



Introduction

1.1 Background and Need

1.1.1 Town History

The City of Newport is located in Lincoln County, Oregon approximately in the center of the county coastline (44°37'57"N, 123°03'23"W) at the mouth of the Yaquina River. The City was incorporated in 1882 and quickly became a tourist destination in the summer for residents of the Willamette Valley. White settlement in the area began 20 years prior to the city incorporation, shortly after sailing vessels discovered oyster beds in Yaquina Bay and realized the profit to be made by shipping oysters to San Francisco and other areas. The town was named after Newport, Rhode Island.

Historically, the Bayfront was the economic hub of Newport, housing wood product industries and a commercial fishing port. Electricity later provided the means for refrigeration and the large scale development of the seafood industry. The Yaquina Head Lighthouse, dredging, and the jetty construction made Yaquina Bay an attractive shipping port. Today, the Bayfront is still home to one of the state's largest commercial fishing fleets. It also includes shops, art galleries, restaurants, fish processing plants, and other family attractions.¹

Nye Beach was once separate from the Bayfront. In the 1890s, Newport began to outgrow the Bayfront and a wood plank road was built to connect the two areas. By the early 1900s, Nye Beach, with its sea baths, taffy shops, and agate shops, became the number one visitor attraction on the coast. It was known for its rooming houses, resorts, and a large "sanatorium" built by Herbert Hoover's stepfather, Dr. Henry J. Minthorn. Nye Beach and other areas of Newport are now a haven for artists with numerous galleries and the Newport Performing Arts and Visual Arts Center.

The construction of Highway 101 occurred between 1919 and 1936. The completion of the Yaquina Bay Bridge not only increased the speed of travel along the coast, it also changed the face of Newport. Without the need for the ferry from Yaquina City, the Bayfront lost its role as the center of travel. Businesses moved from Nye Beach and Bayfront to along the highway. The result was the end to a dividing line between the two areas, and the development of a new, connected Newport.

In the early 1980s, a group of local businesses and government leaders joined forces to develop a community revitalization plan. The strategic plan was created to reduce the community's dependence on natural resource-based fishing and tourism industries and to develop Newport as a destination resort and research center. These developments included expanding the research facilities of the Oregon State University Hatfield Marine Science Center and the Oregon Coast Aquarium. The contemporary Marine Science Center houses a number of federal agencies, including the National Oceanic and Atmospheric Administration (NOAA), the Oregon Department of Fish and Wildlife (ODFW), U.S. Fish and Wildlife Service (USFWS), and the Environmental Protection Agency (EPA).

Tourists to Newport enjoy yearly festivals that include the Seafood and Wine Festival, the Microbrew Festival (originally called the Fishermen's Harvest), the Tuna Canning Festival, and the Newport Loyalty Days and Seafair Festival. Other events include Oregon Lighthouse Week, Stories by the Sea, Oyster

¹ History information from Northwest Fisheries Science Center, Newport Community Profile
http://www.nwfsc.noaa.gov/research/divisions/sd/communityprofiles/Oregon/Newport_OR.pdf

Cloyster on the Oregon Coast, the Newport Clambake and Seafood BBQ, the Blessing of the Fleet, and the Lighted Boat Parade.

1.1.2 Water System Background

The earliest water right listed for Newport is on Blattner Creek, the north branch of Big Creek. The 1909 permit for Blattner Creek water describes a dam 8 feet wide by 40 feet long being anticipated for completion in 1910 and having a masonry and concrete spillway. Water from the dam was then conveyed to the “city waterworks” via a pipeline with 8 or 10-inch “gate valves of iron.” Storage capacity behind the dam was said to be 500,000 gallons. The application for this water right permit states that winter population was 1,100 persons and summer population grew to 6,000 persons. The application also states that this water is “badly needed.” The permit was issued and by 1915 the city had constructed the necessary waterworks and received a certificate of water right for .54 cfs (242 gpm).

In May 1923, a second water use permit was issued for Nye Creek, to provide the “Nye Creek water supply.” The application describes a small timber-sided well on Nye Creek. A population of 2,000 persons is listed on the permit application. The map accompanying the original permit shows the well pumping directly into the piping and a storage tank adding supply to the “City’s principal water system.” Later that year, in October of 1923, a second permit was requested on the north branch of Nye Creek, with the population corrected to 1,200 persons. By 1931, the city could prove beneficial use of the entire requested amounts and two certificates were issued totaling 2.2 cfs (987 gpm) from Nye Creek.

Another permit was requested in October of 1923 for water in Hurbert Street Creek (Section Line Creek) with pumping directly into the piping system, when needed. A certificate for this water right was issued in 1931 for 0.1 cfs (45 gpm).

As population and business continued to grow and the piping network expanded, the city continued to look for additional water supplies. In 1926, Newport turned to Big Creek and its tributaries for more supply. A permit was requested for 30 cfs from Big Creek, with plans for a timber dam 3 feet tall and 20 feet long, a pumphouse, and a 1.5-mile long 8-inch pipe to connect to the existing storage tank. The facilities were constructed, but in 1931 the State issued the certificate allowing 10 cfs (4488 gpm) rather than the 30 cfs requested.

