A Meeting of the Nibley City Council held at Nibley City Hall, 455 West 3200 South, Nibley, Utah, on Thursday, March 12, 2020.

The following actions were made during the meeting:

Councilmember Larsen moved to approve Resolution 20-02: Appointment to the Nibley City Planning Commission and Appointments of the 2020 Planning Commission Chair and Vice-Chair. Councilmember Sweeten seconded the motion. The motion passed unanimously 4-0; with Councilmember Larsen, Councilmember Sweeten, Councilmember Bernhardt, and Councilmember Laursen all in favor.

Councilmember Bernhardt moved to approve Resolution 20-03: An Update to the Nibley City Water Master Plan. Councilmember Sweeten seconded the motion. The motion passed 4-0; with Councilmember Bernhardt, Councilmember Sweeten, Councilmember Larsen and Councilmember Laursen all in favor.

Councilmember Larsen moved to approve Ordinance 20-03: An Impact Fee Facilities Plan and Impact Fee Enactment for Wastewater. Councilmember Sweeten seconded the motion. The motion passed 4-0; with Councilmember Larsen, Councilmember Sweeten, Councilmember Bernhardt, and Councilmember Laursen all in favor.

Councilmember Sweeten moved to approve Ordinance 20-02: Outdoor Lighting Standards. Councilmember Larsen seconded the motion. The motion passed unanimously 4-0; with Councilmember Sweeten, Councilmember Larsen, Councilmember Bernhardt, and Councilmember Laursen all in favor.

Councilmember Laursen moved to approve Resolution 20-04: Interlocal Agreement Regarding Wastewater Services, for first reading. Councilmember Sweeten seconded the motion. The motion passed unanimously 4-0; with Councilmember Laursen, Councilmember Sweeten, Councilmember Bernhardt and Councilmember Larsen all in favor.

OFFICIAL MINUTES OF THE MEETING
Deputy City Recorder Cheryl Bodily took minutes

Selection of Mayor Pro Tem and Opening Ceremonies

Councilmember Larsen noted that it was the appointed time to start the evening's City Council meeting and nominated Councilmember Thomas Bernhardt to act as Mayor Pro Tem. Councilmember Sweeten seconded the motion. The motion passed unanimously 4-0; with Councilmember Larsen, Councilmember Sweeten, Councilmember Bernhardt, and Councilmember Laursen all in favor.

Councilmember Larsen noted that with the virus scare he was going to talk a little bit about Nibley's water. He then noted that this discussion was already on the evening's agenda and asked Mr. Maughan to cover how the water was "packed up" in his discussion. Mr. Maughan agreed to cover this.

Councilmember Larsen led the meeting in the Pledge of Allegiance.

Call to Order and Roll Call

Mayor Pro Tem Bernhardt called the Thursday, March 12, 2020, Nibley City Council meeting to order at 6:30 p.m. Those in attendance included Councilmember Thomas Bernhardt, Councilmember Norman Larsen, Councilmember Nathan Laursen, and Councilmember Kay Sweeten. Mr. Stephen Nelson, Nibley City Planner, Justin Maughan, Nibley City Public Works Director, and Michelle Jensen, Nibley City Treasurer was also in attendance. Mayor Shaun Dustin and Councilmember Kathryn Beus were not present.

Approval of agenda; and approval of the February 27, 2020 meeting minutes

Mr. Nelson noted that that applicant for item 12 on the agenda had requested the City Council continue the item until the next City Council meeting agenda so that they had more time to address come of the concerns stated by the City Council at the 2.27.2020 City Council meeting.

Councilmember Larsen moved to approve the previous meeting minutes as well as the agenda as outlined, removing item 12. Councilmember Sweeten seconded the motion. The motion passed unanimously 4-0; with Councilmember Larsen, Councilmember Sweeten, Councilmember Bernhardt and Councilmember Laursen all in favor.

Public Comment Period

Mayor Pro Tem Bernhardt gave direction to the public present and opened the Public Comment Period at 6:33 p.m.

Kent Smith of 2316 South 1200 West emphatically implored the City Council reign in the R-PUD development. He said the R-PUD development was not controlled development and was not in keeping with the City's housing plan. He said the City Council would have never foreseen what the City was up against as a result of the ordinance. He had heard it said the ordinance was far from perfect and they were seeing how far off the mark it was. Mr. Smith noted data from Nibley City Moderate Income Housing plan and noted the 50% housing increase in the City. He said they would be turning their City into a city of townhomes. He discussed other statistics from the MIH plan. Mr. Smith said the current R-PUD was grossly skewed towards increasing MIH numbers and didn't need to be according to Nibley's housing plan. He thought the R-PUD ordinance was far off the mark for accomplishing Nibley City's goals for growth. Mr. Smith said he'd notice with R-PUD's they were defacto financial vehicles for Nibley City. He saw that everything was financially driven and they couldn't make decisions with dollar sign in their eyes. Mr.

Smith thought the R-PUD should balance the citizens, the City, and the developer's interests.

Michael Stokes of 3349 South 600 West said the development going in at the south end of 600 West that all the trucks from the development came south down 600 West from 3200 South, make a right turn on to 3300 South and then put in reverse and went backwards down the remainder of 600 West. He felt the kids that lived there were under a little bit higher risk with the way trucks and travel were bringing in dirt and using the road. He didn't believe this was part of the goal for that street.

Seeing no further public comment, Mayor Pro Tem Bernhardt closed the Public Comment Period at 6:41 p.m.

Mayor Pro Tem Bernhardt and Mr. Nelson discussed Mr. Stokes concerns. Mayor Pro Tem Bernhardt directed Mr. Nelson to follow through with Mr. Stokes.

Planning Commission Report

Commissioner Garrett Mansell was present for this report. Commissioner Mansell said the Planning Commission felt it would be appropriate to put a moratorium on the R-PUD. He didn't believe the ordinance would give them what they thought they would get from the beginning and the Planning Commission supported a moratorium. Commissioner Mansell said the Planning Commission had completed a workshop to address some of the changes they'd like to see in the R-PUD and Rural Preservation subdivision and would be holding a public hearing in April to address the changes. Commissioner Mansell said the Planning Commission felt overwhelmed with what was coming in; especially traffic and if traffic was being considered with all the other traffic that was coming in. Commissioner Mansell reported the Planning Commission had a public hearing for neighborhood commercial standards and zoning changes.

Councilmember Larsen asked Mr. Nelson to review the notification process the City followed. Mr. Nelson described the noticing that was done in accordance with Utah State law.

Commissioner Mansell said the Planning Commission would really like another Commissioner. Mayor Pro Tem Bernhardt directed Commissioner Mansell to stick around for item number 6.

Discussion and Consideration–Resolution 20-02: Appointment to the Nibley City Planning Commission and Appointments of the 2020 Planning Commission Chair and Vice-Chair

Mr. Nelson said the Planning Commission had been lacking a Planning Commissioner for just over a month. Mr. Nelson referenced Nibley City code 3.02.030, which gave the Mayor authority to appoint Commissioners and to recommend a Chair and Vice-Chair for the Planning Commission with approval from the City Council.

Mr. Nelson said Mayor Dustin had recommended appointing Karina Brown to serve as a Nibley City Planning Commissioner for the next five years. Her term would expire in five years in February. Mayor Dustin had also recommended Tyler Obray serve as Chairperson and Karina Brown serve as Vice-Chair. Mr. Nelson said Ms. Brown lived just outside of Nibley City boundaries; however, there was nothing in State or Nibley City code that required a commissioner to live within the city boundaries of the Planning Commission they were serving on. Mayor Dustin felt Ms. Brown's experience and background made her a good candidate even though she lived just outside City boundaries.

Ms. Brown introduced herself to the City Council. She said her family had lived in the county for the last eight years and had lived in Cache Valley for the last 10 years. She'd lived all over the country and saw the value in planning and zoning. She said she was honored to be considered for the position.

Mayor Pro Tem Bernhardt asked Ms. Brown how she felt she'd be able to represent Nibley citizens. She described that her children attended Nibley's schools. She worked and volunteered in the City and felt she was imbedded in the City. She was dedicated to the City and its residents.

Councilmember Larsen moved to approve Resolution 20-02: Appointment to the Nibley City Planning Commission and Appointments of the 2020 Planning Commission Chair and Vice-Chair. Councilmember Sweeten seconded the motion. The motion passed unanimously 4-0; with Councilmember Larsen, Councilmember Sweeten, Councilmember Bernhardt, and Councilmember Laursen all in favor.

Presentation & Workshop – Ordinance 20-08: Residential Planned Unit Development Moratorium

Mr. Nelson said the Planning Commission had talked about a moratorium but hadn't made a formal recommendation. The City Council had also talked about passing a moratorium on R-PUD. Mr. Nelson described what a moratorium would be. He said a moratorium could be enacted in order to halt development. Mr. Nelson described that last instance that Nibley had enacted a moratorium. A moratorium would prevent a future applicant to come in and apply for an PUD and gave the City time to update code. Mr. Nelson said each developer that had already applied for R-PUD had standing under current R-PUD code. Before a moratorium could be approved there needed to be a public hearing.

Mayor Pro Tem Bernhardt said he was a little frustrated with what was going on. He supported the moratorium and had suggested the consideration be put on an agenda. He still believed the R-PUD was a good thing but felt they could get better than what they had. He showed a spreadsheet that he wanted to address with the City Council.

Councilmember Laursen said he was also in favor of putting a moratorium in place and of fixing the ordinance.

Councilmember Sweeten asked that Mayor Pro Tem Bernhardt explain what he was interested in. Mayor Pro Tem Bernhardt said he'd like to see the density addressed with what was being traded in exchange. His spreadsheet tried to figure in the population density for a given area. He felt they gave the developer way to much credit for every single open strip they gave. Mayor Pro Tem Bernhardt said he intended to capture his thoughts in a Google Doc that he would share with Mr. Nelson so he could share them with the Planning Commission.

Councilmember Larsen said he felt they had asked for more variable lots sizes and he questioned the proportions of townhomes and felt they could identify what amenities where and what would qualify for an amenity. He liked the areas for R-PUD they had picked and said those areas had been picked for specific reasons.

Councilmember Laursen said his concerns were very similar. There seemed to be a responsibility of the City Council to negotiate amenities and felt there would be additional direction of what was City owned versus HOA owned. Councilmember Laursen, Councilmember Larsen and Mayor Pro Tem Bernhardt debated requiring specific, prescriptive amenities and making sure there were HOA and meaningful properties that fell within R-PUD properties.

Mr. Nelson said staff would plan on advertising for a public hearing at the next City Council meeting. The City Council indicated they approved of this action.

Presentation and Workshop–Ordinance 20-07: Residential Planned Unit Development Overlay Zone and Development Agreement for Nibley Meadows, located at approximately 1000 W and 3200 S. Proposing 340 units on 54.6 acres

Mr. Nelson presented the plat for the R-PUD and described the general location. Mr. Nelson said the Planning Commission had reviewed the overlay and had recommended approval of the ordinance. Mr. Nelson summarized how the overlay met Nibley R-PUD code. Mr. Nelson described density surrounding the proposed development. Mr. Nelson described utility services for the proposed development. He said the developer would have to build a sewer and water line that ran east to west on the south end of the property that would probably route around property owned by the Church of Jesus Christ of Latter-day Saints and connect to Nibley Farms. The applicant had already been required to upgrade the water and sewer lines in Nibley Farms to account for the potential increased density in that location and development to the south and east of the property. Mr. Nelson described canals and provided trail space along canals on the proposed property. Mr. Nelson reviewed proposed roadways included on the property. Mr. Nelson discussed the findings of the traffic study that was completed for the proposed development.

Mr. Nelson reviewed the suggestions made by the Planning Commission from the original application, during their recommendation: move the townhomes along 3200 back to about 40 ft. and that that different housing types be grouped together. Mr. Nelson reported that the Planning Commission gave a positive recommendation with a 3-1 vote. The negative vote was because of the increased traffic and impact to 10th West and to the Heritage Elementary school.

The applicant, Travis Taylor, was present at the meeting. He utilized a PowerPoint presentation entitled *Nibley Meadows* (a printed copy of this presentation is included in the printed meeting minutes). He discussed the following topics: Open Space with required open space and designed open space; Density including maximum R-PUD density, designed density, City amenities, and private amenities – HOA; City park improvements, impact fees and private contributions; Transportation; and Ability to Complete the Project.

Mr. Taylor and Mayor Pro Tem Bernhardt discussed HOA management. Mayor Pro Tem Bernhardt and Mr. Nelson discussed ownership of 1100 West. Mr. Nelson said Nibley's Transportation plan didn't anticipate using 11 West as a roadway put it was shown as trail space on the Nibley City Trails Master plan. Councilmember Sweeten asked if the development were built out, what Mr. Taylor anticipated the cost of housing to be? Mr. Taylor said he didn't have that answer. Councilmember Larsen said he was on the bubble about having townhomes border 3200 South despite the fact that the developer had provided a buffer. Mr. Nelson said the Planning Commission felt townhomes facing the street were better than have backyards facing the homes. He described that they also considered that higher density closer to arterial roadways helped the road capacity of traffic internally.

