Annual Customer Seminar

Water and Waste Department

Tuesday, January 25, 2011

Winnipeg

Agenda

- 9:00 a.m. – 9:05 a.m. Welcome
- 9:05 a.m. – 9:20 a.m. Garbage and Recycling Master Plan
- 9:20 a.m. – 9:35 a.m. Drinking Water Treatment Plant – First Year
- 9:35 a.m. – 9:50 a.m. Water Services Update
- 9:50 a.m. – 10:00 a.m. Protecting Your Property from Flooding
- 10:00 a.m. – 10:20 a.m. Coffee break

Agenda

- 10:20 a.m. – 10:35 a.m. Wastewater Update
- 10:35 a.m. – 10:45 a.m. Wastewater Treatment Upgrades
- 10:45 a.m. – 10:55 a.m. Sewer By-law – Pollution Prevention Plan Requirements
  Water Works By-law – Cross Connection Requirements
- 10:55 a.m. – 11:05 a.m. 2011 Rates and Fees
  Cost of Service Rate Study
- 11:05 a.m. – 11:10 a.m. Question Period

Water and Waste Department

Vision

Excellence in environmental services

Mission

Serving the community by providing and continually improving drinking water, wastewater, land drainage, and solid waste services to the citizens of Winnipeg

Garbage and Recycling Master Plan

Trevor Sims
Planning and Environmental Engineer

Comprehensive Integrated Waste Management Plan

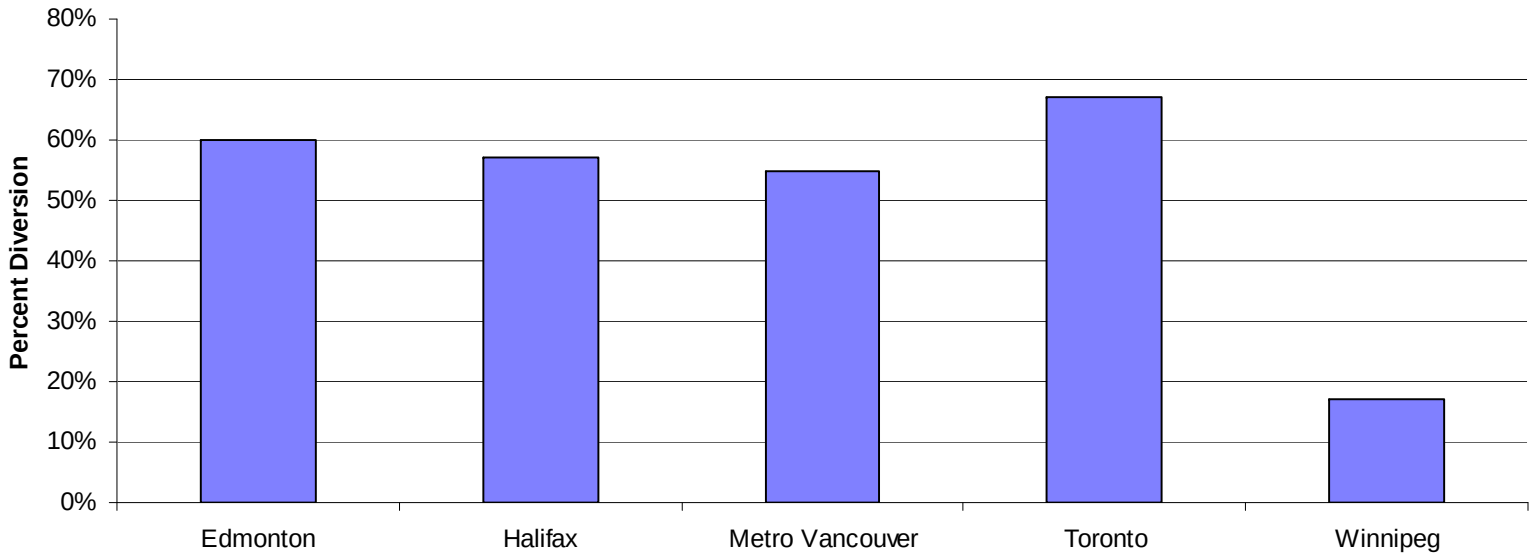
- Comprehensive: covering 5 streams of waste:
  - Residential
  - Multifamily
  - Industrial, commercial, institutional
  - Construction and demolition
  - City's corporate waste
- Integrated: interrelation between collection, processing and disposal
- Plan: what we as a community want in the future

Why a plan?

- Upcoming collection contract renewals
- Implementing automated carts in the northwest area of the city prompted City Council to request a complete Plan for the future of solid waste before recommending any more program changes
- Continues a “call to action” with Our Winnipeg
- Low diversion rate
  - residential waste is 17%
  - industrial, commercial, and institutional diversion is 12%

Low diversion rate

- Winnipeg has a low rate of residential diversion at 17% when compared to other Canadian cities.



Context

- City is the largest urban area in the Province
- Strong population growth forecast predicted by 2031 - increasing from 675,000 to 855,000
- City is directly responsible for collecting and disposing residential waste (single and multi-family)
- City receives commercial, industrial and institutional waste, and construction and demolition waste
- Plan needed to establish integrated approach for waste management over next 20 years

Challenges – Garbage collection services

- Garbage collection relies on property taxes for funding
- Unfair and unequal services due to different methods of collection throughout the city (e.g., shared bins, manual, new carts, old carts)
- Contracts for collection are coming due now and in the near future
- Collection methods of manual and shared bin (AutoBin) are becoming obsolete

Goals of the plan

- Provide a fair and equal level of service throughout Winnipeg
- Provide a waste diversion and handling system that will accommodate estimated growth in population
- Support residents and businesses to avoid generating waste and to divert waste
- Implement high diversion programs with an officially endorsed and funded diversion goal
- Update the Brady Road Landfill master plan and obtain an environmental licence

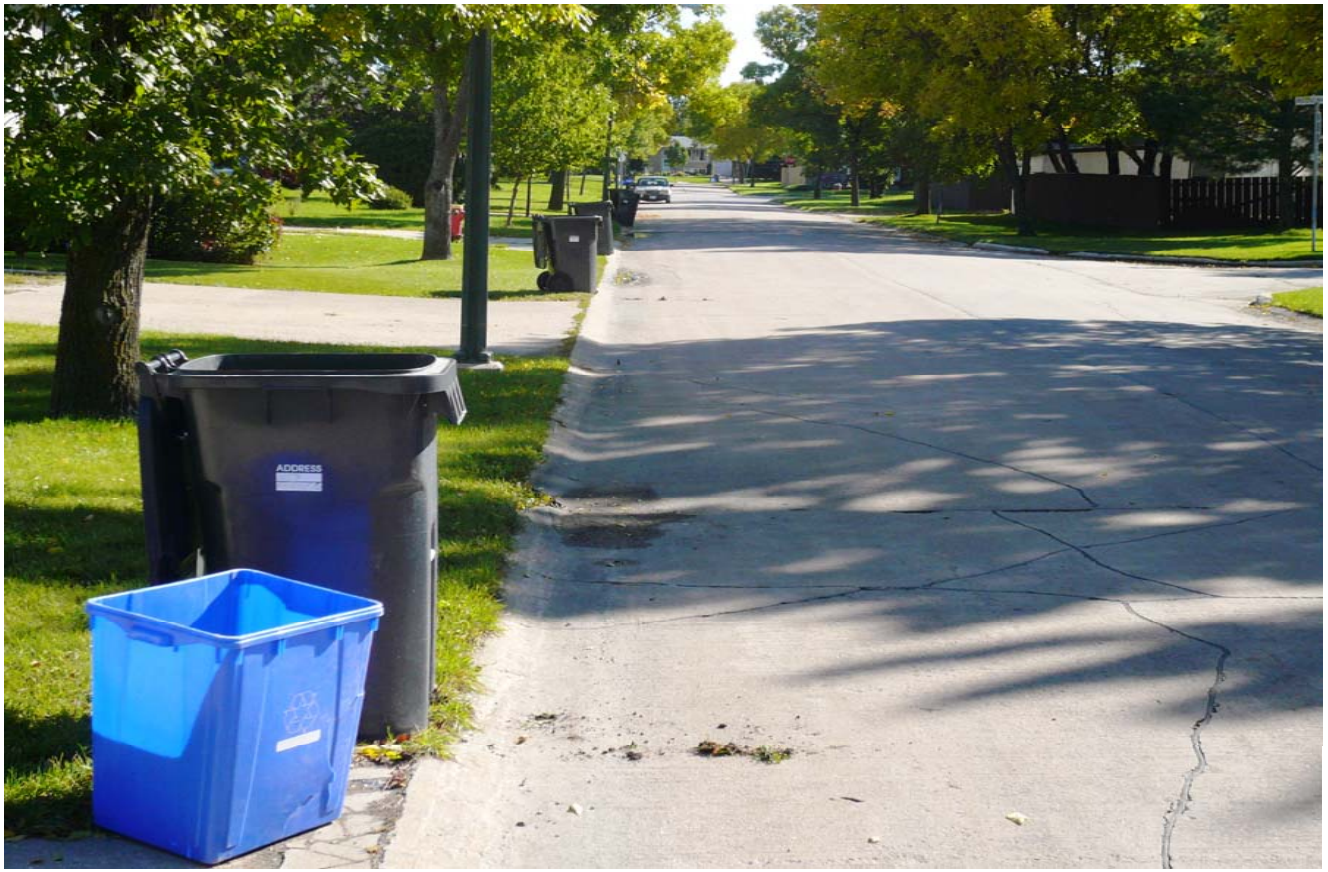
Goals of the plan

- Protect public health
- Promote environmental stewardship

AutoBin garbage collection

- Becoming outdated
- Other communities phasing out
- Prone to illegal dumping, arson and poor participation in recycling

New automated cart collection



Possible impacts

- Preferential tipping fees
  - for example, separated loads of recyclables
- Bans and diversion opportunities on certain products
  - for example, drywall, cardboard, shingles, organics, yard waste
- Support for extended producer responsibility
  - for example, electronic waste, hazardous waste, recycling

Possible benefits

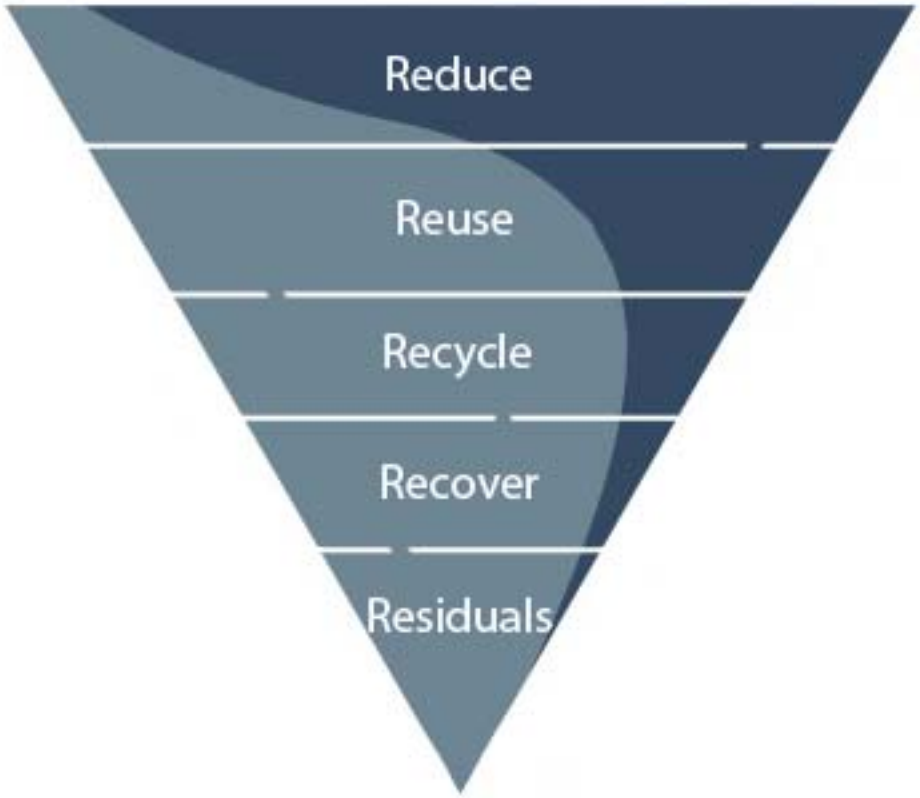
- Enhanced recycling
- Additional diversion programs, such as organics and yard waste
- More diversion opportunities
- Community recycling centre

Community recycling centre

Proposed guiding principles for the plan

- Sustainability
  - consider environmental, economic and social factors in the decision making process
- Waste hierarchy places priority on:
  - preventing waste generation,
  - maximizing diversion of the waste that is generated, and
  - minimizing disposal

The waste hierarchy



General principles of zero waste

- Shift to extended producer responsibility
- Municipal programs are part (but not all) of solution
- Goal to reduce and eventually eliminate waste sent to disposal
- Disposal facilities continue to play role in system, while amount of garbage sent to disposal is reduced

Zero waste requires collective action by:

- Municipal Programs
- Regulators
- Industry
- Consumers

Public participation

- Phase 1 – Dialogue
  - Speak Up on Garbage Expo – November 2010
  - Baseline survey
  - Interactive website with videos / blogs – garbage.speakupwinnipeg.com
- Phase 2 – Explore options
  - Roundtables/stakeholder meetings
  - Open houses
  - Survey / website
- Phase 3 – Confirm selected option
  - Open houses / website

Who are we talking to?

- Stakeholder Advisory Committee
- Institutions
  - Universities, colleges
  - Hospitals
  - Schools
- Businesses
  - Construction and demolition
  - Other businesses
    - Garbage and recycling
    - Also organics: restaurants, grocery stores

Who are we talking to?

- Residential - groups and organizations
  - neighbourhood associations, ENGOs
- Multifamily
  - apartments, condos
- Single family
- General public

Milestone dates for the plan

- Dec 2010 — Complete Phase 1 “dialogue”
- Feb 2011 — Start Phase 2 “explore” consultations
- April 2011 — Finish Phase 2 “explore” consultations
- June 2011 — Conduct Phase 3 “confirm” consultations
- Sept 2011 — Final recommendations to Council

How to participate

- Website: garbage.speakupwinnipeg.com
- Register for events and news on our site.
- Register for up and coming events, to be announced.

Questions

Drinking Water Treatment Plant – First Year

Andy Weremy
Water Treatment Systems Engineer

Winnipeg's water treatment approach

- A multiple barrier approach to protect public health and enhance water quality, including:
  - protecting our water source
  - water quality sampling and testing program
  - multiple treatment processes

Water treatment plant

- Located east of the city outside the Floodway.
- Operation started on December 9, 2009.
- Highly automated facility with nine process areas that will be discussed in our virtual tour.

