

# Master Water Report



AT THE HEART OF GREAT LIVING

# TEHALEH DEVELOPMENT

Tehaleh E.B.P.C  
Phase 2 Major Amendment

Pierce County, Washington

Master Water Plan

June 21, 2017

MacKay  Sposito

Owner: Newland Communities  
Civil Engineer: MacKay Sposito



# Master Water Plan

## TEHALEH EMPLOYMENT BASED PLANNED COMMUNITY PHASE II MAJOR AMENDMENT

Pierce County, WA

June 21, 2017

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**Project Engineer's Certification:**

"I hereby state that this Master Water Plan Report for Tehaleh Employment Based Plan Community has been prepared by me or under my supervision and meets the standard of care and expertise which is usual and customary in this community for professional engineers. I understand that Pierce County does not and will not assume liability for the sufficiency, suitability, or performance of drainage facilities prepared by me."



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## Table of Contents

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1.0	PROPOSED PROJECT DESCRIPTION .....	6
2.0	PROJECT LOCATION .....	6
3.0	EXECUTIVE SUMMARY .....	10
4.0	AFFECTED ENVIRONMENT (EXISTING CONDITIONS) .....	12
4.1	EXISTING DISTRIBUTION SYSTEM .....	12
5.0	MASTER WATER PLAN .....	13
5.1	WATER SERVICE PROVIDER .....	13
5.2	PROPOSED WATER DISTRIBUTION .....	18
5.2.1	SIZING AND PRESSURE REQUIREMENTS .....	18
5.2.2	FIRE FLOWS .....	18
5.2.3	PRESSURE ZONES .....	19
5.2.4	PROPOSED IMPROVEMENTS.....	19
5.3	PROJECTED WATER DEMAND .....	20
5.4	IRRIGATION DEMAND.....	22
6.0	GOVERNMENTAL APPROVALS .....	28
6.1	WASHINGTON STATE.....	28
6.2	PIERCE COUNTY .....	28
6.3	TACOMA PUBLIC UTILITIES.....	28
7.0	ENVIRONMENTAL IMPACTS (PROPOSED ACTION) .....	28
7.1	WATER DISTRIBUTION .....	28
7.2	PUMP STATIONS AND RESERVOIRS.....	28
7.3	IMPACT OF PROVIDER .....	29
7.4	MITIGATION MEASURES.....	29
7.5	UNAVOIDABLE ADVERSE IMPACTS .....	29
8.0	DEVELOPMENT ALTERNATIVES.....	30
8.1	Applicant's Preferred Alternative – No Golf Course or Hotel - 9,700 dwelling units.....	30
8.2	SEIS Alternative 1 – Golf Course and Hotel - 9,700 dwelling units.....	30
8.3	SEIS Alternative 2 – Golf Course and Hotel - 6,437 dwelling units.....	31
8.4	SEIS Alternative 3 – Golf Course - 9,700 dwelling units .....	31
8.5	SEIS Alternative 4 – Phase I Build-out/No Phase II Development - 2,586 dwelling units (No Action Alternative) .....	32



**List of Tables**

Table 1: Phase II SEIS Alternatives .....	13
Table 2: Estimated Water Demand by Land Use .....	21
Table 3: Estimated Square Footage for Irrigation .....	22
Table 4: Estimated Irrigation Demand without Golf Course.....	22
Table 5: Irrigation Supply - Demand Timeline without Golf Course .....	23
Table 6: Estimated Irrigation Demand for Golf Course Only .....	25
Table 7: Estimated Irrigation Demand for Landscaping & Golf Course .....	25
Table 8: Irrigation Supply - Demand Timeline SEIS Alternative 3 with Golf Course .....	26
Table 9: Irrigation Supply - Demand Timeline SEIS Alternative 1 with Golf Course .....	27
Table 10: Estimated Water Flow Rates .....	40

**List of Figures**

Figure 1: Vicinity Map .....	8
Figure 2: TPU Service Area .....	16

**List of Appendices**

Appendix A .....	34
Appendix B .....	38
Appendix C .....	44

## 1.0 PROPOSED PROJECT DESCRIPTION

The purpose of this Master Water Plan is to provide a preliminary analysis of water facility capacity, water use and water facilities to serve the Tehaleh EBPC. This technical report is intended to support the *Tehaleh Employment Based Planned Community (EBPC) Planned Unit Development (PUD) Phase II Major Amendment Project Supplemental Draft Environmental Impact Statement* (Tehaleh Phase II SDEIS). Water facilities will be designed in accordance with Tacoma Public Utilities (TPU) and Washington State Department of Health (DOH) standards and specifications and will be operated and maintained by Tacoma Public Utilities. TPU has provided a Water Availability Letter for Tehaleh EBPC dated August 21, 2013 (letter attached in Appendix C). The Water Availability Letter states that TPU will serve Tehaleh and can provide adequate domestic and fire flows for the entire Tehaleh site and will assume operation and maintenance responsibility for the water mains. In addition, the TPU Water Availability Letter states that “Tacoma Water currently has no water capacity limitations that exist for the water system that will serve the Tehaleh project.”

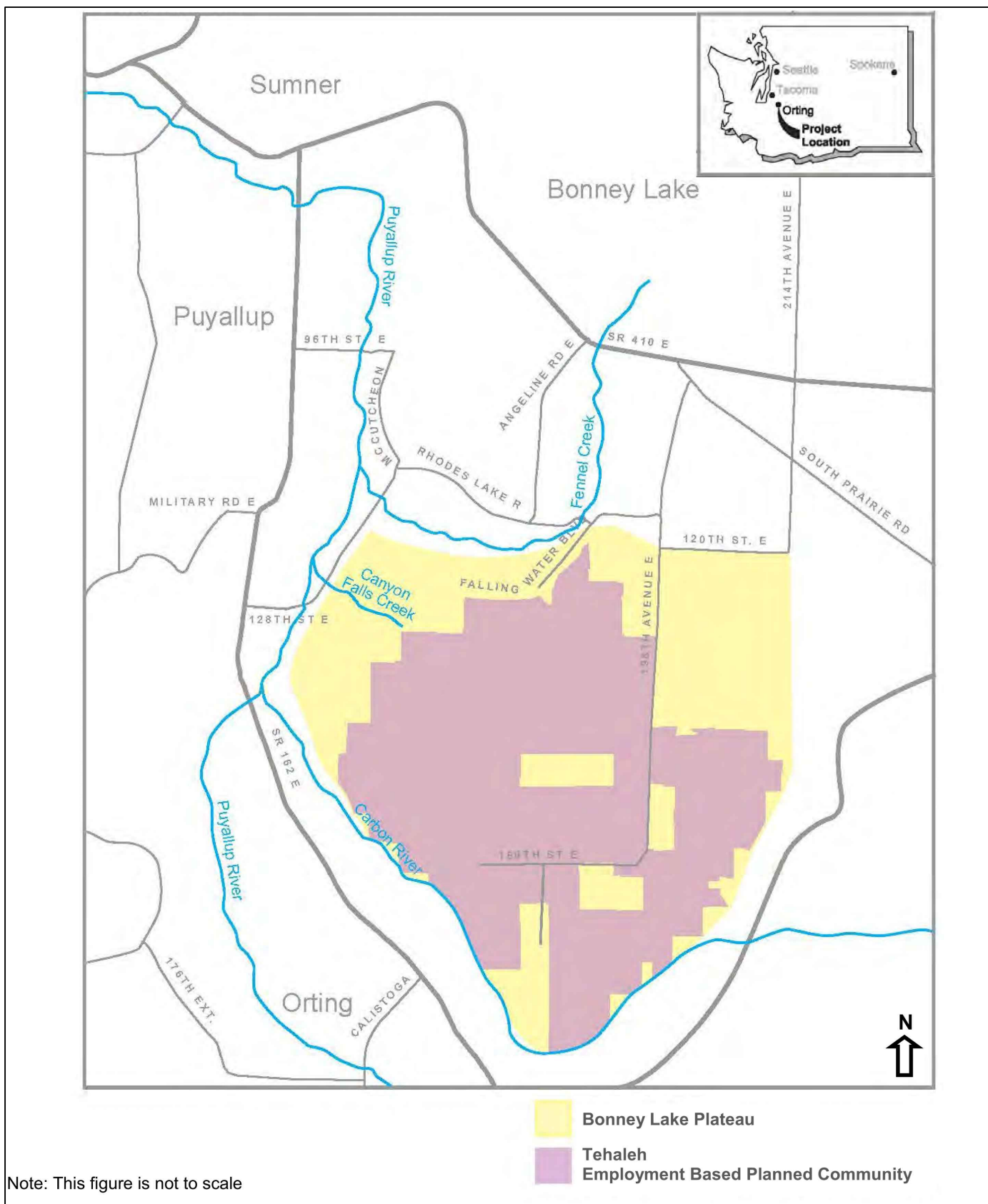
The narrative below describes the existing backbone water infrastructure; proposed infrastructure, projected water demand and potential associated impacts at Tehaleh full build out. The purpose of this plan is to describe and analyze potential adverse impacts from implementation of the proposed Master Water Plan and provide mitigation measures to avoid any anticipated adverse impacts. An exhibit of the Master Water Plan is presented in Appendix A.

This report is not a design level water analysis, rather it as an assessment of the potential impacts and proposed mitigation measures proposed to avoid these potential impacts. Proposed water flow estimations for full build out have been completed to verify the proposed plan and assess potential impacts of development for the SEIS. All proposed water infrastructure will follow the Department of Health standards and Tacoma Public Utilities (TPU) Standards and construction documents will be design by TPU and reviewed and approved by Pierce County prior to construction.

## 2.0 PROJECT LOCATION

The 4,756 acre Tehaleh Employment Based Planned Community development is located on a plateau northeast of the City of Orting and south of the City Bonney Lake in Pierce County, Washington (portions of Sections 8, 9, 16 through 23, 27 through 30 and 33, Township 19 North, Range 5 East, W.M.). Tehaleh is bounded to the south and west by the Carbon River, to the east by South Prairie Creek, and to the northwest by Canyonfalls Creek. A vicinity map showing the location of the site is shown on Figure 1.

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MAP/IMAGE PROVIDED BY ENGINEERING, SCIENCE, AND TECHNOLOGY, INC., PBC

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TEHALEH E.B.P.C.

## FIGURE 1 - VICINITY MAP

PROJECT NO.: 16076

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DATE: 3/21/2016

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### 3.0 EXECUTIVE SUMMARY

Tehaleh EBPC is currently being provided water services by Tacoma Public Utilities (TPU) and has a Water Availability Letter assuring water demand can be met. The Green River watershed serves as TPU primary water supply. The site is currently under development with 6 neighborhoods constructed (Columbia Vista, Liberty Ridge, Winthrop, Whitman, Inspiration Ridge and Trilogy East) and 5 in the process of construction (Trilogy West, Cathedral Ridge, Berkeley Park, Panorama Point, and Pinnacle Ridge), as well as the currently finished projects such as the Donald Eismann Elementary School, the Visitor Center/the Post and the Seven Summits Lodge. Approximately 4,000-acres are still undeveloped.

