

**UNITED WATER DELAWARE**  
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June 15, 2015

Mr. John Barndt  
 Water Supply Program Manager  
 DNREC  
 Division of Water Resources  
 89 Kings Highway  
 Dover, DE 19901

Dear Mr. Barndt,

Enclosed are United Water Delaware's Certification of Supply and Consumer Water Conservation Plan for filling year 2015. The table below demonstrates past, present and future available supplies. As is shown below, UWDE is prepared to meet projected demands of 20.8 mgd as set by the Water Supply Coordinating Council.

**United Water Delaware Sources of Supply Table**

	MGD Available Summer 2012	MGD Available Summer 2015	MGD Available Summer 2018
Stanton WTP	20.60	20.60	20.60
Christlana WTP	3.25	3.25	3.25
City of Wilmington Interconnections	7.53	7.53	7.53
CWA Interconnection	0.24	0.24	0.24
UW Bethel Interconnection	0.71	0.78	0.78
ASR	1.00	1.00	1.00
<b>Total</b>	<b>33.33</b>	<b>33.40</b>	<b>33.40</b>

United Water Delaware's Supply Certification filed with the Public Service Commission for July 1, 2006 and 2009 provided details regarding the Company's facilities as well as supporting evidence of reliable quantities of supply from various sources. Updates regarding United Water Delaware's Sources of Supply shown in the above table are described herein.

Stanton Water Treatment Plant

There are no changes to availability of supply from the Stanton Water Treatment plant which was previously certified at 20.6 mgd.

Hoopes Reservoir

Hoopes Reservoir releases are included in the Stanton Plant's certified supply rating of 20.6 mgd.

Christiana Water Treatment Plant

There are no changes to the availability of supply from the Christiana Water Treatment Plant which was previously certified at 3.25 mgd.

Aquifer Storage Recovery Well 1 (ASR-1)

The well is designed for storage and recovery of 75 mgd at a rate of 1 mgd over a 75 day period. Recharge cycles from November through June are to store 75 mg which would provide 1 mgd recovery during July, August and September. For summer 2015 and beyond UWDE is on plan to store and recover 1 mgd as designed.

Artesian Water Interconnections - There are no changes to the status of interconnections with Artesian Water. Since there is no standing agreement for the use of interconnections with Artesian Water, they continue to be left out of the supply certification.

Chester Water Authority (CWA) at Post Road Interconnection - There are no changes in the status or terms of the interconnection agreement with the CWA for Post Road. This interconnection was previously certified at 0.24 mgd.

United Water Bethel (UW Bethel) Interconnection - There are no changes to the status or terms of the agreement with UW Bethel at the State Line Location. At this interconnection UWDE purchases excess water from UW Bethel which has been supplied to UW Bethel by the CWA at UW Bethel's Smithbridge Interconnection. Using the same approach as in the 2009 and 2012 certifications, historical drought month supply (July through September) for the past 4 years is plotted and a straight-line trend is applied. Per the attached graph, the projected quantity available from this interconnection by the same methodology shows an increasing available supply with .98 mgd in August 2015. As in the past a 20% reduction factor is applied because the water is originating from the CWA which has, during past droughts, requested a 20% reduction. After this reduction, the projected available supply from the Bethel interconnection is 0.78 mgd.

City of Wilmington Interconnections - There are no changes in the status or terms of the interconnection agreements with the City of Wilmington.

