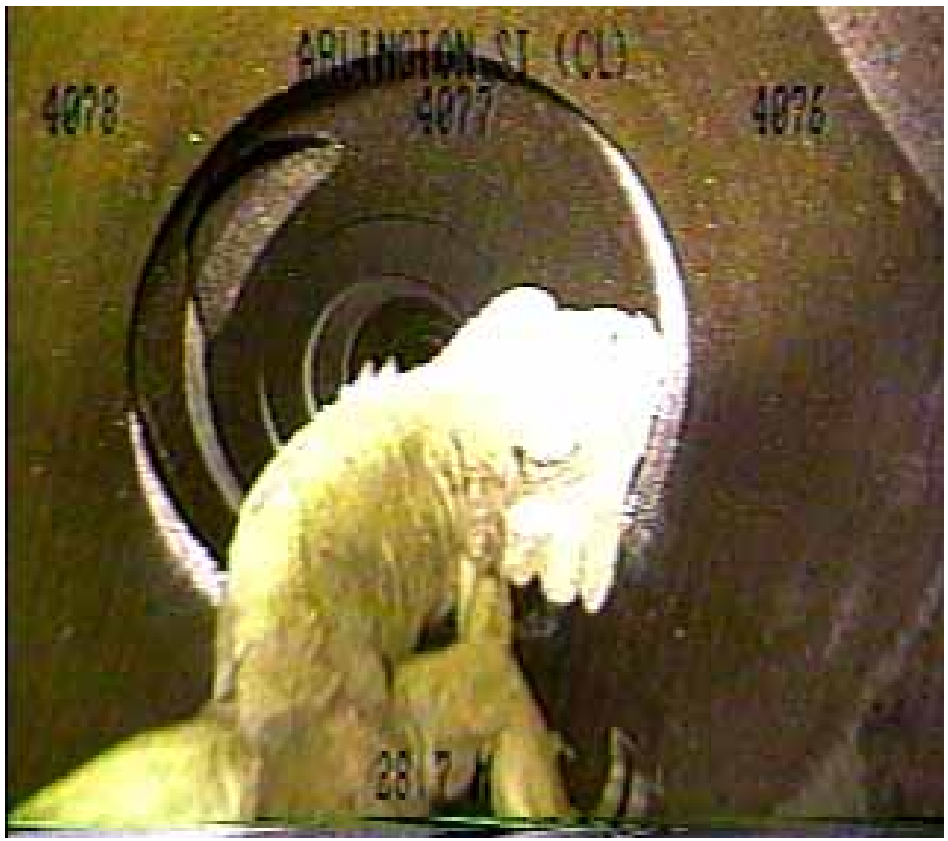
- bicycle tires
- quite a few hockey sticks
- an anvil
- concrete and bricks
- racoons
- beavers
- fish



Contrary to popular belief, there are no alligators in our sewers

but …

- we do have an iguana on Arlington Street



Questions?

FOR MORE INFO...

www.winnipeg.ca/waterandwaste/sewage

Tips on Maintaining
Your Private Sewer Infrastructure

Your sewer infrastructure – what is it?

- Sewer line(s)
  - carry wastewater from your facility to the City's sewer system
  - you own your sewer right up to the City's sewer main
- Pumps
  - for weeping tile flow
  - for wastewater
- Valves
  - backwater valves for preventing City sewer backup
  - isolation valves for the maintenance of pumps

Your sewer infrastructure – what is it?

- Manholes
  - primarily for inspection and maintenance of your sewer line
  - for collection of rainfall runoff
- Catch pits
  - to collect sand and debris and keep it out of your sewer line
- Ditches
  - for managing rainfall runoff
- Grease traps
  - to collect grease and keep it out of your sewer line

Why is maintenance important?
- Pay now or pay later -

- Planned maintenance is cheaper than an unplanned repair
- Ensures that your infrastructure works properly at all times
- Prevents sewer backups which can cause extensive damage to your building and its contents
- Eliminates costly downtime from a business shutdown
- Increases safety for workers and the public and reduces your liability

What should you do?

- Every system is different – know yours
- Make sure your maintenance manager knows your system
  - What is the age, size, material and location of your sewer line?
  - Do you have any pumps, valves, catch pits or manholes?
  - Where does your sewer line connect with the City's system?
- Be aware of the sewer bylaw and how it affects you

Develop a plan for regular inspections and maintenance

- Visually inspect any manholes for signs of deterioration (yearly)
- Arrange for your sewer line to be cleaned and televised
- Inspect pumps and valves regularly and perform maintenance as recommended by the manufacturer
- Inspect storm drain openings and clear vegetation from drainage ditches
- Only hire **licensed, qualified** contractors

