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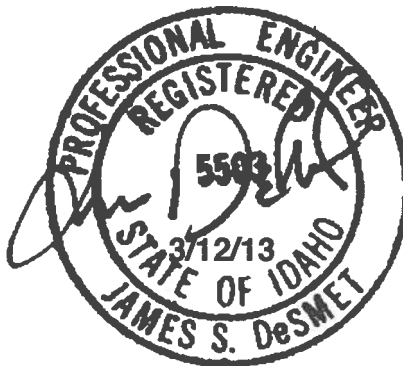
**MAR 22 2013**

**IDWR/NORTHERN**

**BENEFICIAL USE SURVEY**

**Duane and Susan Jacklin  
409 S. Boulder Road  
Post Falls, ID 83854**

**March 12, 2013**



**Prepared by:**

**QUANTUM Engineering and Geologic  
Consulting**

**South 2641 Silver Beach Loop Coeur d'Alene, Idaho 83814  
208 765 2308**

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## **1 Introduction**

This report presents the results of a beneficial use survey performed at the Duane and Susan Jacklin residence located at 409 S. Boulder Road in Post Falls, Idaho. The residential property contains 1.577 acres. Legal description of the property is as follows:

*Greens Ferry Bay, Lt. 42, 43, Tax#14266 Ex Tax14265, Tax#687311 in Section 11, Township 50N, Range 5W of Kootenai County.*

See the attached aerial site exhibit for details of the property boundaries.

## **2 System Description**

Potable water for the residence is served by the Greens Ferry Water District and a surface water intake in the Spokane River provides irrigation to the subject property. The point of diversion (POD) is located on the northeast corner of a dock in the Spokane River.

The diversion consists of a Grundfos pump, Model 16S07-8, equipped with a ¾ HP Franklin motor. The pump is a clean water submersible pump installed in a 4" PVC T-stand setting on the bottom of the river. The vertical portion of the PVC T-stand holds the pump and is drilled with ¼" holes. The T-stand is accessible by retrieving it from the corner of the dock with a poly rope.

The pump itself is also equipped with a 3/16" stainless steel screen to protect the impellers of the pump and to exclude fish passage into the pump. Discharge of the pump is through 1¼" galvanized pipe which transitions to 1 ¼" high density polyethylene (HDPE) piping at the dock and then travels along the bottom of the river to the shore, where it is buried underground and surfaces under the deck of the home.

The piping transitions to 1¼" PVC under the deck and surfaces to access a 2" Agrifin Disk Filter. Filtered water then feeds sprinkler heads throughout the lawn and landscape areas. See the skematic drawing of the diversion and filtering system in the Appendix.

## **3 Site Reconnaissance**

The site reconnaissance was performed on March 6, 2013 with the assistance of Isaac Samudo. Mr. Samudo is an employee of the Jacklins. The irrigation system was winterized at the time of the beneficial use survey.

Diversion rate was estimated using the pump curve and operating pressures of the irrigation system provided by the pump provider. Given approximately 50 psi at the

pump, it will produce approximately 18-20 gpm. The pump curve is attached in the Appendix.



