One Water Strategies

Managing Demand to Increase Sustainability and Resiliency
New Braunfels Utilities

- Municipal Utility
- Water, Wastewater, Electric
- Fast growth corridor
- Growth’s Impact: Infrastructure, Facilities, Employees, Expectations
Your Water is what matters.

2018 WATER RESOURCES PLAN. Aligned with the New Braunfels Utilities (NBU) vision, mission, and core values, this strategic water supply plan addresses NBU's future water needs.
One Water Approach

#1 Reliable and Resilient Water Utilities
#2 Thriving Cities
#3 Competitive Business and Industry
#4 Sustainable Agricultural Systems
#5 Social and Economic Inclusion
#6 Healthy Waterways
Hallmarks of One Water

A mindset that all water has value
Focus on achieving multiple benefits
Systems Approach
Watershed-scale thinking and action
Right-sized solutions
Partnerships for progress
Inclusion and engagement for all
One Water Strategies for NBU

- Reviewing systems and operations for opportunities.
- Sustainability and resilience are key management principles.
- Partner with leaders in the field for best practices and implementation
Deep dive into the Water Resource plan was conducted by a project team at Boston University’s Institute for Sustainable Energy, as part of a broad initiative on One Water opportunities in Texas funded by the Cynthia and George Mitchell Foundation.
NBU’s GPCD

Texas Cities GPCD

New Braunfels GPCD from 2010 - 2018
Future demand projection

• Recent water demand growth has been approximately 4% per annum even as the population increases at 6% per annum.

• Modifying the demand projections accordingly indicate that NBU has adequate supplies for over a decade.
Demand management opportunities

- Often One Water discussions focus on the supply side, yet demand management and water conservation also play a role

- Consideration of residential versus non-residential demand
  - Informs modified demand projections

- Consideration of distribution of demand across accounts
  - Ordinance modifications
  - Outreach to high-consumption users
  - Reviewing Rebates
Residential versus non-residential consumption

• Although non-residential accounts are very small in number, they are significant in overall consumption.

• Therefore the assumption that water demand would increase in proportion with the population increase is not necessarily valid.
Distribution of consumption by account

- The top 0.1% of accounts constitute 10% of total water demand and the top 1% of accounts constitute 27% of total water demand.
Outreach to high consumers

• Identify high-percentile accounts

• Determine the end-uses of water

• Identify one-time change options

• Create and implement an action plan
Ordinances

• Review and assess how fines are assessed by volume.

• Determine cap for scaled fines by customer type.

• Create fine structures created by customer groups.
Current Internal Adjustments

- State of the Art Leak Detection program
- Wastewater management systems review
- Meter Replacement Program
Future Internal Adjustments

• Neutral Output Discharge Elimination System

• E-Pulse

• WaterSmart Customer Service Portal
Headwaters at the Comal
Phase I focus on:

• **Restoration:**
  • Remove asphalt
  • Debris removal
  • Invasive species removal
  • Biodiversity planting and seeding
  • Creation of habitat pools and ripples

• **Storm Water Mitigation:**
  • Check dams
  • Creating Berms & Bioswales
  • Bank Stabilization
Phase II Buildings

- Comal Springs Environmental Education Center
- Event & Meeting Space
- Demonstration gardens
- Smart building applications
Phase II additional features

- Rainwater harvesting
- Black water reuse system
- Permeable walkways and parking areas
- Smart building applications
- Low impact development – reuse of materials