

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 95-9533
Exam Date: 07/09/2015

1. Current Owner:
DAVID MC KEE PO BOX 3609 RATHDRUM ID 83858
2. Accompanied by: David Mc Kee
Phone No: 509-993-3015
Address: Same as above
Relationship to permit Holder: Permit holder

3. **SOURCE:**
GROUND WATER

Method of Determination: Arcmap and DRG.

B. OVERLAP REVIEW

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

Water Right No.	Source	Purpose of Use	Basis
95-13815	GROUNDWATER	MUNICIPAL	LICENSE
95-8592	GROUNDWATER	DOMESTIC, IRRIGATION	LICENSE

Comments: Licensed right 95-13815 used Groundwater for municipal purposes; the applicant's in-home domestic use is service connected to Happy Valley Water System Inc. which has ownership of right 95-13815 and there is not a concern for overlap due to the irrigation system being from a separate well and water system as the municipal provider.

Licensed right 95-8592 uses groundwater from a separate well for domestic & irrigation use with a generic 40 ac tract POU assigned at time of licensing. 95-8592 backfile documents shows two rounds of CSRBA letters being mailed and certified mail (returned). An adjudication claim was not filed for 95-8592; this right is not being recommended for consideration toward overlap concern with the applicant's water system and irrigation use.

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

C. DIVERSION AND DELIVERY SYSTEM

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

GROUND WATER NW¼ SE¼, Sec. 17, Twp 51N, Rge 04W, B.M. KOOTENAI County

Method of Determination: GPS. POD is a groundwater well D0056402 located at -116°51.623, 47°45.840.

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	
51N	04W	17														8.9			8.9

Total Acres: 8.9

PLACE OF USE: STOCKWATER

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
51N	04W	17														X			

Method of Determination: Field examination(s) and Arcmap aerial imagery.

- 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
D0056402	FRANKLIN	20	150S200	GRUNDFOS	

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
SYSTEM INSTALLED FLOWMETER		BADGER			3 INCH	

2. Measurements: During initial field examination on 7/9/2015, the applicant operated the system at maximum capacity with the largest hayfield irrigation zone(s) running, as well as house lawn zones running. Applicant's water system incorporates an inline Badger flowmeter that was timed for 1 minute with resulting flow rate of 100 gallons in 1 minute. 100 gpm is equivalent to 0.22 cfs.

E. FLOW CALCULATIONS

Measured Method: Badger flowmeter installed inline from 3" main service pipe from well; 1 minute measurement time equaled 100 gpm or 0.22 cfs considering department rounding standards.

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 8.9 \text{ ac} \times 3.0 \text{ afa} = 26.7 \text{ af}$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.18 \text{ cfs} \times 246\text{-day} \times 1.9835 = 87.8$$

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = \mathbf{26.7 \text{ af}}$$

2. Volume Calculations for Other Uses:

Stockwater annual volume = 10 head cattle x 12 gpd x 365 days = 43,800 gal per year / 325,850 gal per af = **0.1 af** considering department rounding standards.

$$\text{Maximum diversion volume} = 26.7 \text{ af (irrigation)} + 0.1 \text{ af (stockwater)} = \mathbf{26.8 \text{ af}}$$

G. NARRATIVE/REMARKS/COMMENTS

Department staff performed an initial field examination on 7/9/2015 with the applicant, David McKee, that showed a groundwater well D0056402 being used for irrigation and stockwater use. At time of exam the applicant operated the system at maximum capacity with the largest hayfield irrigation zone(s) running, as well as house lawn zones running. Applicant's water system incorporates an inline Badger flowmeter that was timed for 1 minute with resulting flow rate of 100 gallons in 1 minute. 100 gpm is equivalent to 0.22 cfs, it is worth noting this flow measurement was taken with more zones actively irrigating that the applicant normally runs at the same time, to ensure the pumps maximum instantaneous flow rate was achieved.

The applicant is limited by the permit approved 0.20 cfs maximum diversion rate for licensing consideration. The irrigation acreage standard diversion rate equates to 0.18 cfs considering department rounding standards for proven irrigation at POU, and stockwater diversion rate equals 0.02 cfs for proven stockwater use. The sum-total maximum diversion rate recommended to license this permit is **0.20 cfs** or 90 gpm. Mr. McKee contracted with United Crown Pump & Drilling to set up the conveyance system; I met with Chris Agueros, Sales Manager United Crown..., and obtained pump/motor specific data for the applicant's system. Mr. Agueros stated a 3-inch Cycle Control Valve inline that reduced flow capacity to the flow rate the applicant needs for his irrigation system. Mr. Agueros provided documents pertaining to the diverting works components and a pump curve that identifies the applicant's system was set up to operate at 100 gpm max capacity, which correlates directly to the flowmeter measurement obtained during the initial field exam (reference field exam notes in B.U. report).

