

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 63-12225

Exam Date: 4-30-2014

1. Current Owner: DEER FLAT FREE METHODIST CHURCH
17703 BEET RD
CALDWELL ID 83607
(208)459-3845
2. Accompanied by: Rick Day
Phone No: (208)459-3845
Address:
Relationship to Permit Holder: Manager

3. SOURCE TRIBUTARY
GROUND WATER

B. OVERLAP REVIEW

1. Other water rights with the same place of use: 63-27761 is a domestic water right for the church.
2. Other water rights with the same point of diversion: None

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

GROUND WATER NE1/4SE1/4NE1/4 Sec. 3, Twp 03N, Rge 04W, B.M. CANYON County

Method of Determination: GPS and visual inspection.

2.

PLACE OF USE: FIRE PROTECTION

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
03N	04W	3				X													

Method of Determination:

3. Yes Delivery System Diagram Attached (required). Indicate all major components and distances between components. Indicate weir size/pipe as applicable.
- Yes Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be 1:24,000 or greater.
- Yes Aerial Photo Attached (required for irrigation of 10+ acres).
- Yes 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
A0009445		3	2823028110		

*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

2. Measurements: No flow measurements taken; equipment not able to test small pipes.

E. FLOW CALCULATIONS

X Additional Computation Sheets Attached

Measured Method:

Measurement = 0.17 cfs

Permit allowed = 4.46 cfs

License recommend for 0.17 cfs.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) =$$

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

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

2. Volume Calculations for Other Uses:

No volume required for fire protection because it may only be diverted to fight an existing fire.

G. NARRATIVE/REMARKS/COMMENTS

Permit 63-12225 authorized the diversion of 4.46 cfs from a well located on church property. The field exam was conducted on April 30, 2014 by Patrick Kelly who was accompanied by Dan Nelson. Proof of beneficial use was filed on 03/05/2010.

Rick Day was the contact for our field exam. We were shown the sprinkler system inside the church. The pressure gauge on the fire sprinkler system inside was 170 psi and stays at that pressure year round.

We were then taken to the well which is located on the property the well and took a GPS of the location. An 8 inch well exists with a tag #A0009445. Water is diverted via a 3 hp pump under pressure of 35 psi that moves water across the property to the storage tank. Water from the well is manually turned on and off from the well valve.

In the storage house, there is a 120 hp motor that moves water from the storage tank to the sprinkler system in the church. Dan and I measured the exterior of the storage tank and came up with a volume of ~108,000 gallons. Given that these were exterior measurements, we assume that actual capacity is 100,000 gallon tank.

Without the storage facility, the church would not be able to maintain or reach the pressure in the system that they currently have. Use for this water that comes from storage is strictly for fire protection.

The storage component of the system was not authorized by the permit 63-12225. The property also does not have an irrigation right for the 4.1 acres that I measured is being watered. Both of these components will require the church to file for a new water right to cover both uses. Recommendations will be passed on to the property owner.

OVERLAP

Water rights owned by Boise Project Board of Control and United States of America Acting Trust are irrigation water rights not pertinent to the land. 63-21444 is a domestic water right owned by a neighbor, not used on church property.

RECOMMENDATIONS:

I recommend that this permit be recommended for fire protection at a diversion rate of 0.17 cfs. Storage and irrigation used on church property will require the owner to file a new water right.

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>
FIRE PROTECTION	01/01 to 12/31	0.170 CFS	
<u>Totals:</u>		0.170 CFS	

2. Recommended Amendments

☒ Change P.D. as reflected above ☐ Add P.D. as reflected above ☒ None

☐ Change P.U. as reflected above ☐ Add P.U. as reflected above ☒ None

PATRICK KELLEY

I. AUTHENTICATION

Field Examiner's Name *Patrick Kelley* Date *May 22, 2014*

Reviewer *Daniel A. McLean* Date *5-30-2014*

State of Idaho
Department of Water Resources
Field Exam Map
63-12225

This map depicts the FIRE PROTECTION place of use boundary for this water right at the time of this approval and is attached to the approval document solely for illustrative purposes.

