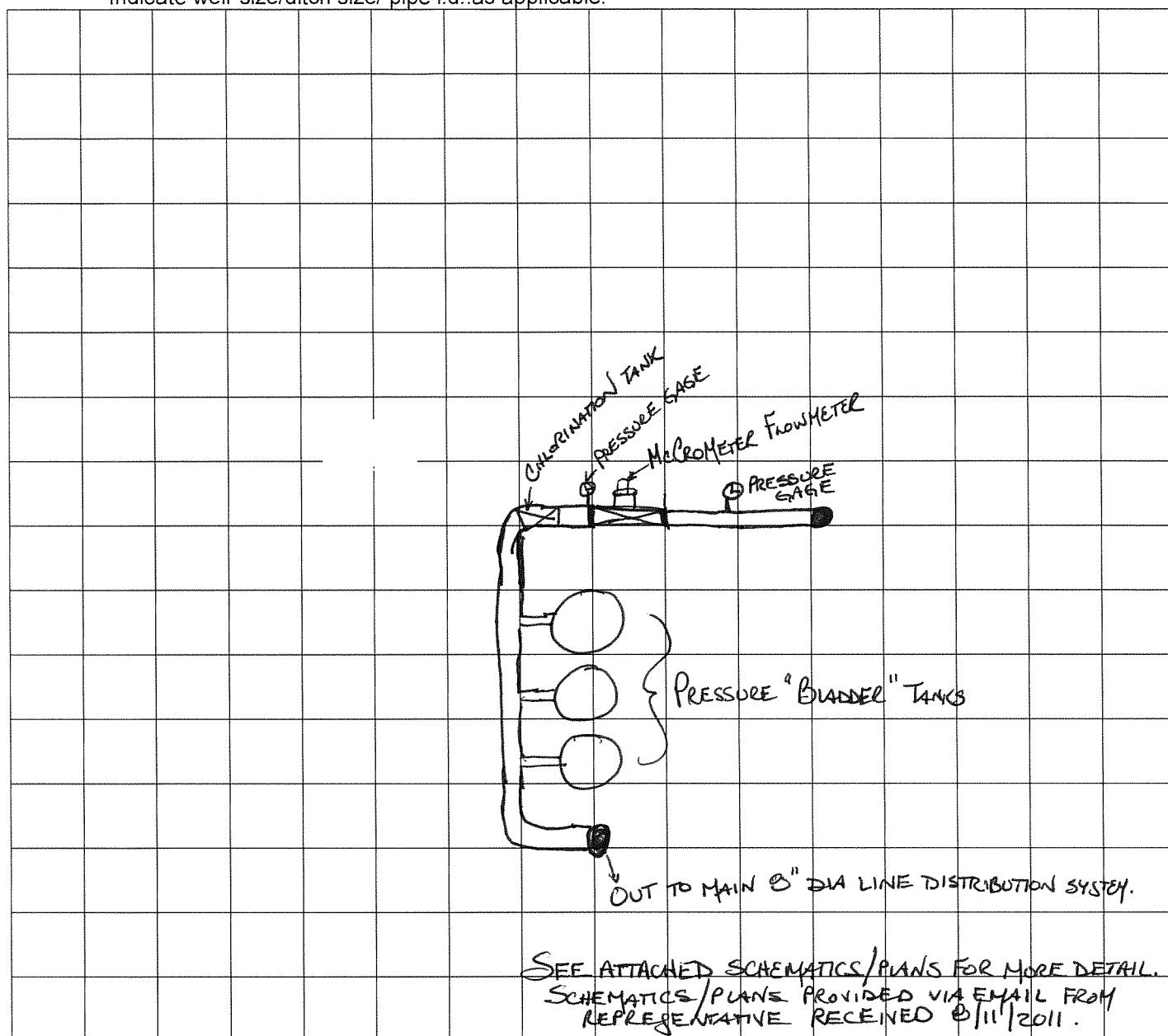


STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

3. Delivery System Diagram. Indicate all major components and distances between components.
Indicate weir size/ditch size/ pipe i.d..as applicable.