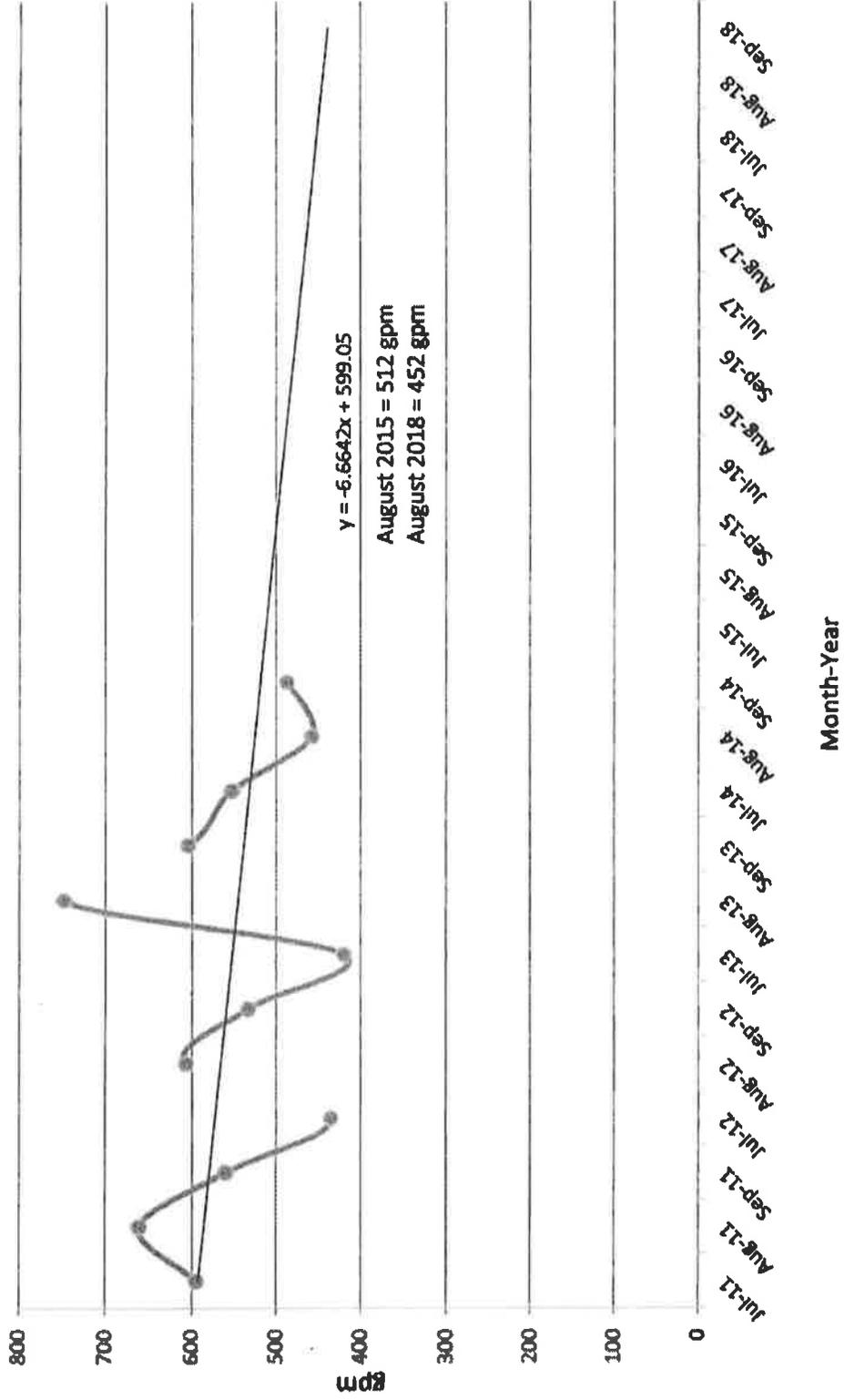
Sincerely,



Larry Finnicum  
Director of Operations

Enc. (3)

# UWDE/UWBethel State Line Interconnection



UNITED WATER DELAWARE

CERTIFICATION OF WATER SUPPLY SELF-SUFFICIENCY

I, David Stanton, do hereby certify that, to the best of my knowledge and by the documentation provided with this report, United Water Delaware has sufficient sources of water supply available to meet projected demands through drought of record in northern New Castle County through the year 2018.



David Stanton  
President – Regulated Business

5/27/15

Date



Larry Finnicum  
Operations Manager

5/29/15

Date



Nancy J. Fox, P.E.  
Director of Engineering

5/29/15

Date



**UNITED WATER DELAWARE**  
*Consumer Water Conservation Plan*  
**2015-2018**

**July 1, 2015**



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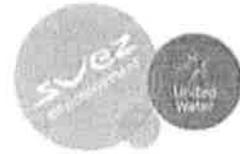
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## **INTRODUCTION**

Conservation is a focal point at United Water Delaware (UWDE). The UWDE website, online Conservation Guide, the annual ET Index lawn watering conservation education program, Rain Garden, EPA WaterSense partnership, conservation education billing inserts, plant tours, conservation messaging on door hangers, information dissemination through public event attendance, and residential conservation rate structure are some of the ways that United Water currently promotes conservation awareness in the communities that it serves.

