

**GREENFERRY WATER DISTRICT  
MINUTES OF THE SPECIAL BOARD OF DIRECTORS  
July 6, 2021, 4:00 pm, via Zoom and at the District Office**

**CONVENE MEETING AND ROLL CALL**

Chairman Stephen Tanner opened the meeting at the District Office at 4:00 PM. A Zoom connection was also available for guests. A roll call confirmed Vice Chairman Carol Rassier, Bob Stiger, Rex Grace and Secretary Treasurer Ron Utz were also present. Staff present were John Austin, Manager, Bob and Ian Kuchenski, Water Operators and Roger Glessner, District Engineer. Guests were Bob Haynes, Water Consultant and Erik Campbell from Aspen Homes via Zoom.

**OLD BUSINESS**

Next, the Board heard from Mr. Campbell on a request to exchange a prepaid meter on Lot 4, Block 1 of Cedar Creek Subdivision for a conservation tract in the Cedar Creek development to be used for irrigation. The discussion involved the size of the acreage to be irrigated and if the site would need to be annexed into the District. Mr. Haynes stated the amount of the irrigation could impact the Reasonably Anticipated Future Needs (RAFN) project. Staff will research the matter to report at the next Board meeting. Mr. Campbell explained that lot 4 is buildable but not very desirable because of steepness. Mr. Ian Kuchenski was also going to look at where this hook up would be moved to before the next meeting.

Next, the Board heard from Mr. Haynes on the RAFN project (draft attached). He stated he'd worked with Ashley Williams from Welch Comer on potential growth projections in the area. The Idaho Water Resource Research Institute projections were twice the number of density as Ms. Williams'. He stated he agrees with her projections and are included in his report. He said this should make the projections more agreeable to the Idaho Department of Water Resources (IDWR) concerning the water right for the RAFN. He said he'd like to finalize the report, adding information about fire protection issues potentially leading to an expansion of the RAFN and then it will be ready to send to the IDWR. Chairman Tanner directed that Mr. Haynes revise the narrative and send it to the Board. Mr. Haynes stated he's completed his 15 hours of work so additional funding is not required at this time. He may have to spend additional time on this depending on the comments from IDWR. He also stated since both wells can pump at the same time it would prove the beneficial use of the water right. He said he'd prepare the Proof of Beneficial Use document for an additional 0.8 cubic feet per second (cfs), increasing to a water right of 2.05 cfs and have it ready for the Chairman to sign.

Next, the Board discussed the Well #3 project. Mr. Glessner stated based on their tests the well levels of the two wells are impacted when both are run but the water level stabilizes at a static level. Chairman Tanner said the drawdown level data will have to be finished before Welch Comer does any additional data analysis. He said he's informed Ms. Williams of this. The Board then discussed the water outages that occurred over the weekend, based on factors including excessive irrigation not allowing the reservoirs to recharge. Adding to this was the power failure that occurred twice when both pumps were run at the same time.

Mr. Ian Kuchenski said Kootenai Electric Cooperative (KEC) came out and determined the three transformers do not supply enough power to run both wells simultaneously. Ms. Rassier said it's very crucial that the District acquire a backup generator as soon as possible. Mr. Glessner said his research has found that a 2007 80kw generator was \$13,000 and a 2003 100kw was \$16,000. Both are diesels and are available currently but subject to acquisition by another entity. He said there would be additional costs for tanks and control panels. He also said he'd research the availability and cost of automatic transfer switches for the generators. He then said Big Foot would need to come in to wire the electrical control panels. Mr. Glessner will contact Big Foot about the process and timeline to do the electrical. Chairman Tanner stated there's no backup power at the Greenferry or Bella Ridge booster stations so even a generator at the two wells won't ensure water south to and at Bella Ridge. Mr. Glessner said there are emergency measures that can help temporarily. The Board directed staff to recommend a direction forward on backup power and also the KEC timelines for a larger transformer, to handle up to two 900-hp pumps in the wells. Mr. Austin said the Chairman can call a special meeting of the Board via Zoom in an emergency basis with no 24-hour notice required.

Next, the Board discussed the septic system on the property south of the District wells. Mr. Austin stated he'd discussed the issue with Mr. Sferra and he's prepared to proceed. Mr. Glessner said he will apply with Panhandle Health District for a permit to move the septic system and drain field and possibly also the District's septic tank. Mr. Austin noted the property owner had requested a reduced water rate. He was told that is not allowed by Idaho statutes.

