

Re: Election for Approval of \$3,000,000 New Debt

To INDIAN CREEK RANCH (ICR) HOMEOWNERS:

Thunderbird currently has two active wells, each about 20 years old, which are used to supply all water to ICR. This summer the monthly average production of those wells was up to 62 gal/minute(gpm). The #3 well produces about 60gpm and the #1R well produces maybe 10-15gpm. That doesn't leave much cushion, and obviously if either well, and especially if the #3 well, goes down, we are in a world of hurt. Our big tank holds 500,000gals (5-6 days supply), but once below about 350,000gals we risk not having enough water to fight a fire. Presently the neighborhood has a pretty good "fire rating", which helps keep your homeowners insurance costs down. We don't want that to change negatively.

Well production rates naturally decline with time, as the volume of water near the wellbore is reduced, and scale and "fines" (like silt and clay) build up on and adjacent to the casing pipe. We occasionally (about every 5 years) try to "clean up" those casing issues, but with diminishing returns.

WE NEED TO INCREASE OUR WATER-SUPPLY CAPACITY! There's essentially two ways to do this: drill a well, or connect to another reliable water supplier. We have investigated the latter with Dominion Water and Sanitation District (DWSD), which serves Sterling Ranch.

We don't have solid numbers, but from Louviers' discussions with DWSD, it's probably safe to say that the "tap fee" to connect to their system would be about \$40-60k per household. The connection infrastructure (pipes, valves, controls, etc) would cost about \$19-26k (2019 dollars) per household. Dominion would not share what might be the actual cost of water, but Sterling Ranch currently charges \$64/mo plus \$8 - \$26 per kgal (1000 gals) (see <https://sterlingranchcab.com/DocumentCenter/View/405/Sterling-Ranch-CAB-Fees-Sheet-2021-01-PDF>). Thunderbird currently charges \$33/mo which includes 3333gal/mo, and charges \$1 - \$30 per kgal above that minimum. Please note that historically only about 6% of TWSD invoices include an incremental charge above \$22/kgal; 80% of TWSD bills charge no more than \$6/kgal (see https://drive.google.com/file/d/1EiCWdMYx_czUboXapF6qz_XTv1Ga_ARQ/view).

TWSD has been anticipating this general situation for quite some time. In 2011 we bought from the developer substantial water rights under the southern portion of Lambert Ranch (LR). Securing easements from LR via negotiation has been troublesome. We now have access to our proposed easements, while waiting for the court to determine proper compensation. These easements in part provide two drilling locations on the eastern edge of LR, one just south of Rio Grande Ave and the other ¼-mile to the south and relatively close to ICR. Developing wet water from LR will be more costly than past wells due in large part to the cost to connect to our existing infrastructure about 0.4 miles away.

But, back up, why LR you may ask. It's a little complicated. The Arapahoe is the best-producing aquifer. It is exposed as Wildcat Mountain, and dips steeply to the east under ICR. That dip becomes more gentle maybe by about Winnebago Drive, but it continues to dip to the east until about Castle Rock. Water runs downhill, or more properly here, downdip. It also moves from high to low pressure. Every municipality drills Arapahoe wells, so when say Castle Pines produces a gallon of water from one of their wells (dropping the pressure), for both reasons a little bit of that gallon moves away from ICR. That's why our #3 well is on the eastern edge of ICR. There's not much space in ICR to drill another easterly well, and to get away from other wells we chose to buy those LR water-rights when they were available. We also felt that if we didn't buy them, someone else (Dominion?, Sedalia?) surely would, and we'd be sorry.

We recently solicited cost-estimates to both drill an Arapahoe well and to connect a southern-LR well to our existing pipe near the upper Cherokee Dr – Rainbow Creek Rd intersection. In round numbers that's about \$1million per well and about \$1million for additional infrastructure; or about \$3 million total.

Good news is we don't have to do this all at once. The most expeditious thing to do is to drill proposed Well #4, a deep all-Arapahoe offset to our 10gpm #1R well in the eastern portion of ICR, which was only drilled into the uppermost portion of the Arapahoe, leaving the most prolific portion of the aquifer behind. We blame the consulting hydrologist, but one of us should have caught this. We hope that this Well #4 will provide us with a 50-100gpm well by next summer, so that if one good well goes down, the other will cover demand.

Eventually, within maybe 2-5 years, we drill our first LR Well #5 on the southern LR site along with about 3000ft of pipeline, and a new treatment and control facility/shed near the SW corner of the DougCo open space, and connect it up to our existing pipe. We would then keep the northern LR drillsite in our back pocket for use maybe 20 years from now.

In the above scenario we would borrow roughly \$1million early next year, and \$2million in 2-5 years. Please note that the resulting increase in property taxes has been, and will be, partially mitigated by the payoff of our debt to drill our current wells in 2019 and 2022, each of which has/will reduce our mill levy and your property taxes. Another bit of relatively good news is that interest rates from our likely lender (the CO Power & Water Dev't Authority, a state entity that is largely supported by federal funds) are only about 2.5% for 20-year debt as we write this, versus about 4-5% 20 years ago.

Please note that TWSD will be holding our regular monthly meeting on Thursday Oct 14th, 7pm at the ICRIA clubhouse. As always, you're welcome to attend.

On an obliquely-related note we'd like to remind you that Thunderbird Directors are elected officials, although there hasn't been a contested election in 20-25 years. More importantly we are all above some certain age, yet do most of the physical and mental labor, excluding accounting and heavy-equipment-needed repairs. We really need some younger folks to step up and learn to serve. The work isn't all that difficult, but it's diverse and sometimes interesting. You even get paid, a little. Feel free to contact one of us with any questions; come to a few meetings to get a feel for what's going on. Help keep our rates some of the lowest around. If we have to hand operations over to hired professionals, we estimate an annual increased cost of about \$100/month/lot.

For Thunderbird Water & Sanitation District
Barry Gager, Treasurer