Public Hearing–Ordinance 20-07: Residential Planned Unit Development Overlay Zone Application for Nibley Meadows, located at approximately 1000 W and 3200 S.Proposing340 units on 54.6 acres

Mayor Pro Tem Bernhardt gave direction to the public present and opened the public hearing at 7:53 p.m.

Michael Stokes of 3349 South 600 West asked if there would be access to the front door of the townhomes along 3200, or if it would just be a façade.

Kent Smith of 2316 South 1200 West said he'd made note on the context of Nibley's Moderate Income Housing Plan and reviewed his note with the City Council. 2017 numbers would put them at 2,000 units housing inventory for Nibley; 272 townhomes added to 110 current townhomes for 382 (almost 20%). He said the goals were 7%. 2%, and 1% and illustrated the current R-PUD guidelines were ridiculously skewed. Mr. Smith discussed the developer's comment that "this was what the market was demanding" and he felt this was what was being provided by developers who were sticking with the highest profit margin product. Mr. Smith discussed the price level of

the homes, and he knew it was in flux, and some data should be known if it did accomplish the goal for different income groups.

Seeing no further public comment, Mayor Pro Tem Bernhardt closed the public hearing at 7:57 p.m.

Mr. Nelson said the developer was not providing parking on 3200; the parking would be located internally on the development. Councilmember Laursen questioned if a fence had been proposed in phase 1 along 3200 South. Mr. Taylor agreed there was a fence and Mr. Nelson said the fence would be 4 ft.

Presentation and Workshop–Preliminary Subdivision Plat for Nibley Meadows Residential Planned Unit Development, located at approximately 1000 W and 3200 S. Proposing 56 units on 6.33 acres

Mr. Nelson led this presentation. He said the phase included 56 units with private roads and rear loading garages. The fronts would front each other with garages in the back the there were a sufficient number of parking spaces proposed and the proposed parking actually was in excess of Nibley City code. Mr. Nelson presented the proposed road widths and park space proposed in phase 1. He said the property would connect to 3200 with traffic and utility lines.

Mr. Nelson said staff recommended the name of the plat be updated to the name of the application. The plat should be updated based on the recommendations from the Planning Commission and City Council; a 40 foot setback from 3200 South. The fire marshal had reviewed and suggested a second access for phase 1. The developer was proposing to provide a temporary emergency access to 3200 South, which was proposed for only emergency access for fire code. Mr. Nelson said the City would want to confirm the developer's plat to developer the full width of the right-of-way. Mr. Nelson said the application had legal standing under Nibley City current R-PUD code. Mr. Nelson said staff found that the plat met standards listed under the Nibley City Subdivision code and within the R-PUD code.

Mr. Nelson and Mayor Pro Tem Bernhardt discussed phasing of the overall project. Mayor Pro Tem Bernhardt guessed that they would see all of the townhomes built up first. Mr. Nelson described that utilities were provided in the first-phase area and would need to be built through going south. Mr. Taylor said the phasing was driven by the utilities and summarized their proposed phasing. He anticipated the phasing would be market driven.

Councilmember Laursen direct staff that he'd like to have an update on 1200 West and the timing of the roundabout, input from the Parks and Recreation committee, public works input on impact fees and now much would have to go towards staff to pay for a public park and take care of it, and the ability to complete with the addition of "years started" so they could see how long it took to complete some developments.

Councilmember Larsen said he was still concerned with townhomes on 3200 South. There was no transition between half-acre lots and then a transition to single-family. Mr. Taylor said they'd compromised with double buffer, landscaping, and a fence, which ended up being quite a transition. Councilmember Larsen argued that they would be going from 16 lots facing 3200 to possibly a quarter of that. He was all right if there were smaller lots along 3200 but not all hooked together.

Mayor Pro Tem Bernhardt said he was looking for a driving down in density from what they had. He thought they were getting beat up the most with density. He wanted to figure out a way to decrease the density and make the numbers work out more. Councilmember Laursen said he was not likely to approve anything until the moratorium was done.

Public Hearing–Preliminary Subdivision Plat for the Nibley Meadows Residential Planned Unit Development, located at approximately 1000 W and 3200 S. Proposing56 units on 6.33 acres

Mayor Pro Tem Bernhardt opened the public hearing at 8:18 p.m.

Brian Anderson of 780 West and 3200 South (the "freeway") said 3200 was a concern and he saw the 35 mph speed limit and would like to see the speed limit changed from 35 mph to 25 mph. He was concerned with safety for kids running back and forth to school. Mr. Anderson said it seemed difficult to understand how 3200 South would handle all the proposed development. He said it would be interesting to see how the traffic was looked at. He asked if they would have 5 or 6 of the major construction projects worked on at the same time. He wondered if 3200 would be widened and if this would take place at the same time as the construction. He had a hard time seeing townhomes facing 3200.

Seeing no further public comment, Mayor Pro Tem Bernhardt closed the public hearing at 8:22 p.m.

Mr. Nelson addressed Mr. Anderson's comments. He said the Nibley Transportation Master Plan didn't anticipate doing any widening on 3200 South. He said traffic would continue to be an arterial roadway but the completion of Nibley's Transportation network, as proposed, would mitigate a lot of traffic concerns for 3200 South. The City was not anticipating building out additional lanes. A three-lane facility was appropriate for the amount of traffic anticipated on the roadway. Councilmember Sweeten thought it was fair to say that during the process of getting to the final stage that certain roads would have a much heavier usage. Mr. Nelson said the biggest concern with most roadways were the intersections that connected on to the roadways. The biggest question was that the City approved intersections along arterial roadways so that traffic flow at intersections was appropriate and maintained a level C or higher.

Discussion & Consideration – Resolution 20-03: An Update to the Nibley City Water Master Plan

Mr. Maughan led this presentation. He discussed Nibley City's drinking water protections against COVID-19. Councilmember Bernhardt suggested the information be texted to Nibley's residents.

Mr. Maughan had a PowerPoint presentation entitled *Water Mater Plan Update* (a printed version of this presentation is included in the printed meeting minutes). His presentation included the following topics: current water/sewer staff, water usage statistics, legislative update 2020, key takeaways, water model, capital improvement plan, Utah division of water rights and statistics, 2016 –S.B. 28 water conservation pricing, conservation plan, and Yeates Spring discussion.

Mayor Pro Tem Bernhardt thought it would be important that the City Council did a blitz on PR if they were to adopt a new water rate; showing what they were currently paying versus what the proposed rate. He suggested an online calculator. Mr. Maughan said they wanted to ensure to incentivize conservation but not penalize. Councilmember Larsen asked if Mr. Maughan perceived additional equipment needs with the additional development coming up. Mr. Maughan said the biggest water costs were leaks and he didn't anticipate further equipment needs. Mr. Nelson said equipment needs were typically covered under the utility rate.

Mr. Maughan said staff's recommendation was that the Water Master Plan was ready for the City Council's approval and requested that they approve the plan.

Councilmember Bernhardt moved to approve Resolution 20-03: An Update to the Nibley City Water Master Plan. Councilmember Sweeten seconded the motion.

Mayor Pro Tem Bernhardt said he felt the education materials in the plan would be key. He wanted to ensure they had updated education materials.

The motion passed 4-0; with Councilmember Bernhardt, Councilmember Sweeten, Councilmember Larsen and Councilmember Laursen all in favor.

Discussion & Consideration–Ordinance 20-03: An Impact Fee Facilities Plan and Impact Fee Enactment for Wastewater

Mr. Maughan gave this presentation. He said the impact fee was to cover expansion of the new Logan wastewater plant and future use. Logan City would charge the impact fee to any new homes connecting to the system. Mr. Maughan felt the Mayor had come around to understand how the impact fee had been calculated. Mayor Dustin had said to pass the ordinance but he was not happy about it. Mayor Pro Tem Bernhardt and Ms. Jensen discussed if Nibley or Logan would collect the impact fee. Ms. Jensen said Nibley would prefer Logan collect the fee. She said Nibley's fee schedule would be presented to the City Council in the near future. Mayor Pro Tem Bernhardt wanted it made clear

that this fee would need to be paid at the time of application for a building permit. They discussed the possibility of requiring a receipt of payment before a building permit was issued.

Councilmember Larsen moved to approve Ordinance 20-03: An Impact Fee Facilities Plan and Impact Fee Enactment for Wastewater. Councilmember Sweeten seconded the motion.

Voting on the motion was as follows: Councilmember Bernhardt was in favor, Councilmember Larsen was in favor, Councilmember Sweeten was in favor, and Councilmember Laursen in favor.

The motion passed 4-0; with Councilmember Larsen, Councilmember Sweeten, Councilmember Bernhardt, and Councilmember Laursen all in favor.

Discussion & Consideration–Ordinance 20-02: Outdoor Lighting Standards

Mr. Nelson gave this presentation. Mr. Nelson reported that the main questions that where raised at the last City Council were putting in an for holiday lighting, a question about a buffer area, interior lighting that negatively impacted the community, and technical assistance from the City and the implication of financial assistance. Mr. Nelson described how these issues had been addressed in the proposed ordinance.

Councilmember Sweeten reminded the City Council that they'd discussed being motivational rather than punitive. She wondered if staff had any response to some of the suggestions made of enforcing the ordinance in an encouraging way. Mr. Nelson said the ordinance was set up to have new lights coming in to Nibley City be compliant. He suggested general policy, educational material, and encouragement could be brought forward in a Resolution. He said it was his opinion for the City Council to push a dark sky lighting campaign through a resolution or direction to staff. Mayor Pro Tem Bernhardt said he would love to see this happen. He wanted to encourage residents to think about their lighting and that now was the time to start doing this. He suggested a mailer and not just a Resolution. Councilmember Sweeten suggested education and encouragement could be tied into Nibley's Heritage Days celebration. Mr. Nelson said staff could put together a campaign and suggested a campaign to keep lights off during the month of June.

Councilmember Sweeten moved to approve Ordinance 20-02: Outdoor Lighting Standards. Councilmember Larsen seconded the motion.

Mayor Pro Tem Bernhardt said he liked where they were headed with the lighting. He hoped Mr. Nelson liked his new nighttime job. He questioned if they were overdoing with the ordinance. Mr. Nelson thought the ordinance would give the building inspector the power to require outdoor lighting. He discussed bigger building projects that the ordinance would mitigate the impact of their lighting.

Voting on the motion was as follows: Councilmember Bernhardt was in favor, Councilmember Larsen was in favor, Councilmember Sweeten was in favor, and Councilmember Laursen was in favor.

The motion passed unanimously 4-0; with Councilmember Sweeten, Councilmember Larsen, Councilmember Bernhardt, and Councilmember Laursen all in favor.

Councilmember Larsen moved to suspend the agenda in order to address the remaining agenda items. Councilmember Laursen seconded the motion. The motion passed unanimously 4-0; with Councilmember Larsen, Councilmember Laursen, Councilmember Bernhardt and Councilmember Sweeten all in favor.

Discussion & Consideration–Resolution 20-04: Interlocal Agreement Regarding Wastewater Services

Mr. Maughan led this presentation. He said the Resolution was to create an interlocal agreement regarding wastewater services. Historically, when then the new Logan plant had first been discussed, there had been discussion between Providence, Hyde Park, Hyrum, and Nibley about taking wastewater to Hyrum. Millville had recently been told by the State of Utah that they needed to solve the sewer system so Millville was interested in starting discussions again. They were not happy about the Logan impact fee and would like to investigate the option of going to Hyrum. They could get to Hyrum without Nibley but it would be much easier to go with Nibley. Mr. Maughan said the ordinance created an entity that would investigate the costs and what it would entail for Nibley and Millville to become co-owners of the Hyrum City plant and to ship their wastewater to Hyrum City to be treated. Mr. Maughan said it would be a six-member panel with 2 members from each Council. It would likely entail hiring an engineer to do a rate study and an appraisal and investigation.

Councilmember Sweeten asked if there were a timeframe listed in the agreement. Mr. Maughan reported the agreement was for three years.

Councilmember Laursen moved to approve Resolution 20-04: Interlocal Agreement Regarding Wastewater Services, for first reading. Councilmember Sweeten seconded the motion.

Mayor Pro Tem Bernhardt said he felt this was good to have. He had discussed this with his neighbor who was in charge of the Millville portion of the sewer. Mr. Maughan said it was completely feasible to send some of their wastewater to Hyrum, without Millville. Mr. Maughan was interested in doing a fair, detailed, accurate analysis.

The motion passed unanimously 4-0; with Councilmember Laursen, Councilmember Sweeten, Councilmember Bernhardt and Councilmember Larsen all in favor.

Council and Staff Reports

Mr. Maughan reported on the 12th west roundabout. He said they had the design for the roundabout ready to go but they were hung up at property acquisition. The crux of the issue was how much the property owners felt they were entitled to. He would be surprised if construction started in the fall and felt it would be the spring of 2021.