Much of the Tehaleh Phase I water backbone infrastructure was originally constructed in 2007/2008, making both domestic water and fire flows available to the site. This infrastructure has been programmed, constructed, and accepted by TPU representatives. Major components of the completed infrastructure include a 24-inch diameter transmission line from TPU Prairie Ridge reservoir system to 198<sup>th</sup> Avenue East and a distribution “feeder” pipe ranging from 12” to 30” for Phase I in Cascadia Boulevard, Canyon View Blvd E, and 198<sup>th</sup> Avenue East. A Supply Pump Station at the existing Prairie Ridge Reservoir provides the water supply for Tehaleh EBPC. Phase 1A water mains and services for the Columbia Vista, Whitman, Winthrop, Liberty Ridge, Inspiration Ridge, Cathedral Ridge and Trilogy subdivision tracts are in place. Water services for the Elementary School, The Post and the Seven Summits Lodge are also in place.

All water mains will be designed in accordance with Tacoma Public Utilities and DOH standards and specifications and would be operated and maintained by Tacoma Public Utilities. Installation of the water distribution system would be phased as development proceeds.

The Tehaleh Master Plan water system will be designed and constructed to provide minimum fire flow rates in accordance with Pierce County and Tacoma Public Utilities criteria. For the purpose of sizing the major components of the distribution system, the following fire flow rates were utilized; 1,500 gpm for single family detached residences, 2,500 gpm for multi-family attached residences and 3,000 gpm for commercial, light industrial and school structures. Actual commercial fire flow rates vary depending on the building size, height and construction materials, construction techniques, sprinklers, etc. For planning purposes a value of 3,000 gpm was chosen as a reasonable estimate for the required for flow.

New reservoirs are required to service the entire site with the required flows and pressures. To maximize the efficiency of the new reservoirs, they will be located on high points. Two new reservoirs are proposed within Phase I of Tehaleh, the first will be located in the northwest corner of the proposed Pinnacle Ridge Plat (parcel J) and the second will be located northwest of Phases 1 and 2 of Trilogy West (parcel M5). A third new reservoir is proposed in Phase II of Tehaleh, located on a high point within the 2D.8 parcel.

Three of the five alternatives (Applicant’s Preferred Alternative and Alternatives 1 and 3) propose a maximum of 9,700 residential units. These alternatives have similar amounts of commercial, public facility, recreation and open space uses. These alternatives would also require similar domestic and commercial water demand. Alternative 2 has a much lower residential unit count with similar land uses areas for commercial, public facilities, and recreation and open space uses. Additionally, all proposed action alternatives (Applicant’s Preferred Alternative and Alternatives 1 and 3) have similar plans for water infrastructure. The biggest difference in proposed development and infrastructure location will

occur in Alternative 4. Alternative 4 will include continued development of Phase I only, and will have the same infrastructure as the action alternatives in Phase I, but no infrastructure in Phase II. Four of the alternatives (Alternatives 1, 2, 3 and 4) would include a golf course. Alternatives that propose a golf course would require more irrigation than those that do not.

For the estimated water demand of Tehaleh, the Washington State Department of Health (DOH) 2009 Water System Design Manual was used. Estimated residential equivalents at build-out is approximately 13,903 and average daily demand is approximately 3.06 MGD.

Landscaping is a large part of the Tehaleh EBPC. Major arterials, feeder roads, and recreation areas will be landscaped. For the landscaping to thrive, irrigation is typically required between the months of May through September. Irrigation demand is currently being met by TPU, but once the permanent Waste Water Treatment Plant is online, class "A" effluent will be turned into "reclaimed water" for the use of irrigation. For the Applicant's Preferred Alternative, there would be approximately 5 million square feet of landscaping within the site. At full residential build-out (9,700 residential units) the Preferred Alternative will have all irrigation demand directly supplied by the estimated volumes of reclaimed water from the proposed WWTP. To meet cumulative monthly irrigation demands volumes, the Preferred Alternative would require approximately 4,600 residential units in service, per current phasing, this could potentially take place in 2023/2024.

SEIS Alternative 3 includes a golf course with similar land use as the Applicant's Preferred Alternative. With the addition of the golf course – approximately 5.5 million square feet of landscaped area requiring irrigation – Alternative 3 has a large irrigation demand. At full residential build-out (9,700 residential units), the proposed golf course and development would require a reservoir with supplemental water supplied by TPU. At full residential and commercial build-out (13,903 equivalent residential units, or ERUs) estimated reclaimed water volumes can directly supply the entire development and golf course irrigation demand.

SEIS Alternative 1 also includes a golf course with and has similar land use as the Applicant's Preferred Alternative. The proposed golf course in SEIS Alternatives 1, 2 and 4 is larger than SEIS Alternative 3 but the Alternatives do not have similar residential land use to Alternative 3. Therefore, only SEIS Alternative 1 is compared at full build-out to SEIS Alternative 3 for irrigation demand with a golf course. The addition of the golf course – approximately 6.4 million square feet landscaped area requiring irrigation – Alternative 1 requires the largest irrigation demand of all the Alternatives. At full residential build-out (9,700 REs) the proposed golf course and development would require a reservoir with supplemental water supplies by TPU. At full residential and commercial build-out (13,903 ERUs) estimated reclaimed water volumes can directly supply the entire development and golf course irrigation demand.

#### 4.0 AFFECTED ENVIRONMENT (EXISTING CONDITIONS)

##### 4.1 EXISTING DISTRIBUTION SYSTEM

There are 6 completed neighborhoods in Tehaleh (Columbia Vista, Liberty Ridge, Winthrop, Whitman, Inspiration Ridge and Trilogy East), as well as other completed developments such as the Donald Eismann Elementary School, the Visitor Center/The Post and the Seven Summits Lodge, the Retention Facility R4 and Detention Facilities D3 and D4. There are 5 neighborhoods currently under construction (Trilogy West, Cathedral Ridge, Berkeley Park, Panorama Point and Pinnacle Ridge). As of March 1, 2016, there are 1,022 single-family lots platted, 727 single-family building permits issued, 514 single-family homes occupied, approximately 3,000 sq. ft of employment, and 888 additional single-family lots under development (preliminary platted). Approximately 4,000-acres are still undeveloped and have been managed for forest resource production over most of this century. The majority of the site currently consists of vacant land with plant communities at varying stages of maturity. Notable natural features on the site include Orting Lake, approximately 56 acres of wetlands and an additional 208 acres of buffer area within Tehaleh, a portion of Canyonfalls Creek, and the plateau bluffs. Three parcels termed “exception parcels” are not part of the Tehaleh ownership, but are on the plateau and surrounded by the site. These parcels are largely wooded and contain scattered low-density single-family residences.

Tehaleh EBPC is currently being provided water services by Tacoma Public Utilities (TPU) and has a Water Availability Letter assuring water demand can be met. The Green River watershed serves as TPU’s primary water supply. The Green River watershed also serves as the primary supply for the City of Kent, the Covington Water District and the Lakehaven Utility District. The Green River watershed is approximately 147,394 acres and through continuing coordination with other water providers and landowners, TPU works to maintain the quality of water within the watershed. TPU also owns 24 wells throughout the Tacoma area to be used as a secondary water source. The wells can account for about 10% of water during the summer months.

Much of the Tehaleh Phase I water backbone infrastructure was originally constructed in 2007/2008, making both domestic water and fire flows available to the site. This infrastructure has been programmed, constructed, and accepted by TPU representatives. Major components of the completed infrastructure include a 24-inch diameter transmission line from TPU Prairie Ridge reservoir system to 198<sup>th</sup> Avenue East and a distribution “feeder” pipe ranging from 12” to 30” for Phase I in Cascadia Boulevard, Canyon View Blvd E, and 198<sup>th</sup> Avenue East. A Supply Pump Station at the existing Prairie Ridge Reservoir provides the water supply for Tehaleh EBPC. Phase 1A water mains and services for the Columbia Vista, Whitman, Winthrop, Liberty Ridge, Inspiration Ridge, Cathedral Ridge and Trilogy subdivision tracts. Water Services for the Elementary School, The Post and the Seven Summits Lodge are also in place.

The existing water system runs from a pump station located north of the O parcels to 198<sup>th</sup> Avenue East in a 24” water main. This 24” main connects to a 30” water main that runs north-south along 198<sup>th</sup> Avenue East from a pump station located in the southeast corner of Pinnacle Ridge to the northeast corner of the fire station south of Panorama Point. A 20” main runs from the intersection of Cascadia Boulevard and Canyon View Blvd E and ends where existing Cascadia Boulevard ends. A 12” main runs from the intersection of Cascadia Boulevard and Canyon View Blvd E north along Canyon View Blvd E and ends at the northeast corner of Liberty Ridge. A 12” main runs from the intersection of Cascadia



Boulevard and Canyon View Blvd E runs southeast along the northeast border of Whitman plat and ends at the southeast corner of Whitman.

For the estimated water demand of Tehaleh, the Washington State Department of Health (DOH) 2009 Water System Design Manual was used. The base Average Daily Demand (ADD) residential flow rate determined from a multi-year study is about 200 gallons per day per RE, whereas the Maximum Daily Demand (MDD) is about 350 gallons per day per RE. Additionally, the Peak Hourly Demand (PHD) was determined using an equation based on MDD and ERUs, and the Maximum Month's Average Day Demand (MMAD) (in gallons per day per ERU) was based on a Western Washington Peaking Factor of 1.7 times the MDD.

## 5.0 MASTER WATER PLAN

### 5.1 WATER SERVICE PROVIDER

Tacoma Public Utilities (TPU) will serve the Tehaleh project with domestic water. The site is within the designated service area of TPU and has provided a Water Availability Letter. The letter states that TPU will serve Tehaleh and can provide adequate domestic and fire flows for the entire project as proposed with the completion of required infrastructure to reach the site.