Scale 1"= _____

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

Well or Diversion Identification No.*	Motor Make	HP	Motor Serial Number	Pump Make	Pump Serial No. or Discharge Size
D0053122		10		Berkley	4 in discharge pipe

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

D. FLOW MEASUREMENTS

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calibration Date

Measurements: None taken. System not operating at time of exam.

E. NARRATIVE/REMARKS/COMMENTS

The system consists of one 8 in dia well (D0053122) 456 feet deep with a 10 HP submersible pump and 4 in dia discharge pipe connected to the 4 in dia line with a McCrometer flowmeter (10x multiplier), a chlorination system, and 3 pressure tanks within the pump house piped underground to an 8 in dia main line providing water to 16 stubbed lots within the Willowtree Estates Subdivision. There are no homes built within the subdivision, but 16 stubs were verified to exist based on plans submitted by the permit holder's representative (attached) and field observations. The permit indicates 17 homes are to be served by this system. However, the plans and filed observations along with the representative's comments confirm there is no stub existing or planned on Lot 17. The system was not operating during the exam, but the totalizer reading on the flowmeter of 50 gallons indicates the system is operational.

Irrigation for this property is provided through a separate diversion system diverting shares from Nampa Meridian Irrigation District. There is a small pond with a water fall at the entrance of the subdivision on Lot 17 associated with the irrigation diversion system that is not part of this permit.

There is another well (D0042588) adjacent to the PD. This well was drilled as the original well for this permit. The permit holder was required to drill the second well (D0053122) for this public water supply (PWS) due to poor water quality from the first well. The permit owner filed a permit amendment application to add a PD so the original well could be maintained as an emergency well for this system. However, during the field exam the permit holder's representative indicated the original well is NOT physically connected to the distribution system. Department staff spoke with staff of the drilling company who drilled this well (Kevin Skinner specifically) who indicated they did not install a pitless adaptor on the well. He does recall a small pump being installed to divert minimal water during drilling operations, which appears to still be in the well. However, upon request, the permit holder's representative failed to provide information confirming a pump is in place in the original well. I can not recommend this permit be licensed with a second PD considering the original well is not physically connected to the diversion system. I spoke with Brandon Lowder, PWS contact with IDEQ, regarding this system. Mr. Lowder indicated the original well had radon contamination issues. He indicated IDEQ would allow the second well to be connected to the system for use as an emergency well only, not a backup well. It is possible the well could be connected to the system eventually, but a transfer would be required to add the well as another point of diversion prior to use considering the PD is not connected to the system and can not be added as a second PD at this point. The permit amendment application to be processed as a licensing amendment is not approvable under the circumstances.

The permit authorizes 0.19 cfs for in-house domestic use for 17 homes. There are stubs in place to supply water to 16 homes. The stub-in practice/policy of the Department allows for licensing of this permit for use for 16 homes since the diversion system is in place to supply the water and the system is capable of diverting the quantity required for the beneficial use. There was no flow measurement taken during the exam as the system was not operating at the time. Theoretical flow calculations (below) indicate the well is capable of producing anywhere from 0.23 cfs (based on representative's total dynamic head info) to 0.44 cfs (based on discharge pipe size). The proof of beneficial use exam fee paid by the permit holder was \$50 (receipt # C09659) for up to 0.20 cfs. I am recommending 0.19 cfs for this license (limited by permit rate), because the system is capable of producing at least the permitted diversion rate and 0.19 cfs is a reasonable diversion rate for in-house domestic use for 16 homes.

