

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 63-33951
Exam Date: 09/19/2019

1. Current Owner:
COLE VALLEY CHRISTIAN SCHOOLS
200 E CARLTON AVE
MERIDIAN, ID 83642
2. Accompanied by: Don Gomes & Randolph Ragsdale
Phone No: (208) 340-2973
Relationship to permit Holder: both employees of Cole Valley Christian Schools

3. **SOURCE:**
GROUND WATER

Method of Determination: Site visit

B. OVERLAP REVIEW

1. Other water rights with the same place of use: Nampa & Meridian Irrigation District, Meridian Municipal water. Water permit is for supplemental water and applicant intends to use surface water through the Hunter Lateral (Nampa Meridian Irrigation District) to the extent it is available.
2. Other water rights with the same point-of-diversion: No overlap

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

GROUND WATER SE¼ NW¼, Sec. 7, Twp 03N, Rge 01E, B.M. ADA County

Method of Determination: GPS, site visit

2. **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	
03N	01E	7								3.8									3.8

Total Acres: 3.8

Method of Determination: Aerial imagery, GIS, site visit

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. Point of diversion information

Well ID No.	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No.
D0068841	CentriPro	5	G27566E	Pentair	16M22 02 00080H

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
Pressure gauge	Glycerin-filled; orifice insertable	Tube & Socket	316SS	n/a	1/8 inch	n/a

2. Measurements: Zone 3 was turned on and 4 sprinklers were measured. All sprinklers used in that particular zone were Hunter I-25s, but had different nozzle colors that correspond to different flow rates. Please refer to the attached "Sprinkler Chart" that indicates what nozzle colors were measured, their PSI, and the corresponding flow rate. The total measured output for that particular zone was 0.13 cfs.

E. FLOW CALCULATIONS

4 sprinklers for Zone 3: 7.6 GPM + 13.0 GPM + 14.5 GPM + 22.3 GPM = 57.4 GPM = 0.13 cfs

Theoretical: $(8.8 \times 5 \text{ HP} \times 0.7) / ((27') + (76 \text{ PSI [read from inside pumphouse]} \times 2.31)) = 0.15 \text{ cfs}$

Irrigated acres = 3.8 acres

Max diversion rate allowed in permit = 0.02 cfs/acre

Allowable diversion rate = 0.02 cfs/acre x 3.8 acres = 0.08 cfs

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 3.8 \text{ acres} \times 4.5 \text{ afa} = 17.1 \text{ AF}$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.08 \text{ cfs} \times 260 \text{ days} \times 1.9835 = 41.3 \text{ AF}$$

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = 17.1 \text{ AF}$$

2. Volume Calculations for Other Uses:

G. NARRATIVE/REMARKS/COMMENTS

Permit 63-33951 was applied for by Cole Valley Christian Schools and has a priority date of 5/5/2014. The permit authorized the diversion of up to 0.13 cfs to provide ground water diversion for up to 4.5 acres for irrigation. The permit was protested by Nampa & Meridian Irrigation District (NMID). The water user and NMID resolved the protest by agreeing to include specific conditions on the permit. Those conditions stipulated that:

- a) The right holder shall make full beneficial use of all surface water rights available to the right holder for irrigation of the lands authorized to be irrigated under this right. The right holder shall limit the diversion of ground water under this right for land with an appurtenant surface water right(s) to those times when the surface water supply is not available or the surface water supply is not reasonably sufficient to irrigate the place of use authorized under this right.
- b) If the surface water right(s) appurtenant to the place of use is abandoned, forfeited, sold, transferred, leased or used on any other place of use, this right to divert ground water shall not be used on the land with an appurtenant surface water right(s) without an approved transfer pursuant to Section 42-222, Idaho Code, or approval of the Department if a transfer is not required.
- c) This right when combined with all other rights shall provide no more than 0.02 cfs per acre nor exceed a combined annual maximum diversion volume of 20.3 af at the field headgate for the place of use.

The water user provided proof of beneficial use on 8/8/2019. On 9/19/2019, I (Amy Steimke) visited the site to complete a beneficial use field examination. Don Gomes and Randolph Ragsdale, both employees of Cole Valley Christian Schools, were also present for the field examination.

A well on site was drilled in 2015 and serves as the point of diversion for ground water. The school irrigates an athletic field and landscaping around a small house that is used for their athletic program. Using aerial imagery, I found that the combined area of the irrigated area is 3.8 acres. The athletic field is irrigated with an in-ground irrigation system consisting of pop-up rotor sprinklers and contains 20 zones. Only one zone is operated at a time. The landscaping around the small house consists of small bubblers.

