NORTH OGDEN CITY

SETTLED 1851

Water Use and Preservation Element

North Ogden General Plan

December 2025

Water Use and Preservation Element

Introduction

Water availability is central to North Ogden's long-term livability, economic growth, and environmental health. The Water Use and Preservation Element of the General Plan provide goals, policies, and strategies to improve water conservation, coordinate planning with the City's Culinary and Secondary Water systems and align with Utah State Codes regarding water conservation.

This element complements the City's ongoing infrastructure and resource management documents, including:

1. North Ogden Culinary Water Efforts: Improving and Monitoring Culinary Water Use and Demand, Conveyance and Storage, and Capital Facilities Plan.
2. Long-Term Storm Water Management Plan: Recommends system improvements to address capacity deficiencies.
3. Water Conservation Efforts: Outlines measures to reduce per-capita consumption and delay costly expansions.

Background

The Utah State Legislature amended the Utah Land Use Development and Management Act (LUDMA) in 2022 to require cities to include a Water Use & Preservation Element in their General Plan by December 31, 2025. In addition, Utah State Code Section 73-10-32 requires the adoption of a water conservation plan. The City will assure the Water Conservation Plan is adopted and continue to implement regulations based on water conservation goals identified in the Water Master Plan.

The Plan Element Addresses the following items and sections:

I. Purpose and Vision
II. Regional and Local Conservation Goals
III. Methods for reducing water demand and per capita consumption for existing and future development.
IV. Effect of permitted development on water demand.
V. Coordination with Water Systems and Other Agencies
VI. North Ogden City Ordinance Review
VII. Implementation and Monitoring

I. Purpose and Vision

As a growing community in a semi-arid climate, North Ogden recognizes its responsibility to steward water resources wisely for current and future generations. This Water Use and Preservation Element outlines strategies to conserve water, improve efficiency, and align land use practices with state and regional goals, including protection of the Great Salt Lake watershed.

II. Regional and Local Conservation Goals

A. Regional Goals

The Utah Division of Water Resources conservation goals include reducing municipal per capita water use, promoting sustainable landscaping, and supporting water-smart development patterns.

B. Local Conservation Plan

Pursuant to Utah Code §73-10-32, North Ogden has adopted a Municipal Water Conservation Plan through the Impact Fees Facility Plan (see Appendix A). This plan serves as the foundation for local water management and includes measures such as public education, tiered water pricing, and system leak detection. The recommendations in this Plan build upon and reinforce those efforts.

III. Methods for Reducing Water Demand in Existing and Future Developments

The City will promote water conservation through the adoption of new policies and ordinances following an implementation schedule and updating this plan every five years. These efforts are also to be encouraged and enforced by secondary water system providers in the City. The following list includes opportunities to modify or eliminate conditions that waste water. **These goals, policies, strategies, and implementation items are for North Ogden City to consider from (2025–2050).**

A. Water Conservation Goals, Policies, Strategies, and Implementation

1. Reduce per-capita water use: *Implementation: 12-60 Months*
    - Adopt and enforce new landscape ordinances to encourage or require low water use landscape designs in new developments, single-family, multifamily, commercial.
    - Enforce metering and monitoring standards for all new water connections.
    - Analyze and track acres converted to water-wise landscaping

- Promote landscaping and maintenance practices that minimize yard waste by using drought-tolerant plants, mulching, and reduced turf areas.

2. Promote public education campaigns on conservation practices: *Implementation: Ongoing*
    - Increase Social Media posts.
    - Host workshops and monthly campaigns to provide information on water conservation.
    - Partner with Weber Basin Water Conservation District to provide public classes; and conduct community campaigns through social media and events.
    - Promote smart irrigation rebates and installation of Water Sense-labeled products.
    - Develop a Water Shortage & Drought Response Plan and assign a Water Conservation Coordinator.

3. Lead by example: *Implementation: 12-60 Months*
    - Discourage the use of Municipal Culinary Water used on exterior landscaping.
    - Increase water rates and penalties for high water users.
    - Implement water budgets for municipal and public spaces outdoor water use.
    - Preserve healthy drought-resistant trees at municipal facilities and public spaces.

4. Maintain Infrastructure Reliability: *Implementation: Ongoing*
    - Establishing further redundancy of Culinary Water Resources between neighboring municipalities.
    - Explore State or Federal Grants to study new water resources within North Ogden City.
    - Continue AWWA water audits; complete AMI metering by 2027.
    - Maintain corrosion protection in pipelines.

