

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 96-12804
Exam Date: 04/10/2025

1. Current Owner:
SWEETGRASS AT MEADOWWOOD HOA PO BOX 1032 PONDERAY ID 83852-1032
2. Accompanied by: Jan Lee
Phone No: 208-255-9954
Address: Same as above
Relationship to permit Holder: President – Sweetgrass at Meadowwood HOA

3. **SOURCE:**
GROUND WATER

Method of Determination: ArcMap DRG Layer.

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:****WELL GPS Coordinates:**

GROUND WATER L2 (NW¼ NE¼), Sec. 3, Twp 57N, Rge 02W, B.M.	BONNER County	#1: -116°33.1848, 48°19.4730
GROUND WATER L2 (NW¼ NE¼), Sec. 3, Twp 57N, Rge 02W, B.M.	BONNER County	#2: -116°33.1870, 48°19.4733
GROUND WATER L2 (NW¼ NE¼), Sec. 3, Twp 57N, Rge 02W, B.M.	BONNER County	#3: -116°33.1871, 48°19.4796
GROUND WATER L2 (NW¼ NE¼), Sec. 3, Twp 57N, Rge 02W, B.M.	BONNER County	#4: -116°33.1865, 48°19.4830

Method of Determination: GPS; 4ea cased ground water wells located at the GPS coordinates listed above ↑.

- Well #1: 96-94-N-0204-000; Well #2: 96-94-N-218-000; Well #3: 96-94-N-0251-000; Well #4: 96-94-N-0265-000

PLACE OF USE: DOMESTIC

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
57N	02W	3		X L2															

Method of Determination: Beneficial use field examination, Bonner County Tax Parcel Map information, and Arcmap aerial imagery.

3. Delivery System Diagram Attached (required). Indicate all major components and distances between components.
X Indicate weir size/pipe as applicable.
- X Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be 1:24,000 or greater.
- X Aerial Photo Attached (required for irrigation of 10+ acres).
- X 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
#1: 96-94-N-0204-000	Franklin Electric	1.5	Model 2823008110	Grundfos	S/N 94302982 as installed in 1994; 1-inch
#2: 96-94-N-0218-000	Franklin Electric	1.5	Model 2823008110	Grundfos	S/N 94302949 as installed in 1994; 1-inch
#3: 96-94-N0251-000	Pentek	1.5	Model SMC-CR1521-02	Unknown	1-inch; pump was likely replaced with motor
#4: 96-94-0265-000	Franklin Electric	1.5	Model 2823008110	Unknown	S/N 94302976 as installed in 1994; 1-inch

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
Flowmeter	Flanged Velocity Style	Hersey	Unknown	4ea Unknown	1-inch	4ea Unknown

2. Measurements: Flow measurements for one pump were taken resulting in 18.3 gpm; I used Theoretical Pump Equations to review pump performance for 4ea wells each with 1.5 hp pumps that demonstrate that 0.04 cfs is the pump performance for each submersible pump.

E. FLOW CALCULATIONS

X Additional Computation Sheets Attached

Measured Method: Hersey flowmeter for a single well = 18.3 gpm or 0.04 cfs. I developed a theoretical pump equation, one for each well's 1.5 hp pump, each hung at a depth of 50 ft, with system pressure holding at 95 PSI. The resulting diversion rate equal 17.6 gpm or 0.04 cfs PER PUMP based on Department rounding standards.

- Permit authorized a maximum diversion rate of 0.20 cfs for domestic use 21 homes.
- Beneficial use field exam evaluated each well pump produces 0.04 cfs but based on email correspondence DTD 4/11/2025 from the water system operator, Robert Kuchenski – Integrity Water Management Inc., only two pumps have ever diverted simultaneously during peak demand.
- I've recommended a maximum diversion rate of **0.08 cfs** (2 pumps actively diverting) for domestic use toward licensing this Permit. The Right Holder's maximum rate has been reduced based on water system design as developed at time of field exam; the remaining two well's pumps serve as redundancy for this IDEQ Public Water System # ID1090224.

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

- None; as Permitted, ½ acre irrigation is authorized for development within each platted subdivision lot under domestic beneficial use.

2. Volume Calculations for Other Uses:

- The Maximum Diversion volume = 21 homes x 1.2 af = **25.2 af**.

G. NARRATIVE/REMARKS/COMMENTS

I conducted the beneficial use field exam on 4/10/2025 with the Permit Holder's representative, Mr. Jan Lee – HOA President, which showed four (4) ground water source PODs supplying water for 21 homes in the Meadow Wood Subdivision. At the POD(s), the well field is located directly north of the pump station with each 6-inch cased well located in-line approximately 20-30 feet apart. The well(s) are located on a large subdivision common area parcel that runs along the eastern extent of the subdivision. The four lines with 1-inch service pipeline route buried to the pump-station where they enter the north wall to individually installed Hersey brand flowmeter(s). During the exam I collected photographs to illustrate the diverting works, which incorporate a 1.5 hp submersible well, one in each of 4 wells. Based on discussion with Mr. Lee and email correspondence from the water system operator (attached to report), 2-out of-4 well pumps operate at one time serving water to the community system in a lead/lag style diversion system.

