

North Shore Chelan Substation Public Comments/Questions

November 6, 2017

Why does the PUD only seek willing property sellers?

The PUD Commissioners, after three failed efforts to site the substation, directed staff to first look within the area near the load center to find willing property sellers where their property meets the site characteristics that favor siting a substation. Only as a last option would the PUD look to exercise eminent domain authority.

There are substantial costs and delays associated with an eminent domain claim.

Can you move the substation to a different location on the Henderson property?

The PUD has performed a cursory review of an alternative location on the Henderson property north of Henderson Road following the October 24, 2017 meeting. **Results were that both costs and visual impacts increase due to the need to construct a transmission tap coming from the upper Wapato-Transmission line. Additionally, we looked at a site closer to the proposed Henderson Site 7 but realized that building a transmission loop to a location further away from the transmission line would also have significant visual impacts.**

Please evaluate alternative transmission routes to the Hellyer site.

The PUD performed a cursory analysis of a back route for transmission to the Hellyer site based upon this request. The result is that the cost is was estimated to be \$170,000 more than the roadway route due to its increased length. **In addition, view impacts and the number of easements required increased when routing the transmission this direction.**

**Henderson Substation Site
North Henderson Rd. Consideration**

Note: Add'l Cost
 1. Trans Tap = 1,030K
 2. Distribution* = 610K
Total = 1,640K
 *Est. UG Distribution

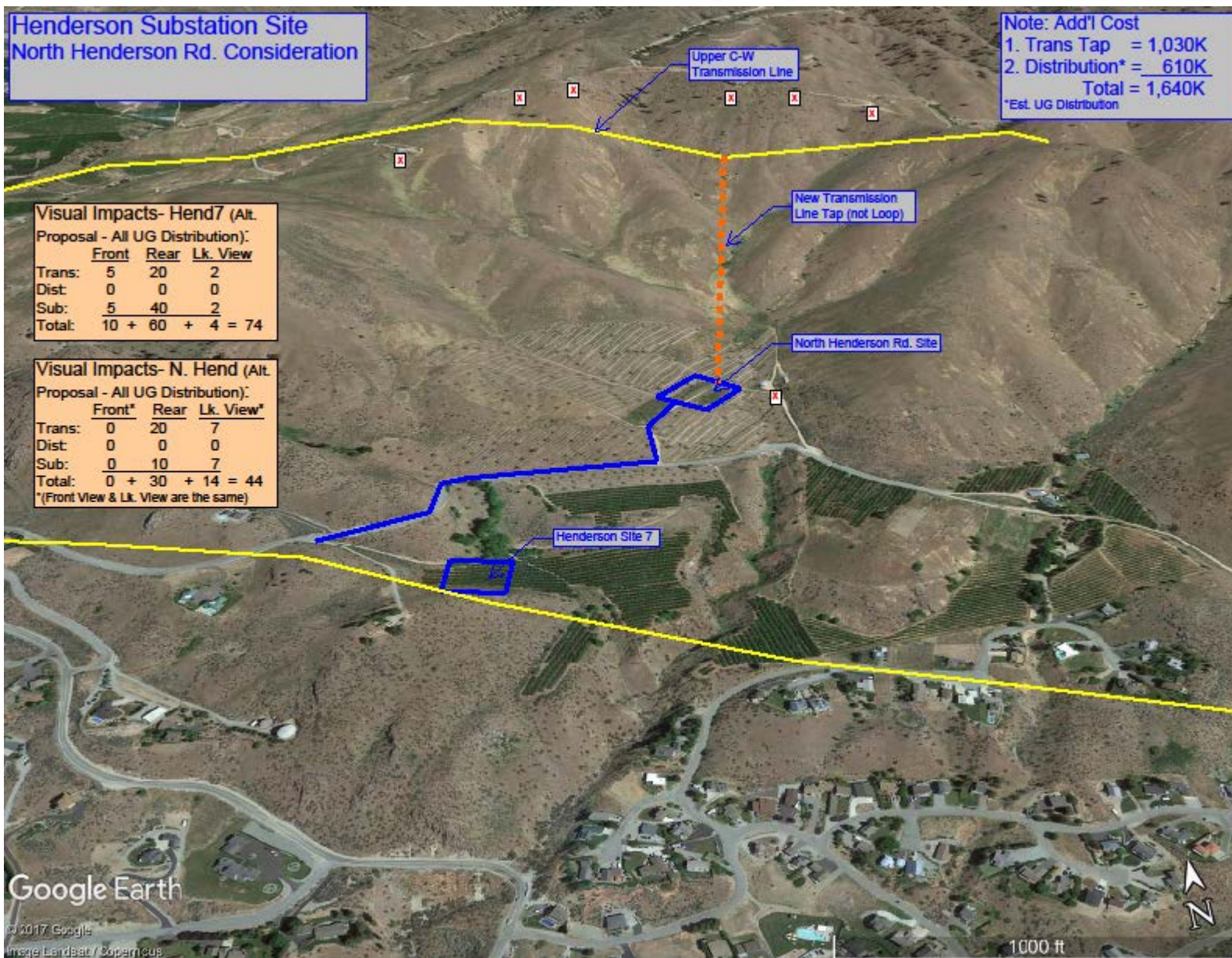
Visual Impacts- Hend7 (Alt. Proposal - All UG Distribution):

