

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 63-34962

Exam Date: 9/11/2024

1. Current Owner:
MUSSELL CONSTRUCTION PO BOX 3304 NAMPA ID 83653-3304
2. Accompanied by: Charlie Kido
Phone No: (208) 880-5542
Address: 1003 W. Locust Ln. Nampa, ID 83686
Relationship to permit Holder: Business Partner

3. **SOURCE:**
GROUND WATER

Method of Determination: Statement of Completion, Field Exam

B. OVERLAP REVIEW

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

Water Right No.	Source	Purpose of Use	Basis
63-2106	Boise River	Irrigation	Decreed
63-10212	Groundwater	Municipal	Decreed

Comments: Many identical or similar water rights and permits for both irrigation and municipal purposes. The municipal water rights/permits are not a concern for this permit since this license will not be using municipal water. The irrigation is supplied by surface water from the Boise River, although the owner would like to keep irrigation on the license considering irrigation system can utilize ground water in the event of a shortage in surface water.

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

Water Right No.	Source	Purpose of Use	Basis
NA	NA	NA	NA

Comments: The point of diversion (well) only supplies water to this permit.

C. DIVERSION AND DELIVERY SYSTEM

1. **LOCATION OF POINT(S) OF DIVERSION:**

GROUND WATER SW¼ SE¼, Sec. 5, Twp 02N, Rge 02W, B.M. CANYON County

Method of Determination: Field Exam

PLACE OF USE: IRRIGATION

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
02N	02W	5															1.0		1.0

Total Acres: 1.0

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	
02N	02W	5															X		

PLACE OF USE: FIRE PROTECTION

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
02N	02W	5															X		

Method of Determination: Arcmap, field examination

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
D0089031	Grundfos	5	00234726	45S50-12-BP	A98924050P120400011

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
NA	NA	NA	NA	NA	NA	NA

2. Measurements: No flow measurements taken in the field. Calculations are made using well pump and motor information collected in the field.

E. FLOW CALCULATIONS

Additional Computation Sheets Attached

System capability: $[(8.8)(5\text{hp})(0.7)] / 302\text{H} = 0.11 \text{ cfs}$ **Irrigation standard per AP Memo 17:** 1 acre x 0.02 cfs = 0.02 cfs**Fire system pump capability:** $[(8.8)(5\text{hp})(0.7)] / [0 \text{ lift} + (65 \text{ psi} * 2.31)] = 92.4 / 150.15 = 0.62 \text{ cfs}$ **Commercial:** (6 toilets x 5 gpm) + (3 lavatory sinks x 4 gpm) + (2 sinks x 5gpm) = 52 gpm = 0.12 cfs

Table 1 Volume use per fixture from Field Examiner's Handbook references "Rural and Domestic Water Uses." Used to calculate a flow for commercial use.

By Fixtures:

Shower.....	4 to 6 gpm
Bathtub.....	4 to 8 gpm
Toilet.....	4 to 5 gpm
Lavatory.....	1 to 4 gpm
Kitchen sink.....	2 to 5 gpm

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 1 \text{ acre} \times 3.5 \text{ AF} = \mathbf{3.5 \text{ AFA}}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.02 \text{ cfs} \times 259 \text{ days} \times 1.9835 = \mathbf{10.3 \text{ AFA}}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = \mathbf{3.5 \text{ AFA}}$$

2. Volume Calculations for Other Uses:

$$\mathbf{\text{Commercial:}} \quad 25 \text{ gallons/day} \times 50 \text{ annual events} \times 300 \text{ people maximum capacity} = 375,000 \text{ gallons} / 325,851 \text{ gallons} = 1.15 \text{ AFA} = \mathbf{1.2 \text{ AFA}}$$

The volume for the commercial use for this license was calculated by referencing the Non-Irrigation Water Requirements (table 2) in the Field Examiners Handbook. The standardized expectation for country club non-residents is 25 gallons/day and the reception hall hosts 50 events per year with a maximum capacity of 300 people, totaling 375,000 gallons or 1.2 AF per year.