Mr. Maughan reported they'd also started the process to hire an engineer to design the remainder of 1200 West. They had issued an RFP and made an initial selection. Mr. Maughan felt this would be squeezed into the current budget and wouldn't be a budget modification. He said this would be brought back to the City Council for authorization to spend the money.

Mr. Nelson reported the Heritage Elementary school second graders had come to City Council that day. Councilmember Sweeten had run this meeting and he felt it had gone very successfully.

Mr. Nelson said with the coronavirus going around and the Governor's State of Emergency, discussions of holding spring recreation activities were taking place. Mayor Pro Tem Bernhardt asked about the decision making process. Mr. Nelson reported that Mr. Zook and Chad Wright were in discussions with the Utah League of Cities and Towns. Mayor Pro Tem Bernhardt felt parents should be given a heads up or communicated to that this was being taken into consideration.

Councilmember Laursen referred to an email sent out by the Utah League of Cities and Towns regarding COVIS-19.

Councilmember Laursen said he'd met with Superintendent Liechty and had confirmed the apartments in Logan City would be in Nibley's schools but the school district would collect the tax money.

Councilmember Laursen had encouraged his neighbors to reach out the City regarding water near the Gibbs property.

Councilmember Laursen told the City Council to cheer on his soccer team, the Fearless Fireflies.

Councilmember Sweeten reported that she'd had lot of fun with the Heritage Days 2nd graders. She reported on some of their thank you notes. She said it was fun to be involved with them.

Councilmember Sweeten reported on meeting with residents about the Ridgeline Park subdivision.

Councilmember Sweeten reported that she'd also met with Principal Rindlisbacher and Steve Norman and discussed the building of more schools.

Councilmember Larsen reported on the construction going on near his home. He felt the construction was happening responsibly.

Mr. Nelson, Councilmember Larsen and Mayor Pro Tem Bernhardt discussed a perceived conflict with the Millville/Nibley cemetery district and Millville City. Mr. Nelson reported that the City Council would most likely be seeing a request that annexations to Nibley City be required to also annex into the Millville/Nibley Cemetery District be included in Nibley's Annexation Policy plan.

Mayor Pro Tem Bernhardt encouraged Mr. Nelson the City Council to look at the R-PUD ordinance before it went before the Planning Commission and provide comments to Mr. Nelson so that he could share the Council's ideas with the Planning Commission.

There was general consent to adjourn the meeting at 10:09 p.m.

Attest: _____
Deputy City Recorder

Nibley:
City Council

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Entity: Nibley

Body: City Council

Subject: Resolutions

Notice Title: Nibley City Council Agenda March 12, 2020

Notice Type: Notice, Meeting

Event Start Date & Time: March 12, 2020 06:30 PM

Event End Date & Time: March 12, 2020 09:30 PM

Description/Agenda:

NIBLEY CITY COUNCIL MEETING AGENDA
Thursday, March 12, 2020 at 6:30 p.m.
Nibley City Hall 455 West 3200 South, Nibley, Utah

1. Selection of Mayor Pro Tem and Opening Ceremonies (Councilmember Larsen)
2. Call to Order and Roll Call (Chair)
3. Approval of the Previous Meeting Minutes and Current Agenda (Chair)
4. Public Comment Period (Chair)
5. Planning Commission Report

6. Discussion and Consideration - Resolution 20-02: Appointment to the Nibley City Planning Commission and Appointments of the 2020 Planning Commission Chair and Vice-Chair

7. Presentation & Workshop - Ordinance 20-08: Residential Planned Unit Development Moratorium

8. Presentation and Workshop - Ordinance 20-07: Residential Planned Unit Development Overlay Zone and Development Agreement for Nibley Meadows, located at approximately 1000 W and 3200 S. Proposing 340 units on 54.6 acres

9. Public Hearing - Ordinance 20-07: Residential Planned Unit Development Overlay Zone Application for Nibley Meadows, located at approximately 1000 W and 3200 S. Proposing 340 units on 54.6 acres

10. Presentation and Workshop - Preliminary Subdivision Plat for Nibley Meadows Residential Planned Unit Development, located at approximately 1000 W and 3200 S. Proposing 56 units on 6.33 acres

11. Public Hearing - Preliminary Subdivision Plat for the Nibley Meadows Residential Planned Unit Development, located at approximately 1000 W and 3200 S. Proposing 56 units on 6.33 acres

12. Discussion & Consideration - Ordinance 20-06: Residential Planned Unit Development

Meeting Location:

455 West 3200 South
Nibley , 84321

Map this!

Contact Information:

Cheryl Bodily
cheryl@nibleycity.com (435)752-0431

Download Attachments:

ccminutes3-12-2020D.pdf Meeting Minutes
Added: 2020/03/19 08:22 AM

Agenda & Packet 3-12-2020.pdf Public Information Handout
Added: 2020/03/11 01:55 PM

Audio File Address

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Overlay Zone and Development Agreement for Ridgeline Park, in the area north of 3200 S, West of Highway 165, and East of City Hall. Proposing 529 units on 76 acres (Second Reading)

13. Discussion & Consideration - Resolution 20-03: An Update to the Nibley City Water Master Plan

14. Discussion & Consideration - Ordinance 20-03: An Impact Fee Facilities Plan and Impact Fee Enactment for Wastewater

15. Discussion & Consideration - Ordinance 20-02: Outdoor Lighting Standards

16. Discussion & Consideration - Resolution 20-04: Interlocal Agreement Regarding Wastewater Services

17. Council and Staff Reports

Notice of Special Accommodations:

NOTICE OF SPECIAL ACCOMMODATION DURING PUBLIC MEETINGS In compliance with the Americans with Disabilities Act, individuals needing special accommodations (including auxiliary communicative aids and services) during this meeting should notify Cheryl Bodily at 435-752-0431.

Notice of Electronic or telephone participation:

NA

Other Information

This notice was posted on: March 11, 2020 01:57 PM
This notice was last edited on: March 19, 2020 08:34 AM

Board/Committee Contacts

Member	Email	Phone

NIBLEY CITY WATER MANAGEMENT AND CONSERVATION PLAN

MARCH 2020

PREPARED FOR:

NIBLEY
SETTLED 1855

PREPARED BY:

Jones & DeMille Engineering

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1. INTRODUCTION

The purpose of this Water Conservation Plan is to provide Nibley City a current view of water consumption, projected water demand, give recommendations for the next five years to help guide water conservation for the city and satisfy the requirements of the Utah Water Conservation Plan Act (73-10-32, UCA).

1.1. BACKGROUND INFORMATION

Nibley City is located in Cache County, Utah and has a population of approximately 7,800 according to the data reported by Nibley to the Division of Water rights. Nibley City's culinary water system serves all of Nibley City's residents. Nibley also has an average of 4.04 people per household.[1]

Currently Nibley City's Water Master Plan is being updated by Jones and DeMille Engineering and will be done by December 2019. The City will use the Master Plan as a guide for expanding and upgrading the culinary water system as the population increases.

1.2. DESCRIPTION OF NIBLEY CITY WATER SYSTEM

The City's culinary water system has three sources of water, 4000 South Well, Nelson Well, and the 640 West Well. These wells treat the water with chlorine as the water leaves the building and enters the system.

The City currently has three concrete storage tanks: 350,000-gallon tank, 1,000,000-gallon tank, and a 2,000,000-gallon tank for a combined storage capacity of 3,350,000 gallons.

The distribution system comprises of different size and material pipes, ranging from 6" to 18" and from PVC to steel pipe.

1.3. INVENTORY OF WATER RESOURCES

Nibley City's water rights currently are classified under the "Interim Cache Valley Ground-Water Management Plan" of Area 25 (Bear River/Cache Valley) created by the Utah Division of Water Rights (DWRi). This policy dictated the requirement for future water right applications, which Nibley City will need to do in the near future. Currently, Nibley City has sufficient water rights for its water system at the current population. Future water right acquisition will be necessary and can be obtained through several methods, including requiring developers to acquire water shares/rights to be transferred to Nibley, the formal application process, purchase of existing water rights/shares, or through filing change applications on Nibley City's existing water rights and diligence claims. A key aspect of the new policy in Area 25 is that compensation water is required for any new water right and some change applications. Because of this policy and its various interpretations that will change in time, the best practice will be to

[1] https://www.census.gov/quickfacts/fact/table/nibleycityutah/RHI825217

meet with DWRi's Regional Engineer of the Northern Regional Office at the time when future water rights are required. See Nibley Water Master Plan, September 2019 for further explanation. The approximate future needs are shown below in this document. One of the first change applications that needs to be filed is for WR 25-2167, which its source is Yeates Spring. This water right could be moved to a new or existing well to be utilized by the City for municipal water needs.

Table 1 - Inventory of Water Rights

WR No.	Owner	Flow (cfs)	Volume (AF)	Source	Use	Status	Application Status
25-2167	Nibley Town Incorporated	0.75	542.98	Yeates Spring	Municipal	Not in Use	
25-6680	Nibley Town Corporation	0.724	524.16	400 South Well	Municipal	In Use	
25-9078	Nibley Town Corporation	7	1,700	Nelson & 4000 S Wells	Municipal	In Use	
25-11236	Cache County Corporation & Nibley City	1.65	1,201	Wells (4) 4000 S, Nelson, 12th West, 640 West	Municipal	In Use	Approved
25-11105 a37687	Nibley City, a Utah Municipal Corporation		18	Wells (2)	Irrigation		Application
Total Water Rights		**10.124**	**3,986.14**				

In addition to available water rights, the amount of reliable water Nibley has access to is based on the reliable yield of the wells or "safe yield". The safe yield of the well is defined y Utah Admin Code R309-515-6 as "2/3 of the pumping rate used in the constant-rate test" of the well. The total reliable water Nibley has available is summarized in Table 2.

Table 2 - Inventory of Water Sources

Source	Reliable Yield* (gpm)	Reliable Yield (ac-ft/yr)
4000 South Well	2,200	3,548.62
Nelson Well	2,667	4,301.90
640 West Well	1,787	2,882.45
Total	**6,653**	**10,731.36**

1.4. WATER RATE SCHEDULE

Nibley City's water rate schedule is as follows:

Base Rate $10.50 per month

Usage Charge $.95 per 1,000 gallons

2. PRESENT AND FUTURE WATER USE

Water usage data for this report is based on the water usage data from the Division of Water Rights website as reported by Nibley City.

2.1. POPULATION PROJECTIONS

Growth projections were developed using historic Census data (1990-2010) and data reported by Nibley to the Division of Water Rights (2011-2018). To calculate the projected population, the future value formula was used, see Equation 1.

$$FP = CP \times (1 + r)^t \quad (1)$$

Where:
FP = Future Population
CP = Current Population
r = Annual Growth Rate (%)
t = Number of Years Between Current and Future Population

Nibley City has experienced significant growth in recent years. From 2000 to 2010 the population grew at an annual rate of 10% and then 3.87% annually from 2010 to 2018. Based on the more recent historical growth rate of 3.87%, future projections were made. In 2025 Nibley's population is projected to be approximately 10,000, and approximately 18,000 in 2040 (see Figure 1).

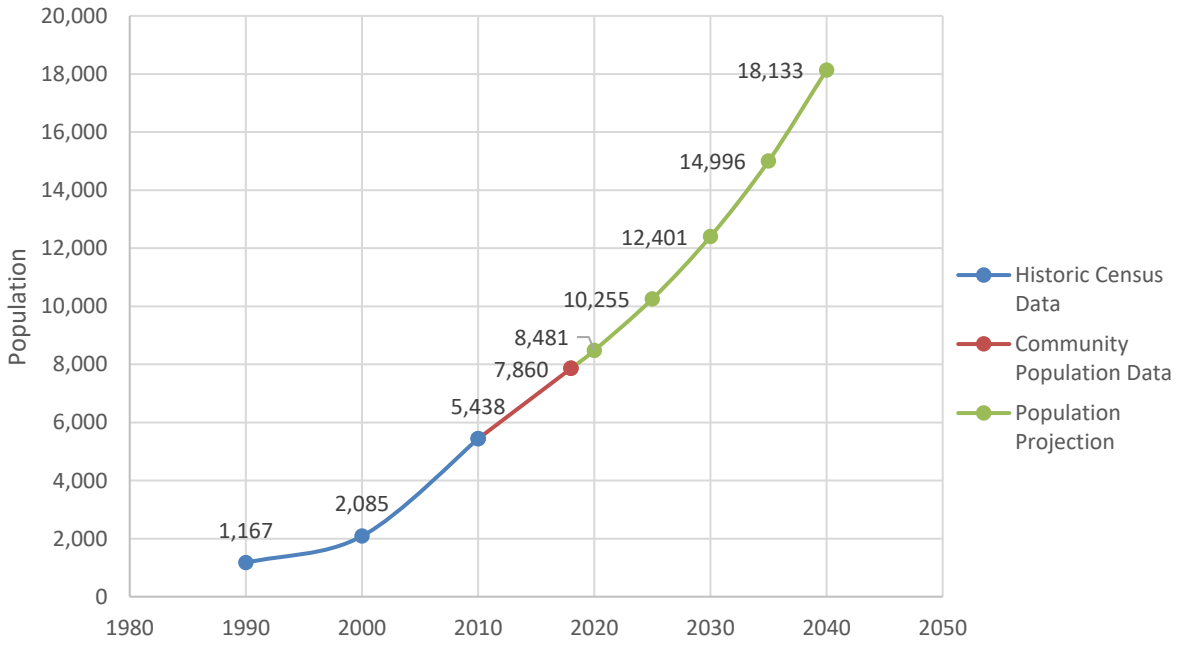


Figure 1 - Population Projections

3. CONNECTIONS

Nibley is mainly a residential community with some commercial and industrial connections. Water usage for these connections was based on the data reported to the Division of Water Rights by Nibley City for 2018. Because the water usage data doesn't differentiate the water between indoor and outdoor use and the majority of residents use culinary water for irrigating lawns, the calculation for converting connections to ERCs is straightforward and combines indoor and outdoor use. Typically, for planning purposes, ERCs are used to define the capacities of system components. Equations 2 and 3 show the conversion for connections to ERCs. A breakdown of connections and their ERC is shown in Table 3.

$$\text{Water Usage per ERC} = \frac{\text{Total Water Used by Residential Connections}}{\text{Number of Residential Connections}} \quad (2)$$

$$\text{Number of ERCs} = \frac{\text{Water Usage by Type of Connection}}{\text{Water Usage per ERC}} \quad (3)$$

Table 3 - 2018 Culinary Water Connections

2018	Connections	ERC
Residential	1,847	1,847
Commercial	19	65
Industrial	10	61
Institutional	48	146
Total Connections	**1,924**	**2,119**

3.1. ERC PROJECTIONS

To project future water demands, it was assumed that the system ERCs would grow at the same rate as the population (3.87%). This assumes that the residential, institutional, and commercial connections would grow proportionally. Figure 2 shows existing and projected number of ERCs through 2040.

