

Quarterly Electric Load Update

June 26, 2023



<http://eflamond.wordpress.com>

Presented by:

Andy Wendell, Director of Customer Service

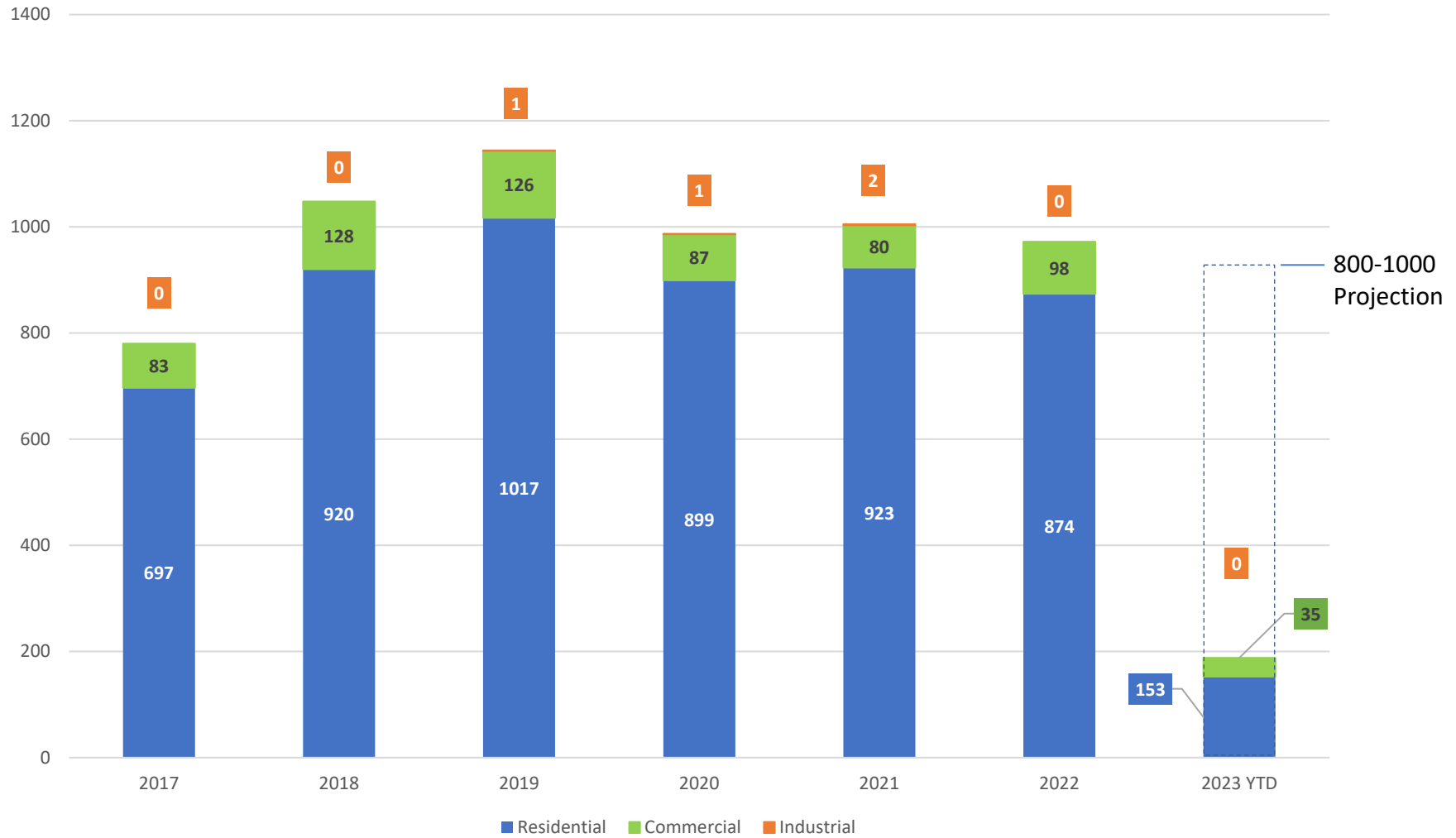
Chad Rissman, Director of Engineering & Asset Management

Why we are here today



- 2023 - electric meters YTD
- Applications and inquiries
- Water and Wastewater planning
- Substation build status update
- No action requested today

