# City of Bismarck, North Dakota

Utility Cost of Service & Rate Design Study:

*Presentation to City Commission:*

*Phase I - Diagnostic Evaluation Results*

*June 26, 2018*

Stantec

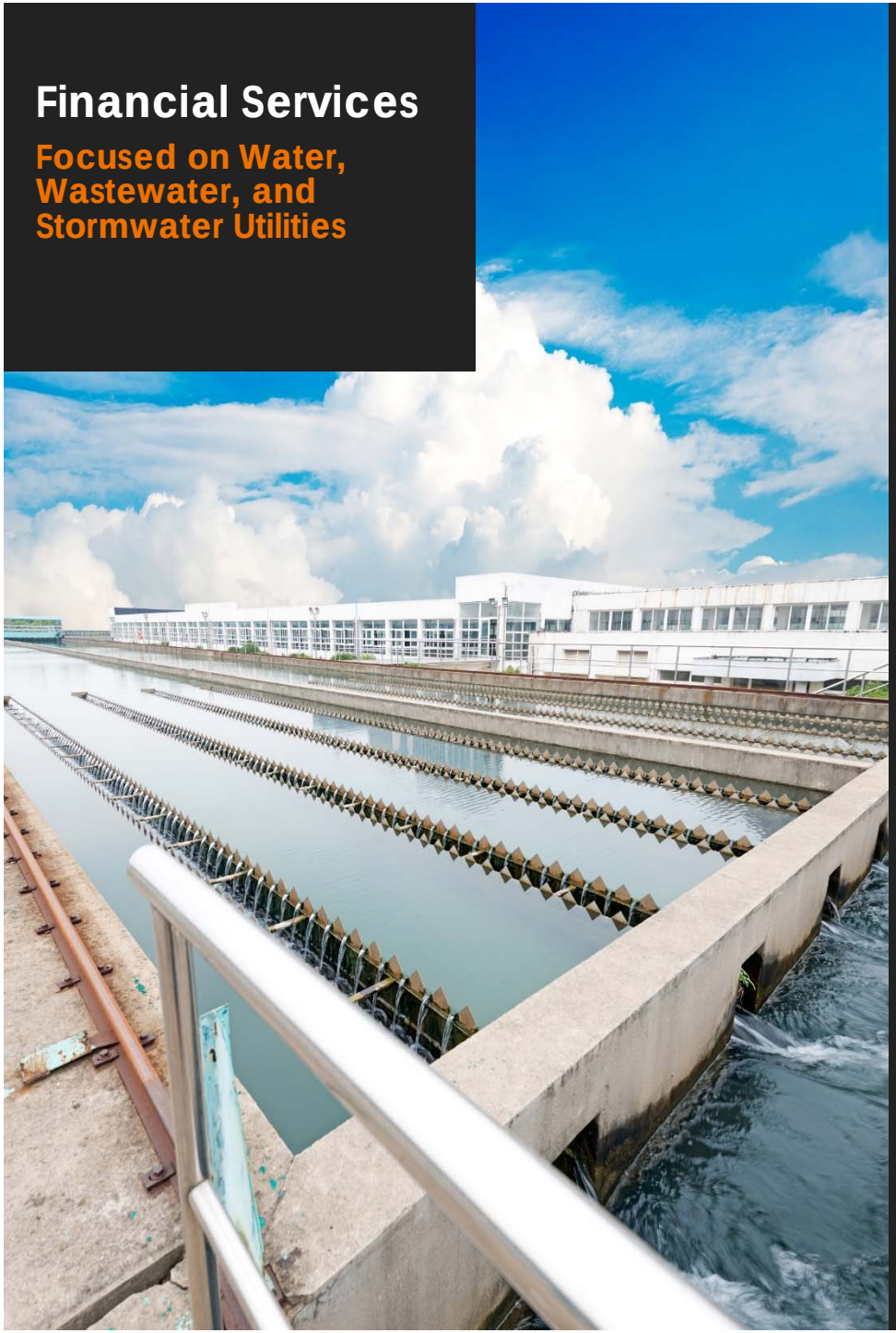
Agenda

# Agenda

- Introduction to Stantec
- The Water Industry & Rate Studies
- Public Education and Participation
- Strengths, Weaknesses, & Opportunities Review
- Summary of Initial Review and Next Steps

