

MEMORANDUM

Date: May 9, 2024
To: Water Right File 63-33401
From: Jim Bitzenburg
Re: Licensing Review of Water Right 63-33401 CWRE Beneficial Use Report

The field exam the this right was performed by Certified Water Right Examiner Scott N. King of HDR Engineering, Inc. on June 21, 2019.

Overlap

There are two ground water irrigation rights, 63-32112 and 63-33399, owned by the Thorntons which overlap most of the place of use (POU) of right 63-33401. North Indian Creek right 63-33397 also overlaps a portion of the POU. Additionally, Boise-Kuna Irrigation District water (12.4 shares according to the Application for Permit) cover a portion of the POU. The POU is also within the City of Kuna municipal service area.

POD and POU

The points of diversion (POD) confirmed in the field exam are shared with other rights owned by the Thorntons and others, and a total allowed diversion rate from all rights diverted from the four PODs is 10.19 cfs. The total flow measured from the PODs was 11.21 cfs, so sufficient flow is available for this right. After the field exam, in March of 2023, a 3.1 acre, 0.02 cfs portion of the permitted POU was conveyed to Idaho Power. It appears that Idaho Power built a facility on the property and ceased irrigation. They relinquished the split of the permit (63-35381) in February of 2024. The acres and flow rate have been deducted from the amounts proposed in the field exam, and the volume of the permit has likewise been reduced.

Diversion Rate, Volume, and Acres

Because of the conveyance and subsequent relinquishment of the 3.1 acre, 0.02 cfs portion of the permit to Idaho Power (63-35381) after the field examination, the rate, volume, and acres of 63-33401 need to be reduced accordingly. The flow rate will be 0.82 cfs and the volume will be 423.0 acre-feet instead of 433.0. The acres will be reduced down to 102.9 from the recommended 106.0.

Conditions

Standard conditions which will be dropped are 26A, 046, and 069. Condition 121 is replaced by condition 103 at licensing and the 065 supplemental ground water condition updates to 943. Condition 104 is inactive and refers back to 943. In consultation with the State IDWR office, it was decided that condition 196 (straight pipe or ditch), the nonnumbered measuring device requirement condition, and the condition requiring a method of measuring the static water level should be dropped. The records required in that condition were submitted with the Beneficial Use submission in 2023, as well as the diversion rate measurement records. It was decided that the 01M condition (...after specific notification...the right holder shall install a suitable measuring device...) would be included in the conditions. Conditions 004, R65, WB7, and 073 have been retained.



RECEIVED

Dec 20, 2023

DEPARTMENT OF
WATER RESOURCES

December 20, 2023

IDWR State Office
PO Box 83720
Boise, ID 83720-0098

Subject: *Beneficial Use Field Exam and Statement of Completion Resubmittal
Permit 63-33401*

Dear Water Right Licensing,

Enclosed on behalf Layne and Lori Thornton is a re-submittal of Beneficial Use Field Exam report and statement of completion for the above-listed permit. The prior 2019 submission was identified as insufficient due to lack of a complete set of flowmeter readings and water level measurements. This report includes records from May 2015 through 2020, which meets the permit requirement of no less than 4 years of diversion measurement and aquifer level water monitoring data.

Please let us know if there are any questions.

Sincerely,

HDR Engineering, Inc.

Scott N. King, P.E.
Project Manager

Cc: Layne & Lori Thornton

Enclosers: BUFE report & Statement of Completion

Project: 10390661

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A Beneficial Use Field Report is prepared by a water right examiner as the result of an examination to clearly confirm and establish the extent of the beneficial use of water established in connection with a permit during the development period authorized by the permit and any extensions of time previously approved.

A. GENERAL INFORMATIONPermit No. 63-33401

1. Owner Layne Thornton and/or Lori Thornton Phone No. 208-922-5779
Current address 3224 Swan Falls Rd, Kuna, ID 83634-1732
2. Examiner's name Scott King EXAM DATE 6/21/2019
3. Accompanied by Lavar Thornton Email _____
Address 2800 Forrey Rd, Kuna, ID 83634
Relationship to permit holder Father and business partner Phone No. 208 631-4743
4. Source Ground Water tributary to _____

B. OVERLAP REVIEW

1. Other water rights with the same place of use 63-32112, 63-33399, , 63-33397, BKID, City of Kuna Municipal.
2. Other water rights with the same source and point of diversion 63-2986, 63-31951, 63-31953, 63-32112, 63-33399 and 63-33074

C. DIVERSION AND DELIVERY SYSTEM

1. Point(s) of Diversion:

Ident. No.	Gov't Lot	¼	¼	¼	Sec	Twp	Rge	County	Method of Determination/Remarks
1			SW	SW	34	2N	1E	ADA ✓	GPS and on-site inspection
2	1		NE	NE	3	1N	1E	ADA ✓	GPS and on-site inspection
3			SE	NE	3	1N	1E	ADA ✓	GPS and on-site inspection
4			NE	SE	3	1N	1E	ADA ✓	GPS and on-site inspection

2. Place(s) of Use: Method of determination On-site inspection, 2015 & 2017 NAIP imagery

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
2N	1E	34									24	12	31	39					106
																			106

3. **Delivery System Diagram:** Indicate all major components and distances between components. Indicate weir size/ditch size/pipe diameter (inside), as applicable. Use the space provided or ☐ see attached.