Typical sewer problems - Grease

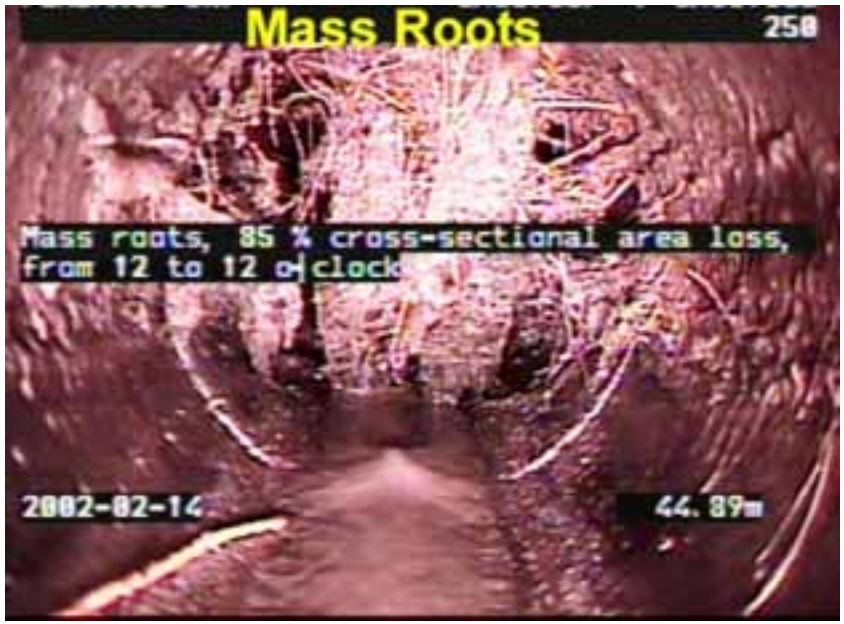
Grease - Problems

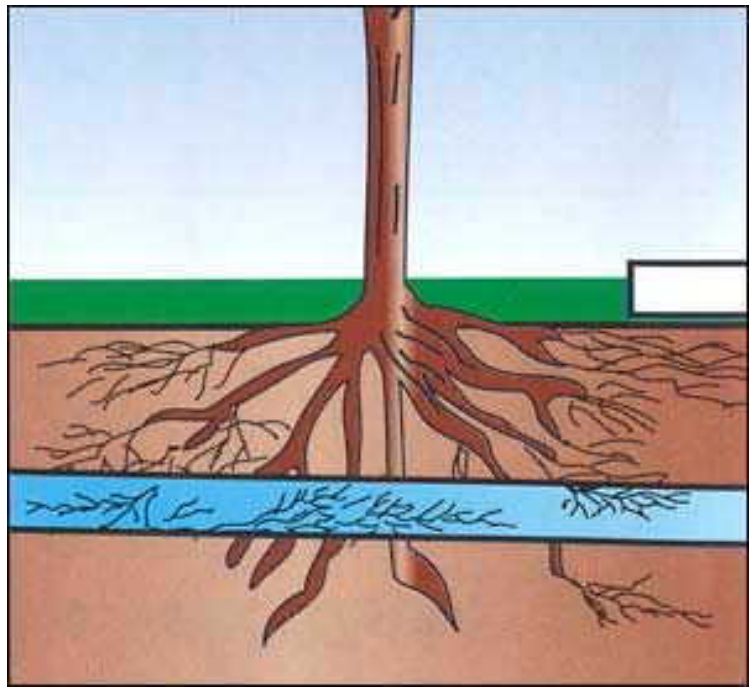
- Grease does not dissolve in water
  - it can congeal in a sewer and eventually block it, causing sewer backup
- Grease can combine with other debris in your line to form a solid blockage that is hard to remove

Grease - Solutions

- Don’t allow grease products into your system
- Maintain your grease traps
  - The Sewer Bylaw requires that you clean your grease trap at least weekly and keep records of maintenance
- Call a **licensed, qualified** contractor to clean your line if a grease blockage occurs

Typical sewer problems – Tree roots





Tree roots - Problems

- Sewer pipes can deteriorate and develop small cracks over time
- Tree roots actively seek out moisture and can get into your sewer line through these cracks
  - can catch debris and grease and clog up the sewer
  - reduce sewer capacity

Tree roots - Solutions

- Call a contractor to cut roots.
  - tree roots will regenerate and will likely require cutting annually or bi-annually
- Landscape with plants that have shallow root systems
- Remove the problem tree (if it's on your property)

Debris or hazardous chemicals in the sewer – Problems

- Items that do not belong in the sewer can block your line or damage your pumps or valves
  - rags
  - animal by-products such as bones, feathers or fish scales
  - construction materials
  - corrosive or hazardous chemicals

Debris or hazardous chemicals in the sewer – Solutions

- Use the sewer as intended – not as a garbage can
- Educate your tenants/workers on proper disposal methods and what does and doesn't belong in the sewer
- Clean out your sump pits, catch pits and grease traps regularly to prevent problem causing items from entering your sewer

Typical sewer problems - Settled or collapsed line

Settled or collapsed sewer line - Problems

- Dips or cracks can form in the sewer due to ground settlement or improper installation
  - dips are prime locations for sediment or grease buildup which can lead to a blockage
  - cracks can lead to ground washout and subsequent sewer collapse

Settled or collapsed sewer line - Solutions

- Inspect and televise your line every 10 years
  - early detection of a problem will result in less extensive repairs
- Watch for signs of collapse such as sunken ground or cracked pavement above your sewer line

Sewer collapse or blockage on your property

- You are responsible for the entire repair.
- We have a list of licensed contractors you can contact.
- We recommend you obtain at least three estimates from different contractors.

