STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 63-33122
Exam Date: 2/20/2020

1. Does this qualify for an in-office field exam (IDAPA 37.03.02.035.01.r)? __X__Y ____N

   Irrigation of 5 acres or less and domestic use with a diversion rate less than 0.24 cfs.

2. Current Owner:

   FULL GOSPELL SLAVIC CHURCH TEMPLE OF SALVATION INC
   251 W LAKE HAZEL RD
   MERIDIAN ID 83642

3. **SOURCE:**
GROUND WATER

Method of Determination: Parcel information, well log, Field Exam 63-33124

B. OVERLAP REVIEW

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

Water Right No.	Source	Purpose of Use	Basis
63-33124	GROUND WATER	FIRE PROTECTION	LICENSE

Comments: Applicant has Boise-Kuna irrigation district water for irrigation of 7.11 acres on the same parcel

2. Other water rights with the same point-of-diversion: YES Overlap

Water Right No.	Source	Purpose of Use	Basis
63-33124	GROUND WATER	FIRE PROTECTION	LICENSE

C. DIVERSION AND DELIVERY SYSTEM

1. **LOCATION OF POINT(S) OF DIVERSION:**
GROUND WATER L1 (NE¼ NE¼), Sec. 1, Twp 02N, Rge 01W, B.M. ADA County

Method of Determination: 63-33124 Field Exam, Well log

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	01W	1	2.5 L1																2.5

Total Acres: 2.5

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	
02N	01W	1	X L1																

Method of Determination: Aerial imagery

3.

N Delivery System Diagram Attached (required). Indicate all major components and distances between components. Indicate weir size/pipe as applicable.

Y Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be 1:24,000 or greater.

Y Aerial Photo Attached (required for irrigation of 10+ acres).

Y 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
D0057615	unknown	7.5	unknown	unknown	unknown

D. FLOW MEASUREMENTS

1.

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

2. Measurements: N/A

E. FLOW CALCULATIONS

_____ Additional Computation Sheets Attached

Measured Method:
Theoretical

50 psi distribution system pressure

$$Q = \frac{8.8 \; x \; 7.5 \; HP \; x \; 70\%}{218 \; ft} = 0.21 \; cfs$$

80 psi distribution system pressure

$$Q = \frac{8.8 \; x \; 7.5 \; HP \; x \; 70\%}{242 \; ft} = 0.19 \; cfs$$

Design Specs

Using peak irrigation demand as a low flow rate and maximum pump rate as the upper rate, flow rates are 36 gpm – 75 gpm (0.08 cfs - .17 cfs)

Peak irrigation demand of 36 gpm (0.08 cfs) is equivalent to the generic diversion rate of 0.03 cfs per acre set forth in Administrative Memo #17 – 0.03 cfs x 2.5 acres = 0.08 cfs. The recommended irrigation rate for this water right is 0.08 cfs.

Peak domestic demand of 54 gpm (0.12 cfs) is covered by the pump capacity of 0.19 to 0.21 cfs; therefore the recommended domestic rate is 0.12 cfs.

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$V_{I.R.}$ = (Acres Irrigated) x (Irrigation Requirement) = 2.5 acres x 4.5 af/yr = 11.3 af

$V_{D.R.}$ = [Diversion Rate (cfs)] x (Days in Irrigation season) x 1.9835 = 0.08 cfs x 260 days x 1.9835 = 41.3 af

V = Smaller of $V_{I.R.}$ and $V_{D.R.}$ = 11.3 af

Recommended irrigation volume is 11.3 af.

2. Volume Calculations for Other Uses:

Domestic volume calculations are based on a February 20th, 2020 phone conversation with Walter Kinakh, Vice President, and on the field examiner handbook's non-irrigation requirement worksheet. The recommended volume for domestic use is 0.7 af.

Occupant/Event	No. People	Multiplier	Rate Basis	gpd per person	days per week	weeks per year	gallons per year	af
Patrons, avg. daily[1]	87	1	Theaters	5	7	52	158340	0.49
Special events[2]	300	20	Restaurants with toilet facilities	10	-	-	60000	0.18
						Total	218340	0.67

[1] M: 15 p, T: 50 p, W: 20 p, Tr: 20 p, F: 75 p, Sa: 75 p, S: 350 p, Avg = 87 persons per day

[2] Special events include picnics and wedding. Calculated as number of patrons per event with a higher usage rate to account for use of kitchen facilities. Multiplier is the number of events per year.

