City of Laramie
City Manager's Office
P.O. Box C
Laramie, WY 82073

(307) 721-5226
fax (307) 721-5211

August 13, 2019

Wyoming State Engineers Office
Interim State Engineer Rick Deuell PE
122 West 25th Street
Herschler Building Room 2W
Cheyenne, WY 82002

RE: Jacoby Golf Course High-Capacity Irrigation Well Drilling Program, Permit Nos. U.W. 210667, 210668 and P210669

Dear State Engineer:

The City of Laramie would like to share its concern with the permitting by the State Engineers Office of three test wells which we understand will be used to locate water to irrigate Jacoby Golf Course. The proximity of these wells to City's existing Turner Wells poses the potential for a detrimental effect to the municipal water supply and its customers.

To begin, the City holds a well permit *in the same ¼ ¼ section* as two of the recently permitted test wells and in the adjacent ¼ ¼ as the third, (City Permit No. 207285). The City's intention is to incorporate our existing 41T3 well at this location within the larger municipal supply system in coming years. Some 35,000+ customers in Albany County rely upon Laramie's public water system and the community is growing at an average annual rate of at least 1% per year. Permitting another high capacity well(s) in this same ¼ ¼ section may compromise the efficacy of the City's existing 41T3 well at this site and, thereby, the long-term production ability of the City's public water system.

Also, SEO has placed a production cap on the City's municipal wells of 4,500 acre-feet on an average annual basis with no more than 5,000 acre-feet of ground water produced in any calendar year, in addition to no more than 45,000 acre-feet in any ten (10) year period. If SEO has concerns about potential supply within the Casper Aquifer as this production cap would seem to indicate, then why would another high production well be permitted to produce from the same location within the aquifer?

You may be aware that this is the second attempt by to drill a well for the purposes of irrigating Jacoby golf course; the first attempt was a WWDC funded project for the JRA-1 well drilled under Permit No. U.W. 165501 in 2015. That well failed to produce the desired water flow for an irrigation well. However, downhole transducers substantiated that there is direct communication between the City's 41T3 well, our production wells in the Turner well field, and the JRA-1 -- with the wells producing identical hydrographs despite being spaced 6,050 feet apart.

The City of Laramie holds the following water rights in the area:

Turner (City Springs) Well field			
Turner No. 1	P55507W	01/30/1981	1,400 gpm
1st Enl. Turner No. 1	P61724W	06/23/1982	800 gpm
2nd Enl. Turner No. 1	P72689W	06/05/1986	300 gpm
Turner No. 2	P55508W	01/30/1981	1,400 gpm
1st Enl. Turner No. 1	P72689W	1/028/1981	200 gpm
City Springs	OR 7/261	1868	1,215 gpm
			5,315 gpm – Total Water Right

While the Casper Aquifer can be upwards of 700 feet thick, the well pumps at the Turner 1 & 2 wells are set at depths of less than 100 feet. This is as low as the pumps can be placed and still remain safely within the cased portion of these open hole completed wells. With the Turner wells already constrained by their construction, even minor interference from a high capacity irrigation well at Jacoby Golf Course may have a detrimental impact on City water system operations.

Decades of City experience with the Turner wells shows they have 35 days of peaking capacity, and this period of peak production occurs between June 20 and July 20. During this timeframe the Turner wells typically produce 5½ million gallons of water per day (mgd). After this initial run, the wells must be shut off and allowed to rest as the aquifer level is typically drawn down to the pump bowls. The rest period is normally between 48-96 hours before the wells are available again for use on a limited basis; however, they are only able to endure short runs with a maximum production of 2 mgd. It takes all winter for the aquifer level to recover to springtime pre-pumping conditions in the Turner 1 & 2 wells. The City offsets the lost Turner well field production capacity with additional water brought in from the Soldier and Spur well fields, as well as from the Laramie River surface water right. Should the irrigation well for Jacoby golf course be brought online, it may further inhibit the recovery times of the aquifer at the Turner wells. Such interference seems especially likely given the demand for irrigation at Jacoby golf course will peak *during the same period of time that the Turner wells are drawn down.*

In addition, our historical data shows that City Springs and the Turner wells are susceptible to drought conditions. City production wells in this area exhibit a rapid response to changes in seasonal climatic conditions. During low precipitation years, like in 2002, available water in the aquifer was drastically reduced. This reduction in water supply is problematic due to its inverse relationship to the high demand of municipal customers during dry years. Irrigation demands at Jacoby golf course will be exceptionally high during these drought years as well, and the chance of interference with municipal production wells extremely likely, setting up a perfect storm, of sorts, that could jeopardize service to municipal customers. Potential negative impacts to the water system and its customers may only become known when, frankly, it will be too late and the municipal water system will be forced to engage in costly, reactionary measures.

If another high capacity well(s) comes online, the City intends to formally request that a groundwater interference study be conducted by the SEO to determine impacts of these new well(s) on the municipal system. If adversely impacted, the City will request the State drill new Turner replacement wells that fully penetrate the Casper aquifer. If State funding is not made available to correct harm to the municipal system resulting from the permitting of the Jacoby golf course well project, the expense of correcting the harm will be borne by customers of the municipal water system, an eventuality which is clearly improper and unfair given the City has repeatedly raised our concerns regarding interference with our production wells and water supply.

Accordingly, I would respectfully request that the State begin planning now to fully fund corrective measures as will be necessary to ensure the future of the municipal water supply. City staff are eager to meet with SEO representatives to discuss next steps.

Respectfully,

Janine Jordan
City Manager

Darren Parkin
Natural Resources Manager