### PROPOSED LAND USE ALTERNATIVES

The five alternatives analyzed in these SEIS alternatives are briefly outlined below:

Table 1: Phase II SEIS Alternatives

Alternatives	SEIS Applicant's Preferred Alt.	SEIS Alt. 1	SEIS Alt. 2	SEIS Alt. 3	SEIS Alt. 4
Description	<b>Preferred Alternative:</b> No Golf Course or Hotel	Phase II Application Golf Course and Hotel	Current Approval: Golf Course and Hotel	Modified Current Approval with Golf Course	No Action Alternative: Golf Course and Hotel, no Phase II
Total Residential Units (REs)	9,700	9,700	6,437	9,700	2,586
Employment Center Areas (ac.)*	476	484	484	476	159

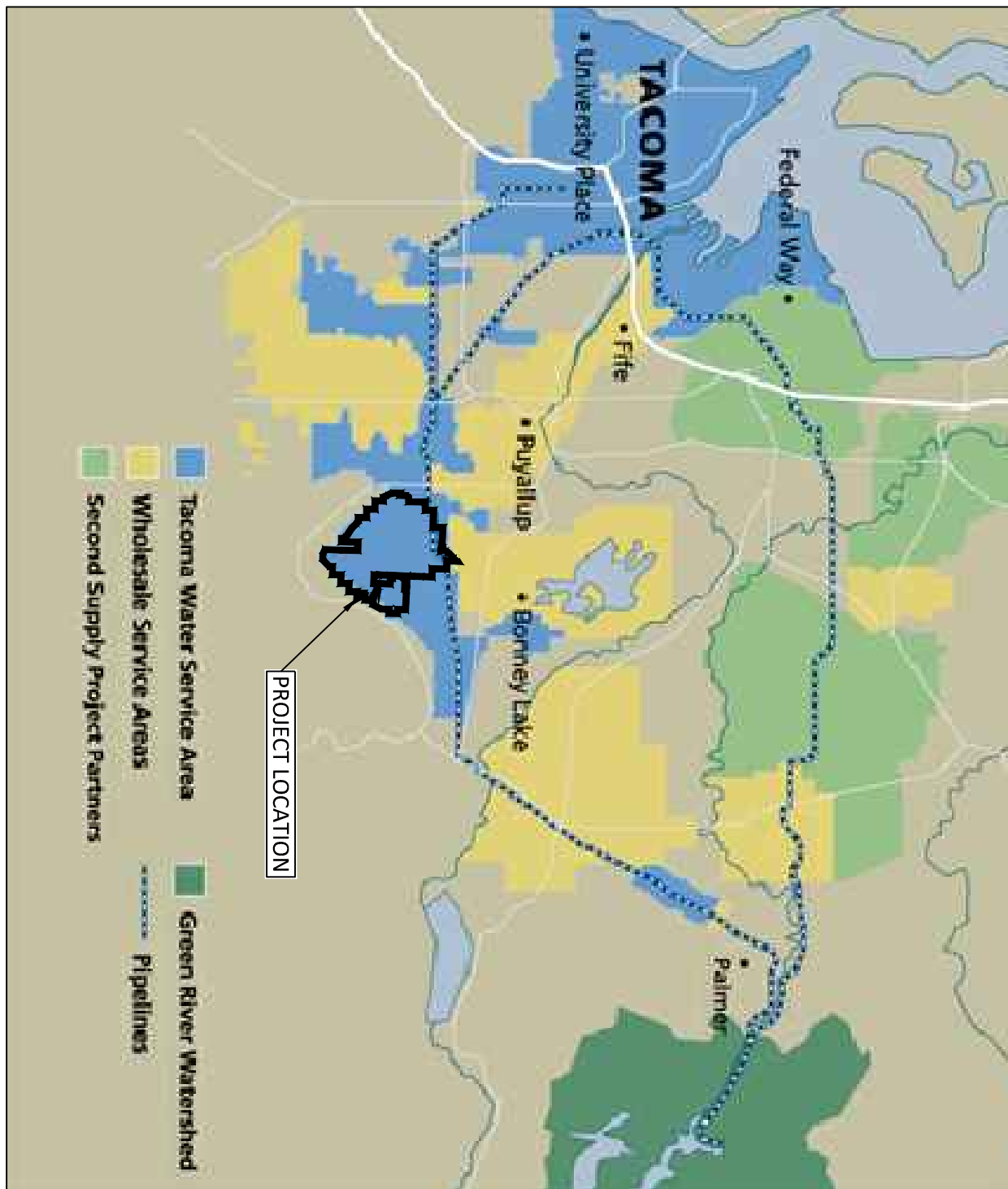
\* Assumes 100% of the school acreage counts toward employment center area, consistent with the Phase II proposal and as allowed by the current Tehaleh zoning (Exhibit I to the 2015 Development Agreement)

As shown above, three of the five alternatives (Applicant's Preferred Alternative and Alternatives 1 and 3) propose a maximum of 9,700 residential units. These alternatives have similar amounts of commercial, public facility, recreation and open space uses. These alternatives would also require similar domestic and commercial water demand. Alternative 2 has a much lower residential unit count

with similar land uses areas for commercial, public facilities, and recreation and open space uses. Additionally, all proposed action alternatives (Applicant's Preferred Alternative and Alternatives 1 and 3) have similar plans for water infrastructure. The biggest difference in proposed development and infrastructure location will occur in Alternative 4. Alternative 4 will include continued development of Phase I only, and will have the same infrastructure as the action alternatives in Phase I, but no infrastructure in Phase II. Four of the alternatives (Alternatives 1, 2, 3, and 4) would include a golf course. Alternatives which propose a golf course will require more irrigation than those that do not (see Section 8.0 for further discussion on proposed Alternatives).

With all these considerations, SEIS Applicant's Preferred Alternative was analyzed for estimated domestic and commercial water demand and proposed infrastructure requirements because the potential impacts presented in this alternative will be the same or more significant than other alternatives. SEIS Alternative 3 was analyzed for estimated irrigation demand because the addition of the Golf Course.

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MAP/IMAGE PROVIDED BY TACOMA PUBLIC UTILITIES WEBSITE (WWW.MYTPU.ORG)

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TEHALEH E.B.P.C.

**TACOMA PUBLIC UTILITIES  
WATER SERVICE AREA**

PROJECT NO.: 16076

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DATE: 3/21/2016

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## 5.2 PROPOSED WATER DISTRIBUTION

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### 5.2.1 SIZING AND PRESSURE REQUIREMENTS

All water mains will be designed in accordance with Tacoma Public Utilities and DOH standards and specifications and would be operated and maintained by Tacoma Public Utilities. Installation of the water distribution system would be phased as development proceeds. In general, water mains would be located in public streets or separate tracts and would be looped, wherever feasible. The usual sizes for normal water distribution mains within Tehaleh will be 8 to 12 inches in diameter. Individual service lines to lots or buildings will be sized based on the structure served, with a minimum diameter of 1 inch. Major feeder water mains will range from 12 to 24 inches and are preliminarily shown on the Master Water Plan (See Appendix A).

Valves will be installed at intersection and/or at a distance not exceeding 800 feet in distribution lines or every quarter mile in the transmission main. Auxiliary valves will be installed on each fire hydrant branch.

To assure customers receive adequate pressure for normal domestic uses, the system shall be designed to:

1. Maintain a minimum of 30 psi at each meter or property line under peak hourly demand conditions (PHD).
2. Maintain a minimum of 20 psi at each meter or property line under PHD conditions together with the maximum required fire flow.
3. Ensure system pressures do not exceed 100 psi under any demand conditions throughout the distribution system. For small isolated areas of high pressure individual PRVs may be used. For large areas of high pressure, a separate pressure zone isolated by a pressure reducing station will be required.
4. Maintain a minimum pressure of 40 psi under average daily demand (ADD).

### 5.2.2 FIRE FLOWS

Fire hydrants are an important part of the water distribution system within Tehaleh. Fire hydrants will be placed per Pierce County Building Code except where more stringent requirements are required by TPU. Single-family and multi-family residential development will have hydrant spacing of 600 and 300 feet, respectively. Fire hydrant branches exceeding 50 feet in length will require a minimum diameter of 8 inches and no more than one fire hydrant can be installed on an 8-inch dead end line.

The Tehaleh Master Plan water system will be designed and constructed to provide minimum fire flow rates in accordance with Pierce County and Tacoma Public Utilities criteria. For the purpose of sizing the major components of the distribution system, the following fire flow rates were utilized; 1,500 gpm for single family detached residences, 2,500 gpm for multi-family attached residences and 3,000 gpm for commercial, light industrial and school structures. Actual commercial fire flow rates vary depending on the building size, height and construction materials, construction techniques, sprinklers, etc. For planning purposes a value of 3,000 gpm was chosen as a reasonable estimate for the required for flow.

### 5.2.3 PRESSURE ZONES

Four pressure zones are planned for the project to assure the appropriate pressures are maintained within the development communities. Ground elevations on the developed portions of the Tehaleh site range from approximate elevation of 500 to elevation of 900. This represents a water pressure differential of about 200 pounds per square inch (psi). A typical water system pressure zone will serve water at pressures between 50 psi and 100 psi, a differential of about 50 psi. Therefore, the Tehaleh site cannot be served from a single pressure zone. It is proposed that Tehaleh will be served by 4 pressure zones as shown on the Master Water Plan (see Appendix A).

The pressure zone numbering system designates the static hydraulic gradient of the zone. The hydraulic gradient determines the water pressure in the water mains and in the houses and other structures within the zone. The pressure zone boundaries and hydraulic gradients were planned and developed to ensure that adequate service pressure zones and the elevation range that each zone will service are maintained. Pressures will be maintained between 50 and 100 psi, but some isolated areas may have pressures as low as 40 psi. Zones can be connected using pressure reducing valves to service lower pressure zone from higher pressure zones without reducing effectiveness of either zone.

### 5.2.4 PROPOSED IMPROVEMENTS

The existing Prairie Ridge reservoir serves pressure zones 1040 and 950 but cannot directly serve the entirety of the Tehaleh site. New reservoirs are required to service the entire site with the required flows and pressures. To maximize the efficiency of the new reservoirs, they will be located on high points. Two new reservoirs are proposed within Phase I of Tehaleh, the first will be located in the northwest corner of the proposed Pinnacle Ridge Plat (parcel J) and the second will be located northwest of Phases 1 and 2 of Trilogy West (parcel M5). A third new reservoir is proposed in Phase II of Tehaleh, located on a high point within the 2D.8 parcel. New reservoirs and/or pump stations will be designed and constructed as necessary to meet all water distribution standards. Timing the construction of these reservoirs has not been thoroughly outlined at this time by TPU, the designer of all water systems within Tehaleh. TPU is aware of the project progression and will work closely with the developer so that reservoirs and major infrastructure is implemented in phases to match the progression of development. Construction of reservoirs could potentially cause noise and traffic impacts during construction and impacts to views after construction. TPU, DOH and Pierce County standards as addressed in the Development Agreement will address these impacts, and when followed correctly will mitigate these impacts to the maximum extent feasible.

Each parcel will have its individual “feeder” pipe conveying water from junctions along major feeder water mains. Major feeder lines will continue along Cascadia Blvd E to just west of parcel M5, the major main will then travel south through Trilogy West to Phase II. This major main will loop back to the intersection of 198<sup>th</sup> Ave E and Cascadia Blvd E. This main will be fed by the combination of the existing Prairie Ridge Reservoir and the new reservoir within Pinnacle Ridge. This reservoir will also feed a separate feeder main through 2G parcels from Tehaleh Blvd to Parcel O and back to the intersection of 198<sup>th</sup> Ave E and Cascadia Blvd E (see Master Water Plan in Appendix A).