Total irrigation and domestic annual Volume = 11.3 af irrigation + 0.7 af domestic = 12.0 af

G. NARRATIVE/REMARKS/COMMENTS

Permit 63-33122 was approved on October 5th, 2009 for domestic and irrigation purposes. The applicant submitted proof of beneficial use on September 4th, 2019 after a five year extension on the development period was requested and approved.

The point of diversion for the permit is a 12-inch diameter well drilled in 2010 (tag number D57615) that also supplies license 63-33124 from another pump. The system design provided by SPF Water Engineering specifies a 7.5 HP submersible pump that supplies domestic and irrigation uses at the place of use (POU). Per the field exam report for 63-33124 and SPF design drawings, water is diverted from the pump to holding tanks, which then lead to an 8" mainline into the building. Designed pressure for the system ranges between 50 to 80 psi with peak demanded of 54 and 36 gpm for domestic and irrigation use, respectively. Using this range, the pump is capable of diverting up to .21 cfs, which accounts for the total diversion rate requested in the permit.

Domestic place of use is the church building. Designed peak domestic demand is 54 gpm (0.12 cfs), which is able to be provided by the pump and is recommended as the diversion rate. Walter Kinakh, Vice President, provided details of plumbing fixtures in the church as well as typical activities and attendance at church events during a phone conversation on February 20th, 2020. The church contains 21 fixtures (attachment A). The Field examiner's handbook recommends a rate of 1 gpm per fixture for schools or churches with 1-50 fixtures, though these assumptions do not address the intermittent use of church buildings and may not provide enough flow for peak domestic demand as designed. Because this is a church, the building is likely to not be occupied more than a few days per week and the use of the non-irrigation requirement worksheet to estimate volume is more suitable. I estimated an annual volume of 0.7 af for domestic use based on an average of 87 people per day and 20 special events per year. Details are available in the table in section C.2 of this report.

The POU for irrigation is the lawn surrounding the church and a community garden plot to the south of the church. The law

sprinkler system contains 17 zones with up to 10 sprinklers per zone. The garden is irrigated with hoses and sprinklers moved by the gardeners. Aerial imagery clearly shows that the garden is in place and the lawn is actively irrigated. Total area is 2.5 acres. For a diversion rate, administrative memo #17 provides 0.03 cfs per acre for irrigation less than or equal to 5 acres, thus a rate of 0.08 cfs is recommended for irrigation. This rate is within the capacity of the system.

Water Right 62-33124 overlaps the POU for this permit and is used for fire protection in and surrounding the church. The applicant also has Boise-Kuna irrigation district water on 7.11 acres outside of the place of use for this permit. Figure 1 in the attached photos suggests that this surface water is used on pasture outside of the garden and lawn. As the permit was developed as primary groundwater at the POU, supplemental conditions should not be considered.

Due to the development of the property- 1.8 acre parking lot and 0.5 ac building construction – and the water right, 7.11 acres Boise-Kuna canal water should be limited to irrigation of 5.1 acres on the parcel (9.9 ac - 1.8 ac lot - 0.5 ac building - 2.5 ac ground water = 5.1 ac).

Have conditions of permit approval been met? __x__ Yes ____ No

H. RECOMMENDATIONS

1. Recommended Amounts

Beneficial Use	Period of Use	Rate of Diversion	Annual Volume
IRRIGATION	03/01 to 11/15	0.08 CFS	11.3 AF
DOMESTIC	01/01 to 12/31	0.12 CFS	0.7 AF
	Totals:	0.20 CFS	12.0 AF

