

SPRING CREEK RANCH WATER SYSTEM SYSTEM DESCRIPTION AND EXISTING WATER RIGHTS

Spring Creek Ranch Subdivision, managed by the HOA, Spring Creek Ranchers Association Inc., (“SCRA”) utilizes and manages their private water system for about 30 years. To the best of the SCRA’s knowledge, in 1979/1980 the water system was constructed by the original developer to meet the anticipated requirements for Phase 1, First Filing, - 32 home ranch sites. The original water system was designed with well capacity, pumping capacity, six inch water line in the subdivision, and was supplied by a gravity flow tank system to meet the Phase 1 water requirements for 32 ranch sites. A total of 7 homes were built in Phase 1. Since that time, the water system and water decree, have been modified and improved to have the capability to supply the water needs for 14 home sites. The system is operated under well permit #64629-F, Rec. No. 0545862, re-issued 07-25-2006.

LEGAL

The use of ground water from this well is limited to domestic use in 14 single-family dwellings, irrigation of 4.27 acres per residence, and domestic animal watering up to 3 horses per lot. See Attached e Well Permit. On September 22, 2005, District Court Water Division No. 5, State of Colorado decreed the well and water rights for 14 residential units (Findings of Fact, Conclusions of Law, Judgment and Decree- Case No. 93CW213). See Attached Decree. The water rights to be used for augmentation are diverted from Green Mountain Reservoir and have additional senior water rights from Shadow Creek. See Attached Contract Amendment: Bureau of Reclamation-SCRA.

Pursuant to a water service contract with the United States Bureau of Reclamation dated April 2, 1991, and amended December 21, 2009 (the “Green Mountain Reservoir Contract”); SCRA is entitled to annual release from Green Mountain Reservoir in the amount of 15 acre feet per year. Secondly, pursuant to the settlement agreement dated May 22, 1989, reception #374033 and amended thereto dated August 11, 2000 reception # 695189, SCRA has the right to utilize up to 5.85 consumptive acre feet of senior water per year from the (Elk Dance Water/Shadow Creek) to augment in – house domestic use only of the community well if the Green Mountain Reservoir contract fails to supply the before mentioned water.

SYSTEM

Operations - During the period of time between initial system construction and 2004, many system failures occurred due primarily to poorly constructed water lines across the Shadow Creek easement, which left the association without water for weeks at a time. In 2004, AAA Operations, Inc., a water system operation company, was hired to manage the association’s water system and make additional operational recommendations. Following the recommendations, the association revised the water system to its current configuration. AAA Operations, Inc. recommended and installed a pressure sensitive system, with chlorination equipment and water

treatment equipment. This system, as described further in the following paragraphs, was installed in 2004, continues to be serviced, monitored and tested by AAA Operations, Inc. and has worked to the total satisfaction of the association since it was installed. Since installing the system there has not been any downtime for the last six years due to well pumps burning out.

Water Quality - The water from the existing well has high iron content. The water treatment system removes enough iron to facilitate chlorination. In the past it was the responsibility of each home owner to treat the individual ranch's water supply to obtain the desired iron content for their property. In 2009 SCRA enlarged the water softener to an appropriate size and added a filter. SCRA consultants have suggested that this small change will alleviate the need for any treatment at the individual home with respect to iron. In 2009, an additional auto-pneumatic pressure tank was added to provide a backup pressure tank. These 80 gallon auto-pneumatic tanks contain bladders that are pressurized and sense any drop in pressure from the main lines thus triggering the well pump. Water comes in from the well. Chlorine is injected immediately. The chlorinated water proceeds into the two 80 gallon pressure tanks. These tanks allow for contact time for the chlorine to oxidize iron. The water then goes into the iron filter where most of the iron is removed. Next, it passes through the softener where hardness & any remaining iron is removed. Finally, the water leaves the shed with approximately .5 mg/L free chlorine. The water chlorine levels are also tested monthly.

The original pressure system worked well for seven homes and it is anticipated that the dual tank system will have total capacity for up to 14 homes. An added bonus is that the system does not waste water as the original system did and any leaks can immediately be immediately determined and isolated. The main distribution water line holds thousands of gallons of water (calculated to be 6,500) which acts as a pressure/gravity flow reservoir and is estimated to hold a standard one day's supply for all 14 homes including. The capacity of the system is a function of a combination of well production, two auto-pneumatic pressure tanks and gravity flow from pipes above the subdivision and larger water pipes within the subdivision.

Pursuant to a letter dated November 23, 2009 from the Water Quality Control Division of the Colorado Department of Public Health and Environment, the SCRA system is currently considered a non-public water system until it begins to serve 25 or more persons per day for at least 60 days of the year or 15 service connections. Although the total build out of Spring Creek Ranch is under the threshold of 15 service connections, the threshold of 25 or more persons per day could be reached with a significant change of full time residents. SCRA plans to monitor the thresholds and continue to sample the water to assure the safety of the water. In the event the upper thresholds are reached the SCRA plans to be in compliance with a public water system with respect to water quality and state compliance.