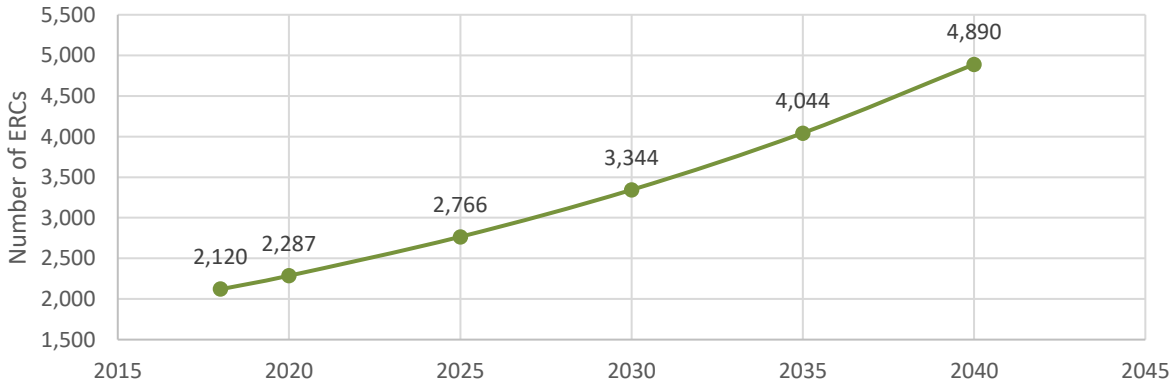


Figure 2 - Projected ERC Growth

3.2. PER CAPITA WATER USE

The per person (per capita) water use is calculated by divided the total water use by the population served. Figure 2.1 shows the per capita water use from 2000 to 2018. During this period, Nibley City's population has grown significantly.

Table 4 - Total Reported Water Use

Year	Population	Residential Use (ac-ft/yr)	Commercial Use (ac-ft/yr)	Industrial Use (ac-ft/yr)	Institutional Use (ac-ft/yr)	Total Use (ac-ft/yr)
2018	7,860	1,399.20	49.42	46.49	110.74	1,605.85
2017	7,450	1,350.49	30.87	41.43	96.33	1,519.12
2016	7,390	1,235.88	47.39	35.12	75.98	1,394.37
2015	7,060	1,242.42	36.84	45.29	75.77	1,400.32
2014	6,500	1,055.17	40.92	13.96	59.11	1,169.16
2013	6,500	1,150.29	18.22	29.25	101.42	1,299.18
2012	5,970	410.23	49.50	54.57	57.20	571.50
2011	6,000	968.36	15.88	4.98	83.96	1,073.18
2010	5,600	653.05	26.68	1.28	93.01	774.02
2005	3,500	597.48	0.22	5.01	45.78	648.49
2000	2,100	545.25	1.00	14.29	36.27	596.81

Per capita water use is calculated by converting the total annual water use to gallons per day and dividing by the population, see Figure 3.

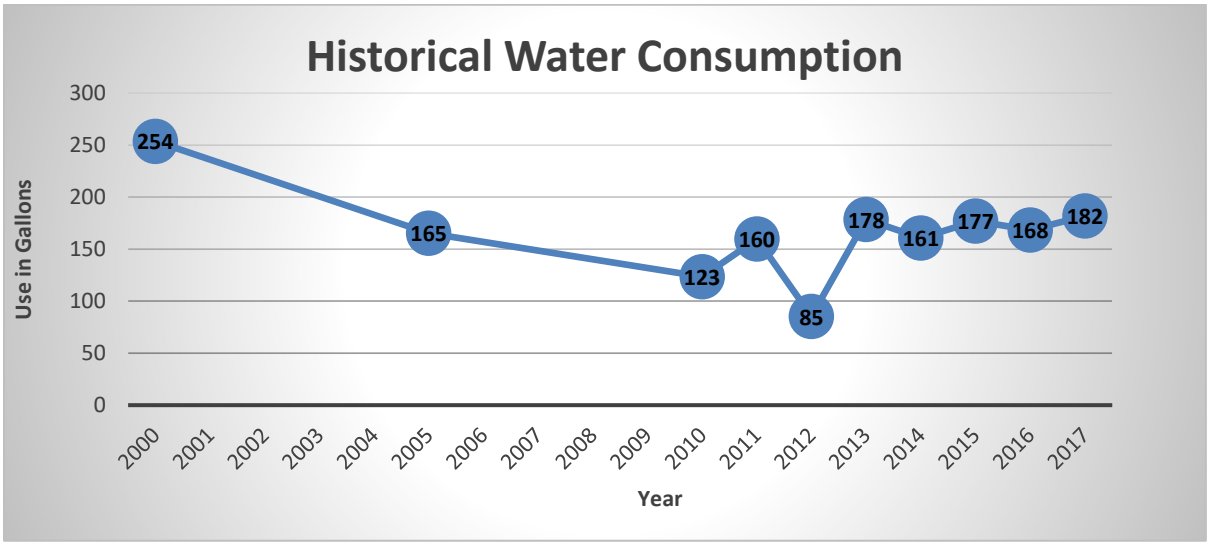


Figure 3 - Water Use per Capita per Day 2000-2018

Since 2000, the population has more than tripled while the average water use has declined by about 30%. In the last 10 years, the water use per person per day[2] has mainly stayed consistently around 160 gallons. Compared to the 2010 State average of 185 gpcd, Nibley residents consume 9 percent less water.

3.3. UNACCOUNTED WATER

To further understand the water use in the system, a simple water loss analysis was performed. The total use water was subtracted from the total water produced from the sources for each year. Table 5 shows the historical water loss for the system.

Table 5 - Unaccounted Water

Year	4000 S Well (ac-ft)	640 W Well (ac-ft)	Nelson Well (ac-ft)	Total Water Produced (ac-ft)	Unaccounted Water (ac-ft)	% UW
2018	515.9	1,014.7	724.4	2,255.0	649.15	28.8%
2017	558.7		1393.1	1,951.8	432.68	22.2%
2016	549.7		1323.8	1,873.5	479.13	25.6%
2015	406.8		1197.3	1,604.1	203.78	12.7%
2014	446.8		876.9	1,323.7	154.54	11.7%
2013	0			0.0	-1,299.18	
2012	0			0.0	-571.50	
2011	0			0.0	-1,073.18	
2010	0			0.0	-774.02	
2005	510		868.5	1,378.5	730.01	53.0%
2000	288.8			288.8	-308.01	-106.7%

There are some years where the unaccounted water data is most likely incorrect because the amount of source water produced is either missing or inaccurately reported. However, in recent years, the data appears to be more accurate and consistent. It should also be noted the amount of unaccounted water has risen, either from more accurate water reporting or aging infrastructure.

3.4. PROJECTED WATER DEMAND

To project the future water demand, the current usage rate, 160 gpcd was multiplied by the projected population. For comparison, a 15 percent conservation effort was also graphed for the same future projection period. A 15 percent conservation approximate to 136 gpcd, see Section 6 Water Conservation Recommendations and Goals for more explanation on conservation measures. Table 6 and *Note, Water Usage Rates are based on data reported to the Utah Division of Water Rights on the annual Water Use Form produced by the city.

[2] Based on data reported to the Utah Division of Water Rights on the Annual Water Use form submitted by the city.

contain information on projected water demand and supply with and without conservation efforts.

Table 6 - Projected Water Demand/Water Conservation

Year	Nibley City Pop.	No Conservation Efforts		10% Conservation by 2025 Usage Rates		Daily Amount Conserved (gal)	Annual Amount Conserved (gal)	Annual Amount Conserved (ac-ft)
		Usage Rates* (gal)	Daily Demand (gal)	Usage Rates (gpcd)	Daily Water Demand (gal)			
2018	7,860	160	1,257,600	160	1,257,600	0	0	0
2020	8,481	160	1,356,960	160	1,356,960	0	0	0
2025	10,255	160	1,640,800	144	1,476,720	164,080	59,889,200	184
2030	12,401	160	1,984,160	144	1,785,744	198,416	72,421,840	222
2035	14,996	160	2,399,360	144	2,159,424	239,936	87,576,640	269
2040	18,113	160	2,898,080	144	2,608,272	289,808	105,779,920	325

*Note, Water Usage Rates are based on data reported to the Utah Division of Water Rights on the annual Water Use Form produced by the city.

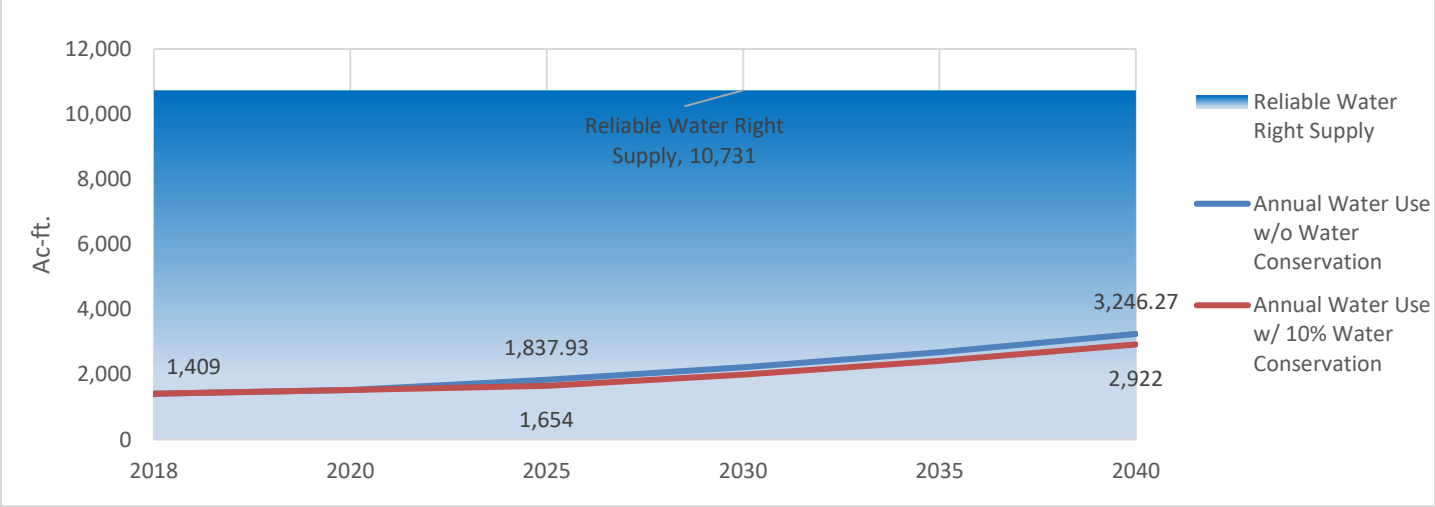


Figure 4 - Projected Water Use & Supply

With current water resources, Nibley City has enough reliable water sources to supply water until 2040.

4. CURRENT WATER CONSERVATION ACTIVITIES

The Utah Division of Water Resources has published a list of Best Management Practices (BMPs) for water providers to help promote Water Conservation, which are listed in Table 7. These BMPS help water providers in conservation practices.

