

STATE OF IDAHO  
DEPARTMENT OF WATER RESOURCES  
**BENEFICIAL USE FIELD REPORT**

**A. GENERAL INFORMATION**

Permit No: 57-11796  
Exam Date: 6/12/2018

1. Current Owner:  
CHRIS UNRUH 25289 HIPWELL LN GRAND VIEW ID 83624 (208) 834-2879
2. Accompanied by: Chris Unruh  
Phone No: 208-834-2879  
Address: 25289 Hipwell Ln, Grandview, ID  
Relationship to Permit Holder: Permit Holder

3. **SOURCE:**  
WASTE WATER

**TRIBUTARY:**  
SNAKE RIVER

**B. OVERLAP REVIEW**

1. Other water rights with the same place of use: YES Overlap

| Water Right No.                                         | Source      | Purpose of Use | Basis  |
|---------------------------------------------------------|-------------|----------------|--------|
| Three Grandview<br>Mutual Canal Company<br>Water Rights | Snake River | Irrigation     | Decree |
|                                                         |             |                |        |

Comments: There are domestic use water rights in the same area, but they are not considered to be a direct overlapping water right. The Grandview Mutual Canal Company rights are used in the same permissible place of use as this permit, but they only supply 310 acres of irrigation, and this permit was filed to allow an additional 8 acres of land to be irrigated within the 318 acre farm.

2. Other water rights with the same point of diversion: NO Overlap

| Water Right No. | Source | Purpose of Use | Basis |
|-----------------|--------|----------------|-------|
| NONE            |        |                |       |
|                 |        |                |       |

Comments: There is a groundwater well for a domestic use on land not owned by the permit holder in the same 40 acre tract, but it shouldn't be an issue.

**C. DIVERSION AND DELIVERY SYSTEM**1. **LOCATION OF POINT(S) OF DIVERSION:**

WASTE WATER NW¼NW¼ Sec. 21, Twp 05S, Rge 03E, B.M. OWYHEE County

Method of Determination: GPS, Visual Inspection, and GIS

2.

**PLACE OF USE: IRRIGATION**

| Twp | Rge | Sec | NE |     |      |    | NW  |      |      |      | SW   |      |      |      | SE |      |      |    | Totals |
|-----|-----|-----|----|-----|------|----|-----|------|------|------|------|------|------|------|----|------|------|----|--------|
|     |     |     | NE | NW  | SW   | SE | NE  | NW   | SW   | SE   | NE   | NW   | SW   | SE   | NE | NW   | SW   | SE |        |
| 05S | 03E | 16  |    |     |      |    |     |      |      |      |      |      | 1.0  |      |    |      |      |    | 1.0    |
| 05S | 03E | 21  |    | 2.0 | 39.0 |    | 2.0 | 35.0 | 34.0 | 38.0 | 40.0 | 39.0 | 19.0 | 22.0 |    | 30.0 | 17.0 |    | 317.0  |

Total Acres: 318

Method of Determination: Visual Inspection and GIS

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 Serial No. | Pump Make | Pump Serial No. or Discharge Size |
|---------------------------|-----------------|----|------------------|-----------|-----------------------------------|
| Pump from Wastewater      | Baldor Alliance | 10 | Jpm3312T         | Berkeley  | 359770                            |

\*Code to correspond with No. on map and aerial photo

**D. FLOW MEASUREMENTS**

1.

| Measurement Equipment   | Type      | Make       | Model No. | Serial No. | Size            | Calib. Date |
|-------------------------|-----------|------------|-----------|------------|-----------------|-------------|
| State Office Panametric | Polysonic | Panametric | PT878     | 282124     | 403 Transducers | 4/17/2018   |
|                         |           |            |           |            |                 |             |

2. Measurements: Average discharge over 5 minutes was 0.4 cfs.**E. FLOW**☒ Additional Computation Sheets Attached**CALCULATIONS**

Flow measurement = 0.40 cfs

Allowed by Permit = 0.50 cfs

Acre limitation = 0.02 cfs X 8 acres = 0.16 cfs

I am recommending a diversion rate of 0.16 cfs.

**F. VOLUME CALCULATIONS**

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 8 \text{ ac} \times 3.5 = 36 \text{ af}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.16 \times 260 \times 1.9835 = 82.5 \text{ af}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 36 \text{ af}$$

**PLEASE NOTE: A volume isn't required for this permit, since it is for irrigation from a surface water source per IDAPA Rule 37.03.02.035.01.j.viii**

2. Volume Calculations for Other Uses:

N/A

**G. NARRATIVE/REMARKS/COMMENTS**

Water rights 57-11796 and 57-11838 belong to Mr. Chris Unruh. I conducted a field exam on 06/12/18 with Dan Nelson and Mr. Unruh present. The exam comprised of measuring the pumping rate, evaluating the place of use, and taking note of the systems in place.