During the examination, Randolph ran "zone 3", which consists of four Hunter I-25 sprinklers. I measured the flow using a pressure gauge and looked up the corresponding flow rate using Hunter sprinkler charts and extrapolating between Hunter's values and what I measured. The flow that I measured was 57.4 GPM (0.13 cfs). A theoretical calculation done on site gave 0.15 cfs, so my measurement was well within the ballpark of what was expected.

Given that 3.8 acres of development was found, I recommend to license this permit at 0.08 cfs, given that one of the permit's conditions was no more than 0.02 cfs per acre allowed (3.8 acres x 0.02 cfs/acre = 0.08 cfs). I recommend to license the total annual maximum diversion volume at 17.1 AF, which is the product of the number of irrigated acres developed and the headgate requirement of 4.5 afa.

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	0.08 cfs	17.1 AF
<u>Totals:</u>		0.08 CFS	17.1 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

Amy Steimke - Hydrogeologist, Staff

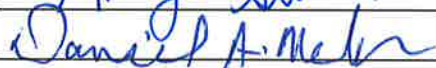
Field Examiner's Name



Date

9/27/2019

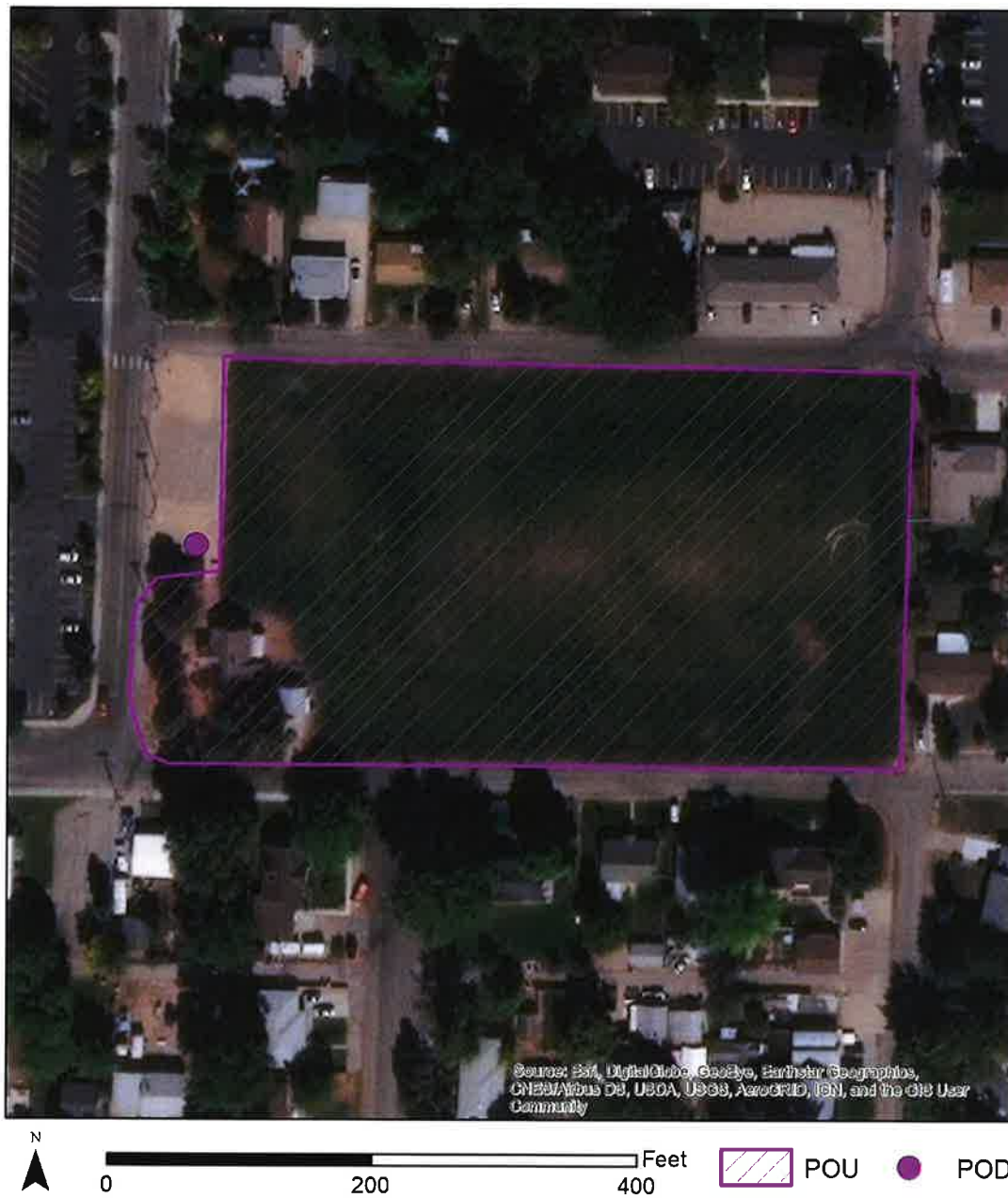
Reviewer



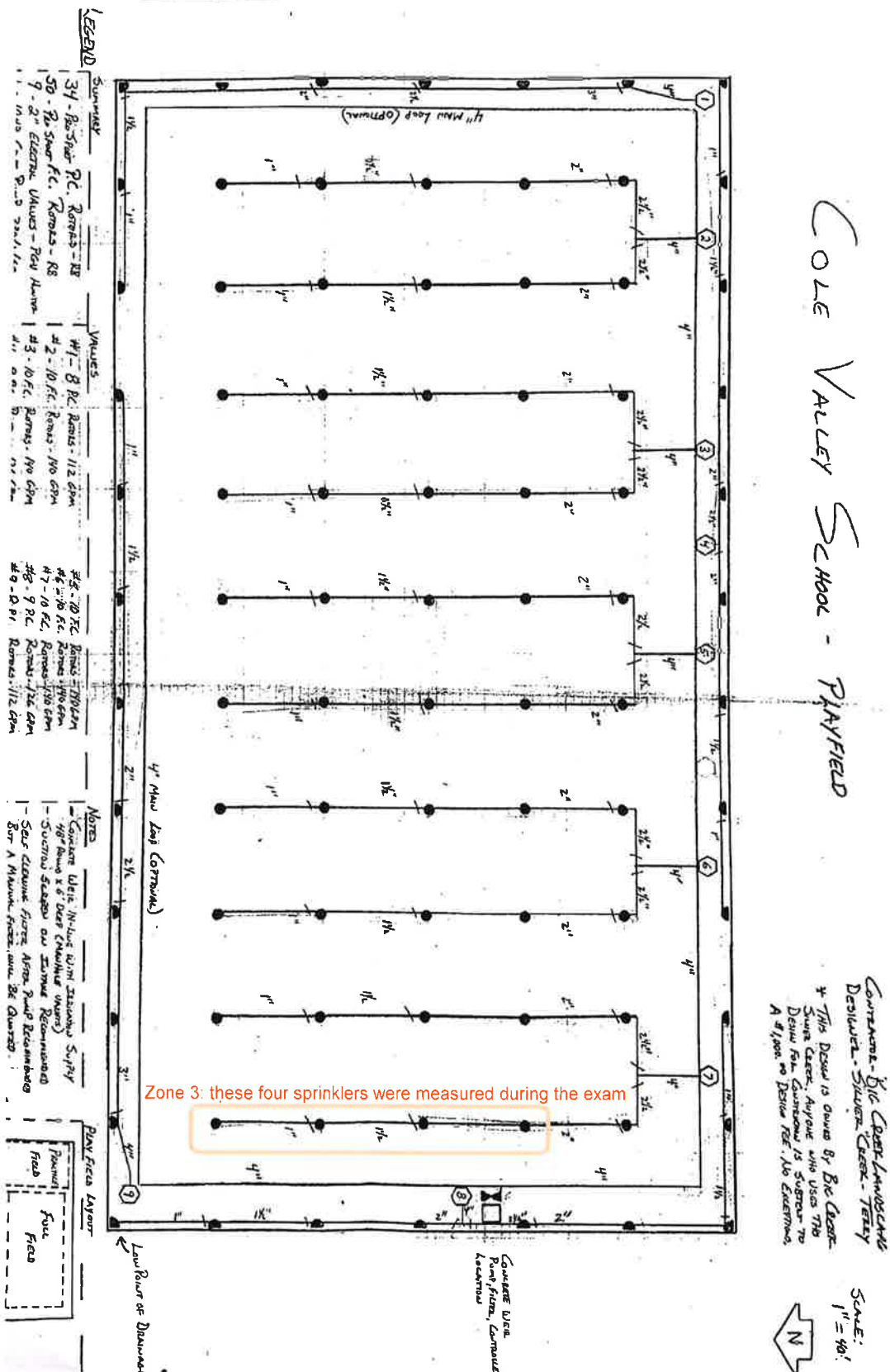
Date

9-30-19

Map showing place of use (POU) and point of diversion (POD) for water right 63-33951