Next, the Board considered the Jade Invoice for \$4,000, for services to replace the hydrant damaged by a driver. The Board tabled the issue until the vendor provides more information.

Next, the Board heard from Mr. Utz on the illegal duplex at Kelly and Riverview, stating the water is off. The Board directed that it should be left off until the county issues are resolved. Ron also was planning to contact the Districts' attorney for legal advice on the shutoffs.

Next, the Board discussed the road repair on Snowshoe Road. Mr. Glessner said the issue is the road built for the booster station pipeline is dusty and should be graveled, according to a homeowner. The Board directed that the road be repaired when construction is completed. This repair may be made at Aspen Homes' expense. Next, the Board discussed well controls at the pump house and the heat affecting the controls in there. Chairman Tanner asked if an air conditioner can be installed in the short term to keep the pump house cooler. Mr. Ian Kuchenski said he could check into that. Mr. Bob Kuchenski then presented the proposal for the master control upgrade and pump VFDs (Variable Frequency Drives). The proposal is the \$35,846.40 deposit and \$21,507.84 upon completion (\$57,354.24 total). After discussion, the Board directed staff to get some additional information on questions from the Board before proceeding with the proposal. They also authorized a special meeting in the event there's an emergency concerning the availability of the VFDs.

Next, the Board received a demonstration from Mr. Bob Kuchenski of the new water meters and their data reporting, via the vendors' website.

**ADJOURN**

With no new business to come before the Board, Ms. Rassier motioned for the meeting to be adjourned and Mr. Utz seconded the motion at 6:45 pm.

Respectfully Submitted,

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Stephen Tanner, Chairman

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John Austin, Manager

# Narrative for Greenferry Water & Sewer District RAFN Water Right Application No. 95-17116

The Greenferry Water and Sewer District is the successor to the Greenferry Water Association. The association first filed for water rights, 95-9087, in 1969 for water from the Spokane River and served approximately 80 users. By the time the water right beneficial use exam was conducted by personnel from the Idaho Department of Water Resources (IDWR) in 1975, the number of users had grown to over 180. A second water right application, 95-7557, was filed by the association in 1975 to take water from the Spokane River for an additional 320 users.

The Greenferry Water and Sewer District was created in 1977 and purchased the assets of the association, including the water rights. Presently the district serves 371 users. The district is regulated by the Idaho Department of Environmental Quality (DEQ) and is identified in the Public Water Supply (PWS) database as PWS# ID1280077.

In the late 1980's treatment requirements for using surface water caused the district to consider alternate sources of water. Even though the district is located on the south side of the Spokane River, the Rathdrum Prairie-Spokane Valley Aquifer extends far enough to the south that wells can be successfully developed on district property. The district filed an application for permit, 95-8613, for a well with IDWR. The district presently holds two water right licenses, one permit and a pending application for permit. A table of the district water rights can be found in Exhibit A.

The district's first well was drilled in 1989. A second well was added in 2003. Both of these wells are twelve inches in diameter. At present, system limitations prevent both of the wells from being operated at the same time. Because a significant part of the district's infrastructure is 50 years old or more, the district is concentrating on identifying portions of the piping system that are in need of replacement.

## **PLANNING HORIZON**

IDWR's RAFN guidance recommends a 20-year planning horizon as appropriate for RAFN applications. Municipal providers, however, may currently apply for a well permit with a 5-year proof of use period that may be extended by IDWR for up to an additional ten years. They contended that the additional five years offered by a 20-year planning horizon was not sufficient to justify the considerable expenditure of resources involved with applying for RAFN rights. The 30-year planning horizon utilized in the IWRRRI study provides the necessary incentive for RPA providers to engage in the resource intensive task of preparing and submitting RAFN applications, while protecting IDWR's obligation to protect Idaho's water resources from speculative use. The planning horizon ends on December 31, 2045.

## **SERVICE AREAS**

At present, the Greenferry Water and Sewer District service area encompasses 1.79 square miles. Within that area the district is obligated to serve 397 users, so it is not a large water purveyor. The existing service area for the Greenferry Water & Sewer District is defined by parameters contained in a shape file that is part of the IDWR records for the district's existing water rights.

