Regional Water and Wastewater Service

Workshop No. 2
November 20, 2019
Blue River Board Room, 5th Floor, Plaza of the Rockies
Topics

Workshop No. 1 Review

Policy Development Program
  • Policy Framework
  • Policy Issues Scoping

Water and Wastewater Systems
  • Current Conditions and Forecast
  • Scenario Planning

Regional Entities
  • Regional Water and Wastewater Demands

Stakeholder Engagement Process
Workshop No. 1 Key Takeaways

At Issue
• What role should Utilities play in providing water and wastewater services outside of its existing service territory?

Why?
• Water and wastewater providers face emerging challenges that will become more severe over time if not addressed proactively

Growth is inevitable
• Outside City development is not compatible with City Standards
• Policy development is necessary to mitigate risks and provide a benefit to the City and Utilities’ citizens and customers
Draft Policy Questions

1. What is the preferred model for providing regional water and wastewater service?

2. How can regional water and wastewater service provide a benefit to the City and Springs Utilities, while minimizing risks?
Policy Development Program
Current Situation

At Issue
• Changed conditions require a modified approach to policy development, considering a broader range of connected issues

Why?
• Long-term sustainability of our infrastructure & resources is essential to our economic vitality & quality of life

How?
• Broader policy-level decisions to set the trajectory for decades to come
• Coordinated planning & policy making between the City, County & Springs Utilities
Connected Policy & Planning Efforts

Springs Utilities
• Integrated Resource Plans
• Regional Water & Wastewater Policy Development

City
• City Annexation Plan Update
• City Comprehensive Plan

County
• El Paso County Water Master Plan
• El Paso County Comprehensive Plan

State
• Basin Implementation Plan Update
• Colorado Water Plan Update
Regional Service Policy Development
Guiding Principles

• Policy decisions must provide a net benefit to the citizens and ratepayers of Colorado Springs
• Any policy must consider all four utilities (water, wastewater, electric, gas)
• Annexed areas must serve all four utilities (water, wastewater, electric, gas)
• Policy decisions must be consistent with regional agreements, contracts and permits
Regional Service Policy Development
Policy Drivers

• Sustainability of resources, infrastructure and the economy
• Need to determine the role of annexation vs. extraterritorial utility service
• Need to determine appropriate balance between City infill/densification and expansion
• Modernization and densification of Colorado Springs Downtown
• Statewide shift toward integrated land and water use decision making
Regional Service Policy Development

- Regional water & wastewater service options will align with policy making
- Springs Utilities staff will seek direction on:
  - Recommended water and wastewater service options
  - Policy changes to allow implementation of service options
  - Policies and requirements to minimize risks and provide a net benefit to the citizens and customers of the City and Springs Utilities
- Near-term focus will be on evaluating extraterritorial service options and scenarios for water & wastewater
- Recommendations will consider all four utility services and the City
Policy Making Framework

**Issues**
- Define the issues
- Define why the issues are important
- Gather evidence surrounding the issues

**Alternatives**
- Identify how others have solved similar issues
- Research and study options
- Align with evidence and comparable solutions
- Determine criteria for policy decision-making

**Collaboration**
- Identify connections and dependencies
- Investigate alternatives and find solutions with other decision-makers
- Determine how to measure success

**Implementation**
- Implement solutions
- Measure success
- Adapt solutions as new information is obtained
Balancing Risks and Opportunities of Regional Service and Annexation
Annexation Considerations

• Current policy
  • Obligation to serve
  • First come, first served

• CWCB Best Management Practices
  • Land use integration with conservation plans from water providers

• Annexed areas must receive all four services from Utilities

• City Boundary must comply with regional agreements, contracts, and permits
Regional Service Considerations

• Alignment with policies, standards & regulations
  • City Code
  • Tariffs
  • Land Use & Development Standards
  • Construction standards – roads, fire protection, etc.