	Front	Rear	Lk. View
Trans:	5	20	2
Dist:	0	0	0
Sub:	5	40	2
Total:	10 + 60 + 4 = 74		

Visual Impacts- N. Hend (Alt. Proposal - All UG Distribution):

	Front*	Rear	Lk. View*
Trans:	0	20	7
Dist:	0	0	0
Sub:	0	10	7
Total:	0 + 30 + 14 = 44		

*(Front View & Lk. View are the same)



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1000 ft



Hellyer Substation Site Transmission Line Alternatives

Visual Impacts (Trans Alt1):

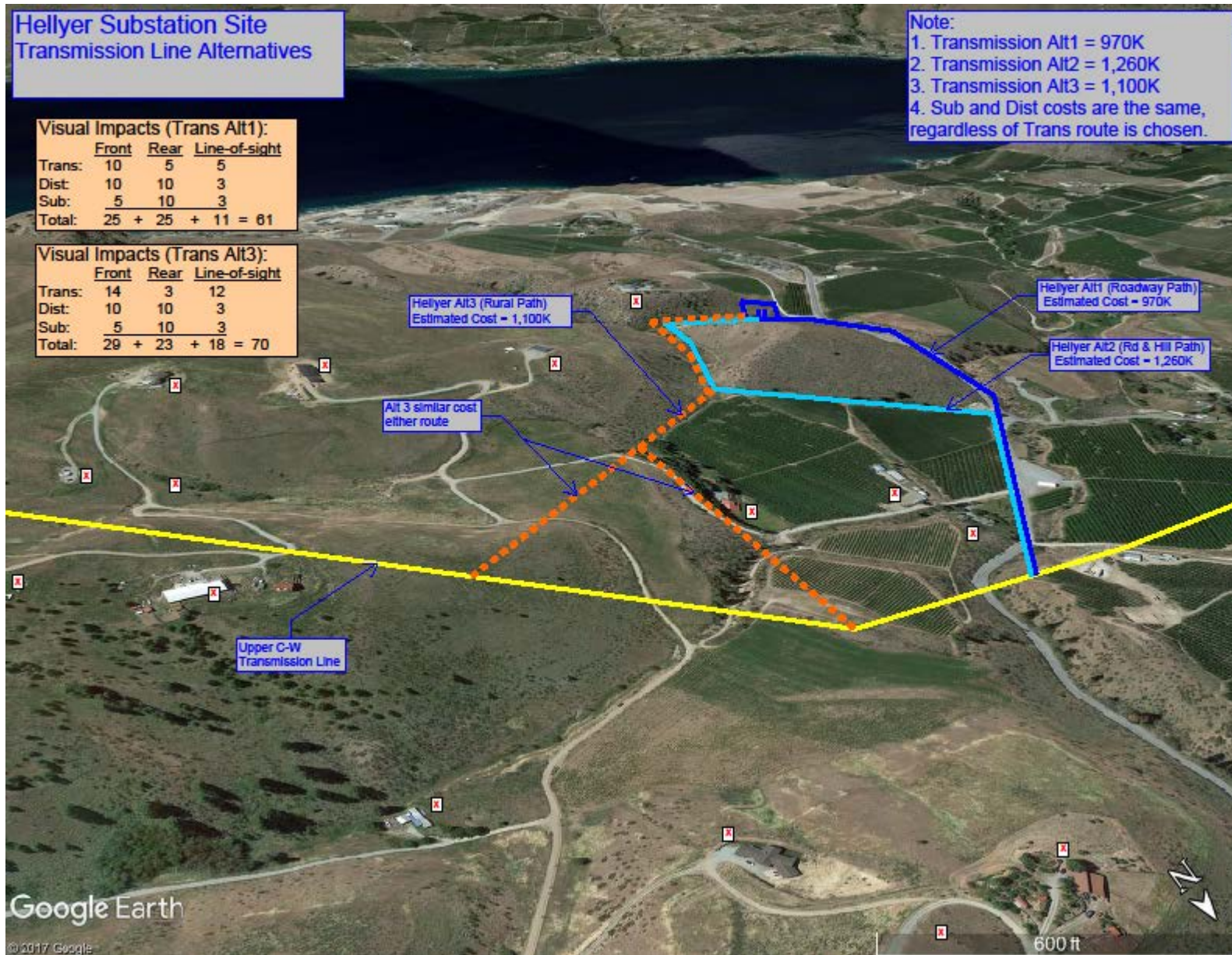
	Front	Rear	Line-of-sight
Trans:	10	5	5
Dist:	10	10	3
Sub:	5	10	3
Total:	25	+ 25	+ 11 = 61

