MEETING NOTES

At the request of EID, I met with Brent Tippets, EID trustee, on 2/15/19 to discuss concerns about water in the canyon.

I started our conversation by sharing my objectives for the meeting with Brent:

1. Recognition by EID of concerns within the community regarding decreased streamflow, impairment of wells, and sustainability of water resources.

2. Discussion on how to ensure a safe, secure source of water for all residents in the canyon.

3. Discuss EID's view on studies needed to guide decisions on future water policy and water management in the canyon.

4. Discussion on how to increase dialogue between EID and the community.

5. Discussion on how to work towards a sustainability plan, supported by both EID and the community, that will protect water resources and limit development in the canyon.

CONCERNS ABOUT WATER RESOURCES

- Fragile aquifers in Emigration canyon affect water production of private wells (production is 50% or less compared to wells in other areas). Private wells are very sensitive to streamflow and related artesian pressure, but minimum streamflow levels have not been maintained in 10 of the last 17 years.
- Limited yield of aquifers affect EID wells as well: Frequent drawdown of water in wells damages aquifers over time and reduces productivity, which has happened with Freeze Creek well #1 and #2, which no longer function as consistent water sources.
- Excessive drawdown in wells can lead to water being pulled in from nearby aquifers, which may not produce the same quality of water, which is what may have happened with the Brigham Fork well, which has good water production, but no longer produces water that meets Health Department quality standards.
- Climate change has resulted in increased runoff and decreased refill of aquifers, which affects both private wells and EID wells. Changing weather patterns also cause prolonged periods of drought during the summer months, which is putting an additional strain on aquifers.
- EID has an online warning system that protects their wells from excessive drawdown of water in wells, but the system has not been working consistently and is often in need of repair.

Both Brent and I agreed on the validity of these concerns, the importance of consistent operation of EID's online monitoring system to prevent groundwater mining and damage

to aquifers, and the need to plan for a future where climate change will continue to impact scarce water resources in the canyon.

SECURE SOURCE OF WATER FOR EID

Brent stated remedial efforts are being investigated to restore water production from the Brigham Fork well - EID has not been able to use it for the last two years -. However, he acknowledged that if these effort do not produce the desired results, EID will need to consider drilling a new well as a back-up for the Upper Freeze Creek well - currently providing almost 90% of EID water - to prevent excessive drawdown of water in wells during times of drought and to allow for maintenance and repairs.

I brought up the possibility of connecting to Salt Lake City water (by adding new main water line to EID's reservoir and using EID's distribution system). Water from Salt Lake City could supplement EID water and provide a consistent source of water during prolonged periods of drought. It could also be used as a back-up water source, which may eliminate the need for drilling additional wells. Brent's understanding of the situation was that Salt Lake City had no interest in connecting to EID's water system. According to information I received from Salt Lake City Utilities, however, it would require an engineering study, cooperation from EID, several million dollars (offset by avoiding costs for new wells at 2 million dollars per well) and possibly incorporation of Emigration Canyon into Salt Lake City.

Both Brent and I acknowledged connecting to Salt Lake City water carried the risk of increased development if unlimited water would be available. There is also the possibility that Salt Lake City could take additional water from Emigration Canyon to meet the needs of residents in the city. Careful negotiations would be required to ensure Emigration Canyon residents would benefit from this arrangement.

I mentioned that Salt Lake City has an interest in the canyon because the creek provides needed surface water for the zoo, and the canyon is an important area for recreation, provides access to trails, allows Salt Lake City a say in implementing measures to improving water quality, and is the home of many highly trained and educated Emigration Canyon residents who provide services to local hospitals and research facilities city residents benefit from. Emigration Canyon arguably has more in common with Salt Lake City then places like Manta and White City. Brent agreed to look into the option of getting water through Salt Lake City Utilities and will report back.

SECURE SOURCE OF WATER FOR PRIVATE WELL OWNERS

Providing water security to private well owners is more challenging. Studies indicate maintaining streamflow is important for proper functioning of private wells. Brent mentioned that - other then connecting to EID's water system, which may not be desired or possible for private well owners - EID's water system could be used to provide additional water to the stream, which may help the situation during times of drought. Preventing further expansion of water systems would halt depletion of water resources to current levels, but, considering changing weather patterns related to climate change, that

may not be enough to ensure a long-term sustainable water source for private well owners. Connection of EID's water system to Salt Lake City water could help improve the situation by decreasing demand on strained aquifers.

ADDITIONAL WELLS IN THE BURR FORK AREA

We discussed EID plans for additional wells in the Burr Fork drainage, an area of higher elevation with increased precipitation levels, particularly important for refill of aquifers. and runoff to the creek. I pointed out possible detrimental effects of EID wells on streamflow and private wells affecting not only Pinecrest Canyon residents, but also those in the main canyon. Brent agreed it would make sense to study potential impact of EID wells in that area before proceeding with current plans.

IMPAIRMENT OF PRIVATE WELLS BY EID WELLS

A point of contention was the impact of commercial wells on private wells in the canyon. Brent maintained monitoring wells in the main canyon indicate EID wells do not impact private wells in the canyon. I argued saturated groundwater levels only provide information on the groundwater reservoir. Streamflow and related artesian pressure also affect production of private wells and are not considered as a factor by EID. Brent urged me to talk to EID's hydrologist Don Burnett for a more detailed discussion on this topic. I told him the scientific community in Spring Glen felt Mr. Barnett had compromised his professional integrity by presenting as fact during the hearing on December 19th that EID wells do not impair private wells in the canyon without providing supporting data. Only scientific studies can determine impairment. Brent felt studies would be costly. I mentioned the Utah State Engineer may be interested to help fund a study. This discussion requires follow-up at a later point in time.

NEED FOR INCREASED COMMUNICATION

Both Brent and I agreed communication between EID and the community leaves much to be desired. The image of EID within the community is that they make decisions without considering the needs and concerns of residents. EID is in the process of updating its website to provide more information to residents and hired a public relations firm to improve its image within the community. I suggested approaching the ECCC as a way to communicate with residents and ask for input. I also informed Brent I am in the process of forming a water group; a collection of concerned residents dedicated to take on the challenges of water in the canyon. This group may be able to bridge the gap between the community and EID and work towards solutions that benefit all residents in the canyon. Brent stated EID would be very interested in working with this group. i will provide more information as things progress.

INFLUENCE OF LAWSUITS

We briefly discussed the influence of Mark Tracy's lawsuits on water issues in the canyon. Brent stated EID's ability to communicate with residents has been limited as a result of the lawsuits. I shared my view that lawsuits do not provide solutions to water

problems in the canyon. It requires a genuine effort to work together as a community, concern about the canyon environment, streamflow, sustainability of water resources, and willingness to look at all options to provide a secure source of water for all residents.

DEVELOPMENT IN THE CANYON

We discussed how further development in the canyon impact scarce water resources. Brent painted a narrowly defined picture of EID as a provider of water to residents and lot owners in the canyon who either have a need for water or want it for development. He argued EID does not have any say in development in the canyon and therefore does not get involved. I pointed out that a 700 home build-out limit was mentioned as a goal in EID's Water Management plan of 2002 and there is nothing that prevents EID from using its considerable influence to advocate for sustainable development in the canyon, especially since EID has an interest in how development affects streamflow and scare water resources. Brent agreed that EID should get involved in limitations on development.

SUSTAINABILITY PLAN

We discussed working on a sustainability plan with input from the community, including the ECCC and EID, to address threats to water resources and streamflow in the creek. Discussion will continue as formation of the water group, mentioned above, evolves.

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