

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 11-7426

Exam Date: 8/24/2007

1. Current Owner: IDAHO PARKS & RECREATION DEPT.
PO BOX 83720
BOISE ID 83720-0065
208-525-2251
2. Accompanied by: Data supplied by Ron Howerton
Phone No:
Address:
Relationship to Permit Holder:

3. **SOURCE** **TRIBUTARY**
GROUND WATER

B. OVERLAP REVIEW

1. Other water rights with the same place of use:
2. Other water rights with the same point of diversion: None

C. DIVERSION AND DELIVERY SYSTEM**1. LOCATION OF POINT(S) OF DIVERSION:**

GROUND WATER L2 SW1/4NE1/4 Sec. 24, Twp 16S, Rge 44E, B.M.
BEAR LAKE County

Method of Determination: ArcView

2.

PLACE OF USE: IRRIGATION

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	
16S	44E	24			2.6												2.4		5.0
					L 2												L 3		

Total Acres: 5

Method of Determination: ArcView

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.

<u>Well or Diversion ID No.*</u>	<u>Motor Make</u>	<u>Hp</u>	<u>Motor Serial No.</u>	<u>Pump Make</u>	<u>Pump Serial No. or Discharge Size</u>
		5			2 inch

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

D. FLOW MEASUREMENTS

1.

<u>Measurement Equipment</u>	<u>Type</u>	<u>Make</u>	<u>Model No.</u>	<u>Serial No.</u>	<u>Size</u>	<u>Calib. Date</u>

2. Measurements:

E. FLOW CALCULATIONS☒ Additional Computation Sheets Attached

Measured Method: Theoretical pump calculations show 0.17 CFS

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 5 \text{ acres} \times 3.5 \text{ AF/Year/Acre} = 17.5 \text{ AFA}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.15 \text{ CFS} \times 200 \text{ days} \times 1.9835 = 59.5 \text{ AFA}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 17.5 \text{ AFA}$$

2. Volume Calculations for Other Uses:

G. NARRATIVE/REMARKS/COMMENTS

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

H. RECOMMENDATIONS**1. Recommended Amounts**

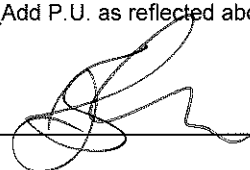
<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
IRRIGATION	04/15 to 10/31	0.150 CFS	17.5 AFA
<u>Totals:</u>		0.150 CFS	17.5 AFA

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 ☐ Other

I. AUTHENTICATION

Field Examiner's Name Joseph Larsen  Date October 19, 2007

Reviewer _____ Date _____

Type	WR #	Owner	Source	TRS	NENE	NWNE	SWNE	SENE	NENW	NNW	SWNW	SENW	NESW	NWSW	SWSW	SESW	NESE	NWSE	SWSE	SESE	Total
App	11 7426	IDAHO PARKS & RECREATION DEPT.,	GROUND WATER	16S44E24			2.6											2.4			5
Right	11 7358	IDAHO PARKS & RECREATION DEPT.,	GROUND WATER	16S44E24		X	X											X			0
Permit	11 7426	IDAHO PARKS & RECREATION DEPT.,	GROUND WATER	16S44E24			2.6											2.4			5

Comment Report

11-7426

1. amarshall 5/18/2007 POD

Comment: Updated shape

2. amarshall 5/18/2007 POU

Comment: Updated Shape

3. jlarsen 10/19/2007 Field Report Narrative

Comment: The pump is a 5 HP 3 phase submersible. The pump level is approximately 60 feet. The system consists of a 10000 gallon storage tank with sprinklers and a drip system.

The system operates at around 55 PSI. Overall usage per day is 12 to 14 thousand gallons. Approximately 153 sprinkler heads cover the 5 acre POU. Sprinkler system is 17 stations with about 9 heads to each station.

