

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 96-9650
Exam Date: 05/26/2022

1. Current Owner:
FERRIS RETIREMENT LLC 3408 SPRING CREEK WAY SANDPOINT ID 83864-5292
LESLIE J FERRIS 3408 SPRING CREEK WAY SANDPOINT ID 83864-5292
2. Accompanied by: Michael White
Phone No: 503-422-1901
Address: 289 Old HWY 95 Athol ID 83860
Relationship to permit Holder: Permit Holder's representative.

3. **SOURCE:**
GROUND WATER

Method of Determination: ArcMap and DRG.

B. OVERLAP REVIEW

1. Other water rights with the same place of use: NO Overlap
2. Other water rights with the same point-of-diversion: NO Overlap

C. DIVERSION AND DELIVERY SYSTEM1. **LOCATION OF POINT(S) OF DIVERSION:**

GROUND WATER NW¼ NE¼, Sec. 32, Twp 56N, Rge 02W, B.M. BONNER County

Method of Determination: GPS. POD is located at -116°35.8289, 48°9.7172 (+/- 14 ft); D-Tag D0076089.

PLACE OF USE: COMMERCIAL

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
56N	02W	32		X															

Method of Determination: Beneficial use field examination and ArcMap aerial imagery.

3.
 - ☒ Delivery System Diagram Attached (required). Indicate all major components and distances between components.
 - ☒ Indicate weir size/pipe as applicable.
 - ☒ Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be 1:24,000 or greater.
 - ☒ Aerial Photo Attached (required for irrigation of 10+ acres).
 - ☒ Photo of Diversion and System Attached

4.

Well or Diversion ID No.*	Motor Make	Hp	Motor Relay Control Part No.	Pump Make	Pump Serial No. or Discharge Size
D0076089	CentiPro	3	Aquavar Solo 3AS30	GOULDS	Unknown

dedicated year-round slips and 10 rotating reservation-based sites. During the exam I found the current owner had expanded to allow year-round service to 20 sites upon request. Throughout the season the RV park is normally at maximum capacity. Based on the current style of RVs having full kitchen washer/dryer/shower bathrooms I'm using the DEQ factor of 2.5 people per unit to compute annual volume. The care-taker residence is being calculated at 0.6 af for in-home water use only. No irrigation or stockwater use was developed under the permit and these beneficial uses of water have been removed during licensing review.

The commercial POU annual volume equals the sum of 20 full-service RV sites and 1 home, which has been calculated above to equal 2.8 af (RVs) + 0.6 af (1 home) = **3.4 af** as recommended for licensing as the maximum diversion volume. Review of the engineering report daily volume computations, the applicant anticipated 1,050 gpd but these values are using 50 gpd per travel trailer; I've used 50 gpd per person based on standard allowances.

Conditions 26A, 046, R66, and X02 were removed from the permit during licensing review. I've revised the commercial text condition to remove the bath/shower units that were not developed. Condition 004 shall be carried forward to licensing. There are no overlapping water right concerns for licensing this water right. The water system is regulated by IDEQ, with public water system No. ID1090292 in an active status at time of licensing review.

Have conditions of permit approval been met? X Yes No

H. RECOMMENDATIONS

1. Recommended Amounts

<u>Beneficial Use</u>	<u>Period of Use</u>	<u>Rate of Diversion</u>	<u>Annual Volume</u>
COMMERCIAL	01/01 to 12/31	0.11 CFS	3.4 AF
<u>Totals:</u>		0.11 CFS	3.4 AF

2. Recommended Amendments

 Change P.D. as reflected above Add P.D. as reflected above X None

 Change P.U. as reflected above Add P.U. as reflected above X None

I. AUTHENTICATION

Luke Bates -

Field Examiner's Name *LD* Date 12/6/2023
 Reviewer *Chris Bief* Date 5/28/2024

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
Flowmeter	Velocity	Master Meter	MS 1.5 Flanged	8944315	1.5 inch	Unkown

2. Measurements: A Master Meter velocity style flowmeter was installed on the water system; the pressure tanks were isolated and the system operated with multiple 1 minute sample measurement taken resulting in a flow rate of 50 gpm on average or 0.11 cfs considering department rounding standards.