# Financial Services

## Focused on Water, Wastewater, and Stormwater Utilities



**300+**
Combined years of experience

**1.5K+**
Studies in the last 15 years

**30**
Specialists in utility financial management

**>500**
Utilities in our benchmarking database

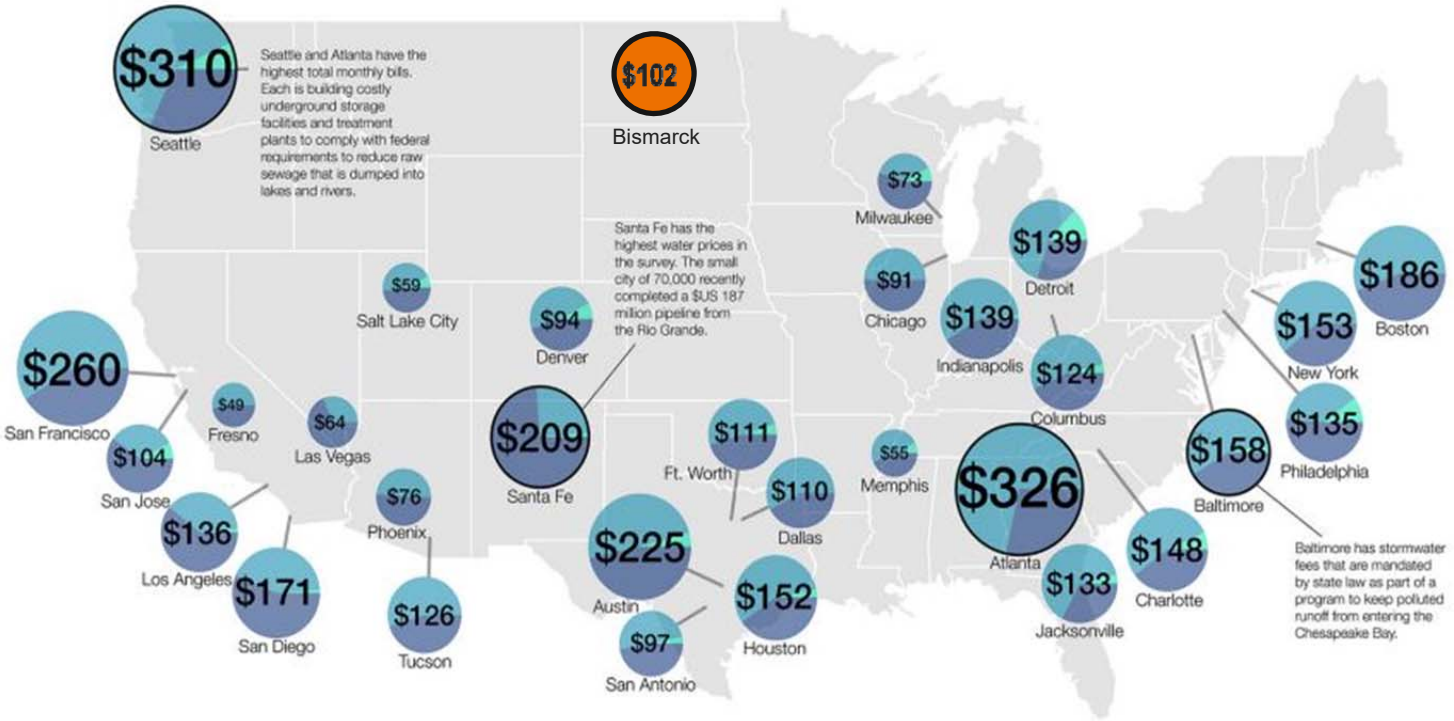
**>250**
Communities we have served

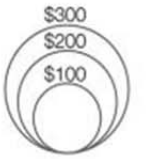
**$1B+**
Debt supported in past five years

Stantec

The Water Industry

# Water is Increasingly Costly




**Water** prices pay for treating, pumping, and delivering water, while sewer prices cover the cost of cleansing the water that goes down the drain.

**Sewer** prices are often higher than water prices because more energy and chemicals are required for treatment. Following the Clean Water Act, the federal government gave grants for new treatment plants during the 1970s and 1980s. Over the past three decades, however, new spending has been cut for local sewer infrastructure.

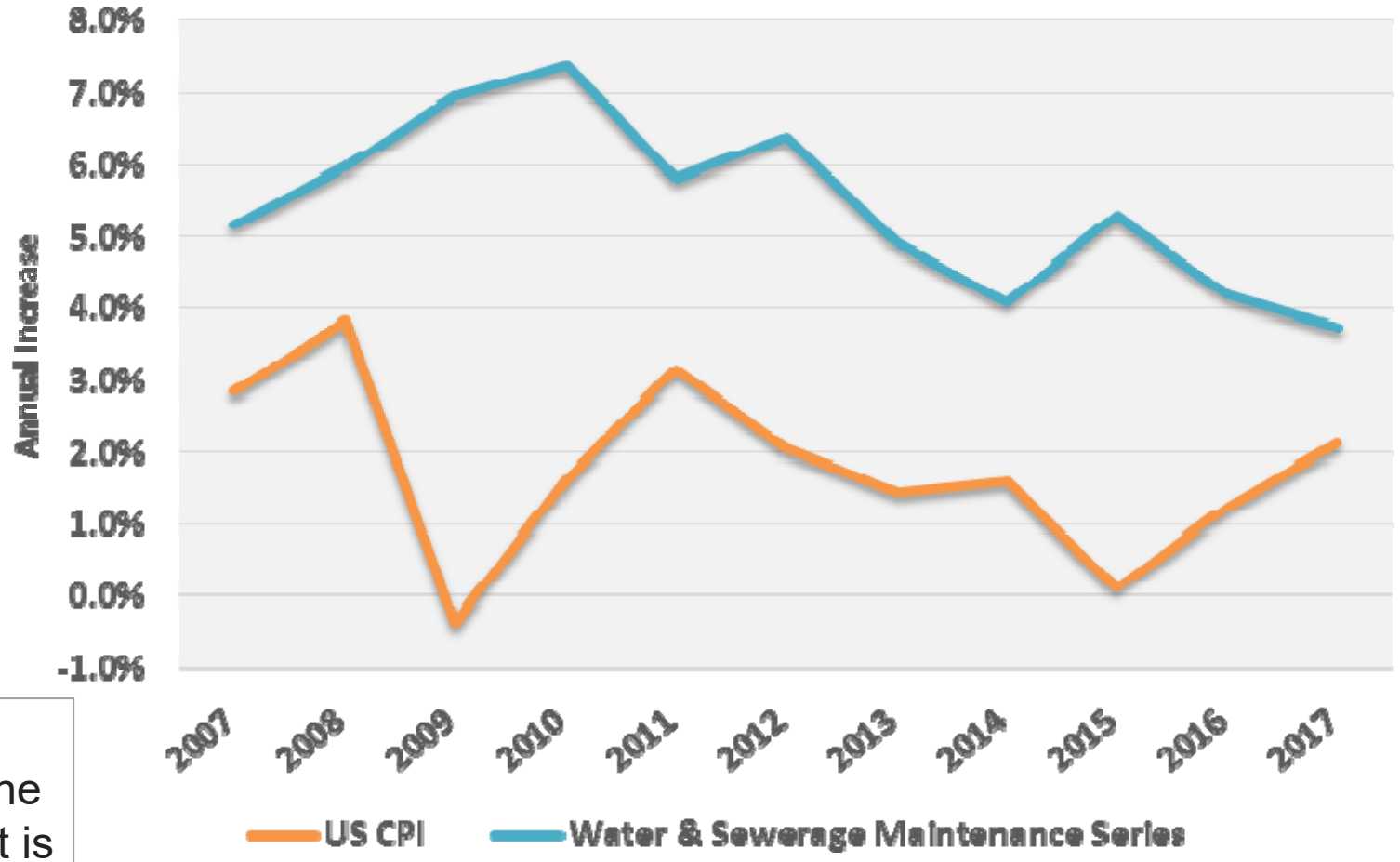
**Stormwater** fees are not included in every city's monthly bill. Some cities use general tax revenues to pay for projects to reduce polluted runoff from streets and parking lots. However, these projects must then compete for funds with other departments like police and schools.