Sewer collapse or blockage on your sewer line but on City property

Reminder: You own and are responsible for the sewer line from your building to the City's sewer main

- You are responsible for getting the repair done
- You may qualify for financial assistance under 'Schedule B' of the Sewer Bylaw
- Before starting repairs contact our Customer Service Centre at 986-5858 to guide you through this process

Summary

- Know your system
- Inspect and perform regular maintenance
- Be responsible - don’t dump things into the sewer that don’t belong there
- If outside help is required, only hire **licensed, qualified** consultants and contractors

Questions?

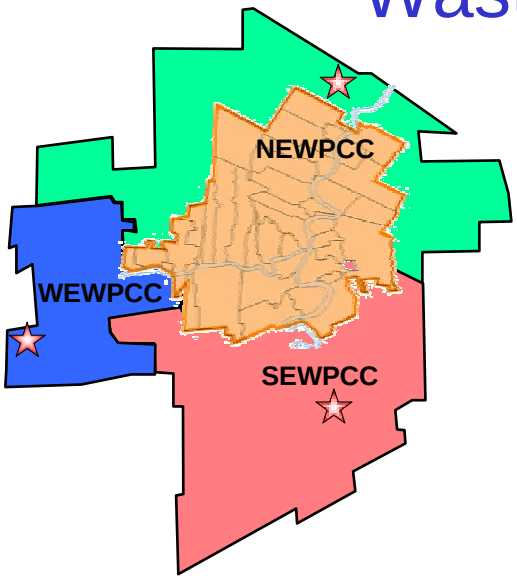
Upgrading our Wastewater Treatment Plants

An Update

Outline

- What are the upgrades to the wastewater treatment plants?
- Why do we need these upgrades?
- What are the goals of the upgrades?
- How are the upgrades progressing?
- How much will these upgrades cost?

Wastewater treatment plants



	NEWPCC	SEWPCC	WEWPCC
			
Population Served	374,000	160,000	86,000
Recorded 2005 ADWF[1]	160	50	27
ADWF Design Capacities[2]	302	59	32

[1] Average Dry Weather Flow (ML/d)

[2] CBOD treatment process

What are the upgrades to our wastewater treatment system?

- Nutrient removal at all three treatment plants
- Expand SEWPCC to support population growth for next 25 yrs
- Effluent disinfection
  - added UV disinfection to two of our three treatment plants
  - determining if effluent disinfection required at third plant

Why do we need these upgrades?

- We now have Environment Act Licences for all three treatment plants
- The licences prescribe treatment requirements and dates for compliance:
  - Reduce phosphorus by 10% and nitrogen by 13% by 2007/8
  - Reduce nitrogen by 47% and phosphorus by 65% by 2014
  - Reduce bacterial levels to meet provincial guidelines for recreational use of the rivers by summer 2006/7

What are the goals of the upgrades?

- Reduce nuisance algae blooms in Lake Winnipeg
- Protect aquatic life from ammonia toxicity
- Reduce the risk of contracting gastrointestinal illness from swallowing river water

Effluent disinfection at the North End Plant

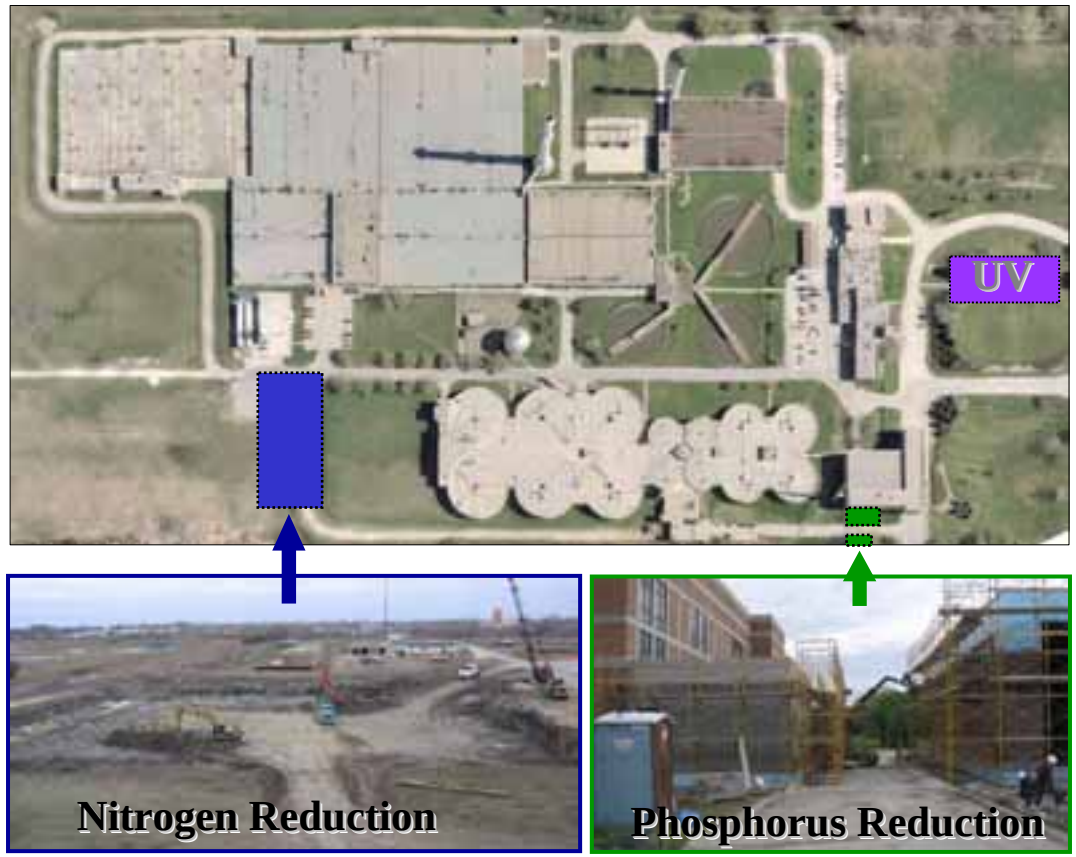
- Completed UV disinfection facility at the North End plant July 2006 ($20 M)
  - Commissioning in process