The stockwater POU identified at the initial field examination consisted of the entirety of the applicant's property for 10 head of cattle. During a follow up field exam performed on 2/24/2022 Mr. McKee asserts he had stock on the property during the permit's development period 12/15/2008 though 11/4/2013, but currently this year (2022) he did not keep cattle. Due to the considerable time between statement of completion submission, initial field exam by department staff, and current follow-up exam by department staff I am recommending the stockwater use be credited as it was occurring in the development period of the exam. Arcmap aerial imagery was used to designate the applicant's parcel as the stockwater POU. Stockwater annual volume equals 10 head cattle x 12 gpd x 365 days = 43,800 gal per year / 325,850 gal per af = **0.1 af** considering department rounding standards which is recommended for licensing purposes.

The irrigation POU consists of a hay field, lawn & tree watering around the main residence, and nursery tree watering. The applicant's irrigation system incorporates Hunter pop-up pressurized sprinklers with multiple zones around the home and hayfield, and drip irrigation system using micro emitters for the nursery tree portion of the irrigation acreage. In a follow-up exam performed on 2/24/2022, Mr. McKee asserted his largest zone of irrigation is for the hay field. Included in this zone are 3ea 360-degree Hunter I-25 (red nozzle) pop-up sprinklers and 2ea 180-degree Hunter I-25 (red nozzle) pop-up sprinklers. When in this zone is operated the 3ea full circle sprinklers have flow rates of 16 gpm each, and the 2ea ½ circle sprinklers have flow rates of 12 gpm each, totaling approx. 72-80 gpm for this zone. Sprinkler literature attached to B.U. report.

The lawn acreage around the home and near shop incorporate Hunter I-20 (red nozzle) pop-up sprinklers with multiple zones, which when cycled produce less than the hay field zones that run on a separate timeframe than these. The nursery tree irrigation acreage uses drip system micro-emitters that are very efficient and conserve water comparative to the pop-up sprinklers. Considering the three types of sprinklers used by the applicant, coupled with the automated rotation by zone, despite the applicant's pump/motor having a 100-gpm capacity observed during the 2015 field exam the daily normal operating flow peaks at approximately 80 gpm, thus mitigating enlargement of the water right associated with diversion rate.

The irrigation POU was traced out using field maps and Arcmap aerial imagery. Year 2013 imagery was utilized during

licensing review due to the applicant's statement of completion form date being 11/4/2013. Irrigation of the applicant's parcel is clearly shown and coupled with field exam photos the POU was traced out equaling 8.9 acres. The standard diversion rate assigned by acreage equals $8.9 \text{ ac} \times 0.02 \text{ cfs per ac} = 0.18 \text{ cfs}$ considering department rounding standards. The annual volume for irrigation beneficial use equals $8.9 \text{ ac} \times 3.0 \text{ afa} = \mathbf{26.7 \text{ af}}$ which is recommended for licensing purposes. The maximum diversion volume equals $26.7 \text{ af (irrigation)} + 0.1 \text{ af (stockwater)} = \mathbf{26.8 \text{ af}}$.

Conditions 26A and X02 were removed from the permit during licensing review. Condition 01R was added based on Rathdrum Prairie Groundwater Management Area (RPGWMA) requirements. All other conditions on the permit are being carried forward to licensing. Overlap concerns: Licensed right 95-13815 used Groundwater for municipal purposes; the applicant's in-home domestic use is service connected to Happy Valley Water System Inc. which has ownership of right 95-13815 and there is not a concern for overlap due to the irrigation system being from a separate well and water system as the municipal provider.

Licensed right 95-8592 uses groundwater from a separate well for domestic & irrigation use with a generic 40 ac tract POU assigned at time of licensing. 95-8592 backfile documents shows two rounds of CSRBA letters being mailed and certified mail (returned). An adjudication claim was not filed for 95-8592; this right is not being recommended for consideration toward overlap concern with the applicant's water system and irrigation use. There are no additional overlap concerns for this 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>Rate of Diversion</u>	<u>Annual Volume</u>
IRRIGATION	03/15 to 11/15	0.18 CFS	26.7 AF
STOCKWATER	01/01 to 12/31	0.02 CFS	0.1 AF

Totals: 0.20 CFS 26.8 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 -

Field Examiner's Name  Date 2/24/2022

Reviewer  Date 3/7/2022

State of Idaho
Department of Water Resources
Attachment to Field Exam
95-9533

IRRIGATION system diagram.