This Consumer Water Conservation Plan (CWCP) will describe the current practices in our organization which include measures that have been taken to continue and enhance consumer awareness of, and encourage our customers' participation in, water conservation practices and behaviors. The summary below highlights the programs, services, and practices undertaken by United Water Delaware.

Water Conservation Rates

Conservation Guide

Annual *Use Water Wisely* bill insert

ET Index Lawn Watering Conservation Education Program

Rain Garden and Conservation landscape Design at UWDE Office

Public Awareness and Communication

Water Treatment Plant tours

Water Services - Field Service and Home Services

System Leak Detection

Some of the programs and services currently at United Water Delaware have been in place for a number of years; others are fulfillments of commitments made in previous Consumer Water Conservation Plans, while others reach beyond either category.

As we stated in our 2012-2015 CWCP, our focus is to lead by example, raise awareness of conservation, consistently deliver conservation communications, and remain a leader and strong contributing asset to the conservation community.

The 2015-2018 Plan continues to consist of these measures and efforts. Conservation must be a part of our everyday routine. Over the years, United Water Delaware has developed a good foundation in promoting conservation. Communication is a crucial piece of any successful plan. Our goal, as a water



utility is, and has been, to turn awareness into participation, information into practice, and move from the reactive to the proactive.

### **WATER CONSERVATION RATES**

Water conservation rates have been in effect at United Water Delaware since January 1, 2005, in accordance with Delaware law. Since then, residential customers have been billed using an inclining block rate.

The residential rate structure in place today more vigorously promotes conservation by increasing the unit price (per thousand gallons) of water as usage increases. Therefore, the more consumption by a customer, the more costly the charge will be. The inclining block conservation rate implemented in 2005 was designed to promote the monetary value of conservation and to be revenue neutral for United Water Delaware.

The following table illustrates UWDE's rates that became effective at the time of this filing. The percentage increase in rates between the rate steps provides a serious financial incentive approach to conservation promotion, as the cost of the water increases dramatically as customers use more. This level of increasing difference in the price per thousand gallons between rate steps encourages conservation as customers who conserve water and reduce their usage will, in turn, save more money.

#### **Current Monthly Residential Conservation Rate Step Comparison**

<u>Consumption</u>	<u>Rates</u>	<u>% of Difference</u>
0 – 2,000	\$3.3819	
2,001 – 7,000	\$4.0880	+21%
Over 7,000	\$5.7286	+40%

United Water Delaware has experienced reductions in per household water usage that are in line with percentage reductions reported basin-wide by the Delaware River Basin Commission.



### ***LEAK DETECTION TABLETS***

As part of United Water Delaware's efforts to provide customers with water conservation solutions, our staff attends special events and offers leak detection tablets to the public. Placing useful water conservation tools into the hands of customers allows them to proactively practice water saving behavior.

## **PUBLIC AWARENESS AND COMMUNICATION**

### ***CONSERVATION GUIDE***

Water is our most precious natural resource and United Water Delaware provides important information on wise water use to thousands of area residents with our Conservation Guide. This informative tabloid style publication, which United Water developed, contains articles, information, contacts and tips on how we all can best use water wisely.

Having gone paperless to conserve natural resources, our online United Water Conservation Guide raises conservation awareness, informing and reminding residents of the myriad methods by which they can get involved in saving water. Our ET Index lawn watering conservation education program, native plant species use and other water wise measures are among the measures promoted in the Guide.

### ***BILL INSERTS***

Recognizing the cost effectiveness of the billing envelope as a delivery method, United Water Delaware continues to provide billing inserts with conservation topics to customers. Our summer water-wisely insert provides indoor and outdoor water saving information, instructs customers on the financial and energy saving nature of water conservation as well as its potential reduction in greenhouse gas emissions. In addition, United Water bill inserts educate and inform customers on techniques and actions they can take to prevent the damaging effects and unnecessary water losses stemming from frozen pipes in the cold weather months.

