

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 36-15698

Exam Date: See Narrative

1. Current Owner: WARREN BEDDO
173 W 580 S
JEROME ID 83338
(208)644-1344

And/Or

WANDA BEDDO
173 W 580 S
JEROME ID 83338
(208)644-1344

2. SOURCE

WASTE WATER

TRIBUTARY

SNAKE RIVER

B. OVERLAP REVIEW

1. Other water rights with the same place of use: NSCC shares & domestic well (unrecorded right) can be used to irrigate the lawn

2. Other water rights with the same point of diversion: None

C. DIVERSION AND DELIVERY SYSTEM1. LOCATION OF POINT(S) OF DIVERSION:

WASTE WATER

L2 SE1/4SW1/4

Sec. 14, Twp 09S, Rge 16E, B.M.

JEROME County

Method of Determination: Aerial photography and 7/31/2001 field visit photo in 8/2/2001 memo in WR file

2. LOCATION OF PLACE(S) OF USE:PLACE OF USE: DOMESTIC

Twp	Rge	Sec	NE				NW				SW				SE				
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	Totals
09S	16E	14												X					
														L 2					

Method of Determination: Aerial photography and 7/31/2001 field visit photo in 8/2/2001 memo in WR file

D. FLOW MEASUREMENTS N/A**E. FLOW CALCULATIONS**

Theoretical yield:

$$Q = \frac{8.8 \times (Hp) \times (Eff)}{H}$$

Where: Hp = 2 Hp (from 8/2/2001 memo detailing 7/31/2001 site visit)

Eff = 70% (assumed)

H = elevation distance + 2.31 x operating pressure (assume elevation difference of 2.0 feet based on photo from 8/2/2001 memo detailing 7/31/2001 site visit and operating pressure of 30 psi based on lawn sprinkler literature obtained off of the internet).

$$H = 2.0 \text{ feet} + (2.31 \times 30 \text{ psi}) = 71.3$$

$$Q = \frac{8.8 \times (2) \times (0.70)}{71.3}$$

Q= 0.17 cfs Rate exceeds permitted amount of 0.02 cfs (based on ½ acre x 0.03 cfs per acre), therefore use permitted rate of 0.02 cfs

F. VOLUME CALCULATIONS

Use IDWR standard of 0.6 afa for domestic lawn irrigation

G. NARRATIVE/REMARKS/COMMENTS

Application for Permit 36-15698 was filed on July 25, 2001 for domestic use associated with pumping wastewater for the irrigation of a yard in connection with a home. Permit 36-15698 was approved on October 19, 2001 and proof of beneficial use was filed on July 11, 2002.

The licensing exam is based off of information obtained from the 7/31/2001 pre permit exam site visit detailed in the 8/2/2001 memo in the water rights back file. The memo includes a photograph of the point of diversion and a portion of the place of use. Using this photo and ARCMAP provides enough information to verify the existence of the point of diversion and place of use and provide accurate locations. The memo also includes information detailing the pump size (2 Hp) and the photo shows very little elevation difference in the water surface and the operating system. Using this information and a reasonable assumed operating pressure for lawn sprinklers of 30 psi (obtained from literature on the internet) provides enough information to indicate that a theoretical estimate of diversion rate exceeds the permitted amount of 0.02 cfs. It is recommended that permit 36-15698 be licensed for domestic use with a diversion rate of 0.02 cfs and a volume of 0.6 afa (IDWR standard allowance for yard irrigation in connection with a home).

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

Permit No: 36-15698

Page 3

H. RECOMMENDATIONS

1. Recommended Amounts

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
DOMESTIC	03/15 to 11/15	0.020 CFS	0.6 AF
<u>Totals:</u>		0.020 CFS	0.6 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 ☐ Other

I. AUTHENTICATION

Field Examiner's Name *Ray Shin* Date 3/9/2012
Reviewer *Chris Menita* Date 3/10/12