2. Recommended Amendments

____ Change P.D. as reflected above ____ Add P.D. as reflected above __x__ None

____ Change P.U. as reflected above ____ Add P.U. as reflected above __x__ None

I. AUTHENTICATION

Alex Moody - Hydrogeologist, Staff

Field Examiner's Name _____ Date 2/25/2019

Reviewer _____ Date 2-25-19

Water Right 63-33122 System Diagram

Parcels
Parking lot
Water Right POD

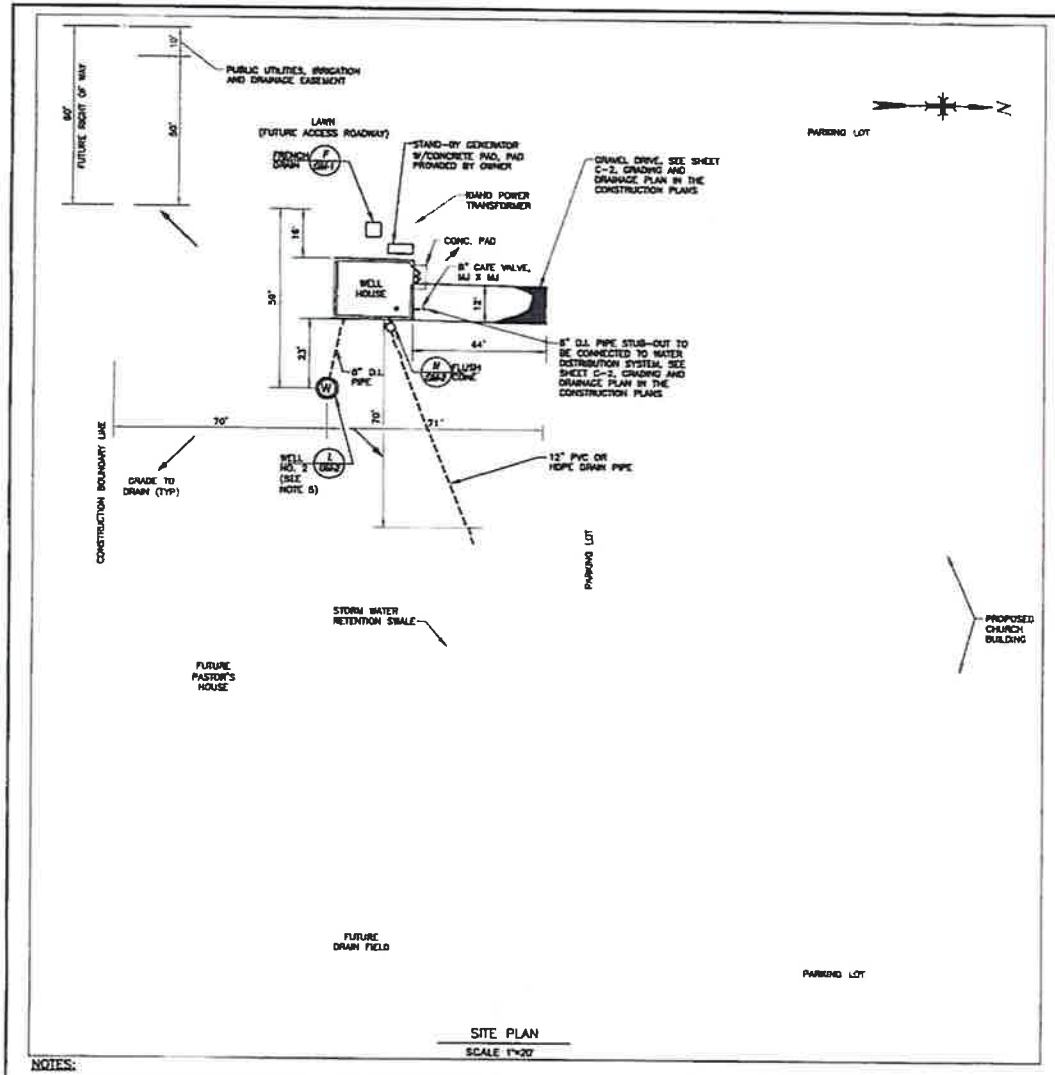
WaterUse
DOMESTIC
IRRIGATION

100 50 0 100 Feet

3. Overhead view the prepared community garden bed.

Attachment A: Domestic fixtures table

Fixture	#
Bathroom	
toilets	10
sinks	5
Custodial	
spigot	1
Kitchen	
sinks	2
dishwasher	1
Other	
drinking fountain	2
Total	21



SITE PLAN

SCALE 1"=20'

NOTES:

1. CONTRACTOR SHALL CALL DIGLINE (208-342-1585) TO MARK AND IDENTIFY UNDERGROUND UTILITIES PRIOR TO EXCAVATION.
2. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING SITE SECURITY AT ALL TIMES TO ENSURE NO UNAUTHORIZED ENTRY INTO SITE.
3. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND INSPECTIONS FOR PROJECT CONSTRUCTION.
4. CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE W/ALL APPLICABLE SAFETY LAWS OF ANY JURISDICTIONAL AGENCY AND IS RESPONSIBLE FOR SAFE WORKING PRACTICES W/IN AND AROUND THE PROJECT SITE.
5. CONTRACTOR TO PLACE WELL PUMPS, WESLEY TOOL, AND PITLESS UNIT IN EXISTING WELL. SEE SPECIFICATION 11100 AND 11105.
6. POLYETHYLENE ENCASE ALL BURIED METAL PIPING.
7. ALL BURIED PIPING JOINTS SHALL HAVE THRUST BLOCKS, SEE DETAIL G/CM-1.
8. MINIMUM COVER OVER ALL PIPES IS 4 FEET (2 FEET FOR 12" DRAIN PIPE).
9. SEE TRENCH DETAIL J/CM-2 AND SPECIFICATIONS.
10. THE CONTRACTOR SHALL EXERCISE ALL POSSIBLE CAUTION TO PREVENT DAMAGE TO EXISTING STRUCTURES AND UTILITIES, WHETHER ABOVE GROUND OR UNDER GROUND. ANY EXISTING FEATURES DISTURBED DURING CONSTRUCTION SHALL BE REPLACED BY THE CONTRACTOR TO A CONDITION BETTER THAN OR EQUAL TO THE EXISTING CONDITION.
11. NO WATER FACILITIES SHALL BE CONSTRUCTED PRIOR TO RECEIPT OF IDAHO DEPARTMENT OF ENVIRONMENTAL QUALITY (IDEQ) APPROVAL.
12. OWNER WILL PROVIDE ALL BUILDING STRUCTURE WORK.
13. FINISHED FLOOR OF WELL HOUSE TO BE MINIMUM 6" ABOVE SURROUNDING GRADE.

Control Strategy	
No. 1 Pump/VFD	
Distribution System Pressure Set Points	Pump/VFD Operation
65 psi	Off
60 psi	Maintain
50 psi	On
No. 2 Pump/VFD	
Distribution System Pressure Set Points	Pump/VFD Operation
45 psi	Off*
40 psi	Maintain
35 psi	On**
* No. 2 VFD turns off and turns on No. 1 VFD	
** No. 2 VFD turns on and turns off No. 1 VFD	
Note: All distribution system pressure set points and on/off/maintain set points shall be adjustable at VFD key pad	

No. 1 Pump System Curve				
Flow Description	Flow (gpm)	Pumping Water Level (ft bgs)	Total Dynamic Head (ft) @ 60 psi Distribution System Pressure	Total Dynamic Head (ft) @ 50 psi Distribution System Pressure
Peak Domestic Demand	54	102	241	218
Peak Irrigation Demand	36	101	240	217
Maximum Pump Production*	75	102	242	218
*Domestic and irrigation demands time will not occur at the same time				
No. 2 Pump System Curve				
Flow Description	Flow (gpm)	Pumping Water Level (ft bgs)	Total Dynamic Head (ft) @ 60 psi Distribution System Pressure	Total Dynamic Head (ft) @ 20 psi Distribution System Pressure
Fire Sprinkler	300	107	246	153
Fire Hydrant	750	120	261	169
Total Fire Flow	1,050	128	270	178

Pump Selection				
Description	Flow Range (gpm)	Type	HP	Remarks
No. 1 Pump	45-90	Submersible Turbine	7.5	VFD, Operate to maintain 65 - 50 psi discharge pressure
No. 2 Pump	220-1400	Submersible Turbine	100	VFD, Operate to maintain 50 - 40 psi discharge pressure

DESIGN CRITERIA

SPF WATER ENGINEERING
300 East Mallard Drive, Suite 350
Boise, Idaho 83706
Tel (208) 383-4140 Fax (208) 383-4156

TEMPLE OF SALVATION
WATER SYSTEM
WELL HOUSE SITE PLAN

OWNER/DEVELOPER
(10400 OVERLAND ROAD)
BOISE, IDAHO 837

ENGINEER
CAITH COOPER, P.E.
300 EAST MALLARD DRIVE, SUITE 350
BOISE, IDAHO 83706
PHONE: 208-383-4140

DRAWN BY: BJC
CHECKED BY: LJ
SCALE: AS NOTED
PLOT SCALE: 1 = 1

DRAWING DIRECTORY
C-1

C-1

63

Form 238-7
6/07

858268

IDAHO DEPARTMENT OF WATER RESOURCES
WELL DRILLER'S REPORT

1. WELL TAG NO. D 0057615
Drilling Permit No. 909699-858268
Water right or injection well # 63-33124, 33122

2. OWNER: Dibrova,LLC Full Gospell Slavic Church
Name Temple of Salvation Inc.
Address 10400 Overland Road
City Boise State ID Zip 83709-1449