In the late 1940s, plans for a bigger dam on Big Creek and a filtration plant began. In 1951, a permit to construct a dam on Big Creek and store water behind it was submitted to the State and construction began on the water treatment facility. The population listed on the permit at that time was 3,200 persons. The dam was to be 25 feet high and 315 feet long, constructed of compacted clay with a concrete spillway. It was realized that flows in Big Creek during summer months were less than the 10 cfs permitted and storage of winter flow for later summer use was desired. The reservoir would supply flow to the existing pump intake pond, where a 300 gpm pump and a 500 gpm pump were located. Presumably, this dam replaced the smaller timber dam built in the late 1920s. Two 8-inch pipes connected the pump station to the storage tanks located near the “road to Corvallis” (Highway 20). The dam was completed shortly after and a certificate allowing 200 acre-feet (65 million gallons) of storage was issued. Newport’s water treatment facility was located just below the dam.

In 1963, with population approaching 5,500 persons (and much greater in the summer), and ongoing concerns about water supply, the city applied for 6.0 cfs (2693 gpm) from the Siletz River. The permit application described the plan for 38,000 feet of 14-inch piping to bring water from the Siletz to the Big Creek reservoirs with proposed completion by 1970 (it was actually completed in 1994).

In 1967, again citing concerns with inadequate summer flows on Big Creek, construction on a second dam (upper Big Creek Dam) began to retain flows on Big Creek. The dam was constructed of compacted

clay and measured 40 feet high and 422 feet long. In 1968, a small water right for 0.4 cfs (179 gpm) was obtained for Jeffries Creek. Population at that time had risen to 5,760. In 1979 a certificate allowing 345 acre-feet (112 million gallons) of storage was issued to store winter flows behind the upper dam.

In 1975 the City applied for a permit to enlarge the upper Big Creek Dam. A population of 6,000 full-time residents was listed on the permit application. An increase in height of 14 feet was requested along with an increase in storage from 345 acre-feet to 970 acre-feet (316 million gallons). The permit was issued for an additional 625 acre feet (204 million gallons) of storage.

The water system has continued to expand over the years with multiple storage tanks and pumping stations added, and older facilities replaced or abandoned. The Siletz River intake and pipeline was completed around 1994 and has allowed the community's water demands to be met over the last decade.

A significant and ongoing problem for the City is the water quality degradation in the 55+ year-old lower Big Creek Reservoir. In recent years, the reservoir has become shallow, warmer and choked with Brazilian Elodea (a non-native, invasive species which adversely affects water quality).

The struggle to secure adequate raw water supplies to keep up with community needs continues, and in 1998 Newport applied for withdrawal and storage rights on Rocky Creek; however, facilities to utilize this additional water supply do not yet exist.

1.1.3 Need for Plan

The City's water system has numerous components which have aged and may be undersized and/or in need of replacement. As growth continues the City must ensure that reliable water service and fire protection are available to residents, businesses, industry and institutions. The last comprehensive system analysis and master planning effort occurred 20 years ago. Since that time, over 2,000 new full-time residents have moved to Newport, as well as many other businesses. The community is expected to continue to grow over the next 20 years at approximately the same rate it has over the previous 20 years. In addition, growth in the South Beach area is expected to increase with potential additions, including the Oregon Coast Community College, and other mixed uses.

Of primary concern is the supply of raw water for the community and treatment capacity. The existing treatment plant is over 55 years old and no longer meets the community's summer water needs. During peak summer water demand, the plant frequently must run 24 hours per day for many consecutive days. Often, even with the plant running at full capacity, water demand in the community exceeds plant output, resulting in a drop in treated water storage levels. Plans for treatment capacity increase options are now required.

Ongoing struggles with water supply quantities in the Big Creek drainage led to the construction of two dams in the past to allow storage of winter flows for summer use. As demands increased, it became apparent that quantity of raw water available on Big Creek was no longer adequate and the Siletz River intake was constructed in 1994 to pump water from the Siletz River into the Big Creek reservoirs in the summer to supplement supply and prevent excessive water level drops in the reservoirs. As demands continue to increase, further pumping from the Siletz is required for longer and longer periods during the summer, at considerable expense. It is uncertain if this practice will suffice to meet community needs over the next 20 years. Additionally, as silt accumulation over the years has decreased the depth of the reservoirs, water quality has degraded and the lower reservoir has become choked with elodea. An update for water supply options is needed to ensure that a reliable supply of water is available for the planning period and to ensure that any required plant improvements are constructed in the proper location to allow the most economical supply options to be utilized.

1.1.4 Plan Authorization

The City of Newport solicited engineering proposals for this Water System Master Plan in June of 2007. After a review of proposals and interviews with several engineering firms in July 2007, the City selected HBH Consulting Engineers to conduct the planning effort. The Engineering Services Agreement was signed by the City on September 27, 2007, authorizing HBH to complete the desired Water System Master Plan. A kick-off meeting was conducted on October 18, 2007 with HBH, City Staff, and the Water System Task Force to initiate the planning work and begin the necessary data collection. In the summer of 2008, the City hired Civil West Engineering Services, Inc. to complete the Master Plan. Former HBH engineers, now owners of Civil West, completed the Plan.