New Meter Installs 2017 - 2023 YTD



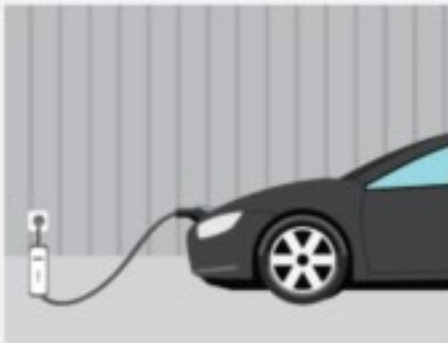
Notable applications & inquiries



- Increase in applications for Level 3 “Fast” EV charging infrastructure
- Increase in inquiries from homeowners & business for Level 1 or 2 EV charging stations
- Future development of Chelan Butte vicinity is being discussed
- Link Transit is evaluating feasibility of installing a 3-9MWh battery storage system
- A few developments have paused or decreased build out scope
- Receiving inquiries and applications for a few small developments

Electrical Demand of EV Charging Stations

Level 1



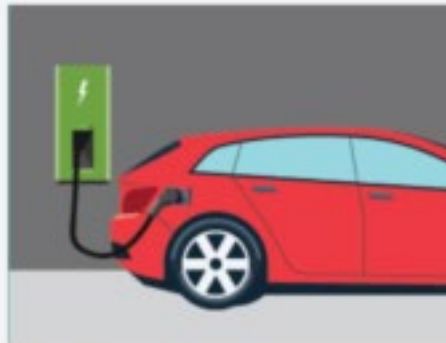
VOLTAGE:
120V 1-Phase AC

AMPS:
12-16 Amps

CHARGING LOAD:
1.4-1.9 kW

CHARGING TIME:
3-5 Miles per Hour

Level 2



VOLTAGE:
208V or 240 V 1-Phase AC

AMPS:
12-80 Amps (Typ. 32 Amps)

CHARGING LOAD:
2.5-19.2 kW (Typ. 6.6 kW)