Point of Diversion  
NE, NW Section 11, Govt Lot 5, T50N, R5W

UTM11 Coordinates:  
5285025 Meters East  
5285026 Meters North

Lat: 47.700596  
Long: -116.951516

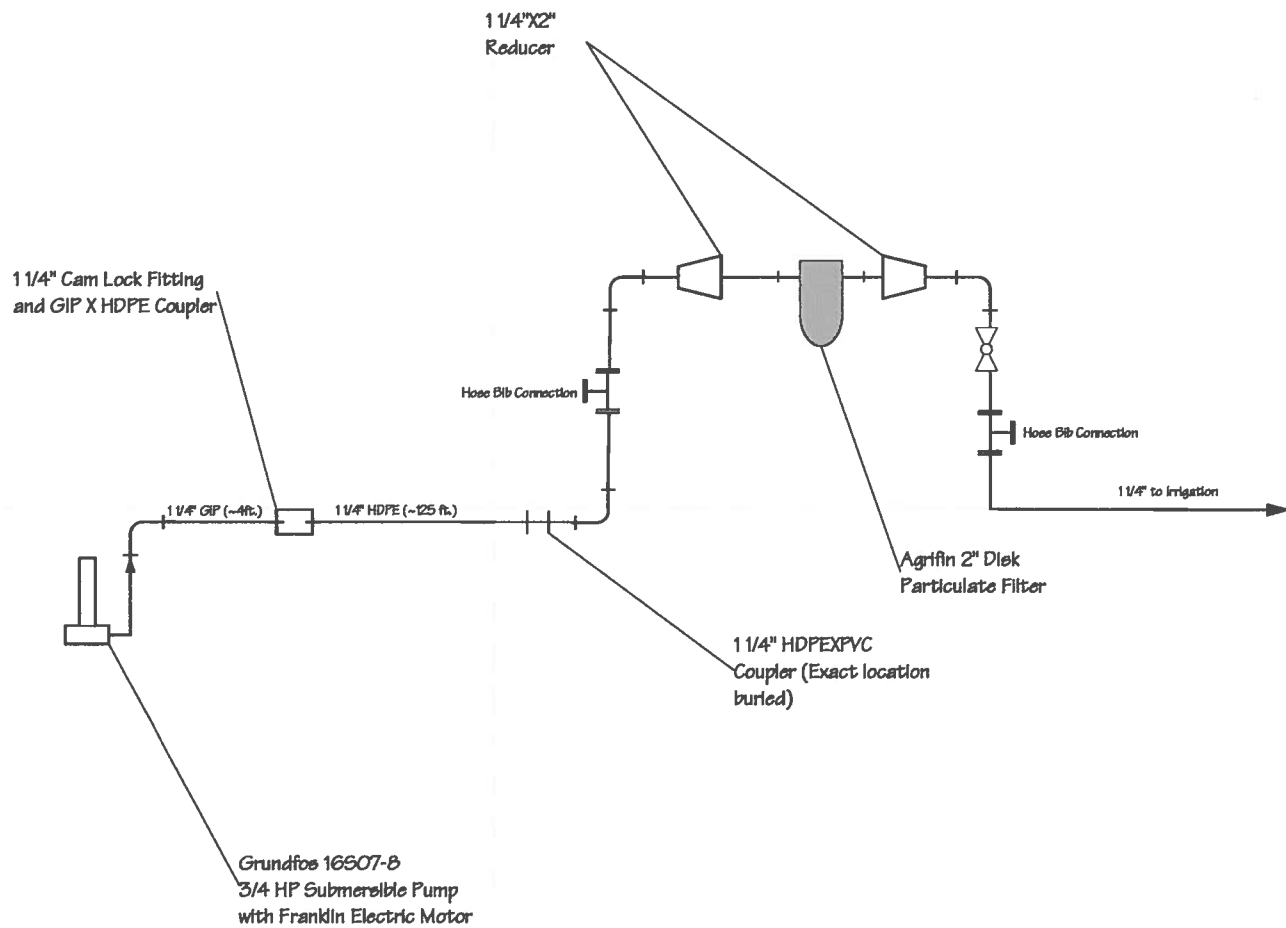


## QUANTUM Engineering and Geologic Consulting\*

|            |                   |
|------------|-------------------|
| ENGINEER:  | Jim De Smet       |
| DRAWN BY:  | Jim De Smet       |
| DATE:      | 3/1/13            |
| SCALE:     | 1"=100' (approx.) |
| SHEET NO.: |                   |

Duane Jacklin Residence  
Lot 42 and Adjusted Lot 43  
Green Ferry Bay Subdivision,  
Tax #6873  
Kootenai County, Idaho

## **Appendix 2 Site Schematic**



## QUANTUM Engineering and Geologic Consulting\*

ENGINEER: Jim De Smet  
DRAWN BY: Jim De Smet  
DATE: 5/11/13  
SCALE: No Scale  
SHEET NO:

Schematic  
Duane Jacklin Residence  
Lot 42 and Adjacent Lot 43  
Green Ferry Bay Subdivision,  
Tax #68873  
Kootenai County, Idaho

## **Appendix 3 Site Photographs**



NE corner of dock and 1 1/4" discharge line



1 1/4" Discharge line and yellow retrieval line



1 1/4" discharge line and 1" power feed



3/16" intake screen on pump



Pump control box under deck



Sprinkler heads typical of u/a irrigation system

STATE OF IDAHO  
DEPARTMENT OF WATER RESOURCES  
**STATEMENT OF COMPLETION**  
FOR SUBMITTING PROOF OF BENEFICIAL USE

FOR OFFICE USE ONLY

Amt. of Fee \$: \_\_\_\_\_  
Receipt No. \_\_\_\_\_  
Receipt By: \_\_\_\_\_  
Date Received: \_\_\_\_\_

The Idaho Department of Water Resources considers this form a statement by the permit holder(s) that development of a water right has been completed and that water has been applied to beneficial use to the extent described below. This form must be accompanied by an examination fee, when necessary, or by a completed Beneficial Use Field Report prepared by a certified water right examiner. Please refer to the instructions and fee schedule for this form. If ownership of the permit has changed, please contact any Department office or visit the Department's website at: [www.idwr.idaho.gov](http://www.idwr.idaho.gov) for an *Assignment of Permit* form. If you wish to relinquish your permit because you have not established the authorized use of the water and are not applying for an extension, please notify the Department in writing.