The permit conditions have not been met. The explanatory conditions indicate the well location lot and blk and the number of homes authorized are incorrect. This is minor and the conditions should be amended for the license to indicate the well is located on Lot 1 Blk 1 of the Willowtree Estates Subdivision and the right provides water for 16 homes not including lawn, garden, landscape or other types of irrigation. However, the permit is conditioned that the permit holder shall comply with the drilling permit requirements of Section 42-235, Idaho Code and applicable Well Construction Rules of the Department. The drilling permit of the PD (D0053122) states the well being replaced (D0042588) must be abandoned within 10 days of completion of the new well. The permit holder spoke with IDWR staff about the possibility of not abandoning this well, but instead adding it to the permit as an emergency back up well. The well has not been connected

to the diversion system. The permit holder has not complied with the drilling permit requirements, thus has not meet the conditions of this water right permit.

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

F. FLOW CALCULATIONS

Measured Method:

☐ Additional Computation Sheets Attached

HP Equation: PSI 60 (min 42 psi up to 80 psi avg 60 psi per owner), Lift 104 FT (Driller's log), HP 10 (Observed), TDH (total dynamic head) = 270 (representative email add info after exam)

$Q \text{ (cfs)} = (8.8 \times 0.7 \times 10) / [(2.31 \times 60) + 104] = 61.6 / 242.6 = 0.25 \text{ cfs}$ Theoretical capacity based on drillers pumping level info

$Q \text{ (cfs)} = (8.8 \times 0.7 \times 10) / 270 = 61.6 / 270 = 0.23 \text{ cfs}$ Theoretical capacity based on representative's TDH info

Pipe Diameter Flow Equation: $V = 5 \text{ ft/sec}$ (well designed system avg velocity of water inside pipe) $A = \pi r^2$ $r = 2 \text{ in} = 0.17 \text{ ft}$ (4 in dia discharge pipe)

$Q \text{ (cfs)} = V \times (\pi r^2) = 5 \text{ ft/sec} \times 0.17 \text{ ft}^2 = 0.44 \text{ cfs}$ Theoretical capacity for 4 in dia discharge pipe

G. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation: N/A

VI.R. = (Acres Irrigated) x (Irrigation Requirement) = N/A

VD.R. = [Diversion Rate (cfs)] x (Days in Irrigation Season) x 1.9835 = N/A

V = Smaller of VI.R. and VD.R. = N/A

2. Volume Calculations for Other Uses: Domestic
See
Attached

H. RECOMMENDATIONS

1. Recommended Amount

BENEFICIAL USE	PERIOD OF USE		RATE OF DIVERSION ANNUAL	
	From	To	Q(cfs)	V(afa)
Domestic	1/1	12/31	0.19	9.6