**History and System Description:**

Water permit no. 57-11796 is diverted from waste water that flows through the middle of the northern most pivot from neighboring properties (see attached map for location of the drain). The application for permit proposed to irrigate 25 acres with the waste water and move canal shares off that place of use to another location. According to the permit holder, approximately 310 Grandview Mutual Canal Company shares are diverted from two locations along the Grandview Mutual Canal into a common system (please see attached map for locations). A single share of Grandview Mutual Canal water allows one (1) acre of irrigation. The water user irrigates approximately 318 acres of ground leaving approximately 8 acres of ground to be irrigated exclusively by this wastewater permit (318 acres irrigated – 310 acres of canal water = 8 acres of wastewater irrigation). At the time of the exam, the permit holder was irrigating 2 pivot corners and an oblong field next to the home with the wastewater (please see attached map of ground being irrigated). The location of the acres irrigated by the wastewater can vary from year to year dependent on which pivot corner or field not irrigated by a pivot has the least water dependent crop. Therefore, the permit holder has opted to use a permissible place of use to allow him the flexibility to move the water where it would be the most beneficial.

**Points of Diversion and Diversion Rate**

Water permit no. 57-11796 was permitted with 0.5 cfs which is pumped from a waste water ditch. At the time of inspection the pump struggled with pumping at full capacity because of blockages in the dry well. There were debris and dead fish that were clogging the pump. The panametric flow meter was only able to run for 5 minutes due to the pump becoming blocked. When running the flow meter, the average flow rate over 5 minutes was 0.4 cfs. The theoretical flow rate was calculated to be 0.64 cfs. However, the maximum diversion rate that can be allowed is the standard 0.02 cfs (1 miner's inch) per acre or 0.16 cfs for the 8 acres of irrigation.

**Place of Use:**

The permit was approved for 25 acres of irrigation. The permit holder planned to move canal water around to other property to ensure that he could make the best use of the water he had available for all of the different farms he owns. The permit holder actually only moved 8 acres of canal water, so we can only recommend 8 acres of irrigation. The acres that are generally irrigated from the well are highlighted on the attached map, but the permit holder has moved that water around to the fields with lowest water demand. Since the wastewater is not always available, the movement of the 8 acres around the farm allows the permit holder the ability to use the wastewater on the crops with the least demand of water. Therefore, the permit holder has asked that we create a permissible place of use for this permit.

**Conditions:**

Conditions 1 (004), 2 (R65), and 3 (176), can be carried forward to the water right license. Condition 4 (051) will be changed to 933 and 934. Condition 7 (121) will be changed to condition 103 as is standard. Condition 6 is not needed since the minimum stream flow requirements are covered by condition 103.

The permit holder did not install a measurement device on the point of diversion or the pump diverting the water as required by condition 5 (01J). The pump diverting the water from the small pond does have a lockable controlling device on the pump, so that should be sufficient for watermaster control of the diverting works. The permit holder stated that he had talked to someone at the Department who told him that a PCC could be used as a measurement device for this system. This permit is not in a water district, so I did not think this condition should be required for this permit, since the permit was not protested. I spoke with the Water Distribution Section Manager who is also the watermaster for Water District 2, and he informed me that this permit is not currently part of a water district and shouldn't need this condition at this time. He informed me that when a water district is assigned to the water source being diverted by this permit, they would send out an order to require measurement devices be installed. I spoke with the permit holder, and he agreed to send a request to waive the measurement device. We received the waiver request on August 22, 2018. Therefore, this condition should be replaced with conditions R02 for the lockable controlling works and 01M to allow the Department option to require a measurement device in the future if needed. The license will be used as the order waiving the measurement device.

Have conditions of permit approval been met? ☒ Yes ☐ No

#### H. RECOMMENDATIONS

##### 1. Recommended Amounts

| <u>BENEFICIAL USE</u> | <u>PERIOD OF USE</u> | <u>DIVERSION RATE</u> | <u>ANNUAL VOLUME</u> |
|-----------------------|----------------------|-----------------------|----------------------|
| IRRIGATION            | 03/01 to 11/15       | 0.40 CFS              |                      |

Totals: 0.400 CFS

##### 2. Recommended Amendments

|                                                                    |                                                                 |                                          |
|--------------------------------------------------------------------|-----------------------------------------------------------------|------------------------------------------|
| <input type="checkbox"/> Change P.D. as reflected above            | <input type="checkbox"/> Add P.D. as reflected above            | <input checked="" type="checkbox"/> None |
| <input checked="" type="checkbox"/> Change P.U. as reflected above | <input checked="" type="checkbox"/> Add P.U. as reflected above | <input type="checkbox"/> None            |

#### I. AUTHENTICATION

Report was prepared by Chelsey Serrano and Daniel A. Nelson

Field Examiner's  Date 8/22/18

Reviewer \_\_\_\_\_ Date \_\_\_\_\_

Permit 57-11796 was filed on wastewater to cover those acres not already covered by canal water. According to the owner, this property has 310 acres of canal water on the property. The total number of acres irrigated is 318 acres. Therefore, this permit can authorize up to 8 acres of additional irrigation from the wastewater source. The wastewater is currently not being used as a supplemental source and is only used to irrigate the two southern corners of the pivot in the NWNW, and the field between the home in the SENW and the pivot in the SWNW and SENW (see area in purple for area currently being irrigated). I checked the acre amounts of these two locations, and found approximately 8 acres being irrigated from the wastewater.