MEMORANDUM

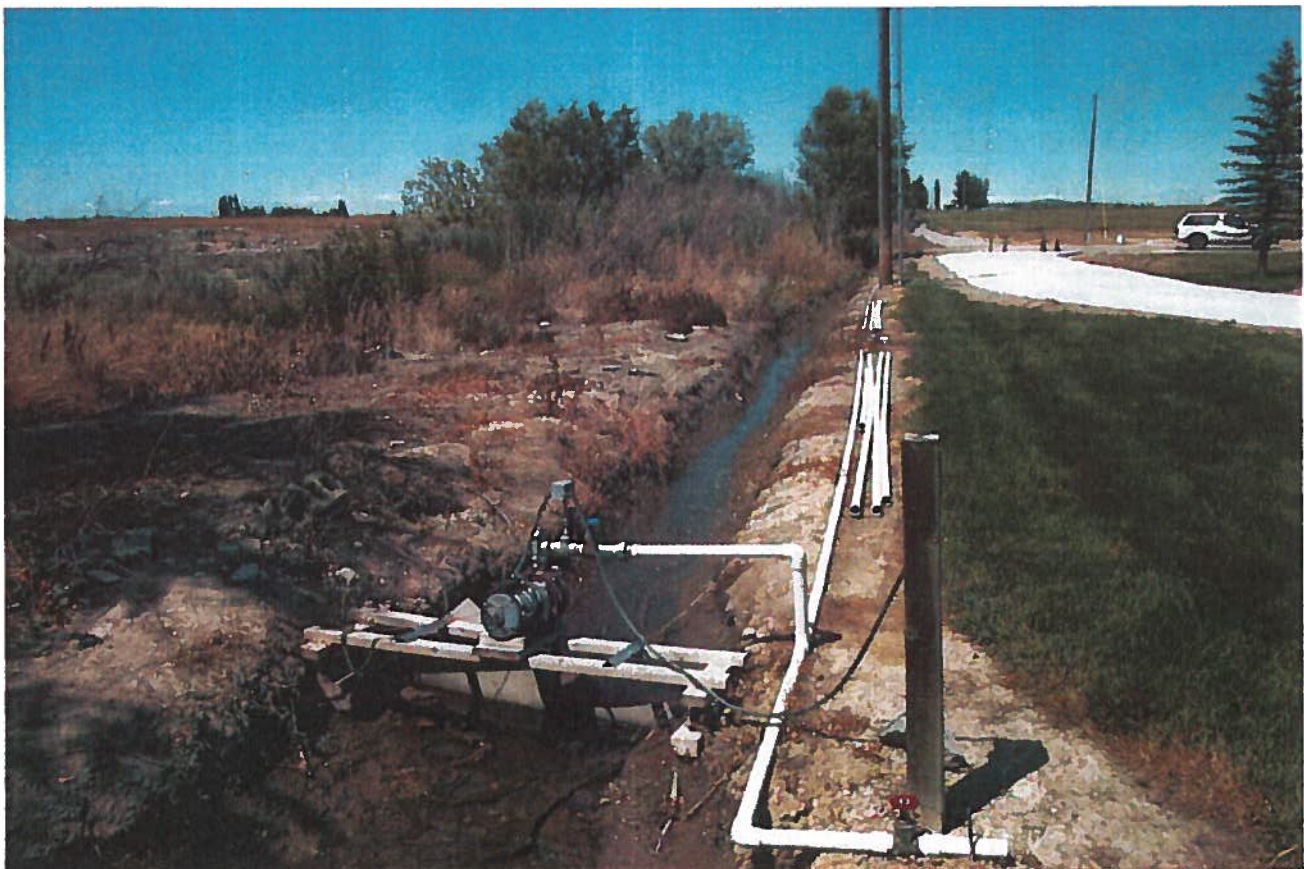
TO: Application for Permit 36-15698 File