*Rates current as of April 1, 2015.*
*Monthly bill calculated for a family of four using 100 gallons per person per day.*
Source: Circle of Blue research, based on utility water rates.

circle of blue

The Water Industry

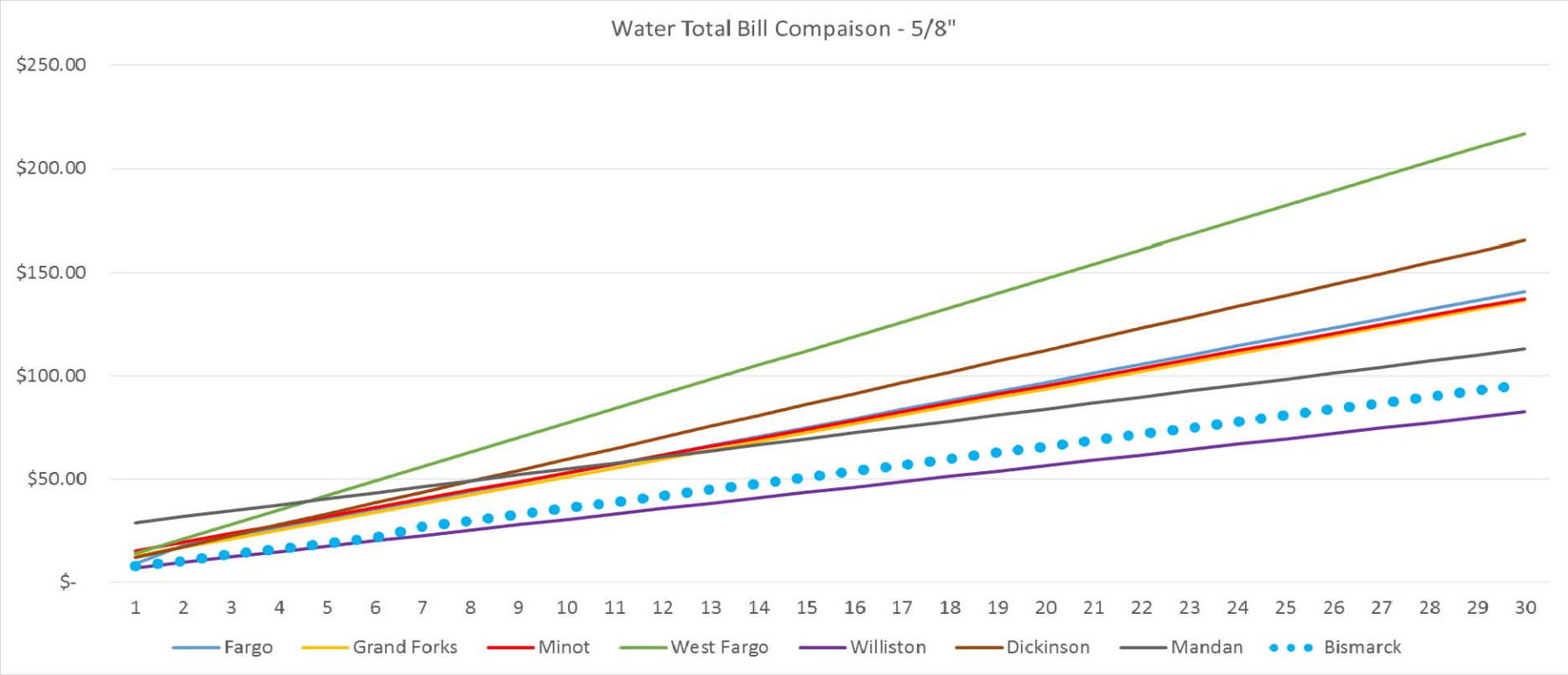
# Utilities Face Steeper Increases in Costs Than We See in Overall Inflation




Note: these are annual figures; the cumulative result is an ever-widening difference

The Water Industry

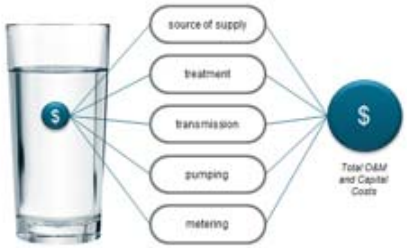
# Rate Comparisons are Rather Complex



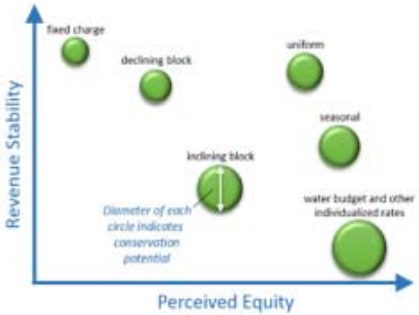

| Community | 1 CCF | 2 CCF | 3 CCF | 4 CCF | 5 CCF | 6 CCF | 7 CCF | 30 CCF | 267 CCF | 2673 CCF |
|---|---|---|---|---|---|---|---|---|---|---|
| Fargo | Included | $4.40 | | | | | | | $4.15 | $3.75 |
| Grand Forks | $4.27 | | | | | | | | | |
| Minot | $4.22 | | | | | | | | | |
| West Fargo | $7.00 | | | | | | | | | |
| Williston | $2.60 (Winter) / $4.65 (Summer) | | | | | | | $2.25 (Winter) / $4.30 (Summer) | | |
| Dickinson | $5.29 | | | | | | | | | |
| Mandan | $2.90 | | | | | | | | | |
| Bismarck | $2.25 | | | $2.60 | | | $3.00 | | | |