TOTALS 0.19 9.6

2. Recommended Amendments

☐ Change P.D. as reflected above
☐ Change P.U. as reflected above

☐ Add P.D. as reflected above
☐ Add P.U. as reflected above

☒ None
☐ Other

I. AUTHENTICATION

Field Examiner's Name
Reviewer



Date 11/4/2011
Date

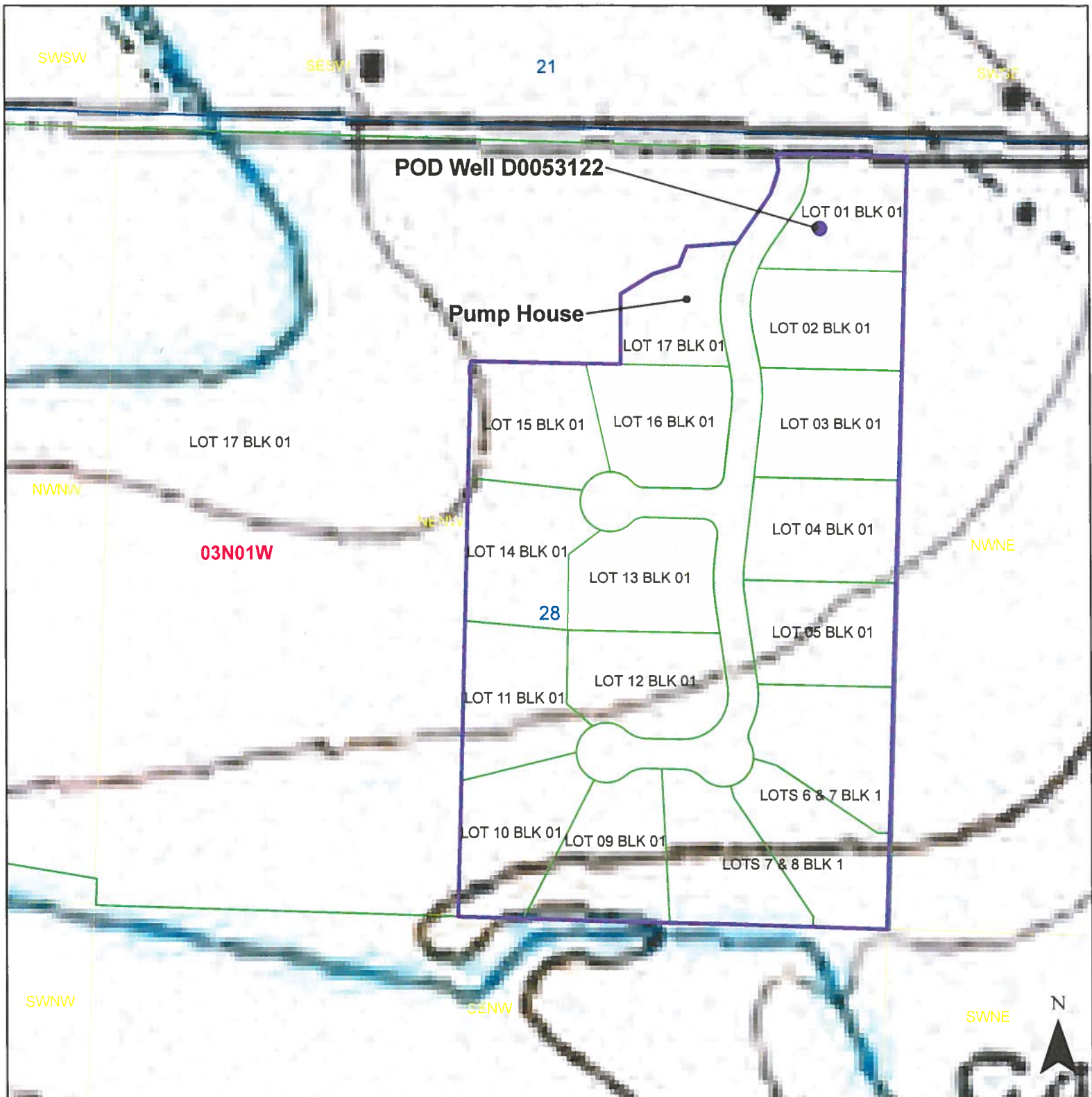
63-31877 Beneficial Use Exam Volume Analysis

Volume Required for Beneficial Use (V_R) = 16 homes $\times$ 0.6 ac-ft = 9.6 ac-ft

Volume System Capable of Diverting (V_D) = 0.19 cfs $\times$ 365 days $\times$ 1.9835 = 137.6 ac-ft