FROM: Corey Skinner *CS*

DATE: August 2, 2001

SUBJECT: Site Visit

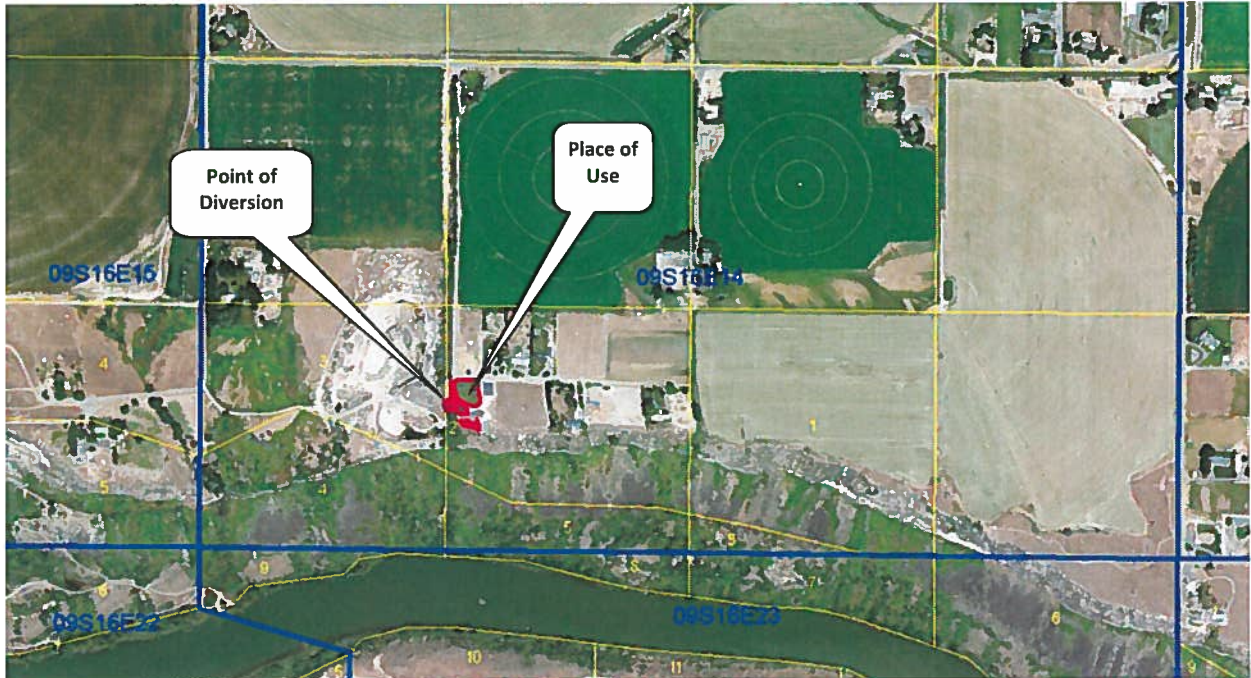
On July 31, I visited the property involved with Application for Permit 36-15698. I verified the location of the point of diversion, place of use, and that the source of water appeared to be adequate, when available. The attached photo documents my visit and shows the point of diversion and the source of water.



View looking north along waste water ditch that serves as the source of water. The point of diversion consists of a 2 HP pump. The place of use consists of the lawn to the east (right in photo) of the ditch.