Rate Studies

# A Comprehensive Rate Study is A Series of Connected Investigations








**Revenue Requirements**

- Operating Costs
- Capital Costs
- Financial Policies
  - Debt Coverage
  - Reserves

**Cost Allocation**

- Evaluate Available Data
- Establish Classes
- Identify Methodology
- Compare Results to Current Revenue

**Rate Design**

- Evaluate Objectives
- Identify Structures
- Set Parameters
- Customer Impacts

**Communication**

- Explain Process/Data
- Adjustment Drivers
- National Trends
- Local Practices

**Active Stakeholder Participation**

This Project

# This is Just the First Step

- The review of strengths, weaknesses, and opportunities happens **first** (Phase I)
- Detailed analytical work will commence during the next phase of work (Phase II)
- Once we are done, will prepare and present report, provide models, etc. (Phase III)

The Public

# Public Education and Participation

- Education
  - Introducing water infrastructure, industry, & challenges
  - Explaining how services are provided and charged
  - Providing the vocabulary to enable discussion

- Participation
  - Input on priorities
  - Input on levels of service

The Public

# Summary of Activities

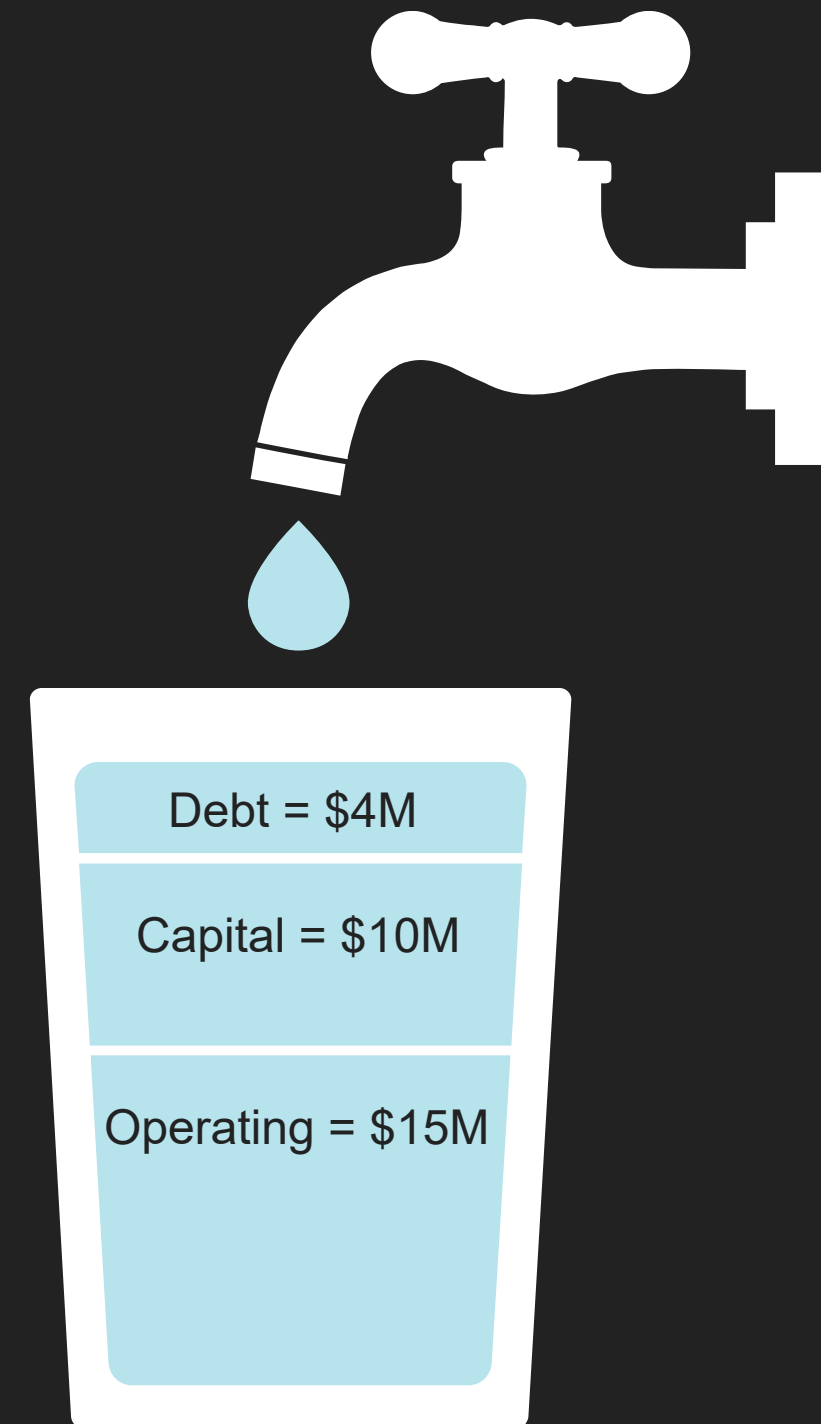
- Public Meetings
  - Introduction – held on May 7 (“Rates 101”)
  - Extended Solicitation of Input – held on June 11
  - Policy and Prioritization Session – tentatively in July
  - Discussion of Preliminary Output – planned for August and September
- Website
- Dedicated email address for comments:
  - bispublicwks@bismarcknd.gov
  - “Rate Study” in the subject line