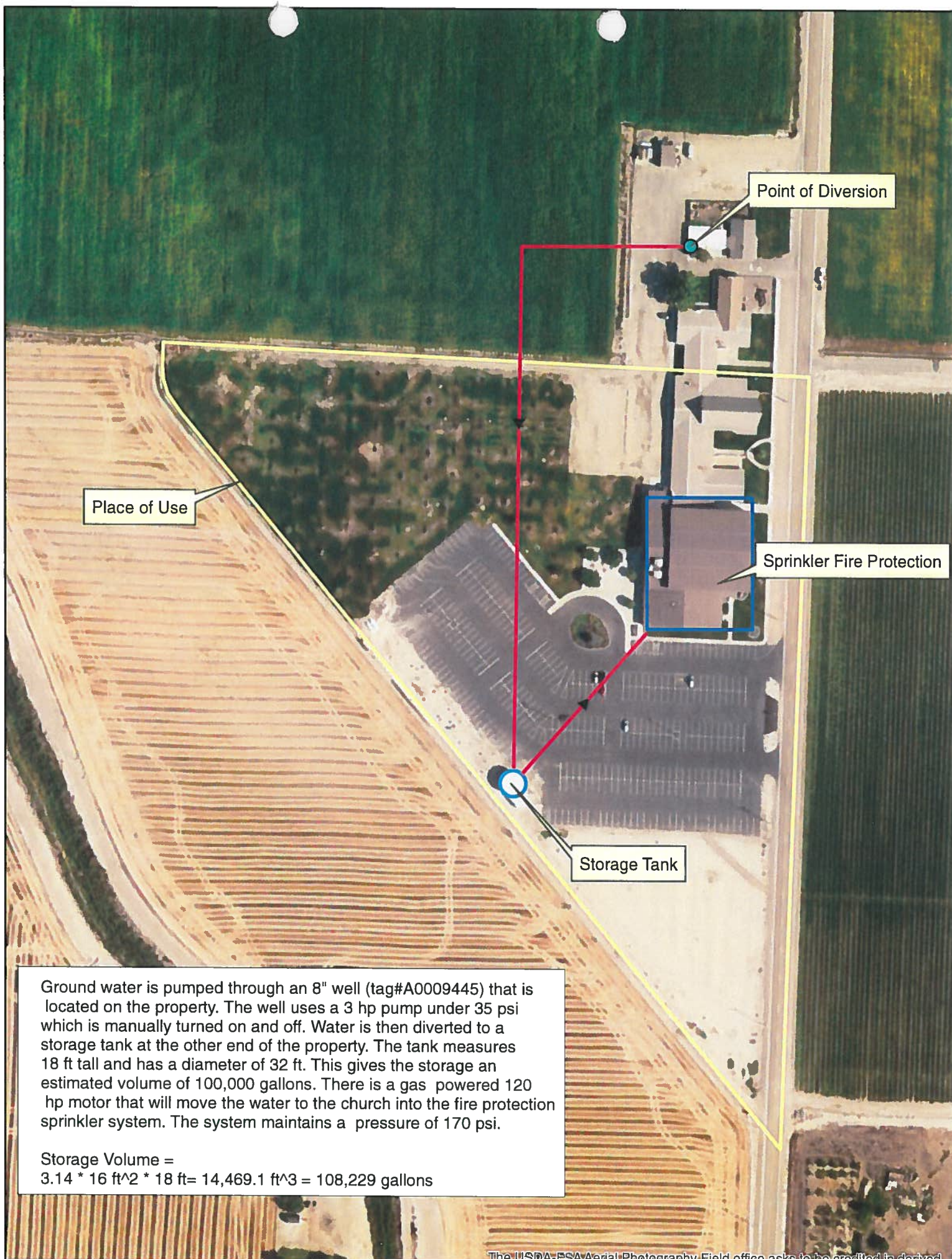
04W



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

0 0.05 0.1 0.2 Miles





THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 75-14748
 Reviewer: Patrick Kelly
 Date of Review: 3/14/2014

P/D No.:	Senerio 1	Senerio 2	Senerio 3
PUMP HORSEPOWER	3	3	3
BOOSTER HORSEPOWER	0	0	0
PUMPING LEVEL	26	26	26
DISCHARGE PRESSURE	35	35	35
RATE OF FLOW (cfs)	0.17	0.17	0.17 0.17

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:

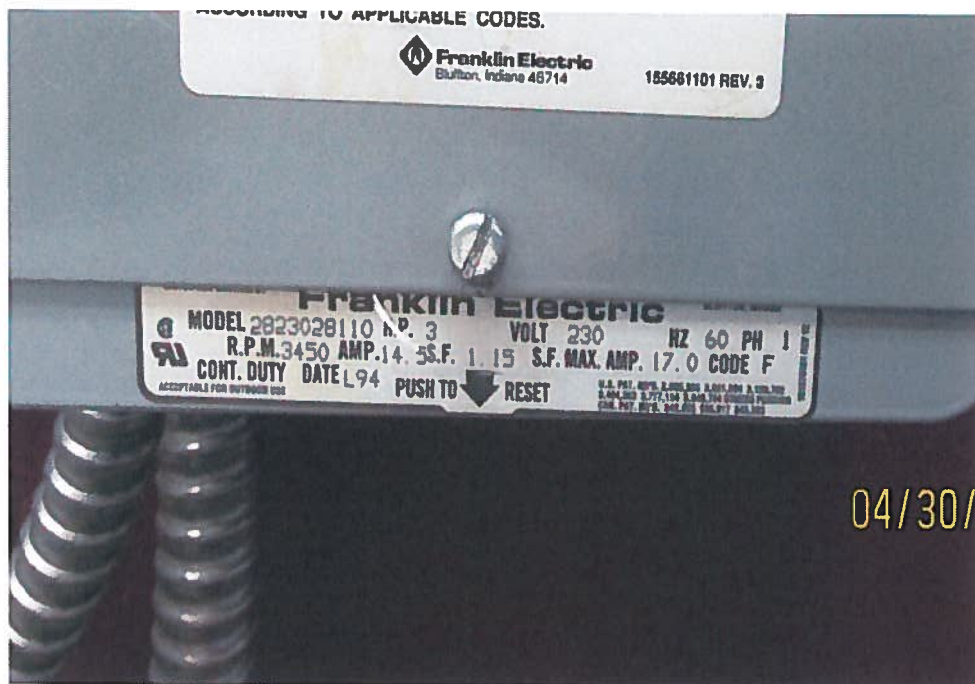
Pump hp and discharge pressure were taken from field observations. Static water level of 16' was recorded on well drillers report. I added 10' per section C of the Theoretical Dynamic Pumping Level Diagram for Wells which is recommended for small systems less than 10 hp. System has a pressure gauge installed. Theoretical flow rate is 0.17 cfs.



Point Of Diversion:
8" well located on
church property.



Well tag #A0009445



Pump information



Pump room. Manual switch to storage.

PHOTOGRAPHER PATRICK KELLY
DATE OF PHOTOS 04/30/2014

FILE NUMBER 63-12225



Pressure gauge on
sprinkler system
shows 170 psi.



Water valve inside
church supplies
sprinklers for fire
protection.



120 hp motor at storage supplies sprinklers with water from storage tank.



Storage pipes are closed circuit which allows user to test system without losing water. Water circulates back into tank.