Scale: 1" = _____

- ☒ Copy of USGS Quadrangle attached showing location(s) of point(s) of diversion and place(s) of use (required)
☒ Aerial photo attached (required for irrigation of 10+ acres)
☒ Photo of diversion and system attached

4.

Well or Diversion Identification No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
1	US Electric	75	3493108	Johnston	JT3184, 8-inch
2	GE	200	GMJ728117	Layne & Bowler	45856
3	US Electric	200	E05-AA68-M A1	Unknown	10-inch

*Code to correspond with no. on map and aerial photo

D. FLOW MEASUREMENTS

4 || US Electric || 150 hp || 1281477 || Johnston || 1638

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
GE TransPort PT878	Ultrasonic	GE	PT878	7140	variable	April 5, 2019

2. **Measurements:** _____

Well 1 measured at 1.56 cfs during licensing of 63-7982. Well 4 measured at 5.0 cfs during licensing of 63-7474. Well 2 measured at 3.09 cfs, and well 3 measured at 3.81 cfs during this field exam.

E. NARRATIVE/REMARKS/COMMENTS

Four wells serve an interconnected system irrigating 530 acres.

Water rights 63-2986, 63-31951, 63-31953 combined authorize 5.62 cfs for the irrigation of 296 acres. Permit 63-33074 adds 126 acres, bringing the total to 422 acres. Permit 63-33074 also provides additional diversion rate and annual volume to the acres authorized by the decreed water rights.

The Section 34 SWSW point of diversion also serves water rights 63-32112, 63-33399. All four points of diversion serve permit 63-33401. Water rights 63-32112 and 63-33399 together authorize 1.28 cfs for irrigation of 106 acres. Permit 63-33401 provides additional diversion rate for the 106 acres.

Right 63-33397 authorizes the diversion of 0.3 cfs from North Indian Creek for irrigation of 25 acres within the 106-acre place of use. The authorized point of diversion from North Indian Creek is not owned by Thornton. North Indian Creek rarely flows now and this examiner suspects the primary supply to North Indian Creek during the irrigation season was wastewater from upstream gravity-flood irrigation practices. Conversions from flood to sprinkler irrigation have eliminated the supply during the irrigation season.

Boise-Kuna Irrigation District assesses the property for 12.4 acres. BKID stated to SPF in 2010 that the property is located on high ground and cannot receive surface water shares. The permit owner is unaware of BKID water being used on this property. The 1976 licensing exam for 63-7982 (parent right of 63-32112) does not indicate use of BKID water. Examiner recommends removing condition requiring use of surface water as it is unavailable.

All rights combined are recommended to authorize 10.56 cfs for irrigation of 528 acres.

Alfalfa seed is the primary crop this year. Alfalfa seed has a low irrigation water demand. The owner has not needed to turn on well #4 and requested that prior measurements be used as to not incur power company demand charges for a well that will not be used this year. Prior flow measurement was 5.0 cfs with a 125-hp motor and open discharge. The system now has 150-hp motor and pressure discharges. Flow capacity was calculated with a theoretical equation based on 150-hp motor, pump efficiency, 185-ft pumping water level, and 65 psi discharge pressure.

The owner has installed flowmeters on Well 1 and on the pipeline crossing Kuna-Mora Road conveying water from Wells 2, 3, & 4 to the permitted place of use.

Has the permit holder met all conditions of permit approval, including any mitigation requirements and/or measuring device installation requirements? ☐ Yes ☒ No If no, what must be done to meet the permit requirements?

Condition 8 requires the right holder to make full beneficial use of all surface water rights. North Indian Creek no longer provides a remotely reliable source of supply. Boise-Kuna Irrigation District water is unavailable and it is unknown if or when it was last used on this property.

The right holder has installed the required measuring devices and is collecting depth-to-water measurements.

F. FLOW CALCULATIONS☒ Additional computation sheets attached

Measured Method:

Well 1 measured at 1.56 cfs with a McCrometer propeller meter for 63-7982.

Well 2 measured at 3.08 cfs with an ultrasonic meter.

Well 3 measured at 3.81 cfs with an ultrasonic meter.

