

1.0 DESCRIPTION OF WATER SYSTEM

1.1 Ownership and Management

The water system is owned and operated by the City of Oroville (referred to as Oroville or the City in this Water System Plan).

DOH ID Number	64400
Address:	City of Oroville 1308 Ironwood, PO Box 2200 Oroville, WA 98844
Phone:	(509) 476-2926
Fax:	(509) 476-9067
Mayor:	Jon Neal
City Superintendent:	Rod Noel

1.2 System Background

1.2.1 History of Water System Development

The City of Oroville is located 44 miles north of Omak in Okanogan County, Washington. The service area is located at the south end of Lake Osoyoos and runs along the east and west sides of the lake. Oroville was first settled in the late 1800's as a center for gold mining activities. The City was originally platted in 1906 and incorporated in 1908. The primary economic sector includes tree fruit production, wood products manufacturing, and tourism. In recent years, areas outside City Limits to the north along Lake Osoyoos have been developed into resort areas catering to tourism.

The Cascade and Columbia Railroad tracks, part of which is abandoned, separates the City in North and South sections. The major transportation corridor, State Route (SR) 97, further separates the City into quarters as the highway generally runs north and south.

Within the City, industrial uses are located along the railroad tracks, widening the division between the north and south sections. This linear industrial area continues beyond the City boundary to the southeast where two small sawmills are located near the Okanogan River.

The central portion of the City, along SR 97 (North Main Street), is the central business district of Oroville. Commercial uses have developed along SR 97 to the north and south of the central business district and from the commercial corridor, which extends beyond the City Limits in both directions.

The City of Oroville acquired the Westlake Water User System in 1989, providing water on the west side of the lake from the northern City Limits to the Canadian border. Wastewater in the Westlake area is treated by onsite septic systems. Additionally, Deep Bay Park is located in this area which is owned and operated by the City. The park is an incorporated shoreline area located approximately one mile north of the City Limits. In 2013 the City constructed Reservoir 7 (220,000 gal) to provide fire flow to

the Border Patrol Station. The City refers to water services served outside of City Limits along the west side of Lake Osoyoos as the Westlake Area.

In 2005 the City began providing water and sewer to Veranda Beach Resort located at the north-east end of the UGA on the east side of Lake Osoyoos. The first phase of development included approximately 100 cottages/vacation homes and other resort amenities. Full buildout of the development includes an additional 350 cottages as well as several pools, vineyards, and a golf course. At this time the Veranda Beach development is not expected to grow beyond its current size due to a lack of funds. In 2014, the City extended water and sewer from Veranda Beach Resort to the Champerty Shores system which is located just north of Veranda Beach. The City refers to water services served outside of the City Limits along the east side of Lake Osoyoos as the Eastlake Area.

In 2016, the City of Oroville received a Department of Health (DOH) grant to study the consolidation between Oroville and the Eastlake Water Association water system. The Eastlake Water Association (ELWA) is a private water system located at the southeast end of Lake Osoyoos in the Eastlake Area. ELWA currently has 27 active connections and has DOH approval for up to 28 connections.

1.2.2 Governance

The ownership is municipal with a council decision making process. The City Council sets the budget for the water department. The City Superintendent runs the day to day operation of the City and has discretionary control of the water system budget to make purchases and to have work performed. For situations where large expenses are required or long term decisions are needed, the City Superintendent works in conjunction with the Mayor and City Council to determine a course of action and method of funding. The City Superintendent consults the City's most recent planning documents to determine the number of connections the system can serve, and uses these documents to guide planning efforts and to plan short-term project phasing. Finally, the City Superintendent works with the City Engineer when large projects are necessary, when the City is seeking funding for a project, or if a developer requires above average fire flow.

1.2.3 Geography

Oroville is situated between the Okanogan and Similkameen Rivers with the exception of the northwest portion of the City, which lies to the north of where the Similkameen enters the valley. Lake Osoyoos is located to the immediate north of Oroville. The Okanogan River flows to the south from Lake Osoyoos. Unincorporated agricultural land is found on the south border of the City. Bordered on three sides by bodies of water and having a general flat topography, portions of Oroville are considered to be in the floodplain.

1.3 Inventory of Existing Facilities

1.3.1 Description of Facilities and Major Components

The City service area spans approximately 5 miles north to south and approximately 200 vertical feet which necessitates multiple pressure zones. Oroville has a total of four pressure zones which serve the retail service area. The City's four wells pump to the main pressure zone while the four booster stations make use of check valves to fill each additional pressure zone's reservoir. In total the City maintains three main zone reservoirs, one airport zone reservoir, one Veranda Beach zone reservoir, and one

Summit Ave zone reservoir. Refer to **Tables 1-1, 1-2, 1-3, and 1-4** for details and information on Oroville's water system components.

1.3.2 Number of Service Connections

Oroville's 2017 Water Facilities Inventory (WFI) was last updated in March 2017 and differs from the City's billing information. The WFI lists the City's total service connections at 1,664 while the City lists its' total number of connections for 2016 at 1,513. The WFI indicates the approved number of service connections available to the City is 2,348. Refer to **Appendix B** for a copy of the City's most recent WFI form.

The total number of bills provided by the City for 2015 is hereafter referred to as the total number of service connections within the City of Oroville Water System Plan (refer to **Table 2-1**).

1.3.3 Interties with Neighboring Systems

Oroville has no interties with any other water system.

1.3.4 Supply, Storage and Distribution System

The tables following contain a summary of the City's supply, storage, and distribution system facilities.

Table 1-1 Summary of Groundwater Sources (wells)

Description	Groundwater Source			
	Well 1 ⁽¹⁾ (S01)	Well 2 ⁽¹⁾ (S02)	Well 3 ⁽¹⁾ (S03)	Well 4 (S04)
Date Constructed	1941	1947	1981	1987
Part of Wellfield	Yes	Yes	Yes	No
Diameter (in)	Dug	Dug	24	18
Depth (ft)	33	33	47	80
Depth to SWL (ft) ⁽²⁾	19	24	24	22
Screen/ Perforations (ft)	⁽³⁾	⁽³⁾	Screen from 32 - 37	Screen from 53 -73
Present Pumping Rate (gpm)	650	500	600	800
Motor (HP)	50	50	100	100
Equipped with VFD	No	No	No	No
Automatic Backup Power	No	No	No	No
Location	NW ¼, SE ¼, S28, T40N, R27E	NW ¼, SE ¼, S28, T40N, R27E	NW ¼, SE ¼, S28, T40N, R27E	SE ¼, SW ¼, S21, T40N, R27E

⁽¹⁾ Wells #1, #2, and #3 are within well field WF/S01,2,3. See **Appendix B** for WFI.

⁽²⁾ Depth to SWL was recorded at date of construction

⁽³⁾ Screen and perforation data unavailable

Table 1-2 Summary of Reservoirs

Reservoir Name	Pressure Zones Served	Volume (gal)	Overflow Elevation	Height (ft)	Type of Reservoir	Year Built	Last Recoated
1 ⁽¹⁾	Main	157,000	1,138.5	9	Concrete, buried	1940's	N/A
2	Main	300,000	1,138.5	18	Concrete, buried	1947	N/A
3	Main	500,000	1,138.5	31	Welded Steel	1987	1987
4	Main	100,000	1,138.5	23.5	Welded Steel	1970's	1998
5	Airport	200,000	1,240.0	32	Bolted Steel	1995	1995
6	Veranda Beach	269,000	1,256.7	32	Bolted Steel	2008	2008
7	Main	220,000	1,138.5	23.5	Bolted Steel	2013	2013

⁽¹⁾ Currently offline due to decayed wood roof, not likely to be put back in to service

Table 1-3 Summary of Distribution System

	Length of Water Main of Diameter Shown (LF) ⁽¹⁾						Total
	2"	4"	6"	8"	10"	12"	
Steel	2,967	1,251	1,849	790	0	0	6,858
Ductile Iron	3,384	160	9,074	6,524	0	3,581	22,723
Galvanized Iron	1,117	0	0	0	0	0	1,117
Cast Iron	352	1,147	12,582	11,798	1,984	1,102	28,965
Asbestos Cement	502	1,793	2,081	2,694	2,319	0	9,388
PVC	12,355	34,620	24,659	40,649	3,517	29,557	145,357
HDPE	280	0	0	0	0	0	280
Total	20,958	38,971	50,245	62,455	7,820	34,239	214,688

⁽¹⁾ Lengths based on past information and updated piping provided by the City

The City has approximately 214,700 LF (40.7 miles) of water main. Pipe materials vary between the City, Eastlake, and Westlake areas. Pipe material within the City Limits consists primarily of cast iron pipe north of Apple Way Ave and ductile iron pipe south of Apple Way Ave. The Westlake zone consists primarily of old and failing glued PVC mains and the Eastlake zone consists entirely of PVC main installed after 2006.

1.3.5 Booster Stations

Table 1-4 Summary of Booster Stations

Name	Pressure Zone		No. of Pumps ⁽¹⁾	Capacity (gpm) ⁽²⁾
	Supply	Discharge		
North End	Main	Main	1	175
Summit Avenue ⁽²⁾	Main	Summit Avenue	2	100
Airport	Main	Airport	2	500
Eastlake ⁽²⁾	Main	Veranda Beach	2	300

⁽¹⁾ Does not include fire flow booster pump. The Summit Avenue and Eastlake Booster Stations include one additional fire flow booster pump rated at 1,000 gpm.

⁽²⁾ Indicates the combined capacity of the pumps when operated in parallel (does not include fire flow booster capacity)

1.4 Overview of System Operation

Oroville operates four well pump stations, seven reservoirs, and four pressure zones. The City's wells are automatically controlled based on the water level of Reservoir 3, which is communicated to the well pump controls via telephone lines. The Airport booster is controlled based on water level in the

Airport reservoir. The Eastlake booster is controlled based on water level in the Veranda Beach reservoir. The system operates satisfactorily with no major issues.

1.4.1 Main Zone (HGL 1,138.5)

The Main Pressure Zone is comprised of everything within the City Limits and includes areas at the south-east end of Lake Osoyoos and the west side of the lake all the way up to the Canadian border. All the City's wells are located within the City Limits and Main Zone. Service pressures in the Main Zone range from 45 psi to 95 psi. Services along the west side of the lake (Westlake) along Westlake Rd and SR 97 require a small booster station to increase pressures and fill Reservoir 4 and Reservoir^o7 when Well 4 is not in operation, due to the length and small pipe size of the dead end system servicing this area.

1.4.2 Airport Zone (HGL 1,240)

The Airport Zone is located on the southeast side of Lake Osoyoos and is served by a booster station and a 200,000-gallon reservoir. The booster station supplies the reservoir from the Main Zone. The area served is referred to as the Eastside Industrial Park and also serves the Dorothy Scott Airport and a mobile home park. The booster station supplies the reservoir from the Main Zone.