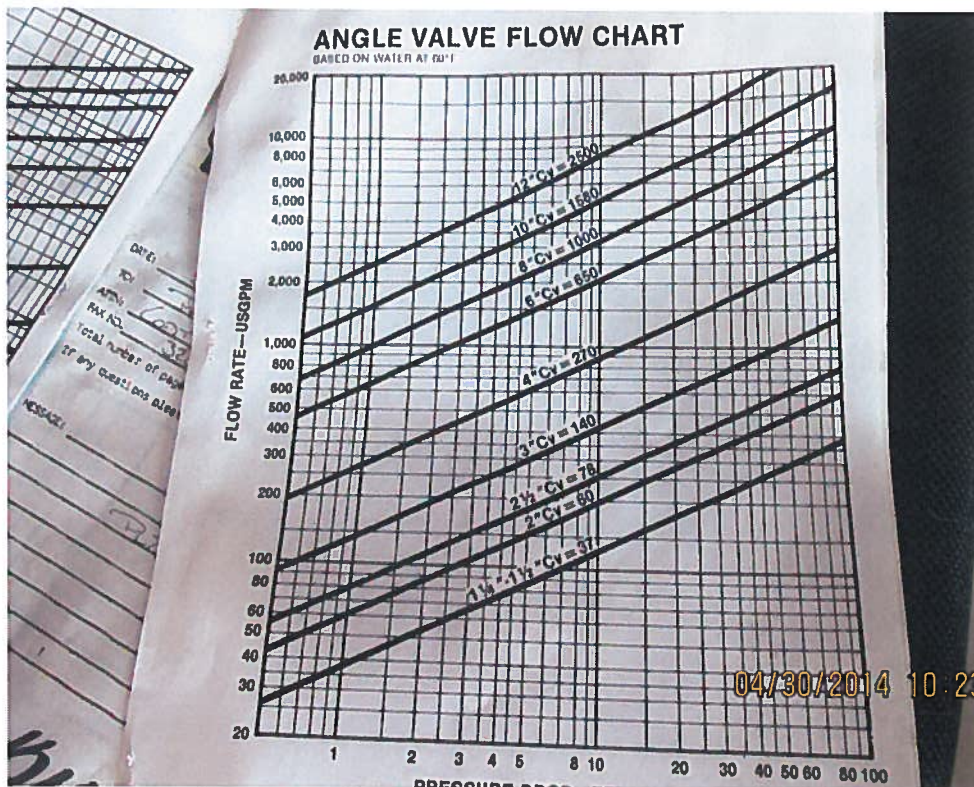
Pump tag in storage house.



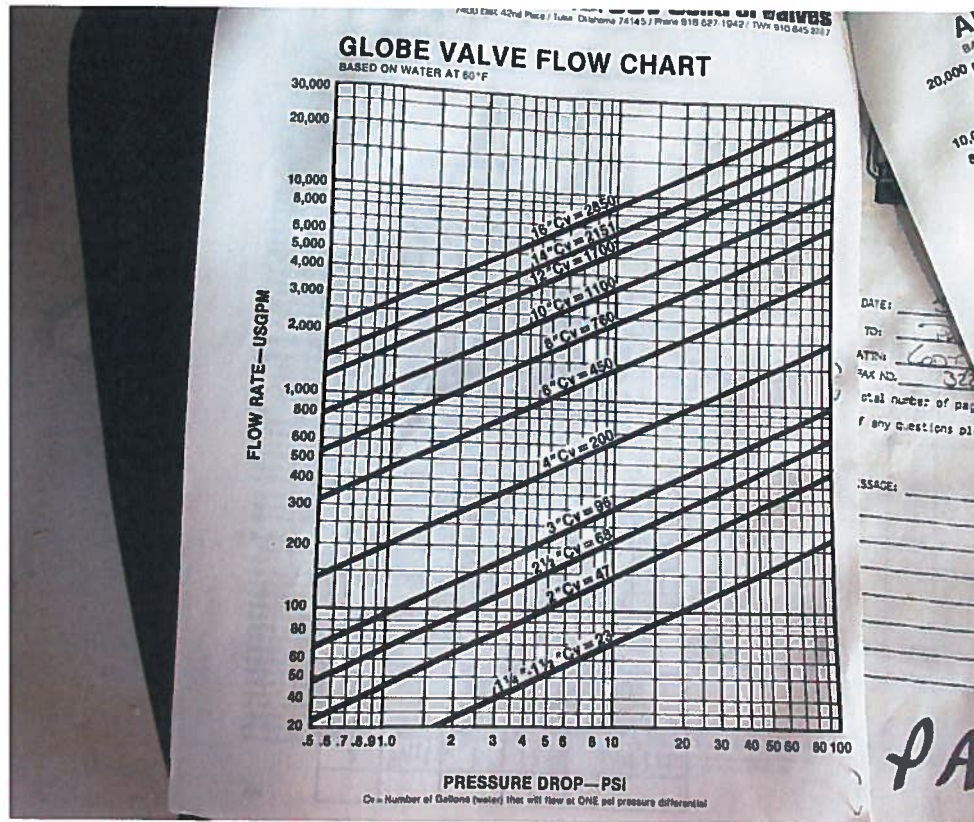
Motor tag in storage house.



Motor control panel
in storage house.



Pump curve – angle
valve flow chart.



Pump curve – globe valve flow chart.



Gauge in storage house reads 35 psi.