E. FLOW CALCULATIONS

Measured Method: Flowmeter measurement equaled 50 gpm or **0.11 cfs**.

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation: None; the irrigation beneficial use was not developed under this Permit and has been removed during licensing review.

2. Volume Calculations for Other Uses: The stockwater beneficial use was not developed and has been removed from the permit during licensing review.

- Commercial annual volume equals the sum of 1 care-taker's home and 20 RV full-service sites as follows:
 - 1 home (in-home use only) = 0.6 af.
 - 20 RV sites year-round use x [50 gpd x 2.5 people factor] x 365 days = 912,500 gal annually / 325,850 gal per acre-foot = 2.8 af.
 - 0.6 af + 2.8 af = **3.4 af** annual volume & Maximum Diversion Volume.

G. NARRATIVE/REMARKS/COMMENTS

Field exam performed on 5/26/2022 with the applicant's representative, Michael White, showed water being diverted from a groundwater well for commercial uses at the Crossroads RV Park. At the POD, well D0076089 has a main service line plumbed to a co-located pump house containing the diverting works. The system incorporates a 3 HP Goulds pump paired with CentriPro 3 HP pump motor. The two pressure tanks built into the water system were isolated & flow measurements were taken from the Master Meter flowmeter, resulting in a 50 gpm or 0.11 cfs diversion rate considering department rounding standards. The permit authorized development up to 0.20 cfs, but the pump performance found at time of exam limits the applicant to the license recommended flow rate of **0.11 cfs**.

At the pump house, a dedicated fire hose connection has been built into the system for use in the event fighting an active fire is required. The Goulds pump/motor uses an Aquavar Solo2 230V, 3 phase output, constant pressure controller that may be capable of producing additional flow rate in the event active fire suppression is required, but the applicant's system is not set up to operate at the higher output under normal operating conditions.

From the pump house, the water main service line routes north toward the 20 dedicated RV slips and care-taker residence. During the exam photographs were taken and approximate water line routing were sketched out on field maps. The commercial POU was having updated sewer connections and added surface gravel when I performed the exam & several RVs were double stacked to allow the replacement of old infrastructure. The RV Park was initially designed to have 10

State of Idaho
Department of Water Resources
Attachment to Field Exam
96-9650

This map depicts the COMMERCIAL system diagram.