1.4.3 Veranda Beach Zone (HGL 1,256.7)

The Veranda Beach Zone is located on the east shore of Lake Osoyoos in Grubbs Cove located north-east of the City Limits and just south of the Canadian border. A 269,000-gallon reservoir serves the area and is supplied by the Eastlake Booster Station via the Main Zone. The Veranda Beach Zone is comprised of mainly vacation and resort residences and facilities as well as the Champerty Shores development located slightly north of Veranda Beach. A PRV station reduces pressures for the lower portions of this zone.

1.4.4 Summit Avenue Zone (HGL 1,288)

The Summit Avenue Zone is a closed system located at the northwest corner of the City Limits next to the three Main Zone reservoirs on Summit Avenue. The booster station boosts pressures from the Main Zone to roughly 20 residential services and also provides fire flow to the same area.

1.5 Related Planning Documents

Planning activities of other institutions or government entities can affect planning for water utilities. Oroville seeks to reduce potential conflicts and overlaps in planning through coordination with local entities. The sections following outline the City's efforts to coordinate the planning in this Water System Plan with other interested entities.

1.5.1 City of Oroville Comprehensive Plan

The City is in the process of updating its 1995 Comprehensive Plan. The City's updated Comprehensive Plan is not expected to be completed by this Water System Plan's submittal date. Refer to **Appendix A** for a copy of the City's planning consistency checklist.

1.5.2 City of Oroville Consolidation Feasibility Study

In 2016, the Drinking Water State Revolving Fund (DWSRF) awarded the City of Oroville a grant to study the feasibility of consolidating the Eastlake Water Association (ELWA) water system into Oroville's water system. The goal of this consolidation feasibility study is to provide the City of Oroville and the Eastlake Water Association a basis for considering integration of the small water system into the City of Oroville's water system. The analysis and alternatives presented in the study depend on the location, condition, and situation within the small system and its potential impact on the City of Oroville's water supply and infrastructure. Completion of the consolidation study does not preclude the need for subsequent financial or technical investigations which may become evident as a result of the consolidation study.

Figure 2 shows the ELWA water system considered for consolidation. Copies of the ELWA Feasibility Study are available under separate cover.

1.5.3 Okanogan County Comprehensive Plan

This Water System Plan is consistent with Okanogan County's Comprehensive Plan (2014). Refer to **Appendix A** for a copy of the County's planning consistency checklist.

1.6 Neighboring Purveyors

There are no water purveyors adjacent to Oroville. The nearest publicly owned water system is the City of Tonasket approximately 22 miles south. The community of Ellisford is 10 miles south and is served by a community well or individual residential wells.

1.7 Existing Service Area and Characteristics

1.7.1 Existing Service Area

Figure 2 shows a schematic map of the City's existing water system facilities. The figure shows locations of wells, reservoirs, booster stations, water mains, and pertinent elevation data as needed to understand the hydraulic performance of the system.

1.7.2 Zoning and Land Use

Figures 1B and **1D** shows zoning designations provided by local planning jurisdictions (City of Oroville, Okanogan County). Okanogan County is not mandated to plan under the Growth Management Act. In the future, Oroville may choose to expand the Growth Area beyond its current boundary.

1.8 Service, Retail, and Water Rights Place of Use Areas

The service, retail service, and water rights place of use areas are shown on **Figure 1**. Future development within the City of Oroville retail service area will occur primarily within City Limits as infill and outside of City Limits as small concentrated developments such as the Veranda Beach development.

1.9 Duty to Serve and Conditions of Service

1.9.1 *Duty to Serve*

The City of Oroville has a duty to provide service to all new persons or entities seeking water service within the Retail Service Area (refer to **Figure 1**) when the circumstances meet four threshold factors (see RCW 43.20.260):

1. The municipal water supplier has sufficient capacity to serve water in a safe and reliable manner.
2. The service request is consistent with adopted local plans and development regulations.
3. The municipal water supplier has sufficient water rights to provide service.
4. The municipal water supplier can provide service in a timely and reasonable manner.

The City's process for addressing a request for service determines whether the request meets the four threshold factors defined in RCW 43.20.260. The City's Development Policy Manual outlines the City's conditions for water service.

Process for Requesting Service

A potential customer submits a water service application to the City. The City processes and responds to the application within two weeks of receiving the service request.

System Capacity Determination

The City consults the Water System Plan to see if any obvious issues exist that would prevent service of an additional customer. The City consults the City Engineering Consultant if it appears the system may not have capacity to serve the proposed connection. The City Engineering Consultant then conducts an analysis to ascertain whether sufficient system capacity exists (supply, storage, distribution system, water rights, etc.) to serve the requesting customer and determines what additional improvements are required to provide service. The customer requesting service is responsible for financing the system improvements necessary to provide service. If the City has insufficient water rights to serve the customer requesting service, the requestor is responsible for supplying water rights to the City in the amount necessary for the addition of the customer.

Non-Technical Conditions Affecting Provision of Service

Those requesting annexation must comply with relevant City Ordinances and Development Codes. The City can only provide service if adequate water rights are available to serve the requestor (see System Capacity Determination above).

Denial of Service and Appeals

If City Staff deny a request for service based on the process described above, the person/entity requesting service may appeal the decision to the City Council which meets twice monthly.

1.10 Service Area Policies

The City of Oroville Municipal Code contains the City's administrative policies. **Appendix D** contains a copy of Title 13 of the Municipal Code which includes policies for the water system and sewer

system. Water System policies include requirements for new service connections, as well as construction and maintenance requirements for system expansion.

1.11 Satellite Systems

Presently Oroville does not plan to own, operate, or manage satellite systems.

1.12 Complaints

Customer complaints are directed to the system City Superintendent. If a customer's service has been interrupted or restricted, the condition is corrected by the City Superintendent. If the complaint is a service issue, such as low pressure during peak use, the City Superintendent advises the customer of the cause of the condition, what corrective measures are being taken, and what the customer can do to lessen the impact of the condition.

2.0 PLANNING DATA

2.1 Current System Data

2.1.1 Types and Numbers of Connections

The City serves the following connections:

Table 2-1 Types and Numbers of Connections ⁽¹⁾

Area	Single-Family	Multi-Family ⁽²⁾	Commercial	Public	Total
City	660	25	166	17	868
Eastlake	300	8	11	5	324
Westlake	299	4	17	1	321
Total System	1,259	37	194	23	1,513

(1) Provided by City of Oroville; number of connections current as of Spring 2017

(2) Serves 196 dwelling units total

2.1.2 Population

The City's water Retail Service Area shown on **Figure 1** includes customers both inside and outside City Limits. The population data within City Limits is taken from the Washington State Office of Financial Management (OFM). The OFM lists the City's 2015 population as 1,695 and the City lists the number of single-family residential connections for 2015 as 665. The City's Retail Service Area population is estimated herein based on the number of single-family residential connections within the retail service area multiplied by the 2015 number of persons per single-family residential household. Assuming the average single family residence houses 2.55 residents, the City provides services to approximately 3,200 individuals. The City's 2016 retail service area population is estimated as follows:

Table 2-2 Population ⁽¹⁾

Area	Residential Connections ⁽²⁾	Population
City	660	1,682 ⁽³⁾
Eastlake	300	765
Westlake	299	762
Total System	1,259	3,209

(1) $1,695 / 665 = 2.55$ persons per household. 2015 City of Oroville Population Trends for Washington State, Office of Financial Management divided by known number of 2015 single family residential services provides persons per household.

(2) Based on **Table 2-1**. Total Residential Connections are single-family connections

(3) $2.55 \times 660 = 1,682$ persons. 2015 persons per household times the number of 2016 residential services

2.1.3 Source Production

Production data was provided by the City. Water Use Efficiency (WUE) Reports (Refer to **Appendix B**) also provide a record of City water production. The following table summarizes 2014 – 2016 source production.

Table 2-3 Total Water Production ⁽¹⁾

Description	2014 (gal)	2015 (gal)	2016 (gal)	Average (gal)
Well 1	0 ⁽²⁾	0 ⁽²⁾	17,742,950	5,914,317
Well 2	33,834,000	60,693,100	77,531,000	57,352,700
Well 3	58,650,100	55,162,360	10,254,000	41,355,487
Well 4	134,593,300	112,559,300	103,378,300	116,843,633
Total System	227,077,400	228,414,760	208,906,250	221,466,137

⁽¹⁾ Provided by City of Oroville staff⁽²⁾ Well 1 offline due to failing well pump. Pump house, electrical, and pump were replaced in the Fall of 2016.

2.1.4 Water Consumption

The City of Oroville meters all services and sources. This allows the City to accurately account and bill for water used by customers. The following Table contains metered use for the past three years (2014-2016).

Table 2-4 Total Water Consumption ⁽¹⁾

Area	Customer Class	2014 (gal)	2015 (gal)	2016 (gal)	Average (gal)
City	Single-family	71,697,000	73,849,000	67,810,000	71,118,667
	Multi-family	8,038,000	8,553,000	8,373,000	8,321,333
	Commercial	33,444,000	33,922,000	32,958,000	33,441,333
	Public	34,136,000	37,396,000	29,035,000	33,522,333
	Total	147,315,000	153,720,000	138,176,000	146,403,667
Eastlake	Single-family	6,860,000	5,440,000	6,739,000	6,346,333
	Multi-family	1,545,000	705,000	835,000	1,028,333
	Commercial	2,178,000	1,941,000	1,353,000	1,824,000
	Public	35,000	105,000	32,000	57,333
	Total	10,618,000	8,191,000	8,959,000	9,256,000
Westlake	Single-family	16,860,000	16,715,000	17,225,000	16,933,333
	Multi-family	730,000	1,034,000	554,000	772,667
	Commercial	1,007,000	1,119,000	1,645,000	1,257,000
	Public	9,395,000	9,918,000	9,287,000	9,533,333
	Total	27,992,000	28,786,000	28,711,000	28,496,333
Total Annual Consumption		185,925,000	190,697,000	175,846,000	184,156,000

⁽¹⁾ Provided by City of Oroville staff

2.1.5 Seasonal Production Patterns

The following table shows monthly system water production totals for each well in 2016.

Table 2-5 Monthly System Water Production by Well ⁽¹⁾

Month	Groundwater Source				Total
	Well 1 ⁽²⁾	Well 2	Well 3	Well 4	
Jan	0	8.9	0	0	8.9
Feb	0	9	0	0.6	9.6
Mar	0	9.7	0	0	9.7
Apr	0	11.4	0	0	11.4
May	0	14	3.5 ⁽³⁾	0.2 ⁽³⁾	17.7
Jun	0	16.8	6.7	6.8	30.3
Jul	0	0	0	27.7	27.7
Aug	0	0	0	35.1	35.1
Sep	0	1.9	0	21.5	23.4
Oct	0	5.9	0	11	16.9
Nov	8.7	0	0	0.5	9.2
Dec	9	0	0	0	9
Total	17.7	77.5	10.3	103.4	208.9

⁽¹⁾ 2016 production values from City of Oroville staff⁽²⁾ Offline due to failing well pumps. Well 1 pump house, electrical, and a new well pump were replaced in the fall of 2016.⁽³⁾ Estimated values

2.1.6 Water Consumption

The City of Oroville meters all services and sources. This allows the City to accurately account and bill for water used by customers. The following Table contains metered use for the past three years (2014-2016).

