Groundwater Master Plan and Santa Rosa Plain Groundwater Management Plan

Joint City Council/
Board of Public Utilities Meeting
September 25, 2012
Presentation Overview

- Background on groundwater
- Groundwater Master Plan
- Overview of Santa Rosa Plain
- Groundwater Management Plan
- Groundwater Management Plan Goals and Objectives
Groundwater Background – City’s Use

- Prior to 1959, City relied primarily on groundwater for water supply
- By 1980, City relied solely on purchased water from SCWA for water supply
- In July 2005, City converted Farmers Lane wells from emergency to active status
- City began using Farmers Lane wells in 2007 to provide supplemental supply during peak summer months
Groundwater Background

- September 2003 – Council directed Utilities staff to ask BPU to evaluate role of local supply in meeting water supply needs
- December 4, 2003 – BPU adopted Resolution No. 776
  - Directed Utilities to pursue development of water sources to provide reliable water supply through the General Plan Building Horizon
  - Include development of local groundwater, additional recycled water use, additional supplies from SCWA and other sources as they become available
  - Evaluate sources based on supply reliability, cost, timing and environmental impact
- Utilities Department established CIP fund to investigate groundwater
Groundwater Background

- March 2005 – City entered into funding agreement for 5-year USGS Study of Santa Rosa Plain
  - Staff participating and providing technical input
- July 2005 – Farmers Lane wells converted from stand-by to active status
- January 2010 – BPU Study session on Groundwater Resources
- March 2011 – BPU authorized staff to prepare and issue an RFP to prepare a Groundwater Master Plan
- October 2011 – BPU approved development of Groundwater Master Plan
Restructured Agreement Requirements

- Sections 1.13 and 1.15 of the Restructured Agreement contain specific requirements for local supply and recycled water.

- Summarized from Restructured Agreement:
  - 1.13 Recycled Water and Local Supply Project Requirements – Within 10 years from the date of the Agreement, the Water Contractors shall use best efforts to develop at least 7,500 AFY of recycled water or local supply projects, with approximately 50% coming from recycled water projects.
  
  - 1.15 Local Production Capacity Goals – Highly desirable for each Water Contractor to develop and maintain local water production capacity capable of meeting approximately 40% of the Water Contractor’s average day maximum month demand.
Groundwater Master Plan

Water Resources
- Policy
- Studies
- Master Plan Development

Consultants
- Engineering & Environmental Support

Asset Management
- Data Mgt
- Mapping
- Environmental

Local Operations
- Well Operation

CIP
- Test Borings
- Construction Contracts
Groundwater Master Plan

- West Yost Associates with ECON and Pueblo Water Resources

- Scope of Services includes:
  - Development of a GIS-based groundwater database
  - Establishment of a city-wide well monitoring network
  - Feasibility level evaluation of Aquifer Storage and Recovery
  - Review of the USGS Groundwater Model findings and conclusions
  - Development of recommended groundwater policy
  - CEQA support activities
Groundwater Basin Description

- Santa Rosa Plain Watershed
  - Santa Rosa Plain Sub-basin
  - Rincon Valley Sub-basin
  - Wilson Grove Formation basin (portion)
  - Kenwood Valley basin (portion)
  - Alexander Area Sub-basin (portion)

- The City overlies portions of groundwater basins
  - Santa Rosa Plain Sub-basin
  - Rincon Valley Sub-basin
  - Kenwood Valley Groundwater Basin
OBJECTIVES

Hydrogeology and Groundwater Quality

Surface Water-Groundwater Model

Evaluate Potential Future Conditions and Alternative Water Management Strategies
Santa Rosa Plain Geology and Primary Hydrogeologic Units

- Alluvium/Glen Ellen
- Petaluma
- Wilson Grove
- Sonoma Volcanics

**Sedimentary and Volcanic Units**
- Quaternary Alluvium
- Glen Ellen Formation
- Petaluma Formation
- Wilson Grove Formation
- Sonoma Volcanics

**Bedrock Units**
- Franciscan Complex
- Ultramafic rocks
GSFLOW Model
Surface & Groundwater

- Estimate hydrologic budget
- Identify recharge areas
- Evaluate water-resource management strategies
- Evaluate climate-change impacts
- Evaluate effects of changes in land-use
Benefits of Local Groundwater Management

- Increase Public Awareness of Groundwater
- Increased Coordination Amongst Stakeholders
- Improved Management of Resource
- Funding Opportunities (e.g., LGA grants, IRWM grant eligibility)
- Well Poised to Address New State Requirements
  - CASGEM
  - Salt Nutrient Management Plans
Groundwater Management Planning: Engaging Local Stakeholders

- Start With a Stakeholder Assessment
  - Compare Facts with Perceptions
  - What are the Issues?
  - Is Groundwater Management Desired?
  - What Form of Management (e.g., Regulatory?)
Center for Collaborative Policy
2009 Stakeholder Assessment

- Impartial Mediators Interviewed 55 Stakeholders Representing 37 Organizations
  - Agriculture
  - Business & Developers
  - Conservation & Environmental
  - Government (State, County & City)
  - Rural Residential Well Owners
  - Scientists
  - Tribal
  - Water Supply & Groundwater Technical People
2010 Preliminary Planning

- Steering Committee Activities
  - Outreach and Stakeholder Concerns
  - 20 Briefings with Organizations in Region
  - Three Educational Workshops with 200 People
  - Recommend Developing Groundwater Management Plan
Timeline

- Spring to Fall 2011—Presented Steering Committee Recommendations to move forward with development of voluntary Groundwater Management Plan to Board of Directors, prepared Work Plan & Negotiated Funding Agreement with Partners
- December 2011 – Convened Basin Advisory Panel to Initiate GMP Development
- Develop Plan over ~2 Years
Basin Advisory Panel Meetings
Discussion Topics

Eight Meetings December 2011 through September 2012:

- Develop Panel Charter
- Groundwater Issues and Interests
- Presentations on Groundwater Management & Groundwater Basics
- Groundwater Legal and Institutional Issues
- USGS Groundwater and Climate Change Studies & Modeling Scenarios
- Plan Boundary
- Planning Goals & Objectives
- Governance Proposal and Lead Entity
- DRAFT Goals & Objectives
- Groundwater Monitoring Program Framework
- Formed Technical Advisory Committee (initial meeting in August 2012)
- Constituent Briefings
Basin Advisory Panel Future Meetings

- Upcoming Meeting: October 11, 2012:
  - Groundwater Resource Management Options Overview
  - Constituent Briefings and Report Back
  - Revisit Goals & Objectives and Governance Proposal

- Public Hearing on Resolution of Intent to Prepare Groundwater Management Plan
  - October 23, 2012, 10:00 a.m. - Water Agency Board of Directors Meeting

- Additional Planned Efforts through 2013:
  - Develop Groundwater Management Components, Monitoring Plan, Implementation Approach, Public Outreach
  - Prepare and Recommend Plan for Adoption
Groundwater Management Plan

- Basin Advisory Panel
  - 30 members representing key groundwater interests
  - Panel typically meets second Thursday of the month
  - www.scwa.ca.gov/srgroundwater

- Developing a non-regulatory plan
  - Recommendations for managing groundwater
  - SCWA recommended to be Lead Agency
Goals and Objectives

- Draft Developed by the Basin Advisory Panel
- Objectives:
  - Integrated Groundwater Management
  - Stakeholder Involvement and Public Awareness
  - Groundwater Protection and Recharge
  - Conservation and Efficiency
  - Water Reuse
  - Monitoring and Modeling
  - Climate Change Planning
- Refining based on stakeholder input
Discussion