02W



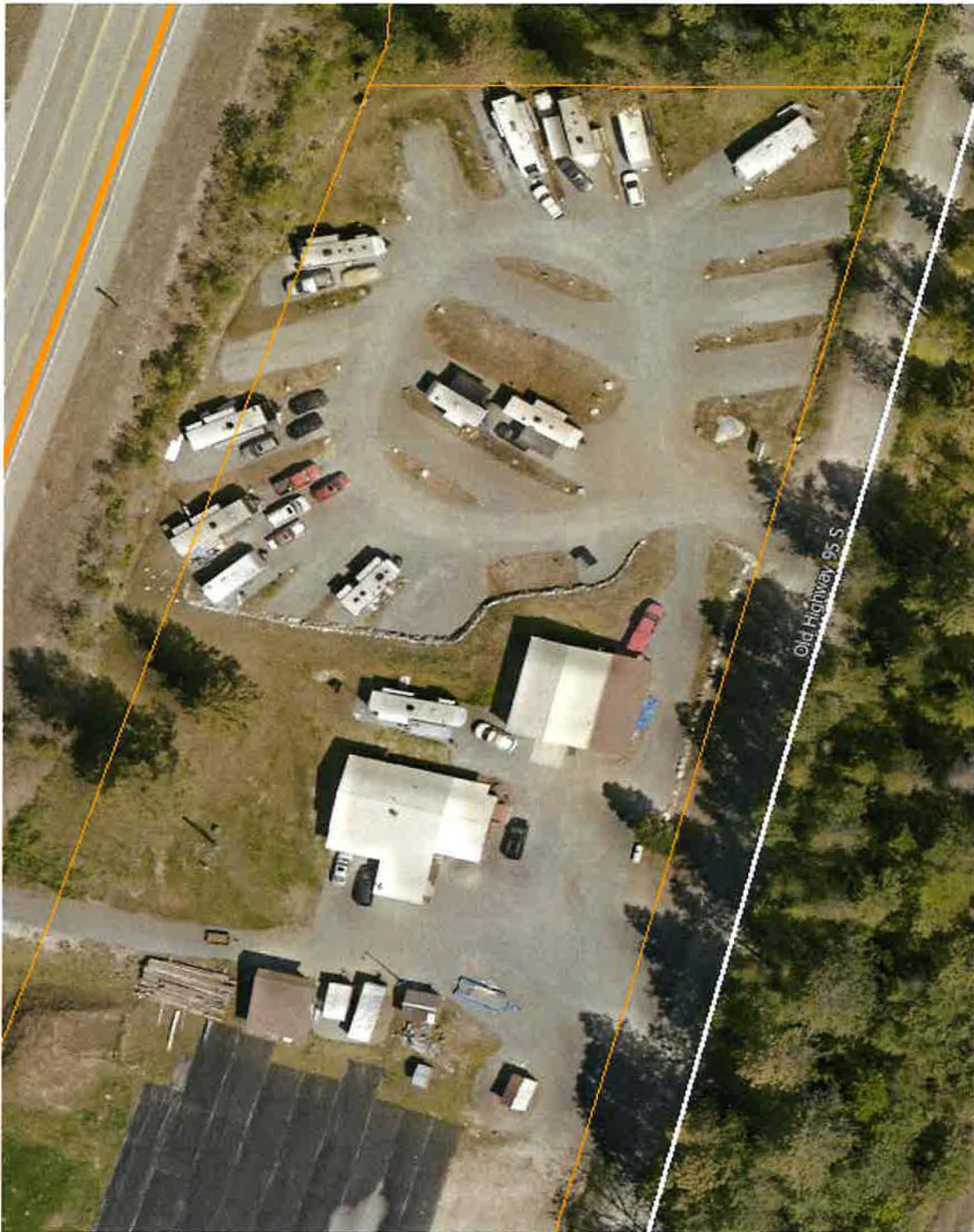
0 0.035 0.07 0.14 Miles

-  Place Of Use Boundary
-  Townships
-  PLS Sections
-  Quarter Quarters
-  Point of Diversion