IDAPA 37.03.02 Beneficial Use Examination Rules (035) dictate that direct measurements of the diversion rate(s) are not required for any other use than irrigation so long as the Permit's max diversion rate is less than 0.24 cfs. The Permit authorized development up to 0.20 cfs and direct measurements are not required to license this Permit. During the exam one well was observed by flowmeter with a rate of 0.04 cfs, but I didn't request Mr. Jan Lee cycle through the remaining well pumps. Theoretical Pump Equations for the near identical well(s) as constructed with 1.5 hp pump(s) demonstrate each POD is able to produce 0.04 cfs. Considering that during normal operation one well, two at most, actively divert I have recommended **0.08 cfs** toward licensing the community water system.

Review of the Application for Permit backfile provided insight to the water system diverting components as installed in 1994; well pump test results on file illustrate a max flow of 20.0 gpm (well #1), 20.0 gpm (well #2), 21.0 gpm (well #3), and 18.0 gpm (well #4). Evaluating historic pump performance illustrates wells 1, 2, & 4 each have a diversion rate = 0.04 cfs considering Department rounding standards and well 3 at 21 gpm would round up to 0.05 cfs. Well #3's original diverting pump and motor have since been replaced; the new pump motor is a Pentek brand versus Franklin Electric. The historic water system diverting rates further support assigning a flow rate of 0.04 cfs per well with combined use of 0.08 cfs as the maximum with two pumps operating in concert on occasion.

Domestic POU: During the exam Mr. Jan Lee provided tour of Meadow Wood Subdivision. Immediately upon entering a large drain field parcel is located on the NW corner of the subdivision, which has no beneficial use(s) developed under the Permit. There are 22 total parcels within the subdivision: Lots 1-2, Blk 1; Lots 1-14, Blk 2; and Lots 1-6, Blk 3; Meadow Wood Sub. All the parcels range between 0.3 acres – 0.6 acres in size; considering a home with garage or shop and paved driveway are on all but one lot, external domestic use is minor for small lawn & landscape watering primarily by pressurized sprinklers.

Two parcels, Lots 13 & 14, Blk 2, have the same ownership with Lot 13 being a 0.37-acre lot that is watered along with Lot 14 (0.31 ac in size) which has the primary residence. Collectively the 0.68 acres minus home and driveway result in less than ½ acre irrigation covered under domestic use. The permitted condition of approval which describes irrigation in-part states that "the irrigation occurring under this domestic use shall not exceed ½ acre within each platted subdivision lot." Based on the sum acreage for both lots being so small, I'm not recommending 0.6 af for external domestic use per lot rather combining both lots for acre-feet assessment of 1 home with ½ acre at 1.2 af. The maximum diversion volume recommended for the total 21 homes = **25.2 af** for licensing purposes. I used ArcMap aerial imagery during licensing review to designate the domestic POU.

I removed conditions 046 and 106 from the Permit during licensing review due to compliance by the Permit Holder; IDEQ regulates this PWS system under ID1090224, with active status at time of licensing review. I have updated condition X60 to accurately describe the POU to include Lot 13, which was omitted by Department staff at time of Permit approval but has been proved to receive beneficial use of water for domestic external use. All other conditions on the Permit are being carried forward to the License. There are no overlapping water right concerns toward licensing 96-12804.

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>
DOMESTIC	01/01 to 12/31	0.08 CFS	25.2 AF
<u>Totals:</u>		0.08 CFS	25.2 AF

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 Luke Bates – Sr. Water Resource Agent

Field Examiner's Name  Date 5/21/2025
 Reviewer Michelle Richman Date 6/30/2026

Bates, Luke

From: Bob Kuchenski <bob@integritywater.net>
Sent: Friday, April 11, 2025 11:55 AM
To: Bates, Luke
Cc: Jan Lee
Subject: Re: Permit 96-12804 Sweetgrass at Meadow Wood HOA

CAUTION: This email originated outside the State of Idaho network. Verify links and attachments BEFORE you click or open, even if you recognize and/or trust the sender. Contact your agency service desk with any concerns.

Luke,

All pumps alternate lead/lag. I have not observed more than 2 pumps operating during peak demand. Mostly, only one pump is running even with peak demand.

Bob "Kuch" Kuchenski

Integrity Water Management, Inc.
PO Box 468
Athol, ID 83801
(208) 683-0500 office
(208) 659-4197 cell
(208) 683-1700 fax
bob@integritywater.net

On Apr 11, 2025, at 9:24 AM, Bates, Luke <Luke.Bates@idwr.idaho.gov> wrote:

Good morning Bob,

I met with Mr. Jan Lee yesterday conducting the field exam for Sweetgrass at Meadow Wood, which has the four (4) ground water wells serving 21 homes.

Mr. Lee explained the well pumps cycle in a lead lag system operating condition during normal operations, but I wanted to clarify how many pumps are normally operating simultaneously during peak demand.