$V_R < V_D$ Recommend Volume = 9.6 ac-ft

63-31877 POD & POU



Legend

- POU
- Sections
- WillowtreeSubTaxlots
- QQ
- Township/Range

63-31877 POD & POU



0 0.025 0.05 0.1 0.15 0.2 0.25 Miles 2011 Aerial Photo

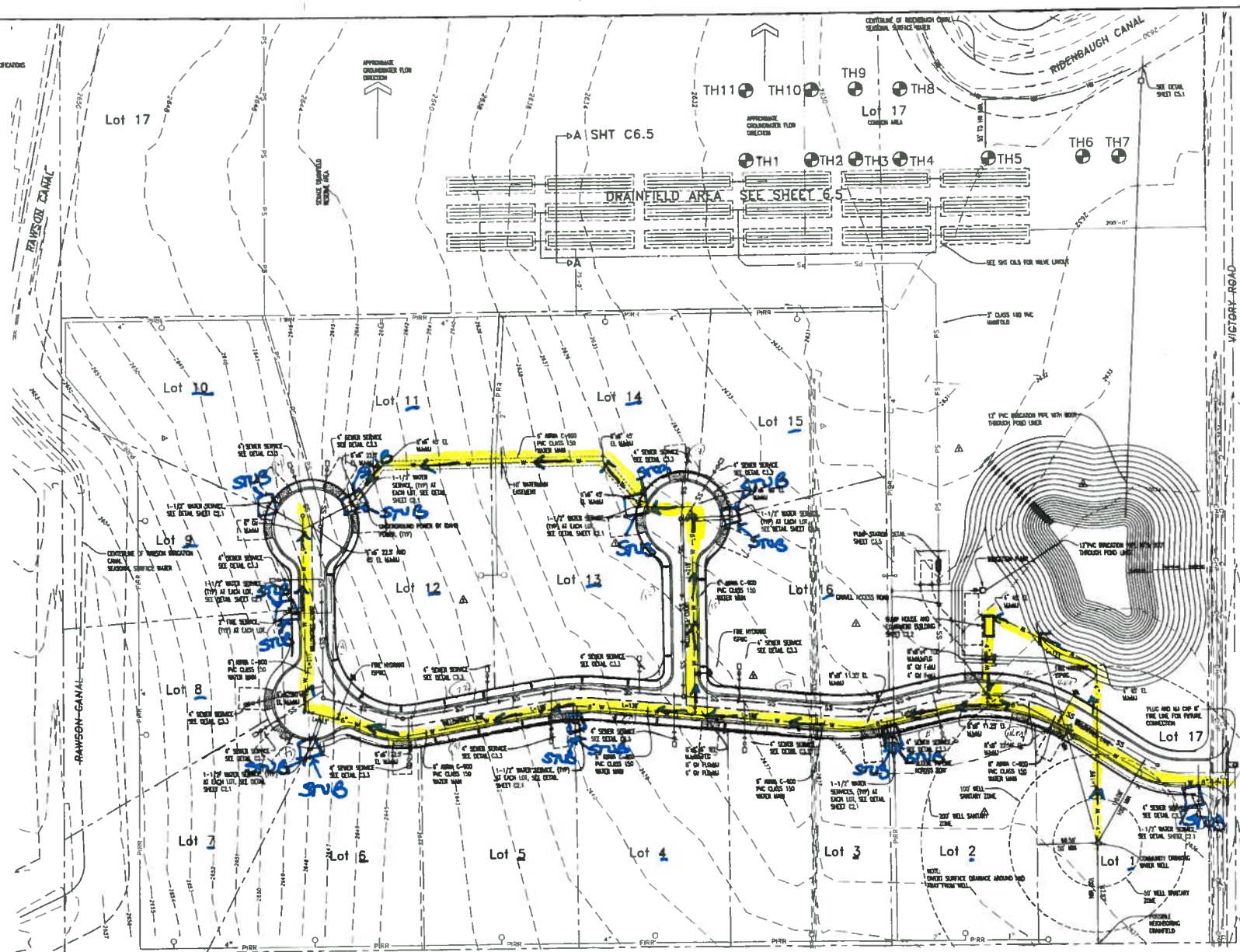
Legend

- POU
- Sections
- WillowtreeSubTaxlots
- QQ
- Township/Range



NOTES

1. SEE SHEET C2.1 FOR WATER SYSTEM DETAILS, SPECIFICATIONS AND NOTES



WATER SYSTEM PLAN



EHM Engineers Inc.
 ENGINEERS/PLANNERS
 516 S. CAPITOL BLVD. SUITE 201
 BOISE, IDAHO 83725
 (208) 338-9170 FAX (208) 338-8078
 E-MAIL: cep@ehminc.com