1. Permit No.: 95-11422 Telephone No.: 208 773 6745

2. Name of Permit Holder(s): Duane and Susan Jacklin

3. Mailing Address: 4752 W. Riverbend Ave. City: Post Falls

State: ID Zip: 83854 Email: brucec@riverbendcp.com (contact is Bruce Cyr)

4. Source of Water: Spokane River If **GROUND WATER** (well), Date Drilled: mo. \_\_\_\_\_ / yr. \_\_\_\_\_

Well Driller: \_\_\_\_\_ Drilling Permit Number: \_\_\_\_\_

5. Extent of use(s) completed (as authorized by the water right permit):

Domestic (No. of households): \_\_\_\_\_ Stockwater (No. and type of stock): \_\_\_\_\_

Irrigation (No. of acres): 0.8 Other: \_\_\_\_\_

6. Total rate of diversion or storage volume for which proof is submitted: 0.04 cfs OR \_\_\_\_\_ acre-feet.

7. Compliance with a measuring device requirement, lockable controlling device requirement, and/or other conditions of permit: **Refer to the approval conditions on your permit and respond accordingly. The Department will not issue a license if permit conditions are not met.**

**Measuring Device:** Is a measuring device required?

Yes ☐ No ☒

If yes, has the measuring device been installed?

Yes ☐ No ☐

**Lockable Controlling Device:** Is a lockable device required to control the diversion?

Yes ☐ No ☒

If yes, has the lockable device been installed?

Yes ☐ No ☐

**Other Conditions of Permit:** Do the approval conditions on your permit require you to submit additional information in connection with your proof of beneficial use? If yes, list the conditions below and attach documents with the required information.

Completed? Yes ☒ No ☐

8. Fee Enclosed: \$\_\_\_\_\_ See fee schedule on back of the instructions for filing proof of beneficial use.

Proofs filed without an appropriate fee, will be considered incomplete.

9. Person to contact to accompany the Department representative during field examination of the water system.

Name: \_\_\_\_\_ Telephone Number: \_\_\_\_\_

Mailing Address: \_\_\_\_\_ City: \_\_\_\_\_

State: \_\_\_\_\_ Zip: \_\_\_\_\_ Email: \_\_\_\_\_

The information given on this form is my true statement of the extent to which the above numbered permit has been developed and water has been diverted and applied to a beneficial use. I understand that any undeveloped portion of the permit is relinquished to the State of Idaho.

Signature of permit holder: James S. Desmet / consultant. Date: 3/6/13

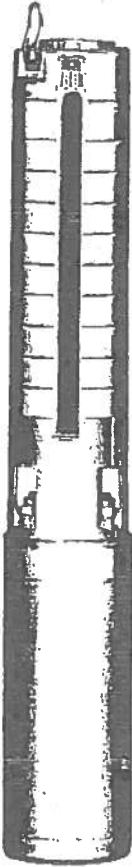
(Include your title, if on behalf of company or organization)