I thought you may be able to provide insight to this, as I don't want to assume 2 out of 4 operate during peak demand for normal operating.

I'm working to evaluate the maximum diversion rate for licensing purposes; I've validated each 1.5 hp pump achieves 0.04 cfs (GPM range from 18-20 gpm) but haven't finalized my maximum flow rate.

Thank you in advance for any feedback you may be able to apply.

Best Regards,
<image001.jpg>

<Bates_Luke.vcf>

THEORETICAL PUMPING EQUATION(S) FOR WR# 96-12804

Theoretical Pumping Equation is required because system did not allow for a proper measurement. Pump is estimated to lift 50 ft, and running at 95 psi.					
<u>PUMP EQUATION</u>					
WATER RIGHT No. 96-12804					
WELL #1 96-94-N-0204-000	HP	H in feet	Efficiency as a decimal	Pumping lift in feet	System pressure in PSI
Q = $HP \cdot 8.8 \cdot \text{Eff} / H$	1.5	269.7279	0.8	50	95
Q = 0.039 cfs 17.6 gpm					

Theoretical Pumping Equation is required because system did not allow for a proper measurement. Pump is estimated to lift 50 ft, and running at 95 psi.					
<u>PUMP EQUATION</u>					
WATER RIGHT No. 96-12804					
WELL #2 96-94-N-0218-000	HP	H in feet	Efficiency as a decimal	Pumping lift in feet	System pressure in PSI
Q = $HP \cdot 8.8 \cdot \text{Eff} / H$	1.5	269.7279	0.8	50	95
Q = 0.039 cfs 17.6 gpm					

THEORETICAL PUMPING EQUATION(S) FOR WR# 96-12804

Theoretical Pumping Equation is required because system did not allow for a proper measurement. Pump is estimated to lift 50 ft, and running at 95 psi.

<u>PUMP EQUATION</u>						
WATER RIGHT No. 96-12804						
WELL #3 96-94-N-0251-000		HP	H in feet	Efficiency as a decimal	Pumping lift in feet	System pressure in PSI
Q =	HP*8.8*Eff/H	1.5	269.7279	0.8	50	95
Q = 0.039 cfs 17.6 gpm						

Theoretical Pumping Equation is required because system did not allow for a proper measurement. Pump is estimated to lift 50 ft, and running at 95 psi.						
<u>PUMP EQUATION</u>						
WATER RIGHT No. 96-12804						
WELL #4 96-94-N-0265-000		HP	H in feet	Efficiency as a decimal	Pumping lift in feet	System pressure in PSI
Q =	HP*8.8*Eff/H	1.5	269.7279	0.8	50	95
Q = 0.039 cfs 17.6 gpm						

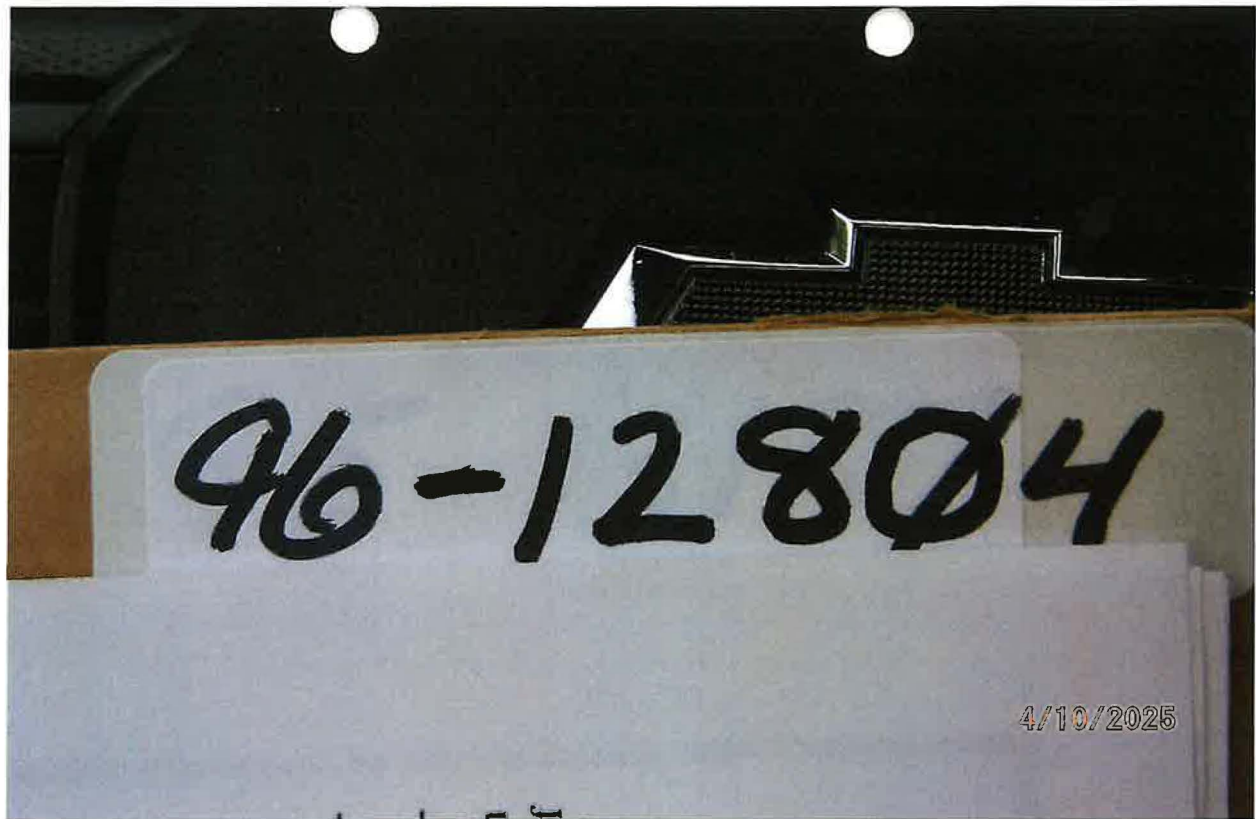
This map depicts the DOMESTIC system diagram.