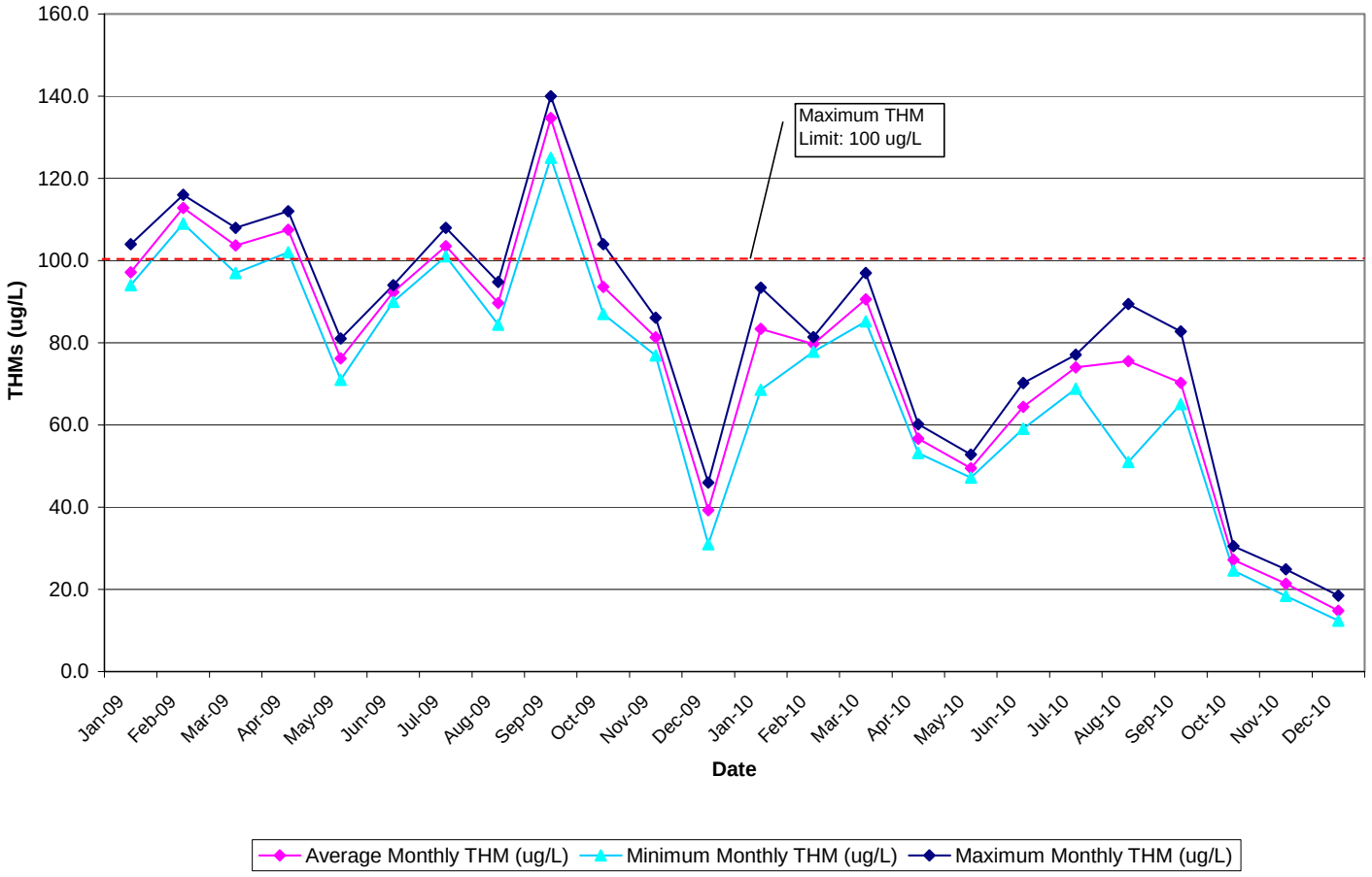
Virtual tour

- Developing a virtual tour of the facility that will be soon be posted on our website.
- Illustrates our water treatment program from Shoal Lake to your tap.

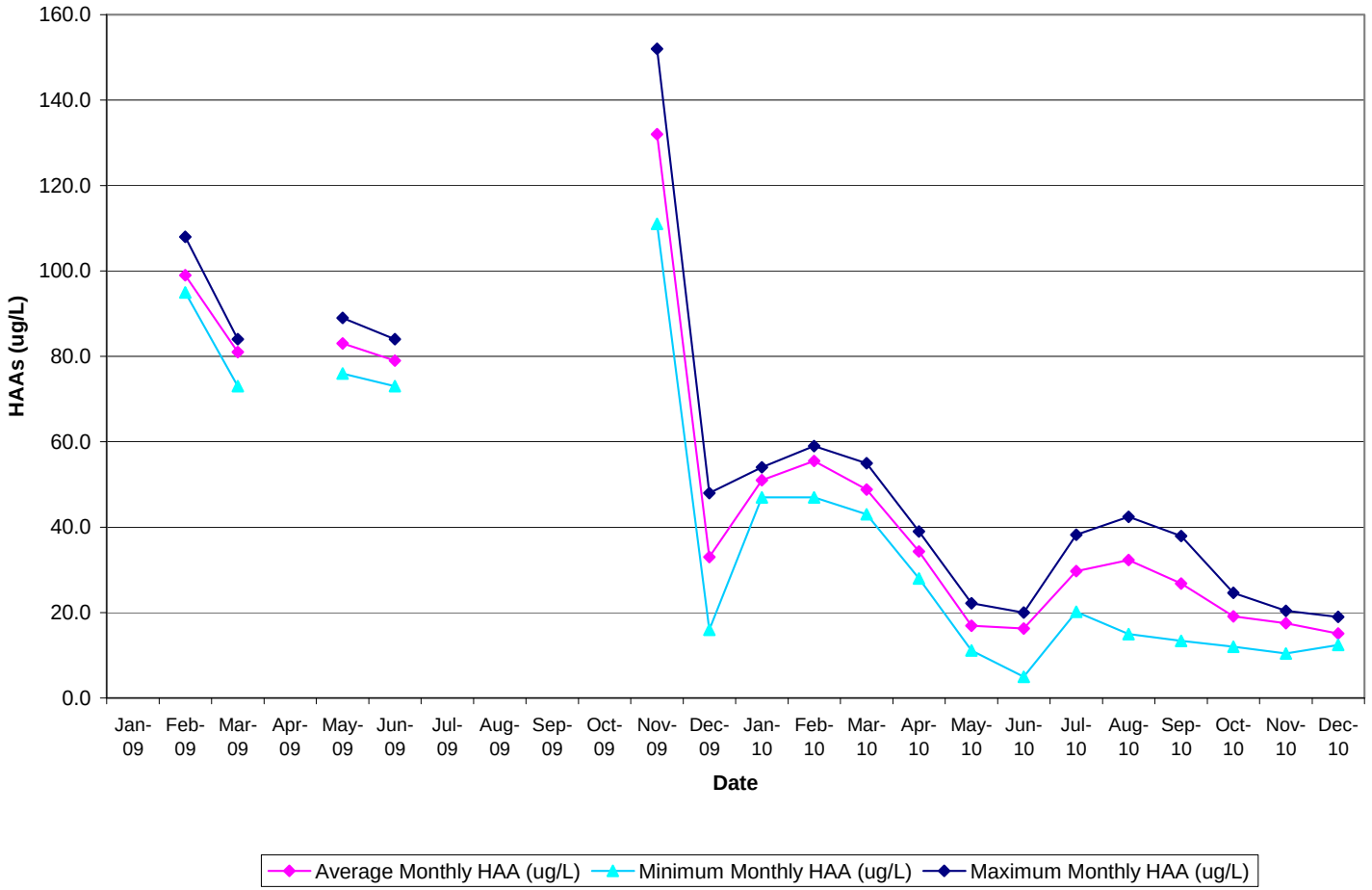
Water treatment plant performance

- Producing water of a higher water quality than required by drinking water regulations and our operating licence.
- Receiving positive feedback from:
  - commercial and industrial customers (improved turbidity, TOC)
  - residential customers (improved taste and reduced odours)

Distribution system monthly averages – Maximum and Minimum THM



Distribution system monthly averages – Maximum and Minimum HAA



Our first year experience

- The challenges of starting a new, complex facility have been addressed, as indicated by our high quality water.
- Our staff and the operation of our facilities continue to improve, resulting in a better product and service to you, our customers.

Disinfectant study

- Plan was to investigate changing the disinfectant from chlorine to chloramine about a year after the water treatment plant was completed.
- A study is underway and a consultant has been hired.
- We expect to have the results later this year.
- If any process changes are recommended, we will discuss with our customers well in advance.

Questions

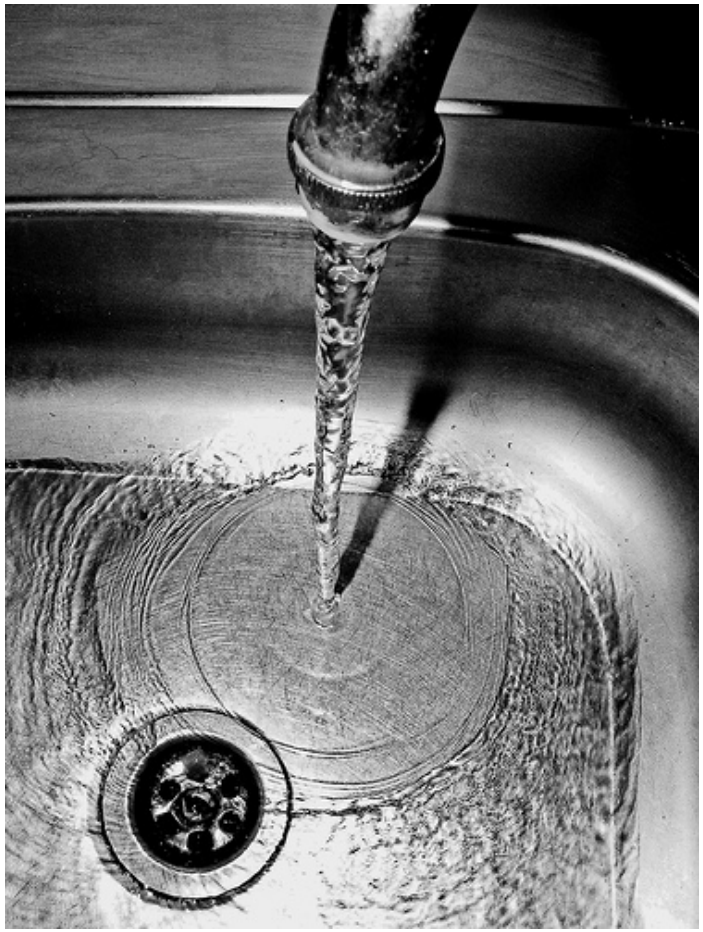
Water Services Update

Terry Josephson
Field Service Operations Engineer

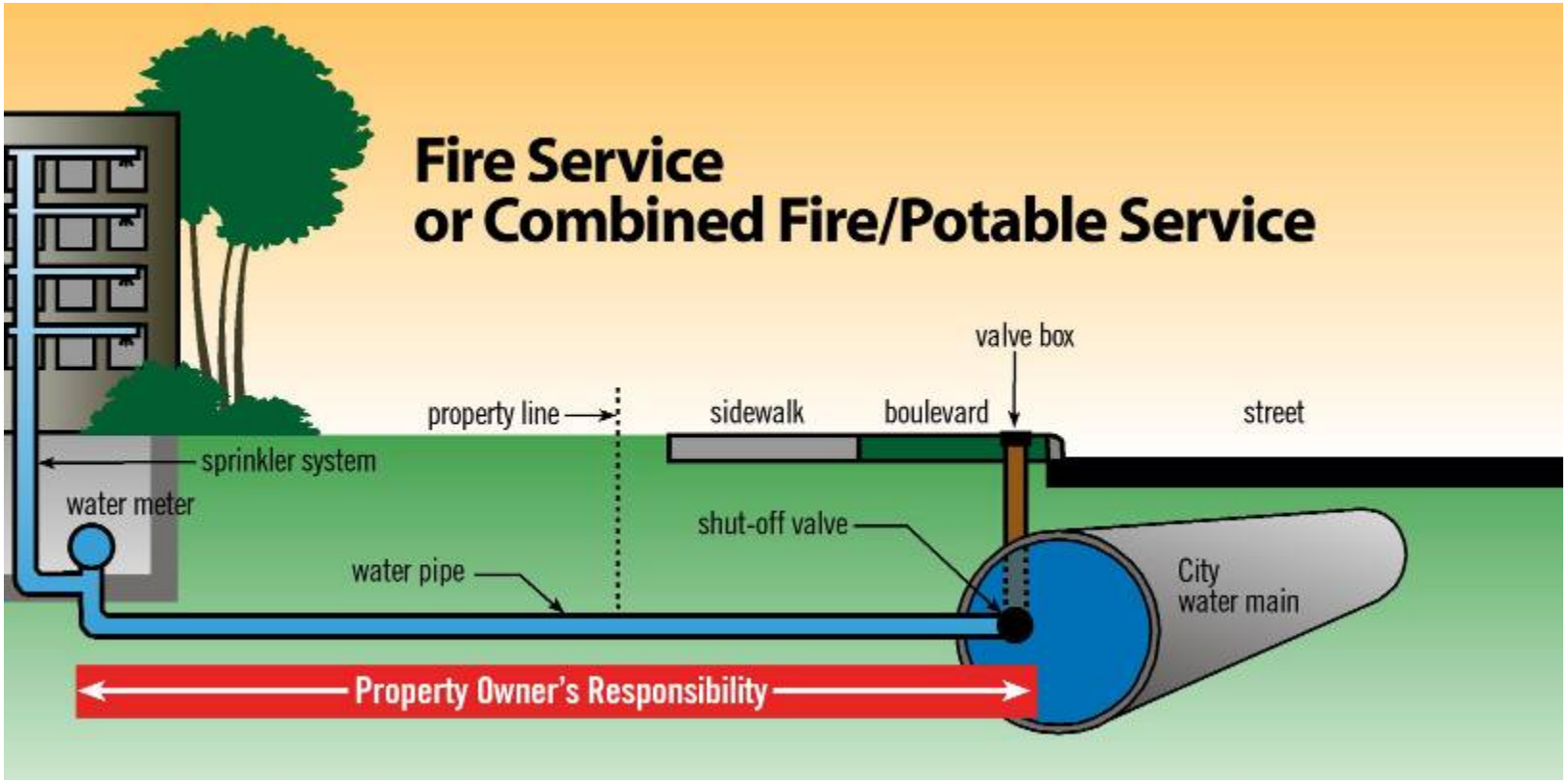
Overview

- Maintaining your private service
- Water main breaks
- Alternate water supply options
- Water main renewals