### ***DOOR HANGERS AS CONSERVATION MESSAGE DELIVERY VEHICLES***

Each day, United Water Delaware Field Service and Transmission and Distribution employees "make house calls" concerning a broad spectrum of issues related to water service. They are now also delivering water conservation information to hundreds of customers each year. Valuable information is printed on the reverse side of notices that are routinely hung by hand on customers' doors throughout the year to inform them of issues impacting their water service. Door hanger



conservation messaging includes information on where most water is used in the home and provides techniques on how customers can reduce their water use.

**BILLING INFORMATION**

Our billing statement enables United Water Delaware to provide customers with tools to better track and compare their water consumption. Providing this comparative information encourages customers to conserve by allowing them to see for themselves the water and money savings that result from their own conservation efforts. United Water Delaware is scheduled to move to monthly billing beginning in the second quarter of 2015. This will incentivize customers to conserve by providing them with the opportunity to see dollars and cents savings from any conservation actions they may take each month. A much shorter billing cycle also will help more quickly detect any possible leaks customers may have, cutting down on wasted water.

**WEBSITE**

United Water provides an interactive, content rich website, with increased availability of conservation information. When customers go to the website, [www.unitedwater.com](http://www.unitedwater.com), and click on the 'Environment' tab, they are able to access and browse an excellent source of conservation information and resources including water conservation related videos, text and links.

Among the valuable links available in the United Water conservation section is one giving customers access to the US Environmental Protection Agency (EPA) WaterSense website <http://www.epa.gov/WaterSense/pubs/res.htm>. United Water has joined with the EPA as a partner in its WaterSense conservation program that is focused on the value of water. Among the wide ranging conservation information and techniques provided within WaterSense, consumers are encouraged to seek out water saving appliances that bear the WaterSense label. Similar to the EnergySaver appliance labeling program, WaterSense helps inform customers of the value of choosing water saving appliances.

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The United Water Delaware website also provides customer access to the daily ET Index number, telling them how much and when they need to water their lawns during the growing season, May-September. This information is prominently displayed and updated daily on the main landing page of United Water Delaware's website, as well as being available by phone by calling the ET Hotline at 302-252-3054.



### **COMMUNITY PARTNERSHIPS**

United Water Delaware promotes and encourages water conservation through its partnerships with long standing and well recognized non-profit, environmental organizations and volunteer groups whose missions focus on protecting, preserving and improving local water resources. In partnership with the Delaware Nature Society, United Water Delaware's "ET Index" lawn watering conservation program is available daily during growing season via a link on the Delaware Nature Society website. Broadening the reach of United Water Delaware conservation programs in this manner provides cost effective and efficient results, tapping into an audience of environmentally conscious consumers who seek out this organization's web based informational offerings.

United Water Delaware also partners with and volunteers on the Board of the Red Clay Valley Association, the second oldest small watershed association in America, founded in 1952. Promoting and practicing water conservation are among the myriad tasks carried out by the RCVA through its 700 members. United Water's partnership with the White Clay Creek Wild and Scenic Program has helped achieve similar results and United Water helped spawn the creation of an annual public event, White Clay Creek Fest, now attended by hundreds at White Clay Creek State Park each May. United Water also helps fund efforts by the Partnership for the Delaware Estuary to educate teachers from across the state about the importance of conservation and protection of our precious water resources.

### **PUBLIC EVENTS**

The message of conservation is also a part of the display theme that United Water Delaware uses in community events such as the White Clay Creek Fest outside Newark. UWDE has staff and brochures available to educate customers about water conservation, its ET Index lawn watering education program, the importance of watershed protection, water wise gardening, and conservation facts about water. Our staff is available at these functions to answer questions and offer information.

### **PLANT TOURS**

We offer tours of the treatment plant facility. Schools and organizations contact us to set up a tour of the Stanton Water Treatment Plant Facility. United Water provides plant tours as an important educational opportunity for the community. Our treatment plant tours provide a first hand, educational experience for our



participants, focusing on what it takes to produce drinking water and further increasing their understanding of its value.