57N

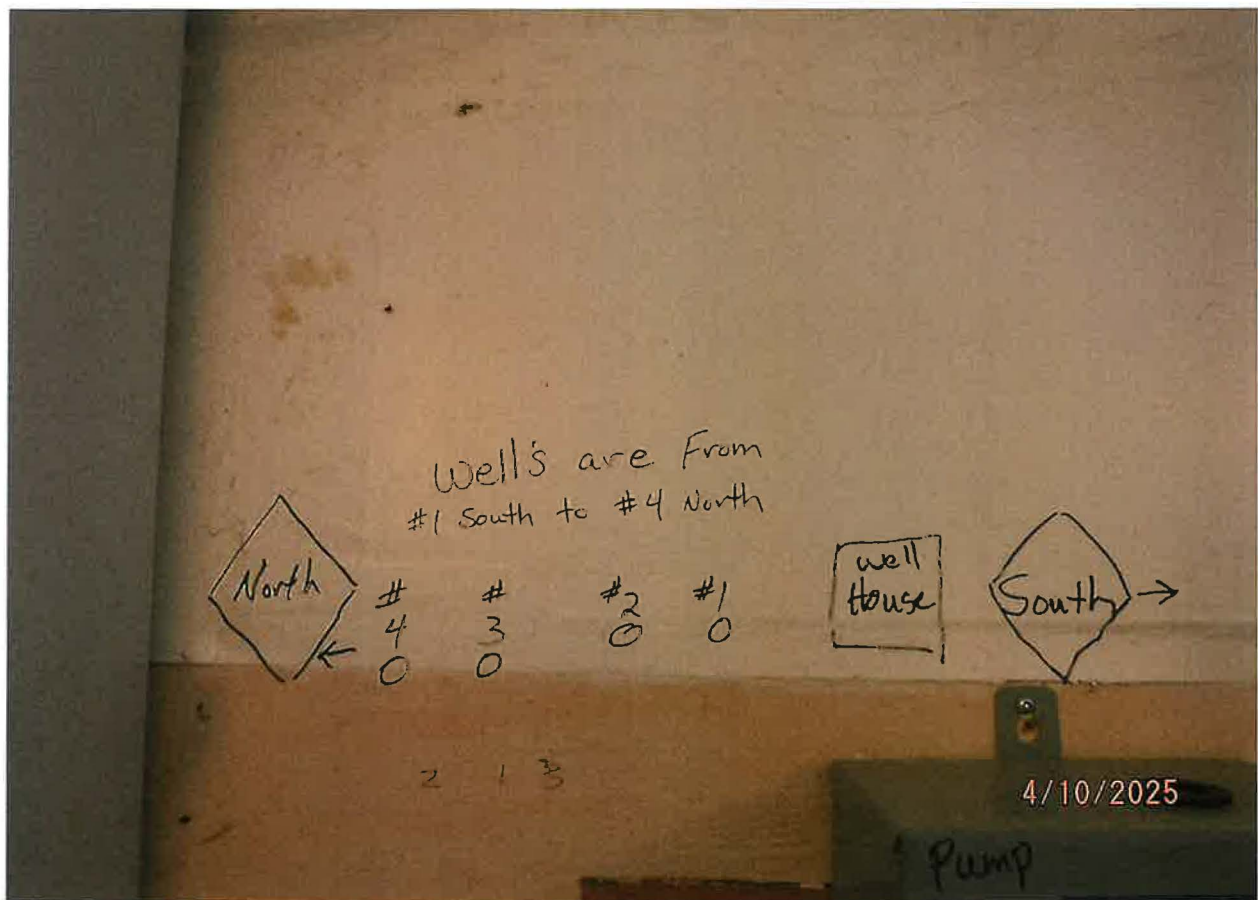


-
- A horizontal number line representing distance in miles. The line starts at 0 and ends at 0.14 Miles. There are major tick marks at 0, 0.035, 0.07, and 0.14 Miles. Between these major ticks, there are four smaller tick marks, dividing each 0.035-mile segment into five equal parts of 0.007 miles each.