CHARGING TIME:
12-60 Miles per Hour

DC Fast Charge



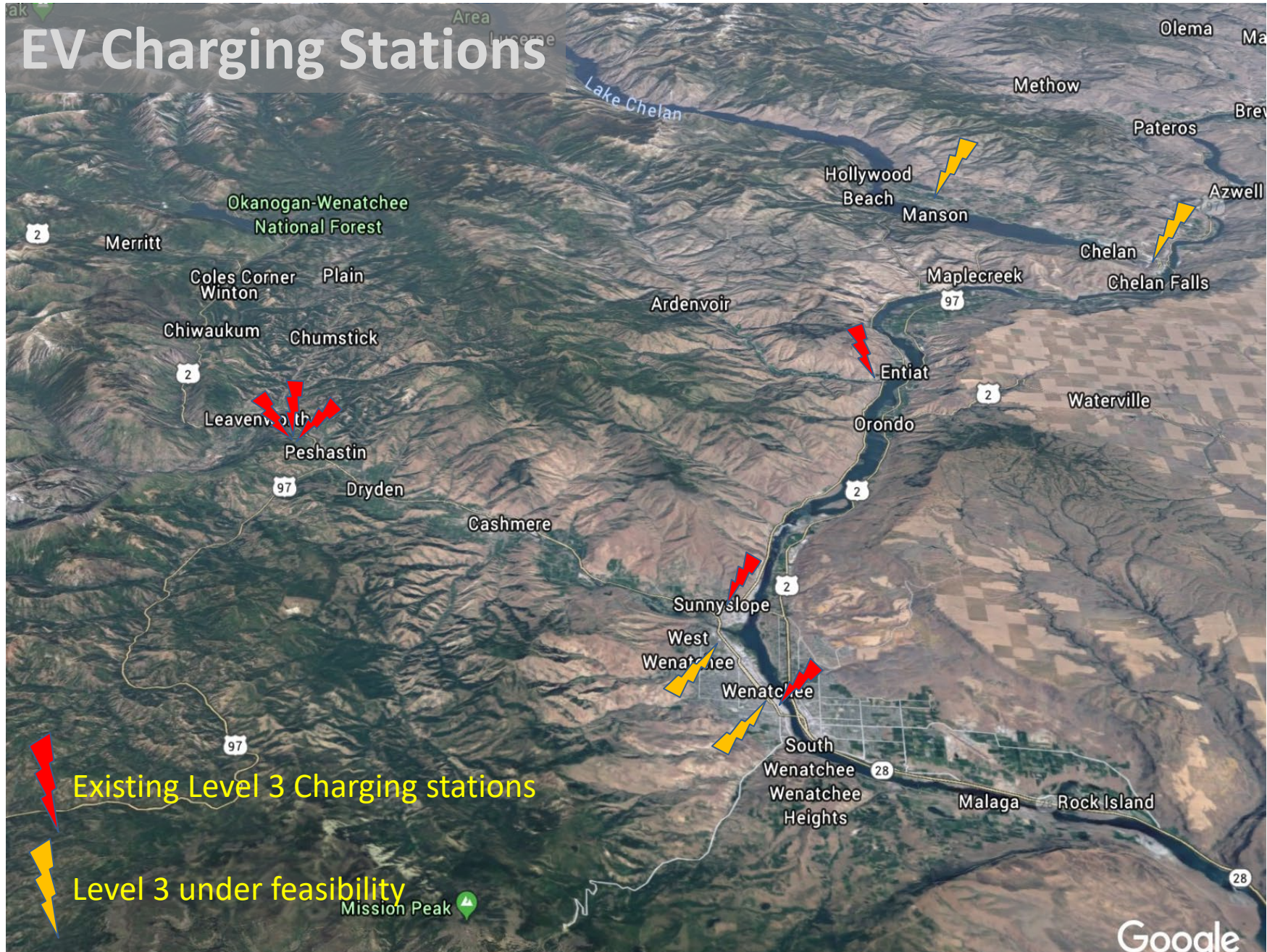
VOLTAGE:
208V or 480V 3-Phase AC

AMPS:
>100 Amps

CHARGING LOAD:
50-350 kW

CHARGING TIME:
60-80 Miles in 20 Minutes

EV Charging Stations



Google



Existing EV Charging Stations Chelan County



Level 1

Level 2

DC Fast Charge

Unknown quantity

Public accessible
quantity ~ 24 stations

Public accessible
quantity ~ 6 stations

Existing 

Demand ~ 0.25 to 0.5 MW

Demand ~ 1 to 2 MW

Potential Increase
(applicants) 

Additional
Demand ~ 1 to 2 MW

Wastewater Capacity Planning

Actual wastewater flows and treatment plant loading are monitored regularly and documented in the monthly discharge monitoring reports submitted to the Washington Department of Ecology.

Our permit through DOE requires a capital plan is prepared that results in maintaining adequate capacity (PMAC, AKA feasibility) when any of the actual flows or loadings exceed 85% of the design criteria of the plant for 3 consecutive months.

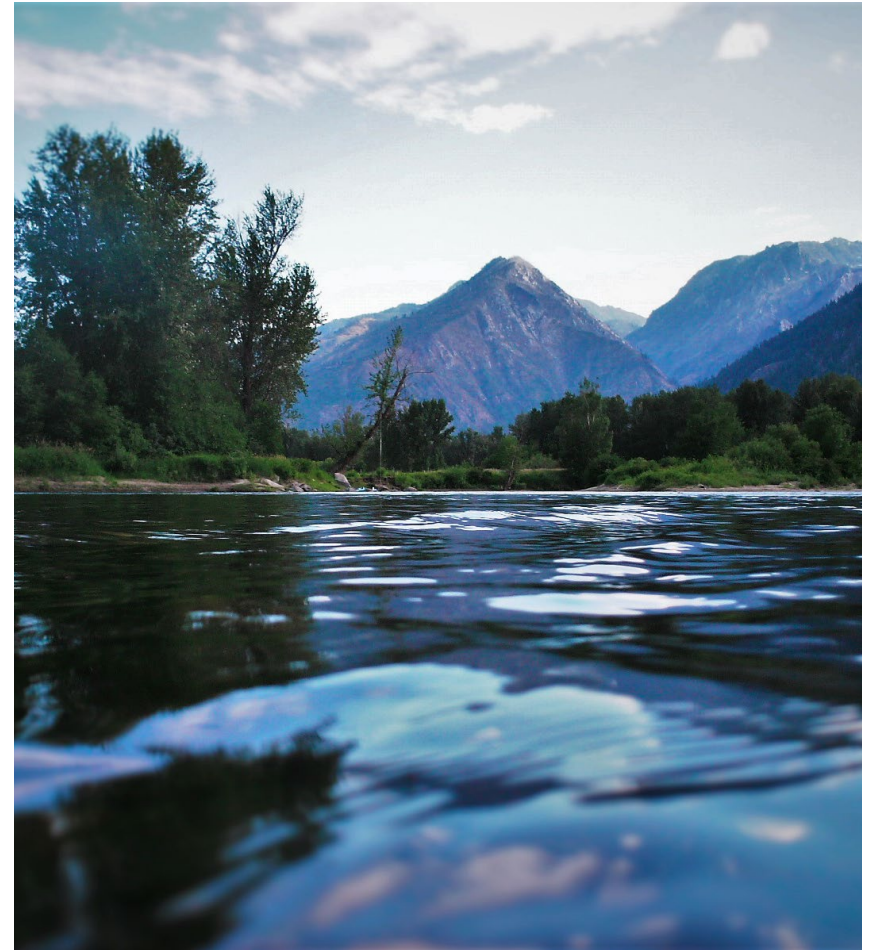
Note:

The above process has historically addressed organic growth very well. Applications for larger projects (Mission Ridge, Kahler Glen, Peshastin etc.) trigger an intermediate analysis to confirm the availability of adequate capacity.