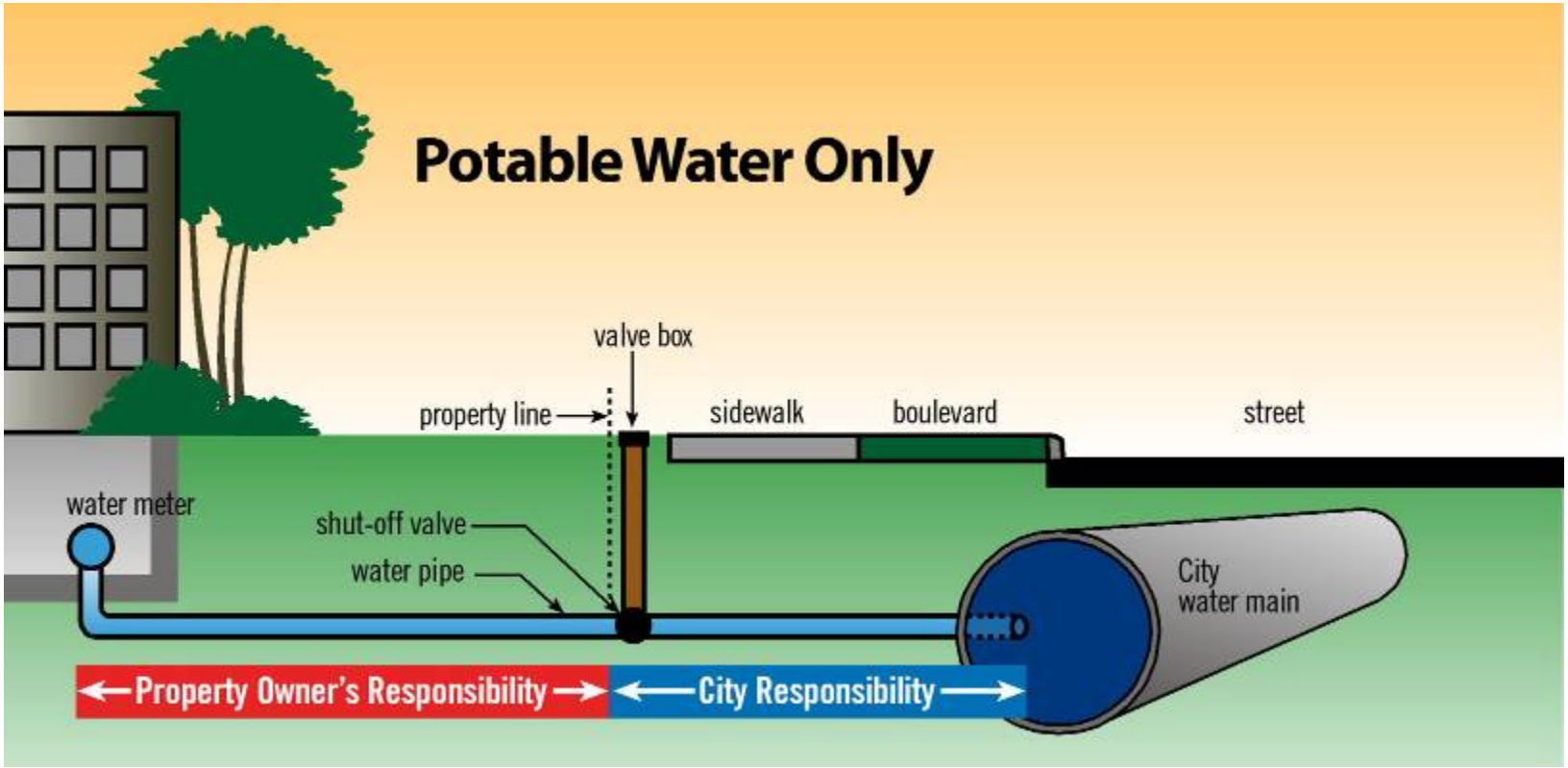
Maintaining your private service



Maintaining your private service



Maintaining your private service



Water main breaks

Water main breaks

- Average 50 breaks per month, 600 per year
- 1 - 2 breaks per day
- Modest variation throughout the year
- Winter “feels” worse
- 328 water main breaks in 2010
- 447 service breaks in 2010

Water main breaks – response

- Water main break response – on the job 24 / 7
- Repair crews – 11 hours per day, 364 days per year
- If water service interrupted, repair within 24 hours
- Repairs performed on a priority basis:
    1. How long the water has been off
    2. Number of people / business affected
    3. Traffic concerns or lane closures
    * *Critical customers (e.g., hospitals, nursing homes)*

Water main breaks – response

- If the break is not creating issues, may leave the water main on reduced pressure while repair crews attend to more critical breaks
- Notify customers
- If you see a break, call 311

Water main breaks – the repair process

- From 311 to dispatch
- Control the leak to ensure there is no risk to the water supply system, public safety, private or public property
- Obtain underground utility clearances
- Pinpoint the location of the leak
- Excavate and confirm the cause of the leak
- Repair the leak
- Backfill and temporary restoration
- Permanent restoration

Water main breaks – the repair process

- From 311 to dispatch
- Control the leak, ensure public safety
- Obtain underground utility clearances
- Pinpoint the location of the leak
- Excavate and confirm the cause of the leak
- Repair the leak
- Backfill and temporary restoration
- Permanent restoration

minutes

4 – 6 hours

8-10 hours in deep winter

months

* *If a break occurs at night, it is controlled and the site is made safe, but the repair work begins in morning*

Water main breaks – the repair process

Water main breaks – the repair process

Alternate water supply – water tanks

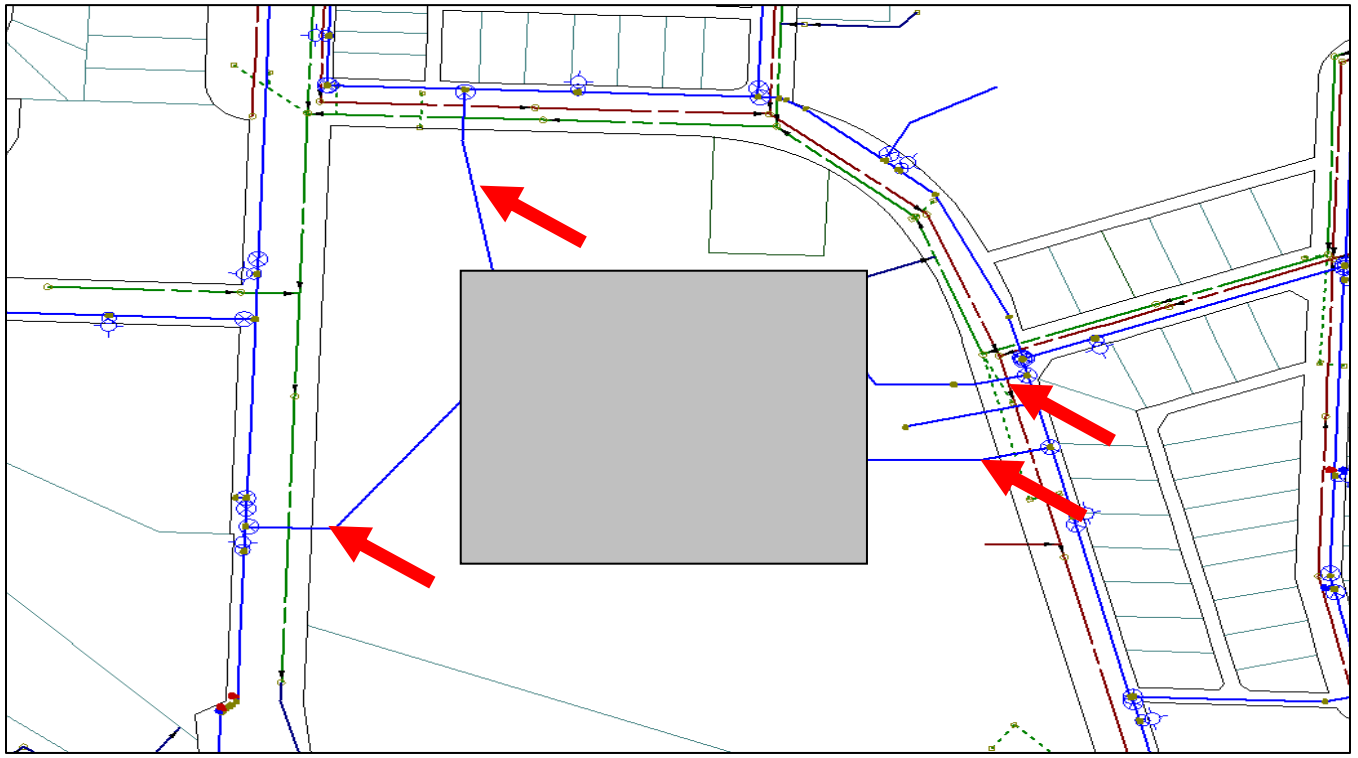
- If a water main or service (City side) breaks, we will provide a water tank free of charge
- Manitoba Public Health Act requires that businesses involved in commercial food preparation have a constant source of water

Alternate water supply – continuous supply

- If a continuous supply of water is required, we may be able to supply and install a temporary hose line:
  - if a fire hydrant is available
  - if the hose line does not unreasonably interfere with traffic
  - if one is available
  - for a fee of $235 the first day, $20 each additional day

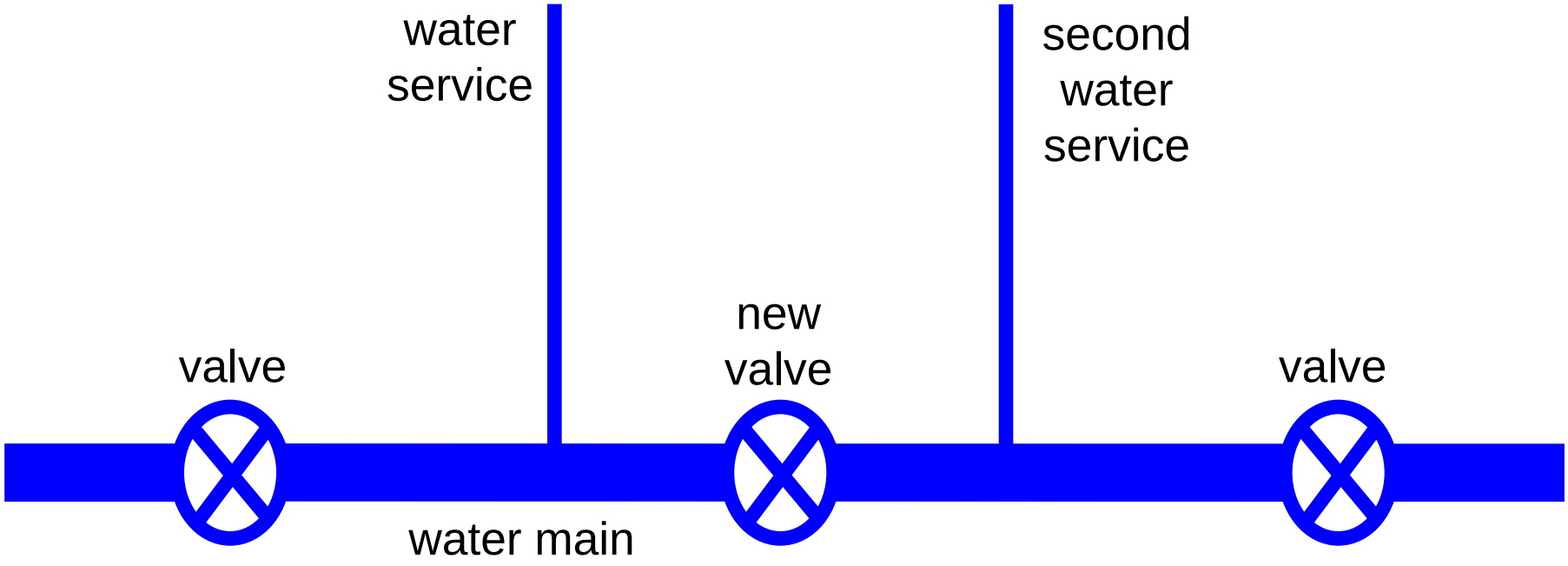
Alternate water supply – continuous supply

- Minimize your business' risk of service disruption with a second service line to a different water main



Alternate water supply – continuous supply

- Install a second service line to the same water main with a valve on the water main between the services



Water main renewals

Water main renewals

- We replace water mains to reduce:
  - the number of water main breaks
  - the number of service interruptions for customers
  - water loss
  - property damage
- Priority:
  - pipes closest to the end of their useful lives
  - “high consequence” water mains

Water main renewal program

- 2010 – replaced 11.9 km of water main at a cost of $12 million
- 2011 - plan to replace 8.6 km of water main at a cost of $13.5 million
- New program in 2010: water service replacements
  - services prone to freezing
  - plastic and lead services

Thank you

Questions

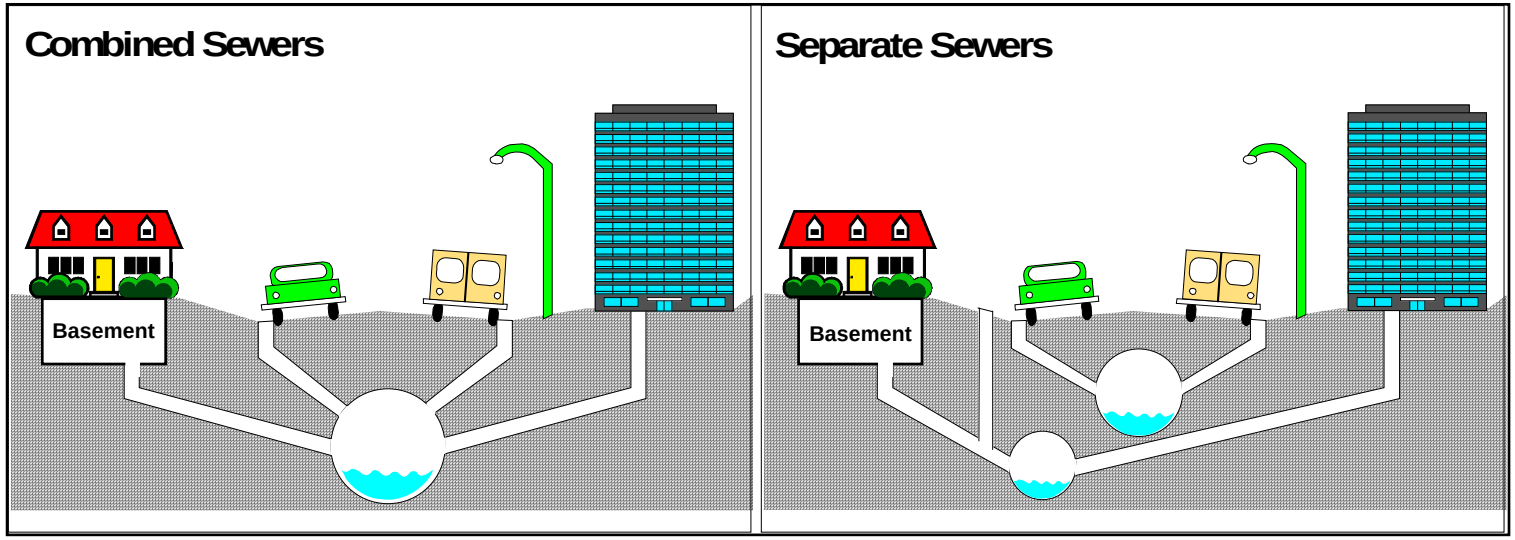
Protecting Your Property from Flooding

Cynthia Wiebe
Wastewater Collections Planning Engineer

Who is at risk?