Effluent Disinfection

- A treatment process using ultraviolet light technology to deactivate bacteria in the wastewater
- Same technology used for water treatment plant but more powerful

Nutrient Reduction at NEWPCC

- Nutrient removal under construction
  - cannot shut down plant
- Estimated at $34 million for both
- Estimated completion date:
  - Jan 2007 for P
  - Jan 2008 for N

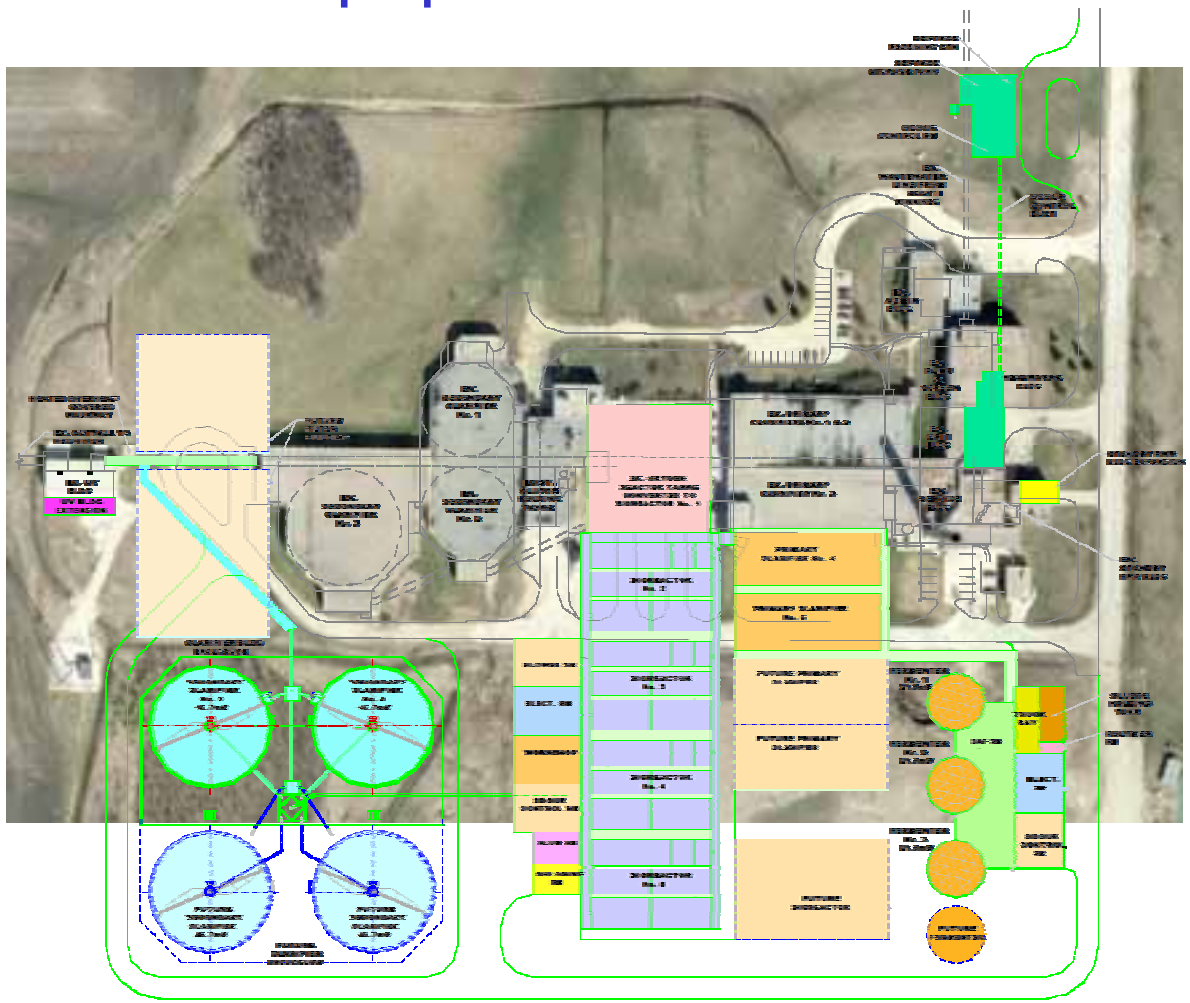


WEWPCC full biological nutrient removal (BNR)

- Nutrient removal under construction
  - cannot shut down plant
- Estimated at $29.6 million
- Construction start
  - Oct 2006
- Estimated completion date
  - July 2008

BNR and expansion for population at SEWPCC

- Engineering started
  - Jan 2006
- Estimated at 203^{+} million
- Estimated completion date:
  - Dec 2012



NEWPCC full biological nutrient removal (BNR)

- North End Master Plan underway
- Estimated at 400^{+} million
- Estimated completion date: Dec 2014

How much will these wastewater treatment plant upgrades cost?