The proposed new reservoir northwest of Trilogy West Phase 2 (parcel M5) will serve the remaining area of Phase I not served by the Pinnacle Ridge and Prairie Ridge reservoirs. However, the Pinnacle Ridge and Prairie Ridge reservoirs will be connected to the lower pressure zones using pressure reducers. These locations will be at the M5 reservoir, to the parcels on the lower terrace on the east and southeast side of the project, and at the existing terminus of Canyon View Blvd. The west proposed

parcels will be served by the 705 pressure zone; this zone will be serviced by a proposed pump station just north of the proposed 2B.2 parcel.

### 5.3 PROJECTED WATER DEMAND

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For the estimated water demand of Tehaleh, the Washington State Department of Health (DOH) 2009 Water System Design Manual was used. The base Average Daily Demand (ADD) residential flow rate determined from a multi-year study is about 200 gallons per day per Residential Equivalent (RE), whereas the Maximum Daily Demand (MDD) is about 350 gallons per day per RE. Additionally, the Peak Hourly Demand (PHD) was determined using an equation based on MDD and REs, and the Maximum Month's Average Day Demand (MMAD) (in gallons per day per RE) was based on a Western Washington Peaking Factor of 1.7 times the MDD.

A detailed estimate of residential equivalents (RE) for Preferred Alternative was created for the design and hydraulic analysis of the proposed Sewer Master Plan. These same estimations of residential equivalents were used to estimate water demand for the entire Tehaleh site (e.g., the employment and public facility uses). The main difference in flows from the projected sewer flow rates is that sewer assume an average water usage of 220 gallons per day per RE and also assume inflow and infiltration during wet seasons.

The Water estimated flow rates are based on average daily demand, maximum daily demand, peak hourly demand, and maximum month's average day demand. Using these parameters, we are providing a range of potential flows rates that will be used as well as what can be demanded based on different specification per resident, business, or public facility. Below are the estimated flow rates in Million Gallons per Day (MGD) and base rate used in gallons per day per RE (gpd/RE). Full table of estimated water flow rates are presented in Appendix B.

- Estimated REs at Full-Build-Out is approximately 13,903 REs.
- Average Daily Demand is approximately 3.06 MGD.
  - Based on 220 gpd/RE
- Maximum Daily Demand is approximately 4.87 MGD.
  - Based on 350 gpd/RE
- Maximum Month's Average Day Demand is approximately 8.27 MGD
  - Based on 595 gpd/RE
  - Peaking Factor 1.7 times MDD
- Peak Hourly demand (PHD) is approximately 15.36 MGD
  - Based on equation  $PHD = (MDD/1440) * (C * N + F) + 18$ 
    - Where N is number of REs
    - Where C and F factors/coefficients associated with RE range
- Residential Equivalents (REs) are the bases for flow rates, REs per Land Use are shown below.
  - Single Family Resident unit counts as 1 RE
  - Multi-Family Residential units counts as 0.83 RE



- Commercial Area based on 1000 gallons per day per acre or 4.55 RE/ac.
- Public Facilities range in use and to be conservative, they were modeled as commercial.
- Schools are based on type (Elementary, Middle, High)
  - Elementary Schools assume 10 gpd per student at 600 students
  - Middle Schools assume 16 gpd per student at 1200 students
  - High Schools assume 16 gpd per student at 1800 students
  - All but one school have an unknown type, therefore for proposed school parcels without a known type, High School flows were assumed to allow for maximum flexibility.

Table 2 below shows the estimated water demand broken out by land use. The estimated volumes presented are preliminary and all final flows, designs and construction will be coordinated and carried out by Tacoma Public Utilities. The volumes presented are based off the Applicant's Preferred Alternative. See Appendix A for Master Water Plan. As mentioned above, the Applicant's Preferred Alternative and SEIS Alternatives 1 and 3 all proposed 9,700 residential units and similar employment uses. In addition, these three alternatives will have very similar build-out demand, similar to what is shown in Table 2. SEIS Alternatives 2 and 4 propose less residential use and therefore would result in lower volumes then presented below. For a full breakdown of estimated water demand on a parcel by parcel basis, see Appendix B.

Table 2: Estimated Water Demand by Land Use

LAND USE	ERU'S	ADD (gpd)	MDD (gpd)	MMAD (gpd)	PHD (gpd)
EXCEPTION PARCELS	1,601	352,300	560,477	952,812	1,415,992
RESIDENTIAL-SF	8,498	1,869,560	2,974,300	5,056,310	10,005,825
RESIDENTIAL-MF	1,202	264,440	420,700	715,190	1,071,835
SCHOOL	638	140,360	223,300	379,610	740,545
PUBLIC FACILITY	51	11,220	17,850	30,345	131,310
COMMERCIAL	1,913	420,860	669,550	1,138,235	1,992,360
<b>TOTALS</b>	<b>13,903</b>	<b>3,058,740</b>	<b>4,866,177</b>	<b>8,272,502</b>	<b>15,357,867</b>

The analysis shown above is for preliminary sizing and preliminary estimates for water demand for the Tehaleh Master Water Plan. Tacoma Public Utilities will perform all designs and construction documents for water infrastructure in Tehaleh. The draft Tehaleh Water Master Plan is currently being reviewed by TPU.

## 5.4 IRRIGATION DEMAND

Part of Tehaleh's aesthetics is developing and maintaining well landscaped areas within ROW landscape buffers, recreational areas, and street trees. These landscape features will require irrigation during dryer periods of the year. To estimate the potential irrigation demand, square footage of proposed landscaping area is estimated at approximately 5 million square feet for the SEIS Applicant's Preferred Alternative and Alternatives 1, 2 and 3. SEIS Alternative 4 proposes only Phase I infrastructure and would require approximately 2.5 million square feet of landscaped area needing irrigation. Landscape square footage is based off the proposed arterial roadway length and proposed parks and other notable features with the development that require irrigation. Therefore, even though SEIS Alternative 2 proposed a much lower overall number of units, this will only affect density of homes and not length of road, park area or other features requiring irrigation. This is the reason the Applicant's Preferred Alternative and Alternatives 1, 2 and 3 have the same required square footage of landscaping. Additionally, four of the alternatives (Alternatives 1, 2, 3 and 4) would include a golf course. SEIS Applicant's Preferred Alternative and Alternative 3 requires the same potable water infrastructure and are the most likely alternatives to be developed. Therefore, for potable water demand for residential and commercial uses, the water demands will be the same. Since SEIS Alternative 3 proposes a golf course, which requires irrigation, Alternative 3 will be the most conservative preferred alternative for estimating irrigation demand.

Table 3: Estimated Square Footage for Irrigation

Irrigation Areas	SEIS Preferred Alternative	SEIS Alternative 1	SEIS Alternative 2	SEIS Alternative 3	SEIS Alternative 4
Landscape (SF)	4,888,484	4,888,484	4,888,484	4,888,484	2,497,103
Golf Course (SF)		6,316,200*	6,316,200*	5,445,000	6,316,200*
<b>Total (SF)</b>	<b>4,888,484</b>	<b>11,204,684</b>	<b>11,204,684</b>	<b>10,333,484</b>	<b>8,813,303</b>

\*For SEIS Alternatives 1 and 2, golf course square footage was directly taken from the 1998 EIS.

The irrigation demand for Tehaleh at full build-out will be for approximately 4.9 million square feet requiring approximately 95 million gallons (MG) between the months of May through September (Assuming completion in 2035). The gallons of water required for irrigation fluctuate through the months of May and September. The total gallons and average gallons per minute for each month for Irrigation Demand **excluding the golf course** is shown in the table below:

Table 4: Estimated Irrigation Demand without Golf Course

Month	Tehaleh Landscaping Irrigation Demand	
	Gallons	Average Gallons Per Min.
May	15,457,386	346
June	18,478,470	428
July	21,822,193	489
August	19,094,419	428
September	13,198,907	296
October	6,364,806	147

## Reclaimed Water

A Waste Water Treatment Plant (WWTP) will be constructed onsite within Phase II of Tehaleh. The proposed WWTP will produce Class “A” treated effluent, which using Washington State Department of Health (DOH) standard requirements for reclaimed water, will be turned into “reclaimed water” used for irrigation demand throughout the site. The WWTP is proposed to be operational in 2019 and the available reclaimed water flows will depend on the units occupied at that time.

Tacoma Public Utilities (TPU) is currently supplying irrigation demand through a separate water line. The line is installed as “purple pipe” with the intent that once the proposed WWTP is operational and producing Class “A” treated effluent the landscape areas can be irrigated with the Reclaimed Water. The purple pipe will transition from being supplied from TPU to being supplied from the reclaimed water. At no point will the two be connected during the same time period. TPU will stop feeding the irrigation line and allow the reclaimed water to provide the water demand for irrigation. Once the switch to reclaimed water is made, TPU water will no longer be pumped directly into the “purple pipe” system. If the irrigation demand is higher than the volume available of reclaimed water, Irrigation reservoirs with TPU connections will be used. The TPU connection will require an air gap and meet all TPU and DOH standards.

## Reclaimed Water Supply without Golf Course

If the Applicant’s Preferred Alternative is the selected alternative, the projected effluent/reclaimed water flows (based on current flow rates and the estimated irrigation demand of Tehaleh landscaped areas) can directly supply the irrigation needs starting in August of 2023. If an irrigation reservoir is implemented, the table below gives the volume required and corresponding year in which the irrigation supply can be switched from TPU to the WWTP effluent.

Table 5: Irrigation Supply - Demand Timeline without Golf Course

Irrigation Supply, Demand, Reservoir Size, & TPU Supply						
REs	Year	Cumm. Year Supply	Cumm. May- October Supply	Cumm. Demand	Max Reservoir Volume	Volume Provided by TPU
1,344	2017	46.4	23.9	42.6	5.9	20.1
1,717	2018	62.7	32.4	42.6	4.5	13.1
1,997	2019	79.2	40.5	46.8	4.0	10.4
2,487	2020	99.6	51.1	56.1	4.4	11.0
2,990	2021	124.8	63.9	59.6	3.1	5.8
3,516	2022	151.1	77.3	60.7	1.1	1.1
3,865	2023	173.1	88.0	66.7	0.7	0.7
4,680	2024	204.4	104.5	69.6	0.0	0.0

From the table above, the cumulative year supply exceeds the demand in all these years, however some months have a higher demand for water than others and from the cumulative May through October Supply. The supply during that time period is much less than the demand. The largest demand for irrigation occurs during the month of July and the Max Reservoir Volume represents the size of the reservoir needed to achieve the estimated irrigation demands based on the month with the largest

deficit. The last column in the table above is the volume of water need from TPU to meet irrigation demand. This is a cumulative volume and each month will require different volumes. TPU has agreed to provide domestic and commercial water demand and per the 1998 EIS, agreed to supply irrigation for the proposed Golf Course on an “interruptible service” basis. An “interruptible service” means that the Golf Course is considered a low priority user and could be potentially denied service during drought conditions.