3.WELL LOCATION:
Twp. 2 North ☒ or South ☐ Rge. 1 East ☐ or West ☒
Sec. 1 ____ 1/4 (10 acres) NE 1/4 (40 acres) NE 1/4 (160 acres)
Gov't Lot 1 County Ada
Lat. 43 ° 32.686 (Deg. and Decimal minutes)
Long. 116 ° 23.824 (Deg. and Decimal minutes)
Address of Well Site SW intersection of Kuna-Meridian and Lake Hazel Roads 251 W. Lake Hazel Rd. City Kuna
(Give at least name of road + Distance to Road or Landmark)
Lot. ____ Blk. ____ Sub. Name Temple of Salvation Church

4. USE:
☒ Domestic ☐ Municipal ☐ Monitor ☒ Irrigation ☐ Thermal ☐ Injection
☒ Other Fire Protection

5. TYPE OF WORK:
☒ New well ☐ Replacement well ☐ Modify existing well
☐ Abandonment ☐ Other

6. DRILL METHOD:
☐ Air Rotary ☐ Mud Rotary ☐ Cable ☒ Other Reverse

7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method/procedure
Benonite chips	0	215	23,000	Dry pour
Benonite chips	305	405	7500	Dry pour

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/ Schedule	Material	Casing	Liner	Threaded	Welded
12	+2	245	.375	Steel	☒	☐	☐	☒
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐

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

9. PERFORATIONS/SCREENS:
Perforations ☐ Y ☒ N Method
Manufactured screen ☒ Y ☐ N Type Johnson Wire Wrap
Method of installation Overbore/lower

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule
245	295	.030		12	S.S.	

Length of Headpipe ____ Length of Tailpipe 3' w/steel plate
Packer ☐ Y ☒ N Type

10.FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft³)	Placement method
8-12 Sand	215	300	18,000	Dry pour

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) 121 Static water level (ft) 121
Water temp. (°F) 62 Bottom hole temp. (°F)
Describe access port Baker Pitless

Well test:

Drawdown (feet)	Discharge or yield (gpm)	Test duration (minutes)
81	1000	2hrs

Test method:

Pump	Bailer	Air	Flowing artesian
☒	☐	☐	☐
☐	☐	☐	☐

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	Water N
20	0	1	Top soil		X
20	1	26	Hard clay		X
20	26	54	Sand, gravel		X
20	54	55	Black basalt		X
20	55	78	Med - coarse brn sand w/pea gravel		X
20	78	80	Brown clay		X
20	80	152	Med - coarse brown sand	X	
20	152	156	Tan clay		X
20	156	211	Fine - Med brown sand	X	
20	211	240	Med - coarse brown sand	X	
20	240	242	Tan clay		X
20	242	246	Med - coarse brown sand	X	
20	246	248	Tan clay w/ sand seams	X	X
20	248	296	Med - coarse brown sand	X	
20	296	297	Brown clay		X
20	297	300	Blue clay		X
17.25	300	315	Blue clay		X
17.25	315	322	Fine - med blue sand	X	
17.25	322	329	Blue clay		X
17.25	329	337	Fine - coarse blue sand	X	
17.25	337	349	Blue clay w/ sand seams	X	X
17.25	349	374	Fine - coarse sand	X	
17.25	374	384	Blue clay		X
17.25	384	405	Med - coarse blue sand	X	

RECEIVED
MAR 18 2010
WATER RESOURCES
WESTERN REGION

Completed Depth (Measurable): 298
Date Started: Jan 12, 2010 Date Completed: Mar 8, 2010

14. DRILLER'S CERTIFICATION:
I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Riverside Inc Co. No. 333
*Principal Driller Date Mar 16, 2010
*Driller Date Mar 16, 2010
*Operator II Date
Operator I Date

* Signature of Principal Driller and rig operator are required.

Photos

Courtesy of the applicant's webpage (https://www.fgschurch.org/aerial-view-of-fgsc-pictures-2018/). Photos posted in 2018.

1. View of church showing place of use for irrigation in foreground and just south of the church. View is looking south.

2. Pump house on the left. Well head can be seen just to the right of the pump house.