BENEFICIAL USE FIELD EXAM DATE 4/10/2025



POD - WELL FIELD (4-CASED WELLS) SCHEMATIC



POD - PUMP STATION (BACKGROUND) & WELL #1 – 96-94-N-0204-000



POD - STANDING AT WELL #2 (HIDDEN BY GPS) – 96-94-N-0218-000
NOTE: DISTANCE BETWEEN WELLS ILLUSTRATED BETWEEN #1 & #2 IN IMAGE



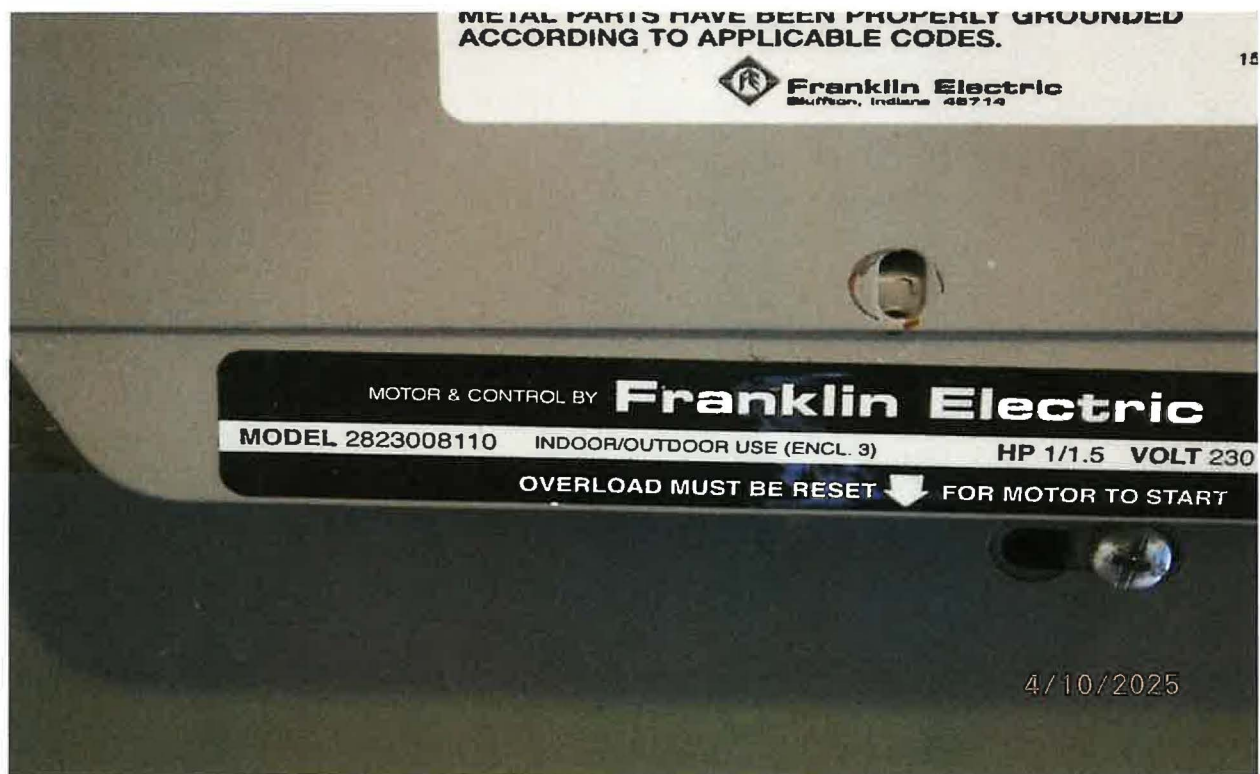
POD – WELL #3 – 96-94-N-0251-000 WITH WELLS #2 AND #1 IN BACKGROUND