Once the proposed “purple pipe” is switched from being supplied by TPU to being supplied by the WWTP effluent, the switch cannot be made back to domestic water. Therefore, if irrigation is switched over to reclaimed water, TPU will no longer supply the irrigation line. If the switch from TPU to reclaimed water is made prior to the system being able to completely rely on the reclaimed water supply, then reservoirs will be required to store reclaimed water during the entire year and used during the months May through October. Depending on the year, the irrigation demand may still require TPU to supply the deficit from the supply from reclaimed water. To do this without potentially contaminating the TPU supply, TPU will discharge water to an irrigation reservoir designed to leave a minimum air gap between the TPU pipe and maximum water surface in the reservoir.

### **Reclaimed Water Supply with Golf Course**

SEIS Alternatives 1, 2, 3 and 4 proposed a Golf Course within Parcel O. For SEIS Alternative 3, the proposed golf course would only be smaller than the proposed golf courses within SEIS Alternative 1, 2 and 4. SEIS Alternatives 1, 2 and 4 proposed the same golf course that was proposed in the 1998 EIS. The proposed Golf Course presented within the 1998 EIS called for approximately 145 acres (6,316,200 square feet) of area requiring irrigation. From their analysis, which can be found in the Water Section of the 1998 EIS, the proposed golf course would require a maximum of approximately 285 ac-ft (92.9 million gallons) of irrigation per year.

The volumes found in the 1998 EIS are not very comparable with the Irrigation volumes presented for the revised golf course proposed with SEIS Alternative 3. This is simply seen in the method of analysis performed in this report compared to the 1998 EIS. The 1998 EIS used average rainfall volumes and typical volume in inches per acre used for a typical golf course in the Pacific Northwest region. The golf course proposed within the SEIS Alternative 3 used current irrigation demand standards. This results in the golf course design for SEIS Alternatives 1, 2 and 4 proposing approximately 6.3 million square feet of area requiring approximately 92.9 million gallons of water per year. Whereas the golf course design proposed for SEIS Alternative 3 proposes approximately 5.4 million square feet of area requiring 105.2 million gallons of water per year. This is a larger volume of water for a smaller area, which can simply be contributed to the changes in irrigation demand models used in the 1998 EIS to the current standards used in this report. To update the 1998 EIS volumes, the 6.3 million square feet would result in a year volume of 122.0 million gallons of water. Below, both revision of the golf course are analyzed and current irrigation volumes estimates were used for both analyses.

As discussed above, the proposed SEIS Alternative 3 golf course assumes approximately 5.5 million square feet of area needing irrigation. This corresponds to approximately 105.2 million gallons of water required for irrigation of the golf course. Additionally, SEIS Alternatives 1, 2 and 4 golf courses assume approximately 6.3 million square feet of area needing irrigation. This corresponds to approximately 122.0 million gallons of water required for the golf course. Since the summer months vary in precipitation and temperature, each month will require a different volume of water. A typical golf

course within this region requires irrigation during the months of May through September. Table 6, below, give the estimated of SEIS Alternative 3 and SEIS Alternatives 1, 2 & 4 monthly irrigation demand in gallons for the months of May through October.

Table 6: Estimated Irrigation Demand for Golf Course Only

Month	Golf Course Irrigation Demand (Gallons)	
	SEIS Alternative 3	SEIS Alternative 1, 2 & 4
May	17,217,090	19,971,824
June	20,582,100	23,875,236
July	24,306,480	28,195,517
August	21,268,170	24,671,077
September	14,701,500	17,053,740
October	7,089,390	8,233,692
<b>Year Totals</b>	<b>105,164,730</b>	<b>121,911,087</b>

For SEIS Alternatives 1 and 3, the irrigation demand will include the same proposed landscaped areas within the project as well as the added irrigation demand from the Golf Course. The table below gives the gallons required per each month where irrigation is most likely needed to maintain the conditions of the landscaping areas and the golf course for both SEIS Alternative 3 and SEIS Alternative 1.

Table 7: Estimated Irrigation Demand for Landscaping & Golf Course

Month	Tehaleh Landscaping & Golf Course Irrigation Demand	
	SEIS Alternative 3	SEIS Alternative 1
May	32,674,476	35,429,211
June	39,060,570	42,353,706
July	46,128,673	50,017,709
August	40,362,589	43,765,496
September	27,900,407	30,252,647
October	13,454,196	14,588,499

The golf course will require such a large volume of water for irrigation, a separate reservoir specifically for irrigating the Golf Course will need to be constructed to maintain the irrigation demands. Table 8, below, gives the Residential Equivalents (REs), Projected year, cumulative year supply of reclaimed water, cumulative reclaimed water from May through October, the cumulative irrigation demand (May-October), the maximum reservoir volume (the maximum month supply deficit) and the cumulative volume needed by TPU to meet demand (May-October) for SEIS Alternative 3. Table 9 gives the same parameter but for SEIS Alternative 1. Although SEIS Alternatives 1, 2 and 4 all proposed the same golf course, the residential demand for SEIS Alternatives 2 and 4 are much lower than SEIS Alternative 1, therefore only SEIS Alternatives 1 and 3 are used for comparing total irrigation demand for the landscaping areas within the project and the golf course.

The estimated REs shown in the first column represent the projects residential and employment uses constructed at that time. The project REs in 2035 (full build-out) are shown at 13,903. This value is much larger than the projected residential REs totally 9,700 units. The 13,903 includes the 9,700 REs from residential and 4,203 REs from commercial/employment areas. Since the projected construction of commercial units is not as predictable as the residential, the commercial was assumed to come on-line the last year of development. This represents the most conservative assumptions for estimating the projected reclaimed water supply. Commercial development can potentially occur as early as 2020.

Table 8: Irrigation Supply - Demand Timeline SEIS Alternative 3 with Golf Course

Irrigation Supply, Demand, Reservoir Size, & TPU Supply for SEIS Alternative 3						
REs	Year	Cumm. Year Supply (MG)	Cumm. May-October Supply (MG)	Cumm. Demand (MG)	Max Reservoir Volume (MG)	Volume Provided by TPU (MG)
1,344	2017	46.4	19.6	39.7	5.9	20.1
1,717	2018	62.7	26.6	39.7	4.5	13.1
1,997	2019	79.2	33.4	43.7	4.0	10.4
2,487	2020	99.6	51.1	161.2	28.7	110.1
2,990	2021	124.8	52.7	153.6	27.4	100.9
3,516	2022	151.1	63.8	154.7	25.4	90.9
3,865	2023	173.1	72.8	160.3	25.0	87.5
4,680	2024	204.4	86.1	163.0	22.9	76.8
5,128	2025	235.3	99.0	167.0	21.3	68.0
5,618	2026	259.4	109.1	175.9	21.5	66.8
6,090	2027	283.9	119.4	178.1	19.9	58.7
6,572	2028	309.1	129.6	178.1	17.9	48.5
8,040	2029	360.3	152.3	178.1	13.3	30.0
8,274	2030	401.0	168.3	178.1	10.0	18.9
8,564	2031	414.6	174.0	178.1	8.9	15.5
8,854	2032	430.5	180.2	178.1	7.6	11.8
9,144	2033	444.2	186.4	181.8	7.3	10.5
9,434	2034	459.0	192.6	185.3	6.9	9.2
13,903	2035	590.0	251.0	186.1	0.0	0.0

Table 9: Irrigation Supply - Demand Timeline SEIS Alternative 1 with Golf Course

Irrigation Supply, Demand, Reservoir Size, & TPU Supply SEIS Alternative 1						
REs	Year	Cumm. Year Supply (MG)	Cumm. May-October Supply (MG)	Cumm. Demand (MG)	Max Reservoir Volume (MG)	Volume Provided by TPU (MG)
1,344	2017	46.4	19.6	39.7	5.9	20.1
1,717	2018	62.7	26.6	39.7	4.5	13.1
1,997	2019	79.2	33.4	43.7	4.0	10.4
2,487	2020	99.6	51.1	178.1	32.6	126.9
2,990	2021	124.8	52.7	169.3	31.3	116.6
3,516	2022	151.1	63.8	170.4	29.3	106.6
3,865	2023	173.1	72.8	176.0	28.9	103.1
4,680	2024	204.4	86.1	178.6	26.8	92.5
5,128	2025	235.3	99.0	182.6	25.2	83.6
5,618	2026	259.4	109.1	191.6	25.4	82.4
6,090	2027	283.9	119.4	193.8	23.8	74.4
6,572	2028	309.1	129.6	193.8	21.8	64.2
8,040	2029	360.3	152.3	193.8	17.2	43.4
8,274	2030	401.0	168.3	193.8	13.9	29.5
8,564	2031	414.6	174.0	193.8	12.8	26.1
8,854	2032	430.5	180.2	193.8	11.5	22.3
9,144	2033	444.2	186.4	197.5	11.2	21.1
9,434	2034	459.0	192.6	201.0	10.8	19.7
13,903	2035	590.0	251.0	201.8	0.0	0.0

From both Tables 8 and 9, by 2023 and 2024, the cumulative yearly volume is more than the cumulative demand for SEIS Alternative 3 and SEIS Alternative 1, respectively. However, the cumulative supply volume from May through October does not exceed the demand until 2032 and 2035, for SEIS Alternative 3 and SEIS Alternative 1, respectively. Even in 2032, for SEIS Alternative 3, a reservoir will still be required to meet higher demands in some months. However, at full build-out with all the proposed commercial uses on-line, the projected monthly reclaimed water supply would exceed the monthly demand for irrigation during every month of the year for both alternatives.

## 6.0 GOVERNMENTAL APPROVALS

The following governmental approvals are required for implementation of Master Water Plan:

### 6.1 WASHINGTON STATE

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- Department of Health
  - Approval of Water System Reports for major infrastructure elements (reservoir, pump stations and major transmission lines, project-by-project basis).
  - Approval of Construction plans and specifications for water system components (project-by-project basis).

### 6.2 PIERCE COUNTY

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- Approval of Building permits for Reservoirs and Pump Stations

### 6.3 TACOMA PUBLIC UTILITIES

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- Approval of Water System design report, plans and specifications for water system components (project-by-project basis).

## 7.0 ENVIRONMENTAL IMPACTS (PROPOSED ACTION)

### 7.1 WATER DISTRIBUTION

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The impacts associated with the Master Water Plan will mainly be contained within the Right-of-Way (ROW) or easements with access to infrastructure. There may be a minor short-term construction related impacts to surface runoff water quality (turbidity) during installation of the water mains onsite. These impacts will be mitigated by implementation of Stormwater Pollution Prevention Plans (SWPPP), which will have erosion and sediment control best management practices during construction. All water lines and facilities will be constructed per DOH and TPU standards.

### 7.2 PUMP STATIONS AND RESERVOIRS

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The operation of pump stations may result in noise and aesthetic impacts, particularly to developments located immediately adjacent to them. These impacts will be mitigated by following Pierce County standards and codes as well as providing sufficient buffers to adequately shield the facilities from adjacent developments and including specific design features to mitigate these impacts. Specific design features will be addressed during the detailed design of the individual pump stations.