Wastewater Capacity Planning

- Wastewater capacity planning forecasts over 20-year period
- Wastewater system(s) organic growth ~ 1% per year
- Capacity planning specific to system:
 1. Dryden system (updated 2020)
 2. Peshastin system (updated 2015)
 3. Lk. Wenatchee (updated 2014)



Water Capacity Planning Steps

- Complete and revise comprehensive plan every (6) years
- Prepare *demand* forecasting and compare to the *capacity* of the various system Assets:
(System pump-Reservoirs & storage-Distribution lines)
- Identify capital projects to resolve known or projected system deficiencies
- Summarize the projects in a (6) year capital improvement plan
- The last comprehensive plan was updated in 2017 (large system)
- Actively updating large water system comp plan in 2023
- Last comprehensive plan for small system updated in 2010
(Reviewed annually)



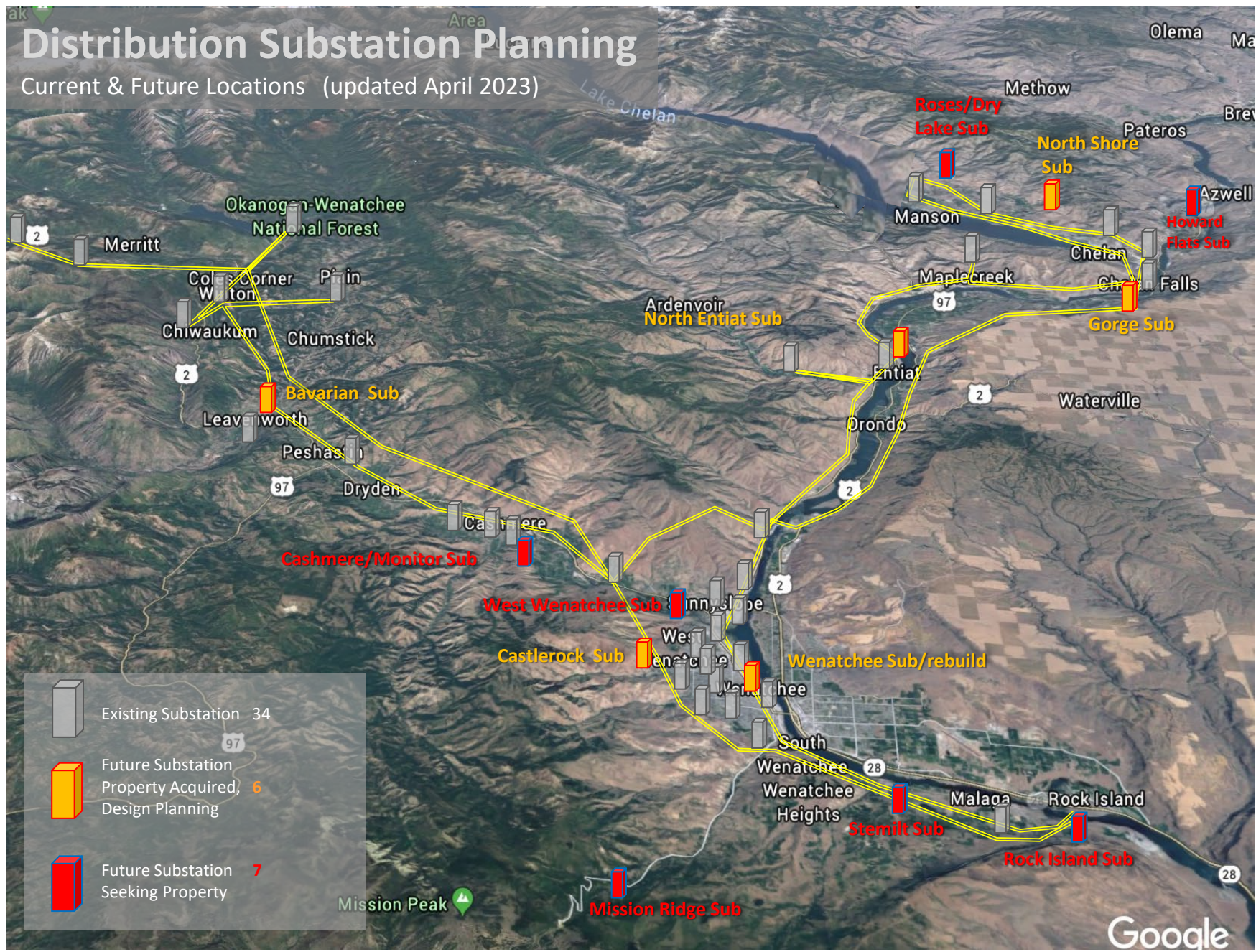
Notes:




The planning process has historically addressed organic growth very well.