- These treatment plant upgrades will cost about $690 million
- We are now projecting a cost of $1.2 billion for all wastewater treatment system improvements.

Questions?

Sewer Bylaw Revision Plans and Progress

Purpose of this presentation

- Highlight advances made since last year
- Explain the context of the Sewer Bylaw revisions
- Explain what's new

Outline

- Why have a sewer bylaw
- Why we need to revise the bylaw
- What are the changes
- How the changes could affect you
- What are the timelines
- Opportunities to get involved

Why do we have a sewer bylaw?

- Ensure proper, safe, and reliable operation of the wastewater collection and treatment system
- Protect public health and safety
- Protect the environment
- Protect property and wastewater systems
- Regulate the direct and indirect discharge of wastewater and pollutants to the sewer system
- Establish legally enforceable compliance requirements

Why do we need to revise the bylaw?

- Heard from public at 2003 CEC Hearings
  - The existing bylaw is not current
    - many uncontrolled substances making their way into the sewer and passing through treatment plants
- CEC recommended that we put in place:
  - pollution prevention (source control)
  - more stringent quality and quantity restrictions
  - improved bylaw enforcement program
  - a “made for Winnipeg” bylaw

What are the key changes to the bylaw?

- Prevent disposal of contaminants of concern
- Encourage treatment of contaminants at source
- Improve enforcement
- Increase penalties for violations
- Reduce “red tape” – write the bylaw in plain language

How could the changes affect you?

- Limits on some pollutants
- Some pollutants may be banned.
- You may be required to prepare pollution prevention plans, including material substitution, material elimination, and/or treatment at source.
- You could pay a surcharge for high levels of Nitrogen and Phosphorus in wastewater discharges
- You could see our inspectors more often.

What are the timelines?

- June 2006 — Finished revising the bylaw
- February 2007 — Finish writing the bylaw in plain language
- March 2007 — Provide key bylaw recommendations to the elected officials
- April 2007 — Begin stakeholder involvement
- Fall 2007 — Begin Council review and approval process
- July 2008 — Begin enforcing the revised bylaw – there will be a staged approach to Pollution Prevention Plans

How can you get involved?

- Starting April 2007
  - Information package with summary of changes
  - Web site
  - Open houses
  - Meetings/workshops with stakeholders
  - You can register as a delegation to appear at the meeting of the Standing Policy Committee on Infrastructure Renewal and Public Works – this is the first step in the review and approval process

Questions?