There are four potential locations for pump stations within the project boundary or adjacent to the project boundary. The existing Prairie Ridge Pump Station is currently in operation and is located just north of proposed Parcel O2.2. This is the only existing pump station, and the proposed stations described are preliminary in design and location. Designs and locations will be performed and



determined by TPU. A proposed pump station will be located on the existing EVAR (proposed 131<sup>st</sup>) and west of its intersection with existing 198<sup>th</sup> Ave E. Another proposed pump station will be located just north of proposed Parcel 2B.2, and the last pump station will be an alternative to the 2A parcels being served by a higher zone with a pressure reducing valve.

The water reservoirs may also result in aesthetic impacts, particularly to developments located immediately adjacent to them. These impacts will be mitigated by following Pierce County Standards and Codes as well as providing sufficient buffers to adequately shield the facilities from adjacent developments and including specific design features to mitigate these impacts. Specific design features will be addressed during the detailed design of the individual reservoirs.

The Prairie Ridge Reservoir and Pump Station located north of Parcel O, is currently providing water services. Three other reservoirs are proposed within Tehaleh. The first proposed reservoir will be located in the northwest corner of Parcel J (Pinnacle Ridge). The second proposed reservoir will be located between Parcels M5 and T2 (Phase 2 and 3 of Trilogy West). The third proposed reservoir will be located in Phase II, in the northern portion of proposed parcel 2D.8. See proposed Improvements for further detail on proposed reservoirs.

### **7.3 IMPACT OF PROVIDER**

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The development of Tehaleh will result in significant additional demand on the Tacoma Public Utilities water system. However, Tehaleh is within the planning and service area of Tacoma Public Utilities (See Figure 2 TPU Service Area) and within the Urban Growth Area, which is required to have urban services, such as public water. The development of Tehaleh has been anticipated by Tacoma Public Utilities and they have planned for its service. Tacoma Public Utilities has issued a Water Letter of Availability for the Tehaleh project. Therefore, it is anticipated that no significant adverse impacts on water service will result from the proposed Tehaleh EBPC.

### **7.4 MITIGATION MEASURES**

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The following are a list of required/proposed Mitigation Measures:

- All water mains, pump stations, reservoirs, fire hydrants and other features of the water supply and distribution system would be designed in accordance with applicable standards and specifications of Tacoma Public Utilities, Pierce County Development Code and the Washington State DOH. The water supply and distribution system would be designed and constructed in a phased manner consistent with the needs of each development phase within Tehaleh.
- Irrigation demands for Tehaleh EBPC can be either met by creating reclaimed water from the Class "A" effluent from the proposed WWTP by adding chlorine. Depending on DOH and Pierce County approval or TPU providing the water directly for irrigation.

### **7.5 UNAVOIDABLE ADVERSE IMPACTS**

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With implementation of the proposed mitigation measures, no unavoidable adverse impacts are anticipated.

**8.0 DEVELOPMENT ALTERNATIVES**

As shown below, three of the five alternatives propose the same maximum residential units of 9,700 units. These alternatives have very similar land uses for commercial, public facilities, recreation and open space. Alternatives 2 and 4 have a much lower residential unit count and with similar ratio of land uses for commercial, public facilities, recreation and open space as Alternatives 1, 2, and 3. Additionally, all proposed alternatives will have similar plans for water infrastructure. The biggest difference in infrastructure location will occur in Alternative 4, which will not include any infrastructure proposed in Phase II but will have the same infrastructure as proposed in the other Alternatives for Phase I.

**8.1 APPLICANT'S PREFERRED ALTERNATIVE – NO GOLF COURSE OR HOTEL - 9,700 DWELLING UNITS**

*The Applicant's Preferred Alternative proposes to modify the Current Approval to allow project-level development in Phase II and more residential development on the entire site (up to 9,700 dwelling units). The site would be developed as an EBPC PUD with the same general types of land uses as the Current Approval; however, the areas and in some cases locations of the various uses would differ. The percentage of unrestricted single-family/two-family housing would increase and the percentage of Age Qualified housing would decrease at similar modest rates over that approved in the Phase I Major Amendment. The percentage of multifamily housing is proposed to develop at a rate similar to that approved in the Phase I Major Amendment. These changes are intended to reduce impacts on the environment, particularly on traffic. No golf course and associated uses are proposed. The EBPC would include:*

- *Employment Center Areas – 476 acres\* (10 percent of the site, including no golf course, hotel or conference center; 1 existing school and additional school sites; and up to 3.4 million sq. ft. of employment-related building space);*
- *Residential Areas – 2,024 acres (43 percent of the site, including 9,700 units – 6,397 detached units, 1,101 attached multifamily units and 2,202 Age Qualified units);*
- *Public Facility Areas – 398 acres (8 percent of the site); and*
- *Open Space/Parks/Critical Areas – 1,855 acres (39 percent of the site).*

*\*Assumes 100% of the school acreage counts toward employment center area, consistent with the Phase II proposal and as allowed by the current Tehaleh zoning (Exhibit I to the 2015 Development Agreement).*

**8.2 SEIS ALTERNATIVE 1 – GOLF COURSE AND HOTEL - 9,700 DWELLING UNITS**

*Alternative 1 is the 2014 Phase II Major Amendment Application and proposes to modify the Current Approval to allow project-level development in Phase II and more residential development on the overall site (up to 9,700 dwelling units). The site would be developed as an EBPC PUD with the same general types of land uses as the Current Approval; however, the areas and in some cases locations of the various uses would differ. A golf resort with hotel is proposed. The EBPC would include:*

- *Employment Center Areas – 484 acres\* (10 percent of the site, including 16 acres of golf uses\*\* and up to 3.5 million sq. ft. of employment-related uses);*
- *Residential Areas – 1,865 acres (39 percent of the site, including 9,700 units – 7,514 detached units, 1,486 attached multifamily units and 700 designated Age Qualified units);*
- *Public Facility Areas – 367 acres (10 percent of the site, including 1 existing school and additional school sites); and*

- Open Space/Parks/Critical Areas –2,040 acres (43 percent of the site, including 219 acres in a golf course\*\*\*).

\*Assumes 100% of the school acreage counts toward employment center area, consistent with the Phase II proposal and as allowed by the current Tehaleh zoning (Exhibit I to the 2015 Development Agreement).

\*\*As under the Current Approval, golf uses (e.g., hotel, conference center and golf academy) would be included as employment area.

\*\*\*As in the 1998 EIS, the golf course would be included as open space area.

### 8.3 SEIS ALTERNATIVE 2 – GOLF COURSE AND HOTEL - 6,437 DWELLING UNITS

Under Alternative 2, the site would be developed as an EBPC PUD conceptually consistent with the 1998 EIS and PUD approval. The general types and layout of land uses would be the same as the Preferred Alternative, except that fewer dwelling units would be included (up to 6,437 dwelling units). A golf resort with hotel is proposed. (This alternative does not meet the Applicant's objectives for the project because the magnitude of the infrastructure costs would not be offset by the revenue from building fewer housing units.) The EBPC would include:

- Employment Center Areas –484 acres\* (10 percent of the site, including 16 acres of golf uses\*\* and up to 3.5 million sq. ft. of employment-related building space);
- Residential Areas – 1,865 acres (39 percent of the site, 6,437 units – 4,980 detached units, 757 attached multifamily units and 700 designated Age Qualified units);
- Public Facility Areas – 367 acres (10 percent of the sites, including 1 existing school and additional school sites); and
- Open Space/Parks/Critical Areas –2,040 acres (43 percent of the site, including 219 acres in a golf course\*\*\*).

\*Assumes 100% of the school acreage counts toward employment center area, consistent with the Phase II proposal and as allowed by the current Tehaleh zoning (Exhibit I to the 2015 Development Agreement).

\*\*As under the Current Approval, golf uses (e.g., hotel, conference center and golf academy) would be included as employment area.

\*\*\*As in the 1998 EIS, the golf course would be included as open space area.

### 8.4 SEIS ALTERNATIVE 3 – GOLF COURSE - 9,700 DWELLING UNITS

Alternative 3 proposes to modify the Current Approval to allow project-level development in Phase II and more residential development on the overall site (up to 9,700 dwelling units). The site would be developed as an EBPC PUD with the same general types of land uses as the Current Approval; however, the areas and in some cases locations of the various uses would differ. The percentage of Age Qualified housing would decrease at similar modest rates over that approved in the Phase 1 Major Amendment, and the percentage of multifamily housing is proposed to develop at a rate similar to approved in the Phase I Major Amendment. These changes are intended to reduce impacts on the environment, particularly on traffic. A golf course is proposed, but in a different configuration than under the Current Approval. No hotel, resort or conference center would be included. The EBPC would include:

- Employment Center Areas – 476 acres\* (10 percent of the site, including no golf uses, 1 existing school and additional school sites and up to 3.3 million sq. ft. of employment-related building space);

- Residential Areas – 1,912 acres (40 percent of the site, including 9,700 units – 6,333 detached units, 1,148 attached multifamily units and 2,219 designated Age Qualified units);
- Public Facility Areas – 400 acres (8 percent of the site); and
- Open Space/Parks/Critical Areas – 1,968 acres, (41 percent of the site, including 155 acres in a golf course\*\*).

\*Assumes 100% of the school acreage counts toward employment center area, consistent with the Phase II proposal and as allowed by the current Tehaleh zoning (Exhibit I to the 2015 Development Agreement).

\*\*As in the 1998 EIS, the golf course would be included as open space area.

#### 8.5 SEIS ALTERNATIVE 4 – PHASE I BUILD-OUT/NO PHASE II DEVELOPMENT - 2,586 DWELLING UNITS (NO ACTION ALTERNATIVE)

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Under Alternative 4, the No Action Alternative, Phase I would continue to build out as approved through the 2014 Phase I Major Amendment (including up to 2,586 dwelling units). A golf resort with hotel is proposed in Phase I. Phase II would remain largely undeveloped at this time except for infrastructure needed to serve Phase I and resources uses in Phase II. However, it is likely that development would occur in the future, in accordance with the site's EBPC zoning. Site development would include:

- Employment Center Areas –159 acres\* (3 percent of the site, including 16 acres of golf uses\*\* and up to 1.1 million sq. ft. of employment-related building space);
- Residential Areas – 821 acres (17 percent of the site, including 2,586 units – 1,600 detached units, 286 attached multifamily units and 700 designated Age Qualified units);
- Public Facility Areas – 127 acres (3 percent of the site, including 1 existing school and an additional school site(s)); and
- Open Space/Parks/Critical Areas –3,648 acres (77 percent of the site, including 219 acres in a golf course\*\*\*).

\*Assumes 100% of the school acreage counts toward employment center area, consistent with the Phase II proposal and as allowed by the current Tehaleh zoning (Exhibit I to the 2015 Development Agreement).

\*\*As under the Current Approval, golf uses (e.g., hotel, conference center and golf academy) would be included as employment uses.

\*\*\*As in the 1998 EIS, the golf course would be included as open space area.