WILLOWTREE ESTATES SUBDIVISION
 ADA COUNTY, IDAHO
 WATER SYSTEM PLAN



- △ 03-11-00 WILLOWTREE ESTATES, WELLS LOCATION, NOTES
 - △ 12-09-00 NOTES
 - △ 01-09-00 ROAD
 - △ 07-11-00 SITE CONSTRUCTION
- G. BURKHETT
 S. ANDERSEN
 07-07-04
 1" = 50'
 C2.0 03-1127

4/2011

IDAHO DEPARTMENT OF WATER RESOURCES
FIELD EXAMINERS
WELL INSPECTION FORM

1. IDENTIFICATION # D0053122 (Tag #, etc.)

OTHER APPLICABLE # WR # 163-31877 (Water right #, etc.)

2. OWNER JAMES GRAHAM (PROPERTY OWNER) Phone (208) 384-0540

Address P.O. Box 2900 City BOISE

State ID Zip 83701 Email _____

3. WELL LOCATION (GPS required in Degrees Decimal Minutes – use PLS if GPS not available)

Lat. 43° 34.519' Long. -116° 27.849'

Twp 3N Rge 1W Sec 28 ¼ NE ¼ NW

4. WELL CONSTRUCTION ☒ Well log attached ☐ Well log not found

Any obvious construction problems that may be a source for contamination or waste? ☐ Yes ☒ No

If yes, describe below &/or see attached (list any that apply): ☐ Photos ☐ Diagram ☐ Other

WELL CAP DOESN'T COVER ELECTRICAL WIRES FOR PUMP LIKE IT SHOULD.

⇒ SECOND SITE VISIT ON 11/3/2011 RE-ORIENTED CAP TO CORRECT POSITION.

5. HYDROLOGIC INFORMATION

Static water if measured _____ ft. Water temperature if measured _____ °F

Flowing artesian ☐ Yes ☒ No Pressure if measured _____ psi

NOTES _____

INSPECTED BY Angela M. Grinn DATE 8/9/2011 + 11/3/2011

4/2011

IDAHO DEPARTMENT OF WATER RESOURCES
FIELD EXAMINERS
WELL INSPECTION FORM

1. IDENTIFICATION # D0042588 (Tag #, etc.)

OTHER APPLICABLE # _____ (Water right #, etc.)

2. OWNER JAMES GRAHAM (PROPERTY OWNER) Phone (208) 384-0540

Address PO Box 2900 City BOISE

State ID Zip 83701 Email _____

3. WELL LOCATION (GPS required in Degrees Decimal Minutes – use PLS if GPS not available)

Lat. 43° 34.518' Long. -116° 27.844'

Twp 3N Rge 1W Sec 28 ¼ NE ¼ NW

4. WELL CONSTRUCTION ☒ Well log attached ☐ Well log not found

Any obvious construction problems that may be a source for contamination or waste? ☐ Yes ☒ No

If yes, describe below &/or see attached (list any that apply): ☐ Photos ☐ Diagram ☐ Other

5. HYDROLOGIC INFORMATION

Static water if measured _____ ft. Water temperature if measured _____ °F

Flowing artesian ☐ Yes ☒ No Pressure if measured _____ psi

NOTES WELL CAP NOT SECURED, BUT CASING IS SEALED ON TOP BY
STEEL PLATE BOLTED TO WELL HEAD. SEE ATTACHED PHOTO. ALUMINUM
TEAP TYPE CAP ON WELL IS NOT TO STANDARD.

INSPECTED BY Angela M. Gamm DATE 8/9/2011 + 11/3/2011

* ABANDONED FEB 2012!
SO OK