Table 2-6 Total Water Consumption ⁽¹⁾

Area	Customer Class	2014 (gal)	2015 (gal)	2016 (gal)	Average (gal)
City	Single-family	71,697,000	73,849,000	67,810,000	71,118,667
	Multi-family	8,038,000	8,553,000	8,373,000	8,321,333
	Commercial	33,444,000	33,922,000	32,958,000	33,441,333
	Public	34,136,000	37,396,000	29,035,000	33,522,333
	Total	147,315,000	153,720,000	138,176,000	146,403,667
Eastlake	Single-family	6,860,000	5,440,000	6,739,000	6,346,333
	Multi-family	1,545,000	705,000	835,000	1,028,333
	Commercial	2,178,000	1,941,000	1,353,000	1,824,000
	Public	35,000	105,000	32,000	57,333
	Total	10,618,000	8,191,000	8,959,000	9,256,000
Westlake	Single-family	16,860,000	16,715,000	17,225,000	16,933,333
	Multi-family	730,000	1,034,000	554,000	772,667
	Commercial	1,007,000	1,119,000	1,645,000	1,257,000
	Public	9,395,000	9,918,000	9,287,000	9,533,333
	Total	27,992,000	28,786,000	28,711,000	28,496,333
Total Annual Consumption		185,925,000	190,697,000	175,846,000	184,156,000

⁽¹⁾ Provided by City of Oroville staff

2.1.7 Seasonal Consumption Patterns

WAC 246-290-100(4)(b)(ii)(D) requires systems serving more than 1,000 connections to provide sufficient consumption data to identify trends in the seasonal variation in consumption patterns of each customer class. The rate of consumption within some customer classes changes seasonally throughout the year. Oroville has four main customer classes: Single-Family, Multi-Family, Commercial, and

Public. The Table following shows the average monthly percentage use by each customer class in 2016.

Table 2-7 Monthly System Water Consumption by Customer Class ⁽¹⁾

Month	Customer Class				Total
	Single-Family	Multi-Family	Commercial	Public	
Jan	54%	8%	27%	11%	100%
Feb	51%	9%	28%	13%	100%
Mar	50%	8%	30%	12%	100%
Apr	50%	6%	24%	20%	100%
May	50%	4%	18%	27%	100%
Jun	54%	5%	17%	24%	100%
Jul	53%	5%	17%	25%	100%
Aug	58%	4%	13%	25%	100%
Sep	48%	5%	20%	27%	100%
Oct	46%	5%	24%	25%	100%
Nov	53%	9%	37%	1%	100%
Dec	54%	9%	36%	1%	100%
Average	52%	6%	24%	18%	100%

⁽¹⁾ 2016 consumption percentages based on consumption data provided by City of Oroville staff

Based on the above Table it appears that Single-Family and Multi-Family consumption rates relative to total consumption rates do not vary considerably between summer and winter months. Commercial consumption rates relative to total consumption is highest during the winter months while Public consumption rates relative to total consumption rates are highest during the summer months which can be attributed to the large irrigation users in the City.

2.1.8 Equivalent Residential Units

The Washington State Department (DOH) defines an equivalent residential unit (ERU) as the amount of water consumed by a typical full-time single family residence. Calculating the amount of water consumed by a typical full time single family residence requires a system to possess accurate water volume sales records for a one year period for single family connections. The following calculations show the average water use of an Oroville single family residence and the total ERUs in Oroville.

Approximate Average Breakdown of Uses (2014-2016)

Single-family (in City)	32.1%
Single-family (Eastlake/Westlake)	10.5%
Multi-family Residential	4.6%
Commercial	16.5%
Public	19.5%
Leakage/Unaccounted	16.8%
Total	100%

Annual Volume per ERU per Day

(avg. annual volume 2014-2016) x (percent single family use) ÷ (avg. single-family conn. 2014-2016) ÷ 365 days

In City:	(221.5 MG x 32.1%) ÷ 662 single family connections ÷ 365 days/year =	294 gpd/ERU
Eastlake/Westlake:	(221.5 MG x 10.5%) ÷ 596 single family connections ÷ 365 days/year =	107 gpd/ERU
Combined:	(221.5 MG x 42.6%) ÷ 1,257 single family connections ÷ 365 days/year =	206 gpd/ERU

The difference in average usage between Eastlake/Westlake and in City customers can likely be attributed to the availability of a separate irrigation source which serves Westlake (the Oroville-Tonasket Irrigation District) as well as the relatively large number of part time/vacation residences located in the Eastlake area (see **Figure 1D** for OTID Map). For projecting future system demands, the combined system-wide ERU of 206 gpd will be used since the separate irrigation source for the Westlake and the relatively high quantity of seasonal resort use in the Eastlake area is likely to continue through the 10-year planning horizon.

The following table shows the breakdown of City ERUs based on the 2014-2016 average annual water use for each customer class. ERUs are calculated using the system-wide combined ERU consumption of 206 gpd/ERU. Because the combined ERU consumption is less than the City's ERU consumption, the total number of single-family (in City) ERUs is larger than the City's total number of single-family connections. Likewise, the total number of single-family (Eastlake/Westlake) ERUs is less than Eastlake/Westlake's total number of single family connections because the combined ERU consumption is greater than the Eastlake/Westlake ERU consumption.

Number of ERUs (based on annual average water use)

Single-family (in City)	947
Single-family (Eastlake/Westlake)	310
Multi-family Residential	135
Commercial	486
Public	574
Leakage	499
Total	2,950

Both the City and Westlake/Eastlake areas have non-revenue (leakage) volumes of water that Oroville could potentially recover to serve additional ERUs. Leakage volumes are defined as the total well production minus the total metered consumption and is reported in the City's annual Water Use Efficiency (WUE) reports as distribution system leakage (DSL).

The following table contains a summary of the City's current number of ERUs.

Table 2-8 Current Numbers of ERUs

Area	Single-family Residential	Multi-family Residential	Commercial	Public	Non-revenue (DSL) ⁽¹⁾	Total
City Limits	947	111	445	446	395	2,344
Eastlake	85	14	24	1	25	149
Westlake	226	10	17	127	77	457
Total System	1,258	135	486	574	497	2,950

⁽¹⁾ The 497 ERUs of system wide DSL are distributed in this table to different areas of the system as a percentage of total ERUs in each area.

2.1.9 Existing System Demands

The following table contains a summary of system demands; the table footnotes contain relevant assumptions associated with the demands.

Table 2-9 Existing System Demands

Item	Units	2014	2015	2016	Average
Total Consumed ⁽¹⁾	(MG)	185.925	190.700	175.800	184.142
Distribution System Leakage ⁽²⁾	(MG)	41.175	37.700	33.100	37.325
Total Produced ⁽¹⁾	(MG)	227.100	228.400	208.900	221.467
ADD: Average Day Demand ⁽³⁾	(MGD)	0.622	0.626	0.572	0.607
	(gpm)	432	435	397	422
MDD: Max Day Demand ⁽⁴⁾	(MGD)	1.418	1.431	1.538	1.463
	(gpm)	985	994	1,068	1,016
PHD: Peak Hour Demand ⁽⁵⁾	(gpm)	1,669	1,684	1,809	1,721

⁽¹⁾ Provided by City of Oroville staff⁽²⁾ DSL is Total Produced – Total Consumed⁽³⁾ Total annual produced / 365 days⁽⁴⁾ Based on daily well pump meter records for 2014-2016⁽⁵⁾ Estimated using WSDOH WSDM Eq. 5-1: $PHD = (MDD/1440)(CN+F)+18$, $C = 1.6$, $N = 2,950$ (avg) and $F = 225$

2.2 Future Data Projections

Water use can be correlated with population. Increases in population generally increases a system's water use. For the purpose of estimating future water demand this WSP uses population projections for 10-year and 20-year planning periods. The Washington State Office of Financial Management, (OFM) provides the most current information on growth for counties. Larger cities often have planning departments which make these projections. Smaller cities may adopt their own projections based on one or more of the following: projections done by the OFM: historical population trends, known development plans, Comprehensive Plans, etc.

2.2.1 Projected Population

Available data sources for population projections include the Washington State Office of Financial Management (OFM) and historical population trends. Oroville knows of no state or federal agency which makes projections for smaller cities such as Oroville. Therefore, the following sections develop population projections based on the OFM projections and historical trends observed within the City's Service Area. The City's current Comprehensive Plan (1995) is outdated and therefore was not used to project population growth.

2.2.1.1 Historical Trends

Population figures within the City Limits have historically been in the range of 1,600-1,700 over the past 15 years. Population data indicate growth within the Oroville City Limits at approximately 0.2% annually since 2000. The Eastlake and Westlake areas of the system which are outside the City Limits have experienced the majority of growth in recent years. These areas combined have roughly doubled in population over the last 15 years at an average annual rate of about 5.3% per year. Much of this growth can be attributed to the Eastlake area because of the addition of the Veranda Beach development which has completed approximately 100 of its planned 450 vacation homes. The City reports that the Veranda Beach development has not grown since the previous Water System Plan and that limited growth is anticipated during the 10-year and 20-year planning horizons.

2.2.1.2 Washington State OFM Projections

OFM makes low, medium and high series population projections for each county. OFM does not make projections for towns and cities. For Okanogan County the OFM projections range from -0.26% to 1.3% growth per year.

2.2.1.3 Selected Growth Projections

For planning purposes, growth within the City Limits as well as the Eastlake/Westlake areas will be projected at the medium annual OFM growth rate of 0.35%, the same projection is used in the County's 2014 Comprehensive Plan.

Based on the above considerations, for the purposes of this Water System Plan, population for each area is projected in the following table.

Table 2-10 Projected 10 and 20-Year Water Service Area Population

Time Frame	Approximate Population in City Limits ⁽¹⁾	Approximate Eastlake Population ⁽²⁾⁽³⁾	Approximate Westlake Population ⁽²⁾	Total
Current ⁽⁴⁾	1,695	742	760	3,196
10-year	1,768	774	792	3,334
20-year	1,832	802	821	3,454

(1) 0.35% annual growth inside City Limits based on medium OFM projections

(2) 0.35% annual growth outside City Limits based on medium OFM projections

(3) Assumes Veranda Beach development construction will be limited within the 20-year planning period

(4) Current population from **Table 2-2**

2.2.1.4 2010 WSP Growth Rates vs 2017 WSP Growth Rates

The table below shows projected annual growth rates from the City's 2010 WSP and growth rates shown in the table above. Growth rates provided in the City's 2010 WSP were based largely on expected development within the Veranda Beach zone as well as continued development within the Westlake zone and City Limits. Since the 2010 WSP, growth within the City and the other areas has fallen short of the previously projected growth rates. The City expects a moderate amount of infill and does not expect concentrated growth as a result of specific developments within the system.