1.1.5 Past Studies

- Water System Master Plan Update, 1988 – CH2M Hill
- Long-Range Water Supply Plan, 1997 – Fuller & Morris Engineering, Inc.
- Rocky Creek Regional Water Supply Project – CH2M Hill, Fuller & Morris, David Evans and Assoc.
- South Beach Neighborhood Plan, Rev. 2006 Draft – Lancaster Engineering and others.

1.2 Study Objective

The purpose of the Water System Master Plan is to furnish the City of Newport with a comprehensive planning document that provides engineering assessment of system components and guidance for future planning and management of the water system over the next 20 years. This document satisfies the Oregon Drinking Water Program (DWP) requirements for water master plans. Additionally, plan elements sufficient to satisfy Oregon Water Resource Department (WRD) requirements for a Water Management and Conservation Plan are included.

Principal plan objectives include:

- Description and mapping of existing water system
- Evaluation of existing water system components
- Prediction of future water demands
- Evaluation of the capability of the existing system to meet future needs and regulations
- Recommendations for improvements needed to meet future needs and/or address deficiencies
- Discussion of financing options and impacts on water rates
- Description of water management and conservation measures to comply with OAR 690-86
- Background provisions to support updated water system SDCs

This Plan details infrastructure improvements required to maintain compliance with State and Federal standards as well as provide for anticipated growth. Capital improvements are presented as projects with estimated costs to allow the City to plan and budget as needed. Supporting technical documentation is included to aid in grant and loan funding applications and meet the requirements of the Oregon Economic and Community Development Department (OECDD), the Oregon Water Resource Department, the Rural Utilities Service (RUS), as well as the DWP.

1.3 Scope of Study

1.3.1 Planning Period

The planning period for this Water System Master Plan is 20 years, in accordance with OAR 333-061-0060 (5)(b). The period must be short enough for current users to benefit from system improvements, yet long enough to provide reserve capacity for future growth and increased demand. Existing residents should not pay an unfair portion for improvements sized for future growth, yet it is not economical to build improvements that will be undersized in a relatively short period of time. OAR 690-086-0170 suggests that demands be projected over 20 years, which is a typical planning period for water master plans. The end of the planning period is the year 2030, based on the assumption that immediately needed infrastructure improvements would not be implemented until around 2010.

1.3.2 Planning Area

The Master Plan planning area is that contained within the Newport Urban Growth Boundary (UGB), as well as the immediate area surrounding water system components outside the UGB, such as Siletz River intake and pipeline and the Big Creek reservoirs. A map showing Newport's location is shown in Figure 1 "Location Map." Additional information and maps for the planning area are presented in Section 2.

1.3.3 Work Tasks

In compliance with Drinking Water program and Water Resource Department plan elements and standards, this plan provides descriptions, analyses, projections, and recommendations for the water system over the planning period. The following elements are included:

- Study area characteristics, including land use and population trends and projections
- Description of the existing water system including supply, treatment, storage and distribution
- Existing regulatory environment including regulations, rules and plan requirements
- Current water usage quantities and allocations
- Projected water demands
- Existing system capacity analysis and evaluation
- Improvement alternatives and recommendations with associated costs
- Recommendations for water management planning and water usage curtailment
- A summary of recommendations with a Capital Improvement Plan
- Funding options
- Maps of the existing system and recommended improvements

1.4 Acknowledgments

Members of the City staff and council have contributed efforts to ensure complete information and proper planning of the community's water system needs. In addition, a Water System Task Force was assembled from community residents to provide a forum for ideas and better establish a working relationship between the engineering firm and the City of Newport.

1.4.1 City Council and Staff

Many City of Newport staff members contributed greatly and facilitated in the preparation of this planning document. The City Council also took great interest and had enthusiasm and support for the subject.

We wish to recognize and express gratitude to the following people for their support during this planning effort:

City Council

Mayor Bill Bain
Councilor Jeff Bertuleit
Councilor Larry Henson
Councilor Patricia Patrick-Joling
Councilor Neal Henning
Councilor Terry Obtshka
Councilor Peggy Sabanskas

City Staff

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James Bassingthwaite – City Planner
Steve Stewart – Water Plant Supervisor
Greg Schaecher – Assistant City Engineer
Jim Salisbury – GIS
Lanny Schulze – Water Distribution Supervisor
Sharon Seabrook – Public Works Secretary
Gary Firestone – City Attorney

1.4.2 Water System Task Force

The City elected to undertake this important planning effort and utilize a community committee or task force to aid in the planning process. Task Force members were appointed based on their backgrounds, professional knowledge, personal interests, and other factors. The Task Force members played a key and important role throughout this project.

Task Force members included:

Paul Amundson
Richard Beemer
Don Davis
Jim Fuller
Reuben Johnsen
Jay Peterson
Steve Salisbury
Deborah Trusty
Janet Webster

Council Liaison:

Patricia Patrick-Joling
Peggy Sabanskas