Table 7 Utah DWRe BMPS

BMP 1	Comprehensive Water Conservation Plans
BMP 2	Universal Metering
BMP 3	Incentive Water Conservation Pricing
BMP 4	Water Conservation Ordinances
BMP 5	Water Conservation Coordinator
BMP 6	Public Information Program
BMP 7	System Water Audits, Leak Detection and Repair
BMP 8	Large Landscape Conservation Programs and Incentives
BMP 9	Water Survey Programs for Residential Customers
BMP 10	Plumbing Standards
BMP 11	School Education Programs
BMP 12	Conservation Programs for Commercial, Industrial and Institutional
BMP 13	Reclaimed Water Use
BMP 14	"Smart Controller" Technology

Nibley City has always taken an active role providing high quality drinking water to their residents. The following sections describe the current efforts Nibley is taking to achieve water conservation.

BMP 1 - Comprehensive Water Conservation Plans. Nibley is implementing this practice by submitting this water conservation plan.

BMP 2 - Universal Metering. Nibley has been metering all of its water users for the past 15+ years and currently uses smart meters to do so. Readings are taken monthly and information on water use, customer type, meter size and other relevant data are recorded. The meter system is also set up to detect abnormal water use, such as excessive or spikes in water use due to leaks, which allows the city to alert the water user of a potential leak. Nibley also has a maintenance and replacement program to replace meters as they age or break to maintain the integrity of the system and accuracy of water usage.

BMP 3 - Incentive Water Conservation Pricing. The city has set up a utility fee schedule for water and sewer services that are based on the meter size, and water usage. The base rate for water usage is based on the meter size with a water usage rate of $.95 for every 1,000 gallons of water used. The sewer base rate is $50 with tiered additional charges based on water usage.

BMP 4 - Water Conservation Ordinances. Currently Nibley has a "Waste of Water" Ordinance (15.02.170) to help promote water conservation and is outlined as follows,

"Prohibited Acts: It shall be unlawful for any water user to:

1. Waste water.

2. Allow it to be wasted by stops, taps, valves, leaky joints or pipes, or to allow tanks or watering troughs to leak or overflow.
3. Wastefully run water from hydrants, faucets or stops, or through basins, water closets, urinals, sinks or other apparatus.
4. Use the water for purposes other than for those which he has applied, or to use water in violation of the rules and regulations for controlling the water supply.

BMP 5 - Water Conservation Coordinator. The current Public Works Director, Justin Maughan leads these water conservation efforts. He can be reached at:

Nibley City Offices
455 West 3200 South
Nibley, Utah 84321
435 752-0431

BMP 10 - Plumbing Standards. Nibley has adopted the Utah plumbing code which is based on the 2015 International Plumbing Code. All new constructions are required to adhere to this code as well as constructions that require a building permit.

5. WATER CONSERVATION CHALLENGES

As with all water systems, the revenue generated by water deliveries goes to support water operators' salaries, system repairs and operations, and other budget items. The size of the water system determines the number of employees and materials needed to maintain and operate the system. Therefore, water conservation efforts can be put in place, but the amount of conservation should not place any financial burden on the system

6. WATER CONSERVATION RECOMMENDATIONS AND GOALS

The amount of water use per person per day is fairly conservative. Nibley City also has 20-25 percent unaccounted water, which is above AWWA's 15 percent standard. Based on the amount of unaccounted water, it would be beneficial for Nibley to consider some water conservation practices.

6.1. POTENTIAL WATER CONSERVATION PROGRAMS

The recommended water conservation of 10 percent is based on the amount of unaccounted water lost somewhere in the system. 10 percent conservation is an attainable goal for Nibley to achieve by 2025. Because this water conservation is based on reducing the water lost in the system, the revenue for the system should not be impacted because actual residential water use remains the same. With decreasing water lost in the system, costs to operate the system should decrease. In addition to current conservation goals, see Section 4, a few new programs are listed below that Nibley City plans to adopt and implement that will further reduce the amount of water lost.

6.1.1. BMP 3 – INCENTIVE WATER CONSERVATION PRICING

To reduce water consumption for the system, Nibley City may consider implementing a restructured water rate schedule. The base rate is applied for all water users but as water consumption increases, the cost increases. A restructuring of the water rate schedule may incentivize water users to reduce water consumption. An example water rate is provided, see Appendix B. As part of the current Master Plan being updated, a water rate study is being conducted and a graduated or tiered rate schedule is being recommended for adoption.

6.1.2. BMP 6 – PUBLIC INFORMATION PROGRAM

Nibley City may also increase water conservation education by reaching out to the public through classroom visits, information booths at the city office, or additional mailers. A very simple education program that is easily implemented is to educate water users to water their lawns during non-peak temperature times, typically 12 PM to 6 PM, and to turn off their systems during rainstorms. The information could be sent out in mailers with the monthly bill or by email.

Appendix A contains water conservation education provided by the state for water systems to send out. These items may also be downloaded at https://conservewater.utah.gov/materials.html.

6.1.3. BMP 7 – SYSTEM WATER AUDITS, LEAK DETECTION AND REPAIR

Water Loss Study. Nibley has a higher percentage of unaccounted for water in relation to AWWA 15 percent standard. It is recommended that Nibley. The first proposed water conservation program is to conduct a field water loss study to determine where the unaccounted water is being lost. This field study could be conducted by the city operators and include the following:

- include spot checking meter connections for water leaks
- checking pressure reducing valves, isolation valves, and other system connections for leaks

Conducting a water loss study is a cost-effective program to quickly determine leaks and potentially reduce unaccounted water.

Pipeline Replacement Program.

From the water loss study, a pipeline replacement program may be appropriate to reduce water loss. The percent and condition of pipe that need to be updated from the study may be estimate for the whole system. Steel pipes tend to be the most susceptible to corrosion or abrasion wear based on soil conditions and the bedding around the pipe. Gravels larger than ¾-inch to 1-inch tend to rub against steel pipes during water hammer events. Water hammer occurs in distributions systems when hydrants are opened or closed or when pipes are shut down for repairs or for new connections. For PVC pipes a common source of leaks come from pipes that are not properly connected, i.e. the rubber gaskets rolled or not in contact with the adjacent pipe.

If leaks are detected, then an ongoing program may be implemented to replace water pipes based on their condition or age.

7. IMPLEMENTING AND UPDATING THE WATER CONSERVATION PLAN

This Water Conservation Plan will be adopted by the Nibley City Council, who will have the responsibility to coordinate and carry out the water conservation program measures. A copy of the ordinance for the water conservation plan is attached as Appendix C.

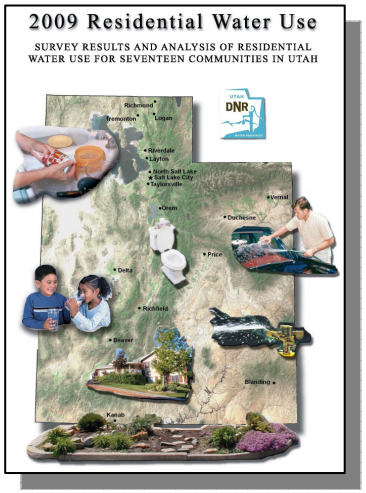
The water conservation plan will be revised and updated as required to meet changing conditions and needs. This plan will also be updated and resubmitted to the Utah Division of Water Resources in January of 2020, as required by legislative House Bill 153.

APPENDIX A. EXAMPLE WATER CONSERVATION EDUCATION MAILERS

Facts about Residential Water Use

- Indoor residential water use is now 60 gallons per capita per day (gpcd), 15% lower than in 2001
- Residents in homes built after 1992 use 5 gpcd less indoors than pre 1992 homes
- Residents in homes that have greater than 3,000 square feet of floor space used 13.6 gpcd more indoors than homes with less than 1,000 square feet
- Income does not affect indoor water use
- Evaporative coolers use about 28 gpd during summer months (6 gpcd on an annually basis)
- Residents using automatic sprinklers for their landscapes over water by about 30%
- Residents using a hose and sprinklers attachment under water by approximately 17%

For More Information Visit:
www.water.utah.gov



A detailed report on residential water use has been prepared by the DWRe and is on the web at: www.water.utah.gov

Utah Division of Water Resources

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UTAH DNR WATER RESOURCES

For more information on water conservation visit us on the web at www.conservewater.utah.gov or www.slowtheflow.org

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Water Issues Education Series

2009 Residential Water Use

SURVEY RESULTS AND ANALYSIS OF RESIDENTIAL WATER USE FOR SEVENTEEN COMMUNITIES IN UTAH

SLOW THE FLOW SAVE H2O

CONSERVE EDUCATE conservewater.utah.gov watereducation.utah.gov

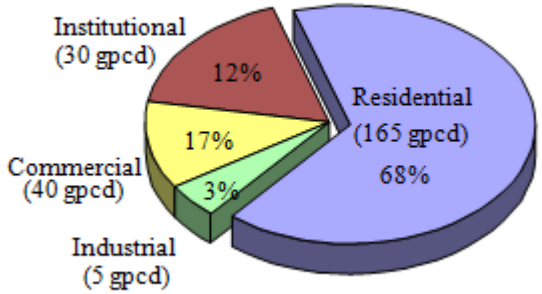
www.conservewater.utah.gov

Residential Water Use

Water Use in Utah

Water is used for several different purposes in Utah The majority (71%) of Utah's municipal and industrial (M&I) water is used by residential consumers. Water use data is reported in gallons per capita per day (gpcd).

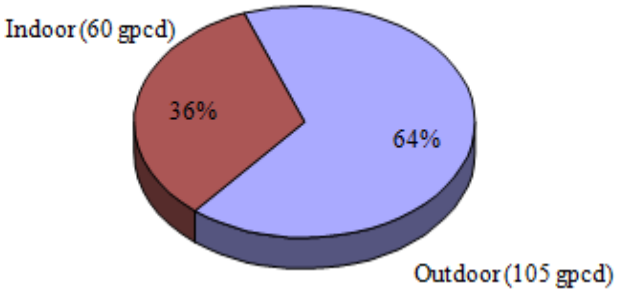
Public Community System Water Use



Indoor Water Use vs. Outdoor Water Use

Even though Utahns are constantly using water indoors every day throughout the year, the majority of residential water use occurs outdoors (about 68%). This is due to the nature of water use and its relation to the climate of Utah. A typical landscape in Utah requires almost 24 inches of supplemental water above the normal summertime precipitation.

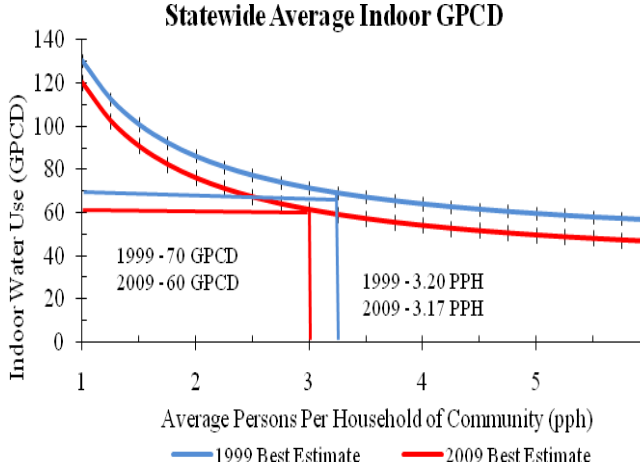
Residential Water Use



Residential Water Use Studies

Identifying residential water use and how it can be reduced has been a topic of national interest for several decades. In 1993 the U.S. Geological Survey (USGS) performed a national study to understand how much water is being used inside an average residential dwelling. Six years later the American Water Works Association (AWWA) performed a more encompassing study quantifying average use both indoor and outdoor. The Utah Division of Water Resources (DWRe) performed a similar study within Utah two years later in 2001. This same analysis was recently redone by the DWRe. The following table shows the indoor water use results in each of the studies.

Studies	Indoor GPCD
USGS 1993 (National)	81
AWWA 1999 (National)	69
DWRe 2001 (Utah)	68
DWRe 2010 (Utah)	62



Indoor Water Use

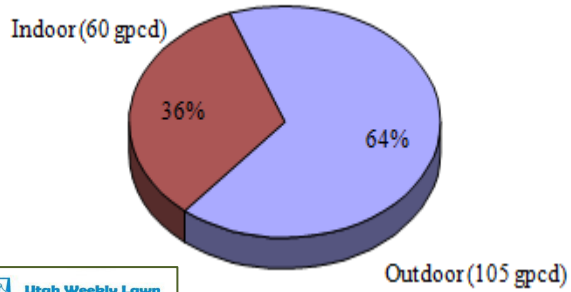
The two DWRe Utah based studies were used to calculate a statewide indoor per capita water use. In 2001, the statewide indoor residential water use was 70 gpcd. In 2009, the statewide indoor residential water use decreased approximately by 15% to 60gpcd. The above figure shows that as pph increase gpcd decreases. Both studies found a similar relationship. This can be attributed to the phenomenon of a household with more people becoming more efficient by doing full loads of dishes in their dishwashers and full loads of clothing in their washing machines. Naturally, total indoor water use will be higher for large households. However, indoor per capita use is lower.