Well 4 measured at 5 cfs cfs but had a theoretical capacity of 4.16 cfs with 125 hp motor and open discharge. It currently has 150 hp motor and pressure discharges. $150 \times 8.8 \times 0.7 / (185 + 65 \times 2.31) = 2.76$ cfs**G. VOLUME CALCULATIONS**

1. Volume Calculations for Irrigation:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 106 \times 4.5 = 477$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation Season}) \times 1.9835 = 0.84 \times 260 \times 1.9835 = 433$$

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

2. Volume Calculations for Other Uses:

H. RECOMMENDATIONS

1. Recommended Amounts

Beneficial Use	Period of Use		Rate of Diversion Q (cfs)	Annual Volume V (afa)
	From	To		
Irrigation	3/1	11/15	0.84	433
Totals:			0.84	433*

*When combined with 63-32112 and 63-33399, total annual volume limited to 477 af.

2. Recommended Amendments

- ☐ Change P.D. as reflected on page 1 ☐ Add P.D. as reflected on page 1 ☒ None
☐ Change P.U. as reflected on page 1 ☐ Add P.U. as reflected on page 1 ☐ Other

I. AUTHENTICATION

Field Examiner's Signature

*Scott M. King*Date *July 1, 2019*

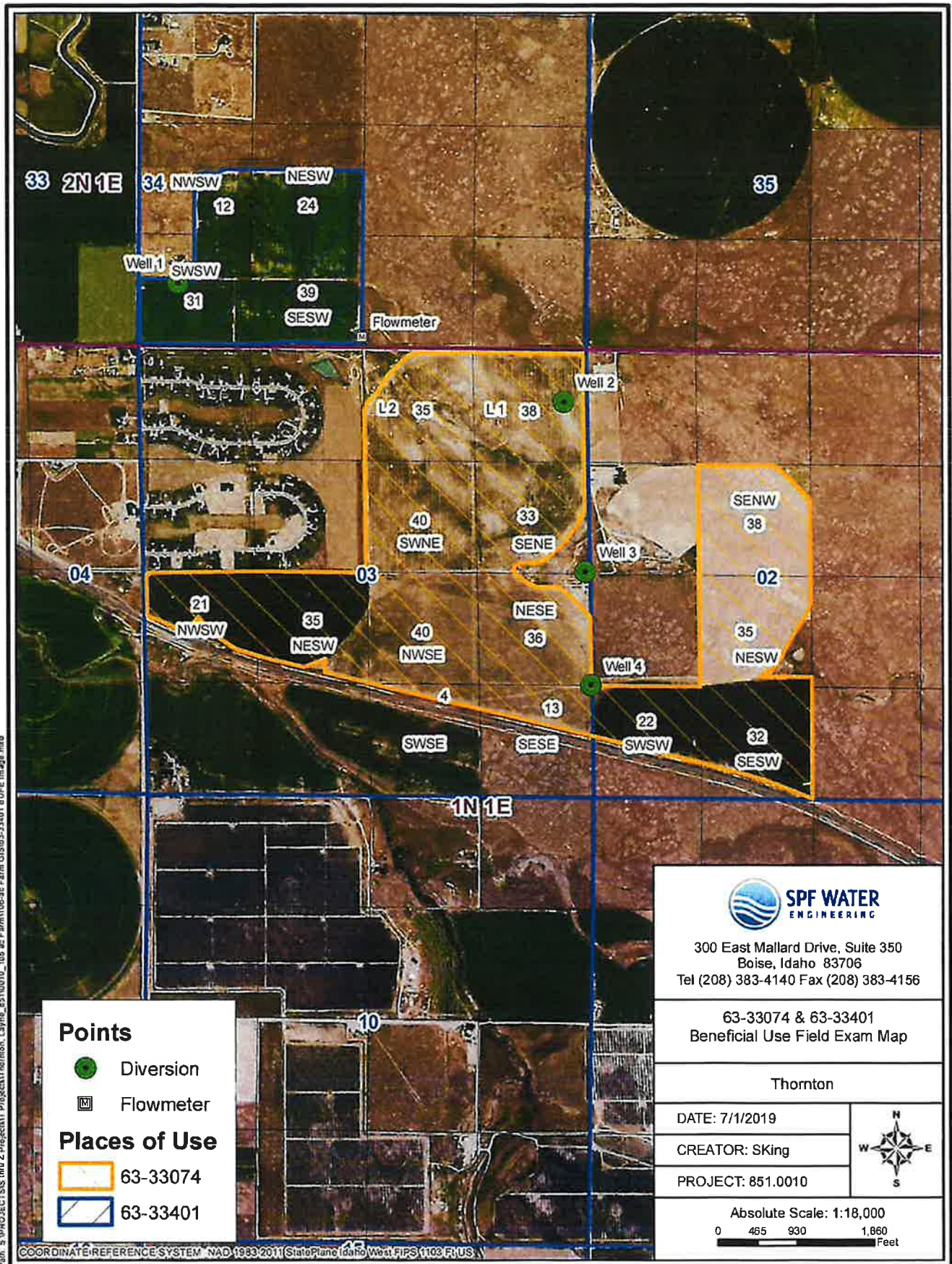
Reviewer

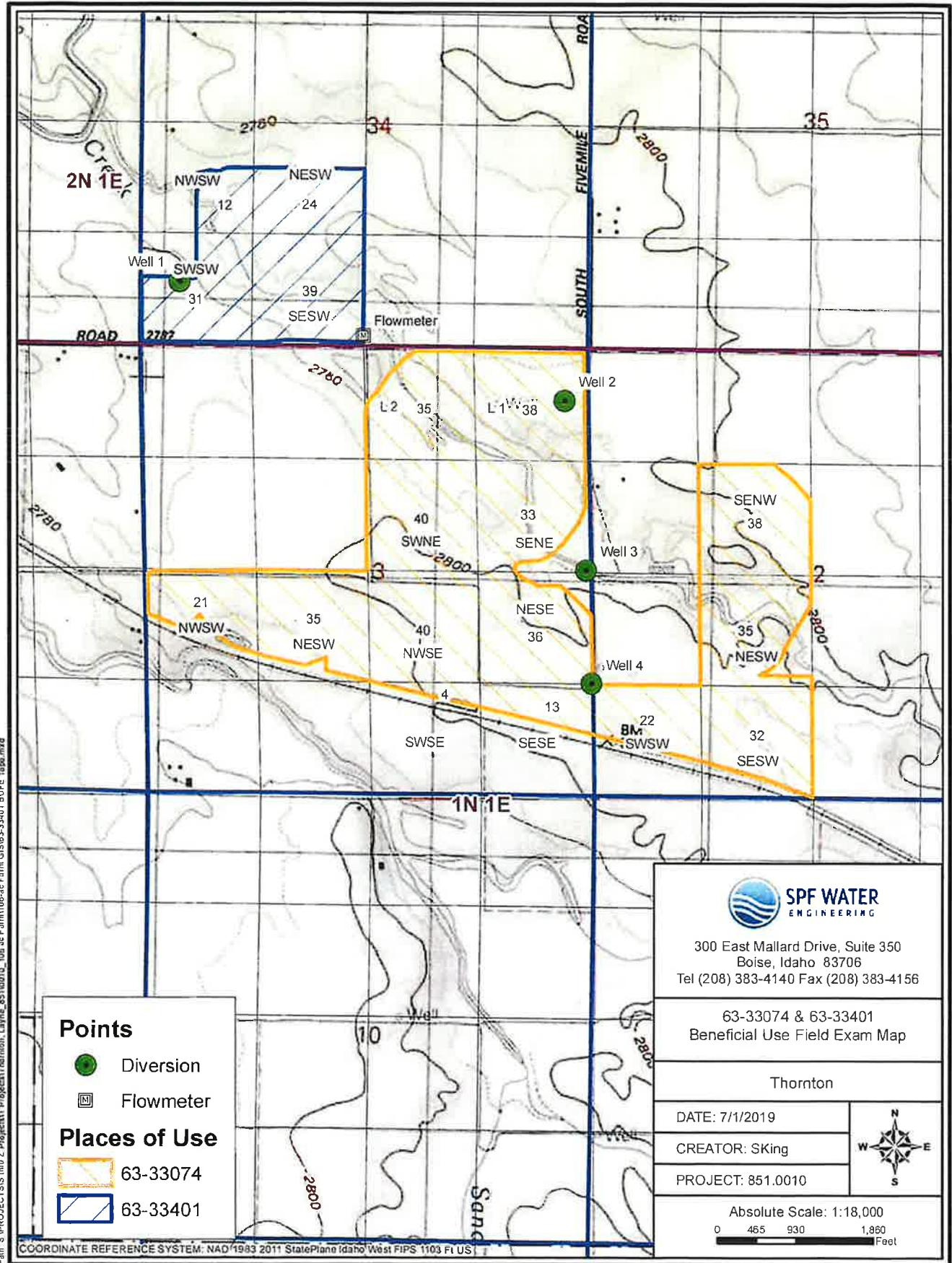
Date



Attachment A
Field Exam Map

Path: S:\PROJECTS\Inu Z\Project\Map\Thorton_Layne_8510010_105 az Farm106-as Farm GIS\63-33401 BUFE image.mxd





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

63-33074 & 63-33401
Beneficial Use Field Exam Map

Thornton

DATE: 7/1/2019

CREATOR: SKing

PROJECT: 851.0010



Absolute Scale: 1:18,000

0 465 930 1,860 Feet