4. jlarsen 10/19/2007 POU Overlap Analysis

Comment: POUs that overlap QQs are:

11-7358

5. scox 11/22/2006 9:43:21 AM Special Administration Area Notes

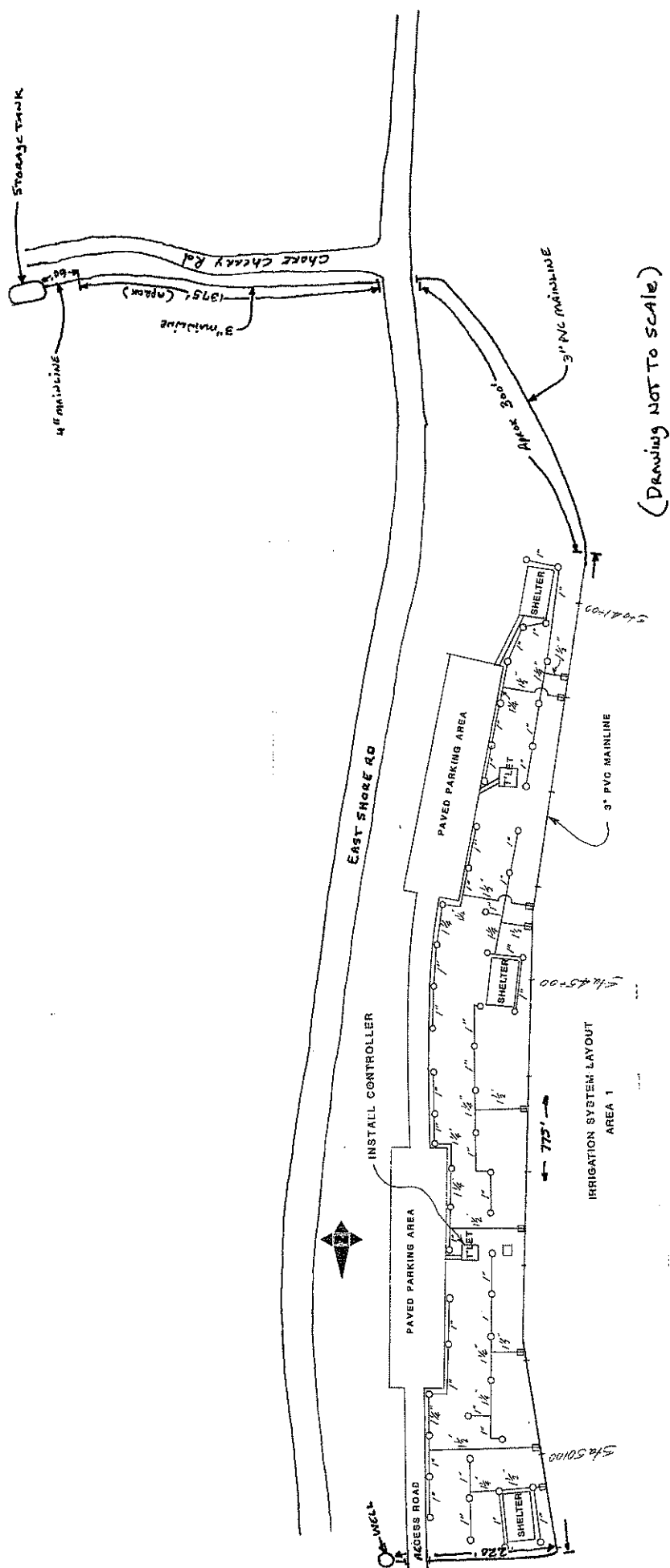
Comment: Special Administration Areas : Bear River (Groundwater Management Area)

Exempt: Y

Reason:

Doc Attached:

Explanation:



BEAR LAKE

GROUNDWATER THEORETICAL ANALYSIS

FILE: 11- 7426

DATE: August 24, 2007

BY: Ron Howerton

THEORETICAL RATE OF FLOW: $Q = \frac{(8.8 \times (HP) \times (EFF.))}{TDH}$

Q = CFS

HP = Total Brake Horsepower of pumping plant (including booster)

Eff. = Pumping plant efficiency (assume 70% or 0.70)

TDH = Total dynamic head = [(LIFT) + (PSI X 2.31)]

LIFT = Depth to water in FEET from land surface to pumping water level

PSI = Pumping pressure measured in PSI near pump (if open discharge assume [0])

$(8.8 \times (\underline{5}) \times (0.70))$

$Q = \frac{30.8}{187.05} = \underline{0.16466}$

$[(\underline{60}) + (\underline{55} \times 2.31)]$

LIFT FROM:

Measurement ()

Owner (**X**)

Area estimate ()

Well Logs ()

PSI FROM:

Measurement ()

Owner (**X**)

Estimate ()

Owner Gage ()

NOTES ON PUMP:

Motor Make or ID

UNKNOWN

Pump Make, Serial or ID, rating

UNKNOWN

REMARKS: (Information provided by Idaho Department of Parks and Recreation park manager Kirk Rich) to Ron Howerton dated: August 22, 2007.