2007 Water and Sewer Rates

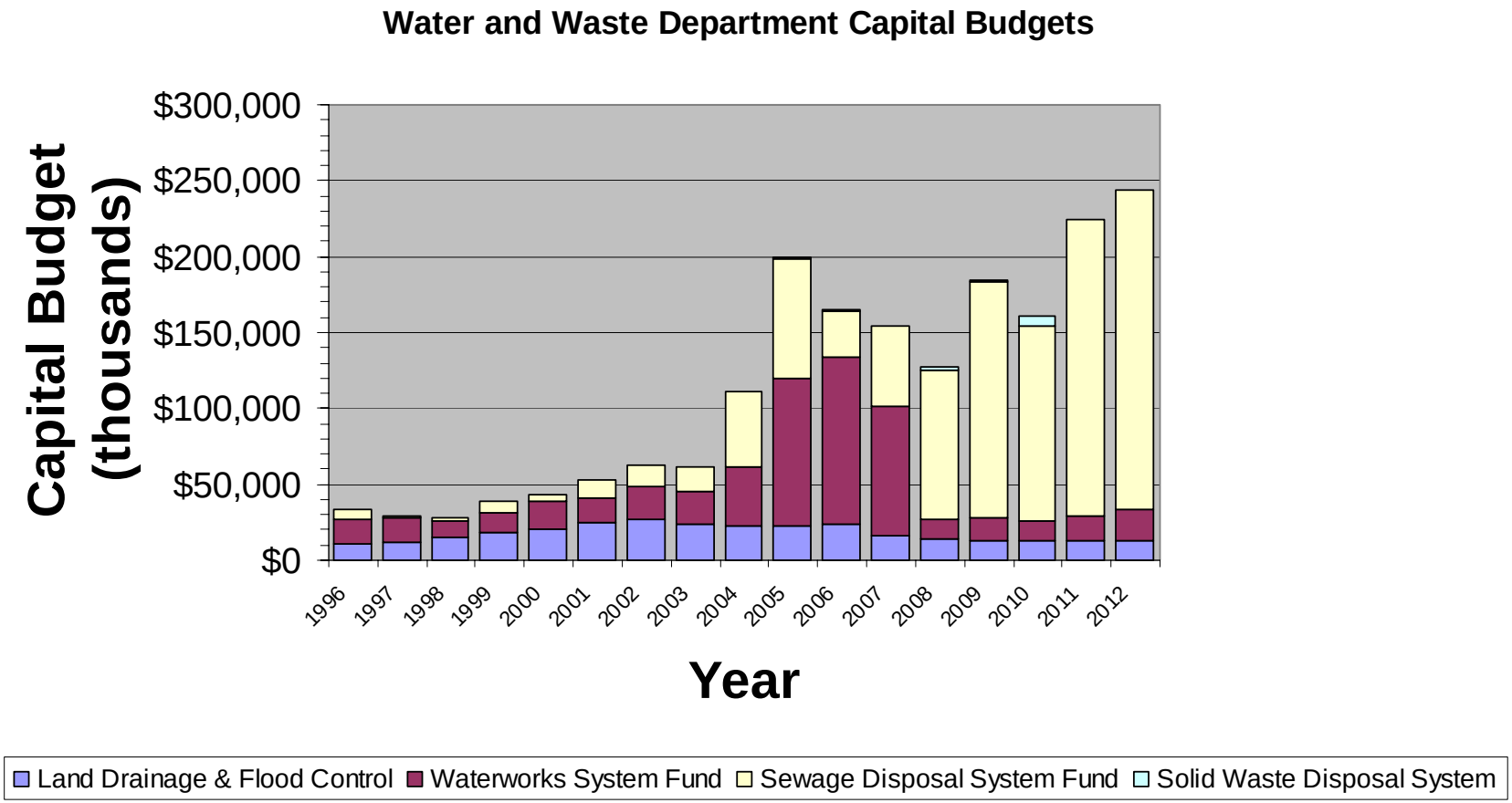
Summary

- Rates are increasing much faster than inflation due to required improvements:
  - To remove nitrogen and phosphorous in treated wastewater
  - To reduce combined sewer overflows
  - $70 million cost increase in water treatment

How we determine rates

- We forecast revenue requirements over the next ten years
  - Capital and operating costs
  - Financing reserves, cash to capital (“pay as you go”), debt
  - Transfers to other funds
- We forecast sales over 10 years
- We develop a rate plan so that
  - Revenue = revenue requirements

Capital Budget 1996-2012



Wastewater cost projections are increasing

Wastewater Improvement Projects	2007 Rate Plan	
Capital Cost Estimates ($millions)		
Component	Cost (millions)	
Disinfection	$	24.74
Effluent Nutrient Control	$	668.39
CSO Control Program	$	450.72
Biosolids Program	$	62.73
TOTAL Environmental Projects	**$**	**1,206.59**
CEC Additional Recommendations	$	8.47
Misc upgrades not in above	$	2.80
GRAND TOTAL	**$**	**1,217.86**

Winnipeg

Rate Approval Process

- Based on our 10 year forecast
- We recommend a one year rate change to our Standing Policy Committee and if they agree, they pass it on to Executive Policy Committee and Council
- You can be involved
  - Standing Policy Committee on Infrastructure Renewal and Public Works
  - Executive Policy Committee
  - City Council

2007 Water Rate
Approved by City Council December 6, 2006

- Rate is increasing
- Block 1 – 14% increase
  $3.15 from $2.75 per 100 cubic feet
  (i.e., from $0.97 to $1.11 per 1000 litres)
- Block 2 – 17% increase
  $2.67 from $2.27
- Block 3 – 22% increase
  $2.19 from $1.79 – 22%
- Full report is available at www.winnipeg.ca

2007 Sewer Rate
Considered by City Council December 6, 2006

- Increase under review
- We recommended a sewer rate increase of 14% - $4.46 from $3.87 per 100 cubic feet (i.e., from $1.37 to $1.58 per 1000 litres)

  Not approved - Laid over by EPC
- Overstrength charges are increasing 14%
  - TSS surcharge from $0.56 to $0.73 per kg
  - BOD surcharge from $0.92 to $1.12 per kg