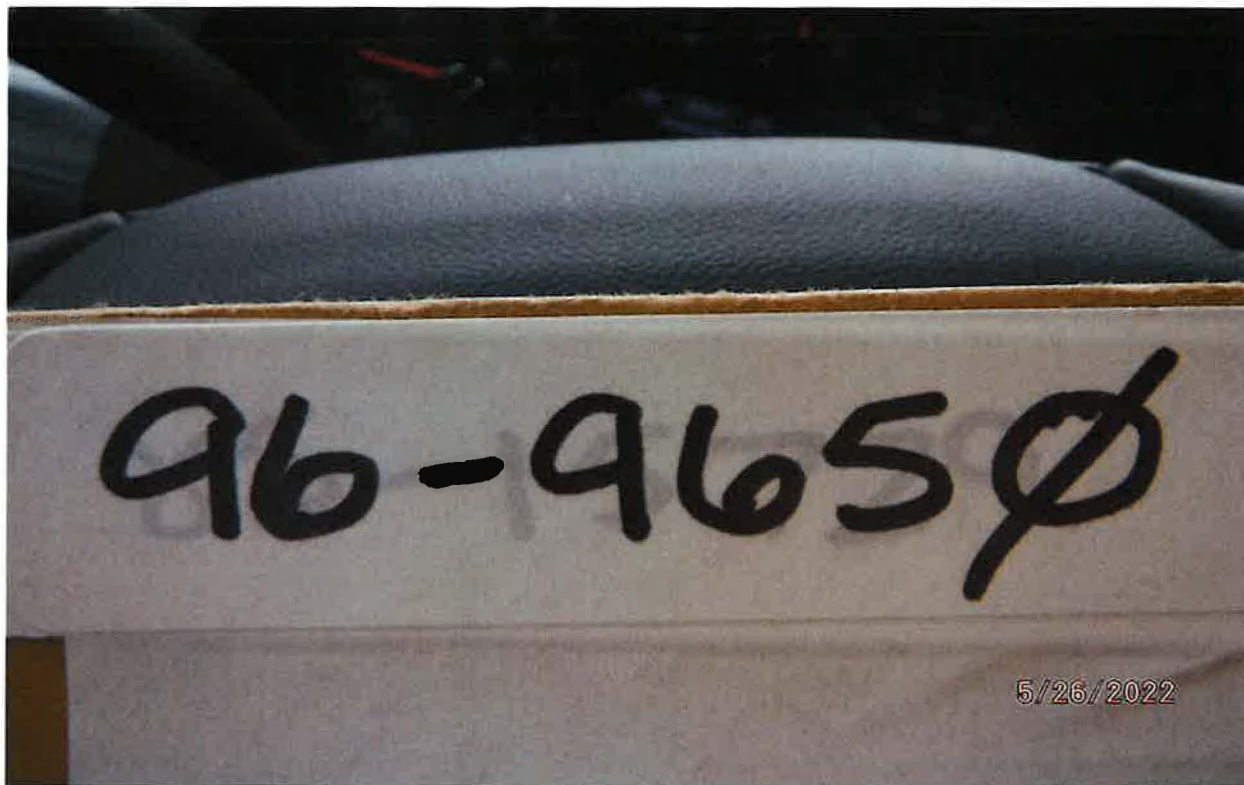


96-9650 – LICENSING REVIEW

AERIAL IMAGERY OVERLAY



- Image capture retrieved from www.bonnercountyid.gov/public/ on 12/5/2023.
- Image illustrates the Crossroads RV Park and associated Caretaker residence.