- Everyone with a structure below grade…
  - Basements
  - Crawl spaces
- …that is connected to the sewer
  - Floor drain
  - Toilet / sink
  - Shower / tub
  - Washing machine
  - Weeping tiles connected to a sewer

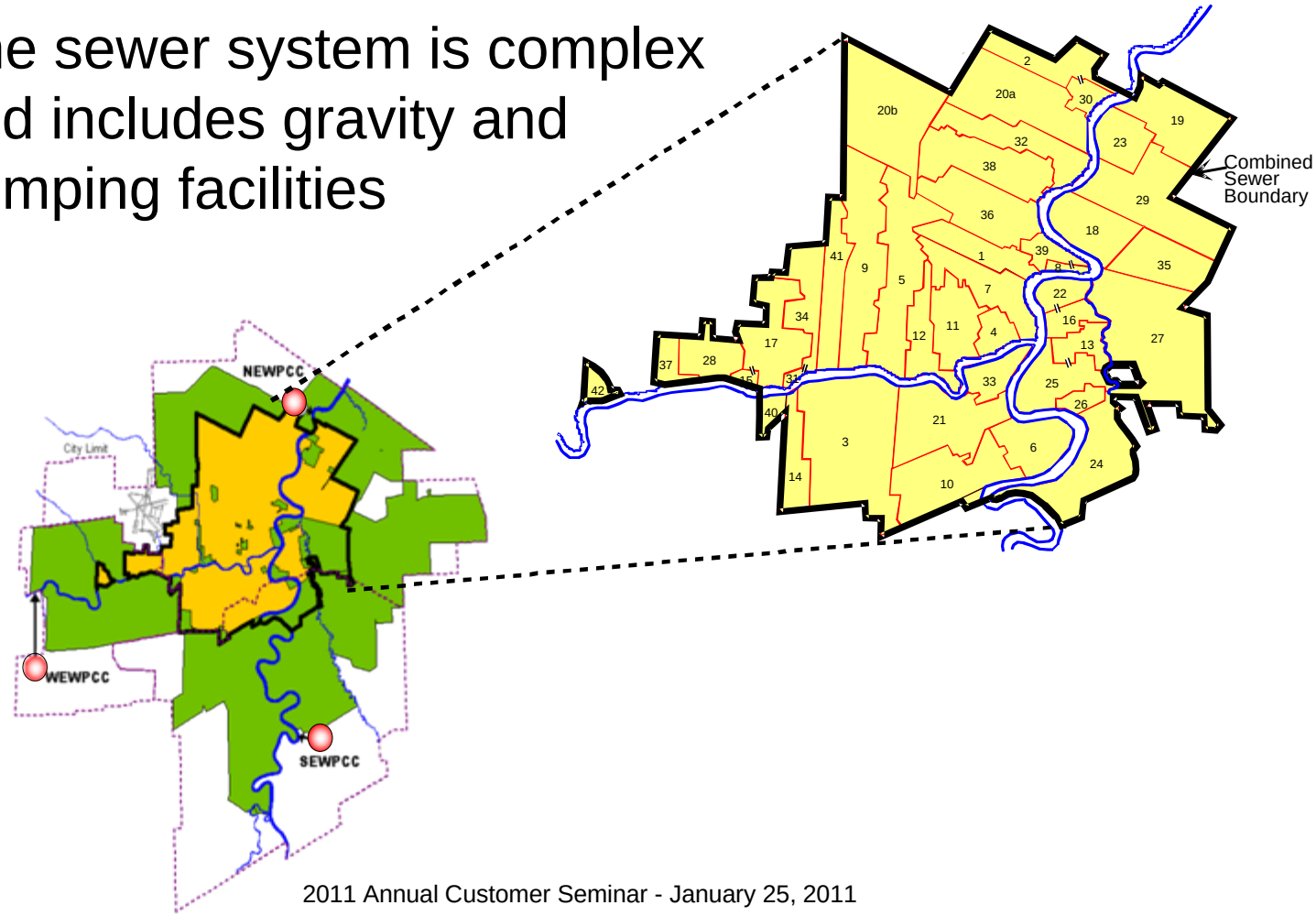
Winnipeg's wastewater sewers



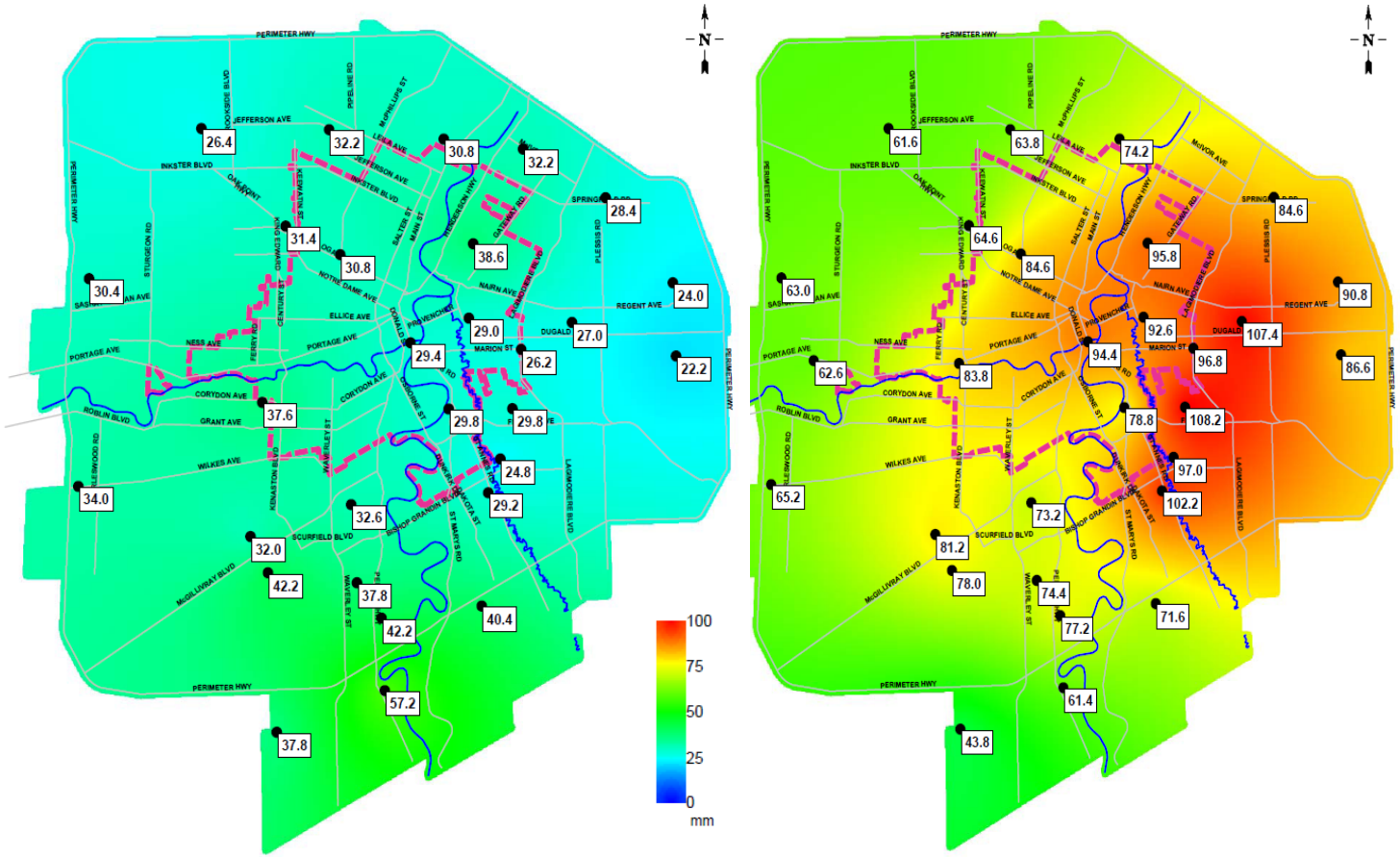
- Older parts of the city (pre-1960) are combined
- ~ 27% of the city is in a combined sewer area
- Your basement is connected to every other basement
- **Both** systems can experience basement flooding

Sewer district types

- The sewer system is complex and includes gravity and pumping facilities

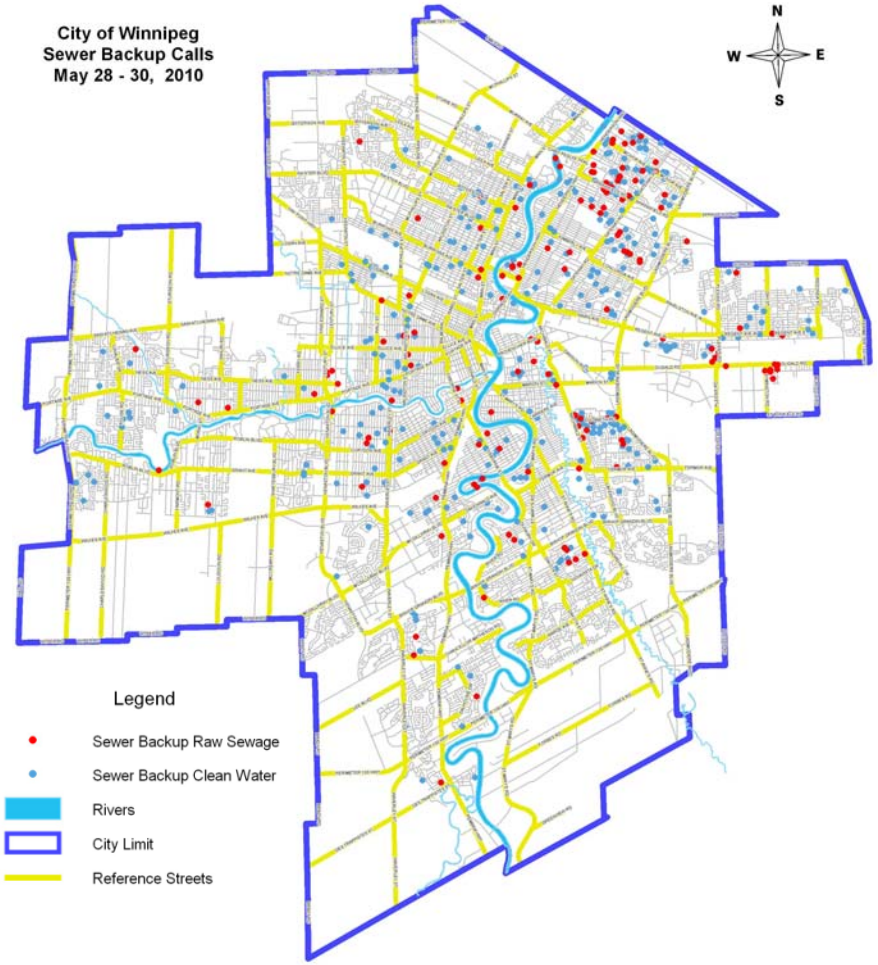


Rainfall on May 28 and 29, 2010



Flooding on May 28 and 29, 2010

- Sewer system is not designed for such extreme events
- Quantity of runoff overwhelmed the system
- Every property that is not protected is always at risk of basement flooding



Flood risk for 2011

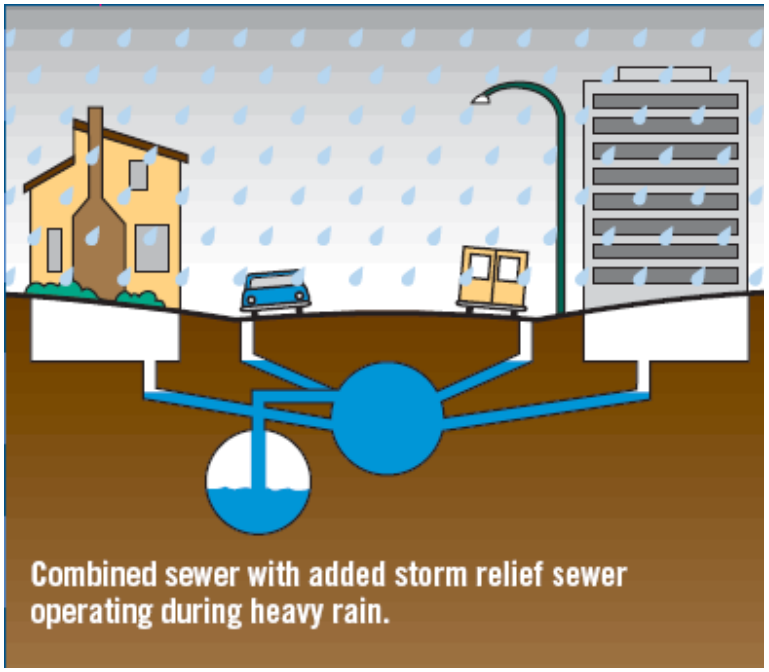
- Red and Assiniboine basins are very saturated
- The Province released their first 2011 flood outlook yesterday
- The City is preparing for river levels of at least 25.0 feet
- Historical flood levels:

1997 – 24.5 ft	2009 – 22.6 ft
2006 – 20.4 ft	2005 – 20.1 ft

- High river levels impact the sewer system's ability to drain by gravity - increased reliance on pumping

The City is taking action to reduce the risk of basement flooding

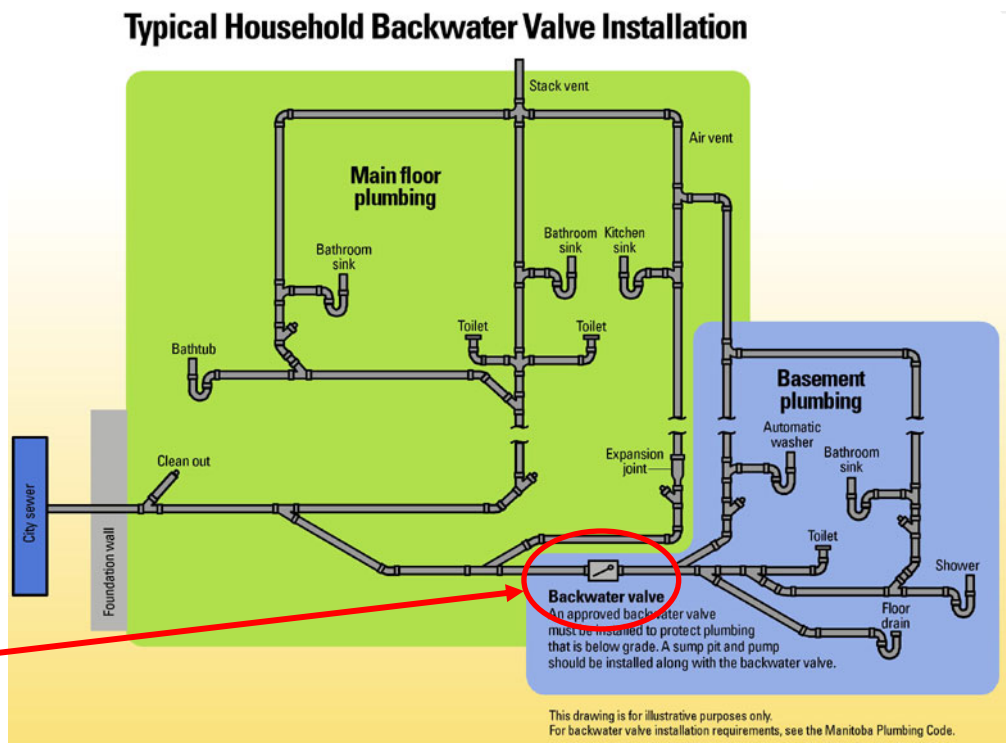
- Invested more than $290 million since 1977
- Installing storm relief sewers
- Converting combined sewers to separate storm and wastewater sewers
- Property owners still need to protect themselves!