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

0 0.035 0.07 0.14 Miles





UNITED

PUMP & DRILLING

3125 W. Hayden Ave., Hayden, ID 83835
(208) 772-7867 • (800) 682-9641 • Fax (208) 772-7229

INVOICE

NO 21544

INVOICE DATE

ORDER NO

April 20, 2009

SOLD TO: David McKee

10110 Happy Trail

Rathdrum ID 83858

RECEIVED
FEB 18 2022
IDWR / NORTH

PHONE#

INSTALLATION/SERVICE DATE		PROJECT CODE	F.O.B. POINT	TERMS	
April 15, 2009		Install: IWR	Happy Trail	Payment Due	
QTY.	UNIT	DESCRIPTION	a	UNIT PRICE	TOTAL
Install Irrigation Well Pump Equipment					
1	ea.	Grundfos 150S200 submersible pump and Franklin 20Hp, 460V, 3Ph motor		\$	
1	ea.	Cross-line Starter panel		\$	
294	lf.	3" Galvanized drop pipe		\$	
300	lf.	#10/4 TW submersible pump cable		\$	
1	ea.	3" DI check valves		\$	
1	ea.	Motor splice and tape		\$	
1	ea.	8" Cast iron well cap 8WPSM		\$	
1	ea.	3" Weld-on pitless adapter		\$	
1	ls.	Labor to install to top of well		\$	
Underground Plumbing and Electrical					
50	lf.	4" C-900 pipe and underground fittings		\$	
45	lf.	#10/4 Pump wire in conduit		\$	
1	ls.	Labor to install piping network from the well to mechanical room		\$	
Electrical Controls and Pressure Equipment Installed Into Mechanical Room					
1	ls.	3" Galvanized plumbing manifold		\$	
1	ea.	3" Cycle pump control valve		\$	
1	ea.	3" Badger flow meter		\$	
1	ea.	119 Gallon pressure tank and tank tee assembly		\$	
1	ea.	Wire splice at top of well head		\$	
1	ls.	Miscellaneous electrical and plumbing		\$	
1	ls.	Labor to install pressure system electrical / mechanical		\$	
Subtotal					
Idaho State Tax 6%					
Total Due This Invoice					

This invoice due and payable upon receipt. Invoices not paid within 10 days will accrue interest at a rate of 1.5% per month.

RECEIVED

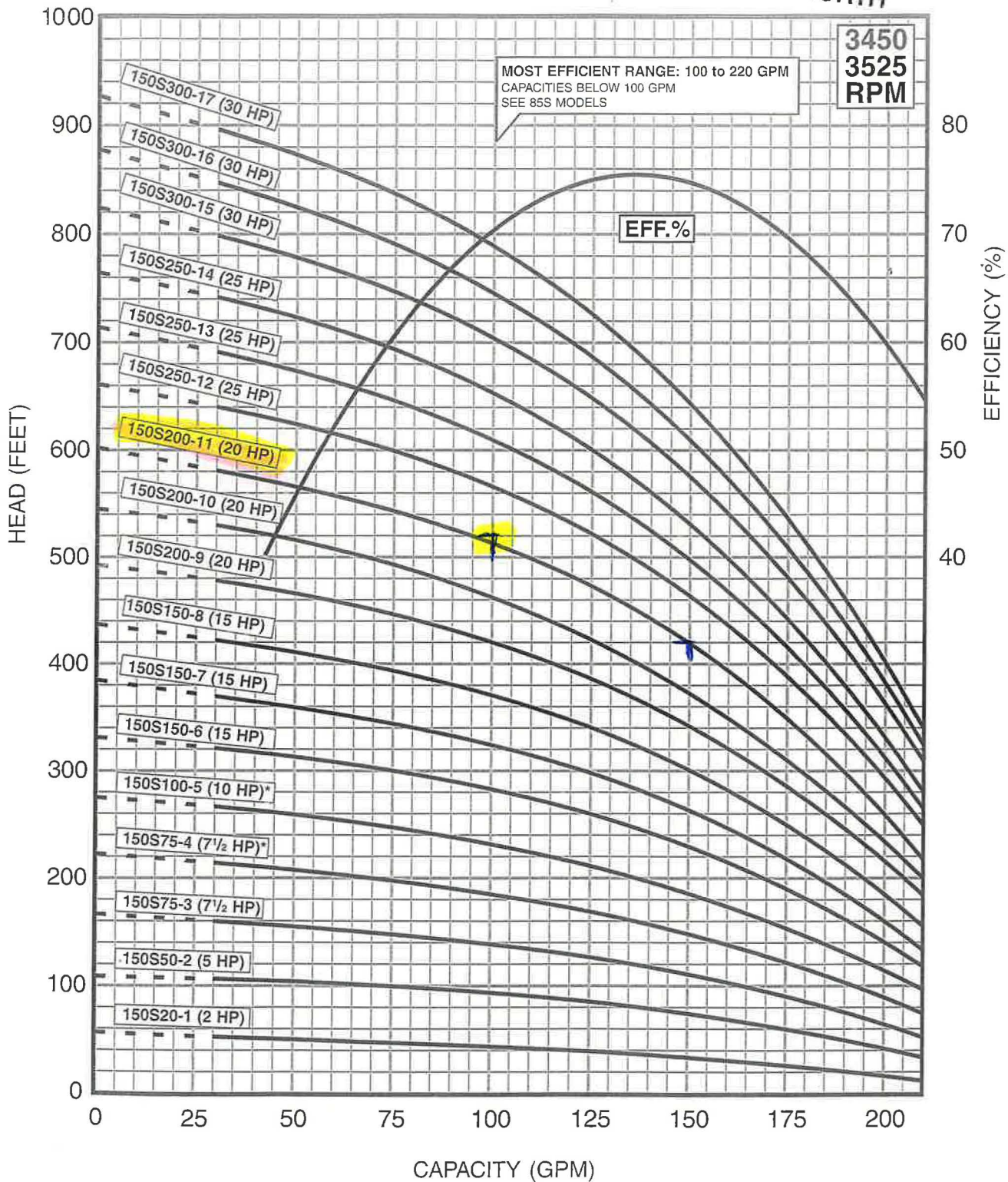
FEB 18 2022

FLOW RANGE: 30 -220 GPM

OUTLET SIZE: 3" NPT

IDWR / NORTH

NOMINAL DIA. 6"



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

4" MOTOR STANDARD, 2-10 HP/3450 RPM

6" MOTOR STANDARD, 7.5-60 HP/3450 RPM.