• Consistency with Regional Agreements, Permits & Contracts
  • Must abide by Drainage Criteria Manual
  • Contribute to stormwater impact mitigation
  • Contribute to water quality studies and impact mitigation

• Implement responsible water & wastewater management
  • Must reuse all fully consumable water to extinction
Colorado Springs
Water and Wastewater Systems
IWRP and 2016 Finished Water System Planning Area

200 square mile area
Based on 2006 City Annexation Plan
Water System Planning Activities

Integrated Water Resource Plan
2016 Finished Water System Plan
  Updated every 5 years
Facility Plans
  Water Treatment Plants (every 5 years)
  Pump Stations (5 year intervals)
  Tanks (10 year intervals)
Studies and Alternatives
  Detailed studies prior to detailed design activities
It’s difficult to predict exact timing for demands.
Finished Water System Planning

Current Sustained Water Treatment Capacity (MGD)

Sustained Capacity: 248
Max Day (2001): 182
5-Year Max Day (2017): 135

Buildout Water Treatment Capacity (Current Plan)

Sustained Capacity: 303
Max Day: 268

There is additional capacity in our water treatment plants at expected buildout demands.
Technical Findings – Water

• We have surplus water at certain times (e.g., wet years)
• Capital improvements are needed to meet our own needs
• The IWRP Balanced Portfolio is necessary to meet future water supply needs within our existing 200 sq. mile City boundary
• There is additional seasonal capacity in SDS and at our water treatment plants currently and at Buildout conditions
Colorado Springs Wastewater System
Colorado Springs Utilities Resource Recovery Facilities and Service Areas

**JDPWRRF**  J.D. Phillips Water Resource Recovery Facility

**LVSWRRF**  Las Vegas Street Water Resource Recovery Facility

**CSRRRF**  Clear Springs Ranch Resource Recovery Facility (Solids Handling Only)
Regulatory Compliance

- All wastewater treatment facilities impacted by more stringent regulations
- Regulation 31
  - Rulemaking Expected: 2022 – 2027
  - Enforcement Expected: 2035 – 2040
  - $$$$
Technical Findings – Wastewater

• Wastewater facilities will be impacted by more stringent regulations
• More stringent regulations are driving consolidation of wastewater facilities
• Capacity exists at the JD Phillips WRRF
• Capacity expansion is possible at Las Vegas WRRF
• Capacity exists in the wastewater collection system
• Capital improvements are needed to meet our own needs
Regional Water and Wastewater Demands
FIGURE 1-1: WATER SUPPLY STUDY AREA
TM W52: Water Supply Regional Entities
Colorado Springs Utilities
Regional Water/Wastewater Service Technical Studies

LEGEND
- Water Division Boundaries
- Counties
- Water Treatment Plants
- Highways
- TAZ Polygon Outlines

Service Areas
- Springs Utilities Water Service
- Colorado Springs Utilities
- North - Academy
- North - Donnellson
- North - Forest Lakes
- North - Forest View
- North - Monument
- North - Palmer Lake
- North - Pioneer Lookout
- North - Trinidado
- North - Woodmoor
- East - Cherokee
- East - Schriever AFB (Served by Cherokee)
- East - Sunset (Served by Cherokee)
- East - Falcon Highlands
- East - Meridian Ranch
- East - Paint Brush Hills
- East - Park Forest
- East - Rincon Ranch
- East, Westmoor
- East - Woodmen Hills
- South - Colorado Centre
- South - Fountain
- South - Garden Valley
- South - Overlook
- South - Security
- South - Stratmoor Hills
- South - Widefield
- Special Consideration - Manitou Springs
- Special Consideration - Rock Creek Mesa

Regional Growth Zones
- East
- North
- South

Note: Regional Growth Zones are defined as traffic analysis zone polygons that are projected to be more dense than 0.2 people per acre by 2045.
Northern Entities

Water Demand (Acre-feet per Year)
- Current: 5,100
- Buildout: 14,500

Buildout Wastewater Flow Range (MGD)
- Low: 6.22
- High: 9.83

Buildout Population
- North Zone, 95,000
- East Zone, 175,000
- South Zone, 220,000
- Colorado Springs, 720,000

Colorado Springs Utilities
## Eastern Entities

### Water Demand (Acre-feet per Year)
- Current, 7,300
- Buildout, 24,400

### Buildout Wastewater Flow Range (MGD)
- Low, 4.77
- High, 10.78

### Buildout Population
- Colorado Springs, 720,000
- South Zone, 220,000
- East Zone, 175,000
- North Zone, 95,000
- Colorado Springs Utilities