Under all of the SEIS Alternatives, resource uses (e.g., gravel mining, timber harvesting and topsoil production) would be included as allowed uses in the EBPC. Material harvested, mined or manufactured onsite may be produced commercially for profit and used for residential and employment development onsite or may be transported offsite.

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# Appendix A

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## MASTER WATER PLAN EXHIBIT







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**PRELIMINARY**  
**NOT FOR CONSTRUCTION**

**Map Labels:**

- Streets:** RHODES LAKE RD E, 120TH ST E, 128TH ST E, 198TH AVE E, 214TH AVE E, CANYON FALLS CREEK, FUTURE RHODES LAKE RD, TEHALEH BLVD, CASKADIA BLVD, CALISTOGA ST W, STATE ROUTE 162, PATTERSON RD E, CARBON RIVER, SOUTH PRAIRIE CREEK.
- Water Features:** RHODES LAKE, ORTING LAKE, CANYON FALLS CREEK, CARBON RIVER, SOUTH PRAIRIE CREEK.
- Service Areas:** 576, 705, 810, 950.
- Infrastructure:** AMENDED PHASE 1 AREA, PHASE 1, PHASE 2, PHASE 2 PHASE 1, PHASE 2 PHASE 2, EXCEPTION PARCEL 1, EXCEPTION PARCEL 2, EXCEPTION PARCEL 3, EXCEPTION PARCEL 4, FUTURE PUMP STATION, FUTURE WATER RESERVOIR, EXISTING PRAIRIE RIDGE RESERVOIR & PUMP STATION.
- Other Labels:** TEHALEH PROJECT BOUNDARY TO SR162, CITY OF ORTING, NG KAPOWSIN HWY E, FALLING WATER BLVD, WINSTROP, Pinnacle Ridge, Columbia Vista, Trilogy East, Whitman, Inspiration Ridge, Berkeley Park, Cathedral Ridge, Liberty Ridge, Trilogy West, P1.A, P1.B, P2.A, P2.B, P3.A, P3.B, P4.A, P4.B, P5.A, P5.B, P6.A, P6.B, P7.A, P7.B, P8.A, P8.B, P9.A, P9.B, P10.A, P10.B, P11.A, P11.B, P12.A, P12.B, P13.A, P13.B, P14.A, P14.B, P15.A, P15.B, P16.A, P16.B, P17.A, P17.B, P18.A, P18.B, P19.A, P19.B, P20.A, P20.B, P21.A, P21.B, P22.A, P22.B, P23.A, P23.B, P24.A, P24.B, P25.A, P25.B, P26.A, P26.B, P27.A, P27.B, P28.A, P28.B, P29.A, P29.B, P30.A, P30.B, P31.A, P31.B, P32.A, P32.B, P33.A, P33.B, P34.A, P34.B, P35.A, P35.B, P36.A, P36.B, P37.A, P37.B, P38.A, P38.B, P39.A, P39.B, P40.A, P40.B, P41.A, P41.B, P42.A, P42.B, P43.A, P43.B, P44.A, P44.B, P45.A, P45.B, P46.A, P46.B, P47.A, P47.B, P48.A, P48.B, P49.A, P49.B, P50.A, P50.B, P51.A, P51.B, P52.A, P52.B, P53.A, P53.B, P54.A, P54.B, P55.A, P55.B, P56.A, P56.B, P57.A, P57.B, P58.A, P58.B, P59.A, P59.B, P60.A, P60.B, P61.A, P61.B, P62.A, P62.B, P63.A, P63.B, P64.A, P64.B, P65.A, P65.B, P66.A, P66.B, P67.A, P67.B, P68.A, P68.B, P69.A, P69.B, P70.A, P70.B, P71.A, P71.B, P72.A, P72.B, P73.A, P73.B, P74.A, P74.B, P75.A, P75.B, P76.A, P76.B, P77.A, P77.B, P78.A, P78.B, P79.A, P79.B, P80.A, P80.B, P81.A, P81.B, P82.A, P82.B, P83.A, P83.B, P84.A, P84.B, P85.A, P85.B, P86.A, P86.B, P87.A, P87.B, P88.A, P88.B, P89.A, P89.B, P90.A, P90.B, P91.A, P91.B, P92.A, P92.B, P93.A, P93.B, P94.A, P94.B, P95.A, P95.B, P96.A, P96.B, P97.A, P97.B, P98.A, P98.B, P99.A, P99.B, P100.A, P100.B.

LEGEND		WETLAND AREA & BUFFER	
TEHALEH PROJECT BOUNDARY	PROPOSED PLAT LAYOUT	FUTURE WATER RESERVOIR	 705 PROPOSED WATER MAINS
 TEHALEH PHASE LINE	 PROPOSED PARCELS	 PROPOSED WATER MAIN MANHOLES	 810 PROPOSED WATER MAINS
EXISTING PLAT LAYOUT	FUTURE PLAT LAYOUT	EXISTING WATER LINES	950 PROPOSED WATER MAINS
	EXISTING CONTOURS (LIDAR)		 1040 PROPOSED WATER MAINS

MASTER WATER PLAN

EX-01



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## Appendix B

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### ESTIMATED WATER FLOW RATES

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Table 10: Estimated Water Flow Rates

BASIN	AREA (AC.)	PHASE	PRESSURE ZONE	LAND USE	ERU'S	ADD (gpd)	MDD (gpd)	MMAD (gpd)	PHD (gpd)
D	25.0	1	810	RESIDENTIAL-SF	125	27,500	43,750	74,375	139,670
E1 (Edmunds Park)	11.3	1	810	RESIDENTIAL-SF	63	13,860	22,050	37,485	89,795
E2 (Edmunds Park)	10.2	1	810	RESIDENTIAL-SF	46	10,120	16,100	27,370	74,220
ES	14.1	1	950	SCHOOL	27	5,940	9,450	16,065	54,270
EXCEPTION #1 (EAST)	80.7	1	950	RESIDENTIAL-SF	323	71,016	112,980	192,066	273,034
EXCEPTION #1 (WEST)	40.3	1	950	RESIDENTIAL-SF	161	35,464	56,420	95,914	165,010
F1 (Edmunds Park)	24.3	1	810	RESIDENTIAL-SF	136	29,920	47,600	80,920	147,370
FIRE STATION <sup>7 &amp; 8</sup>	3.3	1	950	PUBLIC FACILITY	15	3,300	5,250	8,925	41,670
G (Berkeley Park)	22.9	1	810	RESIDENTIAL-SF	122	26,840	42,700	72,590	137,570
H1 (Inspiration Ridge)	37.7	1	950	RESIDENTIAL-SF	188	41,360	65,800	111,860	183,770
H2 (Inspiration Ridge)	21.7	1	950	RESIDENTIAL-SF	96	21,120	33,600	57,120	118,670
I1 (Pyramid Ridge)	12.6	1	950	RESIDENTIAL-SF	11	2,420	3,850	6,545	37,470
I2 (Cathedral Ridge)	14.6	1	950	RESIDENTIAL-SF	64	14,080	22,400	38,080	90,670
I3 (Cathedral Ridge)	15.6	1	950	RESIDENTIAL-SF	35	7,700	12,250	20,825	62,670
J (Pinnacle Ridge)	32.9	1	1040	RESIDENTIAL-SF	120	26,400	42,000	71,400	136,170
K1 (Columbia Vista)	17.8	1	1040	RESIDENTIAL-SF	85	18,700	29,750	50,575	109,045
K2 (Columbia Vista)	25.3	1	1040	RESIDENTIAL-SF	114	25,080	39,900	67,830	131,970
L (Liberty Ridge)	24.7	1	950	RESIDENTIAL-SF	119	26,180	41,650	70,805	135,470
L1 (Winthrop)	12.9	1	950/810	RESIDENTIAL-SF	61	13,420	21,350	36,295	88,045
M1 (Whitman)	23.0	1	950	RESIDENTIAL-SF	121	26,620	42,350	71,995	136,870
M2 (Trilogy)	13.4	1	950	RESIDENTIAL-SF	60	13,200	21,000	35,700	87,170
M3 (Trilogy)	17.6	1	950	RESIDENTIAL-SF	86	18,920	30,100	51,170	109,920
M4 (Trilogy)	21.0	1	950	RESIDENTIAL-SF	92	20,240	32,200	54,740	115,170
M5 (Trilogy West)	26.8	1	950	RESIDENTIAL-SF	103	22,660	36,050	61,285	124,270
N (Panorama Point)	15.9	1	950	RESIDENTIAL-SF	45	9,900	15,750	26,775	73,170
NC.1	4.1	1	950	COMMERCIAL	83	18,260	29,050	49,385	107,295
NC.2	3.2	1	950	COMMERCIAL	43	9,460	15,050	25,585	71,070
NC.5	2.0	1	950	COMMERCIAL	9	1,980	3,150	5,355	35,370
O2.1	14.2	1	950	RESIDENTIAL-SF	67	14,740	23,450	39,865	93,295
O2.2	14.0	1	950	RESIDENTIAL-SF	91	20,020	31,850	54,145	114,295
O3	29.3	1	950	RESIDENTIAL-SF	141	31,020	49,350	83,895	150,870
O4	47.7	1	950	RESIDENTIAL-SF	229	50,380	80,150	136,255	212,470