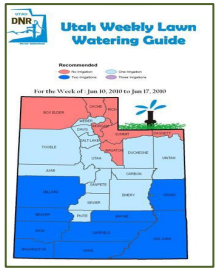
General Water Information

Outdoor Watering

The DWRe has focused water conservation efforts primarily on residential water use with an emphasis on outdoor landscapes because this category has the greatest potential for water conservation. With 64% of the residential water being used outdoors, Utahns can conserve millions of gallons water annually if they water more efficiently. One of these ways is to use a smart controller that allows homeowners a more efficient way to water using only what the plants actually need.

Residential (165 gpcd)





Based on 2010 per capita data

Check the Lawn Watering Guide

The DWRe already provides a statewide network of weather stations for Utahns to use. The weather stations track ET and tell Utahns in a given region how many times they should water during the week. If you don't yet have a smart controller installed, visit the Lawn Watering Guide online at: ***www.conservewater.utah.gov*** to see how many times you should water each week.

General Lawn Watering Tips:

- Stop thinking of "watering your lawn" and start thinking of "refilling the soil moisture reservoir" under your lawn.
- Remember, water less often, but water more deeply! This will provide healthy roots and save water.
- Water in cycles so water will have time to penetrate the soil and reach the root zone.
- Make sure your sprinklers are only watering landscaped areas, not sidewalks, driveways, porches or streets.
- Make sure you apply the right amount of water each time you water, then check the weekly lawn watering guide online at ***www.conservewater.utah.gov*** to find out how many times to water each week.

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CONSERVE EDUCATE conservewater.utah.gov watereducation.utah.gov

UTAH DNR WATER RESOURCES

Save Water Automatically!

Install a Smart Controller on Your Sprinkler System

SLOW THE FLOW SAVE H_2O

www.slowtheflow.org
www.conservewater.utah.gov

How Does a Smart Controller Work?

Smart Controllers Water to Evapotranspiration (ET)

ET is defined as the amount of water a plant and its environment loses from evaporation and transpiration. Simply put, transpiration is water the plant uses to grow and survive, and evaporation is water lost from the surrounding soil. The factors that affect ET, are temperature, wind, precipitation, humidity and solar radiation. ET is usually expressed in inches of water over a certain time period; commonly, a day, week, month or year. The Division of Water Resources' (DWRe) main emphasis in water conservation education is for residents to water to the ET requirements of their landscapes as efficiently as possible. Smart controllers can assist residents in accomplishing this. Smart controllers can reduce outdoor water consumption by an average of 15% to 30%!

Smart Controllers Automatically Adjust Sprinkler Schedule

Once a smart controller is properly installed, the controller will automatically regulate your sprinkler system. This means that you will no longer have to adjust your sprinkler times and duration for seasonal changes and will still have a healthy beautiful lawn! Watering plants with the correct amount of water that is required by the plant, is the healthiest way to grow plants.

Smart Controllers Use Weather Stations or Soil Moisture Sensors

Some smart controllers use weather data and local sensors to manage the property's sprinklers. These types of controllers receive data from either sensors and/or weather stations and then turn the sprinklers on or off based on these weather conditions. These controllers can also turn the sprinklers off in the event of rain, high winds or low temperatures.

Other smart controllers use soil moisture probes that measure how much water is in the soil. As you water your landscape, imagine that there is a reservoir of water under the ground and you are filling it up. The soil moisture probe will measure how full that reservoir is. Once the reservoir level drops below a certain level the probe will turn the sprinklers on and re-fill the soil storage reservoir. These types of smart controllers can also turn off sprinklers during rain events.

Smart Controllers Help Save and Maintain Healthy Landscapes

Plants only require a certain amount of water to maintain health. Too much water, can actually damage your grass. Overwatering promotes fungal growth and insect activity. A smart controller can eliminate over watering.

Smart Controllers Cost

Smart controllers can cost anywhere from $100 to several thousand dollars, seeming to be an expensive investment. However, when you consider what you are saving in both monthly water charges and water, a smart controller can have a fairly fast payback time frame.

Companies that Make Smart Controllers

- Acclima
- Accurate Weather Set
- Accuwater
- Alex-tronics
- Aqua Conserve
- Baseline
- Calsense
- Dynamax
- ET Water Systems
- Hunter
- Hydropoint-Weather Trak
- HydroEarth
- Irrisoft-Weather Reach
- Irritrol
- Irrometer
- Rain Bird
- Rain Master Irrigation System
- Signature Controls
- Toro
- WCS Hydrosaver
- Water 2 Save
- Weather Set
- Weathermatic

DWRe does not endorse any product.

Remember if we each save a little we'll all save a lot!

See www.slowtheflow.org for more water wise landscaping tips.

WE **teach** THEM THE VALUE OF
HONESTY, HARD WORK AND PRIDE.
WE NEED TO ADD **water conservation**
TO THAT LIST.

SLOW THE FLOW
SAVE H_2O

Governor's Water Conservation Team

Outdoor Water Conservation Tips

The DWRe has focused their water conservation efforts primarily on residential water use with an emphasis on outdoor landscapes because this category has the greatest potential for water conservation. The amount of water that should be applied to plants and a lawn is determined by the evapotranspiration (Et) for a given region and plant types. Et is defined as the amount of water a plant and its environment loses from evaporation and transpiration. The factors that affect Et are temperature, wind, humidity, solar radiation, and precipitation. The DWRe has found that Utahns are applying about 30% more water on our landscapes than the Et requirement. **The most important factor in watering more efficiently is utilizing water wise landscape principles. This does not mean you have to have a desert landscape! Water wise landscape principles incorporate thoughtful landscape concepts with appropriate plant selection, maintenance and irrigation.**

SIMPLE STEPS FOR A HEALTHIER LAWN AND TO SAVE WATER:

- Raise the height of your lawn mower to 3".
- Add more days between irrigations.
- Don't water during the hottest part of the day.
- Check and repair any sprinkler heads that are leaking or are tilting to the side.
- When watering, break up the zone times by "cycling" your sprinkler system.
- Add a pressure reducer to your sprinkler system.
- Add a "Smart Controller Timer" to your sprinkler system

One thought:
If you are only "using" your lawn areas of your landscape when you walk over it with the mower, you could probably put other plantings there that use less water.
For example,

1) Grass Park Strips use a lot of water but get little use. Consider replacing it with water wise plants.
2) Consider adding more enjoyable patio space to reduce grass areas.

TIPS FOR A WATER-WISE LANDSCAPE

- **Analyze Your Soil**. Using a soil probe or shovel, analyze the type of soil you have in your landscape. Determining your soil type will help you make informed decisions as to appropriate plants for your yard.
- **Plan It Before You Plant It**. Be sure you are familiar with your landscape's many attributes. For instance, note which areas get more or less shade, which areas have reflected heat from the patio or house, and any other features you may encounter.
- **Use Grass Wisely**. Take into consideration the different activities that will go on in your yard. A good rule of thumb is *"If the only time you walk on it is to mow it, you probably don't need it"*.
- **Water Wisely**. Group plants according to their water needs. This will help you avoid over-watering some plants and under-watering others. Putting shrubs and perennials on separate sprinkler zones from your lawn will help avoid severe damage to your plants due to excess water. Use drip systems to water bushes, perennial flower and garden areas, where appropriate.

- **Just Mulch It**. Using mulches to reduce evaporation from the soil also helps prevent weeds from growing in areas where water is needed for ornamental plants.
- **Keep It Up**. While using these principles helps reduce maintenance time, it does not completely eliminate it. Use of good preventive maintenance will reduce the need for costly and time-consuming maintenance later on.
- **Use Appropriate Plants**. Different plants have different requirements for optimum health. To use water more efficiently, choose plants that do not require much water, and are adapted to our arid climate.

Did you know that every time you eliminate one irrigation of a 1/4 acre lot - you can save about 3,000 gallons of water! In some areas that's a savings of about $5.00 every time you water!

VISIT A LOCAL WATER-WISE DEMONSTRATION GARDEN:

There are many water-wise demonstration gardens located throughout the state. In addition to seeing how beautiful and maintenance free these types of landscapes can be, most of the sponsoring agencies offer free classes on how to conserve water indoors and outdoors. Also, Utah State University Extension offers classes at ***www.extension.usu.edu.***

- **Central Utah Gardens**
  355 West University Parkway
  Orem, UT 84057
- **The Garden**
  1851 Dixie Drive at Tonaquint Park
  St. George, UT 84771
- **The Greater Avenues Water Conservation Demonstration Garden**
  11th Avenue Terrace Hills Drive
  Salt Lake City, UT 84115
- **Jordan Valley Water Conservation Garden Park**
  8215 South 1300 West
  West Jordan, Utah 84088
- **Sego Lily Gardens**
  1472 East Sego Lily Drive (10200 South)
  Sandy, UT 84070
- **Utah Botanical Center Home**
  725 Sego Lily Drive
  Kaysville, UT 84037
- **Weber Basin's Water Conservation Learning Garden**
  2837 East Highway 193
  Layton, UT 84040

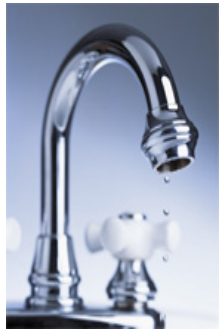
LAUNDRY:

Washing your clothes is a necessity. However, keep in mind that laundry uses 22% of all water used in your home. In order to maximize the efficiency of your laundry, only do full loads!

LAUNDRY CONSERVATION TIPS:

- Ask yourself, "Does this really need washing?"
- Update old washing machines with a newer Energy Star ® water-efficient machine, they use approximately 20 gallons less per load than a typical older models and save energy as well. Don't forget to check with Questar® Gas about rebates.

LEAKS:



You may not see them, but leaks can be a significant portion of your indoor water use within your home. On average, leaks make up about 14% of all indoor water use. If you have leaks, fixing them is a great way to save water, indoors!

How Much Water Does It Take?	
Activity	Gallons
Brush Teeth	1.0 – 2.5
Flush Toilet	1.28 – 7.0
Automatic Dishwasher	15 – 60
Wash Car	100
Bath	15 – 70
Washing Machine	30
Shower (per minute)	2.5 – 6.0
Leaking Faucet (per day)	10
1 day use (indoor per person)	60
Watering Lawn (1/4 acre lot)	3,000

LEAK DETECTION TIPS:

- Test to see if you have any leaks in your house by performing these tasks:
  1. Turn off all water-using devices.
  2. Find your water meter (ask your water provider), remove the lid to see the dial.
  3. If the dial is moving then you either have a leak or a water-using device is still active.
  4. If it is a leak, fix the leak.
  5. If you can't find the leak contact a professional to perform a more detailed investigation.
- Check for leaks in the most common places, toilets (flappers get old and wear out), faucets (cartridges need periodic replacement) and under sinks (water supply lines sometimes leak).

Indoor Water Conservation Tips

KITCHEN:

The average household uses about 11% of its total indoor water in the kitchen. Water is used in the kitchen in a variety of ways: washing dishes (in a dishwasher and by hand), and for general cooking and cleaning purposes. By carefully planning your activities, you can reduce water used in the kitchen significantly!

Children can learn about using water wisely at ***www.watereducation.utah.gov***

KITCHEN CONSERVATION TIPS:

- Make sure when you wash dishes you are doing full loads, this saves energy and water.
- Keep a gallon of water in the refrigerator for drinking water.
- Identify activities you could perform without the water running, for instance, filling the sink with a little bit of water to wash vegetables is much more efficient than letting the faucet run.
- Consider buying a new Energy Star ® dishwasher that uses less water and energy than older models.

BATHROOM:

You use more water in the bathroom than in all of the other rooms combined! This is where you shower, shave, wash hands, brush teeth and flush the toilet. There are many things you can do to save water in the bathroom.

BATHROOM CONSERVATION TIPS:

- Turn the water off while you brush your teeth.
- Fill the basin to rinse your razor when you shave.
- Take shorter showers, this saves water and energy.
- Install faucet aerators, they can reduce output from 2.5 gallons per minute (gpm) to 1.5 gpm.
- Install Low-Flow showerheads, they can reduce output from 5 gpm to 2.5 gpm and also saves energy.
- Upgrade your existing toilet to an Ultra-Low Flush Watersense® toilet, reducing water use down to 1.28 gallons per flush (gpf), older models use 3.5 gpf.
- Check with your local water provider about rebates.

FREE WATER CHECKS:

A Water Check analyzes the performance of your automated sprinkler system. It is offered for free June through August. A trained representative will come to your house and will test the soil type, grass root depth, sprinkler distribution uniformity and water pressure. They will provide a customized watering schedule and tips on how to improve your sprinkler system. The free Water Check takes about an hour and will save you a lot of water over the watering season. The Water Check program is sponsored by the Jordan Valley Water Conservancy District, Central Utah Water Conservancy District, Washington County Water Conservancy District, Sandy City, Murray City, Salt Lake City, Metropolitan Water District of Salt Lake and Sandy, Central Iron County Water Conservancy District, USU Extension and the DWRe.