Currently the water is sampled at the well house on a monthly basis for bacteria and sent to a lab. The samples are collected by AAA Operations.

System Description - There are three components to the water system. Component 1 is the well house and equipment contained therein. The well was drilled to 110 feet depth with a seven inch perforated casing diameter and was sized for a 32 home consumption rate, utilizing a five horse power submersible pump installed by Abbott Pump Company of Granby, Colorado. Prior to 2004 the pump used to burn out approximately every 3 years and since the reconfiguration there has been no downtime due to the pump. This well and pump has a maximum allowable pumping rate of 100 gallons per minute with a typical measured flow rate of 26 gallons per minute. To the best knowledge of the SCRA the well does not deplete at the aforementioned rate. Added to the well house in 2004 are a chlorination system and a commercial water softening/treatment system. The water is pumped from the well through the water treatment system removing primarily iron and minerals then is chlorinated and pumped into pressure holding tanks. The insulated pump house is approximately 8' by 12' footprint and 10 feet tall. The well house is supplied by electrical service from Mountain Parks Electric, is heated by gas with and with electrical heating for back up. Year round access is available on SCRA easements and Shadow Creek roads. The well house is located on SCRA owned parcel of property located as described in the attached diagram in Shadow Creek Ranch. On a monthly basis, the water system service company, AAA Operations, Inc. services the water treatment system, restocks the chlorination system and treatment systems with supplies, checks the and records data from the water usage meter, checks tank pressures and system maintenance, and draws samples for water quality test monitoring. Pursuant to the water decree, the service company collects data and supplies that data to the State Engineer and also annually supplies the Bureau of Reclamation a schedule for the release of augmentation water. The pump house operations are maintained by Abbot Pump Company of Granby, Colorado. Abbott Pump has installed the pressure tanks, the submersible pump, pulled and serviced the well point screens and conducts annual maintenance on the well house equipment.

The second component of the water system is the distribution system through easements in Shadow Creek that lie in elevated meadows above Spring Creek Ranch. The entire distribution system has been replaced and re-bedded since the original installation. The first one-half of the system was replaced in 2001 by Anderson Construction, Inc., Kremmling, Colorado. The second half of the system as well as the cleanout valves were replaced and bedded at the same time as the Shadow Creek water system construction and was put into service in 2004. New brass valving as indicated on the attached diagram was also placed into service at this time. These new lines were installed by DMJ General Contractors, Inc. The distribution system is joined with the latest 100 % welded seam construction from certified black PE 3408 piping provided by Polypipe Industries and stamped ASTM 2513. The valves at location B on the attached diagram provide isolation for the first half of the distribution system and a blow out valve. The isolation valve at location C provides isolation for the second half of the distribution system and is the location where the 2.5 inch poly pipe is connected to the association 6 inch cast iron system.

The third component of the water system is the six inch cast-iron water mains located inside the perimeters of Spring Creek Ranch along Spring Creek Rd and Blue Spruce Rd. The system initiates at the before mentioned isolation valve at location C on the attached sketch and services the association by traveling down Spring Creek Road and Blue Spruce Road. There is a blow out valve located as indicated near the intersection of both roads and a blow out valve located at the end of the Blue Spruce Rd. cul-de-sac. Water pressure, capacity, and continuity can be determined at each of these points. Each of the existing seven ranches has individual distribution piping leading from the six inch main to the individual homes. The attached chart shows the existing third component of the water system and the proposed new Building Envelope locations tie in with the proposed water distribution system. All building sites are located at least 40' lower than the highest point of the main water line and also located below the elevation of the community well.

Projected Domestic Water Usage - Historical water usage was only recently logged by AAA Operations, demonstrating an average usage of approximately 127 gallons of water per day per house. See Attached log. Although the log demonstrates that the profile of the home ownership has vastly changed to almost entirely second home users, the current system is adequate for full time use. Currently, only one person occupies a home at Spring Creek Ranch. Diamondback Engineering has been the Consulting Engineering group for the association and suggests residential in-home usage figure of 300 gallons per each 14 residential sites (4,200 gallons per day for the subdivision) be used for peak water supply requirements. This would be a under the water decrees allowable total of 4,900 gallons per day. In addition, pursuant to the proposed PUD Agreement any caretaker units shall require adequate water supply and specific use for caretaker units in an amended Water Decree. See Water Supply Information Summary Form GWS-76.