5. Policy and Ordinance Updates: *Implementation: 12-60 Months*
    - Update Ordinances to assure that park strips and areas less than 8 feet in width do not require turf grass.
    - Consider adoption of a Water-Efficient Landscape Ordinance that limits turf areas to 25% max residential; 5% commercial; 10% multi-family:
    - Promote tree preservation and stormwater reuse.
    - Promote site specific design standards to reduce runoff.
    - Consider updated ordinances to permit reuse of gray water for irrigation.

- Maintain an increasing-block rate structure for culinary water, review pricing and fees annually for necessary adjustments.
- Consider regulations to discourage decorative ponds, pools, and water features that contribute to evaporation unless they serve a functional purpose.

6. Park Strip Landscaping:
    - Reduce or eliminate lawn or turf in park strips, except where functionally necessary (e.g., recreation adjacent to schools or parks).
    - Replace turf in park strips with drought-tolerant plants, mulch, decorative rock, or permeable hardscaping that meets North Ogden City's Protective Ground Cover ordinance.

IV. Effect of Permitted Development on Water Demand

A. Public Water System Consultation

North Ogden Water Department provides and manages all Culinary Water resources for the City. The City maintains Interlocal Agreements with Ogden City, and Pleasant View City to provide for emergency and temporary redundancy in the Culinary Water system. The efforts of the Water Department include:

- Drinking water source and storage capacity, consistent with Utah Code §19-4-114. North Ogden City is compliant with water storage capacity requirements.
- Water distribution system needs, including asset management, replacement planning, and impact fee facility plans.

The City has consulted with CRS Engineers on a Culinary Water Impact Fee Facilities Plan that shows how the City's land use and growth will be accommodated by current and future water improvements. Over time, as the City grows there will be additional wells and storage facilities needed to keep up with demand.

Over the past ten years, the City has experienced an average growth rate of about 2% per year. While working with several agencies, an anticipated population of 42,000 at approximately 2054 was established as the accepted buildout projection. To compare water demand from non-residential connections to residential connections, non-residential connections can be converted to Equivalent Residential Connections (ERCs). The measure of ERCs provides a method to normalize the comparison of different types of water use within a system. In 2020, there were 6681 connections to the existing water system, totaling 7,263 ERCs. This generated an average ERC factor for the past 10 years of 4.63 ERCs for Commercial, 10.22 ERCs for Industrial, and 4.25 ERCs for Institutional. It is difficult to project the number of non-residential

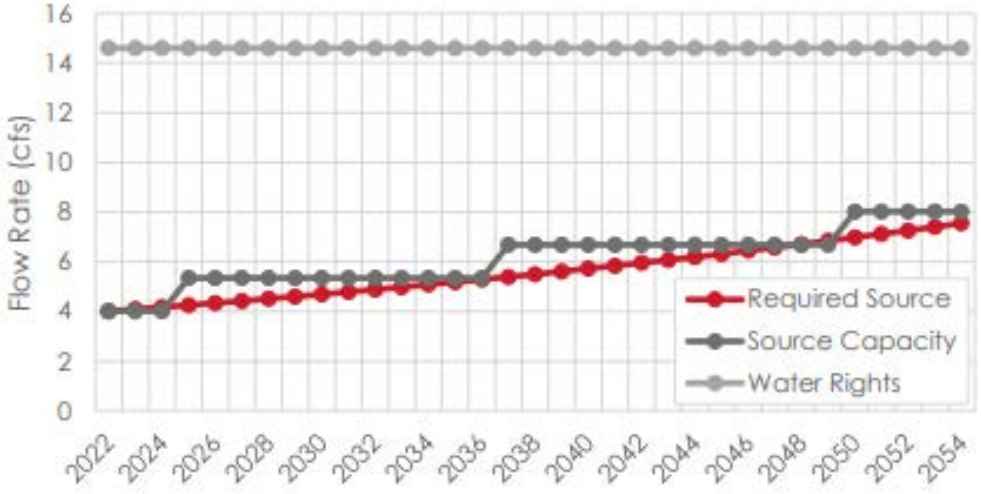
connections that may be used in the future, so historical proportions were used for projections and ERCs were anticipated to grow by approximately 2%.

ERC and Population Projections

B. Projected Demands

Peak Day Demand

Based on the system specific source requirements, the required source capacity for peak day demands are shown below. The figure also shows available source capacity, including anticipated increase of 600 gpm (1.3 cfs) when new wells are introduced into the system to keep up with demand. Even through buildout, the peak flow rate does not exceed the available water rights.