System diagram for water right 63-33951



Sprinkler chart

I-25 Nozzle Performance Data

View Nozzle

Nozzle	Pressure	Radius	Flow	Precip in/hr	
	PSI	ft	GPM	■	▲
7 ● Orange*	40	45	6.6	0.63	0.72
	50	47	7.0	0.61	0.70
	60	48	7.5	0.63	0.72
	62		7.6		
	70	49	7.9	0.63	0.73
15 ● Grey*	47		13.0		
	50	56	13.4	0.82	0.95
	60	57	14.3	0.85	0.98
	62		14.5		
	70	57	15.2	0.90	1.04
25 ● Dk. Blue*	80	58	16.4	0.94	1.08
	54		22.3		
	60	66	23.5	1.04	1.20
	70	68	25.5	1.06	1.23
	80	69	28.0	1.13	1.31
	90	70	29.5	1.16	1.34

Chart obtained from hunterindustries.com/irrigation-product/rotors/i-25

Total GPM = 57.4 GPM

Total cfs = 0.13 cfs

Well Log

Form 238-7
6/07

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D 0068841

Drilling Permit No. 948601 - 874658
Water right or injection well # _____

2. OWNER:

Name Cole Valley Christian Schools
Address 200 E Carlton Ave.
City Meridian State ID Zip 83642

3. WELL LOCATION:

Twp. 3 North ☒ or South ☐ Rge. 1 East ☒ or West ☐
Sec. 7 SE 1/4 NW 1/4

Gov't Lot _____ County Ada
Lat. 43 36.844 (Deg. and Decimal minutes)
Long. 116 23.356 (Deg. and Decimal minutes)
Address of Well Site 200 E Carlton Ave.
City Meridian

Lot _____ Blk. _____ Sub. Name _____

4. USE:

☐ Domestic ☐ Municipal ☐ Monitor ☒ Irrigation ☐ Thermal ☐ Injection
☐ Other _____

5. TYPE OF WORK:

☒ New well ☐ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other _____

6. DRILL METHOD:

☒ Air Rotary ☐ Mud Rotary ☐ Cable ☐ Other _____

7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (lbs or ft ³)	Placement method/procedure
ben/cem	4	40	43.2cu/ft	tremie
3/4 bentonite	0	4	300lbs	dry pour

8. CASING/LINER:

Diameter (inches)	From (ft)	To (ft)	Gauge/Schedule	Material	Casing	Unin	Threaded	Welded
8"	2	86	.250	steel	☒	☐	☐	☒
6"	80	85	.250	steel	☒	☐	☐	☒

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) 86ft

9. PERFORATIONS/SCREENS:

Perforations ☐ Y ☒ N Method _____

Manufactured screen ☒ Y ☐ N Type johnson wire wrap

Method of installation wash-in

From (ft)	To (ft)	Slot size	Number of	Diameter (inches)	Material	Gauge or Schedule
86	95	.020	---	6"	stainless	

Length of Headpipe 5ft Length of Tailpipe _____

Packer ☒ Y ☐ N Type single wiper

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft ³)	Placement method
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11. FLOWING ARTESIAN:

Flowing Artesian? ☐ Y ☒ N Artesian Pressure (PSIG) _____

Describe control device _____

12. STATIC WATER LEVEL and WELL TESTS:

Depth first water encountered (ft) 21ft Static water level (ft) 17ft
Water temp. (°F) 56degF Bottom hole temp. (°F) _____
Describe access port well cap

Well test:

Drawdown (ft)	Discharge or yield (gpm)	Test duration (minutes)	Pump	Bater	Air	Flowing Artesian
---	100gpm	60	☐	☐	☒	☐

Water quality test or comments: _____

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water	
				Y	N
12"	0	2	top soil		X
"	2	8	brown sandy clay		X
"	8	15	coarse sand		X
"	15	21	tan sandy clay		X
"	21	36	gravel and sand	X	
"	36	40	tan clay		X
8"	40	45	tan clay		X
"	45	60	coarse sand	X	
"	60	67	tan clay		X
"	67	74	coarse tan sand	X	
"	74	77	tan clay		X
"	77	81	coarse tan sand	X	
"	81	86	tan clay		X
"	86	95	coarse tan sand	X	

RECEIVED

MAR 16 2015

WATER RESOURCES
WESTERN REGION

Completed Depth (Measurable) 95ft

Date Started Mar 9, 2015 Date Completed Mar 12, 2015

14. DRILLER'S CERTIFICATION:

We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Coonse Well Drilling Co. No. 409

*Principal Driller [Signature] Date Mar 12, 2015

*Driller [Signature] Date Mar 12, 2015

*Operator II _____ Date _____

Operator I _____ Date _____

* Signature of Principal Driller and rig operator are required.

Pictures



Figure 1: Point of diversion circled. Pump house is behind the picnic table.



Figure 2: Athletic field place of use shown



Figure 3: Landscaping place of use shown around house used by athletics program