POD – WELL #4 – 96-94-N-0265



DIVERTING WORKS – 3EA FRANKLIN & 1EA PENTEK 1.5 HP PUMP MOTORS
LABELED BY WELL #



WELL #(s) 1, 2, & 4 EACH HAVE FRANKLIN ELECTRIC 1.5 HP MODEL 2823008110
PUMP MOTORS INSTALLED



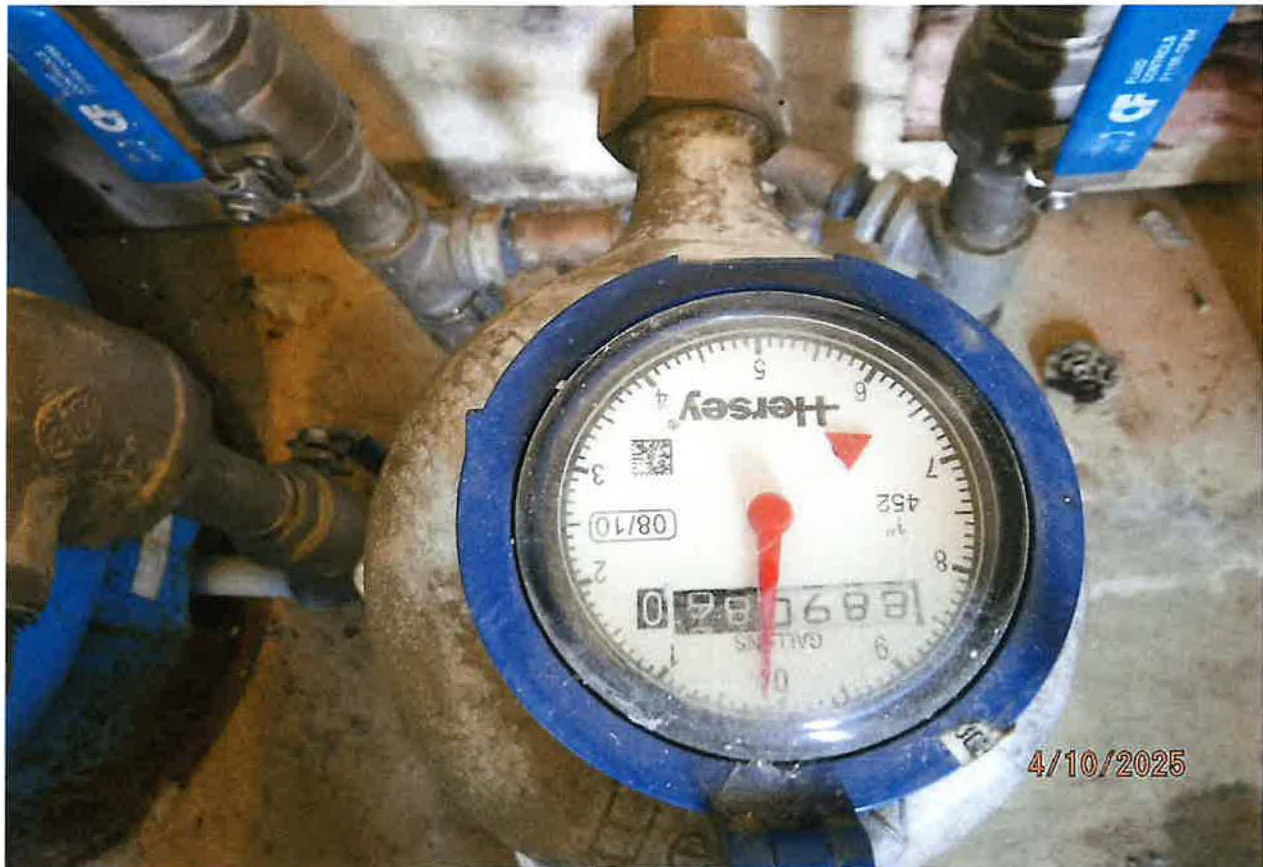
WELL #3 PENTEK 1.5 HP PUMP MOTOR MODEL No. SMC-CR1521-02



WATER CONVEYANCE SYSTEM INCLUDES 6EA PRESSURE TANKS REGULATED AT 25-28 PSI



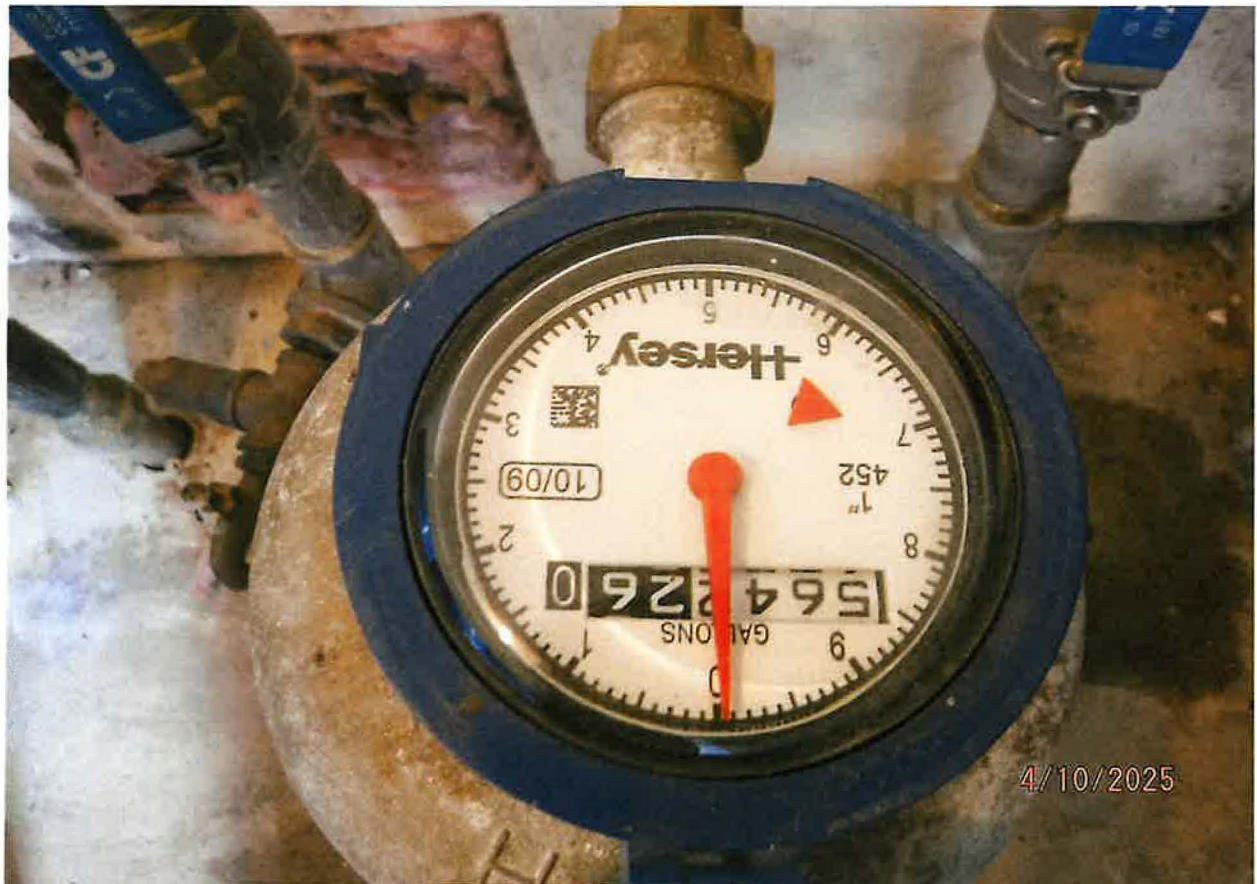
DIVERTING WORKS – EACH WELL HAS AN IN-LINE 1-INCH FLANGED HERSEY FLOWMETER INSTALLED WHERE THE MAIN SERVICE PIPE FROM WELL ENTERS PUMP STATION (PRIOR TO PRESSURE TANK & DISTRIBUTION PIPELINE)