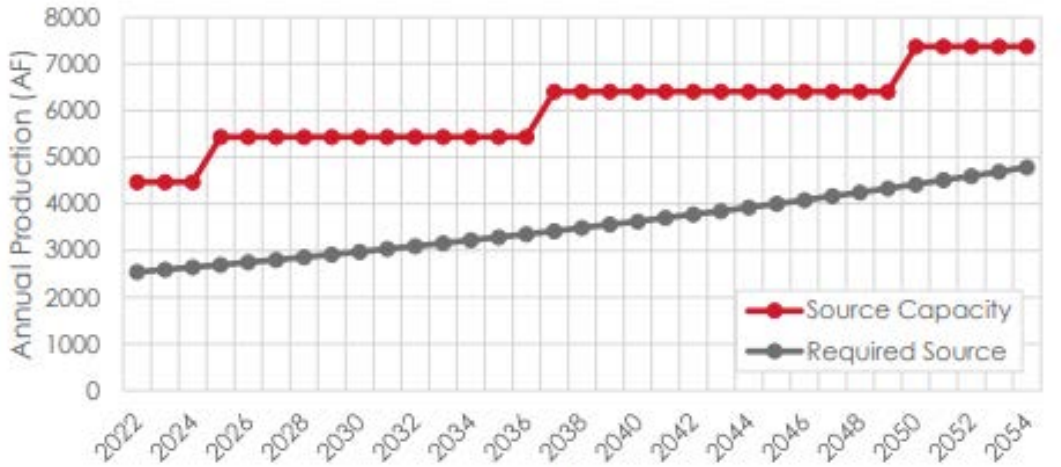


Peak Day Demand Projections

Each of the steps shown above indicates the construction of a new source. As can be seen, a new source will need to be introduced in the next 5 years to maintain the current level of service despite the potential loss of a culinary water well or spring flows in the summer.

Annual Demands

The required annual production was also evaluated against the available source capacity. The figure below shows the projected requirements and capacity showing that the annual source capacity will not be a concern, and no projects are anticipated specifically to address this requirement. The ability of the sources to meet peak day demands will far outpace the need for additional year-round production. The production needed and capacity available are both well below the annual water right allotment of 10,571 acre-feet.



Projected Annual Production

C. Impact Fee Facility Plan Conclusions

Water Sources: Although water sources are sufficient for current demand, as the City approaches buildout, there is a high possibility that the City's demand will exceed the supply from sources. The modeling process included adding two additional wells each designed to produce 600 gpm of water flow. Modeling this has produced a similar level of service at buildout.

Water Rights: Peak Day Demand at buildout is estimated to be 11.06 ac-ft/day. Annual Demand at buildout is estimated to be 2868 ac-ft. Current available water rights are 17 cfs (12,337 ac-ft/year). The City is not currently reaching their allotted water rights limits, nor do future demands predict the City reaching the allotted rights. The City has sufficient water rights to meet both projected Peak Day and Annual Demands.

Storage Capacity: Current storage capacity including plans to add another 1.5 MG tank will bring the total storage capacity to 8.5 MG. Although this has been modeled in the system and is adequate, state requirements at buildout based on projected ERCs require 10.75 MG of storage. This results in a remaining deficiency of 2.25 MG.

Pressure System: The current Level of Service defines pressure supplied to homes at no less than 40 psi. Current and Future Models meet this Level of Service, however special care should be taken to ensure that future PRVs are continually installed at pressure zone boundaries, especially within new developments.

Pipe Sizing: Flow through pipes is not to exceed 5 f/s. Any pipe that exceeds this limit has been identified and listed in the water system capital improvements as a future project.

Regular Maintenance: Without continual maintenance and upgrades, including additional water sources, booster stations, tanks, and upsizing waterlines, the City will not be able to maintain the current level of service. Regular maintenance includes replacing PRVs as necessary, correcting leaks, and continually monitoring the system to be aware of any deficiencies that may arise.

Future land use densities and development patterns will directly influence the timing of new wells, including the 1.5 MG tank, and waterline upsizing projects identified in the Impact Fee Facility Plan. The City will update water system capital improvements concurrently with General Plan land use updates.

V. Coordination with Water Systems and Other Agencies

The City coordinated with North Ogden City Culinary Water, Secondary water providers: Mountain View Irrigation and Pineview Water Systems, Storm Water, and the State Division of Natural Resources to better understand efforts to conserve water.

A. Public Water System Consultation

North Ogden Public Water System is discussed in IV above.