Table 2-11 2010 WSP Growth Rates vs 2017 Growth Rates

WSP	Area	Timeframe	Projected Annual Growth Rate		Approximate Population	
			2010 ⁽¹⁾	2017 ⁽²⁾	2010 ⁽¹⁾	2017 ⁽²⁾
2010 ⁽¹⁾	City Limits	Current	1.50%	0.35%	1,715	1,695
		6-year	1.50%	0.35%	1,903	1,768
		20-year	1.50%	0.35%	2,345	1,832
	Westlake	Current	3.00%	0.35%	780	760
		6-year	3.00%	0.35%	959	792
		20-year	3.00%	0.35%	1,451	821
	Eastlake	Current	10.00%	0.35%	608	742
		6-year	10.00%	0.35%	1,187	774
		20-year	3.00%	0.35%	1,796	802

(1) From 2010 WSP

(2) From **Table 2-10**

2.2.1.5 Population Distribution

Three planning area distinctions are generally used for the City of Oroville and surrounding unincorporated areas: 1) current City Limits, 2) Eastlake area, 3) Westlake area. The City Limits and Westlake areas are supplied entirely by the Main Pressure Zone. Eastlake is supplied by three different pressure zones: 1) Main Zone, 2) Airport Zone, and 3) Veranda Beach Zone.

From the table above, it is projected that the Oroville water service area population will increase by 258 persons to a population of 3,454 by the end of the 20 year planning period.

2.2.2 Projected System ERUs

The following table projects ERUs through the 20-year planning period based on the medium OFM projection. It is assumed that water usage will grow at the same rate as population. **Table 2-14** breaks down the Eastlake area further to accommodate the different pressure zones within the Eastlake area.

Table 2-12 Projected ERU Distribution ^{(1) (2) (3)}

Time Frame	In City Limits	Westlake	Eastlake ⁽⁴⁾			Total ERUs
			Main Zone	Airport Zone	Veranda Beach Zone ⁽⁵⁾	
Current	2,344	457	57	12	80	2,950
10-year	2,445	477	60	13	83	3,077
20-year	2,533	494	62	13	86	3,188

(1) Assumes an annual growth rate of 0.35% for each area

(2) Refer to **Section 2.1.6** for percent usage by each area

(3) Includes DSL, refer to **Table 2-8**

(4) Eastlake ERU distribution is based on current ERU distribution within each pressure zone

(5) Includes Champerty Shores development

2.2.2.1 Future Estimated Demand Distribution by Pressure Zone

The following tables summarize existing and projected demands for the City. Refer to the footnotes following the table for pertinent information and explanation of the figures contained therein.

Table 2-13 Summary of Existing and Projected Demands by Pressure Zone

Time Frame	Area	ERUs ⁽³⁾	ADD		MDD ⁽⁴⁾⁽⁵⁾⁽⁶⁾		PHD ⁽⁷⁾
			MGD	(gpm)	MGD	(gpm)	
Current	City Limits ⁽¹⁾	2,344	0.482	335	1.151	800	1,374
	Westlake ⁽¹⁾	457	0.094	65	0.227	158	345
	Eastlake ⁽²⁾	149	0.031	22	0.084	59	200
	System Total	2,950	0.607	422	1.463	1,017	1,919
10-year	City Limits ⁽¹⁾	2,445	0.503	349	1.201	834	1,429
	Westlake ⁽¹⁾	477	0.098	68	0.237	165	357
	Eastlake ⁽²⁾	155	0.032	22	0.088	61	204
	System Total	3,077	0.633	440	1.526	1,060	1,990
20-year	City Limits ⁽¹⁾	2,533	0.521	362	1.244	864	1,477
	Westlake ⁽¹⁾	494	0.102	71	0.246	171	368
	Eastlake ⁽²⁾	161	0.033	23	0.091	63	208
	System Total	3,188	0.656	456	1.581	1,098	2,053

(1) All services within these areas are supplied by the Main Pressure Zone.

(2) The Eastlake area is supplied by 3 different pressure zones (Main, Airport, and Veranda Beach).

(3) ERUs are based on well pump production, includes Distribution System Leakage (DSL). See **Section 2.1.6**

(4) Current system total MDD based on daily well pump data for 2014-2016

(5) City Limits, Westlake, and Eastlake area MDD based on max month demand for each area. $(\sum MMD_{C,W,E} / MMD_{C,W,E}) \times MDD$, where MMD_C = max month of City, MMD_W = max month of Westlake, MMD_E = max month of Eastlake, MDD = current system MDD

(6) $ADD \times (MDD:ADD) : MDD:ADD$; refer to **Table 2-9** average ratio of 2.41

(7) $PHD = (MDD/1440)(CN+F)+18$, $C = 1.6, 1.8, \text{ or } 2$, $N = \text{ERUs for City, Westlake, and Eastlake}$ and $F = 75, 125, \text{ or } 225$, WSDOH WSDM Eq. 5-1

Table 2-14 Summary of Existing and Projected Demands within Eastlake ⁽¹⁾

Time Frame	Area	ERUs ⁽²⁾	ADD		MDD ⁽³⁾		PHD (gpm) ⁽⁶⁾
			MGD	(gpm) ⁽⁴⁾	MGD	(gpm) ⁽⁵⁾	
Current	Main Zone	57	0.012	8	0.032	22	84
	Airport Zone	12	0.002	2	0.007	5	32
	Veranda Beach Zone	80	0.017	12	0.045	31	106
	Eastlake Total	149	0.031	22	0.084	59	222
10-year	Main Zone	59	0.012	9	0.034	24	87
	Airport Zone	13	0.003	2	0.007	5	33
	Veranda Beach Zone	83	0.017	12	0.047	33	109
	Eastlake Total	155	0.032	22	0.088	61	229
20-year	Main Zone	62	0.013	9	0.035	24	89
	Airport Zone	13	0.003	2	0.007	5	33
	Veranda Beach Zone	86	0.018	12	0.049	34	113
	Eastlake Total	161	0.033	23	0.091	63	234

⁽¹⁾ The Eastlake area is supplied by 3 different pressure zones: Main, Airport, and Veranda Beach.

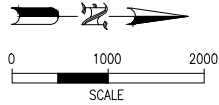
⁽²⁾ See **Table 2-13** for Eastlake pressure zone distribution. Includes Distribution System Leakage (DSL).

⁽³⁾ $ADD \times (MDD:ADD) : MDD:ADD$; refer to **Table 2-9** average ratio of 2.41

⁽⁴⁾ $PHD = (MDD/1440)(CN+F)+18$, $C = 2.5$ or 3 , $N = ERUs$ for Main, Airport, and Veranda Beach, and $F = 25$ or 0 , WSDOH WSDM Eq. 5-1

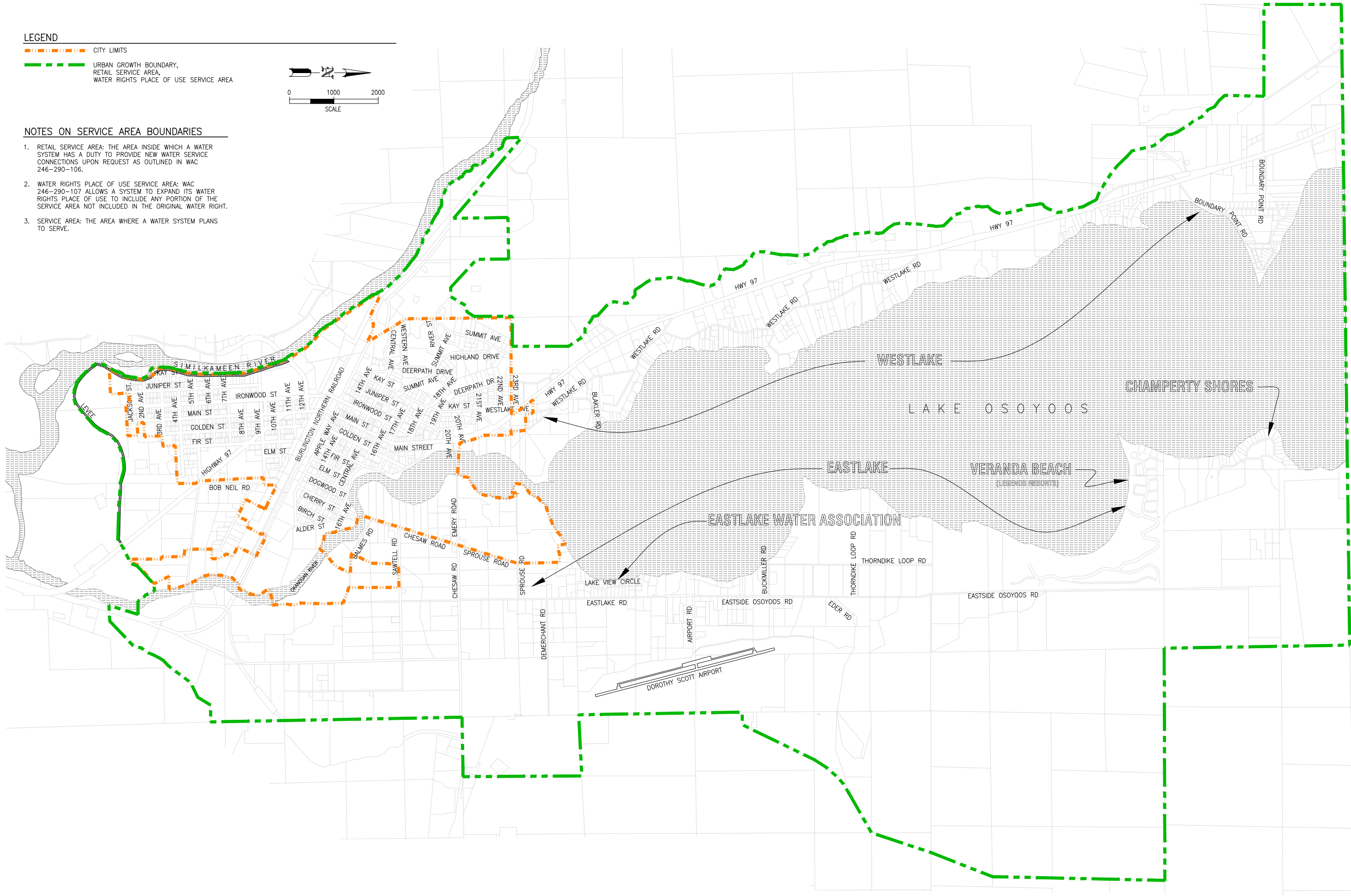
LEGEND

- CITY LIMITS
- URBAN GROWTH BOUNDARY,
RETAIL SERVICE AREA,
WATER RIGHTS PLACE OF USE SERVICE AREA



NOTES ON SERVICE AREA BOUNDARIES

1. RETAIL SERVICE AREA: THE AREA INSIDE WHICH A WATER SYSTEM HAS A DUTY TO PROVIDE NEW WATER SERVICE CONNECTIONS UPON REQUEST AS OUTLINED IN WAC 246-290-106.
2. WATER RIGHTS PLACE OF USE SERVICE AREA: WAC 246-290-107 ALLOWS A SYSTEM TO EXPAND ITS WATER RIGHTS PLACE OF USE TO INCLUDE ANY PORTION OF THE SERVICE AREA NOT INCLUDED IN THE ORIGINAL WATER RIGHT.
3. SERVICE AREA: THE AREA WHERE A WATER SYSTEM PLANS TO SERVE.