Mail to: Idaho Department of Water Resources, PO Box 83720, Boise, ID 83720-0098

## **Appendix 5 Pump Curve**

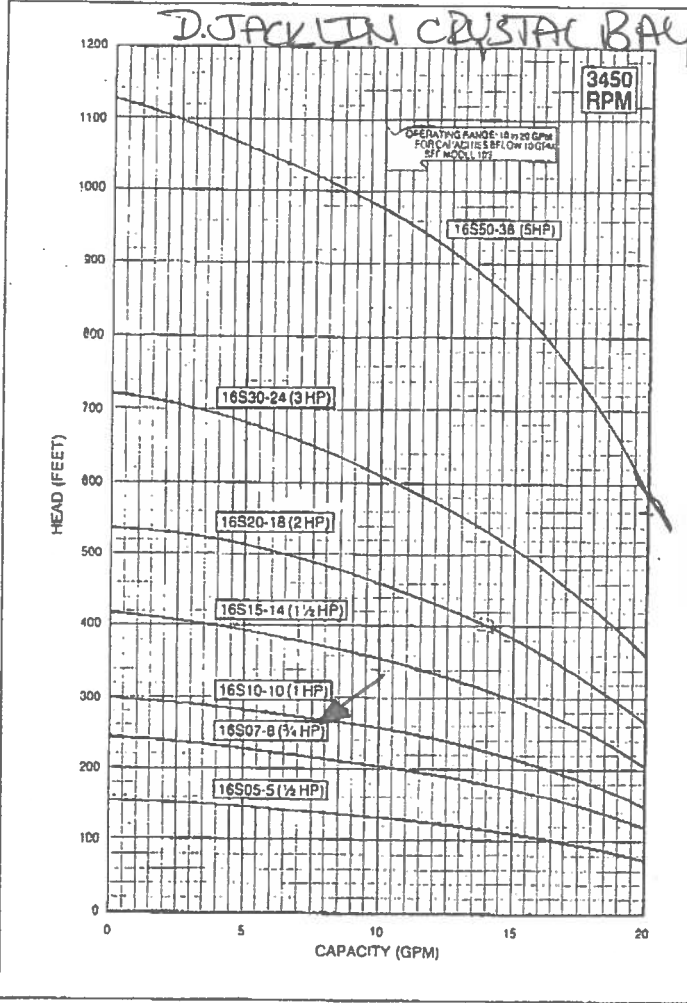
FLOW RANGE  
10 to 20 GPM  
PUMP OUTLET  
1 1/4" NPT

5527D



Volume =  
20 GPM @  
50 PSI

# PERFORMANCE CURVES



## DIMENSIONS AND WEIGHTS

| MODEL NO. | HP    | LENGTH (INCHES) | WIDTH (INCHES) | APPROX. UNIT SHIPPING WT. (LBS.) |
|-----------|-------|-----------------|----------------|----------------------------------|
| 16S05-5   | 1/2   | 21 3/8          | 3 1/8          | 27                               |
| 16S07-8   | 3/4   | 24 3/8          | 3 1/8          | 29                               |
| 16S10-10  | 1     | 26 3/8          | 3 1/8          | 32                               |
| 16S15-14  | 1 1/2 | 32              | 3 1/8          | 36                               |
| 16S20-18  | 2     | 34 3/8          | 3 1/8          | 40                               |
| 16S30-24  | 3     | 46 3/8          | 3 1/8          | 64                               |
| 16S50-38  | 5     | 62 3/8          | 3 1/8          | 84                               |

Specifications are subject to change without notice.

## **Appendix 6 Beneficial Use Field Report**

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

Clear Form

A Beneficial Use Field Report is prepared by a water right examiner as the result of an examination to clearly confirm and establish the extent of the beneficial use of water established in connection with a permit during the development period authorized by the permit and any extensions of time previously approved.

**A. GENERAL INFORMATION**Permit No. 95-11422

1. Owner Duane and Susan Jacklin Phone No. 208 773 6745  
Current address 401 S. Boulder Dr., Post Falls, ID 83854
2. Examiner's name James S. De Smet, PE, PG EXAM DATE 3/6/13
3. Accompanied by Isaac Samudo Email brucec@riverbendcp.com  
Address 4752 Riverbend Ave., Post Falls, ID 83854  
Relationship to permit holder Company Employee Phone No. 208 773 6745
4. Source Spokane River tributary to Columbia River

**B. OVERLAP REVIEW**

1. Other water rights with the same place of use N/A
2. Other water rights with the same source and point of diversion N/A

**C. DIVERSION AND DELIVERY SYSTEM**

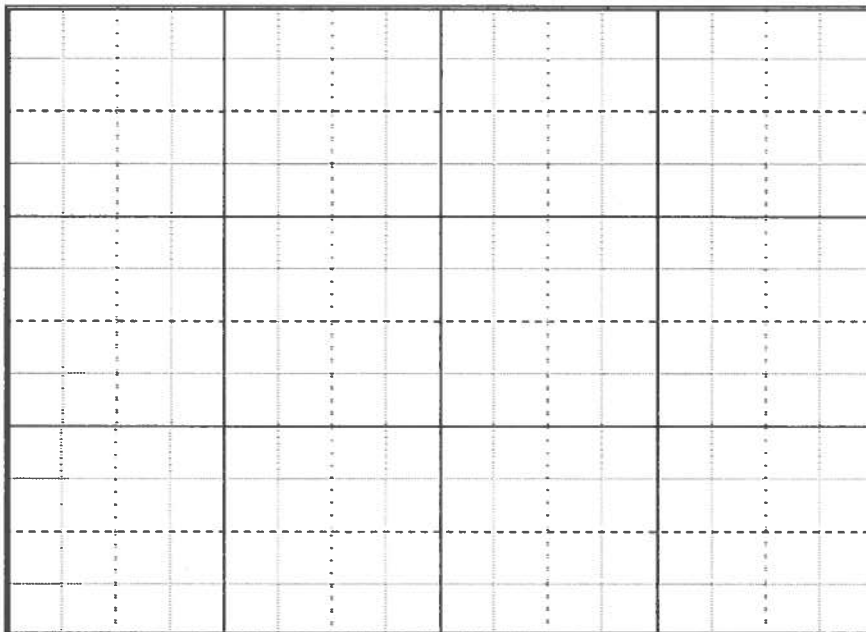
## 1. Point(s) of Diversion:

| Ident. No. | Gov't Lot | ¼  | ¼  | ¼  | Sec | Twp | Rge | County   | Method of Determination/Remarks |
|------------|-----------|----|----|----|-----|-----|-----|----------|---------------------------------|
| 1          | 5         | NW | NE | NW | 11  | 50N | 5W  | Kootenai | Map Overlay                     |
|            |           |    |    |    |     |     |     |          |                                 |
|            |           |    |    |    |     |     |     |          |                                 |
|            |           |    |    |    |     |     |     |          |                                 |

2. Place(s) of Use: Method of determination Visual inspection and interview w/ Isaac Samudo

| Twp | Rge | Sec | NE |    |    |    | NW  |    |    |    | SW |    |    |    | SE |    |    |    | Totals |
|-----|-----|-----|----|----|----|----|-----|----|----|----|----|----|----|----|----|----|----|----|--------|
|     |     |     | NE | NW | SW | SE | NE  | NW | SW | SE | NE | NW | SW | SE | NE | NW | SW | SE |        |
| 50N | 5W  | 11  |    |    |    |    | 0.8 |    |    |    |    |    |    |    |    |    |    |    | 0.8    |
|     |     |     |    |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |        |
|     |     |     |    |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |        |
|     |     |     |    |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |        |
|     |     |     |    |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |        |
|     |     |     |    |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |        |
|     |     |     |    |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |        |
|     |     |     |    |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |        |

3. **Delivery System Diagram:** Indicate all major components and distances between components. Indicate weir size/ditch size/pipe diameter (inside), as applicable. Use the space provided or  see attached.



Scale: 1" = \_\_\_\_\_

- ☐ Copy of USGS Quadrangle attached showing location(s) of point(s) of diversion and place(s) of use (required)  
☐ Aerial photo attached (required for irrigation of 10+ acres)  
☐ Photo of diversion and system attached

4.

| Well or Diversion Identification No.* | Motor Make        | Hp  | Motor Serial No. | Pump Make | Pump Serial No. or Discharge Size |
|---------------------------------------|-------------------|-----|------------------|-----------|-----------------------------------|
| 1                                     | Franklin Electric | 3/4 | 16S07-8          | Grundfos  | 1 1/4"                            |
|                                       |                   |     |                  |           |                                   |
|                                       |                   |     |                  |           |                                   |

\*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 |
|-----------------------|------|------|-----------|------------|------|-------------|
| N/A                   |      |      |           |            |      |             |
|                       |      |      |           |            |      |             |

2. **Measurements:** \_\_\_\_\_

Based on pump service provider, pump generated 100 psi at shutoff head, 13.2 gpm at 70 psi and 25.8 gpm at open discharge with 10-ft. of static head and 20 gpm at 50 psi. Based on pump curve-20 gpm at operating pressure of 50 psi.

**E. NARRATIVE/REMARKS/COMMENTS**

System consists of a 3/4 HP Grundfos Model 16S07-8 submersible pump hung inside a 4" perforated PVC pipe (1/4" perforations) on a PVC pipe stand set on the bottom of the riverbed. Power is fed by a 1" poly line to the pump and water is pumped through a 1 1/4" poly line to the residence. The pipe/conduit are laid on the riverbed to just above the summer pool water level, where the lines are buried to a point under the deck of the residence. The poly pipe surfaces under the deck where a 2" Agrifin Disk filter is located. After filtration, water is fed through sprinkler controllers to several sprinkler zones in the yard surrounding the home. The pump is controlled by irrigation timers and controls are also located under the deck on the north side of the home.

The system is energized in the spring and used for irrigation in the spring through fall.

Has the permit holder met all conditions of permit approval, including any mitigation requirements and/or measuring device installation requirements? ☒ Yes ☐ No If no, what must be done to meet the permit requirements?

Pump intake is screened with a 3/32" mesh. IDWR condition X15 requires a 1/4" fish screen.