File Title: C:\Users\dnelson\Desktop\LOG02.LOG  
 File Name: C:\Users\dnelson\Desktop\LOG02.LOG  
 Start Time: 43263.52292  
 End Time: 43263.53056  
 Interval: 60  
 Records: 11  
 Cyclic Flags: 2  
 Error Flags: 8208

| Date/Time       | (+)Total (gal) | Velocity (ft/s) | Volume (gal/s) | Volume (gal/m)  | CFS              | Error # |
|-----------------|----------------|-----------------|----------------|-----------------|------------------|---------|
| 6/12/2018 12:33 | 132625.898     | 5.346           | 3.051          | 183.057         | 0.403            | 0       |
| 6/12/2018 12:34 | 132808.776     | 5.368           | 3.063          | 183.803         | 0.404            | 0       |
| 6/12/2018 12:35 | 132989.032     | 5.458           | 3.115          | 186.907         | 0.411            | 0       |
| 6/12/2018 12:36 | 133171.782     | 5.294           | 3.021          | 181.279         | 0.399            | 0       |
| 6/12/2018 12:37 | 133353.965     | 5.231           | 2.985          | 179.106         | 0.394            | 0       |
| 6/12/2018 12:38 | 133536.289     | 5.281           | 3.014          | 180.837         | 0.398            | 0       |
|                 | 182.078        | 5.33            |                | <b>Average:</b> | <b>0.401 CFS</b> |         |

THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 96-9004  
 Reviewer: Chelsey Serrano  
 Date of Review: 7/30/2018

|                    |                   |
|--------------------|-------------------|
| P/D No.:           | 57-11838          |
|                    | Well #1 (Shoefly) |
|                    |                   |
| PUMP HORSEPOWER    | 75                |
| BOOSTER HORSEPOWER | 0                 |
|                    |                   |
| PUMPING LEVEL      | 1.5               |
|                    |                   |
| DISCHARGE PRESSURE | 78                |
|                    |                   |
| RATE OF FLOW (cfs) | 2.54              |
|                    | 1141              |

|  |              |
|--|--------------|
|  | 57-11796     |
|  | Well #2 (WW) |
|  |              |
|  | 10           |
|  | 0            |
|  |              |
|  | 4            |
|  |              |
|  | 40           |
|  |              |
|  | 0.64         |
|  | 287          |

The above calculates the formula =

$$Q = \frac{8.8 * (\text{Efficiency}) * \text{hp}}{\text{depth to water} + 2.31 * (\text{psi}) + \text{friction}}$$

Assumptions: %70 efficiency.  
 No Friction

Examiners Notes:

CHELSEY SERRANO 06/12/18

FILE NUMBER 57-11796  
Diversion from wastewater



Photo 1: Pump diversion from wastewater



Photo 2: Wastewater source

**Nelson, Dan**

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**From:** Nelson, Dan  
**Sent:** Wednesday, August 22, 2018 1:19 PM  
**To:** 'Chris Unruh'  
**Subject:** RE: Permit 57-11796 (Wastewater Permit)

Thank you Chris. This is what I needed.

Dan

**From:** Chris Unruh [mailto:unruhchris@yahoo.com]  
**Sent:** Wednesday, August 22, 2018 12:24 PM  
**To:** Nelson, Dan <Dan.Nelson@idwr.idaho.gov>  
**Subject:** Re: Permit 57-11796 (Wastewater Permit)

Hello Dan ,

Thank you for your help . This letter is a request to waive the need for a measuring device on the waste water permit that you are working on. Thank you Chris Unruh

Sent from my iPhone

On Aug 22, 2018, at 10:09 AM, Nelson, Dan <[Dan.Nelson@idwr.idaho.gov](mailto:Dan.Nelson@idwr.idaho.gov)> wrote:

Hello Chris,

As we discussed on the telephone this morning, I need a request from you to waive the measurement device condition on your permit. You can send me that request by email, but I need a written version of the request. You have already told me that you have been informed by someone in the Department that it wouldn't be needed, but we haven't received an official written request from you. I have already spoken to our Compliance Bureau and the Watermaster of Water District 02, and they have agreed that a measurement device would not be needed at this time for your diversion. I just need an official request from you.

Thank you for your patience and attention to this matter. It is greatly appreciated.

Respectfully,

Daniel Nelson  
Water Right Analyst 3  
Idaho Department of Water Resources  
Telephone (208) 287-4856  
Fax (208) 287-6700 (attn: Dan Nelson)