B. Secondary Water System Consultation

The City does not own or maintain any Secondary Water or Irrigation Water sources. The City does require Secondary Water availability for all residential and commercial development. This requirement is met through the “will-serve letter” at the time of development or building permit. To best coordinate and meet State Code requirements, the City met with Mountain View Irrigation and Pineview Water Systems to better understand their plans and conservation methods. The ultimate take away is that consistent standards and communication will be the

most effective way for all parties to work together to reduce overall water usage. The information from the coordination meeting has been summarized below:

Mountain View Irrigation

1. System Build Out and Future Planning
    - When users connect to the system they must agree to Mountain View Irrigation's development requirements.
    - There is a set number of gallons per water per connection, and the property owner can use that for a variety of landscape preferences.
    - Future growth in the system includes 700-1,000 additional residential units to be developed in the northernmost area of North Ogden City. The property is largely owned by a single entity and will be master planned for efficient development.
    - Mountain View Irrigation cannot service new connections on "paper water".
2. Conservation Methods
    - Mountain View Irrigation will institute Tiered Rates which is a State requirement by 2030.
    - The system is 100% metered for all connections.
    - Policies to preserve and protect existing natural mountain landscaping are in place.
    - Park strips must be xeriscape by regulation.
3. Coordination with the City
    - Establish regular meetings between secondary water providers and the City to better coordinate development and future plans.
    - Create a single set of outdoor water use policies that the City and secondary water providers follow and promote consistently.
    - Coordinate Water-wise landscaping information to be shared with the public.

Pineview Water Systems

1. System Build Out and Future Planning
    - Pineview Water System is largely built out in North Ogden.
    - The North Ogden Irrigation Board has implemented a Moratorium on future water connections at elevation levels above the North Ogden Canal for 2025-2027.
2. Conservation Methods
    - Pineview Water will institute Tiered Rates which is a State requirement by 2030.
    - Water use is monitored daily through electronic metering. The system automatically shuts off Secondary Water once a user hits their limit. There is no tiered rate system.

- The current system is approximately 20% metered across North Ogden City. Pineview Water is currently looking for additional grant funding to meet the State requirement of all water systems metered by 2027.
- Line replacement and leak detection. Water conservation through infrastructure upgrades are as effective or more effective than metering. They estimate 13% average loss through leaking infrastructure.

3. Coordination with the City
    - Establish regular meetings between the water providers and City to better coordinate development and future plans.
    - Create a single set of outdoor water use policies that the City and secondary water providers follow and promote consistently.
    - Coordinate Water-wise landscaping information to be shared with the public.

<u>Secondary Water Enforcement</u>

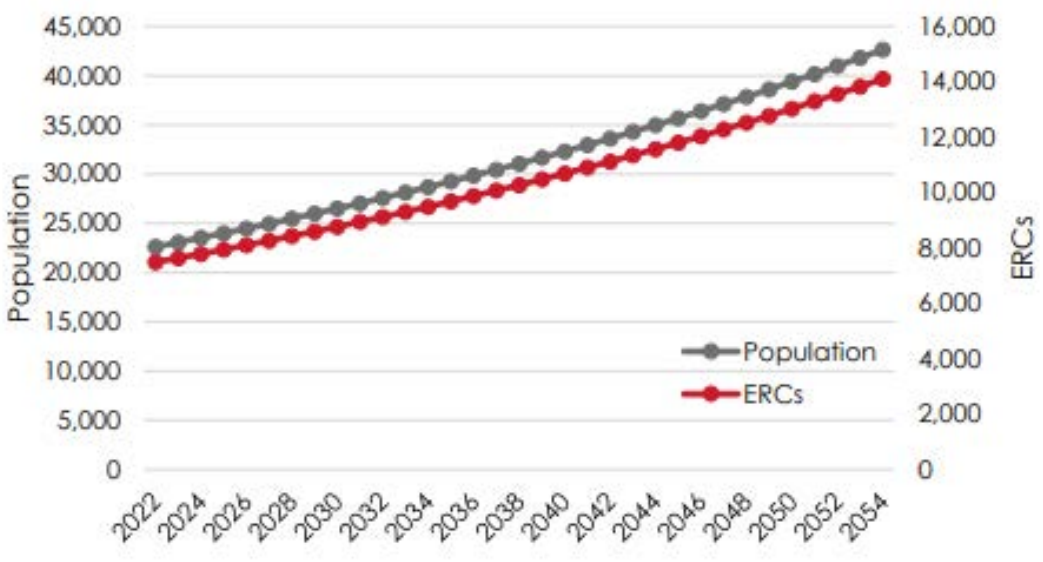
1. Enforcement of Secondary Water policies is difficult across such a large geographical area. Secondary Water and Homeowners Association enforcement is not a municipal responsibility, and is not done through North Ogden City.
2. Metering of Secondary Water is an enforcement strategy as it alerts the water systems of high-water users.
3. There are not enough staff across all entities to properly enforce all the policies adopted by these agencies.
4. Overall, it is not the City's utility, so North Ogden City cannot and will not enforce secondary water system's policies.

