

PUD outlines substation plans at community meeting

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By: Ian Dunn, Editor

The Chelan County PUD briefed those gathered at a community meeting about the status of choosing a location for a new substation in Leavenworth. PUD officials presented a consultant's analysis of the three possible site locations, including some of the costs, pros and cons.

"The outcome of this is we have community members informed about the process. We'll have input back from the community on the three sites. We want to gather additional local knowledge. There are people in this room that know more about these sites than we know," said PUD External Affairs Manager Shaun Seaman, at the Feb. 13 meeting at Leavenworth City Hall.

As previously reported in the Echo, Seaman explained that the west end site had been pulled off the table by the landowner. This was called Site 3, in the rock pit by the Heidelberg.

"What's happened since then, the owner said go ahead a look at it. We did that, but later through the process, the owner came to us and said he is not going to sell at this point, so there was no sense continuing," Seaman said. "About that time, a board member of MEND, came forward and said they had an interest in looking at one of their parcels. They asked us to take a look and see if something would work."

Seaman said they brought the MEND proposal back to the community focus group, which believed the site should be further analyzed. Since the last substation meeting in November, PUD Project Manager Gary Rice said they've hired a consulting engineer to give them some independent analysis and a more in-depth look at the selected sites, so they could compare them against one another.

The three sites were compared on earthwork costs, substation costs, distribution costs and transmission costs. The three sites are Site 8a, which is owned by the city on Rattlesnake Hill, Site 14 sits on MEND property behind Club West and Site 9 which sits on PUD property at the existing substation.

Site 8a is tucked into the backside of Rattlesnake Hill, Rice said.

"There is a more level area, but it is not level, by any means. The whole Rattlesnake Hill area is also a glacial feature, so it carries a lot of granite rocks. Doing construction in that area carries a lot of extra earthwork costs," Rice said.

There must be a road to all the potential sites, so the PUD is able to get a mobile substation into the site in case there is a failure. In such cases, the PUD can pull in a mobile substation with the semi-truck and get temporary power until the substation can be fixed.

"We did an analysis, and you can get a tractor-trailer in there with a mobile substation. It sits on about a 3 percent slope. We typically don't put substations on slopes, but we have at least one substation on a slope. That one is 3/4 percent slope," Rice said. "That is not a show stopper. We can do it, but it is an inconvenience."

"The earthwork is a big risk. The cost is more than double the other sites. The major reason is the unknown earthwork. We know we would be pulling a lot of rocks out of it. It just raised the price significantly."

The number one positive for the 8a site is there is room for expansion, room for a second breaker. With each transformer, there are more circuits to serve future growth. Substation cost is straight forward.

For distribution, there are two circuits going underground. Another line would go underground to the Chumstick Highway, where it would jump to existing lines to get the power.

“Transmission is very similar to Site 14. For reliability, you want to have two sources to every substation. We can come from the existing substation and we can build on the existing transmission lines,” Rice said. “For reliability, you want to build an upper transmission line, which would cost about \$750,000.”

In terms of site visibility, you can’t miss it coming down Chumstick, Rice said. They could use rock walls and other things to camouflage it.

Earthwork costs are \$1,660,000. Substation costs are \$3,403,000. Distribution costs are \$842,000. Transmission costs are \$2,472,000. Total costs are \$8,377,000.

With Site 14, Rice said they tried to find a location that was less disruptive for any kind of housing development in the future. It is in back of Club West. A nearby house has an abandoned septic system which extends into Site 14. Rice said that could be taken care of and should not be a construction issue.

“We have high groundwater in the area. We’ve talked with our engineers, we feel we can design around any type of special foundation. We are aware of that, but I don’t think it will be show stopper,” Rice said.

Local resident Pat Burnett urged caution if planning to build in that area.

“That property behind Club West is all wet. It is deep wetland. It had orchard in it. My dad drained it. Anything behind Club West, you might put a playground on it, but you’ll never put a building on it. It is not build-able. You move further down, you get into drier area,” Burnett said.

Rice said it was not uncommon for the PUD to set up a house-type drain around the site to daylight the water out. The site has been pulled close to Rattlesnake Hill, Rice said, because there are future plans for a connecting road between Titus Road and Chumstick.

The reason the site has so much area, Rice said, is because there needs to be room for a tractor-trailer turn around for the mobile substation.

“Specific attributes, the distribution underground feed to Chumstick. The way we cost estimated this one, we had underground distribution to Titus Road. Going the other direction, since we already have an above ground transmission line, we put the distribution on that same line,” Rice said. “This would also benefit with the north line, giving two sources of power. This site also has room for the expansion in the future. This does displace future housing development. Site 14 is doing to best job of all the sites to locate the substation as close to power.”

Of the three sites, Rice said this is the closest to where power is needed, Titus Road. Community member David Morgan said there is standing water all over the MEND site. Rice said they knew Site 14 had some challenges with groundwater, but not enough to take it off the table.

For Site 14, earthwork costs are \$709,000. Substation costs are \$3,403,000. Distribution costs are \$774,000 and transmission costs are \$2,862,000. The total cost is \$7,748,000.

Site 9 is immediately adjacent to the existing substation, which has two transformers. There should be eight circuits, Rice said, but there are only seven because it very congested to get distribution out to the city.

“There are a lot of power poles out there and it is just tough to get the distribution out. On the cost estimates, you’ll see for Site 9 we have some really high distribution costs. The distribution costs really are double,” Rice said. “We’re still not exactly sure how we’re going to get distribution out. We can do it but it will be very challenging. Because of the all the congestion, with the two transformers, one new coming in and all the lines coming in, it’s very difficult to do all the switching you need to do.”

Trying to deal with so much congestion in one area is not ideal and it would be hard to build the substation without temporary outages to the city. Trying not to be unbiased, Rice said Site 9 would be really tough to make happen.

Morgan asked why the PUD could not build on the hillside behind the fire station.

"It is hillside and there are houses on the other side. If everyone was really settled on Site 9, we probably look at another configuration than we chose to analyze. Another choice might be to move closer to the county, the gravel pit," Rice said.

It would be difficult to get transmission out of there, Rice said. Sites 14 and 8a would be much more reliable, electrically. At Site 9, the PUD would be coming back in the years ahead with a request for more power.

"The very fact that Site 9 does not allow for a second unit to be put in there is troublesome. Both the Rattlesnake sites, 10 years out, if we need more capacity, you could drop another transformer in there. This PUD site may be cheaper now, but 10 year from now, they might be looking for a place for a new substation. That, to me, was a major flaw in Site 9," said Leavenworth City Councilman Elmer Larsen.

For Site 9, earthwork costs are \$458,000. Substation costs are \$4,906,000. Distribution costs are \$1,680,000. Transmission costs are \$868,000. Total costs are \$7,912,000.

"Sites 14 and 8a would take away from having a house nearby. I have nothing against industrial, but housing is an acute need. Seems to me hiding a substation in the gravel pit would be an attractive feature," Morgan said.

The PUD will be taking comments on the substation proposals until March 2. Next steps, Seaman said they will take the information they've heard back to the group and figure out what it means, such as the groundwater and the housing issue. Make sure they haven't missed something.

"We still want to take these sites to our commissioners. This whole effort is to take these site recommendations to our commissioners. They'll make a decision on what site," Seaman said.

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