Visual Impacts (Trans Alt3):

	Front	Rear	Line-of-sight
Trans:	14	3	12
Dist:	10	10	3
Sub:	5	10	3
Total:	29	+ 23	+ 18 = 70

Note:

1. Transmission Alt1 = 970K
2. Transmission Alt2 = 1,260K
3. Transmission Alt3 = 1,100K
4. Sub and Dist costs are the same, regardless of Trans route is chosen.



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POWER

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Overhead power lines (transmission and distribution) will negatively impact views.

The PUD heard very clearly the concerns of impacts due to both transmission and distribution overhead power lines. Because this was an important factor in siting this new station, PUD staff and the Focus Group incorporated those impacts into the selection and decision making. Sites that were close to the load center and close to existing transmission were given a higher priority, because a site with those characteristics requires less power lines to be constructed. See the [March 6](#) and [March 20, 2017](#) (sites outside the load center) as well as [May 1](#) and [May 15, 2017](#) (transmission) Board of Commissioner presentations where stations without those characteristics were evaluated. For the staff recommendation, staff counted the view impacts and recommended an alternative where all new distribution lines are undergrounded. **The transmission line at Henderson would only be overhead for 0.1 mile, which is the shortest transmission line tap needed for any of the eighteen areas originally evaluated by staff and the community Focus Group.**

The devastating fires in California are now believed to have been started by power lines downed in a windstorm. We live in an area prone to wind and fire, and this is a threat to our safety and financial health. The PUD should reconsider its stance on undergrounding power lines to protect from fires starting.

The staff proposal limits new above ground transmission and distribution lines to 0.1 mile. **This option creates the least wildfire risk of any option studied.** In addition, the PUD has a wildland fire program aimed at reducing this threat.

The PUD is very financially stable and should be able to absorb the cost of undergrounding distribution and/or transmission lines without impacting ratepayers.

The \$4.3M –to \$8M dollar addition for undergrounding 0.6 mile of transmission line, as proposed for the Hellyer site, is cost prohibitive and not in line with the PUD's philosophy of the best, for the most, for the longest period of time for a financial decision of this magnitude to be considered. **While the PUD is financially healthy, we do not believe this should lead to choosing alternatives that are not cost effective as part of any PUD operations.** Staff has recommended that all distribution lines leaving the Henderson site be placed underground, which eliminates the need to raise the transmission line, and saves costs by placing three of the four underground circuits in a common trench and working with future development to extend two circuits not immediately needed. These recommendations improve the aesthetics and cost considerations at the Henderson site significantly.

How can the PUD afford to build a new facility for staff but not to underground transmission lines to benefit customers?

The PUD has a [Strategic Plan](#) that includes three priorities: invest in assets and people, reduce debt and create a Public Power Benefit program. The three strategic priorities are built around the strategic focus of creating “the most value for the greatest number of people for the longest period of time.” As a result of the plan, the PUD is developing asset management plans for all of its assets. **The PUD owns more than 100 buildings which represent about 16% of its total assets. The PUD has to have buildings to house its equipment and people.** These facilities - whether at the dams to house equipment and people necessary for keeping our revenue generating projects operational - or facilities that house line crews, fiber crews, water/wastewater crews and their equipment - or facilities that house other members of the PUD team - are necessary and vital to ALL customer-owners regardless of their location in the county.