Things you can do…

1. Install (and maintain!) an in-line backwater valve
   - Intended to protect basement plumbing
   - Mandated in By-law as of 1979
   - National Plumbing Code of Canada provides criteria

Normally closed



Things you can do…

- These backflow prevention devices – installed in the basement floor drain – are **not** recommended as they **only** protect the floor drain from sewer backup and **not** the entire basement plumbing

Things you can do…

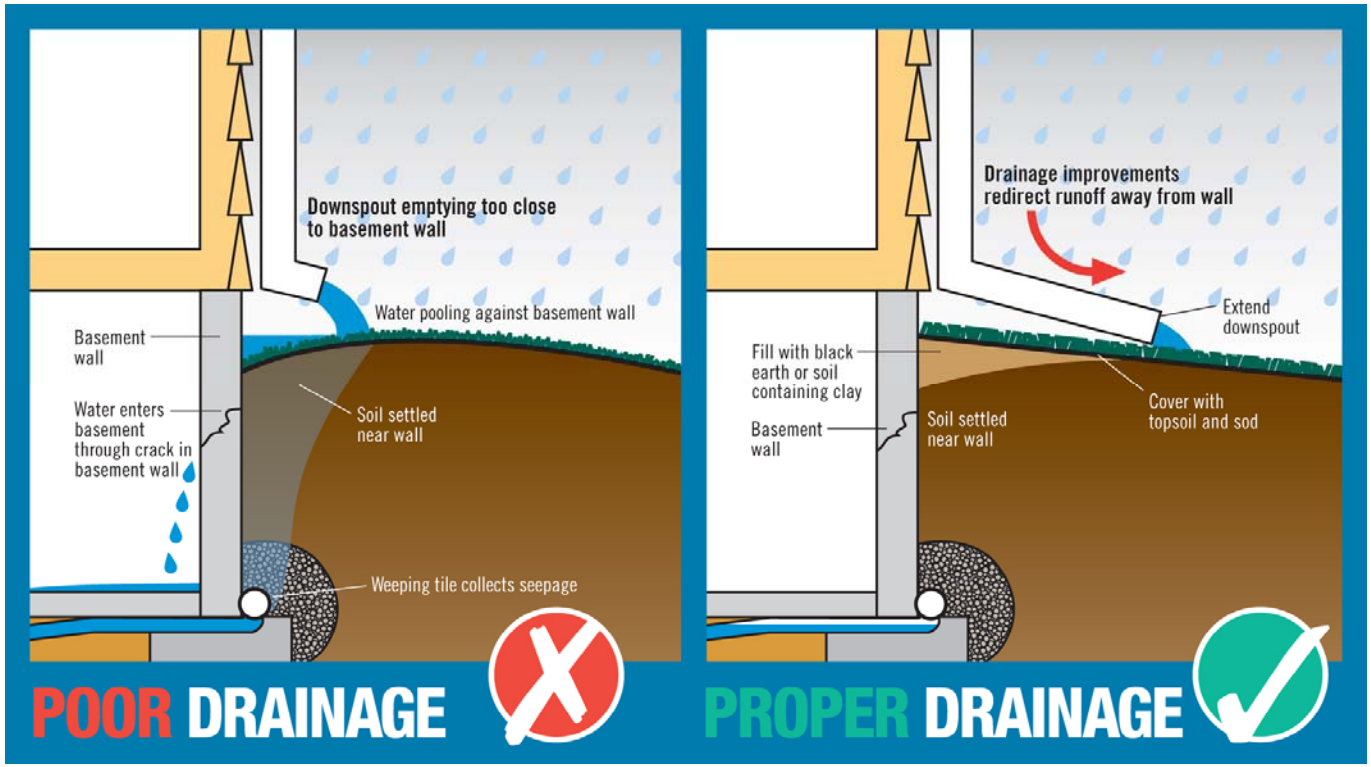
2. Install a sump pit drainage system
   - Consists of a sump pit and pump
   - Sump pit collects water from weeping tiles
   - Sump pump discharges the water outside your property
   - Mandated in By-law as of 1990
   - Details in Building By-law
   - Section 23 – Subsurface Drainage

Ensure your sump pump discharge hose is **correctly** placed!

It is **illegal** to redirect your discharge hose to **any** part of the building plumbing!

Things you can do…

3. Improve drainage around your property

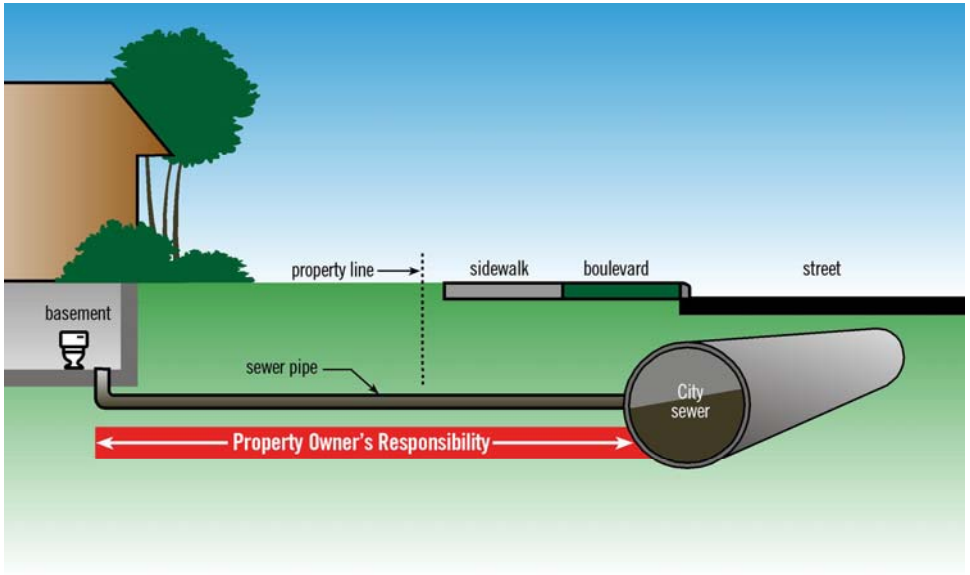


Things you can do…

4. Take care of your sewer

   You own the sewer pipe from your building to the City's sewer, including the part under your property and the part under City property.

   - Don't throw garbage down sinks or toilets
   - Use grease traps and grit interceptors
   - Keep your service pipe clear of roots
   - Preventative/regular maintenance – video inspection, periodic cleaning



Questions

- For more information
  - contact 311 or
  - visit winnipeg.ca/waterandwaste/drainageFlooding/

Wastewater Update

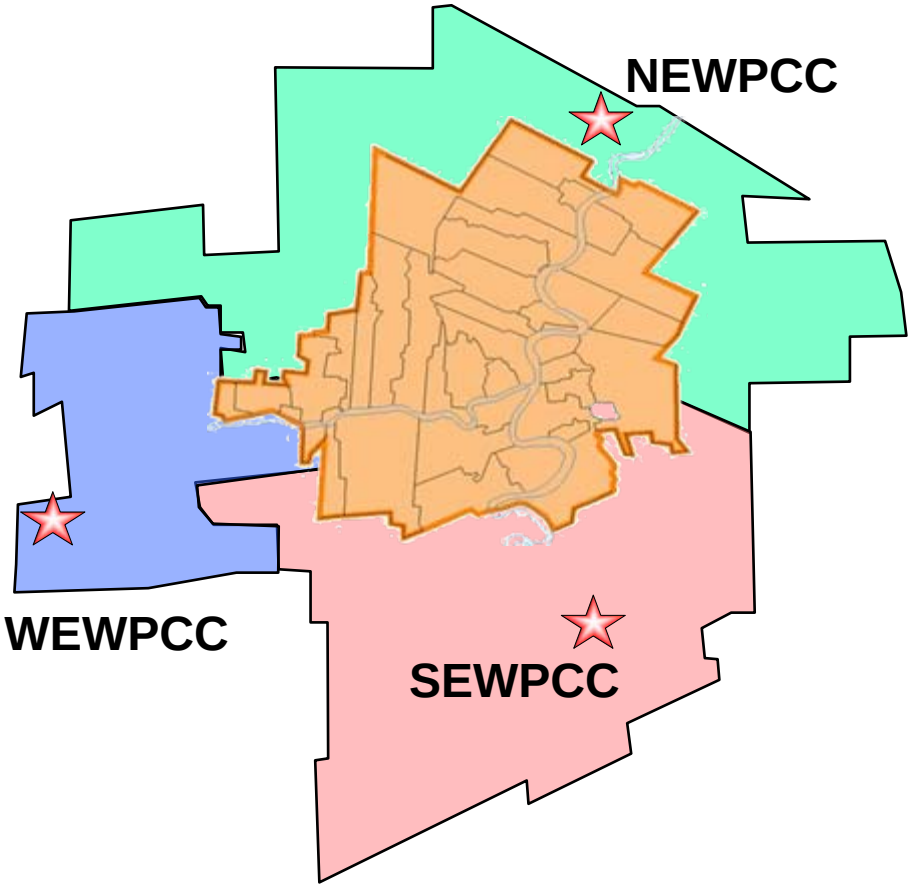
Geoffrey Patton
Asset Management Engineer

Outline

- 2011 sewer cleaning and assessment
- 2011 sewer rehabilitation program
- Main interceptor inspection
- Sewer repairs on private property

Winnipeg sewer system

- 2,345 km sanitary sewers
- 118 km of interceptor sewers
- 1,783 km land drainage sewers
- 44,620 manholes



Sewer cleaning and inspection program

Why we clean sewers

- Remove built-up debris (e.g., grease, tree roots, road sand)
- Prevent blockages and sewer backup
- Aid sewer inspections

Why we inspect sewers

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

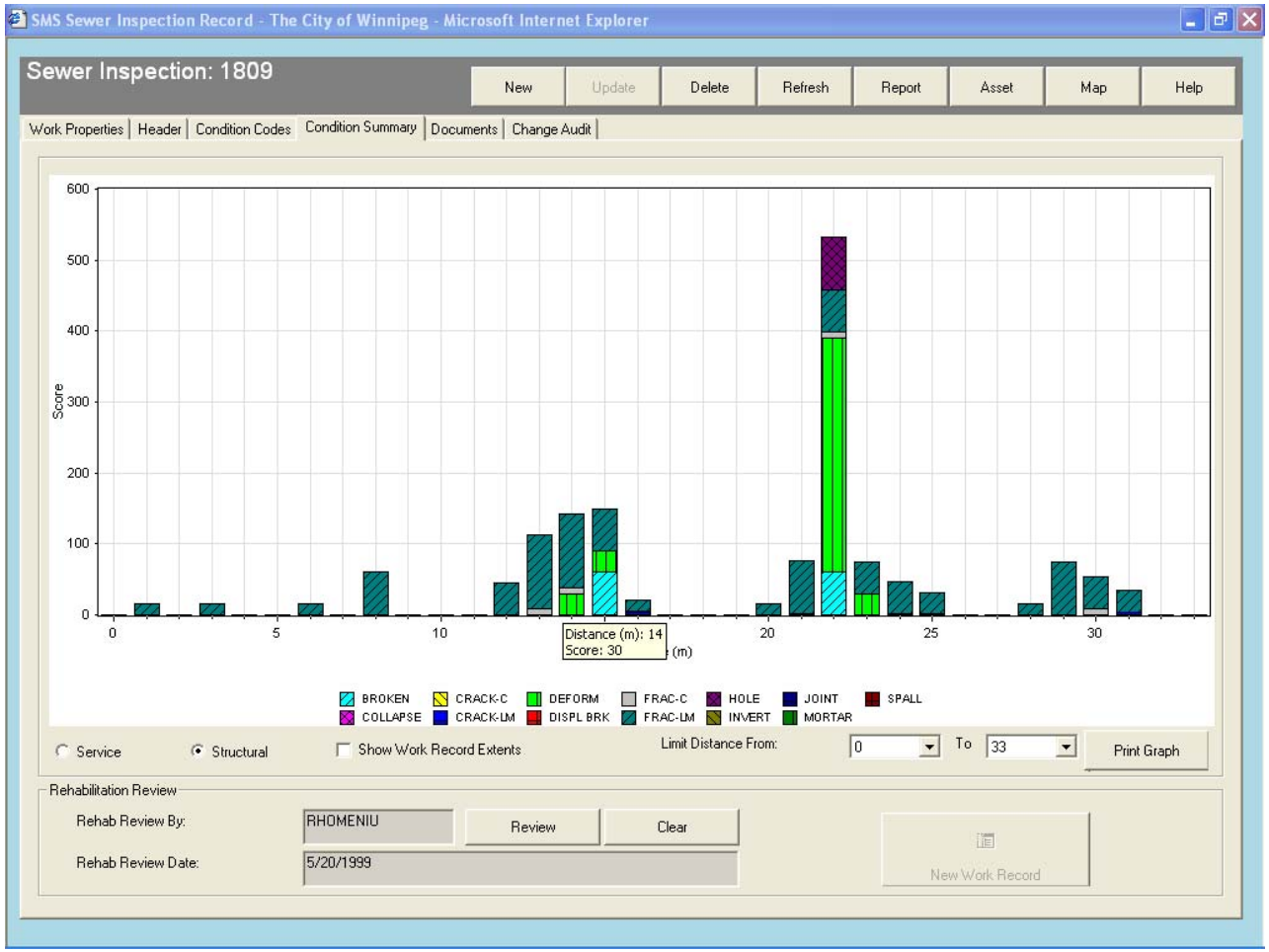
How we clean sewers

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

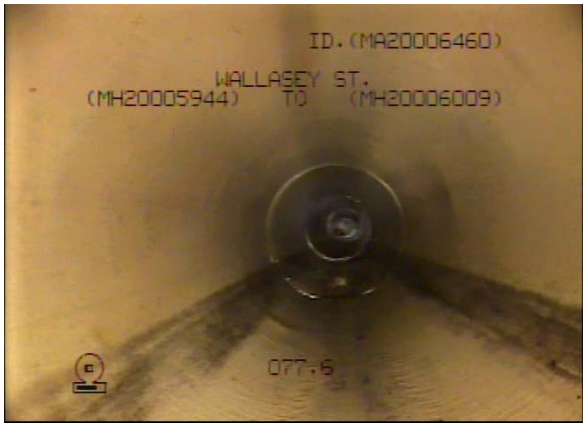
How we assess the condition of the sewers

- Nationally accredited pipeline inspectors
  - televise the sewer
  - catalogue the defects
  - rate the pipe conditions