G. NARRATIVE/REMARKS/COMMENTS

This permit is to supply groundwater for the uses of irrigation of one-acre, commercial use for one reception hall, and fire protection. There are many identical or similar overlapping water rights or permits for both irrigation and municipal purposes. The municipal water rights/permits are not a concern for this permit since this property did not utilize municipal water during the development period. Irrigation to this property is supplied by surface water from the Boise River, which is utilized before ground water, compliant with Idaho Code 42-204A(2). Previously permitted 0.02cfs for irrigation will be licensed since the irrigation system can employ ground water in the event of a shortage in surface water. The reception hall includes public restrooms (six toilets and three sinks total), a kitchen sink, and a mop sink. According to the "Rural and Domestic Uses" fixture table (exhibit 13 or the Field Examiner's Handbook), the commercial fixtures in the reception hall would equate to 52 gallons per minute, or 0.12 cfs, if all fixtures are to run in unison. Considering the intermittent nature of these fixtures, it is assumed that they will not always run at the same time and 0.11cfs will be licensed to match the system capability. The field examiners handbook "Non-Irrigation Water Requirements" table shows a standard water usage for non-resident country club members to be 25 gallons per day. This value was used since the reception hall water fixtures and nature of use are similar to a country club. Considering the standard country club use and the reception hall hosting 50 events per year for 300 people, we can expect them to use 375,000 gallons of water per year for commercial use, or 1.2 acre-feet annually. There is a separate system for fire protection, although the system has the same point of diversion being the well that is used for irrigation and commercial use. The fire system consists of two, 5,000-gallon storage tanks and a 15hp pump to utilize storage water. The storage tanks are filled with water from the well. A rate for fire protection will be licensed to match the well capability since it is the original point of diversion and in the event of a fire, the rate of which water can be delivered is 0.11 cfs after the stored water is applied. Storage is not a required element for this license as the total 10,000 storage is less than 1.98 acre-feet, compliant to IDAPA 37.03.08.

Have conditions of permit approval been met? ☒ 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>
IRRIGATION	03/01 to 11/15	0.02 CFS	3.5 AFA
COMMERCIAL	01/01 to 12/31	0.11 CFS	1.2 AFA
FIRE PROTECTION	01/01 to 12/31	0.11 CFS	