FIGURE

CITY OF OROVILLE, WASHINGTON
WATER SYSTEM PLAN

RETAIL SERVICE AREA
WATER RIGHTS PLACE OF USE

1

VARELA AND ASSOCIATES, INC.
ENGINEERING AND MANAGEMENT

1200901-WSP-Figure 1

SCALE: AS SHOWN
DESIGNED: TVP
DRAWN: TVP
CHECKED: TVP
APPROVED: TVP
PROJ. NO.: 120-09-01
DATE: 12/27/17



ZONING MAP

- AIRPORT DISTRICT
- COMMERCIAL 1
- COMMERCIAL 2
- CONSERVANCY
- INDUSTRIAL 1
- INDUSTRIAL 2
- RECREATION
- RESIDENTIAL 1
- RESIDENTIAL 2
- RESIDENTIAL 3
- RESIDENTIAL 4

Dorothy Scott Airport



Deep Bay Park



FIGURE 1B

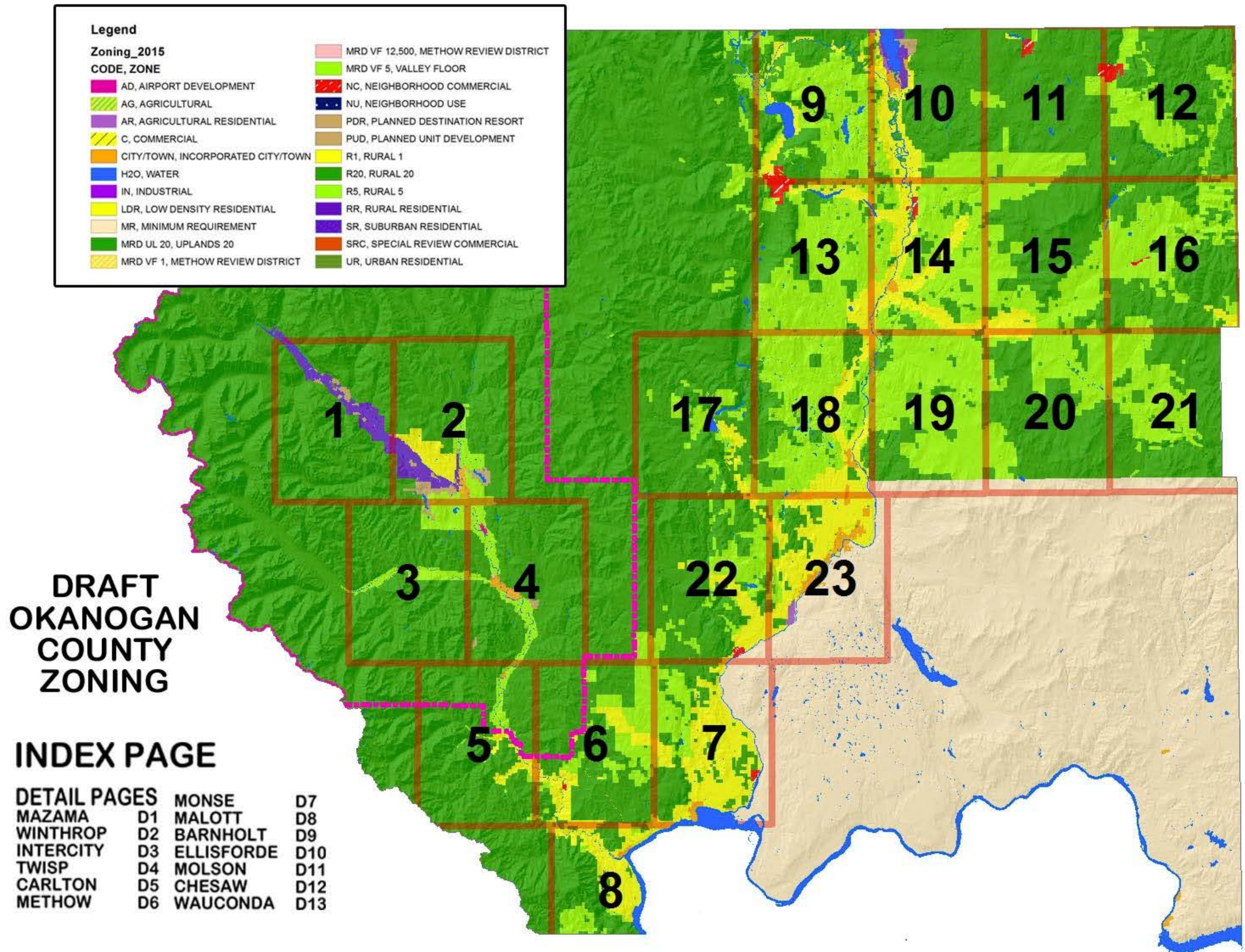


FIGURE 1C

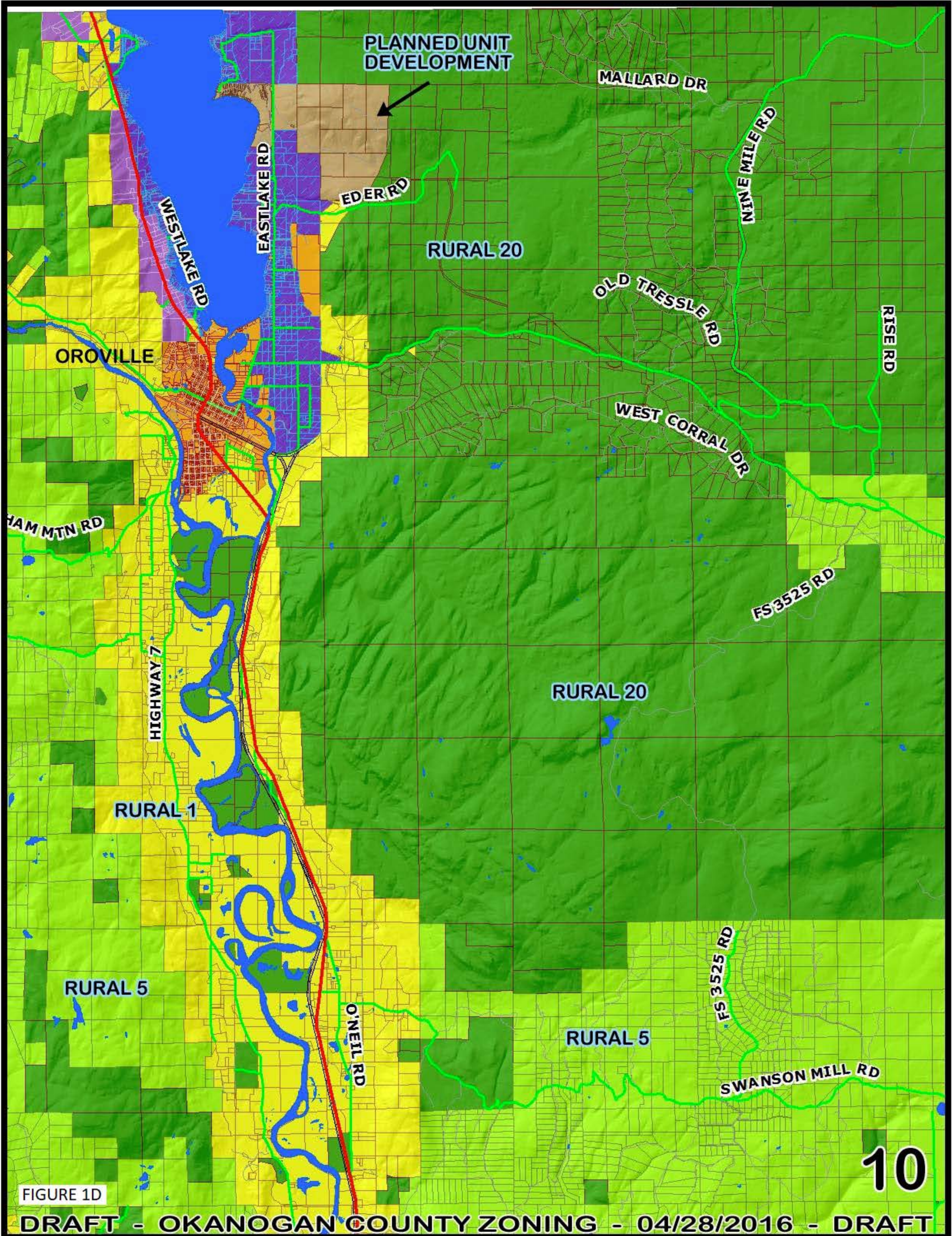


FIGURE 1D

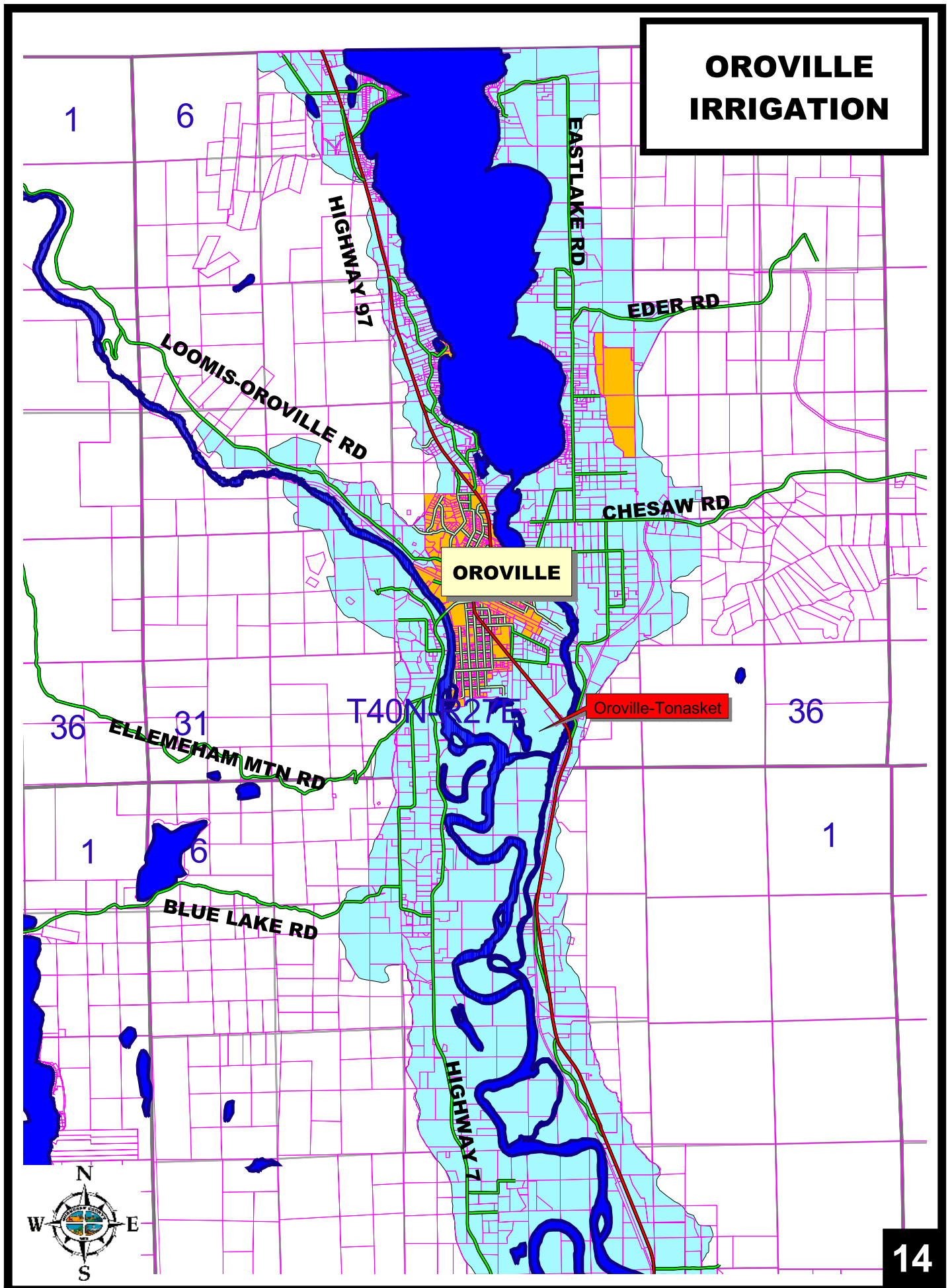
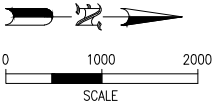