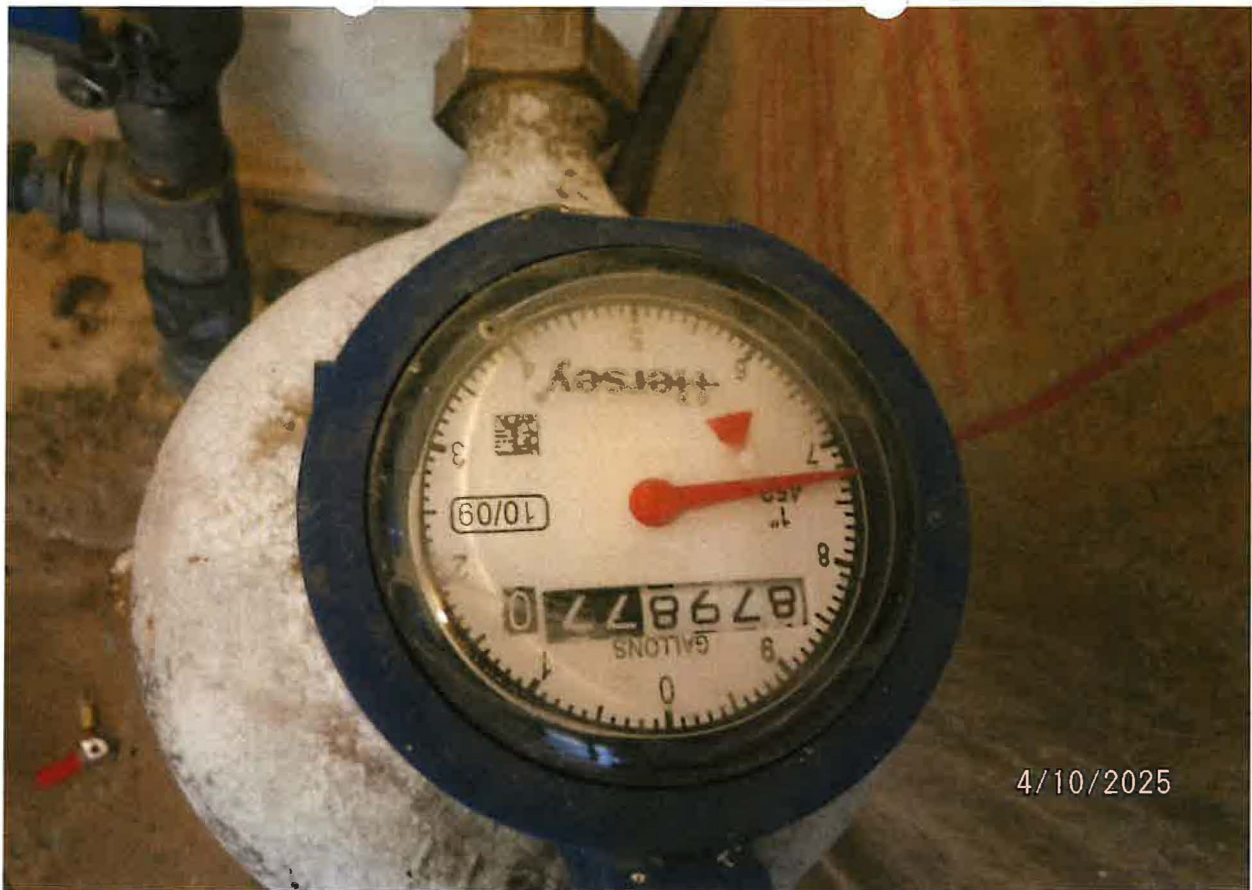
HERSEY FLOWMETER WELL #1



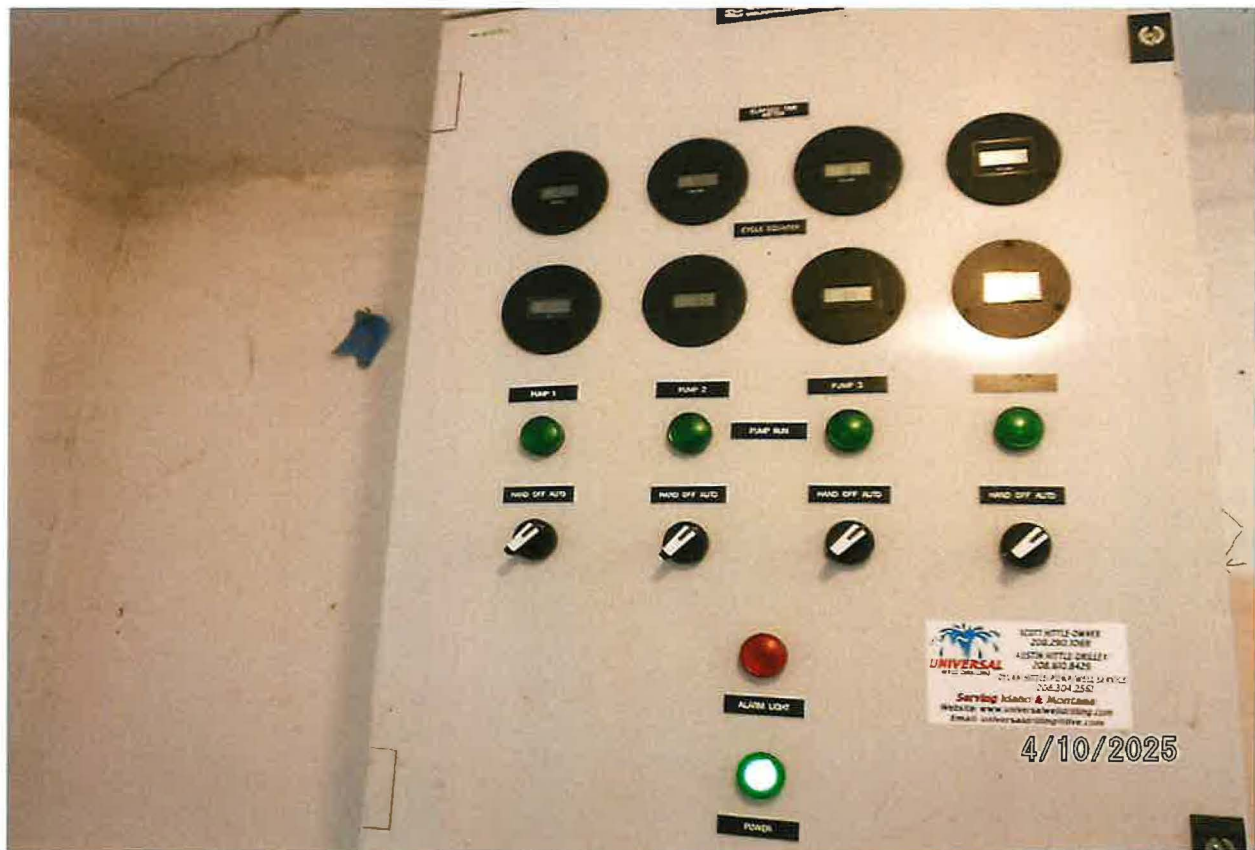
HERSEY FLOWMETER WELL #2



HERSEY FLOWMETER WELL #3



HERSEY FLOWMETER WELL #4



WATER SYSTEM MAIN CONTROL PANEL



WATER SYSTEM 95 PSI OPERATING PRESSURE



CONVEYANCE SYSTEM – 2-INCH MAIN PIPELINE ROUTING DOWN TO FLOOR OF PUMP STATION WITH EXTERIOR MANUAL SHUT OFF VALVE. MANUAL SHUTOFF BLOW-OUT VALVE ROUTING UP AND THROUGH WALL OF PUMP STATION



DOMESTIC POU – EXAMPLE OF 1 HOME WITH $\frac{1}{2}$ ACRE IRRIGATION AUTHORIZED.
TYPICAL LOT SIZE = 0.4 ACRES





DOMESTIC POU – EXAMPLE OF 1 HOME WITH ½ ACRE IRRIGATION AUTHORIZED.
TYPICAL LOT SIZE = 0.4 ACRES