8" MOTOR STANDARD, 75 HP/3525 RPM.

* Alternate motor sizes available.

Performance conforms to ISO 9906 Annex A
@ 5 ft. min. submergence.

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

1ST FIELD EXAM NOTES
(1Pg of DATA)

Red 0MP
cycle 632
stop cycle
Valve 5409

100 gallons in
just under 1 min
measured at gauge

A. GENERAL INFORMATION

Permit No. 95-9533

1. Owner: Mc Kee, David E Phone No. (509) 993.3015

Current Address: 10110 Happy TRL PO Box 3609 Ratndrum ID 83858

2. Accompanied by: _____ EXAM DATE: 7/9/2015

Address: 6 Sat 49° 45 50.4 Phone No. _____

Relationship to Permit Holder: 116° 51 37.3

3. Source: _____ tributary to _____

B. OVERLAP REVIEW

Tag ~~DP05340~~ 56402 Typo Quick Coaxial Tied into
main line filled 5 gal

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

2. Other water rights with the same point of diversion: bucket in 16 spreads with 2 zones operating

C. DIVERSION AND DELIVERY SYSTEM

3' main line rectangle around property
6 heads per zone

1. Point(s) of Diversion:

Ident No.	Gov't Lot	1/4	1/4	1/4	Sec.	Twp.	Rge.	County	Method of Determination/Remarks
									32-34 bpm per zone

2. Place(s) of Use:

Indicate Method of Determination

TWP	RGE	SEC	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	

Recordall T-450
Badger Meter bal pm
bayer

PRODUCT PERFORMANCE

The I-25 Plus has twelve interchangeable nozzles that provide a wide and versatile range from 3.8 to 31.5 gpm and 40' to 73' radius. The optimum performance varies between

60 and 70 psi, dynamic operating pressure (depending upon nozzle size). The average precipitation rate is approximately .40" hr.

(calculated at 360°). The actual precipitation rate may vary, and should be calculated.

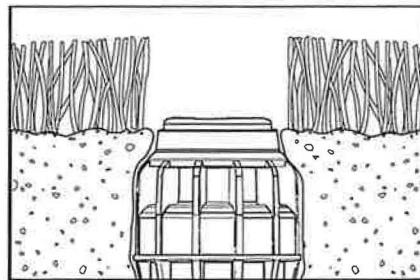
I-25 Performance Chart

Nozzle	PSI	Radius ft.	GPM
 4 Yellow	40	40'	3.8
	50	41'	4.3
	60	42'	4.7
	70	43'	5.1
 5 White	40	43'	4.4
	50	44'	4.8
	60	45'	5.3
	70	46'	5.6
 7 Orange*	40	45'	6.6
	50	47'	7.0
	60	48'	7.5
	70	49'	7.9
 8 Lt. Brown	40	47'	7.7
	50	49'	8.3
	60	50'	9.2
	70	51'	9.9
 10 Lt. Green*	50	53'	10.9
	60	54'	12.0
	70	55'	13.1
	80	56'	14.3
 13 Lt. Blue	50	55'	11.2
	60	56'	12.3
	70	57'	13.3
	80	57'	14.3
 15 Grey*	50	58'	13.4
	60	59'	14.3
	70	59'	15.2
	80	60'	16.4
 18 Red	50	60'	14.5
	60	61'	15.7
	70	62'	16.9
	80	63'	18.2
 20 Dk. Brown*	60	62'	17.8
	70	63'	19.2
	80	64'	20.5
	90	65'	21.8
 23 Dk. Green	60	64'	21.9
	70	65'	23.6
	80	66'	25.6
	90	67'	27.0
 25 Dk. Blue*	60	70'	25.6
	70	71'	26.2
	80	71'	28.0
	90	72'	29.8
 28 Black	70	71'	26.9
	80	72'	28.7
	90	73'	30.6
	100	73'	31.5

* Five standard nozzles included with each sprinkler
Data represent test results in zero wind. Adjust for local conditions. Radius may be adjusted up to 25% with adjustment screw (this may alter the uniformity of the spray pattern).

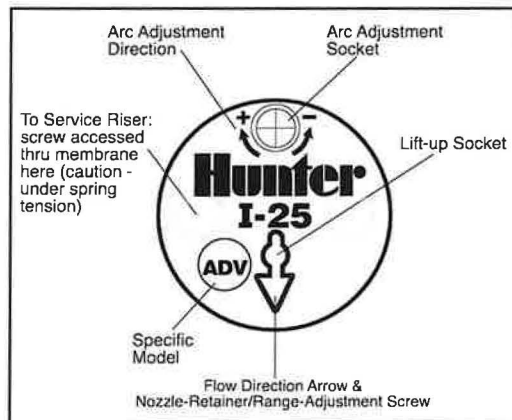
INSTALLATION & MAINTENANCE

Installation Height



The I-25 Plus sprinkler should be installed at finish grade as shown in the illustration.