Totals: 0.24 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

I. AUTHENTICATION

Kate England - Water Resource Agent

Field Examiner's Name Kate England Date 9/12/2024

Reviewer  Date 10-9-2024

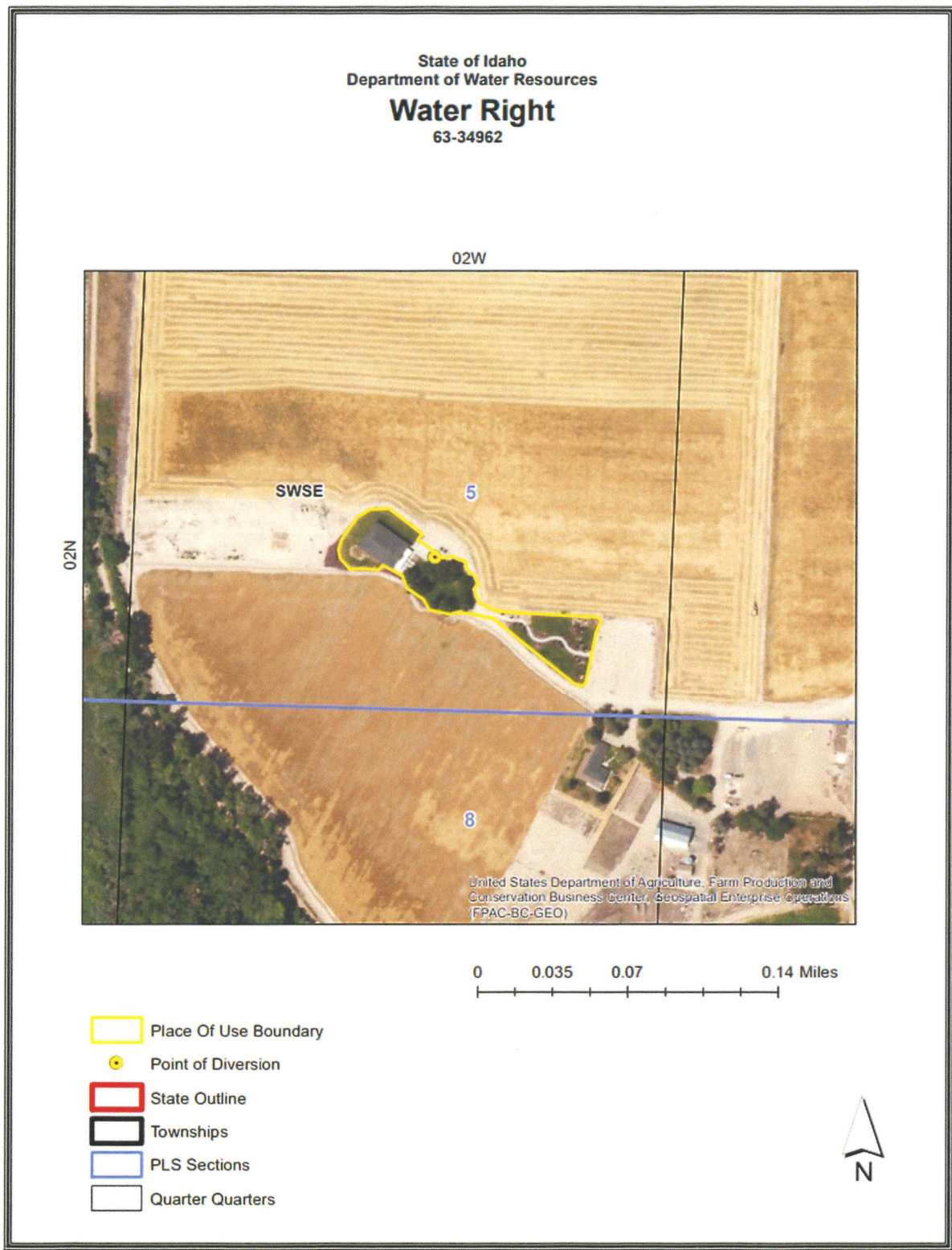


Figure 1 Map showing perimeter of place of use including fire protection, irrigated area, and reception hall. Point of diversion (well) is included.

