



## **COUNCIL WORK SESSION**

**Tuesday, July 15, 2014**

**6:15 p.m.**

**Coon Rapids City Center**

**Conference Room 1**

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### **Call to Order**

Pursuant to Minnesota Statute 13D.04, subd. 2, the City Council will meet in work session to discuss the following:

1. Review 2014 Comprehensive Water System Master Plan Update.

### **Other Business**

### **Adjourn**



**City Council Work Session**

**1.**

**Meeting Date:** 07/15/2014

**Subject:** Review Comprehensive Water System Master Plan Update

**From:** Tim Himmer, Public Works Director

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**INTRODUCTION**

Council is being asked to review and comment on the 2014 Comprehensive Water System Master Plan update.

**DISCUSSION**

Cities typically review and update their comprehensive sewer and water master plans every ten years to make sure they are meeting the current and future needs of the consumers and the City. Coon Rapids last completed a water system master plan update in 2000. In February of 2014 Council awarded a contract to Bolton & Menk, Inc. to complete the water plan update, and they have been working with staff to prepare the final report that will be requested for adoption at the next available Council meeting. City staff and representatives from Bolton & Menk will be in attendance to present pertinent information and answer any questions from the Council.

Attached is a brief power point presentation that will be discussed in further detail at the work session. Due to document size a full copy of the draft final report could not be attached to this memo, but is available by contacting the Public Works Director.

**RECOMMENDATION**

This work session is solely for informational and discussion purposes. The final report, including any potential revisions requested by the Council, will be brought forward to the next available Council meeting for adoption.

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**BUDGET IMPACT:**

The 2014 Water Operating Budget contained \$60,000 for this plan update. The contract with Bolton & Menk, Inc. was approved for \$47,626.00, and it is anticipated that all work under this contract will be completed within budget.

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**Attachments**

**Power Point**

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# City Council Workshop

*City of Coon Rapids, Minnesota*

## *Water Comprehensive Plan*

*July 15, 2014*

*Douglas E. Klamerus, P.E.*

*Greg F. Johnson, P.E.*

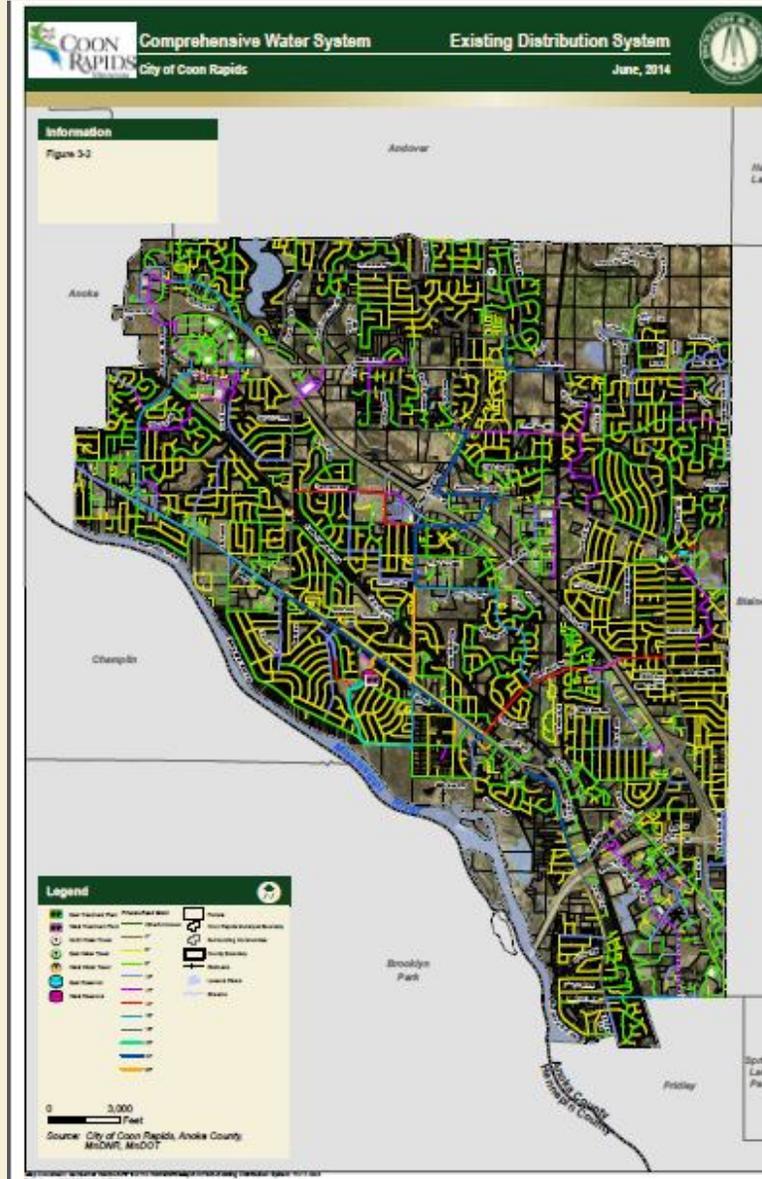


# Study Goals

- Analyze water distribution system for deficiencies
- Review energy use and identify demand reductions
- Provide recommendations on Supervisory Control and Data Acquisition (SCADA) and security improvements
- Develop 20 year Capital Improvement Plan (CIP)