C. Division of Water Resources

The City consulted with the Utah Division of Water Resources (DWR) for technical data, including the impact of land use and water practices on the Great Salt Lake. DWR provided a review of the plan prior to adoption to confirm it meets the requirements of State Code. This plan supports conservation actions that indirectly benefit the Great Salt Lake by reducing system-wide water demand. DWR provided helpful assistance in the creation of this plan at the following website: <u>https://water.utah.gov/water-general-plan/</u>

<u>DWR Coordination</u>

1. Water Supply Planning Overall
    a. Consider Water source location and capacity. This is managed through North Ogden Culinary Water Department, Mountain View Irrigation, and Pineview Water Systems.



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Culinary Water Departments.

4. DWR recommends that the City consider amending landscaping requirements to reduce unnecessary outdoor watering.
5. DWR recommends considering the re-use of Gray Water for landscaping.
6. Required Low-Water Landscaping Standards: North Ogden will consider adopting low-water-use landscaping standards for new development including:
    a. Commercial, industrial, and institutional developments.
    b. Common interest communities (as defined in Utah Code §57-25-102).
    c. Multi-family and Single-family housing.
    d. These standards will require:
        - Use of drought-resistant plant species;
        - Limitations on turfgrass areas;
        - Mandatory use of efficient irrigation systems;
        - Incorporation of mulch and permeable surfaces. North Ogden City Protective Ground Cover ordinance as adopted allows a variety of xeriscape materials.

VI. North Ogden City Ordinance Review

A. The following North Ogden City (NOC) Land Use Code Title 11 existing ordinances address water conservation. Future Implementation Measures will include a case-by-case analysis of these ordinances to find opportunities for improvement.

- NOC References to “Water”, “Water-wise”, and “Landscaping Requirements” need to be reviewed and updated on a case-by-case basis.
- NOC 11-9K-3 (I) (1): Development Standards states: “Landscape and streetscape plans are required to be submitted with any building, structure or other improvements meeting the standards of this ordinance and as specified in the Public Works Standards. All such plans shall promote water–wise landscaping designs and include xeriscape, where appropriate.”
- NOC 11-10C-4 (C): Site Design, Water Elements states: “1. Fountains and other water features should be sited and designed so that they are efficient users of water. 2. Filtered backwash effluent should be discharged into landscaped areas whenever possible.”
- NOC 11-20-3: Landscaping states: “(A)(1) The irrigation system must use secondary water and shall be designed to water plants of similar water needs and avoid wasteful watering.” “(B)(2) Fountains and other water features should be sited and designed so that they are efficient users of water.”
- NOC 11-26-7: Water Facilities address General Requirements for developing culinary water resources.
- NOC 11-28-8: Secondary Water System requires secondary water be provided as a condition of approval for development and building permits.

VII. Implementation and Monitoring

The Planning Commission recommends the consideration and adoption of the following water conservation policies for North Ogden City:

1. Conduct an annual review of municipal water use and ordinance compliance.
2. Align the Capital Improvement Plan (CIP) with water conservation goals, ensuring infrastructure investments support sustainable growth.
3. Coordinate with Secondary Water providers to understand their ongoing growth strategies and needs.
4. Consider Zoning Text Amendments and Administrative Rules that implement low-water-use landscaping standards for all types of development.
    - Recommending based on secondary water providers, create water budgets based on land use type and lot size. (This effort would be entirely led by the secondary water providers).
    - Revise zoning codes to allow for clustered development with shared open space using low-water landscaping.

- Offer incentives for retrofitting older developments with efficient irrigation and water fixtures through Mountain View Irrigation and Pineview Water Systems. (This effort would be entirely led by the secondary water providers).
- Carefully consider economic development projects that consume excessive water without adequate conservation planning.
- Adopt concurrency standards to ensure new developments only proceed when water supply and infrastructure can support them.

5. Track progress through annual reporting to the City Council, measuring:
    - Per-capita water use (monitor average gallons/day).
    - System loss percentage (AWWA audit).
    - Rebate participation if available.
    - Education events held and Social Media posts.
    - Acres converted to water-wise landscaping.
6. Review and update of the Water Use and Preservation Element every five years.

VIII. Conclusion

North Ogden City recognizes water as a shared community responsibility. Through education, infrastructure investment, and policy alignment with state law, the City will ensure future generations enjoy reliable, high-quality water resources.

IX. Appendix

A. North Ogden City Impact Fees Facility Plan