FIGURE 1E

LEGEND

- CITY LIMITS
- URBAN GROWTH BOUNDARY, RETAIL SERVICE AREA, WATER RIGHTS PLACE OF USE SERVICE AREA
- APPROXIMATE THEORETICAL PRESSURE ZONE
- MAIN PRESSURE ZONE
- AIRPORT PRESSURE ZONE
- VERANDA BEACH PRESSURE ZONE
- SUMMIT AVE. BOOSTER PRESSURE ZONE
- EXISTING FIRE HYDRANT
- EXISTING VALVE
- EXISTING WELL
- EXISTING BOOSTER STATION
- EXISTING RESERVOIR
- EXISTING AIR VALVE

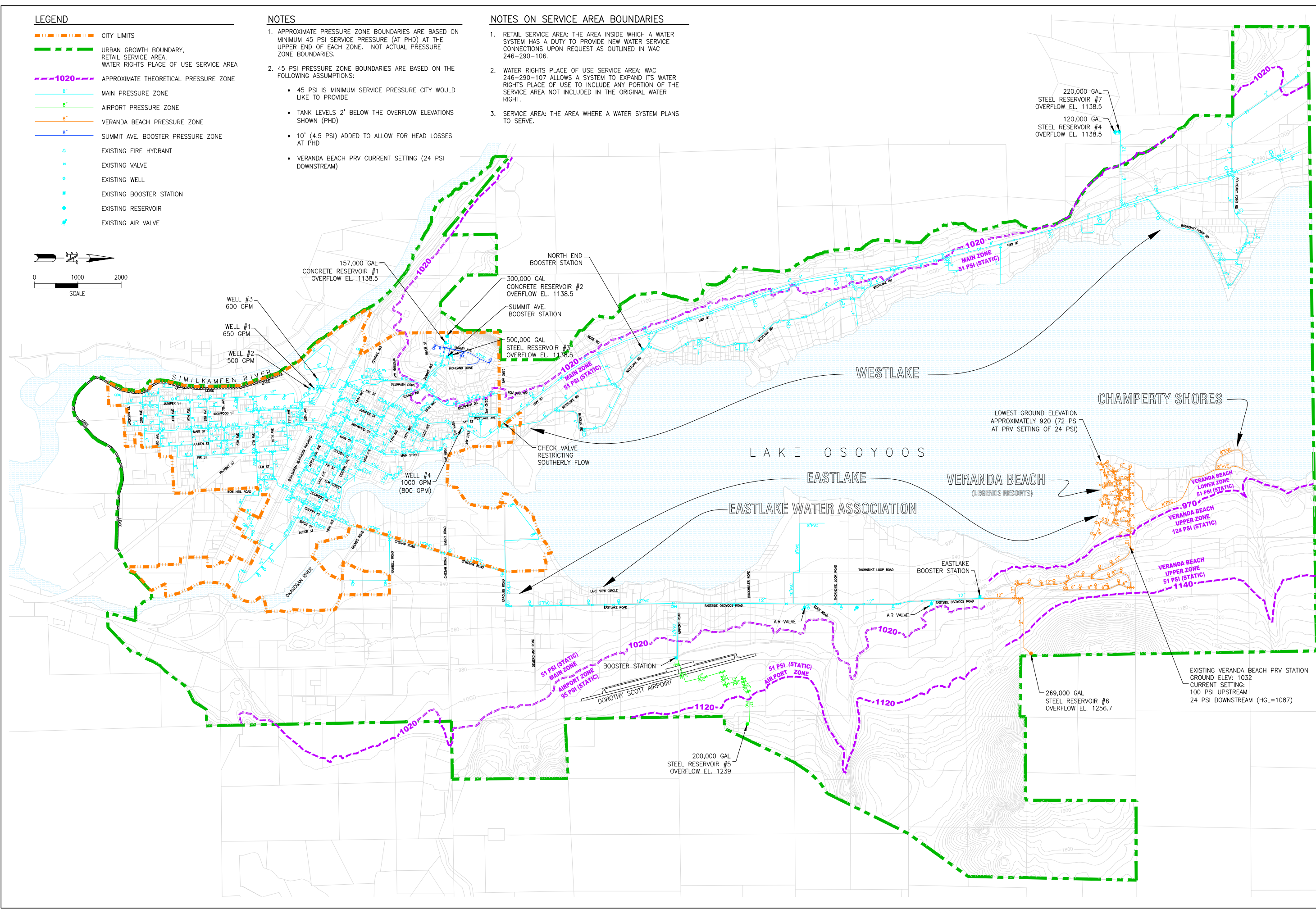


NOTES

- APPROXIMATE PRESSURE ZONE BOUNDARIES ARE BASED ON MINIMUM 45 PSI SERVICE PRESSURE (AT PHD) AT THE UPPER END OF EACH ZONE. NOT ACTUAL PRESSURE ZONE BOUNDARIES.
- 45 PSI PRESSURE ZONE BOUNDARIES ARE BASED ON THE FOLLOWING ASSUMPTIONS:
 - 45 PSI IS MINIMUM SERVICE PRESSURE CITY WOULD LIKE TO PROVIDE
 - TANK LEVELS 2' BELOW THE OVERFLOW ELEVATIONS SHOWN (PHD)
 - 10' (4.5 PSI) ADDED TO ALLOW FOR HEAD LOSSES AT PHD
 - VERANDA BEACH PRV CURRENT SETTING (24 PSI DOWNSTREAM)

NOTES ON SERVICE AREA BOUNDARIES

- RETAIL SERVICE AREA: THE AREA INSIDE WHICH A WATER SYSTEM HAS A DUTY TO PROVIDE NEW WATER SERVICE CONNECTIONS UPON REQUEST AS OUTLINED IN WAC 246-290-106.
- WATER RIGHTS PLACE OF USE SERVICE AREA: WAC 246-290-107 ALLOWS A SYSTEM TO EXPAND ITS WATER RIGHTS PLACE OF USE TO INCLUDE ANY PORTION OF THE SERVICE AREA NOT INCLUDED IN THE ORIGINAL WATER RIGHT.
- SERVICE AREA: THE AREA WHERE A WATER SYSTEM PLANS TO SERVE.



LEGEND

- CITY LIMITS
- URBAN GROWTH BOUNDARY, RETAIL SERVICE AREA, WATER RIGHTS PLACE OF USE SERVICE AREA
- APPROXIMATE THEORETICAL PRESSURE ZONE
- MAIN PRESSURE ZONE
- AIRPORT PRESSURE ZONE
- VERANDA BEACH PRESSURE ZONE
- SUMMIT AVE. BOOSTER PRESSURE ZONE
- EXISTING FIRE HYDRANT
- EXISTING VALVE
- EXISTING WELL
- EXISTING BOOSTER STATION
- EXISTING RESERVOIR
- EXISTING AIR VALVE

IMPROVEMENTS

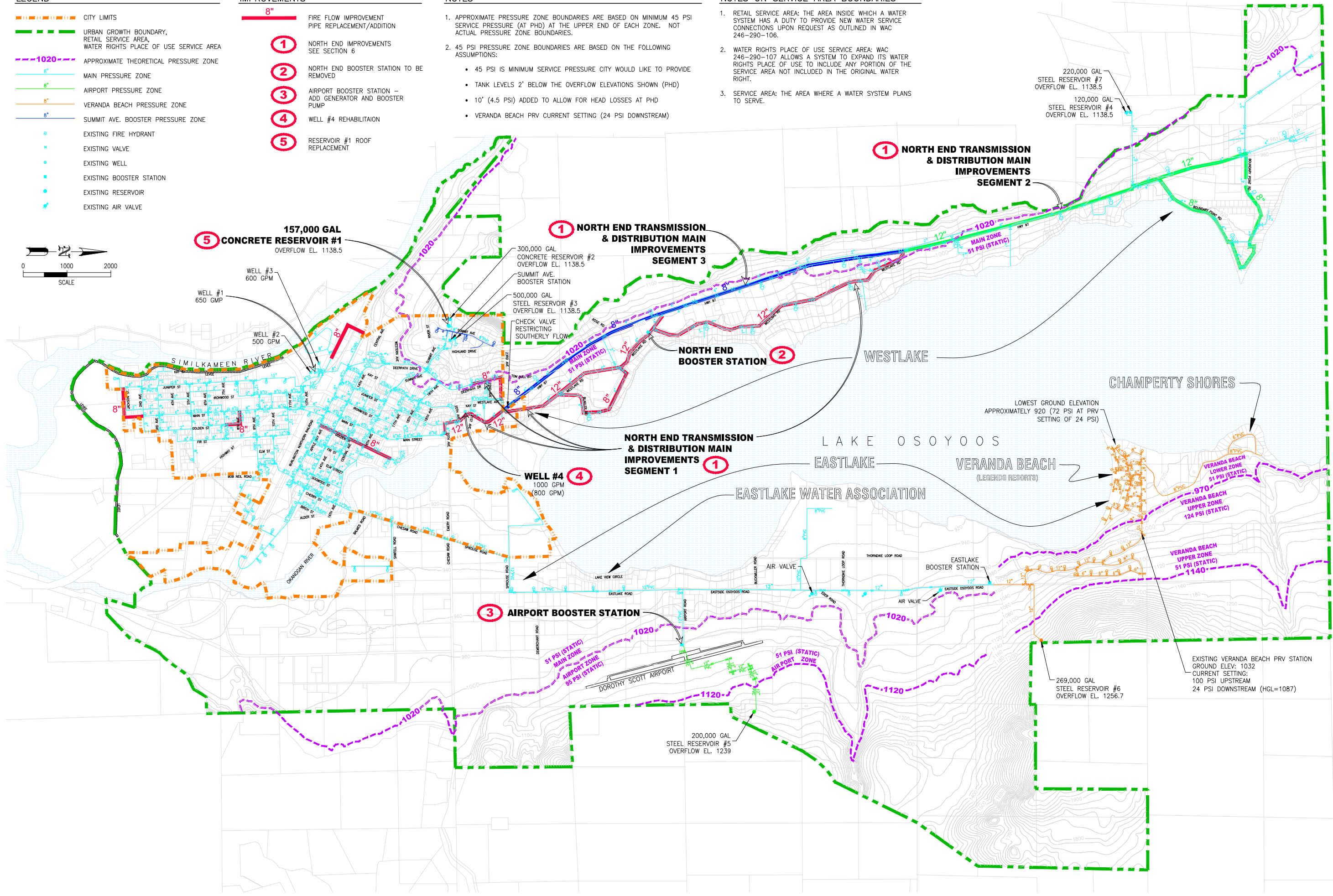
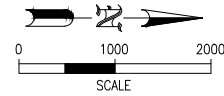
- 8" FIRE FLOW IMPROVEMENT PIPE REPLACEMENT/ADDITION
- 1 NORTH END IMPROVEMENTS SEE SECTION 6
- 2 NORTH END BOOSTER STATION TO BE REMOVED
- 3 AIRPORT BOOSTER STATION - ADD GENERATOR AND BOOSTER PUMP
- 4 WELL #4 REHABILITATION
- 5 RESERVOIR #1 ROOF REPLACEMENT