Feedback Already Received

# Customer and Community Feedback Already Received Regarding:

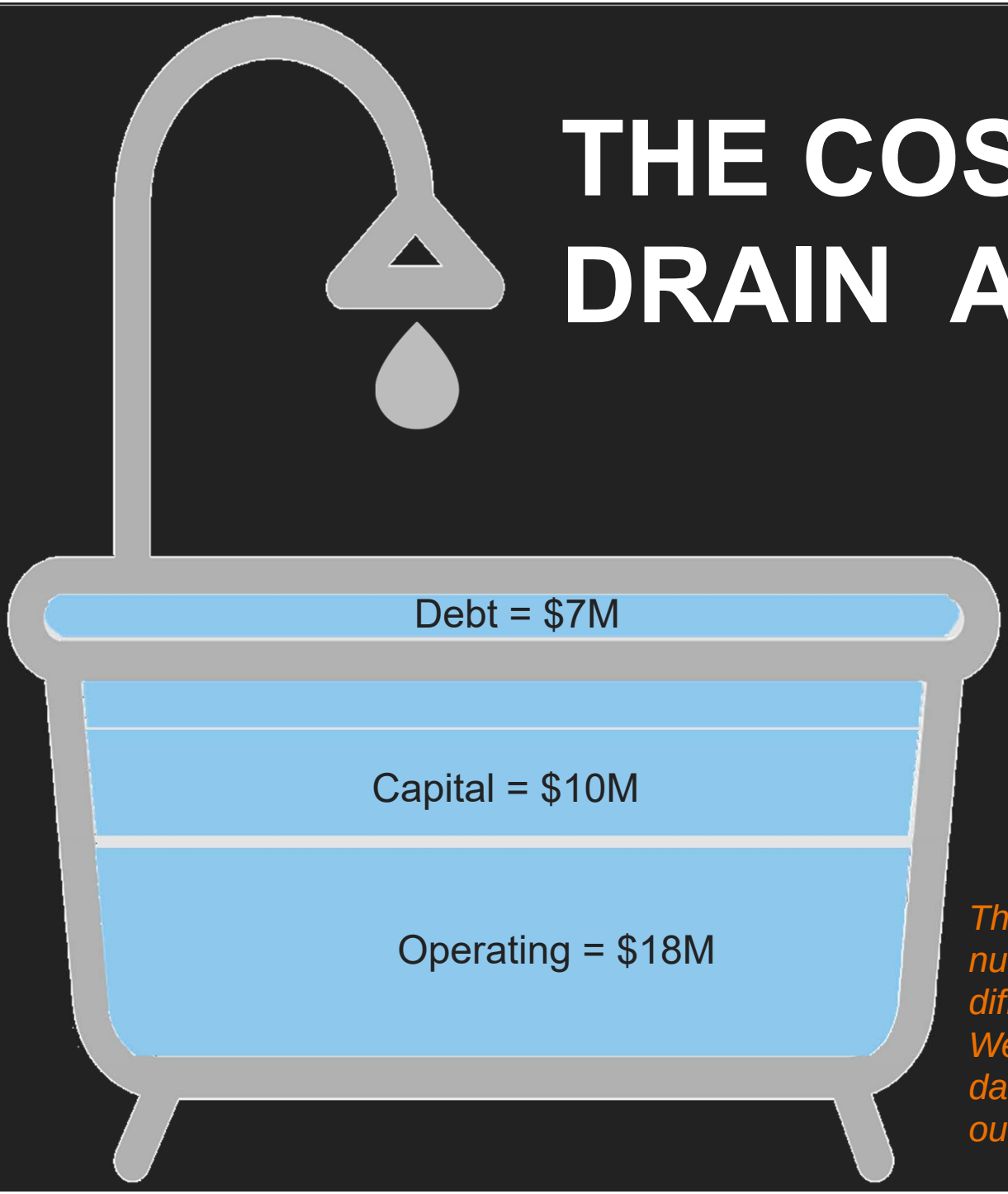
- Providing incentives for environmentally sensitive consumption patterns
- Concerns that existing customers were being burdened by the costs of growth
- Concerns that the development process should receive appropriate credits for facilities constructed
- Interest in recognizing costs of serving mobile homes and other residential uses versus single family homes
- Need for more public input

# THE COST TO FILL A GLASS OF WATER




*These are illustrative numbers from a different community. We'll use Bismarck's data for actual customer outreach material!*

# THE COST TO DRAIN A TUB




*These are illustrative numbers from a different community. We'll use Bismarck's data for actual customer outreach material!*

Diagnostic Framework Overview

# Phase 1 of the Study: "SWOT" Review

- Our **initial** perceptions of:
  - Strengths
  - Weaknesses
  - Opportunities

- From our perspective as:
  - Rate analysts
  - Local government financial specialists
  - Professionals with wide experience in the water industry

Diagnostic Framework Overview

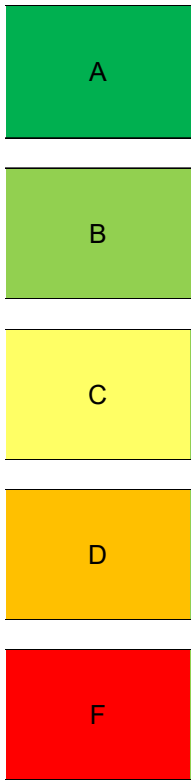
# Report Card Evaluation Criteria

- We evaluated water, sewer, and stormwater rates, reflecting both base and usage charges as appropriate

- Each rate was evaluated based on the following criteria:
  - ✓ Legal Precedent and Local Practice
  - ✓ Common Industry Practice
  - ✓ Fairness and Equity
  - ✓ Ease of Administration
  - ✓ Customer Understanding
  - ✓ Fiscal Stability or Affordability/Conservation

Diagnostic Framework Overview

# Report Card Scoring Approach




Great

Good

Ok

Improvement Needed

Failing

- Useful dispersion in grades
  - A's might still be able to be improved;
  - D's and F's might reflect local conditions and constraints
- The results of this initial review are preliminary – recommendations will come after detailed analysis

Water Usage Rates

# Rate Structure Report Card – Water Usage Rates

| Water Usage Rates | Single-Family | Multi-Family | Non-Residential | Irrigation | Service Available-Unconnected |
|---|---|---|---|---|---|
| Legal Precedent & Local Practice | D | F | F | B | N/A |
| Common Industry Practice | B | D | D | B | N/A |
| Fairness & Equity | C | D | D | C | N/A |
| Ease of Administration | A | A | A | A | N/A |
| Customer Understanding | A | B | B | A | N/A |