Applications for larger projects (Triad Maple, Mission Ridge, and Peshastin etc.) trigger an intermediate analysis to confirm the availability of adequate capacity.

Distribution Substation Planning

Current & Future Locations (updated April 2023)



-  Existing Substation 34
-  Future Substation Property Acquired 6
-  Future Substation Seeking Property 7

Google



CHELAN COUNTY

Chelan PUD Substation Planning

Updated March 2023

Substation & Vicinity		Year Planned ₁	Property Acquired	Transmission Required ²
North Shore Substation	Lake Chelan, Henderson Road	2023	Yes	No
Bavarian Substation	Chumstick Highway Leavenworth	2025	Yes	Yes
Wenatchee Substation	Worthen Street Wenatchee	2026	Yes	No
Castlerock Substation	West Wenatchee, Castlerock Street	2026	Yes	Yes
West Wenatchee Substation	Western Foothills vicinity Wenatchee	2026	No	TBD
Gorge Substation	Gorge Road, South of Chelan City	2027	Yes	Yes
Stemilt Creek Substation	Stemilt Creek/Malaga West Vicinity	2027	No	TBD
Roses Substation	North Shore Lake Chelan, Roses Lake	2026	No	TBD
Entiat North Substation	North End of Entiat City Hwy 97A	2028	Yes	No
Mission Ridge Substation	Mission Ridge / Upper Squilchuck	2030	No	Yes
Cashmere East Substation	Cashmere East / Monitor Vicinity	2037	No	TBD
Howard Flats Substation	Chelan Airport / Howard Flats Vicinity	2029	No	Yes
Rock Island Substation	Rock Island / Malaga East Vicinity	2030	No	TBD
Hay Canyon Cashmere Substation	Cashmere North Vicinity	2030	No	TBD

Notes:

1. Year planned is based on forecasted capacity and build capability and is subject to change from year to year depending on load growth
2. Transmission required (Y/N) based on if significant new transmission corridors are required

Current Substation Build Activity

Station	Next Phase	Est. Phase Completion
North Shore	Construction	Q4 - 2023
Leavenworth (Bavarian)	Permitting and environmental review	Q3 - 2023
Wenatchee (upsized)	Environmental review	Q4 - 2023
Wenatchee Foothills (west Wenatchee)	Siting and utility plans	Q3 - 2023
Malaga/Stemilt	Site property evaluations	Ongoing
Various Station Rehab	Sunnyslope, South Shore, Summit, L. Wenatchee & Western	2023

Please note:

- Schedules are subject to change (station build team is updating)
- See 2023 District Performance Plan for more details

North Shore Substation Site Grading







Summary

- New residential construction remains steady county wide
- Forecasting 800+ new residential services per year for the next 3 years consistent with historical numbers
- New electrical vehicle charging station infrastructure emerging in all areas
- Continue our vigorous electrical substation build plans
- Water & wastewater planning efforts are being influenced by larger development plans
- Planned utility infrastructure investments are positioned well to meet demands of organic growth in electric and fiber

Questions?



New Developments


(3 year view housing units)

SUPPLEMENTARY SLIDE

Leavenworth	=	337
Cashmere	=	64
Chelan	=	520
Wenatchee	=	1,845
Malaga/Mission	=	672
Entiat	=	150
		~ 3,588

10-Year Electrical Load Forecast

(Net of energy conservation plans & excludes new large loads)

<i>Date of Forecast</i>	Base Case	<i>High Case</i>	<i>Low Case</i>
April 2022 Annual growth rate %	31 avg MW 1.4 %	107 avg MW 4.3 %	16 avg MW 0.7 %
November 2022 Annual growth rate %	15 avg MW 0.7 %	47 avg MW 2.0 %	6 avg MW 0.3 %
 April 2023 Annual growth rate %	15 avg MW 0.7 %	47 avg MW 2.0 %	6 avg MW 0.3 %

Notes: 1) Load forecast team scheduled to publish a new 10-year forecast August/September of 2023