Property on the south side of the Spokane River adjacent to the district has beautiful vistas looking north and is desirable for residential development. For the most part these lands do not lie over the Rathdrum Prairie aquifer

and do not have reliable sources of water to support development. The district has been contacted about extending service to some of these upland properties and in fact, has extended its' service to some of these properties.

The district chose to take advantage of the extensive work done by the Idaho Water Resources Research Institute (IWRRI) projecting future demand and file an Application to Appropriate Water based on Reasonably Anticipated Future Demand (RAFN) with IDWR. However, assumptions that were a part of the IWRRI study regarding population densities within the Greenferry Service area (including the future service area) have been brought into question. The district has recently filed a Facility Plan with the Idaho Department of Environmental Quality (DEQ) that covers only the existing service area. The Facility Plan contemplates full buildout within the existing district service area by 2043 with a very modest growth rate of two percent. This growth rate is considerably lower than the average for Kootenai County even before the current influx of people.

As part of their planning process, the district board evaluated the future service developed for the IWRRI study and determined that, within the planning horizon, it was likely the service from Greenferry would extend beyond what was included in the IWRRI study. In consultation with the district's planning consultant, ACE Solutions, a modified future service area was developed. It is the policy of the district that any new connections made to their system must pay for the additional infrastructure necessary to serve those properties. To the extent that areas within the future service area are willing to accept these conditions, the district has agreed to annex and serve an additional 2.52 square miles of land that is adjacent to the existing district. Under current county zoning regulations a total of 380 homes or connections are possible in this future service area. This "future service area" is defined by the properties of a shape file that accompanies this narrative. What remains then is to define what may reasonably be expected to happen in this future service area. This is addressed in the "Reasonably Anticipated Future Needs" section.

## **WATER RIGHT OVERLAP ANALYSIS**

An inspection of the IDWR database shows that within the combined future service area there are 121 distinct water rights. Because of the place of use one right, 95-9999, is found in both the existing and future service areas. Fourteen of those rights list multiple uses, such as domestic and stockwater.

All of the 78 distinct rights within the existing service area are from either the Spokane River or ground water. Forty of those rights are from ground water. With the exception of the Greenferry Water District water rights, there are no water rights in excess of 0.16 cfs from ground water within the district's existing service area. The largest right from ground water is for 0.06 cfs and the irrigation of 2 acres. The rights within the existing service area are list in Exhibit B.

Within the future service area there are 47 water rights. Forty three of these are from ground water. Five are from the Spokane River, two from Cedar Creek, and the rest from either springs or an unnamed spring. Only one right is in excess of 0.16 cfs. It is for 0.27 cfs and the irrigation of 33 acres. The source for this right is the Spokane River. A listing of those rights within the future service area can be found in Exhibit C.

There are no other public water supply systems or community water systems within the district's combined future service area. Because water availability and water quality in the area is problematic, it is anticipated that some of those having individual wells will choose to connect to the district's system as water lines are extended.

Because these rights will likely have no effect on the water right needs of the district, it proposes not considering them in this RAFN process.

## **EXISTING USAGE ANALYSIS**

An extensive analysis of water usage in the Greenferry District can be found in the Greenferry Water District Facility Plan. The District does not read individual consumption meters from October 1st to May 31st. Meter readings for the well are read year-round on a weekly basis. Individual consumption meter readings are collected on either the 1st or 3rd day of each month through June 1st to October 1st. Data for this analysis was provided by the District between June 2013 and July 2020. To properly reflect the systems current demand, the individual consumption meter data from June 1, 2019 to June 1, 2020 (2020 Water Year) was used. Total production for the period was 73,177,000 gallons. Total metered consumption was 52,679,000 gallons. This yields an average system loss of about 28 percent. Although it is likely that the percentage loss is significantly less in the summer months because losses from leakage will probably be fairly constant and represent a lower percentage of the total amount pumped, a decision was made to base the additional water right need on consumption rather than production at the well head. The derivation of Peak Hourly Demand in the facility plan was 664 gallons per minute for 340 connections. This calculates out 1.953 gallons per minute per connection. This relationship will be used in analyzing future needs.