NOTES

- APPROXIMATE PRESSURE ZONE BOUNDARIES ARE BASED ON MINIMUM 45 PSI SERVICE PRESSURE (AT PHD) AT THE UPPER END OF EACH ZONE. NOT ACTUAL PRESSURE ZONE BOUNDARIES.
- 45 PSI PRESSURE ZONE BOUNDARIES ARE BASED ON THE FOLLOWING ASSUMPTIONS:
 - 45 PSI IS MINIMUM SERVICE PRESSURE CITY WOULD LIKE TO PROVIDE
 - TANK LEVELS 2' BELOW THE OVERFLOW ELEVATIONS SHOWN (PHD)
 - 10' (4.5 PSI) ADDED TO ALLOW FOR HEAD LOSSES AT PHD
 - VERANDA BEACH PRV CURRENT SETTING (24 PSI DOWNSTREAM)

NOTES ON SERVICE AREA BOUNDARIES

- RETAIL SERVICE AREA: THE AREA INSIDE WHICH A WATER SYSTEM HAS A DUTY TO PROVIDE NEW WATER SERVICE CONNECTIONS UPON REQUEST AS OUTLINED IN WAC 246-290-106.
- WATER RIGHTS PLACE OF USE SERVICE AREA: WAC 246-290-107 ALLOWS A SYSTEM TO EXPAND ITS WATER RIGHTS PLACE OF USE TO INCLUDE ANY PORTION OF THE SERVICE AREA NOT INCLUDED IN THE ORIGINAL WATER RIGHT.
- SERVICE AREA: THE AREA WHERE A WATER SYSTEM PLANS TO SERVE.



FIGURE

CITY OF OROVILLE, WASHINGTON
WATER SYSTEM PLAN

IMPROVEMENTS

3

VARELA AND ASSOCIATES, INC.
ENGINEERING AND MANAGEMENT

1200901-WSP-Figure 3

SCALE: AS SHOWN
DESIGNED: TYP
DRAWN: TYP
CHECKED: TYP
APPROVED: 120-09-01
PROJ. NO.:
DATE: 12/27/17

ORDINANCE NO. 786

AN ORDINANCE OF THE CITY OF OROVILLE,
WASHINGTON AMENDING CHAPTER 13.04 TO
PROVIDE FOR WATER ALLOCATION OUTSIDE THE
CITY'S INCORPORATED BOUNDARIES, ADDING
DEFINITIONS, PROVIDING FOR FEES AND
CONDITIONS, AND SETTING AN EFFECTIVE DATE.

WHEREAS, the City recently acquired additional water rights for its service area outside its incorporated boundaries; and

WHEREAS, it is necessary to recover costs associated with the recent water rights acquisition, and to provide for future acquisitions; and

WHEREAS, the City operates a sanitary sewer system on the shorelands and uplands of the east side of Lake Osoyoos, constructed under a partnership with Okanogan County in order to provide appropriate infrastructure for growth and to protect water quality of the Lake; and

WHEREAS, it is necessary define related fees and establish conditions, by ordinance, for water connections in the service area outside of Oroville incorporated boundary.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF OROVILLE, WASHINGTON, DO ORDAIN AS FOLLOWS:

SECTION 1. Section 13.04.010 of the Oroville Municipal Code is hereby amended as follows, **boldface** type indicating additions, ~~strikeouts~~ indicating deletions:

13.04.010 Definitions. For the purposes of this chapter the following words shall have the following meanings:

"ERU," or "equivalent residential unit" means a unit of water or wastewater which incurs the same costs for operation and maintenance as the average volume of water consumed by, or domestic wastewater discharged from, a single-family residence.

"SDF" or "System Development Fee" means the "buy-in" or reimbursement fee, collected at the time of connection to the water system that represents a fair share for the new user of capital improvements for which the City and existing users have contributed, and is used to make additional capital improvements to the system necessary to increase its capacity as new users connect.

"Service" means installation of pipe, connections, water meter, tile and other items including labor of installation required to deliver water from the main to a point one foot inside the curb line or easement/franchiseright-of-way nearest the water user's property.

"WAF" or "Water Allocation Fee" means that fee paid to the City for the allocation of water relative to a water right purchased by the City to make water available to the unincorporated portion of the City's Water Service Area. The purchase and allocation of water rights via this method allows the City to maintain a larger service

area and serve an expanded need for which its primary water right may not be adequate to serve.

“Water Availability Certificate” means a certificate issued by the City to satisfy requirements by Okanogan County to prove water availability for development and/or subdivision.

SECTION 2. Section 13.04.012 of the Oroville Municipal Code is hereby amended as follows, **boldface** type indicating additions, ~~strikeouts~~ indicating deletions:

13.04.012 Water Availability - - Generally The city’s water supply is limited by both system capacity and its water rights. ~~Given these limitations, the intent of the city is to allocate water as fairly as possible, giving priority to development of lots within the incorporated area that were platted prior to the adoption of the provisions contained in this section. —~~**The intent of the City is to supply its entire Water Service Area as depicted in its latest Water System Plan; however, the City must prioritize the allocation of the available water as fairly as possible, giving first priority to development within the incorporated area with its existing rights, and to secure additional rights as they may become available for the purpose of serving those developments in the service area but outside the incorporated boundaries of the city. All owners of lots- land within the incorporated boundaries of the city are considered to have priority for water availability and may apply for a water service permit for development existing lots, or for planned lots or other development units. However, all water availability is subject to change as demand and use changes. Therefore, the only definite means of ensuring that a lot or development will be serviced is by activating an account with the city after being granted a water service permit. Activating an account requires at least the first monthly payment of the applicable rate after being granted a water service permit. Such monthly payments may begin prior to actual connection and/or water usage. Developments outside the City may be served through the City System if they have water rights that are usable by the City, and transferable to the City. Such rights transfers shall be subject to an agreement between the City and developer/landowner as to the use and delivery of domestic and/or irrigations water. If the City purchases rights for allocation in the unincorporated areas, connections may be available by paying a fee in-lieu of transfer of water rights that compensates the city for costs associated with such a purchase. Additionally, since demand for unincorporated water connections may exceed rights procured by the City, the City shall allocate purchased water rights according to a system of priorities as described in this Chapter.**

SECTION 3. Section 13.04.016 of the Oroville Municipal Code is hereby amended as follows, **boldface** type indicating additions, ~~strikeouts~~ indicating deletions:

13.04.016 Unincorporated areas-Water availability certificate required.
~~Subdivisions, planned developments, binding site plans, and similar multi-family developments normally need proof that there is water available to serve the development.~~

(1) Development proposals in Okanogan County jurisdiction typically require proof of water adequacy prior to approval. If a proposed development is within the Water Service Area of the City, as depicted in the latest version of the Water System Plan, and the landowner/developer desires City water, an application for a water service is necessary. However, some developments may not build out for many years, or they may never build out encumbering substantial portions of the city's water right. Water availability for parcels of land outside the incorporated boundary of the city requires application to the city council for a water availability certificate.

(2) If approved, either an agreement to transfer water rights held by the applicant with the transfer completed, or the Water Allocation Fee as set forth by the resolution of the City Council for the relevant water rights and a System Development Fee as specified in Section 13.04.020(1), must be paid prior to issuance of a Water Availability certificate. A processing fee shall be required at time of submittal of the application of for such certificate, as established, and adjusted from time to time, by resolution of the city council. Upon approval of the application, the applicant shall have 60 days to submit payment of the total fee calculation to secure a Water Availability Certificate.

(3) Water Availability Certificates are not transferrable; they can only be used on the property for which they are requested. Since there may be landowners in the city prepared to develop and to utilize portions of the city's available water rights purchased and made available for the unincorporated area, water availability certificates shall be null and void after a period of three years unless a water account is activated for each parcel, lot or development unit for which the certificate applies. Activation of a water account shall be accomplished as set forth in Section 13.04.012.

Additionally, a water availability certificate shall require full payment of the system development (SD) fee as specified in Section 13.04.020(1). However, I

(4) All applicants are responsible for the cost of construction and design of water system extensions to be designed and constructed in accordance with the State Department of Health regulations and with the standard practices of the city as necessary to serve their development needs.

(5) If the development is not approved by Okanogan County is officially vacated or rendered null and void the SD fee the SDF and WAF may be recovered upon written request within 120 days of issuance of payment to the city council minus an administration fee of twenty-five dollars. Extensions of this time period may be granted by the City Council in circumstances that are beyond the control of the applicant. Written requests for denials shall include the written evidence of denial and an explanation of circumstances.

(6) If applications exceed the availability of water rights purchased for the unincorporated area, a guideline of priorities for approvals shall be considered in the following order:

1. Existing residences;
2. New single-family residences on existing lots;
3. Low-moderate income housing developments;
4. Other development on existing lots;
5. Subdivisions, Planned Developments, Binding Site Plans or similar developments to urban standards (sanitary sewer, streets, fire flows, etc.)
6. Other subdivision proposals.

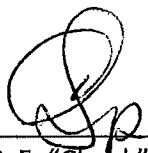
SECTION 4. A new Section 13.04.017 is hereby added to Chapter 13.04 of the Oroville Municipal Code as follows:

13.04.017 Eastlake Sewer Service Area – Connection Required. Water availability certificates issued within the Eastlake Sewer Service Area shall also require connection to sanitary sewer in most cases, and may include additional conditions invoked by the city council, including, but not limited to, system improvements in order to meet the particular needs of the development. In cases where water connections are being requested for existing development where existing water systems fail, the City Council may make exceptions to this provision where timely connection to the sanitary sewer would pose a severe economic burden. However, the City Council shall make provisions for the eventual connection to the sanitary sewer when certain conditions occur.