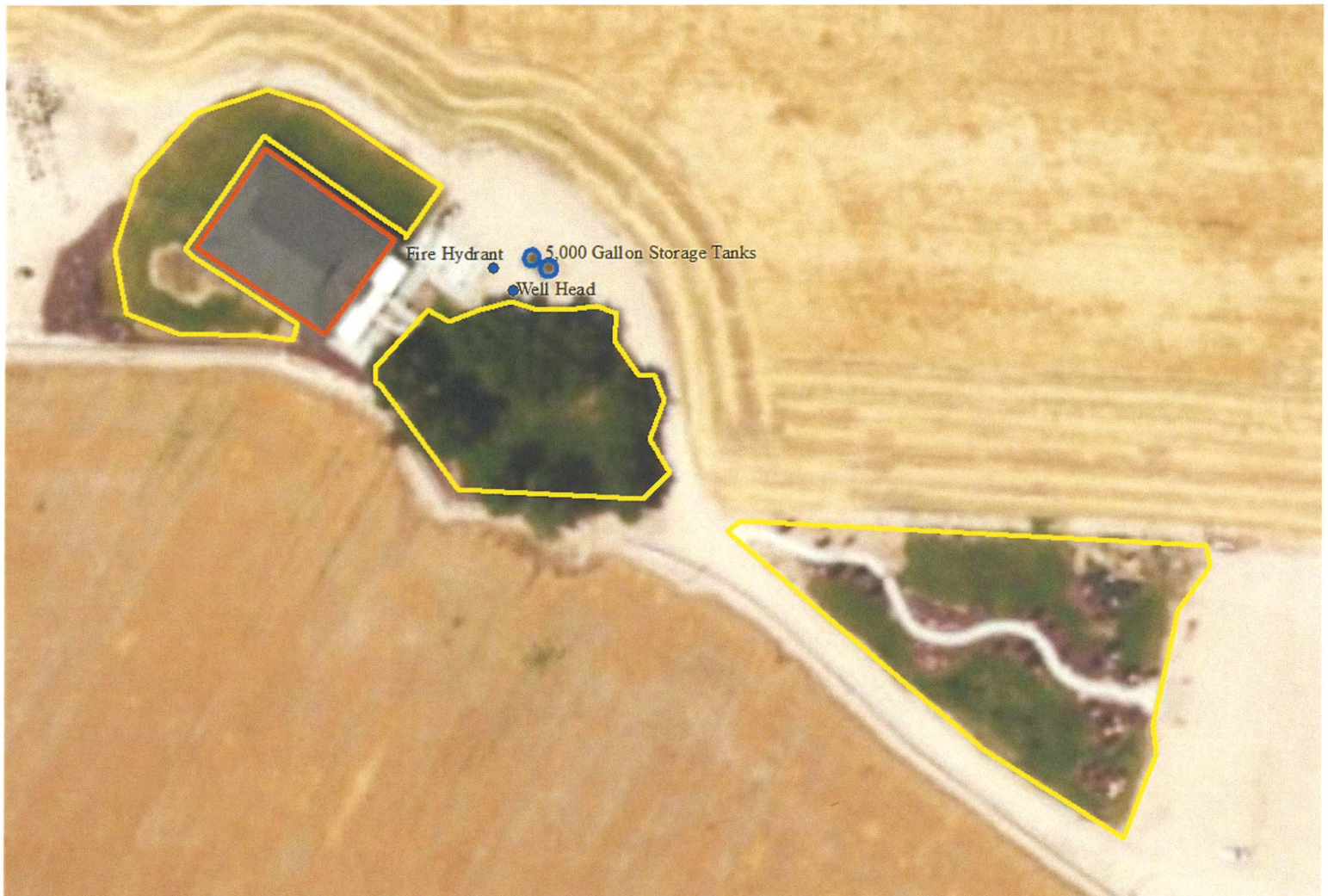


Figure 2 System diagram featuring irrigated area outlined in yellow and commercial reception hall outlined in red. The two, 5000-gallon storage tanks, well (point of diversion), and fire hydrant are outlined in blue.

Table 2 Non-Irrigation Water Requirements table derived from the Field Examiners Handbook and used to calculate a volume for the commercial use of this water right.

NON-IRRIGATION WATER REQUIREMENTS

Types of Establishments	<u>Gallons/day</u>
Airports (per passenger)	3-5
Apartments, multiple family (per resident)	60
Bathhouses (per bather)	10
Camps:	
Construction, semi-permanent (per worker)	50
Day with no meals served (per camper)	15
Luxury (per camper)	100-150
Resorts, day & night, limited plumbing (per camper)	50
Tourist, central bath & toilet facilities (per person)	35
Cottages with seasonal occupancy (per resident)	50
Courts, tourist with individual bath units (per person)	50
Clubs:	
Country (per resident member)	100
Country (per non-resident member)	25
Dwellings:	
Boardinghouses (per boarder)	50
Kitchen requirements (per boarder)	10
Multiple family apartments (per resident)	40
Roominghouses (per resident)	60
Single family (per resident)	50-75
Estates (per resident)	100-150
Hotels:	
With private baths (2 persons/room)	60
Without private baths (per person)	50
Hospitals (per bed)	250-400
Institutions other than hospitals (per person)	75-125
Laundries (per washing/customer)	50



Figure 3 Idaho Department of Water Resources well drilling permit identification tag including the well identification number.



Figure 4 Well head that serves as the point of diversion for this license.

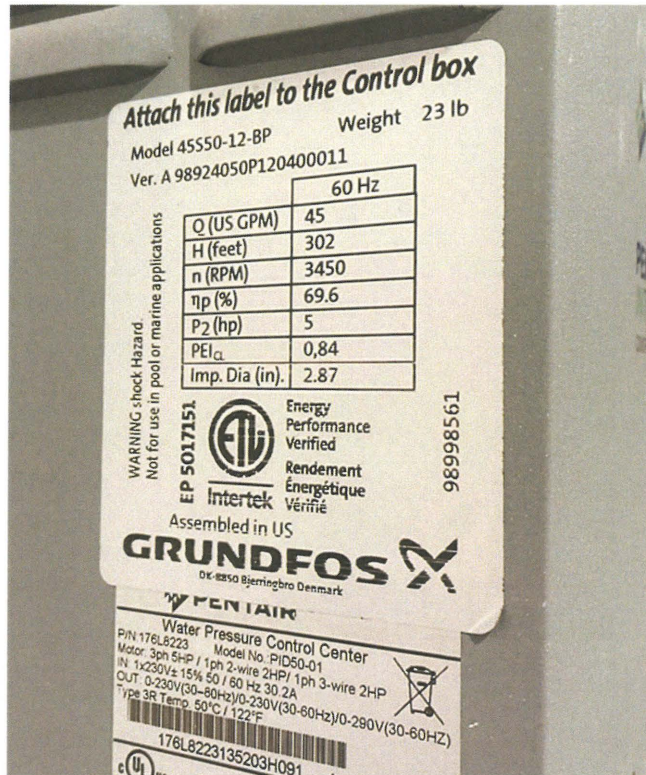


Figure 5 Well pump control box specifications label.