BASIN	AREA (AC.)	PHASE	PRESSURE ZONE	LAND USE	ERU'S	ADD (gpd)	MDD (gpd)	MMAD (gpd)	PHD (gpd)
O5	51.1	1	950	RESIDENTIAL-SF	245	53,900	85,750	145,775	223,670
O6	17.7	1	950	RESIDENTIAL-SF	85	18,700	29,750	50,575	109,045
O7	19.1	1	950	RESIDENTIAL-SF	92	20,240	32,200	54,740	115,170
O8	12.6	1	950	RESIDENTIAL-SF	60	13,200	21,000	35,700	87,170
O9	32.8	1	950	RESIDENTIAL-SF	157	34,540	54,950	93,415	162,070
O10	24.8	1	950	RESIDENTIAL-SF	50	11,000	17,500	29,750	78,420
O11	18.0	1	950	RESIDENTIAL-SF	18	3,960	6,300	10,710	44,820
O12	41.5	1	950	RESIDENTIAL-SF	42	9,240	14,700	24,990	70,020
O13	7.1	1	950	RESIDENTIAL-SF	28	6,160	9,800	16,660	55,320
P1A (SCHOOL)	14.0	1	810	SCHOOL	131	28,820	45,850	77,945	143,870
P1B	5.8	1	810	RESIDENTIAL-MF	87	19,140	30,450	51,765	110,795
P2.1 (Berkeley Park)	11.8	1	810	RESIDENTIAL-SF	58	12,760	20,300	34,510	85,420
P2.2 (Berkeley Park)	15.4	1	810	RESIDENTIAL-SF	82	18,040	28,700	48,790	106,420
P3.1 (WWTP UIC)	6.0	1	950	PUBLIC FACILITY	27	5,940	9,450	16,065	54,270
P3.2 (Berkeley Park)	5.8	1	950/810	RESIDENTIAL-SF	21	4,620	7,350	12,495	47,970
Post	1.4	1	950	COMMERCIAL	3	660	1,050	1,785	29,070
Q1	15.4	1	810	RESIDENTIAL-SF	74	16,280	25,900	44,030	99,420
Q2	13.3	1	810	RESIDENTIAL-SF	64	14,080	22,400	38,080	90,670
R1A	15.1	1	810	RESIDENTIAL-SF	72	15,840	25,200	42,840	97,670
R1B	10.0	1	810	RESIDENTIAL-MF	199	43,780	69,650	118,405	191,470
R2 (Drain Field)	22.5	1	810	PUBLIC FACILITY/ SCHOOL	131	28,820	45,850	77,945	143,870
R3 (Drain Field)	13.4	1	810	PUBLIC FACILITY/ COMMERCIAL	61	13,420	21,350	36,295	88,045
RV Storage +O1	16.5	1	950	COMMERCIAL	75	16,500	26,250	44,625	100,295
SC.1	14.0	1	950/810	SCHOOL	87	19,140	30,450	51,765	110,795
T1 (Trilogy West)	15.6	1	810/950	RESIDENTIAL-SF	57	12,540	19,950	33,915	84,545
T2 (Trilogy West)	39.0	1	950	RESIDENTIAL-SF	160	35,200	56,000	95,200	164,170
Trilogy Clubhouse	5.3	1	950	COMMERCIAL	9	1,980	3,150	5,355	35,370
U1	20.3	1	810	RESIDENTIAL-SF	70	15,400	24,500	41,650	95,920
U2 (Trilogy West)	5.5	1	950	RESIDENTIAL-SF	21	4,620	7,350	12,495	47,970
U2 (Undeveloped)	8.3	1	950	RESIDENTIAL-SF	33	7,260	11,550	19,635	60,570
V1	35.0	1	810	COMMERCIAL	159	34,980	55,650	94,605	163,470

BASIN	AREA (AC.)	PHASE	PRESSURE ZONE	LAND USE	ERU'S	ADD (gpd)	MDD (gpd)	MMAD (gpd)	PHD (gpd)
V2	58.2	1	810	COMMERCIAL	265	58,300	92,750	157,675	236,620
2A.1	27.4	2	810	RESIDENTIAL-SF	132	29,040	46,200	78,540	144,570
2A.2	10.1	2	810	RESIDENTIAL-SF	48	10,560	16,800	28,560	76,320
2A.3	11.9	2	810	RESIDENTIAL-SF	57	12,540	19,950	33,915	84,545
2A.4	13.6	2	810	RESIDENTIAL-SF	52	11,440	18,200	30,940	80,170
2B.1	42.4	2	705	COMMERCIAL	193	42,460	67,550	114,835	187,270
2B.2	75.6	2	705	COMMERCIAL	344	75,680	120,400	204,680	286,390
2C.1	9.5	2	705	COMMERCIAL	43	9,460	15,050	25,585	71,070
2C.2	74.4	2	705	COMMERCIAL	338	74,360	118,300	201,110	282,610
2C.3	50.8	2	705	COMMERCIAL	231	50,820	80,850	137,445	213,870
2D.1	32.6	2	705	RESIDENTIAL-SF	33	7,260	11,550	19,635	60,570
2D.2	10.2	2	705	RESIDENTIAL-SF	10	2,200	3,500	5,950	36,420
2D.4	38.1	2	705	RESIDENTIAL-SF	38	8,360	13,300	22,610	65,820
2D.5	33.7	2	705/950	RESIDENTIAL-SF	67	14,740	23,450	39,865	93,295
2D.6	24.7	2	810/705/905	RESIDENTIAL-SF	99	21,780	34,650	58,905	121,295
2D.7	13.8	2	950/810	RESIDENTIAL-SF	66	14,520	23,100	39,270	92,420
2D.8	15.9	2	950	RESIDENTIAL-SF	76	16,720	26,600	45,220	101,170
2D.9	28.9	2	950/810	RESIDENTIAL-SF	139	30,580	48,650	82,705	149,470
2D.10	18.8	2	705	RESIDENTIAL-SF	19	4,180	6,650	11,305	45,870
2E.1	14.2	2	950	RESIDENTIAL-SF	57	12,540	19,950	33,915	84,545
2E.2	15.1	2	950	RESIDENTIAL-SF	60	13,200	21,000	35,700	87,170
2E.3	12.8	2	950	RESIDENTIAL-SF	38	8,360	13,300	22,610	65,820
2E.4	29.4	2	950	RESIDENTIAL-SF	235	51,700	82,250	139,825	216,670
2E.6	20.9	2	950	RESIDENTIAL-SF	167	36,740	58,450	99,365	169,070
2E.7	13.2	2	950	RESIDENTIAL-SF	40	8,800	14,000	23,800	67,920
2E.8	14.8	2	950	RESIDENTIAL-SF	44	9,680	15,400	26,180	72,120
2E.9	10.4	2	950	RESIDENTIAL-SF	52	11,440	18,200	30,940	80,170
2E.10	17	2	950	RESIDENTIAL-SF	85	18,700	29,750	50,575	109,045
2F.1	19.9	2	950/810	RESIDENTIAL-MF	239	52,580	83,650	142,205	219,470
2F.2	32	2	950	RESIDENTIAL-MF	576	126,720	201,600	342,720	427,230
2F.3	53.3	2	950/810	RESIDENTIAL-SF	267	58,740	93,450	158,865	237,880
2F.4	21.4	2	950	RESIDENTIAL-SF	81	17,820	28,350	48,195	105,545
2F.5	47.7	2	950	RESIDENTIAL-SF	229	50,380	80,150	136,255	212,470

2F.6	14.6	2	950	RESIDENTIAL-SF	73	16,060	25,550	43,435	98,545
2F.8	8.1	2	950	RESIDENTIAL-SF	53	11,660	18,550	31,535	81,045
2F.9	13.9	2	950	RESIDENTIAL-SF	90	19,800	31,500	53,550	113,420
BASIN	AREA (AC.)	PHASE	PRESSURE ZONE	LAND USE	ERU'S	ADD (gpd)	MDD (gpd)	MMAD (gpd)	PHD (gpd)
2F.10	14.3	2	950	RESIDENTIAL-SF	93	20,460	32,550	55,335	116,045
2F.11	15.4	2	950	RESIDENTIAL-SF	62	13,640	21,700	36,890	88,920
2G.1	20.3	2	950	RESIDENTIAL-SF	102	22,440	35,700	60,690	123,570
2G.2	43	2	950	RESIDENTIAL-SF	215	47,300	75,250	127,925	202,670
2G.3	14.9	2	950	RESIDENTIAL-SF	75	16,500	26,250	44,625	100,295
2G.4	7.9	2	950	RESIDENTIAL-SF	32	7,040	11,200	19,040	59,520
2G.5	37.4	2	950	RESIDENTIAL-SF	335	73,700	117,250	199,325	280,720
2H.1A	29.9	2	810	RESIDENTIAL-SF	114	25,080	39,900	67,830	131,970
2H.1B	15.5	2	950	RESIDENTIAL-SF	59	12,980	20,650	35,105	86,295
2H.2	30.1	2	810	RESIDENTIAL-SF	114	25,080	39,900	67,830	131,970
2H.3	23.2	2	810	RESIDENTIAL-SF	88	19,360	30,800	52,360	111,670
2H.4	12.6	2	810	RESIDENTIAL-SF	13	2,860	4,550	7,735	39,570
2H.5	42.7	2	810	RESIDENTIAL-SF	162	35,640	56,700	96,390	165,570
2H.6	40.2	2	810	RESIDENTIAL-SF	215	47,300	75,250	127,925	202,670
2H.7	27.4	2	810/950	RESIDENTIAL-SF	158	34,760	55,300	94,010	162,770
2H.8	40.8	2	810	RESIDENTIAL-SF	235	51,700	82,250	139,825	216,670
2H.10	46	2	810	RESIDENTIAL-SF	260	57,200	91,000	154,700	233,470
2K.1	24.4	2	705	RESIDENTIAL-SF	71	15,620	24,850	42,245	96,795
EXCEPTION #2	81.3	2	950	RESIDENTIAL-SF	325	71,544	113,820	193,494	274,546
EXCEPTION #3 (NW)	45.8	2	950	RESIDENTIAL-SF	183	40,318	64,142	109,041	180,454
EXCEPTION #3 (SE)	73.1	2	950	RESIDENTIAL-SF	293	64,350	102,375	174,038	253,946
EXCEPTION #4	79.1	2	810/705	RESIDENTIAL-SF	316	69,608	110,740	188,258	269,002
NC.3	2.0	2	950	COMMERCIAL	9	1,980	3,150	5,355	35,370
NC.4	12.5	2	950	COMMERCIAL	57	12,540	19,950	33,915	84,545
SC.2	25.0	2	950	SCHOOL	131	28,820	45,850	77,945	143,870
SC.3	14	2	950	SCHOOL	131	28,820	45,850	77,945	143,870
<b>TOTALS</b>	<b>2,940</b>				<b>13,895</b>	<b>3,056,980</b>	<b>4,863,377</b>	<b>8,267,742</b>	<b>15,378,887</b>

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# Appendix C

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## TACOMA PUBLIC UTILITIES WATER AVAILABILITY LETTER



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3628 South 35th Street  
Tacoma, Washington 98409-3192

TACOMA PUBLIC UTILITIES

August 21, 2013

Rob Jenkins, Senior Planner  
Pierce County Planning and Land Services Department  
2401 South 35<sup>th</sup> Street  
Tacoma, WA 98409-7990

Re: Water Availability to Tehaleh Employment Based Planned Community (EBPC)  
Portions of Sections 8, 9, 16 through 23, 27 through 30, and 33, Township 19 North,  
Range 5 East, W.M.

Dear Mr. Jenkins:

Please be advised that Tacoma Water is the water provider for the Tehaleh EBCP located in Pierce County, Washington. Tacoma Water has infrastructure within the subject site that is able to serve all of the proposed expansion. Tacoma Water has determined that our system has sufficient capacity to provide Tehaleh with water for domestic and fire fighting. Tacoma Water has been working cooperatively with Newland Communities and their engineering consultants with respect to the water infrastructure facilities that will be needed to serve Tehaleh.

Tacoma Water currently has no water capacity limitations that exist for the water system that will serve the Tehaleh project. Tacoma Water assumes full operational and maintenance responsibility for the water main, which was designed, approved, and installed in accordance with Washington Administrative Code 246-290, RCW 90.44 Water Rights, Pierce County Ordinances 86-117S3 and 92-99, Tacoma Municipal Code, Chapter 12.10, and in accordance with Tacoma Water's approved water system comprehensive plan.

Should you have any questions, please contact me at (253) 502-8280 or at [jangel@cityoftacoma.org](mailto:jangel@cityoftacoma.org).

Sincerely,

Jesse Angel  
Utility Service Specialist  
Enclosure

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