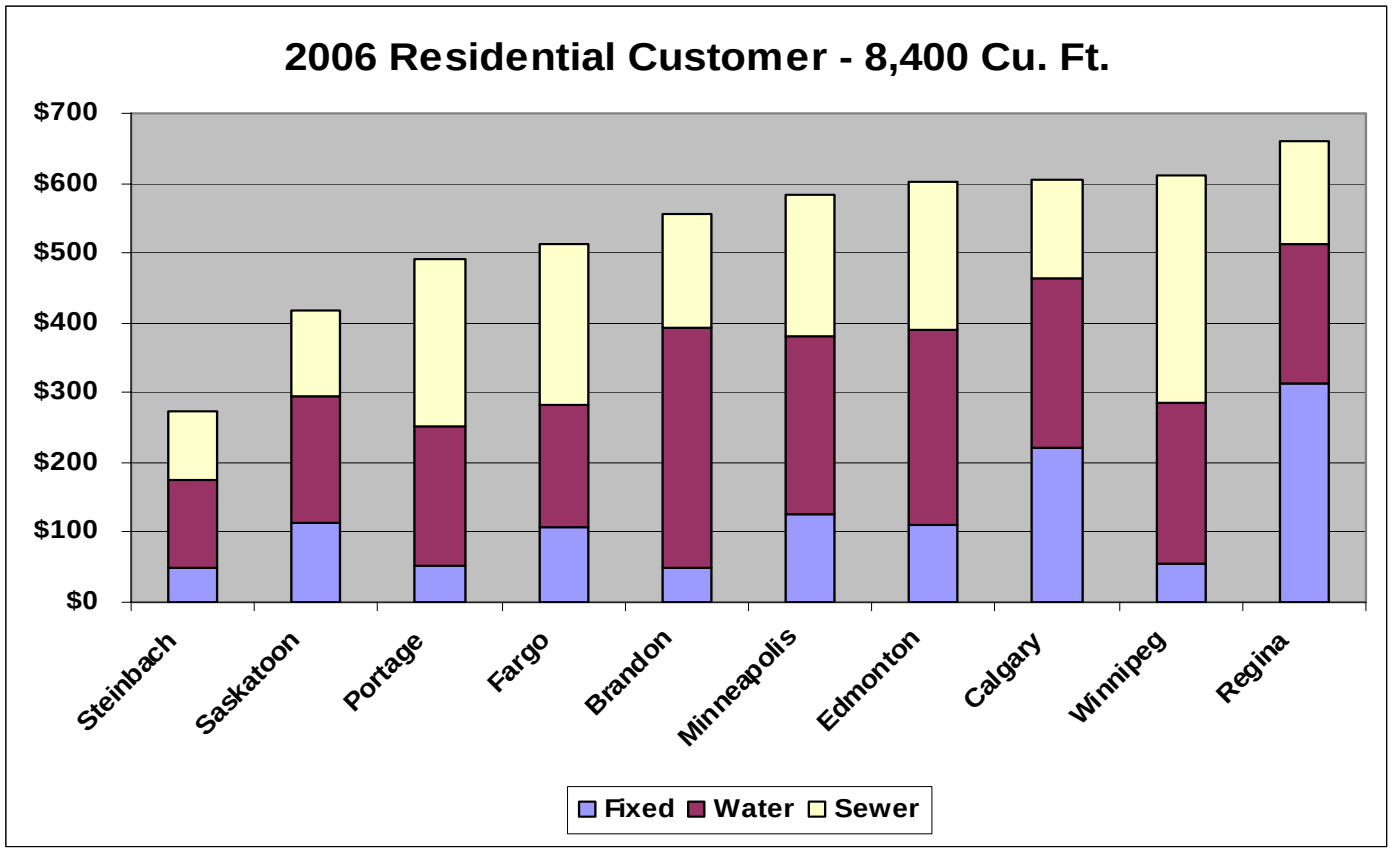
2007 Rate for Hauled Wastewater
Approved by City Council December 6, 2006

- Rate raised from $1.00 per 1000 litres to $2.51 per 1000 litres
  - surcharges apply to overstrength hauled wastewater
- Effective July 1, 2007
- Full report is available at www.winnipeg.ca

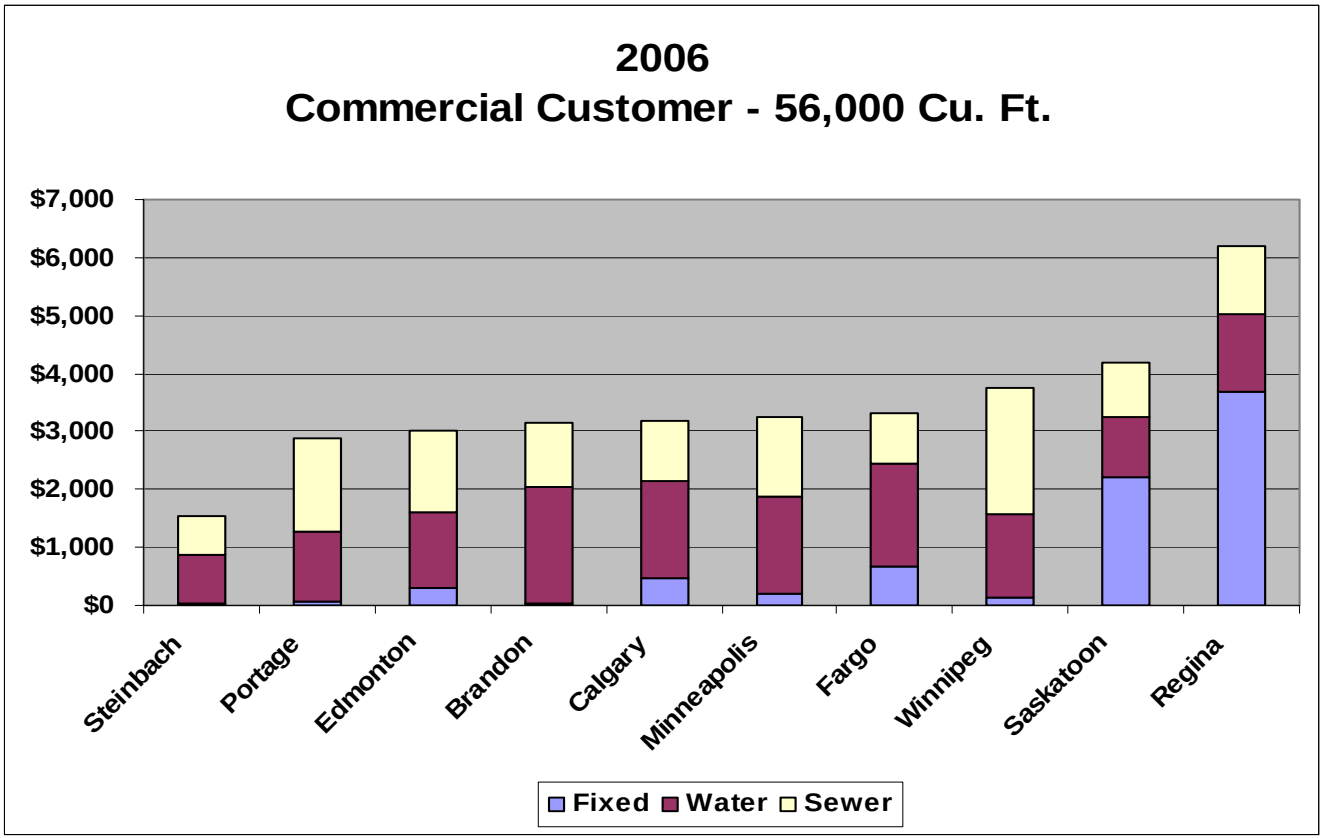
Customer Impact
(No Sewer Rate Increase)