Arc Adjustment



(All I-25 Plus adjustable heads are PRESET to approximately 180°)

1. Rotate the nozzle turret counter-clockwise to the left stop.
2. Now, rotate the nozzle turret clockwise to the right stop. This is the fixed side of the arc. The nozzle turret must be held in this position for all arc adjustments.

System uses I-25 head nozzles for Largest Zone = hay field.

Includes

3ea - 360 degree 16GPM heads

+

2ea - 180 degree 12gpm heads

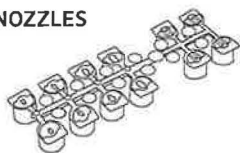
= approx 72-80 GPM During Normal operation.

PGP® ULTRA/I-20

PERFORMANCE CHARTS

BLUE/GREY NOZZLES

P/N 782900



PGP® ULTRA / I-20 BLUE STANDARD NOZZLE

PERFORMANCE DATA

Nozzle	Pressure PSI	Radius ft.	Flow GPM	Precip in/hr	
				■	▲
1.5 Blue	25	29	1.2	0.27	0.52
	35	31	1.4	0.28	0.32
	45	31	1.5	0.30	0.35
	55	32	1.6	0.34	0.39
	65	32	1.9	0.36	0.41
2.0 Blue	25	33	1.4	0.25	0.29
	35	32	1.7	0.30	0.35
	45	34	2.0	0.33	0.38
	55	34	2.1	0.35	0.40
	65	32	2.3	0.43	0.50
2.5 Blue	25	33	1.7	0.30	0.35
	35	25	2.1	0.33	0.38
	45	35	2.5	0.39	0.45
	55	35	2.6	0.41	0.47
	65	35	2.9	0.46	0.53
3.0 Blue	25	35	2.2	0.35	0.40
	35	36	2.7	0.40	0.46
	45	38	3.0	0.40	0.46
	55	39	3.4	0.43	0.50
	65	39	3.7	0.47	0.54
4.0 Blue	25	37	3.0	0.42	0.49
	35	39	3.5	0.44	0.51
	45	40	4.0	0.48	0.56
	55	41	4.5	0.52	0.60
	65	41	4.8	0.55	0.63
5.0 Blue	25	37	3.7	0.52	0.60
	35	39	4.5	0.57	0.66
	45	42	5.0	0.55	0.63
	55	42	5.7	0.62	0.72
	65	42	6.1	0.58	0.78
6.0 Blue	25	38	4.3	0.57	0.66
	35	40	5.6	0.67	0.78
	45	43	6.0	0.62	0.72
	55	44	6.7	0.67	0.77
	65	44	7.3	0.73	0.84
8.0 Blue	25	37	6.0	0.84	0.92
	35	41	7.0	0.86	0.92
	45	44	8.0	0.80	0.92
	55	45	9.0	0.82	0.95
	65	45	9.8	0.89	1.03

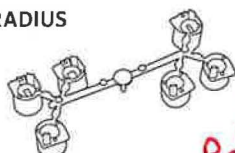
PGP ULTRA / I-20 GRAY LOW ANGLE NOZZLE

PERFORMANCE DATA

Nozzle	Pressure PSI	Radius ft.	Flow GPM	Precip in/hr	
				■	▲
2.0 LA Gray	30	25	1.6	0.49	0.57
	40	27	1.9	0.50	0.58
	50	28	2.1	0.52	0.60
	60	29	2.3	0.49	0.57
2.5 LA Gray	30	27	2.1	0.55	0.64
	40	30	2.5	0.53	0.62
	50	33	2.8	0.49	0.57
	60	35	3.0	0.47	0.54
3.5 LA Gray	30	29	2.5	0.64	0.74
	40	32	3.1	0.58	0.67
	50	35	3.5	0.55	0.64
	60	37	3.8	0.53	0.62
4.5 LA Gray	30	29	3.4	0.78	0.90
	40	32	3.9	0.73	0.85
	50	35	4.4	0.69	0.80
	60	37	4.7	0.66	0.75

BLACK SHORT RADIUS NOZZLES

P/N 466100



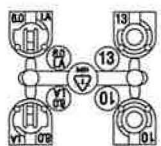
PGP ULTRA / I-20 BLACK SHORT RADIUS NOZZLE

PERFORMANCE DATA (18°/25°)