SECTION 5. This ordinance shall become effective from and after its passage by the City Council, approval by the Mayor and publication as required by law.

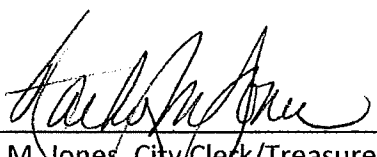
PASSED BY THE CITY COUNCIL OF THE CITY OF OROVILLE this 6th day of July, 2010.

APPROVED:



C. F. "Chuck" Spieth, Mayor

ATTEST:



Kathy M. Jones, City Clerk/Treasurer

APPROVED AS TO FORM:

Michael D. Howe, City Attorney

RESOLUTION NO. 473

**A RESOLUTION OF THE OROVILLE CITY COUNCIL
ADOPTING POLICIES REGARDING WATER USE
EFFICIENCY.**

WHEREAS, Chapter 246-290 of the Washington Administrative Code requires that municipalities adopt goals and measures for the efficient use of water; and

WHEREAS, the City Council acknowledges that it is prudent and in the best interest of the citizens and property owners of the City use water efficiently; and

WHEREAS, the City assessed its existing goals and policies regarding water conservation measures, drafted additional goals and measures and notified the public that proposed goals and measures for water use efficiency were available at City Hall and on the City website for review and comment as attached hereto in Exhibit "B"; and

WHEREAS, the City Council provided proper notice for, and held, a public meeting on February 5, 2008 to review, consider and discuss said goals and measures; and

WHEREAS, the City Council voted to adopt the goals and measures presented.

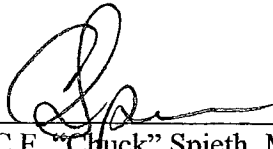
NOW, THEREFORE,

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF OROVILLE, WASHINGTON
as follows:

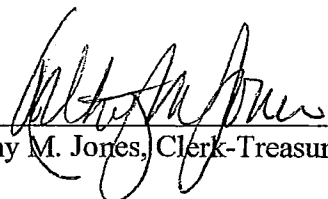
1. The City Council adopted the policies and measures as contained in Exhibit "A" attached hereto on February 5, 2008.
2. The policies contained herein are intended to be supplemental to the policies set forth in the Oroville Comprehensive Water Plan.

PASSED BY THE CITY COUNCIL this 18th day of March, 2008.

APPROVED:


C.F. "Chuck" Spieth, Mayor

ATTEST:


Kathy M. Jones, Clerk-Treasurer

APPROVED AS TO FORM:

Michael D. Howe, City Attorney

WATER USE EFFICIENCY GOALS

GOAL 1

SUPPLY GOAL - REDUCE DISTRIBUTION SUPPLY LEAKAGE TO 10% OVER THE EFFECTIVE PERIOD OF THE 2008 WATER PLAN (I.E., BY 2014)

Rationale: *Identifying and fixing our leaks will help us provide better service, save money on pumping costs, and may allow us to add more connections for future growth.*

GOAL 2

DEMAND GOAL - REDUCE DAILY HOUSEHOLD CONSUMPTION TO AN AVERAGE OF 250 GALS PER DAY OVER THE EFFECTIVE PERIOD OF THE 2008 WATER PLAN (I.E., BY 2014).

Rationale: *Using less water saves the customer money and may allow us to add more connections for future growth which helps to spread the costs of operating the system to more uses (i.e., develop better economy of scale).*

GOAL 3

MONITORING GOAL – IMPLEMENT MEASURES THAT IMPROVE THE CITY’S ABILITY TO ACCURATELY MONITOR WATER LOSS AND USE DATA IN ORDER TO IMPROVE THE WATER USE EFFICIENCY PROGRAM.

WATER USE EFFICIENCY MEASURES

Table 2 Water Use Efficiency Measures		
Indoor Residential	Outdoor	Industrial/Commercial/ Institutional
Water bill showing consumption history	Water bill showing consumption history	Water bill showing consumption history
Customer leak detection education	Customer leak detection education	Customer leak detection education
Evaluate Conservation Rates	Evaluate Conservation Rates	Evaluate Conservation Rates
Educate Customers (City newsletter / bill stuffers)	Educate Customers (City newsletter / bill stuffers)	Educate Customers (City newsletter / bill stuffers)
Improved monitoring of non-metered uses. (e.g., breaks, leaks, flushing, fires suppression, etc)		

RESOLUTION NO. 466

**A RESOLUTION OF THE OROVILLE CITY COUNCIL
AMENDING POLICIES REGARDING THE PROVISION OF
WATER SERVICE OUTSIDE THE INCORPORATED
BOUNDARY OF THE CITY.**

WHEREAS, the City Council adopted Resolution No. 465 outlining policies regarding the provision of water service outside the incorporated boundary of the City; and

WHEREAS, the City Council acknowledges that a number of applications for water service outside the City had been applied for during its moratorium on such connections, and feels that property owners having submitted those applications should be allowed to connect to city water.

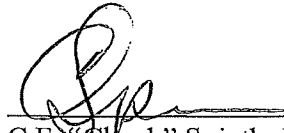
NOW, THEREFORE,

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF OROVILLE, WASHINGTON
as follows:

1. Applicants for water service on file with the City that were submitted and not acted upon by the City as a result of the unincorporated water service connection moratorium adopted on September 7, 2004, and that were submitted prior to the adoption of Resolution No. 465 are hereby approved providing that the following conditions are satisfied:
 - a) No new lots are created as a result of the new water service approval; and
 - b) Water service shall be for single-family residential use only; and
 - c) The existing water main in the vicinity of the requested connection is adequate in size and condition to serve a residential use as determined by the City Superintendent; and
 - d) In the case where two or more applications have been submitted for an area where the water main is found to be inadequate to support all connections requested, such applications shall be considered for final approval in the order that they were received by the City; and
 - e) Applications approved as a result of this resolution must be installed and a water account activated within 6-months of the date approval notice was delivered to the applicant's address after which time has passed the approval shall be null and void; and
 - f) From this date forward, any water connection approved for any existing parcel within the City's water system may not be transferred to another parcel; and
 - g) Applicant must sign an agreement to be recorded with the property deed that the current and future property owners where the connection is approved are subject to annexation at such time that such annexation is proposed by property owners contiguous with the city limits and the subject property; and
 - h) The current owner's signature upon said agreement represents them as petitioners to annex to the City of Oroville, in perpetuity.
2. The policies contained herein are intended to be supplemental to the policies set forth in the Oroville Comprehensive Water Plan.

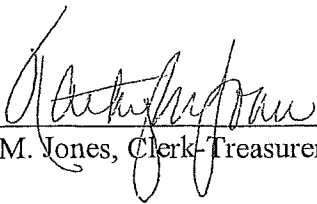
PASSED BY THE CITY COUNCIL this 7th day of August, 2007.

APPROVED:



C.F. "Chuck" Spieth, Mayor

ATTEST:



Kathy M. Jones, Clerk-Treasurer

APPROVED AS TO FORM:

Michael D. Howe, City Attorney

RESOLUTION NO. 465

**A RESOLUTION OF THE OROVILLE CITY
COUNCIL ADOPTING POLICIES REGARDING
THE PROVISION OF WATER SERVICE
OUTSIDE THE INCORPORATED BOUNDARY OF
THE CITY.**

WHEREAS, the City Council recognizes that its authority to withdraw water from its natural source is limited by the State of Washington which is set forth by permit and certificate; and

WHEREAS, the City Council acknowledges that it is prudent and in the best interest of the citizens and property owners of the City to prioritize the expenditure of the balance of its rights and permits; and

WHEREAS, the City Council considers the availability of municipal water to properties within the incorporated boundary as its highest priority; and

WHEREAS, the City has adopted a comprehensive plan that establishes the area in which it expects, and intends, to grow through annexation over the next twenty year period and considers this area an "Urban Growth Area" absent the application and requirements of the Growth Management Act; and

WHEREAS, pursuant to its Comprehensive Plan the City has adopted an approved Comprehensive Water Plan that sets forth a Water Service Area that emulates its adopted "Urban Growth Area"; and

WHEREAS, out of concern regarding the implications of new water connections in subdivisions and other developments outside the City, on September 7, 2004 the Council approved issuing a moratorium on additional water connections outside the incorporated boundary other than those already approved or contractually obligated until sub-area planning is completed and other concerns are resolved; and

WHEREAS, the City Council desires to provide additional water connections outside the incorporated boundary with the condition that it experiences no net loss of its water permit and certificates to unincorporated development.

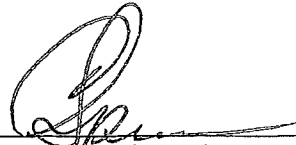
NOW, THEREFORE,

**BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF OROVILLE,
WASHINGTON as follows:**

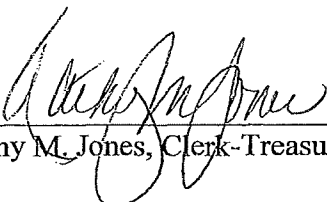
1. Water service connections shall be available to any property within the City of Oroville whose owners or agents agree to abide by the rules and regulations adopted by the City of Oroville and the State of Washington, and provided that the authority to withdraw such an amount of water is available.
2. Water connections shall be made available, by specific agreement, to property outside the incorporated boundaries of the City and within the Water Service Area, as approved by the state of Washington, whose owners, agents, and/or tenants compensate the City with rights, permits or certificates (including transferable domestic exempt quantities) that are readily useable by the City, and equal or greater in volume to the projected needs of the development and/or use of the property.
3. Existing residences located outside the City's incorporated boundary but within the Water Service Area may be approved for water connections by the City Council in situations of hardship without meeting the conditions of section 2. A hardship shall be defined as a circumstance where the well serving the residence has declined in production such that it is deemed inadequate for domestic purposes, and/or where the water has been proven unsafe to drink. However, approval of such a connection shall be conditioned by the proper abandonment of the subject well, and reasonable effort shall be made to transfer water rights to the city if they exist, or an amount consistent with the volume used and transferable pursuant to the State's Domestic Exemption rules.
4. Water connections may be made available upon approval by the City Council in situations where water applications have been made before the date of the adoption of this resolution, or where the City has expressly agreed to serve.
5. Any and all approved connections to City water must comply with the provisions of Title 13 of the Oroville Municipal Code in order to perfect and maintain the right to use City water, and shall include all historic approvals by the City to serve water to developments within the North End Water Users service area.
6. The policies contained herein are intended to be supplementary to the policies set forth in the Oroville Comprehensive Water Plan.

PASSED BY THE CITY COUNCIL this ^{1st}~~17th~~ day of ^{May}~~April~~, 2007.

APPROVED:


C.F. "Chuck" Spieth, Mayor

ATTEST:


Kathy M. Jones, Clerk-Treasurer

APPROVED AS TO FORM:

Michael D. Howe, City Attorney