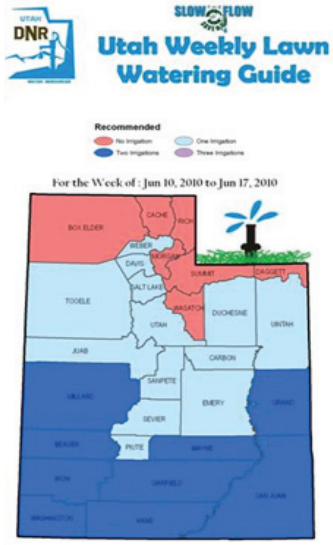
You can set an appointment for your free water check by signing up online at **www.slowtheflow.org/watercheck** or by calling **1-877-728-3420**

SLOW THE FLOW SAVE H2O

UtahState UNIVERSITY extension

LAWN WATERING GUIDE:

The DWRe has created a water conservation webpage that helps citizens save water It also serves as valuable resources for water agencies. One of the newest DWRe website features is a weekly lawn watering guide that assists residents in determining how many times they need to water their landscapes. The guide is updated every Thursday during the growing season and is based on a statewide network of weather stations that monitor ET. The DWRe presents the information in a user friendly lawn watering guide that is separated by counties. Using the color code water users can see if they need to water their lawn once, twice, three times or not at all during the week. This weekly guide is available on ***www.conservewater.utah.gov*** as well as on DWRe.s Facebook® page and Twitter® feeds.



The Lawn Watering Guide featured on the web page informs residents throughout the state how many times they should water in a given week.

WATER-WISE PLANT TAGS:

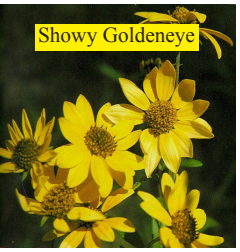
The DWRe, in cooperation with USU Extension, Bureau of Reclamation, and various water providers, have developed a water-wise plant tagging program to promote the use of native and other well-adapted plants in Utah landscapes. Look for the tagged plants the next time you shop for plants. These water-wise plants will help you save water. Remember to group plants together with similar water needs and adjust sprinklers to provide only the required amount of water for those plants. You can check out these plants before you buy them at ***www. waterwiseplants.utah.gov.***

Look for the Yellow Tags!

They indicate Water Wise Plants!

www.waterwiseplants.utah.gov

Water-Wise Plant Tag identifies a plant that is either native to Utah or well adapted to Utah's climate.


Showy Goldeneye

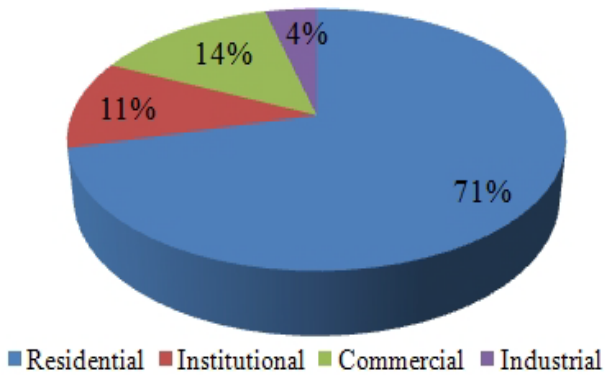

Russian Sage


Firecracker Penstemon

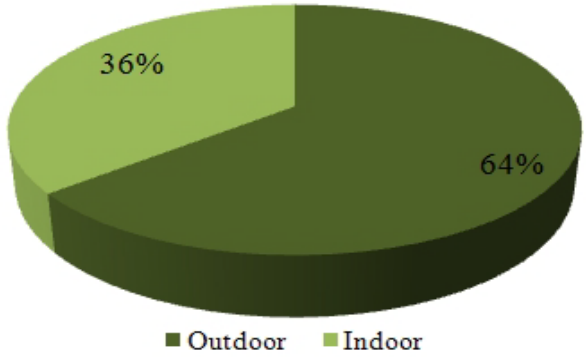
How do We Use Water in Utah?

Utahn's are becoming more aware of the need to conserve water. Even with this awareness, Utah continues to be one of the top water users in the nation. In the first chart, water use is shown by category. As the chart shows, we use most of our water in and around our homes (about 185 gpcd). The next chart shows the residential water use divided between indoors and outdoors. Most of our water use, nearly (2/3), is used to irrigate our landscapes. This is mainly due to climactic conditions and Utahns' water use habits. Therefore, the most potential Utah has to reduce overall water use is in efficient outdoor water use habits. Of course, if the 25% reduction goal is to be reached, indoor water use will also have to be reduced. The last chart shows a breakdown of our indoor water use. Utah's indoor water use (about 60 gpcd) is approximately the same as the rest of the nation. As can be seen, the majority of our indoor water use occurs in the bathroom.

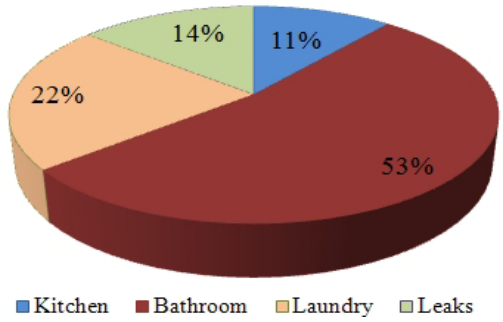
Utah's Total Public Water Use (260 gpcd)



Utah's Residential Water Use (185 gpcd)



Utah's Residential Indoor Water Use (60 gpcd)

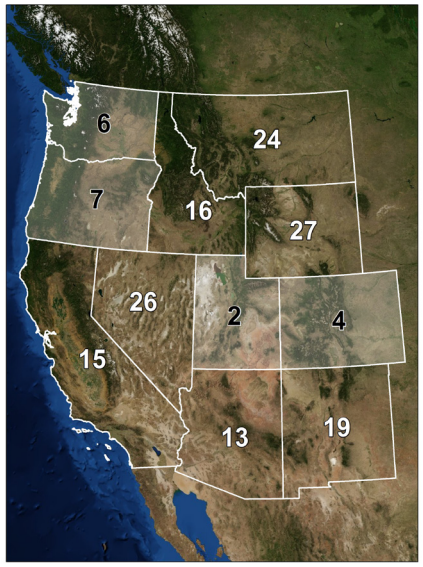


Highest Water Users in the Nation	
State	**gpcd (2005)**
Nevada	280
Utah	**260**
Hawaii	205
Arizonia	197
California	193

Source: USGS 2005 Estimated Use of Water in the United States of public water systems.

Why We Need to Conserve Water?

Utah is one of the three fastest growing states in the nation. From 2000 to 2010, Utah's population increased by more than 500,000 people to about 2.8 million. At this rate, Utah is adding another city about the size of Salt Lake City every three years. According to the Governor's Office of Planning and Budget, Utah's rapid growth will continue, with the population more than doubling to 6.8 million by 2060. Because of this rapid growth there will be an increase in demand of all natural resources, especially water. The Utah Division of Water Resources (DWRe) plans to meet future water demands by using several strategies. The most cost effective of these strategies is water conservation. The state has a goal to reduce per capita water use by at least 25% by the year 2025. This would reduce our per person water use (gpcd) to a more sustainable 220 gpcd. It would save over 500,000 acre-feet (ac-ft) every year. That is almost enough water to fill Jordanelle and Deer Creek reservoirs!



Note: Population growth ranking are estimated from 2000-2010.

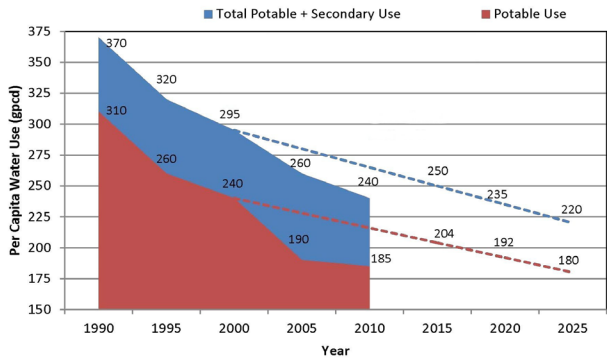
Utah's Water Conservation Goal: 25% reduction in Municipal & Industrial water usage by 2025 to a more sustainable 220 gpcd

Reasons to Conserve Water

- **Limited water supply in Utah.**
- **Help meet future water demands.**
- **Postpone large water projects from having to be constructed.**
- **Delay expensive capital investments to upgrade or expand existing water facilities.**
- **Improve water levels in reservoirs.**
- **Conserve energy as less water needs to be treated, pumped and distributed to the consumer.**
- **Reduce sewage flows, delaying the need for more wastewater treatment facilities.**
- **Lessen the leaching of chemicals and sediments into streams and aquifers.**
- **A more sustainable way of life, balancing human needs with that of the natural environment.**

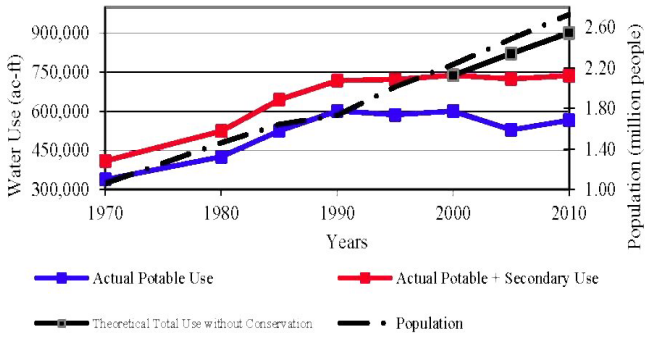
Utah's Water Conservation Progress Thus Far

Utahns are on their way to reducing their water use by at least 25 percent. The DWRe conducts a statewide water use study every 5 years. The latest 2010 study, indicates that water use statewide is at 240 gpcd. This is about a 18 percent reduction from the year 2000 (295 gpcd) water use. The data shows that the state is ahead of the projected reduction trend line.



However, a lot of work still need to be done in order to reach our statewide goal! Prior to 1990, water use steadily increased with the state's population. However, efforts by the DWRe, the state's major public water suppliers, the creation of the "Slow the Flow: Save H2O" campaign and the push for Utah residents to conserve water, total M&I water use no longer increases as the population grows. If Utah's residents still consumed the same amount of water as they did in 2000, public water system deliveries would be about 162,000 ac-ft/yr more than the actual current amount of about 738,000 ac-ft/yr. This amount of water is greater than the capacity of Pineview Reservoir, (110,000 ac-ft) near Ogden. Utahns have responded well to the water conservation efforts. However, more needs to be done to reach the State's 25% reduction goal!

Total Utah Public Community System Water Use



SLOW THE FLOW SAVE H2O

Please try and do your part: "Slow the Flow: Save H_2O."

Remember "If we each save a little we all save a lot!"

For more information on water conservation visit these water conservation websites:

www.water.utah.gov
www.conservewater.utah.gov
www.slowtheflow.org
www.waterwiseplants.utah.gov
www.watereducation.utah.gov

Utah Division of Water Resources
1594 West North Temple
Salt Lake City, Utah 84116
Phone: 801-538-7230
Fax: 801-538-7279

SLOW THE FLOW SAVE H_2O

UTAH DNR NATURAL RESOURCES

UTAH DNR WATER RESOURCES

Your Guide to Water Conservation in Utah

SLOW THE FLOW SAVE H_2O





CONSERVE EDUCATE
conservewater.utah.gov
watereducation.utah.gov

UTAH DNR WATER RESOURCES

www.SlowTheFlow.org
www.ConserveWater.utah.gov

Remember, if we each save a little, we'll all save a lot.

More Information

To locate some water-wise landscape examples near you, and to find out more ways you can help Slow The Flow, visit **www.conservewater.utah.gov.**

SLOW THE FLOW SAVE H2O

Sponsored by the Governor's Water Conservation Team

WATER MAY NOT SEEM LIKE
a big deal. UNTIL YOU
TRY **living without** IT.

To look around Utah, most would never guess that it is actually the second-driest state in the nation – averaging only 13 inches of water each year. Working together and practicing easy conservation techniques, such as water-wise landscaping, is a huge step toward ensuring we have enough water for now and into the future.

WATER-WISE LANDSCAPING

Water-wise landscaping dramatically decreases water usage while allowing you to maintain a beautiful, lush landscape. It employs a host of ideas that conserve water, reduce maintenance and save money.

Water-wise landscaping doesn't mean drab, colorless, lifeless yards, but it does mean the application of these important principles:

Planning & Designs that are environmentally sound, financially feasible and aesthetically pleasing. Because lawns consume a lot of water, choose a landscape that limits the lawn size and beautifies the yard.

Soil Amendments that improve the soil and provide beneficial nutrients.

Appropriate Plant Selection using low-water use plants as much as possible. Group plants together that have similar water demands.

Efficient Irrigation that lessens water use and saves money. Apply water in the proper amount and only when necessary. Cycle your irrigation into two or three installments to avoid run-off. Group plants by water need.

Use Of Mulch reduces weeding, evaporation and slows erosion. Mulch with 2 to 3 inches of materials such as compost, ground bark, gravel or stone.