Water Usage Rates

# Strengths

SF = Single Family
MF = Multi-Family
NR = Non-Residential
IR = Irrigation

- ✓ Common Industry Practice:
  - ➢ Tiered structure for SF generally conforms to industry practices
- ✓ Fairness and Equity:
  - ➢ Recent modifications move toward a more equitable charge structure relative to COS that enhances affordability and conservation for SF
- ✓ Ease of Administration:
  - ➢ Currently able to administer system without much manual intervention
- ✓ Customer Understanding:
  - ➢ Customers seem to understand how fee structure works. Commitment to stakeholder process in this COS study
- ✓ Affordability/Conservation (Usage Rates):
  - ➢ Structure and pricing does provide a level of affordability and conservation

Water Usage Rates

# Weaknesses

SF = Single Family
MF = Multi-Family
NR = Non-Residential
IR = Irrigation

- ✓ Common Industry Practice:
  - ➢ Tiers on NR and MF are uncommon; when applied are normally scaled/adjusted by meter size or dwelling units
- ✓ Fairness and Equity:
  - ➢ Application of tiered system to MF and NR. Level of IR rates likely not reflective of cost to serve. Same for upper tiers of SF structure
- ✓ Customer Understanding:
  - ➢ Concern from some MF and NR customers
- ✓ Affordability/Conservation (Usage Rates):
  - ➢ Tier pricing is not very steep for SF, and IR rate could likely be higher; no clear nexus of pricing to costs
  - ➢ No tiers for irrigation
  - ➢ Tiers for MF aren't scaled by unit

Water Usage Rates

# Opportunities

SF = Single Family
MF = Multi-Family
NR = Non-Residential
IR = Irrigation

- ✓ Legal Precedent & Local Practice:
  - ➢ Consider uniform rate based on COS for NR and MF (or Seasonal for NR)
- ✓ Common Industry Practice:
  - ➢ Consider having separate rate structures for different customer classes
- ✓ Fairness and Equity:
  - ➢ Attach COS to set rates for each class using available data (AMI, GIS, billing, etc.)
- ✓ Customer Understanding:
  - ➢ Include stakeholders in COS study and make information readily available to all
- ✓ Affordability/Conservation (Usage Rates):
  - ➢ Data driven tier sizing and pricing for SF and IR
  - ➢ Consider demand management programs (economic incentives recognizing impact of water use reductions)

Water Base Rates

# Rate Structure Report Card – Water Base Rates

| Water Base Rates | Single-Family | Multi-Family | Non-Residential | Irrigation | Service Available-Unconnected |
|---|---|---|---|---|---|
| Legal Precedent & Local Practice | B | C | A | A | A |
| Common Industry Practice | B | D | C | C | B |
| Fairness & Equity | B | D | C | D | D |
| Ease of Administration | A | B | A | A | A |
| Customer Understanding | A | D | B | A | A |
| Fiscal Stability | C | C | C | D | F |

Water Base Rates

# Strengths

- ✓ Legal Precedent & Local Practice:
  - ➢ Generally conforms to local practices
- ✓ Common Industry Practice:
  - ➢ Generally conforms to common industry practice
- ✓ Fairness and Equity:
  - ➢ Recently made some modifications that move toward a more equitable charge structure
- ✓ Ease of Administration:
  - ➢ Currently able to administer system without much manual intervention
- ✓ Customer Understanding:
  - ➢ Customers seem to understand how fee structure works

Water Base Rates

# Weaknesses

- ✓ Legal Precedent & Local Practice:
  - ➢ Not many systems in ND bill apartments per unit
- ✓ Common Industry Practice:
  - ➢ MF charges reflect meter size/units and may benefit from customer class refinement
- ✓ Fairness and Equity:
  - ➢ Customer related costs for MF are effectively scaled by # of units. NR charges do not seem to accurately reflect differences in potential demand of larger meters.
  - ➢ No charges for Irrigation meters and properties with utility service available
  - ➢ Base rates are low relative to fixed costs
- ✓ Customer Understanding:
  - ➢ Customers do not understand the costs of the system and how they are allocated/captured in rates (resistance to increases in MF unit charges)
- ✓ Fiscal Stability:
  - ➢ Charges for existing customers are low

Water Base Rates

# Opportunities

- ✓ Common Industry Practice:
  - ➢ Scale NR by meter size using AWWA factors; set appropriate MF equivalencies for multiple residential uses (retirement homes, apartment, mobile home parks, etc.)
- ✓ Fairness and Equity:
  - ➢ Establish separate non-volumetric customer charges and base charges
  - ➢ Evaluate use/service characteristics of each class in allocating costs and setting rates
- ✓ Customer Understanding:
  - ➢ Specifically identify costs included in fixed monthly charges and rational for allocation/recovery by class of customer
- ✓ Fiscal Stability:
  - ➢ Charge NR and MF Irrigation meters; consider an availability fee for unconnected adjacent properties after certain time period
  - ➢ Consider enhancement to level of charges or higher reserves to enhance fiscal stability

Sewer Usage Rates

# Rate Structure Report Card – Sewer Usage Rates

| Sewer Usage Rates | Single-Family | Multi-Family | Non-Residential | Irrigation | Service Available-Unconnected |
|---|---|---|---|---|---|
| Legal Precedent & Local Practice | C | C | C | N/A | N/A |
| Common Industry Practice | B | C | D | N/A | N/A |
| Fairness & Equity | B | C | D | N/A | N/A |
| Ease of Administration | A | A | A | N/A | N/A |
| Customer Understanding | A | B | B | N/A | N/A |
| Affordability/Conservation | B | C | C | N/A | N/A |