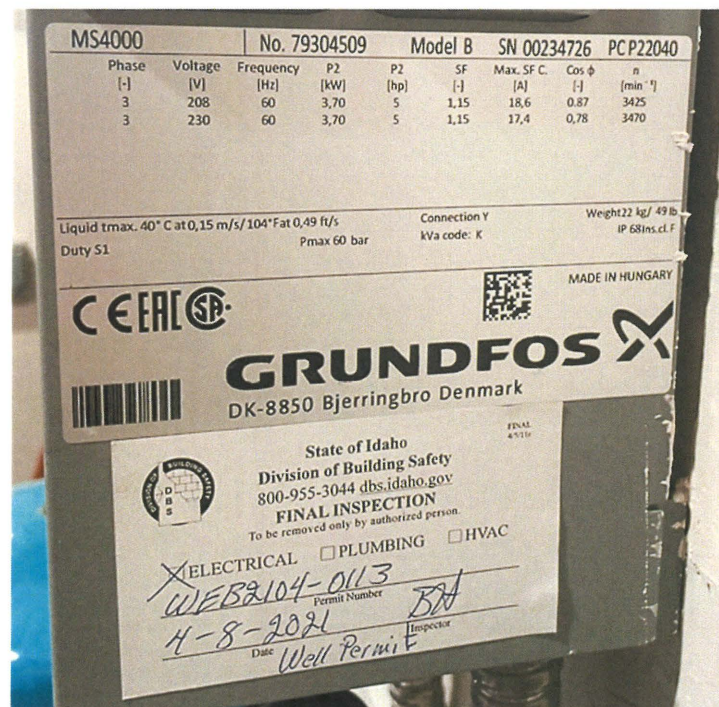


Figure 6 Well pump motor label found on the control box.



Figure 7 Front view of well pump motor control box showing system setting at 63 psi.



Figure 8 Rain Bird 5000 sprinkler head located within the irrigated area of property.

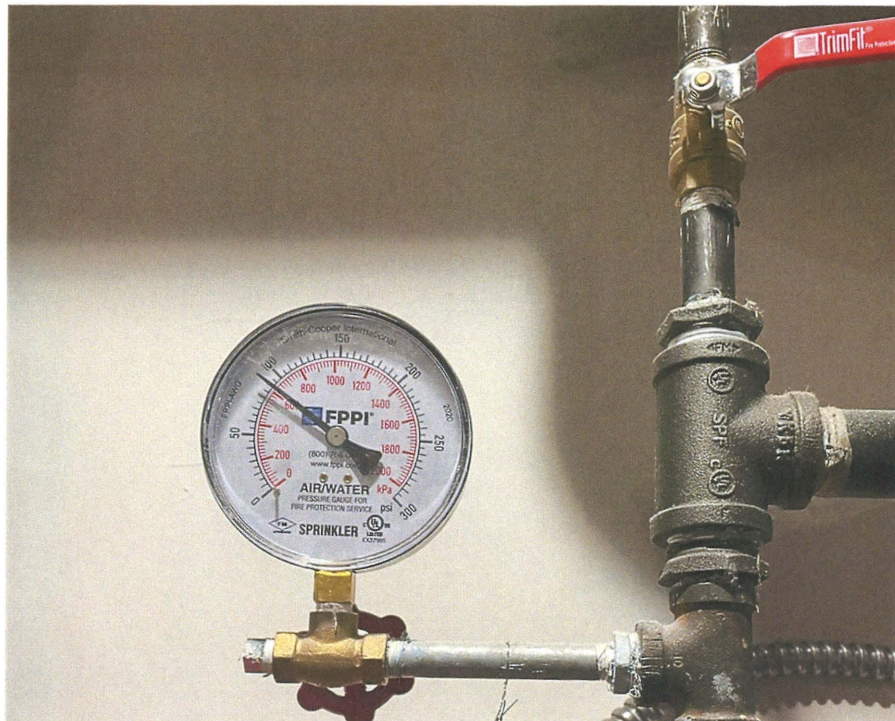


Figure 9 Pressure gage on fire system pump showing 90psi.