## **REASONABLY ANTICIPATED FUTURE NEEDS**

Projecting what level of expansion may be expected over the planning horizon is difficult because recent past history of the district provides no insight. This is because until infrastructure limitations are addressed no new connections to system can be made. This leaves looking at Kootenai county as a model for what will likely happen in the district. According to the Idaho Regional Economic Analysis Project, on average, Kootenai County's population grew at an annual rate of 3.18% over 1970-2019. The county posted its highest growth in 1973 (8.48%) and recorded its lowest growth in 1987 (-0.90%). Applying a growth rate of 3.18 percent means the district may reasonably expect 848 connections by 2045. Using data from the district facility plan, those 848 connections or 2120 persons can be expected to have a peak hourly demand of 1656 gallons per minute or 3.69 cfs. Since this number is based on demand rather production, a factor of allowable system losses or unaccounted for water needs to be applied. The district proposes allowing five per cent loss. Therefore the total system water right need can reasonably expected to be 3.87 cfs in 2045. The author of the facility plan, Ashley Williams, P.E., indicates that the additional demand will be met by adding source capacity (additional ground water pumping) and that none of the additional source capacity is dedicated to fire protection. An email from Ms. Williams to that effect is attached to this narrative as Exhibit D.

## **WATER RIGHT GAP ANALYSIS**

The information for assembling the water rights portfolio for the district was taken from searching the Idaho Department of Water Resources (IDWR) website for water right records. Greenferry has two water rights that have been decreed by the Coeur d'Alene – Spokane River Basin Adjudication Court. They are 95-8613 and 95-9082 each for 1 cfs with a combined limit of 1.25 cfs. Greenferry also holds one filing, 95-9531, for 0.8 cfs that is still in permit form. The proof of beneficial use for this permit is due on December 1, 2023. The district expects to have work on this project completed either this summer or next and therefore chosen to include it in their water rights portfolio. The total existing water rights their portfolio amounts to 2.05 cfs. Therefore the RAFN application amount is 1.82 cfs

## **GREENFERRY WATER DISTRICT INFRASTRUCTURE**

As previously mentioned the district has two twelve inch wells, each powered by a 75 HP pump and producing about 560 gpm. The well logs for both wells indicate the wells are capable of producing greater quantities of water. The report for well no. 1 indicated that it could produce 1100 gpm with a drawdown of less than three feet. Based on this report, it is likely that the district can increase its water production capacity by simply increasing the horsepower of their pumps. It is also likely that to meet pumping requirements of 2045 at least one more well will be required. The district is investigating construction of a third well within the existing well lot. Copies of well drillers report for the existing wells can be found in Appendix E. If construction of a third well proves acceptable, construction of that well will likely be done in a five year permit window. Increasing the capacity of the pumps in the existing wells would occur on an as needed basis and would likely occur within a 10 year extension of the proof of beneficial use.

The district's system also includes four storage reservoirs totaling 490,000 gallons. At this time no additional storage is planned.

A revenue bond issue was approved in May 2018, allowing for the issuance of \$1.8 million in improvements. The district is continually making improvements to its system, i.e. replacing old distribution lines. Adding new service areas to the district will require additional upgrades to the district infrastructure.

## **GREENFERRY WATER CONSERVATION PLAN**

The district recognizes it has an obligation to make efficient use of the water it pumps. To aid in that endeavor in 2016 the district modified it's rate structure to assess a \$15 monthly fee to be dedicated to a Capital Reserve Fund. The district also implemented a \$15/mo. fee to any user with a connection paid for but not in use and \$15/mo, for any land owner in the District not connected to the system but within 300 ft. to a fire hydrant.

Conservation action items the district will implement include the following to promote the efficient use of water:

1. Install Variable Frequency Drive pumps. These units enable a "soft start" of the pumps which eliminates the need to waste water as part of the system start-up and shut-down to prevent water hammer.
2. Implement a Supervisory Control and Data Acquisition (SCADA) system. This will provide real time information on water system performance.
3. Promote alternate day watering of lawns and garden by users.
4. Promote watering of lawns and gardens between the hours of 6:00 PM and 10:00AM.
5. Provide water conservation information and tips as part of the billing statements.

This Application for Permit and Narrative were prepared for the Greenferry Water & Sewer District by Robert G Haynes, P.E.