Sewer Usage Rates

# Strengths

- ✓ Legal Precedent & Local Practice:
  - ➢ Use of winter average, including businesses with more than 10% green space
- ✓ Common Industry Practice:
  - ➢ Generally conforms with accepted industry practices, except for having two tiers
- ✓ Fairness and Equity:
  - ➢ Recent modifications move toward a more equitable charge structure relative to COS
  - ➢ Businesses can choose to use a deduct meter to more accurately capture their irrigation water that would only be billed for water, not for sewer.
- ✓ Ease of Administration:
  - ➢ Currently able to administer system without much manual intervention
- ✓ Customer Understanding:
  - ➢ Customers seem to understand how fee structure works
  - ➢ Commitment to stakeholder process in this COS study
- ✓ Affordability/Conservation (Usage Rates):
  - ➢ Current structure and pricing does provide some level of affordability

Sewer Usage Rates

# Weaknesses

- ✓ Legal Precedent & Local Practice:
  - ➢ Most don't have a two-tier rate structure
- ✓ Common Industry Practice:
  - ➢ Tiers on NR and MF are uncommon; when applied are normally scaled/adjusted by meter size or dwelling units
- ✓ Fairness and Equity:
  - ➢ Use of a two-tiered system, and that it isn't scaled for MF or NR
- ✓ Customer Understanding:
  - ➢ Difficult to justify tiers for MF and NR accounts in particular
- ✓ Affordability/Conservation (Usage Rates):
  - ➢ Tiers for MF aren't scaled by unit, and NR isn't scaled by meter size

Sewer Usage Rates

# Opportunities

- ✓ Legal Precedent & Local Practice:
  - ➢ Consider uniform rate structure based on COS
- ✓ Common Industry Practice:
  - ➢ Consider having separate rate structures for different customer classes
- ✓ Fairness and Equity:
  - ➢ Attach cost of service to set rates for each class using readily available data
  - ➢ Consider allocation of pre-treatment/grease costs to NR class
  - ➢ Consider return factors
- ✓ Customer Understanding:
  - ➢ Include stakeholders in COS study and make information readily available to all
- ✓ Affordability/Conservation (Usage Rates):
  - ➢ Evaluate appliance rebate and water audit programs.

Sewer Base Rates

# Rate Structure Report Card – Sewer Base Rates

| Sewer Base Rates | Single-Family | Multi-Family | Non-Residential | Irrigation | Service Available-Unconnected |
|---|---|---|---|---|---|
| Legal Precedent & Local Practice | C | C | C | N/A | A |
| Common Industry Practice | B | D | B | N/A | B |
| Fairness & Equity | B | D | C | N/A | D |
| Ease of Administration | A | B | A | N/A | A |
| Customer Understanding | A | D | B | N/A | A |
| Fiscal Stability | C | C | C | N/A | F |

Sewer Base Rates

# Strengths

- ✓ Legal Precedent & Local Practice:
  - ➢ Generally conforms to local practices
- ✓ Common Industry Practice:
  - ➢ Generally conforms to common industry practice
- ✓ Fairness and Equity:
  - ➢ Recently made modifications that move toward a more equitable charge structure
- ✓ Ease of Administration:
  - ➢ Currently able to administer system without much manual intervention
- ✓ Customer Understanding:
  - ➢ Customers seem to understand how fee structure works

Sewer Base Rates

# Weaknesses

- ✓ Legal Precedent & Local Practice:
  - ➢ Not many local systems bill apartments per unit
  - ➢ Scaling of SF and NR is also uncommon
- ✓ Common Industry Practice:
  - ➢ MF charges reflect meter sizes/units, and may benefit from customer class refinement
  - ➢ Justification for scaling SF may be insufficient
- ✓ Fairness and Equity:
  - ➢ Customer related costs for MF are effectively scaled by # of units
  - ➢ Non-residential do not seem to reflect differences in potential demand of larger meters
  - ➢ No charges when service is available but not connected
- ✓ Customer Understanding:
  - ➢ Customers do not understand the costs of the system and how they are allocated/captured in rates (resistance to increases in MF unit charges)
- ✓ Fiscal Stability:
  - ➢ No charges for unconnected properties where service is available
  - ➢ Charges for existing customers are pretty low

Sewer Base Rates

# Opportunities

- ✓ Common Industry Practice:
  - ➢ Scale NR by meter size using flow/capacity factors; set appropriate MF equivalencies for multiple residential uses (retirement homes, apartments, mobile home parks, etc.)
- ✓ Fairness and Equity:
  - ➢ Establish a separate customer charge and evaluate usage/service characteristics of each customer class in allocating costs and setting rates
- ✓ Customer Understanding:
  - ➢ Specifically identify costs included in fixed monthly charges and rational for allocation/recovery by class of customer
- ✓ Fiscal Stability:
  - ➢ Consider availability fee for unconnected adjacent properties after certain time period
  - ➢ Consider enhancement to level of charges or higher reserves

Stormwater Rates

# Rate Structure Report Card – Stormwater Rates

| Stormwater Rates | Single-Family | Multi-Family | Non-Residential | Irrigation | Vacant |
|---|---|---|---|---|---|
| Legal Precedent & Local Practice | C | B | B | N/A | A |
| Common Industry Practice | B | A | A | N/A | B |
| Fairness & Equity | B | B | B | N/A | D |
| Ease of Administration | B | B | B | N/A | A |
| Customer Understanding | A | B | A | N/A | A |
| Fiscal Stability | A | A | A | N/A | F |

Stormwater Rates

# Strengths

- ✓ Legal Precedent & Local Practice:
  - ➢ Generally conforms to local practices
- ✓ Common Industry Practice:
  - ➢ Generally conforms to common industry practice
- ✓ Fairness and Equity:
  - ➢ Recently made modifications that move toward a more equitable charge structure
- ✓ Ease of Administration:
  - ➢ Currently able to administer system
- ✓ Customer Understanding:
  - ➢ Customers seem to understand how fee structure works
  - ➢ Commitment to stakeholder process in this COS study