Appropriate Maintenance to repair hoses and irrigation leaks, and adjust your timers according to the season. Maintenance needs of a carefully planned water-wise landscape should decrease over time as plantings mature.

HERE IN UTAH water IS A precious commodity.

Monthly Lawn Watering Guide

SLOW THE FLOW SAVE H2O

ADDITIONAL WATER-SAVING TIPS

Cycle Your Irrigation

Cycle your watering schedule by breaking your total watering time into two or three installments, allowing an hour between waterings to let the water soak in. The more clay in your soil means more frequent and shorter cycles for your lawn.

Water By Zone

If your lawn and plants are watered by different sprinkler zones, you will be able to save water by watering them appropriately. Shrubs, flowers and other decorative plants require 25 to 50 percent less water than lawn. If possible, water these zones a few minutes longer than the lawn but half as frequently.

More Information

To locate some water-wise landscape examples near you, and to find out more ways you can help Slow The Flow, visit **www.conservewater.utah.gov**.

Remember, if we each save a little, we'll all save a lot.

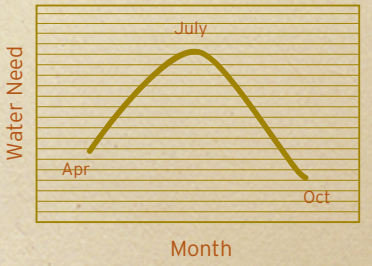
SLOW THE FLOW SAVE H2O

Sponsored by the Governor's Water Conservation Team

WE need TO MAKE every drop COUNT.

A typical Utah lawn has a water demand curve that begins in mid-April, rises to a peak in July, and then falls rapidly until mid-October. Adjusting your timer monthly to better follow this demand curve will save you water and money. An easy way to do this is keep the minutes constant and increase or decrease the number of days between watering.

Typical Lawn Water Demand Curve



MONTHLY WATERING GUIDE

These watering schedules are based on average conditions. If you already water less and are satisfied with how your lawn looks, don't increase your watering time. Instead, try decreasing your time. Turn down the minutes until you begin to see stress on your lawn, then turn it back up a bit and leave it. As you fine-tune your schedule you will save even more water and money.

If the recommended watering schedule does not seem to be enough water for your lawn, please check your system for inefficiencies and maintenance issues before increasing your run times. Watering a whole lawn to green-up just a few brown spots is an inefficient use of water.

Month	Northern Utah*	Southern Utah**
Mar.	No irrigation recommended	27 min. every 7 days
Apr.	No irrigation recommended	27 min. every 5 days
May	21 min. every 4 days	27 min. every 4 days
June	21 min. every 3 days	27 min. every 3 days
July	21 min. every 3 days	27 min. every 3 days
Aug.	21 min. every 3 days	27 min. every 3 days
Sep.	21 min. every 6 days	27 min. every 5 days
Oct.	21 min. every 10 days	27 min. every 7 days
Nov.	No irrigation recommended	27 min. every 10 days
Dec.	No irrigation recommended	No irrigation recommended

Please remember that these schedules are only recommendations. Each landscape has its own characteristics that affect its watering requirements.

The times have been calculated based on average application rates for spray heads. Times should be doubled for rotary heads.

* It is recommended to apply 1/2 inch per irrigation.
** It is recommended to apply 5/8 inch per irrigation.

Salt Lake City Ordinance regulates what can be planted in park strips in order to protect public safety, provide access for utilities, and maintain an aesthetic standard for our community. The rules are pretty simple, and for more information, visit our web site at www.slcsaveh20.com. By following the guidelines, you can make our streets beautiful and help ensure the safety of kids and pedestrians.

- 33 percent of the space must contain plants. Of course, you can plant more!
- Groundcovers and continuous planting should be no more than 18 inches tall.
- Individual plants used as accents or specimens may be 36 inches tall, as long as they don't block site lines from the roadway or driveway.
- The use of concrete or mortar is prohibited in park strips that are wider than 24 inches or have existing trees.
- Plants with thorns or barbs are prohibited.

Additional Plants

Arabis caucasia Rockcress Sun 4-9" high x 12" wide Spring bloom	*Helianthemum nummularium* Rockrose Sun to part shade 6" high x 18" wide Late spring bloom
Aubrieta deltoides False Rockcress Sun 4-9" high x 12" wide Spring bloom	*Lavandula x intermedia* Hyb. Lavender Sun 30" high x 24" wide Summer bloom
Juniperus ssp. Juniper Sun 8-24" high x 3-8" wide Evergreen	*Rhus aromatica* 'Gro-low' Gro-low Sumac Sun to shade 2' high x 5' wide Fall color
Dianthus ssp. Cottage Pinks Sun 6-12" high x 8-24" wide Early summer bloom	*Santolina ssp.* Lavender Cotton Sun 18" high x 36" wide Summer
Veronica liwanensis Turkish Speedwell Sun to part shade 2" high x 18" wide Early summer	*Zauschneria arizonica* Hummingbird Trumpet Sun 3' high x 2' wide Late summer

Salt Lake City
Department of Public Utilities

1530 SOUTH WEST TEMPLE
SALT LAKE CITY UTAH 84115
801.483.6700
WWW.SLCSAVEH2O.COM

Salt Lake City
Department of Public Utilities

FROM Zero TO Xeriscape

A GUIDE TO
PLANTING PARK STRIPS

Create a beautiful, water-wise park strip.

It's the garden space we love to hate—the park strip—that little strip of soil between the sidewalk and the street. Too hot, too full of tree roots, too narrow, and worst of all, too hard to water efficiently.

Creating a space for people to walk through makes a space more inviting and protects your plants from foot traffic.

But with just a little planting know-how and following some common-sense guidelines, this space can be transformed into a water-wise oasis of color and texture.

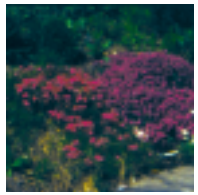
Perennials for the Park Strip

Cerastium tomentosum
Snow-in-Summer
Sun
4" high x 20" wide
Spring bloom

Thymus ssp.
Thyme
Sun
3" high x 24" wide
Early summer bloom

Antennaria rosea
Pink Pussytoes
Sun to part shade
2" high x 15" wide
Early summer

Bergenia cordifolia
Heartleaf Pig-squeak
Part to full shade
12" high x 18" wide
Early spring bloom



Phlox subulata
Moss Phlox
Sun
4" high x 24" wide
Spring bloom

Lavandula angustifolia
English Lavender
Sun
15-24" high x 15-24" wide
Summer bloom

Coreopsis grandiflora
Perennial Tickseed
Sun to part shade
12-24" high x 18-24" wide
Spring bloom

Festuca ovina glauca
Dwarf Blue Fescue
Sun to part shade
8-24" high x 20" wide
Evergreen

Anacyclus dupressus
Mt. Atlas Daisy
Sun
4" high x 12" wide
Early summer bloom

Corydalis lutea
Golden Corydalis
Part to full shade
12" high x 12" wide
Spring bloom

Sedum spectibilis
'Autumn Joy'
Autumn Joy Sedum
Sun
18" high x 24" wide
Fall

Geranium ssp.
Cranesbill
Sun to part shade
18-24" high x 24" wide
Spring bloom

PHOTOS: STEPHANIE DUER

1. Measure the site.

The square footage is determined by multiplying the strip depth by its length.

2. Determine site needs.

Is the park strip in sun or shade; for how long; and for what time of day? Knowing this will help in selecting the right plants for the space.

3. Make a plan.

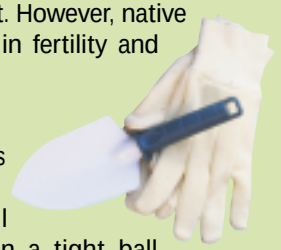
City ordinance requires that 33 percent of a park strip contains plants, but the calculation is based on expected size after a three-year establishment period.

4. Select the plants.

Pick plants that are appropriate for your site: ones that won't be too tall, too wide, get the right sun, and not need a lot of water.

5. Prepare the soil.

Many plants need soil rich in organic material, and you can provide it by digging in compost before you plant. However, native plants want soil low in fertility and quick draining.



6. Plant!

After removing plants from their containers, rough up the root ball so the roots aren't in a tight ball. Place plants so that the top of the root ball is above the existing grade by one inch (this ensures good drainage).

7. Water.

Even water-wise plants need time to establish. Use a screwdriver inserted into the soil near the root ball to determine if the plants need water. If the screwdriver goes in easily, the roots have enough water.

8. Mulch.

To keep the soil moist and cool and to reduce weeds, place 3 to 4 inches of compost, bark, or fine gravel over the strip, taking care to not bury the plants or the water meter.

APPENDIX B. SAMPLE WATER RATE ORDINANCE

Water Rates Ordinance

_____ City
A Municipal Corporation

ORDINANCE NO._____

AN ORDINANCE AMENDING PROVISION OF THE _____ CITY MUNICIPAL CODE PERTAINING TO THE SERVICE RATES FOR THE CULINARY WATER SYSTEM.

Section 1. Preamble

A. WHEREAS, [the City] operates a culinary water system; and

B. WHEREAS, the city council understands that current water rates are not sufficient for present and future increases in costs of providing water to residents; and

C. WHEREAS, the city council desires to amend the provision of the _____ city municipal code pertaining the fee for culinary water service; and

D. WHEREAS, the city council understands the pressing need to use water in a more efficient manner to allow for future sustained growth of the community;

Section 2. Ordaining Clause

NOW, THEREFORE, IT IS ORDAINED BY THE CITY COUNCIL OF _____ CITY, UTAH:

Section ___ Subsection ____ of the _____ City Municipal Code is hereby repealed and reenacted to read as follows:

Section 3. Culinary Water Rates

The City Manager or his / her designee shall read meters monthly. Each account will be assessed a monthly fee using a daily rate as set forth below. Water service charges shall be collected monthly for each water connection. Service charges will be composed of the following parts:

A. A basic daily service charge, based upon the size of the meter connection calculated to cover major fixed costs associated with paying debt service, salaries, and other costs of operating and maintaining the water system, which do not vary with the amount of water delivered, is set according to the following schedule:

Meter Size	Daily Service Charge ($)	Monthly Service Charge ($)
.75	.33	9.90
1.0	.83	24.90
1.5	1.16	34.80
2.0	1.66	49.80
3.0	4.98	149.40
4.0	10.62	318.60

(Numbers used in this table are hypothetical and are used only to illustrate one methodology)

B. A charge for all water delivered through the meter, calculated to cover the variable costs of operating and maintaining the water system, which do vary according to the amount of water delivered, is set according to the following schedule:

OPTION 1: INCREASING BLOCK RATE STRUCTURE

(Numbers used in this table are hypothetical and are used only to illustrate one methodology)

Gallons Used	Monthly Service Charge ($)	Metered Water Rate ($ / Kgal)
0 – 4,200	9.90	1.00
4,201 – 19,200	9.90	1.50
19,201 – 28,200	9.90	2.00
28,201 – 33,000	9.90	2.50
33,001 – 39,000	9.90	3.00
39,001 – 49,000	9.90	3.50
Over 49,000	9.90	4.00

OPTION 2: SEASONAL BLOCK RATE STRUCTURE

(Numbers used in this table are hypothetical and are used only to illustrate one methodology)

Monthly Service Charge ($)	Metered Water Rate ($ / Kgal)	
	Oct - May	Jun - Sep
9.90	1.00	1.50

OPTION 3: ASCENDING BLOCK RATE STRUCTURE

(Numbers used in this table are hypothetical and are used only to illustrate one methodology)

Tier Name	Usage (% of Target)	Metered Water Rate ($ / Kgal)
Low-Volume	0 – 50%	.75
Conservation	51 – 100%	1.00
Inefficient	101 – 150%	2.00
Excessive	151 – 200%	4.00
Wasteful	Over 200%	8.00

Each customer has a water budget or target, which is based on:

- Lot size
- Number of occupants
- Daily evapotranspiration, totaled for the billing period, as measured at the nearest weather station

APPENDIX C. RESOLUTION BY NIBLEY CITY ADOPTING THE 2020 WATER CONSERVATION PLAN

The Water Conservation Plan was incorporated into the latest Water Master Plan (2019), which was adopted by Nibley City on March 12, 2020, thereby also adopting the Water Conservation Plan by association.

RESOLUTION 20-03

A RESOLUTION ADOPTING A NEW NIBLEY CITY WATER MASTER PLAN

WHEREAS, Utah law allows municipalities to create and plan for local infrstruture and utiltiy needs; and

WHEREAS, Nibley City has established a culinary water system for its residents; and

WHEREAS, large areas of land around Nibley City are unincorporated and will likely develop in the future; and

WHEREAS, Nibley City anticipates population growth and greater demand placed on Nibley City's water system; and

WHEREAS, Nibley City wishes to update the Water Master Plan to plan for future growth within Nibley City.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF NIBLEY CITY, STATE OF UTAH, AS FOLLOWS:

1. That the attached Water Master Plan is adopted by the Nibley City Council.

Dated this 12 day of March, 2020

Tom Bernhardt, Mayor Pro Tem

ATTEST

David Zook, City Recorder