	Annual Cons. 000s of hcf	2006	2007	Increase $	Increase %
Residential	8.4	$ 611.07	$ 644.68	**$ 33.61**	**5.5%**
Small Business	56.0	$ 3,553.74	$ 3,776.88	**$ 223.14**	**6.3%**
Large Business	626.0	$ 36,359.42	$ 38,880.28	**$ 2,520.86**	**6.9%**
Large Industrial	8,988.0	$ 509,530.42	$ 545,712.44	**$ 36,182.02**	**7.1%**

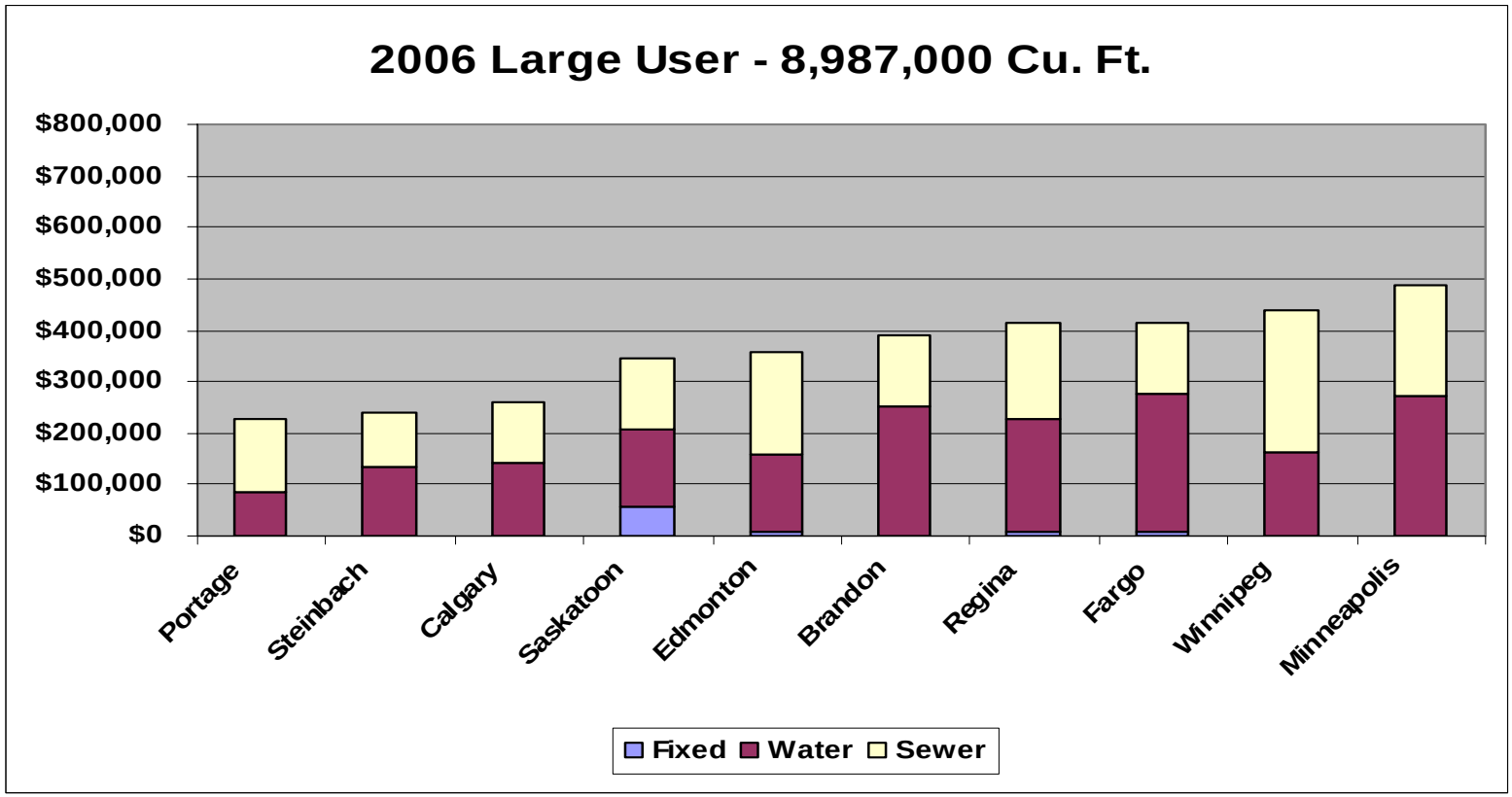
Residential rate - Benchmarking



Commercial rate - Benchmarking



Large industrial rate - Benchmarking



Questions?

www.winnipeg.ca\waterandwaste