Stormwater Rates

# Weaknesses

- ✓ Legal Precedent & Local Practice:
  - ➢ Tiered system for SF is unusual; different but not necessarily a weakness
- ✓ Fairness and Equity:
  - ➢ Customer related costs may be scaled based on area
  - ➢ No charges for Vacant properties that contribute runoff to the system
  - ➢ Application to large properties (parks)
  - ➢ Tying application of stormwater rates to water meters
- ✓ Customer Understanding:
  - ➢ Recent change to treat MF with 5 units and above like NR may be a point of confusion for a period of time (used to be billed on dwelling units; also unannexed surcharge is per ASF, while stormwater rate is per ISF)
- ✓ Fiscal Stability:
  - ➢ No charges for Vacant Properties
  - ➢ Costs associated with un-annexed areas

Stormwater Rates

# Opportunities

- ✓ Legal Precedent & Local Practice:
  - ➢ Explore ways to collected costs from Vacant properties inside City
- ➢ Common Industry Practice:
  - ➢ Future: use impervious area for residential tiers once data is readily available
- ✓ Fairness and Equity:
  - ➢ Establish a separate customer charge and evaluate usage/service characteristics of each customer class in allocating costs and setting rates
- ✓ Customer Understanding:
  - ➢ Include stakeholders in COS study and make information readily available to all
- ✓ Fiscal Stability:
  - ➢ Consider an availability fee for undeveloped properties

Other Fees & Surcharges

# Rate Structure Report Card – Other Major Fees & Surcharges

| Other Fees/Surcharges | Curb Stop Repair | Back-Up Coverage | Unannexed Surcharge | Miscellaneous Fees | Trunkline Assessment |
|---|---|---|---|---|---|
| Legal Precedent & Local Practice | D | D | D | B | C |
| Common Industry Practice | D | D | D | B | C |
| Fairness & Equity | A | A | D | C | D |
| Ease of Administration | B | B | C | B | F |
| Customer Understanding | B | B | D | B | D |
| Fiscal Stability | A | A | C | B | F |

Other Fees & Surcharges

# Strengths

- ✓ Customer Understanding:
  - ➢ Customers seem to understand how fee structure works, but there is much confusion about the trunkline assessment
  - ➢ Commitment to stakeholder process in this COS study

Other Fees & Surcharges

# Weaknesses (1)

- ✓ Legal Precedent & Local Practice:
  - ➢ Curb Stop Repair, Back-Up, and Unannexed Surcharge are all uncommon
- ✓ Common Industry Practice:
  - ➢ Backbone costs not typically captured in an assessment
    - o Moreover, current assessment does not include all backbone assets.
  - ➢ Unannexed surcharge, back-up coverage, and curb-stop repair fees are unusual
  - ➢ Back-Up coverage could lead to higher expectations for level of service
- ✓ Fairness and Equity:
  - ➢ Unannexed surcharge shifts costs to annexed properties; revision to only apply to developed properties with meters further reduces equity
  - ➢ Trunkline is not full cost recovery & timing of payment requires ratepayer funding
  - ➢ Miscellaneous fees are likely not at full cost recovery

Other Fees & Surcharges

# Weaknesses (2)

- ✓ Ease of Administration:
  - ➢ Surcharge and Trunkline Assessments seem burdensome
  - ➢ Tracking costs for back-up coverage and curb stops is an extra level of effort

- ✓ Customer Understanding:
  - ➢ Uncertainty as to true understanding of regional sizing of stormwater and impacts
    - o Moreover, both the impacts of development and the costs of necessary stormwater activities for existing customers are likely misunderstood
- ✓ Fiscal Stability:
  - ➢ Many of these are fixed fees, but the problem is likely the level of cost recovery (particularly the trunkline fee)
  - ➢ Unannexed surcharge could lead to non-productive conversations if noticed or challenged

Other Fees & Surcharges

# Opportunities

- ✓ Common Industry Practice:
  - ➢ Evaluate revenue and level of service implications of all charges
- ✓ Fairness and Equity:
  - ➢ Full cost recovery of trunkline and related costs could be obtained through a broader capacity fee
  - ➢ Wastewater strength surcharges, lab fees, and other misc. fees need an additional cost update
  - ➢ Water and Sewer Tap fees may need a cost-based update
- ✓ Ease of Administration:
  - ➢ Same day water reconnect fee, and possibly other fees, may not fully recover costs and may lead to over-reliance on these services
- ✓ Customer Understanding:
  - ➢ Include stakeholders in the COS to develop cost based modifications to these programs
  - ➢ Enhance customer communication on fundamental cost recovery principles.
- ✓ Fiscal Stability:
  - ➢ Full cost connection fees would enhance cost effective operations and improve fiscal stability

Summary of Initial Review

# General Strengths and Weaknesses of Bismarck's Current User Charges

- Many charges appear to be allocating costs to customers proportionate to usage and benefit from the systems,
- Many charges seem to be understood/accepted by customers, and
- Most ongoing charges are easily administered & managed.
- But overall revenue generation may be low relative to needs for asset management and rehabilitation,
- Some charges are seen as unfairly allocating costs to certain classes of customers,
- Customer classes may benefit from refinement, and
- Up-front charges may be low & are complex to administer.

Summary of Initial Review

# Several Opportunities

- Opportunities exist to
  - Improve revenue generation to enhance utility sustainability and support needed infrastructure,
  - Improve equity in cost recovery between classes and customers with different service and use characteristics,
  - Simplify some ancillary charges,
  - Improve the utility's ability to manage capital projects, &
  - Better align the cost of growth with development process.

Summary of Initial Review

# Things to Anticipate

- No one solution, fix, or adjustment will be enough; a holistic review will likely suggest **numerous rate/fee structure refinements**
- A re-distribution of costs using industry accepted methods should **enhance equity in cost recovery**
- Revisions to policies and procedures may offer chances for **increased operational efficiencies**
- Overall revenue generation likely needs to increase, and **rates should be expected to increase overall**

Future Activities

# What's Next:
# Phase II Activities and Direction

- Development of financial planning model to facilitate all future analyses
- Conduct cost of service analysis to identify and document cost to serve each customer class
- Evaluate various rate structure modifications
- Conduct capital charge analysis to identify and document costs of capacity expansion
- Continue to solicit input and share interim study outputs