# Existing Water Distribution System



# Energy Use Reduction

- **Pumping Cost is Largest Use of Energy in Water System**
- **Savings Can Be Realized By:**
  - **Maximize Off-Peak Pumping**
  - **Utilize High Efficiency Pumps**
  - **Operate Pumps at Highest Design Efficiency**
  - **Reduce Head Loss in System**



# SCADA System

- **SCADA System Approximately 15 Year Old**
  - **Allen Bradley has discontinued support of product line**
  - **System Lacks Operational Features and Historical Trending Common in New Systems**
  - **New System Should Include: New Programmable Logic Controllers (PLCs) at Remote Sites, Replace Personal Computers, Upgrade HMI Computer Software, Add Remote Access Features**

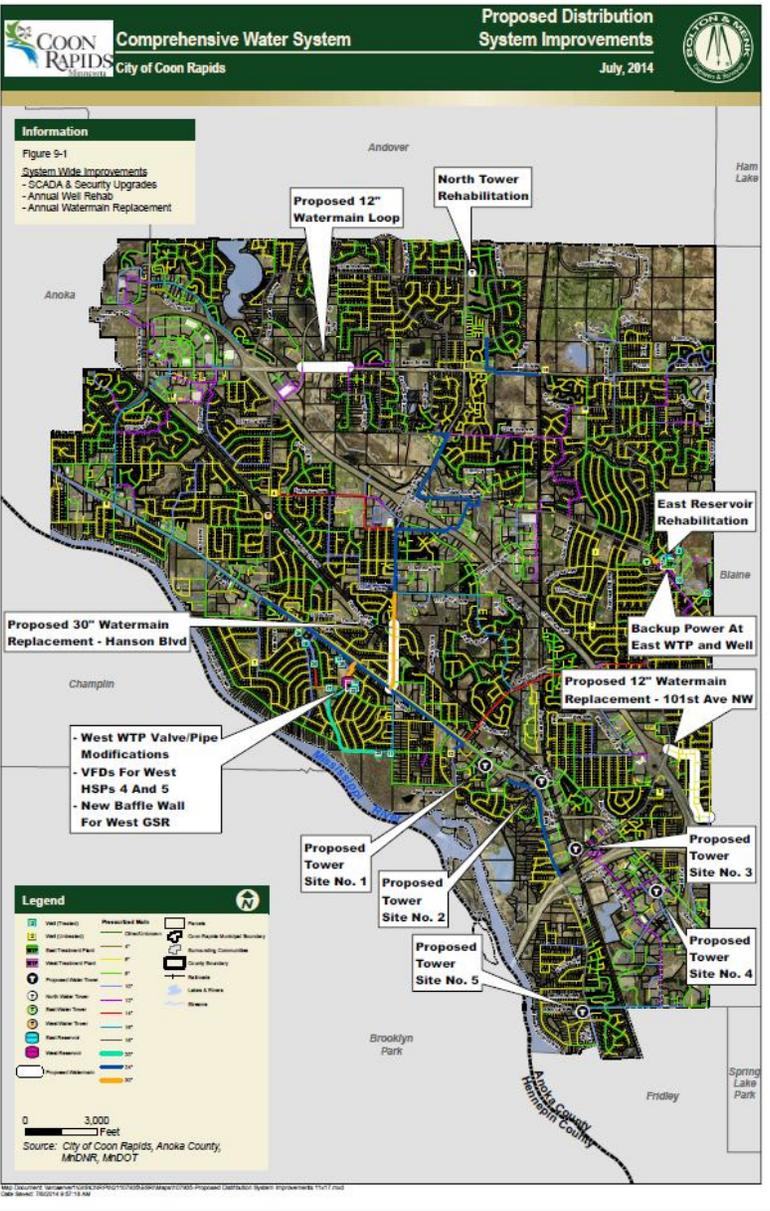


# Security System

- **Security System**
  - **Additional Cameras and Recording Equipment at East Water Treatment Plant (WTP)**
  - **Add Door Access Control at Towers and Wellhouses**
  - **Enhance Camera and Recording at West WTP**
  - **Install Network Communication at all Towers and Wellhouses**



# Proposed Water Distribution System



# Annual Capital Improvements

- ❑ Well Rehabilitation (\$250,000 annually)
- ❑ Water Main Replacement (\$2,000,000 annually)



# 5 Year Capital Improvements

## □ 2014

- Main Replacement 101<sup>st</sup> Ave NW & Foley Blvd NW (\$10,000)

## □ 2015

- Main Replacement 101<sup>st</sup> Ave NW & Foley Blvd NW (\$215,000)
- New 1.5 MG Elevated Water Storage Tower (\$4,075,000)
- West Tower Altitude Valve (\$35,000)

## □ 2016

- Valve/Pipe Modifications at WTPs (\$240,000)
- SCADA and Security System Upgrades (\$950,000)
- Install Baffle Wall at West Ground Storage Reservoir (GSR) (\$275,000)
- Main Replacement 101<sup>st</sup> Ave NW & Foley Blvd NW (\$75,000)



# 5 Year Capital Improvements

## ☐ 2017

- North Elevated Water Storage Tower Rehabilitation (\$1,560,000)

## ☐ 2018

- East Ground Storage Tower Rehabilitation (\$700,000)

## ☐ 2019

- Variable Frequency Drives (VFDs) for West High Service Pumps (HSPs) 4 and 5 (\$500,000)

## ☐ 2020

- Backup Power Generation at East WTP and Wells (\$1,200,000)



# Questions ?

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