How we assess the condition of the sewers



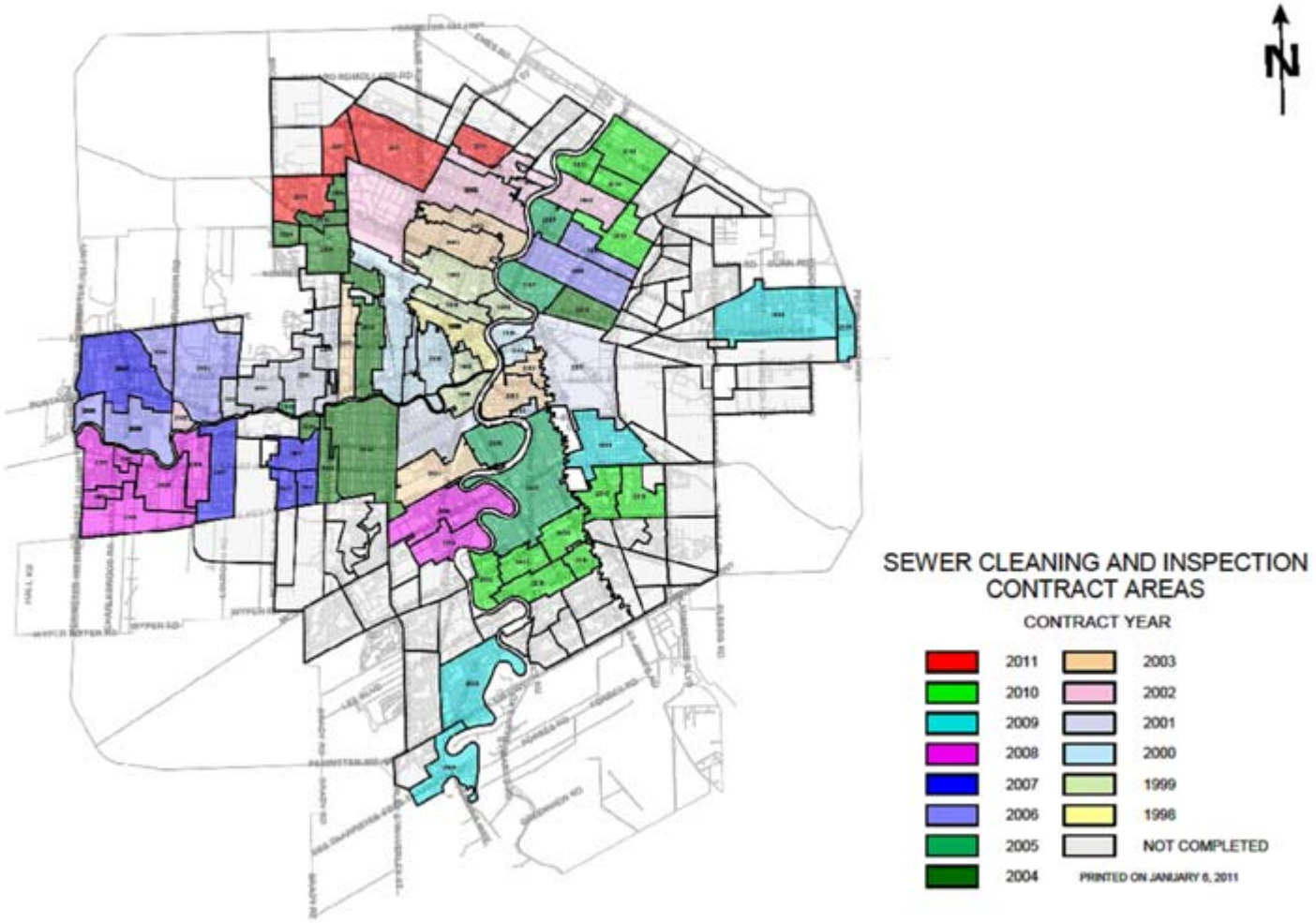
Sewer pipe conditions



How much we have spent

- Since 1998, we have:
  - spent about $156.5 million assessing, rehabilitating and replacing sewers
  - identified an additional $300 million in required rehabilitation work

Areas we've cleaned and inspected

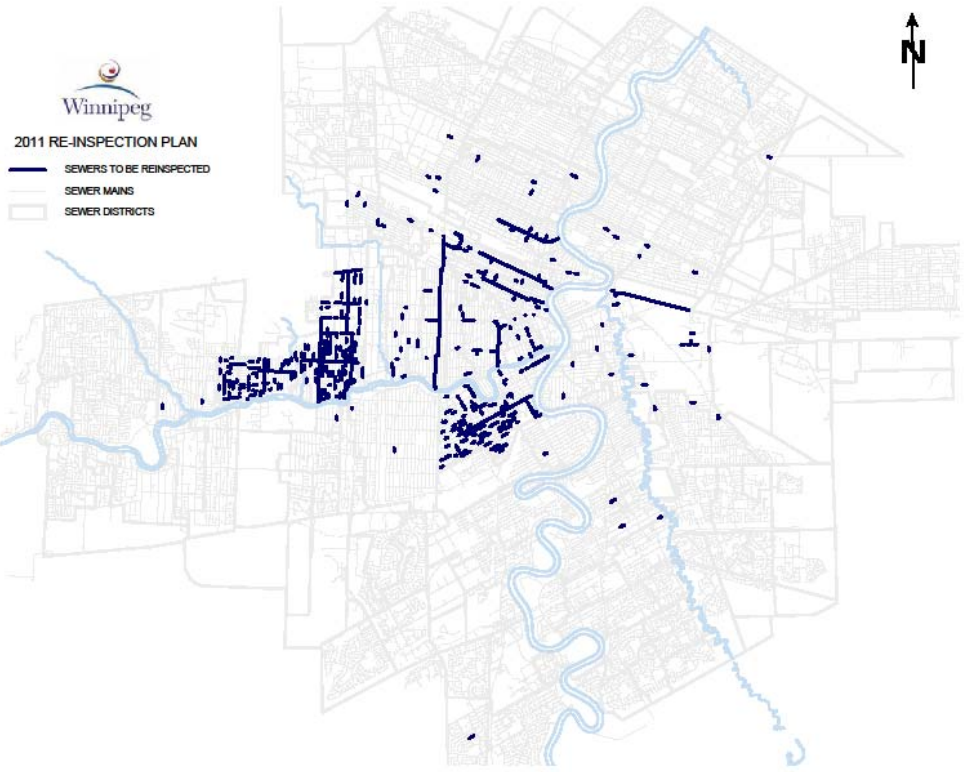


2011 sewer cleaning and assessment

- Northwest sections of the city
  - 108.5 kilometers of wastewater sewers
  - $2,050,000

2011 sewer cleaning and assessment

- Re-inspect various areas
  - 66.8 kilometres of combined sewers
  - $1,350,000



Sewer cleaning and inspection progress

- 100% of the combined sewer system has been cleaned and inspected
- 69% of the wastewater sewer system will be cleaned and inspected by the end of 2010
- We expect the entire wastewater sewer system to be cleaned and inspected by the end of 2014

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

- We will:
  - mail you a notice in advance
  - deliver an information package 1-2 days before the cleaning
  - post a map of the sewer cleaning area on our website at winnipeg.ca/waterandwaste/sewage/mainCleaning.stm

2011 rehabilitation program

- $13.2 million
- Developed from 2010 and previous assessments
- Prioritized based on:
  - severity of failure
  - sewer main size and depth
  - location (major routes vs. residential street)

2011 rehabilitation program

- Rehabilitate by trenchless technology
- Excavate and repair at isolated locations
- Full section replacement
- Manhole rehabilitation

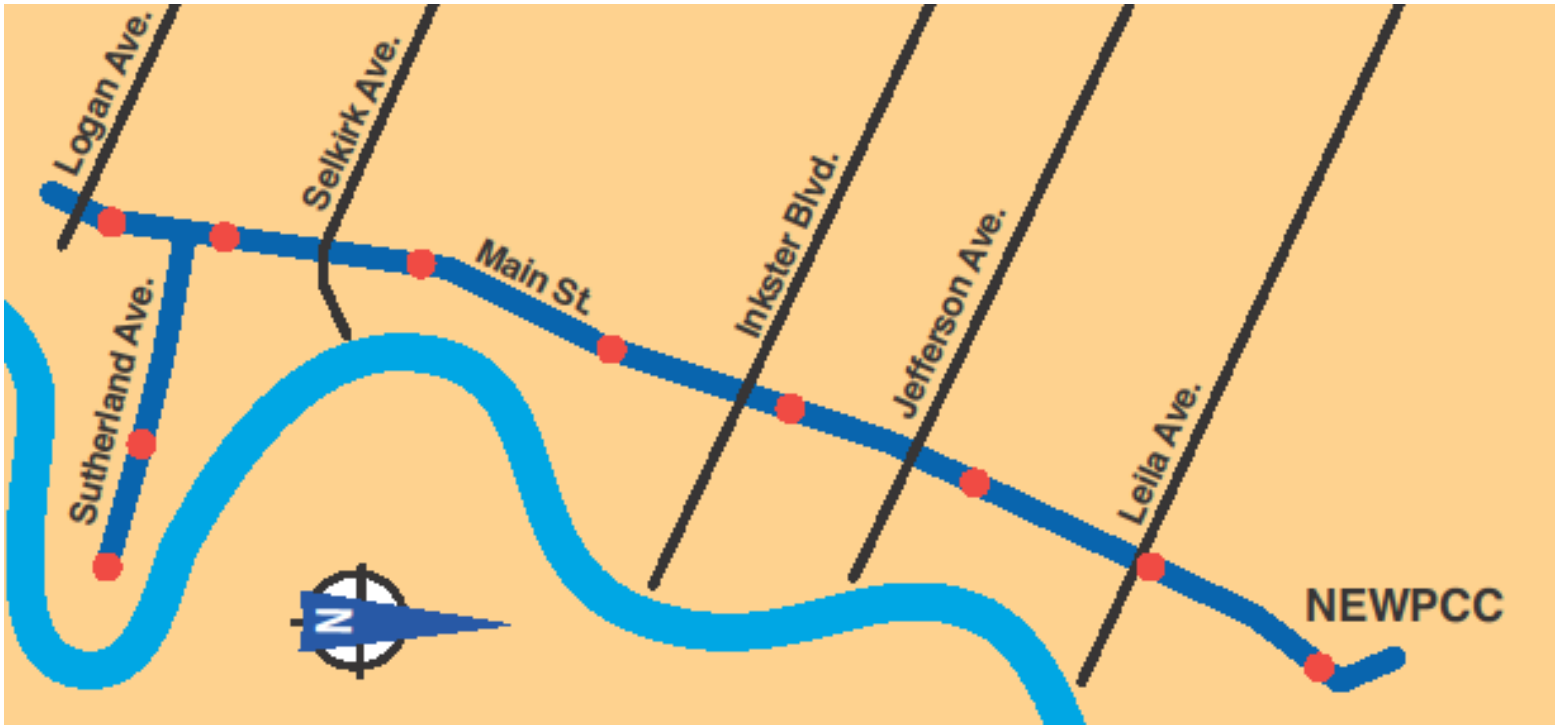
Main interceptor inspection

- A massive concrete sewer constructed in 1935
- Primary conveyance of sewage to the North End wastewater treatment plant, which treats approximately 70% of the city's wastewater
- Visual inspections previously completed indicated the sewer was in good condition
- Inspection completed February 16 to 22, 2010, using multiple sensors – close circuit TV, spherical view video, laser, sonar, temperature, hydrogen sulfide gas

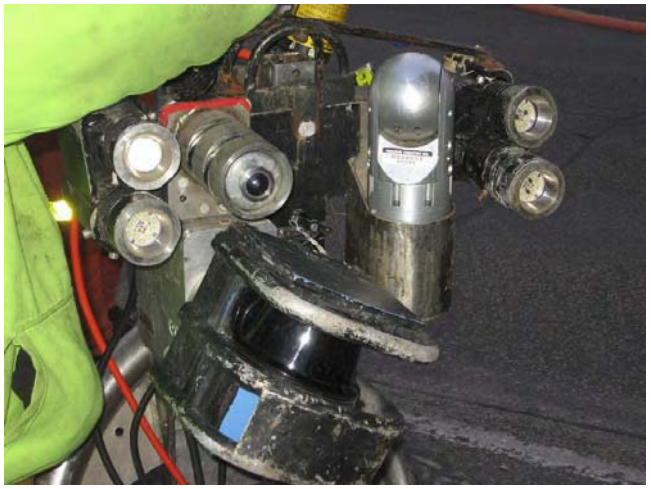
Main interceptor inspection

January 2010 - 2400 mm diameter outfall pipe at SEWPCC (BO 709-2009)

Main interceptor inspection

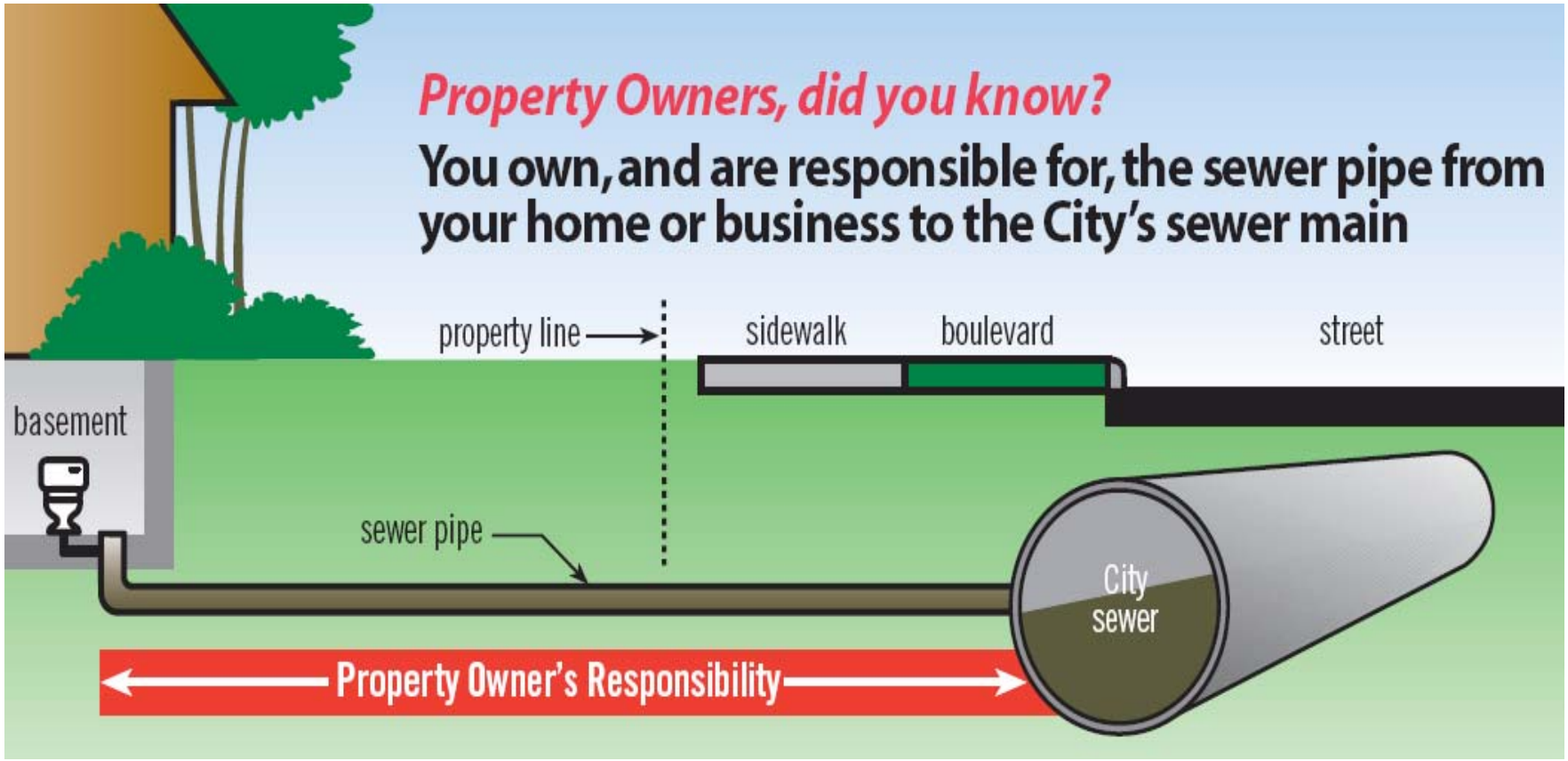


Main interceptor inspection



Sewer Repairs on Private Property

You own your sewer pipe



Typical sewer problems – Settled or collapsed line

Sewer collapse or blockage under your property

- You are responsible to arrange and pay for repairs
- You must hire a sewer contractor licensed by us
- Contact us at 311 for the list of contractors or visit our website at winnipeg.ca/waterandwaste/dept/licensedContractors.stm
- We recommend you:
  - get at least three estimates
  - ask for and check contractor references
  - call the Better Business Bureau for a reliability report