## **SERVICES**

### ***SERVICE LINES***

The Field Service and Transmission and Distribution Departments at United Water Delaware are available to check on leaks that are called in by customers who have reported a leak in a main, a hydrant, or service line. This service continues to help ensure any breaks are repaired in a timely manner and minimize the amount of water that is lost to a leak.

### ***HOME SERVICES/LEAK GUARD***

Home Services has been offering its service line plan and internal plumbing service programs to our customers through direct marketing campaigns with our branding. We have included their website link on our own site as well for the convenience and ease of obtaining information about the company and their services in order to assist customers with making an informed decision and easily obtaining contact information for Home Services.

### ***SYSTEM LEAK DETECTION/UNACCOUNTED FOR WATER***

United Water Delaware is focusing inwardly as well, in its efforts to accomplish meaningful water conservation. Investments are being made in human, mechanical and technological resources to better pinpoint, track and conserve the drinking water we produce. Expanded engineering expertise is being brought to bear on reduction of water losses in our more than 500 mile delivery system. Staff has also been added within our Transmission and Distribution Department (T&D) to more effectively perform routine leak detection audits. Technology, including GIS, sub-surface acoustical leak detection devices, and computerized correlation technology is being employed.

New and more accurate metering is being installed both at our Stanton Water Treatment Plant and out in our transmission and distribution system. Long range planning and execution is underway, focusing on critical sections of our large transmission water mains, the backbone of United Water's delivery system.



## LEADING BY EXAMPLE

### **CONSERVATION LANDSCAPE DESIGN**

United Water Delaware is leading by example, having instituted principles of low-water, conservation landscape design at our Stanton facilities. Non-native species landscaping plantings have been replaced with native species plants. This landscaping approach requires less water and has been used as a public educational tool in our annual Conservation Guide. By employing this approach at our facilities, United Water Delaware is not only saving water itself but also educating and encouraging others to do the same.

#### **Rain Garden**

United Water Delaware has invested in the planning, construction, and promotion of a rain garden at our main facilities in Stanton. Rain gardens are designed to capture storm water run-off from buildings and other sources and allow it to naturally percolate back into the ground, recharging supplies. Storm water run-off can cause numerous problems, from pollution of our waterways to flooding. The rain garden is a natural approach to helping reduce storm water run-off issues. Rain garden plants are also native species and possess the ability to withstand seasonal fluctuations in precipitation. In addition they are specifically selected for their ability to thrive in a periodically semi-submerged growing environment. Replacing lawn turf with a rain garden also reduces outdoor watering demands during peak water use seasons.

Examples of native species plants for this region are provided for the public in our online Conservation Guide.

The plants included in the United Water Rain Garden include:

- Athyrium filix-femina (Lady Fern)
- Chelone glabra (White Turtlehead)
- Clethra alnifolia 'Hummingbird' (Dwarf Summersweet)
- Eupatorium dubium (Three-nerved Joe Pye Weed)
- Ilex verticillata 'Winter Red' (Winterberry)
- Itea virginica 'Little Henry' (Dwarf Virginia Sweetspire)
- Iris versicolor (Blue Flag Iris)



Juncus effusus (Soft Rush)  
Lobelia cardinalis (Cardinal Flower)  
Osmunda cinnamomea (Cinnamon Fern)  
Senecio aureus (Golden Ragwort)

United Water Delaware has produced a brochure for customers and makes them available at special events attended by United Water Delaware volunteers. It also provides contact information and links to local nature and horticultural organizations for more detailed information.

***EVAPOTRANSPIRATION WEATHER STATION***

This project provides the public with science based information to reduce excessive summertime lawn watering. The evapotranspiration or "ET" program was initiated in partnership with a branch of the U.S. Department of Agriculture. A research grade weather station at our Stanton Water Treatment Plant collects and compiles weather data during the growing season and translates the information into an accurate method for telling customers how much and when they actually need to water their lawns. Each day during the growing season the "ET Number" is posted on the United Water website and is available on the "ET Hotline at 302-252-3054. It is an excellent resource for homeowners to use in determining when it is appropriate to water so that their lawn watering time is done only when it is really needed. The availability of this kind of information can play a key role in conservation. Our customers are able to gauge the water needs of their lawn on a daily basis.