Nozzle	Pressure PSI	Radius ft.	Flow GPM	Precip in/hr	
				■	▲
.50 SR Black	30	17	0.36	0.24	0.28
	40	17	0.43	0.29	0.33
	50	18	0.50	0.30	0.34
	60	19	0.57	0.30	0.35
1.0 SR Black	30	17	0.78	0.52	0.60
	40	17	0.90	0.60	0.69
	50	18	1.00	0.59	0.69
	60	19	1.10	0.59	0.68
2.0 SR Black	30	17	1.40	0.93	1.08
	40	17	1.70	1.13	1.31
	50	18	2.00	1.19	1.37
	60	19	2.20	1.17	1.35
.75 SR Black	30	23	0.58	0.21	0.24
	40	24	0.68	0.22	0.26
	50	25	0.75	0.23	0.27
	60	26	0.83	0.24	0.27
1.5 SR Black	30	23	1.10	0.40	0.46
	40	24	1.30	0.43	0.50
	50	25	1.50	0.46	0.53
	60	26	1.60	0.46	0.53
3.0 SR Black	30	23	2.50	0.91	1.05
	40	24	2.70	0.93	1.04
	50	25	3.00	0.92	1.07
	60	26	3.10	0.88	1.02

GREEN HIGH FLOW NOZZLES

P/N 44800

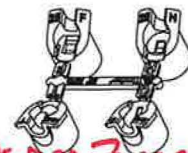


PGP ULTRA / I-20 GREEN HIGH FLOW NOZZLE

PERFORMANCE DATA

Nozzle	Pressure PSI	Radius ft.	Flow GPM	Precip in/hr	
				■	▲
10 Dk Green	40	42	8.4	0.92	1.06
	50	43	9.5	0.99	1.14
	60	45	10.5	1.00	1.15
	70	47	11.4	0.99	1.15
13 Dk Green	40	43	10.9	1.13	1.31
	50	44	12.3	1.22	1.41
	60	45	13.6	1.29	1.49
	70	47	14.8	1.29	1.49
6.0 LA Dk Green	30	31	4.2	0.84	0.97
	40	35	5.0	0.79	0.91
	50	37	5.8	0.82	0.94
	60	39	6.3	0.80	0.92
8.0 LA Dk Green	40	37	6.7	0.94	1.09
	50	39	7.7	0.97	1.13
	60	41	8.5	0.97	1.12
	70	41	9.2	1.05	1.22

MPR MATCHED PRECIPITATION RATE NOZZLES



System uses Numerous Red nozzles + Zones w/6 heads per Zone around Home + Shop.

PGP® ULTRA / I-20 MPR-25 RED NOZZLE

PERFORMANCE DATA

Nozzle	Pressure PSI	Radius ft.	Flow GPM	Precip in/hr	
				■	▲
90° Red	25	23	0.74	0.54	0.62
	35	24	0.88	0.59	0.68
	45	25	1.00	0.62	0.71
	55	25	1.01	0.68	0.79
	65	25	1.21	0.75	0.86
120° Red	25	23	1.00	0.55	0.63
	35	24	1.21	0.61	0.70
	45	25	1.38	0.64	0.74
	55	25	1.53	0.71	0.82
	65	25	1.67	0.77	0.89
180° Red	25	23	1.44	0.52	0.61
	35	24	1.73	0.58	0.67
	45	25	1.98	0.61	0.70
	55	25	2.21	0.68	0.79
	65	25	2.41	0.74	0.86
360° Red	25	23	2.78	0.51	0.58
	35	24	3.34	0.56	0.64
	45	25	3.82	0.59	0.68
	55	25	4.25	0.65	0.76
	65	25	4.64	0.71	0.82

PGP ULTRA / I-20 MPR-30 LT. GREEN NOZZLE

PERFORMANCE DATA

Nozzle	Pressure PSI	Radius ft.	Flow GPM	Precip in/hr	
				■	▲
90° Lt. Green	25	29	1.03	0.47	0.54
	35	30	1.23	0.53	0.61
	45	30	1.40	0.60	0.69
	55	30	1.56	0.67	0.77
	65	30	1.69	0.72	0.83
120° Lt. Green	25	29	1.31	0.46	0.53
	35	30	1.62	0.52	0.60
	45	30	1.85	0.59	0.69
	55	30	2.06	0.66	0.76
	65	30	2.24	0.72	0.83
180° Lt. Green	25	29	2.15	0.49	0.57
	35	30	2.59	0.55	0.64
	45	30	2.96	0.63	0.73
	55	30	3.30	0.71	0.82
	65	30	3.60	0.77	0.89
360° Lt. Green	25	29	4.24	0.49	0.56
	35	30	5.08	0.54	0.63
	45	30	5.78	0.62	0.71
	55	30	6.39	0.68	0.79
	65	30	6.92	0.74	0.85

PGP ULTRA / I-20 MPR-35 BEIGE NOZZLE

PERFORMANCE DATA

Nozzle	Pressure PSI	Radius ft.	Flow GPM	Precip in/hr	
				■	▲
90° Beige	25	32	1.40	0.53	0.61
	35	34	1.67	0.56	0.64
	45	35	1.92	0.60	0.70
	55	35	2.13	0.67	0.77
	65	35	2.31	0.73	0.84
120° Beige	25	32	1.77	0.50	0.58
	35	34	2.15	0.54	0.62
	45	35	2.46	0.58	0.67
	55	35	2.74	0.65	0.75
	65	35	2.99	0.70	0.81
180° Beige	25	32	2.75	0.52	0.60
	35	34	3.33	0.55	0.64
	45	35	3.81	0.60	0.69
	55	35	4.23	0.66	0.77
	65	35	4.62	0.73	0.84
360° Beige	25	32	5.36	0.50	0.58
	35	34	6.62	0.55	0.64
	45	35	7.58	0.60	0.69
	55	35	8.43	0.66	0.76
	65	35	9.18	0.72	0.83