Sewer collapse or blockage under City property

- Contact us at 311
- We may ask you to:
  - arrange and pay for a second attempt to clean the sewer
  - arrange and pay for a video inspection
- If the second cleaning is unsuccessful and your sewer is still blocked, we will arrange and pay for the repair under the current City assistance program (Repair and replacement of pipe under street - Section 37 of the Sewer By-Law)

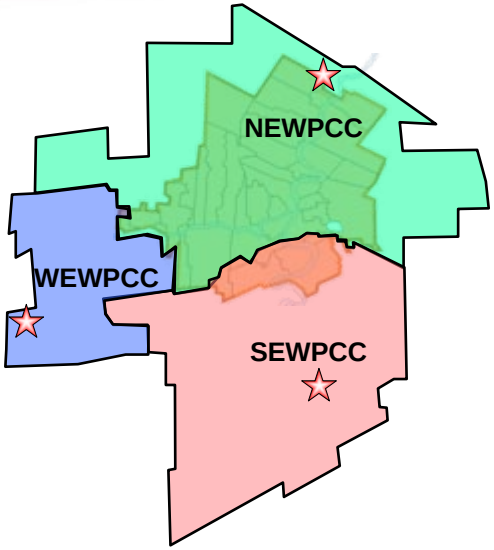
Questions

Wastewater Treatment Upgrades

Nick Szoke
Acting Branch Head
Wastewater Planning and Projects Delivery

Introduction

- Upgrades to wastewater treatment plants
- Factors influencing costs and rates
- Requirement to reduce nitrogen
- Wastewater treatment program
- Impact on customers



	NEWPCC	SEWPCC	WEWPCC
			
Population served 2010	**400,000**	**190,000**	**86,000**
ADWF recorded 2009/10	**147**	**46**	**22**
ADWF design capacities	**302**	**59**	**32**

ADWF = Average Dry Weather Flow (ML/d)

- While water conservation has reduced dry weather flows, wastewater loads are increasing due to city-wide growth

Wastewater treatment plant upgrades

- Environment Act Licences issued for each wastewater treatment plant require phosphorous and nitrogen reductions
- Nutrient Management Regulation, effective Jan 1, 2011
  - restrictions placed on land application of biosolids
  - major changes to existing “WinGRO” program to comply

Estimated costs

Wastewater Treatment Projects	Capital Cost (millions)
NEWPCC Disinfection (complete)	*$ 19.0*
NEWPCC Centrate Treatment (complete)	*$ 34.0*
WEWPCC BNR Upgrade (complete)	*$ 34.0*
NEWPCC BNR Upgrade	$ 400.0
SEWPCC BNR Upgrade	$ 200.0
Biosolids Program	$ 150.0
CEC Additional Recommendations	$ 8.0
NEWPCC System Improvements	$ 100.0
WPCC Asset Renewal	$ 60.0
WPCC Reliability Improvements	$ 45.0
GRAND TOTAL	**$ 1,050.0**

Regulatory driven upgrades $845 M

Factors influencing costs and rates

- Licence requirements – reduce phosphorus and nitrogen
- Wastewater loads are increasing due to city-wide growth – more capacity required
  - population growth forecast predicted by 2031 (increasing from 675,000 to 855,000)
- Construction activity
- Supplementary funding from Federal and Provincial Governments

Requirement to remove nitrogen?

- Many prominent scientists have said that nitrogen reduction is not beneficial
- We have been in discussions with the Province to question the benefit and value of reducing nitrogen
  - capital cost of up to $350 million
  - annual operating and maintenance cost of at least $9 million
- If nitrogen reduction is not required, then ammonia is the key issue at the north end wastewater treatment plant
  - ammonia limits met at north end plant last 2 years

Wastewater treatment program

- Actively developing upgrade plans for south end wastewater treatment plant
  - Licence deadline - Dec. 30, 2012
- Reviewing north end wastewater treatment plant upgrade options
  - Licence deadline - Dec. 30, 2014
- New biosolids handling program
  - integrate with treatment plant upgrades

Impact on customers

- Sewer rate expected to increase
  - forecast to be $3.10 by 2020 (57% increase)
- Surcharge rates for nitrogen and phosphorus under review

Questions

Sewer By-law –
Pollution Prevention Plan Requirements

Kelly Kjartanson
Manager of Environmental Standards

Summary of key By-law changes

- Plain, user-friendly language
- Added more definitions to make the By-law clearer
- Clarified construction and approval requirements for work on land drainage and wastewater systems

Summary of key By-law changes

- New restrictions and prohibitions for wastewater and land drainage – help protect the aquatic environment and meet Manitoba Surface Water Quality Objectives
- New licences and requirements
  - Wastewater Hauler Licence
  - Wastewater Discharge Licence for swimming pool discharges
  - 5 year licences with annual renewal fees
- New pollution prevention plan requirements with increased monitoring and enforcement

Pollution prevention planning program

- Effective Jan. 1, 2012
- A new requirement that shifts the focus of wastewater treatment to control and prevention at source
- Businesses that discharge prohibited or restricted substances into a sewer required to submit a pollution prevention plan

Pollution prevention planning program

- Encourages businesses to:
  - reduce pollutants at source
  - reuse input materials
  - replace raw materials with more environmentally friendly products
- Will benefit businesses by:
  - reducing operating costs
  - reducing risks of liability
  - increasing workplace health and safety
  - saving surcharge costs
- Will also benefit public health and the environment

Pollution prevention planning program

- We will begin with metal processing companies

Sector - Metal Processing Companies	NAICS Code
Primary production of alumina and aluminum	331313
Steel foundries	331514
Prefabricated metal building and component manufacturing	332311
Fabricated structural metal manufacturing	332312
Sheet metal work manufacturing	332322
Ornamental and architectural metal work manufacturing	332323
Other ornamental and architectural metal work manufacturing	332329
Metal tank (heavy gauge) manufacturing	332420
Other metal container manufacturing	332439
Metal valve manufacturing	332439
All other miscellaneous fabricated metal product manufacturing	332910

Pollution prevention planning program

- We are hiring staff later this year to fully develop the program including necessary documentation
- We presently have a list of 56 businesses in the metal processing sector
- We will collect samples from the businesses in the sector and analyze them for substances listed in the applicable By-law schedules; we may require businesses to self monitor

Pollution prevention planning program

- We will require businesses that exceed a schedule requirement to submit a pollution prevention plan
- Businesses preparing a pollution prevention plan must:
  - submit their plan for approval
  - submit annual progress reports for approval
  - update their plan every five years to show progress towards their goals
- Some businesses may need environmental or engineering specialists to assist them in preparing their plans

Pollution prevention planning program

- Businesses that are complying with the limits and restrictions in the schedules may no longer be required to participate
- Likewise, a spill or schedule violation may take a business back into the program
- We may expand the program to include other business sectors in the future

Pollution prevention planning program

- We are considering 14 other sectors such as food and beverage processing
- In some cases we may develop best management practices guidelines in cooperation with industry for some of these sectors
- We will provide one year notice before a business sector is added to the program

Water Works By-law – Backflow Prevention and Cross Connection Requirements

Cross connection and backflow prevention

- We made changes to Section 38 of the By-law that:
  - Tells you where you must have backflow prevention control devices
  - Tells backflow testers to report the results of a test to you
  - Tells backflow testers what to do about a broken backflow prevention device
  - Adopts the backflow standards set out in the Plumbing Code and CAN/CSA B64.10

How does this affect you?

- You are responsible to:
  - protect your employees and the public
  - prevent any potential contamination of the water supply
  - protect the water in your building
- If your property has a **severe degree of hazard** to public health such as a hospital, you must install air gaps or backflow prevention devices which are sufficient to prevent backflow from the premises and from any fixtures on the premises

How does this affect you?

- A backflow tester must:
  - provide you with a written test report within 14 days of testing
  - advise you **immediately** if a backflow prevention device is broken
- The tester must advise us **within two working days** of testing if a backflow prevention device is broken

- Backflow testers must now be recertified every 5 years

Enforcement process

- We issue notices, orders and common offence notices for By-law violations
- You may now appeal an order to the Standing Policy Committee on Infrastructure Renewal and Public Works
- The appeal fee is $250.00

For more information

- Visit our website at winnipeg.ca/waterandwaste/dept/default.stm#by-laws

Questions

2011 Water and Sewer Rates and Fees

Barry MacBride
Director

Rates as of January 1, 2011

- Rates were approved by City Council on December 15, 2010

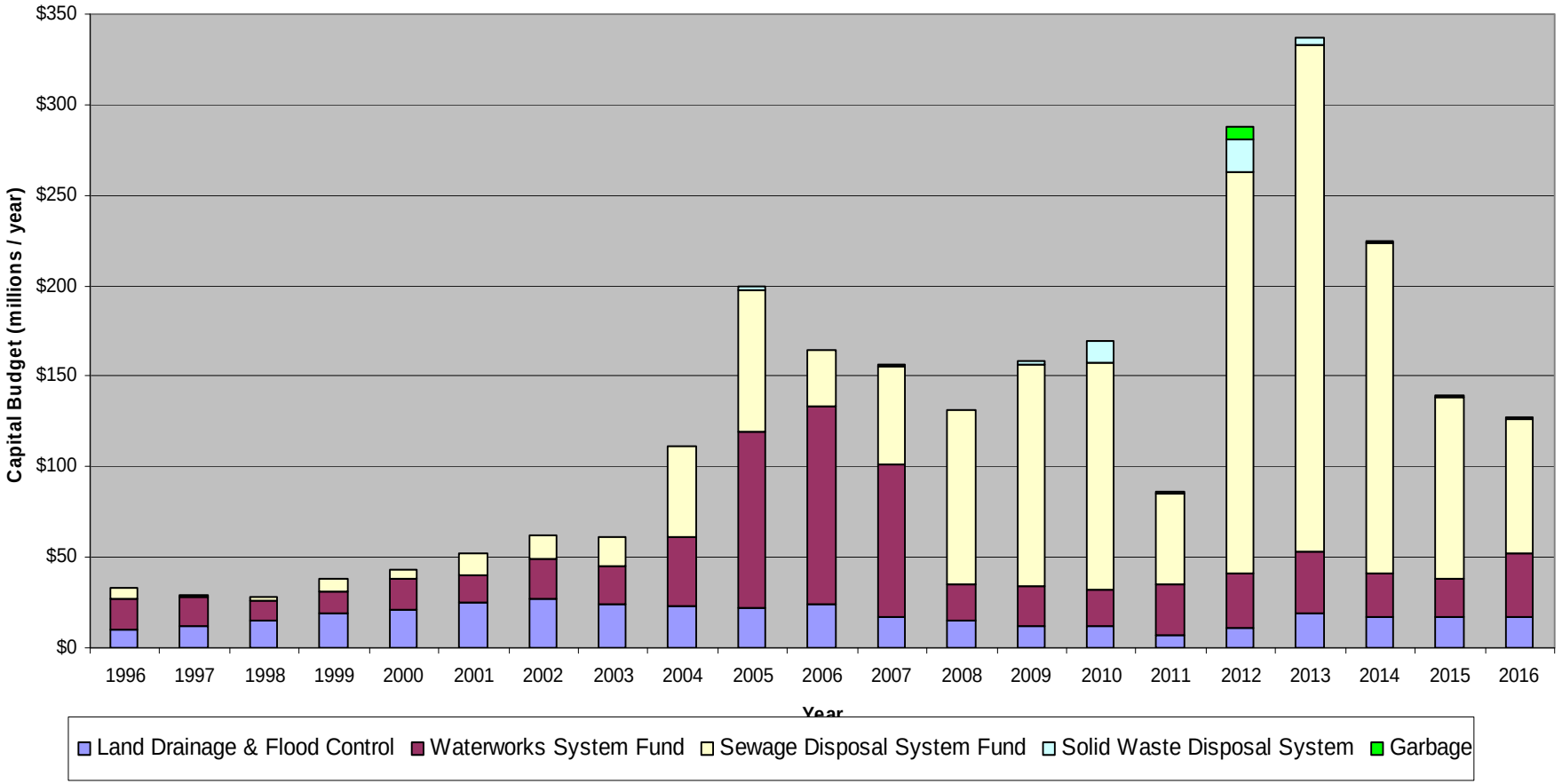
Water	$1.34 per 1,000 litres
Sewer	$1.97 per 1,000 litres

Customer impact

- 2011 combined rate is $3.31 per cubic metre, for combined water block 1, or $3.31 per 1,000 litres
- Average monthly cost for a small business is $444.68
- 3.02 litres per penny

	Annual Cons. cu.m	2010	2011	Increase $	Increase %
Residential	240	$ 823.00	$ 849.40	**$ 26.40**	**3.2%**
Small Business	1,600	$ 5,160.05	$ 5,336.16	**$ 176.11**	**3.4%**
Large Business	17,700	$ 53,180.28	$ 55,041.36	**$ 1,861.08**	**3.5%**
Large Industrial	254,500	$ 731,047.36	$ 759,042.36	**$ 27,995.00**	**3.8%**