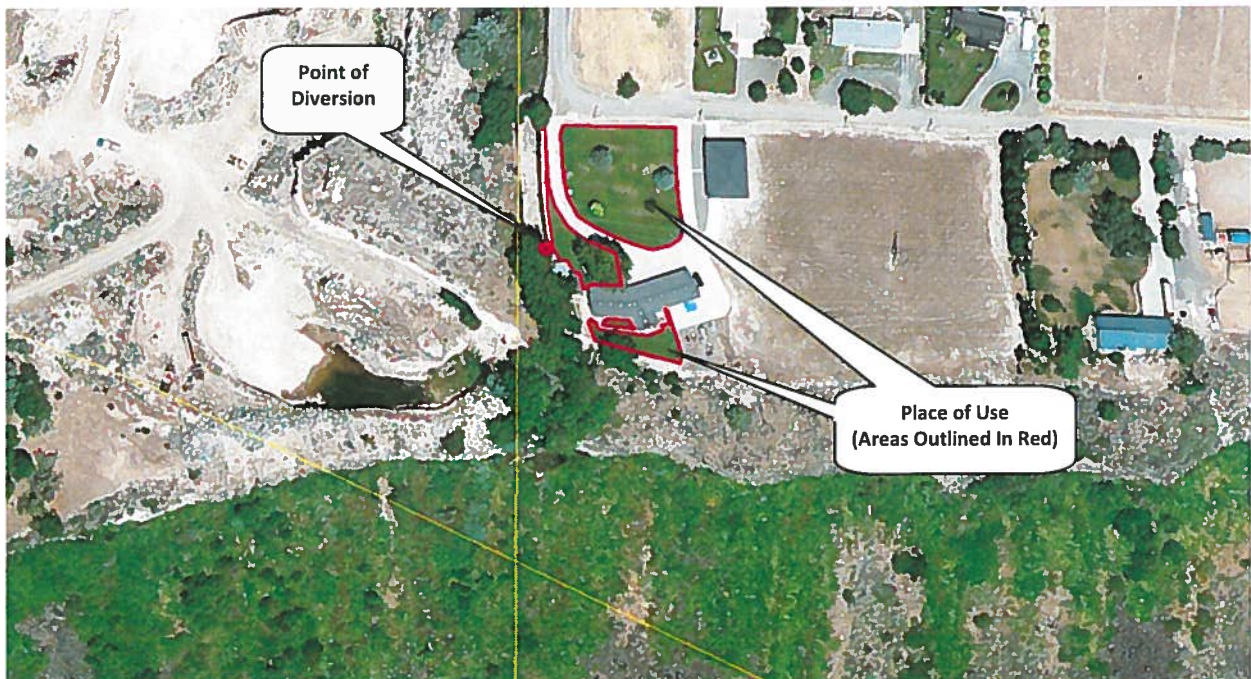
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36-15698 Point of Diversion & Place of Use Map



ABOVE: View of location of Point of Diversion and Place of Use (Bing Maps Aerial Photo)

BELOW: Same as above only zoomed in showing more detail (Bing Maps Aerial Photo)



Lawn Sprinkler Head Selection Tips - Windows Internet Explorer

http://www.irrigationtutorials.com/sprinkler12.htm

File Edit View Favorites Tools Help

Lawn Sprinkler Head Selection Tips

loss" as previously. While pressure loss is a perfectly accurate term for the pressure used by sprinkler heads and emitters, operating pressure is more commonly used. Operating pressure is simply the pressure that needs to be present at the sprinkler or emitter inlet for it to perform as intended.

Manufacturers of sprinklers and emitters provide specifications for each of their products that list the various acceptable operating pressures for the units and how they will perform at that pressure. You will need to obtain the specifications for the products you intend to use. You may find this information printed on the sprinkler box or you may need to request it from your supplier. Most manufacturers also make specifications available on their web sites. Typically for a sprinkler this specification will list an inlet pressure as pounds per square inch (PSI) and then give a watering radius (feet) and flow rate in gallons per minute (GPM) that will occur at that pressure.

For an emitter the information would include only operating pressures (PSI) and a flow rate in gallons per hour (GPH) for each of those pressures. (Radius of throw isn't applicable to drip emitters.)

Pressure Requirements for Sprinklers

Spray Type Sprinklers:

For spray type sprinklers most designers use an operating pressure of 30 PSI, unless a lack of available pressure forces a lower level. Remember that if you use a lower pressure the sprinklers will need to be spaced closer together, because the water won't spray as far. Sprinkler manufacturers provide charts that tell you how much pressure is required for the sprinkler and how far it will spray with that pressure. Look on the package for the chart. Additionally, almost all spray type heads have a radius adjustment screw that allows you to adjust the watering radius down for smaller areas. (When you adjust the radius using the adjustment screw on a spray head, you are actually reducing the pressure at the nozzle by means of a small valve under the nozzle. The reduced pressure results in a decreased radius of throw.) At pressures above 45 PSI most spray heads start to create lots of mist, which results in poor irrigation. This can be controlled by using the radius adjustment feature to reduce the pressure, partially closing the valve to reduce the pressure, installing a pressure regulator on the mainline to reduce the pressure, or by using special pressure regulating nozzles made by some sprinkler manufacturers (which, you guessed it, reduce the pressure!)