How can the PUD afford to build a new facility for staff but not to underground transmission lines to benefit customers? (continued)

A Strategic Facilities Plan has been developed to identify the least cost/highest value path for managing facilities. A community group has been engaged in reviewing the facilities plan and has expressed support for the analysis. That plan concludes that investing in new buildings will be lesser cost and higher value for the District's customer-owners over the next 50 years than retaining existing buildings. The plan represents the most cost-effective approach.

Choosing the Hellyer site costs approximately \$2 million more than the Henderson site before undergrounding costs are considered. Undergrounding of transmission at the Hellyer site adds an additional cost of \$4.3M to \$8M above the alternative. **The fundamental difference between facilities and choosing the Hellyer site is the facilities plan is a cost-effective investment for PUD customer-owners and the Hellyer site and undergrounding are not.**

Staff recommends purchase of the Henderson site for three reasons (feasibility comparison; operational/engineering comparison; and aesthetics). But Slide 7 of the October 24, 2017 presentation shows that there are more aesthetic impacts at Henderson than at Hellyer. Why would you cite “aesthetics” as an advantage of Henderson if it has greater impact on aesthetics?

Staff recommends the Henderson site over the Hellyer site based on public input, Focus Group input, consultant analysis, and analysis by the PUD Engineering and Operations Group. **The staff recommendation is based on considering cumulatively the aesthetic, cost and operational impacts of each site.** When considering view impact numbers, Hellyer is lower in total view impacts over Henderson. **But many of the Hellyer view impacts are due to a greater distance of above ground transmission, which is more difficult to remedy than substation view impacts. Henderson view impacts are largely due to substation view impacts that are more conducive to substation design variables that were identified in the presentation.**

The residents in this area are willing to pay additional costs to underground the transmission lines. How much would it cost each ratepayer to underground the transmission? Could this be considered instead of determining underground transmission is not feasible?

One of the challenges with implementing a process to pay for the cost of undergrounding transmission is determining who would be included. Although some existing residents and property owners say they are willing to pay for the cost to underground transmission, it will be challenging for the PUD to increase rates for a particular group of people when they may or may not benefit from the aesthetic improvements gained. **The estimated cost for 1,500 ratepayers over a 30-year period would be roughly a 25-45% rate increase just for undergrounding. This does not include the additional roughly \$2M associated with selecting the Hellyer site over the Henderson site.** In addition, this approach would have the same "one-off" operations and maintenance impacts for the PUD, as it would include only 0.2% of the PUD's transmission system but require significant changes to operations, maintenance, policy and equipment.

Have the Commissioners received comments that have not been published in the public comment record on the website?

The PUD makes every attempt to keep its [substation public comments](#) up to date. All comments received - positive and negative - will appear there. In addition, this document is intended to respond to comments and questions received.

Lake Chelan Hills Homeowners Association Board of Trustees

Although we continue to feel the Hellyer site, over the long term would be the more appropriate site as it relates to safety and engineering concerns, **we will support the staff recommendation for the Henderson site with the following PUD commitments:**

It is recognized that the Henderson site appears to be the most cost effective site however, there are certain design issues which we have identified that could address the visual and engineering challenges associated with this site. **We request that the PUD recognize the challenges this site poses and work to support the affected homeowners and Chelan Hills Home Owner Association representatives in the design phase of this substation project.** Also, before substation construction begins, the community representatives will be given an opportunity to review and make appropriate input for PUD consideration.

Lake Chelan Hills Homeowners Association Board of Trustees

- Revise the configuration of the actual footprint of the substation elongated vs. square.
- Locate the substation against the south and west hillside.
- Grading so that the station would sit lower in the valley.
- Bringing the transmission lines straight down the hill side into the substation and do the line-doubling within the station perimeter.
- Add another transformer so that a mobile unit may not be necessary for maintenance or repair. This could eliminate the necessity for large two trailer trucks to visit the site.
- Use camouflage colors on the site and evaluate pole colors.
- Adding any addition berm of land and/or vegetation to resolve any visual or sound impacts issues that may arise.

Henderson Neighborhood Protection Group

- Selection of the Henderson Location Would Irreversibly Damage the Neighborhood Character
- Selection of the Henderson Location Could Materially and Adversely Impact Wildlife
- Construction of a Substation at the Henderson Location Could Impact and Contaminate Existing Wells

Henderson Neighborhood Protection Group

- Selection of the Henderson Location Will Create Driving Hazards for PUD Personnel
- Public Comments Received to Date Overwhelmingly Oppose Selection of the Henderson Location
- A SEPA review is required