Capital budget 1996-2016



Wastewater cost projections

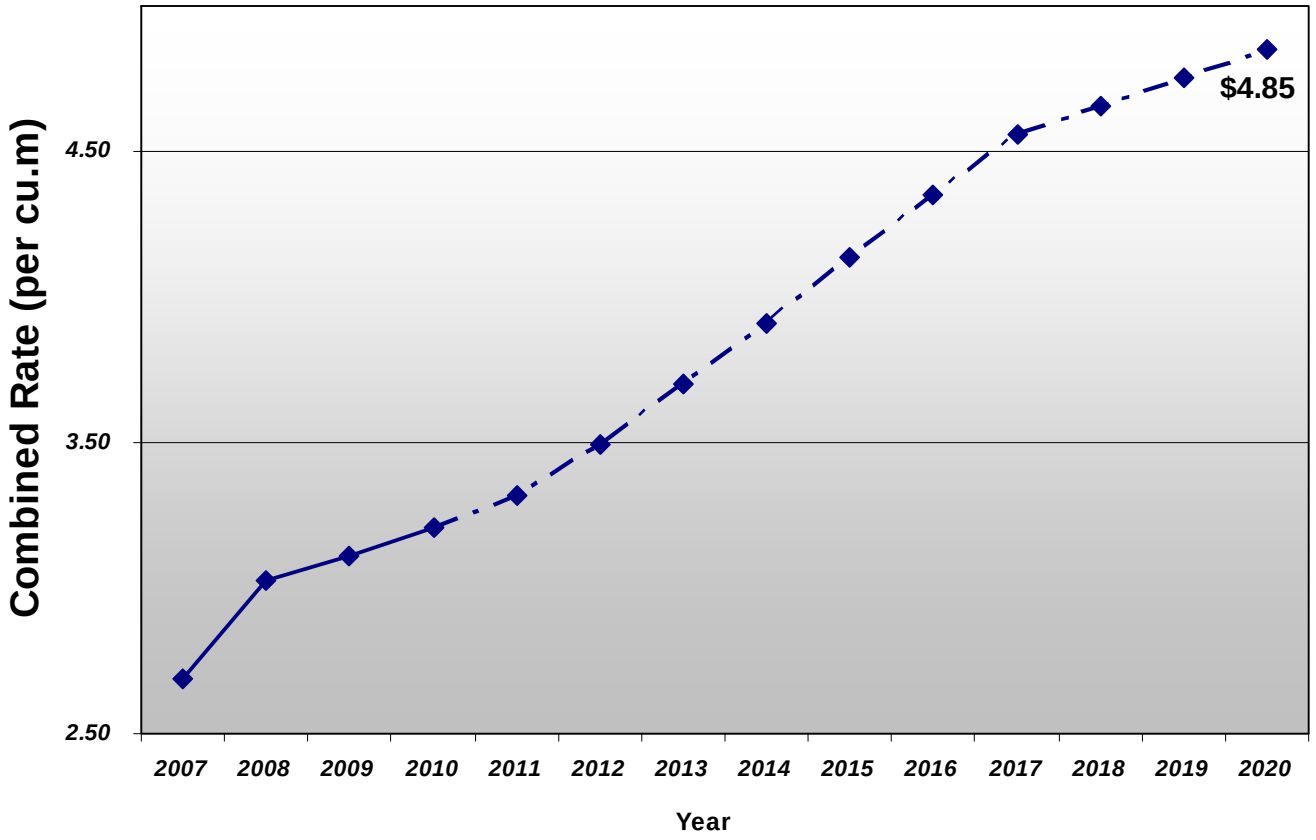
Wastewater Improvement Projects	
Capital Cost Estimates ($millions)	
Component	Cost (millions)
Disinfection	24.74
Effluent Nutrient Control	668.39
CSO Control Program	452.23
Biosolids Program	150.00
Total Environmental Projects	***1,295.36***
CEC Additional Recommendations	2.60
Misc. upgrades not in above	1.08
GRAND TOTAL	**1,299.04**

Regulatory Driven Upgrades Including CSO

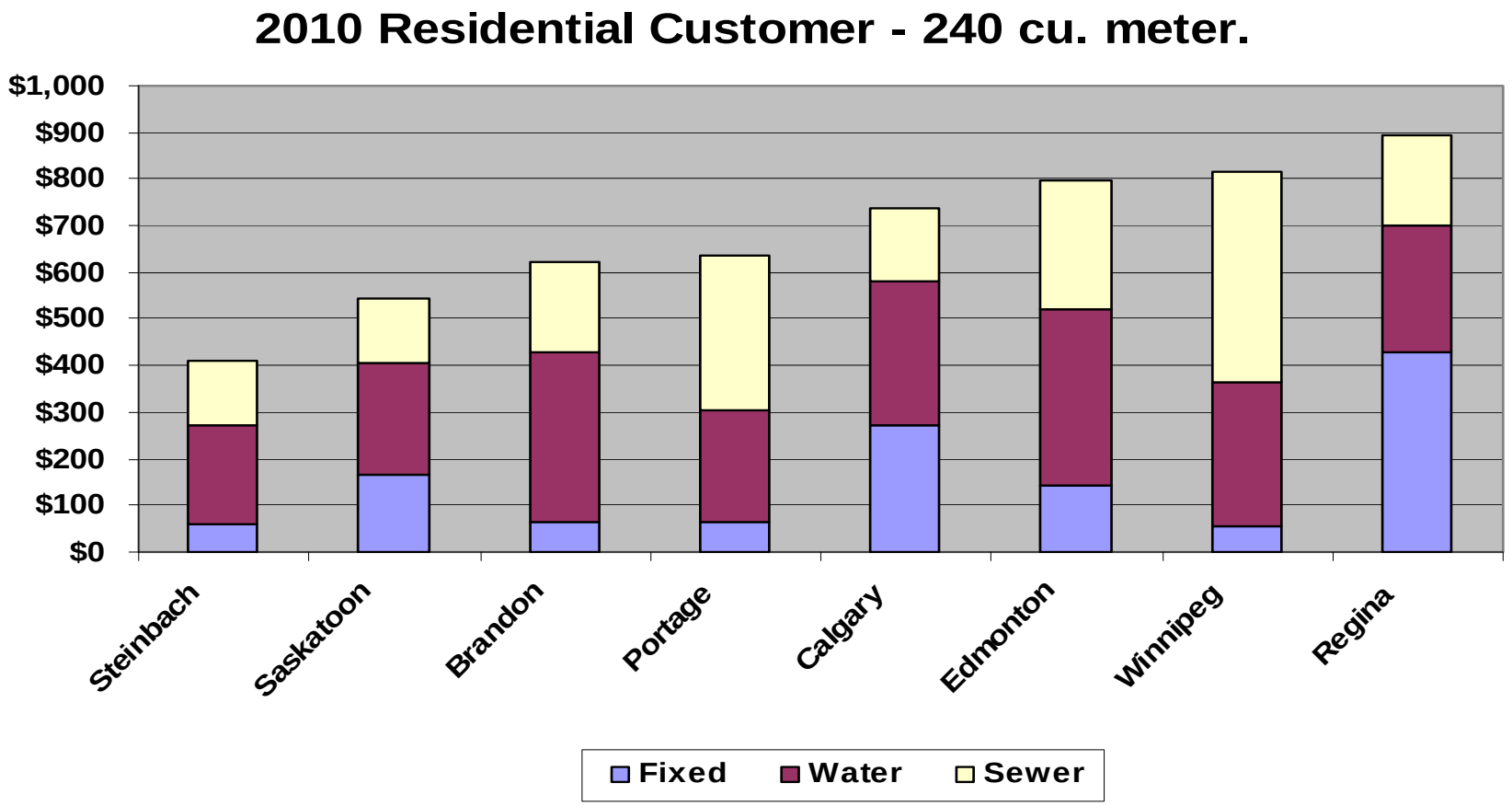
Future rate uncertainty

- Successful water conservation and the corresponding reduction in revenue
- Major projects still in the planning stages – biosolids, reducing combined sewer overflows
- Requirement to reduce nitrogen still under discussion
- Potential for Federal funding for wastewater

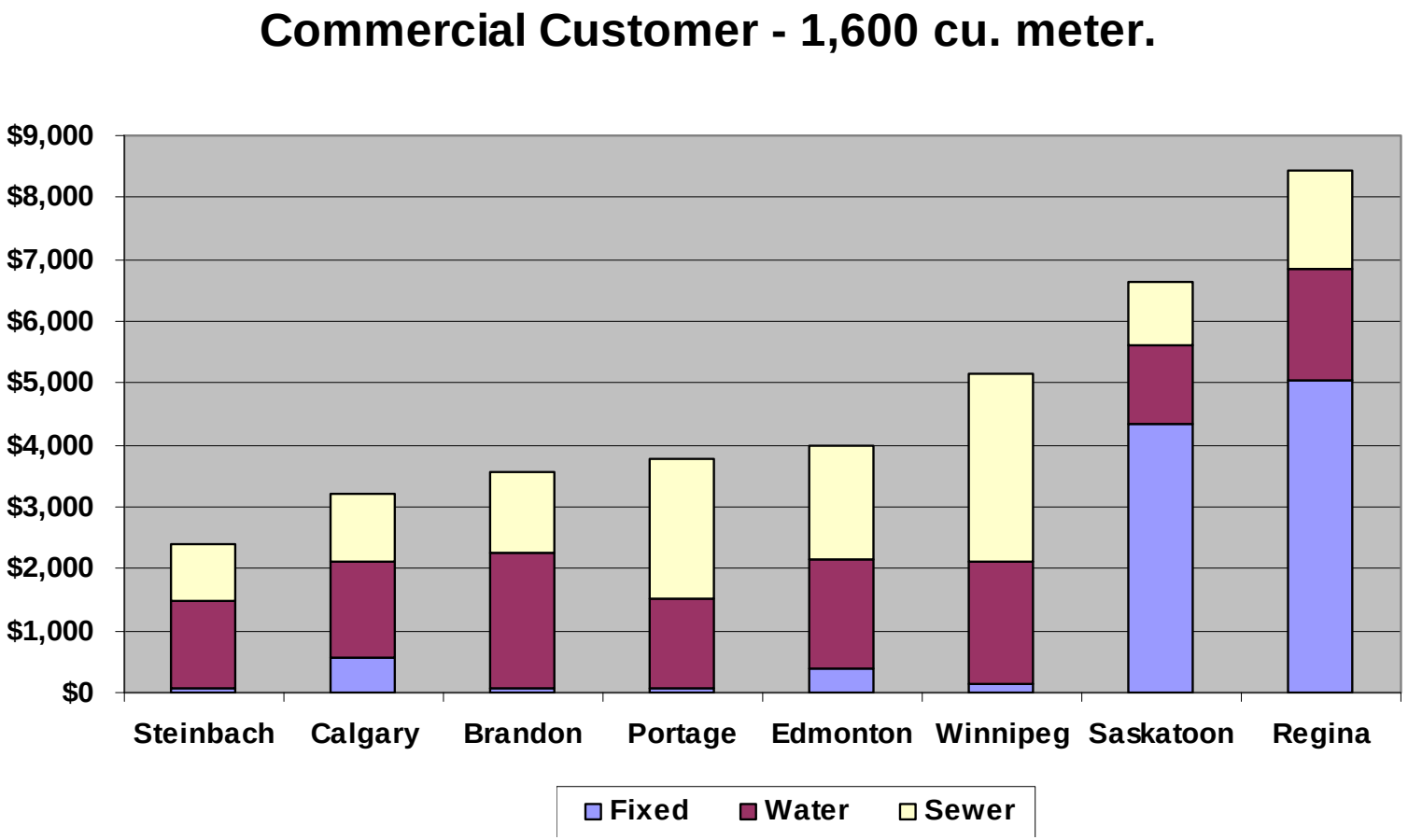
2011 combined water and sewer rate forecast



Residential rate - Benchmarking

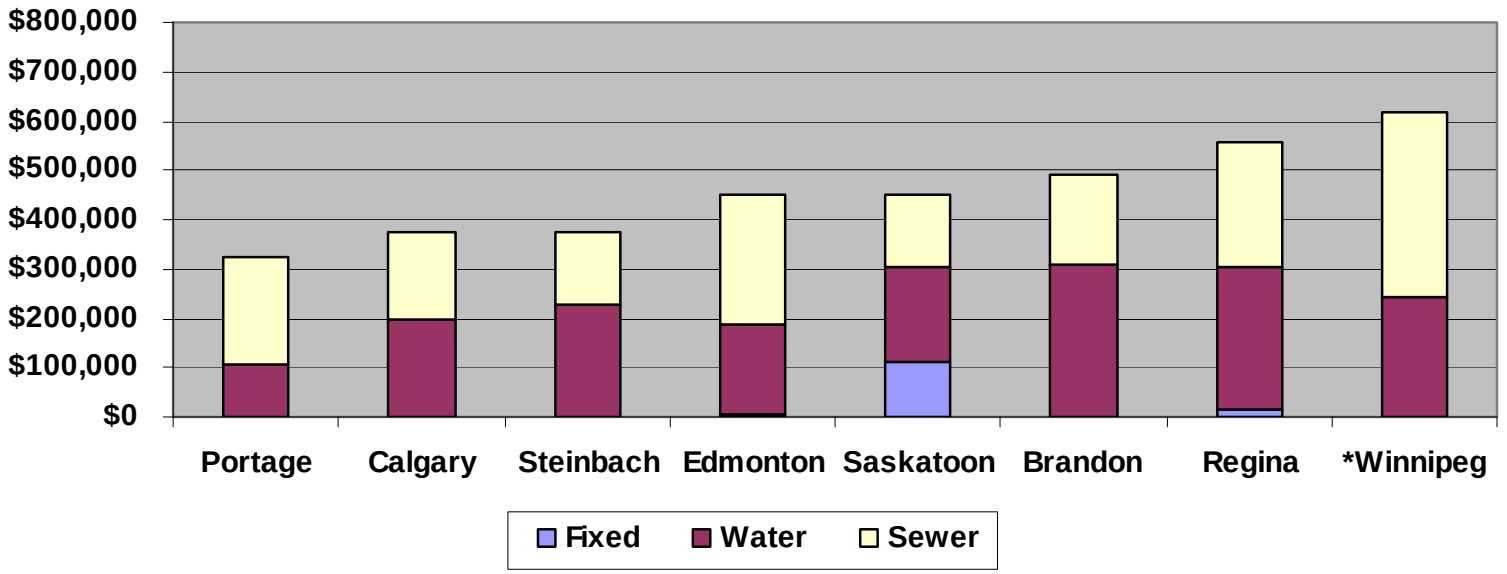


Commercial rate - Benchmarking



Large industrial rate - Benchmarking

2010 Very Large Industrial User - 254,500 cu. meter.



*Includes 30% Large Volume Sewer Discount, economic reduction over $100,000

Summary

- Rates are increasing faster than inflation due to requirements to:
  - reduce nitrogen and phosphorous in treated wastewater
  - manage biosolids nutrients
  - reduce combined sewer overflows
  - address infrastructure deficit
  - offset a decline in consumption

Cost of Service Rate Study

Reason for the study

- Water and sewer operations supported mostly through rates that have typically been increased uniformly for all types of customers (e.g., residential, industrial).
- Due to review our rate structures because:
  - need to determine whether rates are aligned with the actual cost of delivering services to each type of customer (e.g., residential, industrial)
  - good practice to review rate structures regularly (our last review was 1997)

Goal of the study

- The goal of the study is to develop rate structures that will:
  - maintain affordability,
  - ensure equitable and transparent funding, and
  - generate adequate revenue to ensure financial stability

Project scope

- Develop a model for setting the following rates:
  - water
  - sewer
  - land drainage
  - overstrength
    - biochemical oxygen demand
    - total suspended solids
    - phosphorus
    - nitrogen
- Identify a cost of service rate setting methodology for the capital regions beyond the city of Winnipeg

Cost of service principles

- Determine system cost factors
- Group customers with similar usage characteristics
- Allocate costs to customer classes proportionate to system demands

Rate design

- Fixed charges
  - regardless of volume of water used
- Volumetric or consumption charges
  - varies with amount of water used
- Recover utility's costs

Communication

- Stakeholder Advisory Committee
  - representation from a broad cross section of customers
  - regular meetings to provide advice
- Customer survey
- Public open house
- City of Winnipeg website
- Implementation first quarter 2012 (subject to Council approval)

Questions

Question period and closing remarks

Barry MacBride
Director

winnipeg.ca/waterandwaste