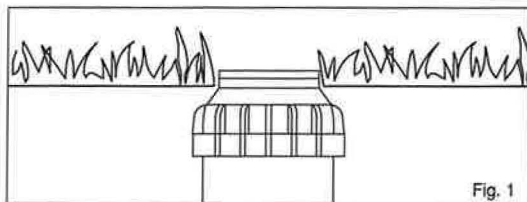


Fig. 1

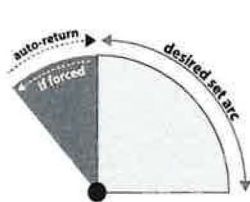


Fig. 2

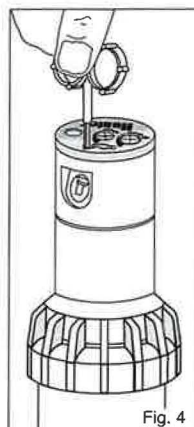


Fig. 3

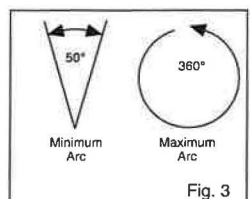


Fig. 4

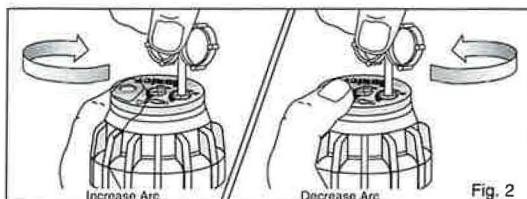
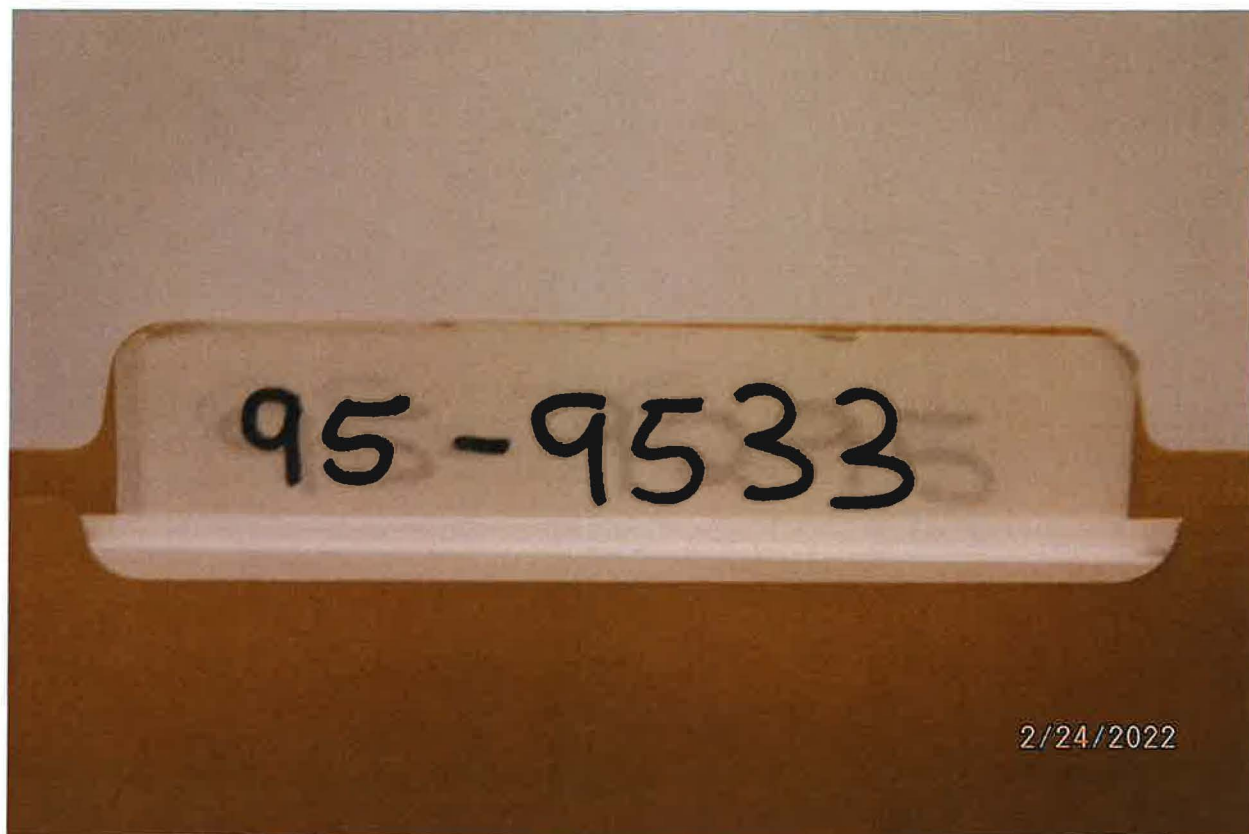