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Map indicating various regions such as Woodmen Hills, South Zone, East Zone, North Zone, and Colorado Springs Utilities.
Southern Entities

Water Demand (Acre-feet per Year)
- Current, 11,800
- Buildout, 28,500

Buildout Wastewater Flow Range (MGD)
- High, 8.11

Buildout Population
- South Zone, 220,000
- East Zone, 175,000
- Colorado Springs, 720,000
- North Zone, 95,000

Colorado Springs Utilities
Current and Forecasted Regional Water Use

Current Water Use per Year (AF)
- Colorado Springs, 70,000
- South Zone, 12,000
- North Zone, 5,000
- East Zone, 7,300

Projected Water Use per Year at Buildout (AF)
- Colorado Springs, 136,000
- South Zone, 28,500
- East Zone, 24,400
- North Zone, 14,500

Population:
- Colorado Springs, 545,000
- Population: 1,210,000
Potential Regional Water Supply Gap

North and East Future Water Supply Gap

Future Water Supply Gap
Potential Supply
Existing Renewable Supply Use
Existing Non-Renewable Use
Projected Demands

acre-feet per year

2020 2030 2040 2050 Buildout
Regional Entities: Analysis Assumptions

• Non-renewable supplies
  • Estimating Denver Basin Rate of Decline

• Limited renewable supplies
  • Current legally available reusable return flows will be factored in as a way to meet the regional supply gap
  • Non-Renewable supplies limited to 25 percent of existing

• Future demand behavior will look similar to current demand behavior

• Analysis will not show increase in Denver Basin supplies above existing
Board Discussion

• Would the Board like additional information on the basic assumptions for Regional Entities?

Key Takeaways: Regional Entities

• Many regional entities currently depend on unsustainable groundwater supplies
• Additional renewable water resources will be needed to serve a growing El Paso County population
• Springs Utilities has opportunities to provide water and wastewater service
Stakeholder Engagement Process
Water and Wastewater Regional Services Policy Discussion

We are currently undergoing a multi-year process to:

1. Develop the technical information needed to understand conditions around Regional Water and Wastewater Services, and how a program could address a wide range of legal, administrative, operational, and socioeconomic factors, and
2. Engage with the Utilities Board in a Policy Development Discussion that will establish the parameters for any potential regional services.

The overarching goal of this process is to determine whether we could provide water and wastewater services to regional entities in the Pikes Peak Region while protecting the interests of existing customers and ratepayers.

Workshops
We have designed a series of workshops for the Utilities Board to work through the risks and opportunities involved with regional services.

Workshop 1: Wednesday, Aug. 21, 2019 - View presentation | View recording

Introductions to Regional Water and Wastewater Program Policy Development

Topics of Discussion:
- Regional water and wastewater needs, overview and industry drivers
- Integrated Water Resource Plan (IWRP) and UPA/CD assignment
- Collaboration with the City of Colorado Springs
- Regional water and wastewater services technical studies
- Timeline and summary

Workshop 2: Wednesday, Nov. 20, 2019

Topics of Discussion:
- Current Conditions & Forecasts

The agenda and presentation for this workshop will be posted by Nov. 15.
Stakeholder Process

• Discussions with Stakeholders about key issues (Dec-Mar)
• Report out on discussions at Workshop 3
• Opportunity for additional stakeholder and customer feedback at Policy discussion
Summary
Draft Policy Questions

1. What is the preferred model for providing regional water and wastewater service?

2. How can regional water and wastewater service provide a benefit to the City and Springs Utilities, while minimizing risks?
Policy Development Program

**Workshop 1**
- Regionalization Overview
- Drivers
- IWRP and UPAC
- Assignments
- Scope and Schedule

**Workshop 2**
- Policy Making Framework
- Current Conditions
- Infrastructure
- Supply
- Demands
- Forecasts
- Modeling Scenarios

**Workshop 3**
- Service Models
- Risks, Impacts,
- Opportunities and
- Constraints
- Regional Entity Scoping

**Collaboration Opportunity**
- Legal Considerations
- Adaptive Management
- Recommendations
- Final Policy Discussion

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Next Steps

• Shorten the current timeline towards a policy decision

• Multiple meetings in February - March
  • Continued Technical Studies are ongoing