Rotor Type Sprinklers:

For rotor type sprinklers the higher the operating pressure the better. (O.K., within reason. We don't want to blow the sprinkler apart with high pressure-- and rotors can cause mist too under extreme pressures.) But as a general rule, most rotor type sprinklers do not work well with less than 30 PSI operating pressure. Keep reading!

TIP: "Stryker's Rotor Spacing Rule" states that the spacing in feet between rotor-type sprinklers can't exceed the pressure in PSI at the rotor. There is a lot of competition in the sprinkler business to see who can get the most radius from a rotor-type sprinkler. Manufacturer's literature and packaging tends to wildly exaggerate the maximum spacing of rotors. They get those distances by testing the rotors inside a big building with no wind. Even the most gentle breeze will shorten the real-world watering radius (water droplets are very light). If the package says the rotor has a radius of 35 feet at 30 PSI-- DO NOT BELIEVE IT! In the real world you will not get that distance. If you have 30 PSI do not space the rotors more than 30 feet apart. If you ignore this rule, 9 chances out of 10, you will have dry spots in your lawn! (Yep, over-size ego alert, it's my rule, thus the name.)

Rotor Spacing Example: If you want to space the rotors 30 feet apart then you will need to use a pressure of at least 30 PSI for the rotor. If you want to space rotors 40' apart you will need 40 PSI for the sprinkler head pressure. I don't recommend spacing sprinklers further than 55 feet apart unless you have an experienced professional design the sprinkler system. Many tricky problems occur with

Done

start Outlook - Microsoft Ex... D:\Data\Acnew\Disa... J:\w\lra\FelShares... http://wwwnet.sops.e... Lawn Sprinkler Head... Information Search Unlinked - ArcMap - Ar... Internet 100% 10:41 AM

Nozzle Performance

Spray Heads



12 Series MPR

30° Trajectory					
Nozzle	Pressure psi	Radius ft.	Flow GPM	Princp in/h	Princp in/h
12F	15	9	1.80	2.14	2.47
	20	10	2.10	2.02	2.34
	25	11	2.40	1.91	2.21
12H	15	9	0.90	2.14	2.47
	20	10	1.05	2.02	2.34
	25	11	1.20	1.91	2.21
12Q	15	9	0.45	2.14	2.47
	20	10	0.53	2.02	2.34
	25	11	0.60	1.91	2.21
	30	12	0.65	1.74	2.01

15 Series MPR

30° Trajectory					
Nozzle	Pressure psi	Radius ft.	Flow GPM	Princp in/h	Princp in/h
15F	15	11	2.60	2.07	2.39
	20	12	3.00	2.01	2.32
	25	14	3.30	1.62	1.87
	30	15	3.70	1.58	1.83
15H	15	11	1.30	2.07	2.39
	20	12	1.50	2.01	2.32
	25	14	1.65	1.62	1.87
	30	15	1.85	1.58	1.83
15Q	15	11	0.65	2.07	2.39
	20	12	0.75	2.01	2.32
	25	14	0.82	1.62	1.87
	30	15	0.92	1.58	1.83

12 Dual Spray™ Series

23° Trajectory					
Nozzle	Pressure psi	Radius ft.	Flow GPM	Princp in/h	Princp in/h
12DSF	15	9	1.80	2.14	2.47
	20	10	2.10	2.02	2.34
	25	11	2.40	1.91	2.21
	30	12	2.60	1.74	2.01
12DSH	15	9	0.90	2.14	2.47
	20	10	1.05	2.02	2.34
	25	11	1.20	1.91	2.21
	30	12	1.30	1.74	2.01
12DSQ	15	9	0.45	2.14	2.47
	20	10	0.53	2.02	2.34
	25	11	0.60	1.91	2.21
	30	12	0.65	1.74	2.01

8 Series MPR

10° Trajectory					
Nozzle	Pressure psi	Radius ft.	Flow GPM	Princp in/h	Princp in/h
8F	15	5	0.54	2.07	2.39
	20	6	0.75	2.01	2.32
	25	7	0.82	1.62	1.87
	30	8	1.05	1.58	1.83
8H	15	5	0.27	2.07	2.39
	20	6	0.38	2.01	2.32
	25	7	0.41	1.62	1.87
	30	8	0.52	1.58	1.83
8Q	15	5	0.13	2.07	2.39
	20	6	0.19	2.01	2.32
	25	7	0.21	1.62	1.87
	30	8	0.26	1.58	1.83