BENEFICIAL USE FIELD EXAMINATION DATE 5/26/2022



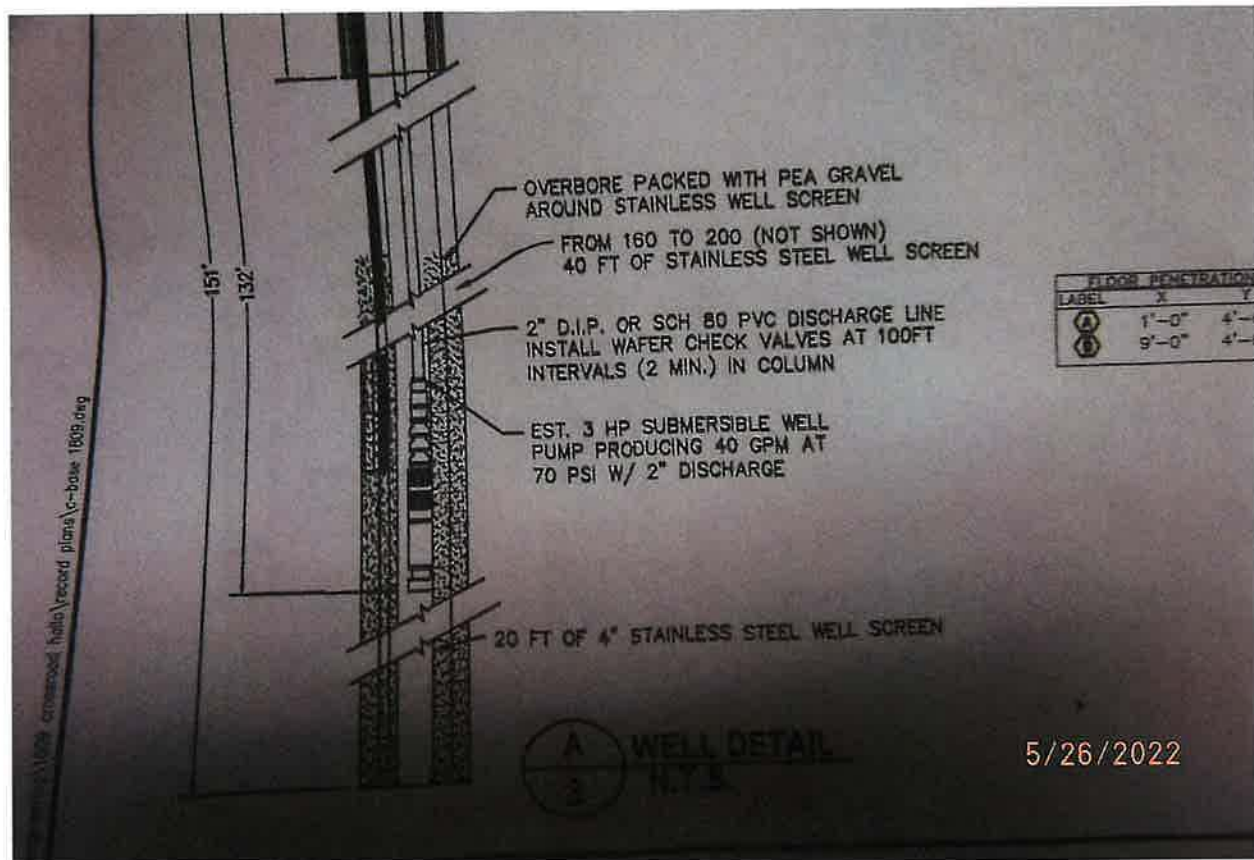
POD – GROUNDWATER WELL D0076089



WELL D-TAG D0076089



VARIABLE FREQ DRIVE WELL PUMP INSTALLED – 3 HP



ENGINEERING SPECIFICATIONS IDENTIFY 3 HP PUMP MOTOR OPERATING AT APPROX 41 GPM

minimum system pressure of 40psi is also recommended.

There is a maximum expected pressure loss of 4.5psi loss in the system during peak demand. The system cut-on pressures should be set to a minimum of 45psi and cutoff at 65psi with pressure tanks at 43psi. At these settings, the furthest out RV hookup should have a minimum of 40psi at peak hour cut-in. Under no circumstance should the pressure tank and switch be set above 100psi – preferably never above 80psi.

See Hydraulic Analysis below.

g. HYDRAULIC ANALYSIS

The worst case operating pressure at Peak Hour demand is the line serving the furthest RV site or cabin with the following assumptions:

210ft: 2" PVC water line @ 41gpm PHD

40ft: check valves

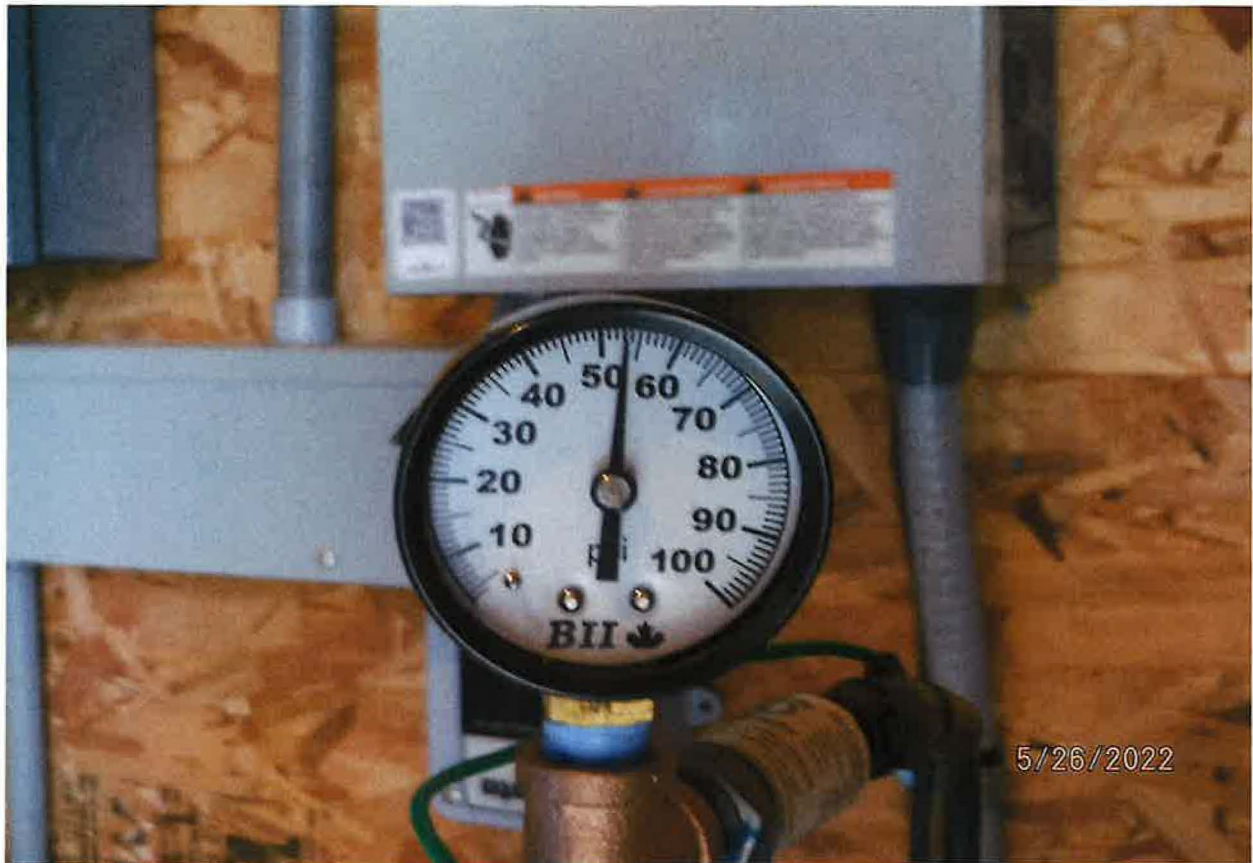
4ft: 3 – 2" gate valves

20ft: 4 – 2" 90° bends

Total 2" distribution pipe Equivalent Length: 274ft

@ 41 gpm in PE pipe, Head Loss = 3ft/100ft

5/26/2022



54-60 PSI OPERATING PRESSURES OBSERVED



METER MASTER FLOWMETER INSTALLED IN SYSTEM, INSTANTANEOUS FLOW MEASUREMENTS TAKEN FROM THIS METER WITH PRESSURE TANKS ISOLATED FROM SYSTEM



2EA PRESSURE TANKS INCLUDED IN DIVERTING WORKS



FROST FREE HYDRANT LOCATED OUTSIDE PUMP STATION



SYSTEM DEVELOPED WITH A FIRE PROTECTION CONNECTION POINT AT POWER STATION.



COMMERCIAL POU – 20 UNIT RV PARK WITH FULL-SERVICE CONNECTIONS



COMMERCIAL POU



ADDING ADDITIONAL FINISH ROCK TO SITES – UPGRADED SOME SEPTIC SYSTEM COMPONENTS AT TIME OF EXAM



COMMERCIAL POU – FULL-SERVICE WATER/SEWER CONNECTIONS FOR EACH OF 20 SLIPS



the guidelines of the *Idaho Wildland – Urban Interface* will be followed to protect the proposed structures.

Average Daily Demand:

It is recognized nationally and in nearby Washington State that RV sites with sewer and water connections have an Average Daily Demand of 50 gpd (WA DOH 331-123 (REV. 12/09), 2009) but also a Maximum Daily Demand of 50gpd (WA DOH 331-467, 2016). In addition, several nearby RV Resorts who have been metering connections report to have an average daily demand during the tourist season of 27 gpd, although our efforts to get them to share their records with us have proved futile. For this system, an average of 50 gpd is estimated. The water system will be metered for a minimum of one (1) year after which time adjustments may be made to the Water Right and the Septic Permit.

Single Family Dwelling, 3 bedrooms: 250gpd (Technical Guidance Manual)

Camp Host, 1 bedroom or 1 permanent RV set: 150gpd (Technical Guidance Manual)

Travel trailer with water and sewer hook-up: 50gpd/space used for this design. (WA DOH 331-467, 2016)

Thus, ADD = 250gpd + 150gpd + (0.5 days/year)(50gpd/space x 26 spaces) = 1050gpd

Maximum Day Demand Calculation:

The maximum Day Demand is going to occur on a busy summer day when Crossroad Hallo RV Park is filled to capacity and the landscaping requires irrigation. 800gpd per residence for design is required per IDAPA 58.01.08.552.01.a.i (Technical Guidance Manual). 5/26/2022
Daily Demand of 125 gallons per day is applied for each RV guest space (Technical Guidance Manual).

ENGINEERING REPORT DAILY VOLUME COMPUTATIONS (PLANNED)