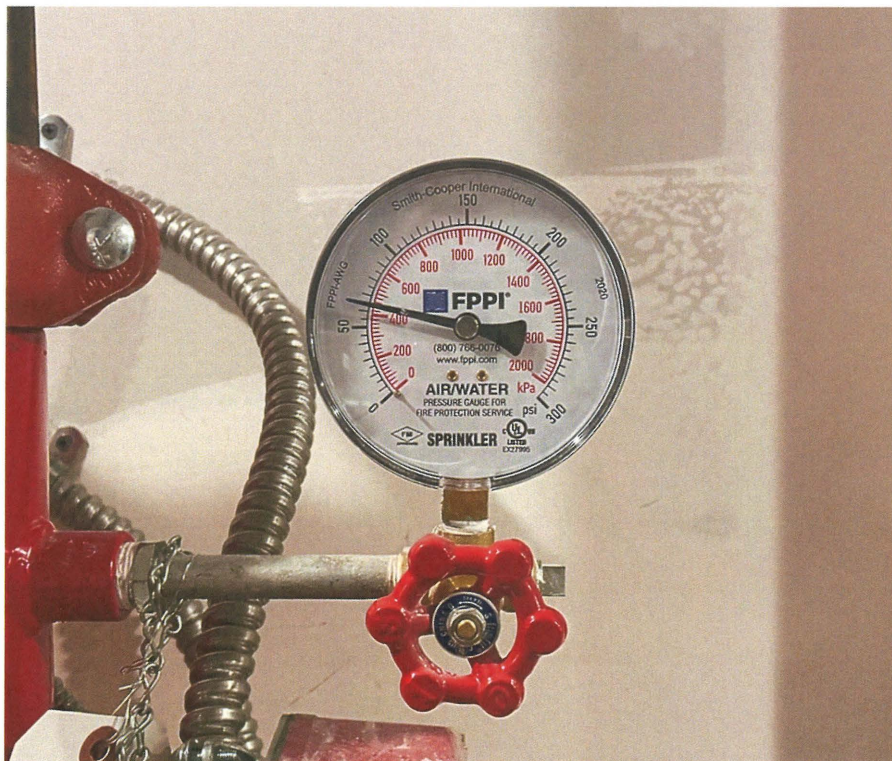


Figure 10 Pressure gage on fire protection system pump at 60psi.

