CUSTOMER UTILITIES
PROJECT BRIEF

Project Name

North Shore Chelan Sub

Project Type

Replacement

Primary Work Order #

302921

System Engineer

Jack Nieborsky

Project Manager

John Goodwill

Design Lead

Tom Kelly

Distribution Manager Approval

Signature

9/23/13

Date

Background

Customer growth along SR150 on the north shore of Lake Chelan will overload the existing systems capacity, resulting in out of compliance voltages. Maintenance and offloading constraints will prohibit reliability and quality.

Union Valley Substation and Wapato Substation are currently at 82% capacity and 71% capacity, respectively. There are two developments under construction within the existing system area that have a combined power demand between 7 and 9 MVA, which will push the capacity to 95% and 73% for the Union Valley and Wapato Substations, respectively. These two developments power demand exceeds the average annual growth rate of 1-2% for this area; thus, triggering planning for a new substation under the Distribution Planning Guidelines.

Objectives

System: Build a new substation to provide at least 10 MVA of capacity along SR150, between Chelan and Manson, to accommodate future growth projections. Increase reliability by reducing the length of line and number of protective devices between the source and load. Provide switching options for substations and feeders. Increase maintainability for offloading adjacent stations. Reduce outages and outage time. Provide shorter feeders with less customer load. Reduce stress on existing infrastructure. Reduce safety risks of overloaded power systems.

Land Procurement: Primary consideration for land purchase near existing transmission lines around Boyd Rd or Crest Dr. Minimum of 1 acre, but larger site preferred.

Schedule: Complete project by 2018 to avoid overloading the Union Valley and Wapato systems.

Scope

Perform a route/alternative analysis for best options for land, permitting, and distribution/transmission. Develop a project management plan considering land and major equipment procurement, permitting, design, stakeholder outreach, and other planning components as needed. Purchase land. Complete preliminary design estimating. Obtain permitting for the project. Design the substation. Design the transmission/distribution system. Purchase major equipment. Develop contract bid documents for substation construction. Bid for construction of substation. Construct a 15-20 MVA substation under contract. Issue job to District crews for transmission/distribution work. Execute District work.

Estimate

(2014)

Planning/Design = $16,769

2014 Total = $16,769

(2015)

Planning/Design = $15,830

Land Procurement = $800,000

2015 Total = $815,830

(2016)

Planning/Design = $124,930

Major Equipment Procurement = $1,000,000

2016 Total = $1,124,930

(2017)

Planning/Design = $81,390

Execution = $500,000

Tech Shop = $50,000

2017 Total = $581,390

Total Project = $2,588,919

Schedule

(2014) Perform Route/Alternative Analysis to determine best options for land, permitting, and distribution/transmission routes. Provide cost benefits. Choose property. Budget for project management plan and land procurement.

(2015) Develop a project management plan in Q1 considering land and major equipment procurement, permitting, design, stakeholder outreach, and other planning components as needed. Purchase land to avoid land availability issues. Complete preliminary design estimating. Budget for design, permitting and procurement of major equipment. Initiate permitting once land is purchased.

(2016) Permitting, design and major equipment purchase complete. Budget for construction. Develop contract bid documents for substation construction. Bid for construction of substation. Issue job to District crews for transmission/distribution work (OH power work).

(2017) Construct a 15-20 MVA substation under contract. Construct transmission/distribution system.

**Subject to hold based on load growth projection updates

Assumptions

Projected load growth in north shore of Chelan occurs.

Land will be acquired.

Easements will be acquired.

All permits obtained.

District crews perform transmission/distribution work.

Constraints

Land Procurement: Purchase land as soon as possible to avoid risk of being landlocked for substation and transmission/distribution construction.

Project Schedule: Complete the project by 2018 to avoid overloading the Union Valley and Wapato systems.

Contacts

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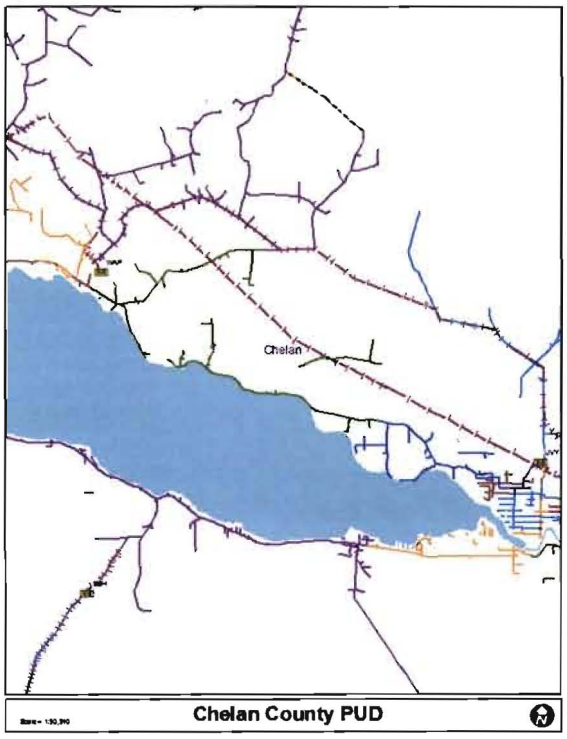
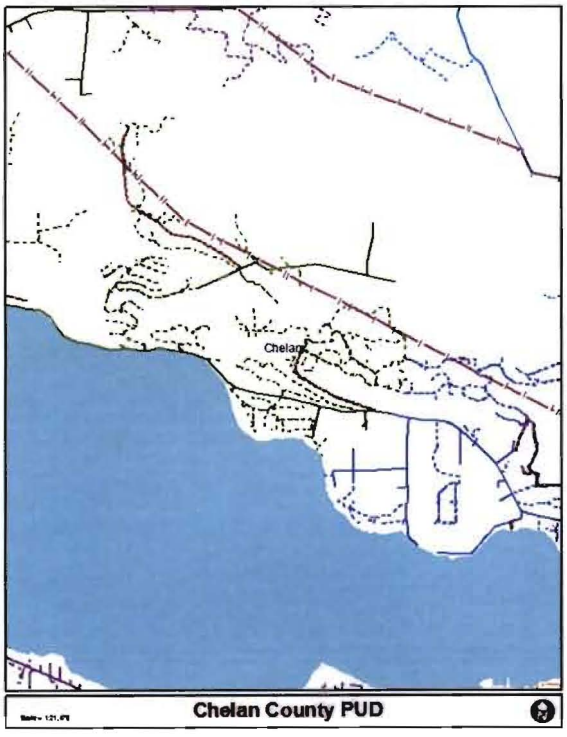
Map


Chelan
Chelan County PUD


Chelan County PUD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