This daily number is based on Summit County criteria of 50 gallons per person multiplied by each bedroom in a house, assuming two people per bedroom. The existing housing of 7 homes each have three bedrooms except for one house which has only two. Accordingly 3 BR x 2 People x 50 gallons = 300 gallons per day. Capacity is created by a combination of 26 gallons per minute (1,560 gallons an hour) at the well head or resupply, with two pressurized 80 gallon bladder tanks and a gravity flow water line containing over 6,000 gallons. In addition the SCRA is reserving an easement on Tract B for additional storage or future needs in the event that more ready capacity is desired by the SCRA. The current system is capable of producing 37,000 gallons per day as determined by sampling the capacity and duration at both blow out valves located at the intersection of Blue Spruce Rd. and Spring Creek Rd. and the cul- de- sac at Blue Spruce Rd. Not only can the water lines be completely recharged in 3.7 hours but there is enough supply to meet peak demand in the morning hours at full build out.

Well Location. Typically wells and storage tanks are located in the lower portions of a development due to drainage and water is pumped uphill. In the case of Spring Creek Ranch, the community well is located at a higher elevation than any existing home site or future building

envelope since the well is located on a portion of Shadow Creek Ranch situated above the subdivision. Additionally each home site is at least has a 40 foot differential from the highest point in the main water line. As a side note each of the 7 existing homes have pressure reducing valves at the inflow to the house.

All water fixtures in any new construction will require low flow design for toilets, showers and faucets.

Additional Capacity. For further clarification, Diamondback Engineering believes that the current system is adequate for 14 residences of similar size as existing homes, however the SCRA has created an easement on a parcel of land on Tract B which is 50' by 50' for an additional potable water tank of approximate 4,000 gallons in the event additional capacity, pressure, or treatment is desired by the homeowners.

Fire mitigation- Spring Creek Ranch has been located on the perimeter of Summit County and is located in the Lower Blue Fire Protection District. As such it is approximately 5 miles from the Blue River and approximately 12 miles from the Heney fire station. It is financially inconceivable that any fire flow supply will be available such as required in densely populated areas of Silverthorne/Frisco or Dillon Fire Protection District. As such the SCRA is proposing a threefold plan that is financially prudent, based on future growth and not overbearing to existing home owners:

Tracts A-G

All new construction will require the homes to be sprinklered and supply and independent storage tank sized appropriately for scale of the residence and accessory buildings. However such tank shall be at least 300 gallons in capacity and charge the sprinkler system only. In addition SCRA has created an easement for a separate parcel of land (100' by 100') on the elevated portion of Lot 5 Block 2 for the future construction of a non-potable water storage tank with a roadside dry fire hydrant. This location on Spring Creek Rd was deemed to be the most central point in the subdivision to existing homes and future growth. It is proposed that this tank is not a prerequisite capital improvement but in case the SCRA in the future desires additional measures beside the required home sprinkler systems.

CONCLUSIONS - Spring Creek Ranchers Association has a water decree and augmentation plan, well permit, a community well and water system that is sized for its current and future maximum build-out, is in good operating order with new well house equipment and new distribution piping in the second component of the system. Since 2004 the system has functioned consistently with very few problems or downtime providing safe potable water. In addition a parcel of land is being reserved in case additional water pressure, capacity or treatment is desired by homeowners. The system, through a combination of well pump (resupply), two auto-pneumatic pressure tanks, and a main water line containing over 6,000 gallons, can supply the needs of 14 residences. Not only is there a standard one day supply within the water lines the

well is capable of recharging the system in approximately 3.7 hours. The system is monitored monthly with respect to water quality and operated by a professional company; currently AAA Operations, Inc. of Dumont, Colorado, and is maintained by Abbott Pump Company of Granby, Colorado. The association offers to make available any further support documents that maybe required by the Planning Department of Summit County.

Although “as built” are not available for the water pipe system, Diamondback Engineering has inspected the well house and system components to the extent that the capacity has been verified by checking production logs, sampling capacity at the two valve blow outs and calculating the capacity by analyzing the well capacity in combination with the pressure tanks and holding reservoirs within the water pipes that have some factor of pressure due to gravity. Water pressure, capacity and duration of water flow were checked at the intersection of Spring Creek Rd and the cul-de-sac of Blue Spruce Rd.

EXHIBITS

- A. Graphic Illustration of current system**
- B. Letter from Colorado Department of Public Health**
- C. Amendment to Green Mountain Water Contract**
- D. Water Decree Case No: 93CW213**
- E. Well permit**
- F. 2009 monthly meter readings from log**



December 17, 2009

Mr. Robert Swenson

Mr. Bruce Anderson

Facsimile Original

Re: Spring Creek Ranch Water System

Dear Bob and Bruce,

I have reviewed the water system report prepared by Bruce Anderson and agree with the system adequacy as presented therein.

Water rights and physical supply for the existing system as spelled out are more than adequate for 14 homes. The rate of 26 GPM average flows from the existing well can supply each of the 14 residences with over 2,670 GPD.

Furthermore, there doesn't appear to be any operational or maintenance problems with the system.

Please feel free to contact me with any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'John Enochs', with a horizontal line extending to the right.

John Enochs, President

Diamondback Engineering and Surveying, Inc.