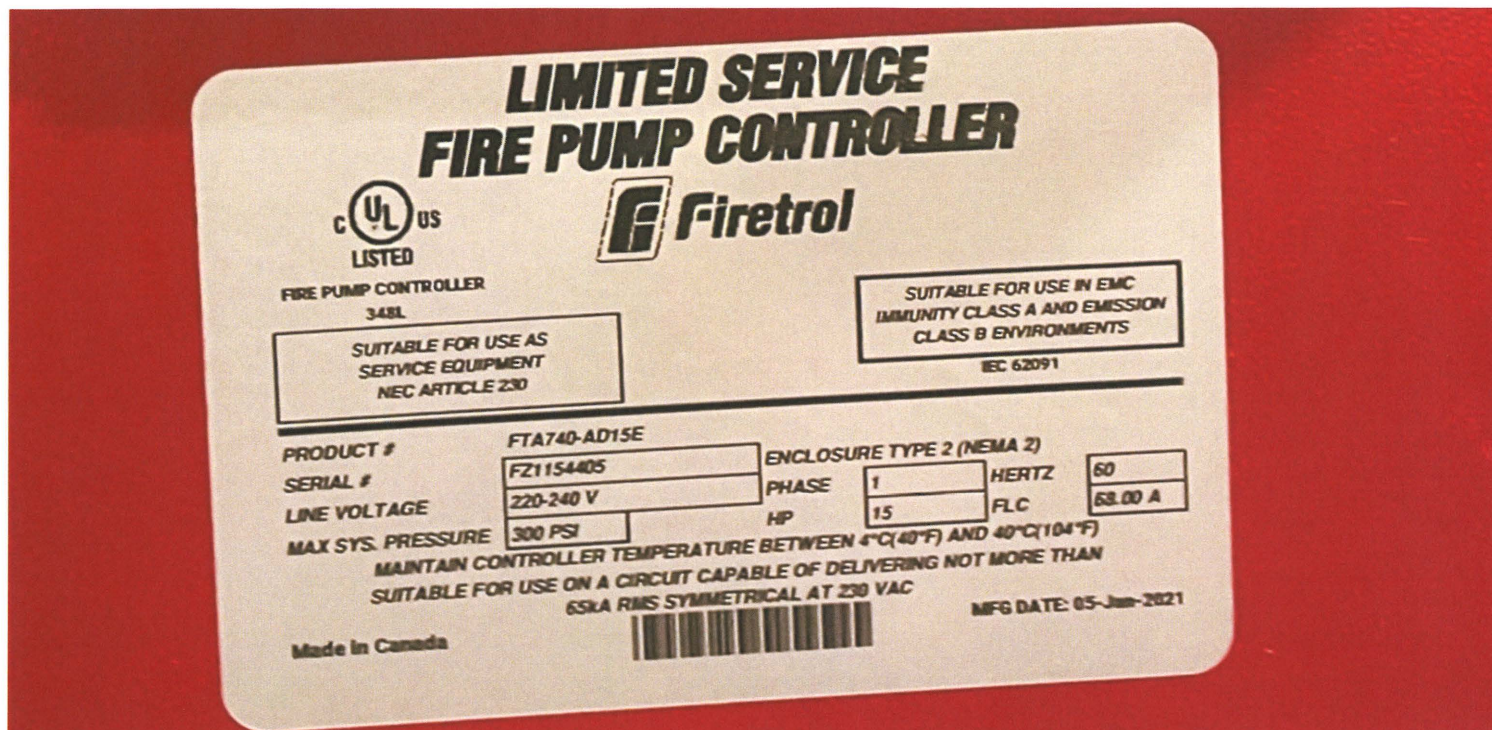


Figure 11 Fire pump controller label showing pump specifications such as maximum system pressure (300psi), horsepower (15), pump serial number, etc.

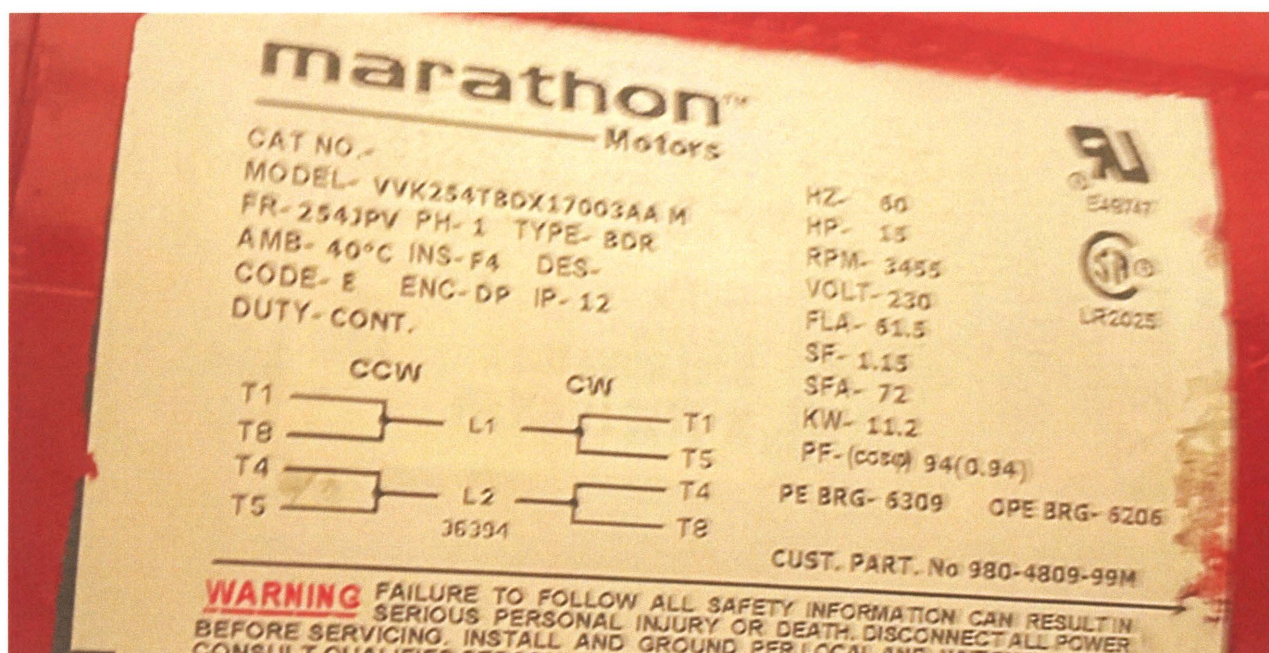


Figure 12 Fire pump motor label showing pump motor specifications such as frequency, horsepower, voltage, etc.