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Nozzle	Pressure psi	Flow GPM
F	10	1.0
	20	1.4
	30	1.7
	40	1.9
	50	2.1
	60	2.3

SPECIALTY NOZZLES

Nozzle	Pressure psi	Wid. ft.	Flow GPM
15SQ	15	18 x 18	2.68
	20	19 x 19	3.06
	25	21 x 21	3.42
	30	23 x 23	3.73
15EST	15	4 x 13	0.45
	20	4 x 14	0.50
	25	4 x 14	0.56
	30	4 x 15	0.61
15CST	15	4 x 26	0.89
	20	4 x 28	1.00
	25	4 x 28	1.11
	30	4 x 30	1.21
15SST	15	4 x 26	0.89
	20	4 x 28	1.00
	25	4 x 28	1.11
	30	4 x 30	1.21
9SST	15	9 x 15	1.34
	20	9 x 16	1.47
	25	9 x 18	1.60
	30	9 x 18	1.73

12 Series AP

15° Trajectory					
Nozzle	Pressure psi	Radius ft.	Flow GPM	Princp in/h	Princp in/h
360° Arc	15	9	1.8	2.14	2.47
	20	10	2.1	2.02	2.34
	25	11	2.4	1.91	2.21
	30	12	2.6	1.74	2.01
270° Arc	15	9	1.35	2.14	2.47
	20	10	1.58	2.02	2.34
	25	11	1.8	1.91	2.21
	30	12	1.95	1.74	2.01
180° Arc	15	9	0.9	2.14	2.47
	20	10	1.05	2.02	2.34
	25	11	1.2	1.91	2.21
	30	12	1.3	1.74	2.01
90° Arc	15	9	0.45	2.14	2.47
	20	10	0.53	2.02	2.34
	25	11	0.6	1.91	2.21
	30	12	0.65	1.74	2.01

15 Series AP

23° Trajectory					
Nozzle	Pressure psi	Radius ft.	Flow GPM	Princp in/h	Princp in/h
360° Arc	15	11	2.60	2.07	2.39
	20	12	3.00	2.01	2.32
	25	14	3.30	1.62	1.87
	30	15	3.70	1.58	1.83
270° Arc	15	11	1.95	2.07	2.39
	20	12	2.25	2.01	2.32
	25	14	2.48	1.62	1.87
	30	15	2.78	1.58	1.83
180° Arc	15	11	1.30	2.07	2.39
	20	12	1.50	2.01	2.32
	25	14	1.65	1.62	1.87
	30	15	1.85	1.58	1.83
90° Arc	15	11	0.65	2.07	2.39
	20	12	0.75	2.01	2.32
	25	14	0.82	1.62	1.87
	30	15	0.92	1.58	1.83

18 Series AP

26° Trajectory					
Nozzle	Pressure psi	Radius ft.	Flow GPM	Princp in/h	Princp in/h
360° Arc	15	14	4.21	2.07	2.39
	20	15	4.70	2.01	2.32
	25	17	4.86	1.62	1.87
270° Arc	15	14	3.16	2.07	2.39
	20	15	3.52	2.01	2.32
	25	17	3.65	1.62	1.87
180° Arc	15	14	3.99	1.58	1.83
	20	15	2.11	2.07	2.39
	25	15	2.35	2.01	2.32
90° Arc	15	14	2.43	1.62	1.87
	20	17	2.66	1.58	1.83
	25	17	1.05	2.07	2.39
90° Arc	15	14	1.17	2.01	2.32
	25	17	1.22	1.62	1.87
	30	18	1.33	1.58	1.83

■ Square spacing based on 50% diameter of throw.

▲ Triangular spacing based on 50% diameter of throw.

Performance data collected in zero wind conditions.

* Turn nozzle screw clockwise to reduce spray distance up to 25%.