Fig. 5



INITIAL FIELD EXAM DATE 7/9/2015; FOLLOW-UP EXAM DATE 2/24/2022



POD – GROUNDWATER WELL D0056402 WITH 20HP PUMP MOTOR INSTALLED



WELL D-TAG D0056402



PUMP CONTROL PANEL – 20 HP PUMP/MOTOR INSTALLED, VERIFIED SEE ATTACHED PUMP INSTALL DOCUMENT



FLOWMETER INSTALLED ON WATER SYSTEM



IRRIGATION POU (2015 YR PHOTO) – MAIN HAY FIELD



IRRIGATION POU (YR 2015 PHOTO) – HAY FIELD 5 ZONES PRESSURIZED SPRINKLERS



IRRIGATION POU (YR 2015 PHOTO) – PRESSURIZED SPRINKLERS FOR YARD AND TREES AROUND HOME



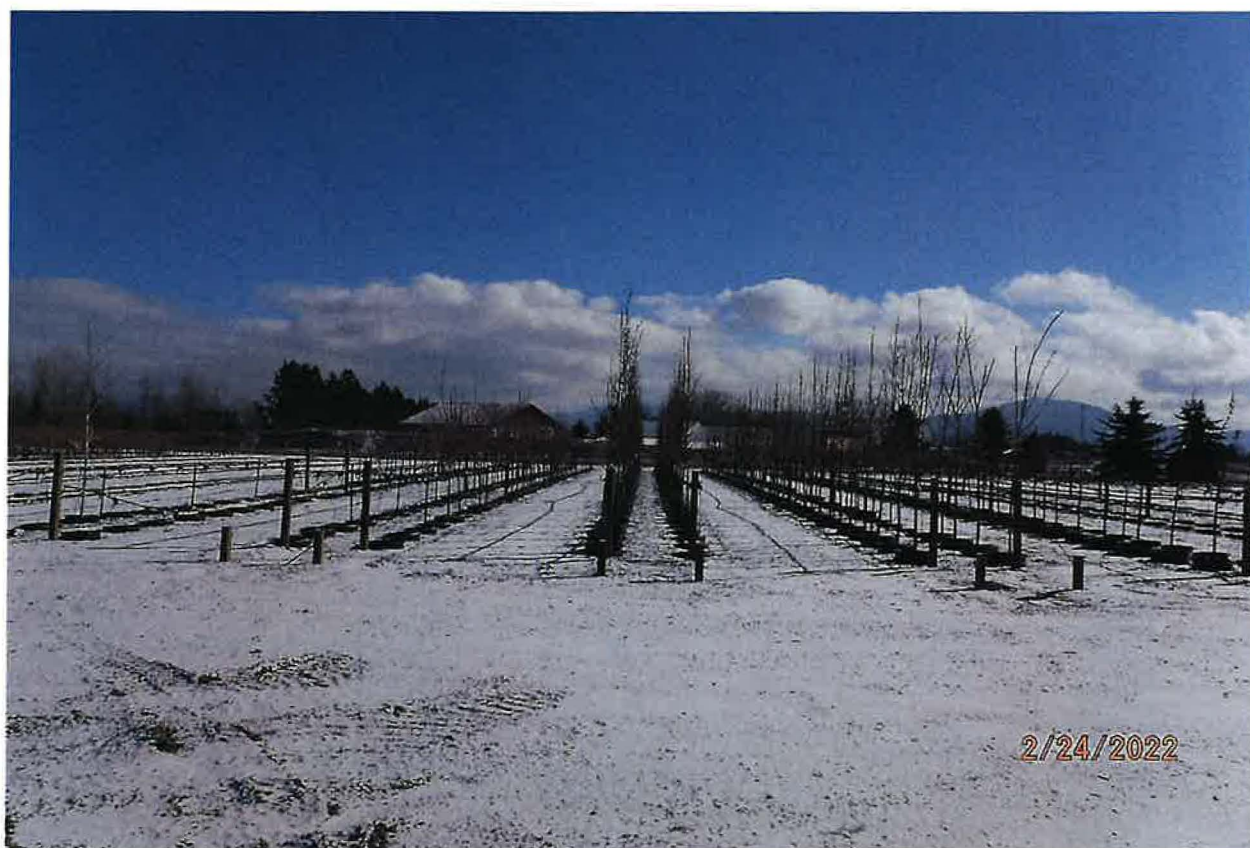
IRRIGATION POU – LAWN AND TREES AROUND HOME



IRRIGATION POU (YR 2015 PHOTO)



IRRIGATION POU (YR 2015 PHOTO) – NURSERY TREE WATERED BY DRIP IRRIGATION



IRRIGATION POU – NURSERY TREE WATERED BY DRIP SYSTEM



NURSERY TREE DRIP WATER CONVEYANCE SYSTEM





IRRIGATION POU





IRRIGATION POU (YR 2015 PHOTOS)





IRRIGATION POU (YR 2015 PHOTOS)



YEAR 2015 PHOTO – FLOW MEASUREMENT TAKEN FROM FLOWMETER USING WITH SYSTEM
OPERATING AT MAX CAPACITY