The pump is a five-horse power 3-phase submersible. The pumping level is approximately 60 feet. The system consists of a 10, 000 gallon storage tank with sprinklers and drip system.

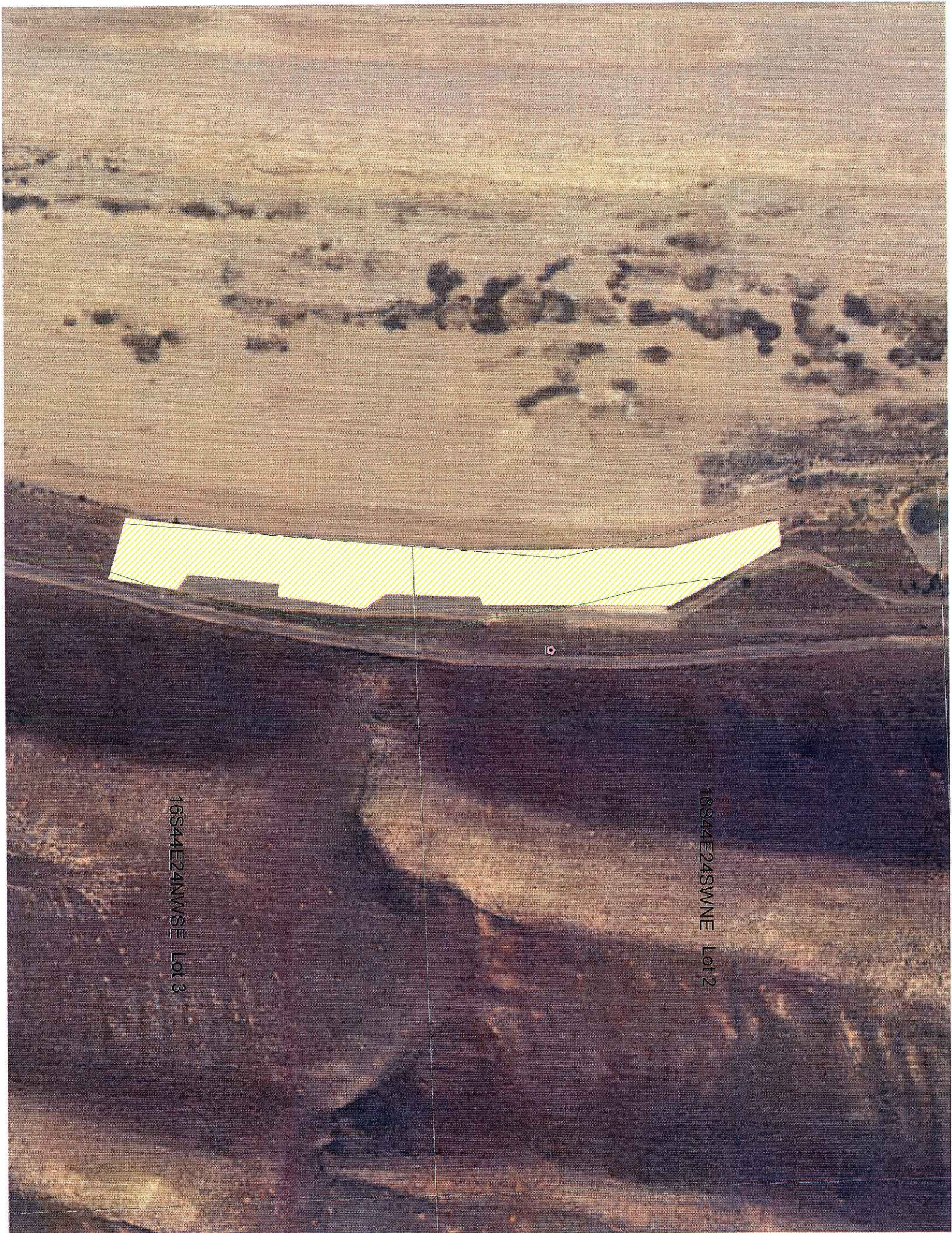
The system operates at less than 55 PSI. Overall usage per day is approximately 12 to 14 thousand gallons. Approximately 153 sprinkler heads cover the 5-acre POU. Sprinkler system is 17 stations with about 9 heads to each station.



6000

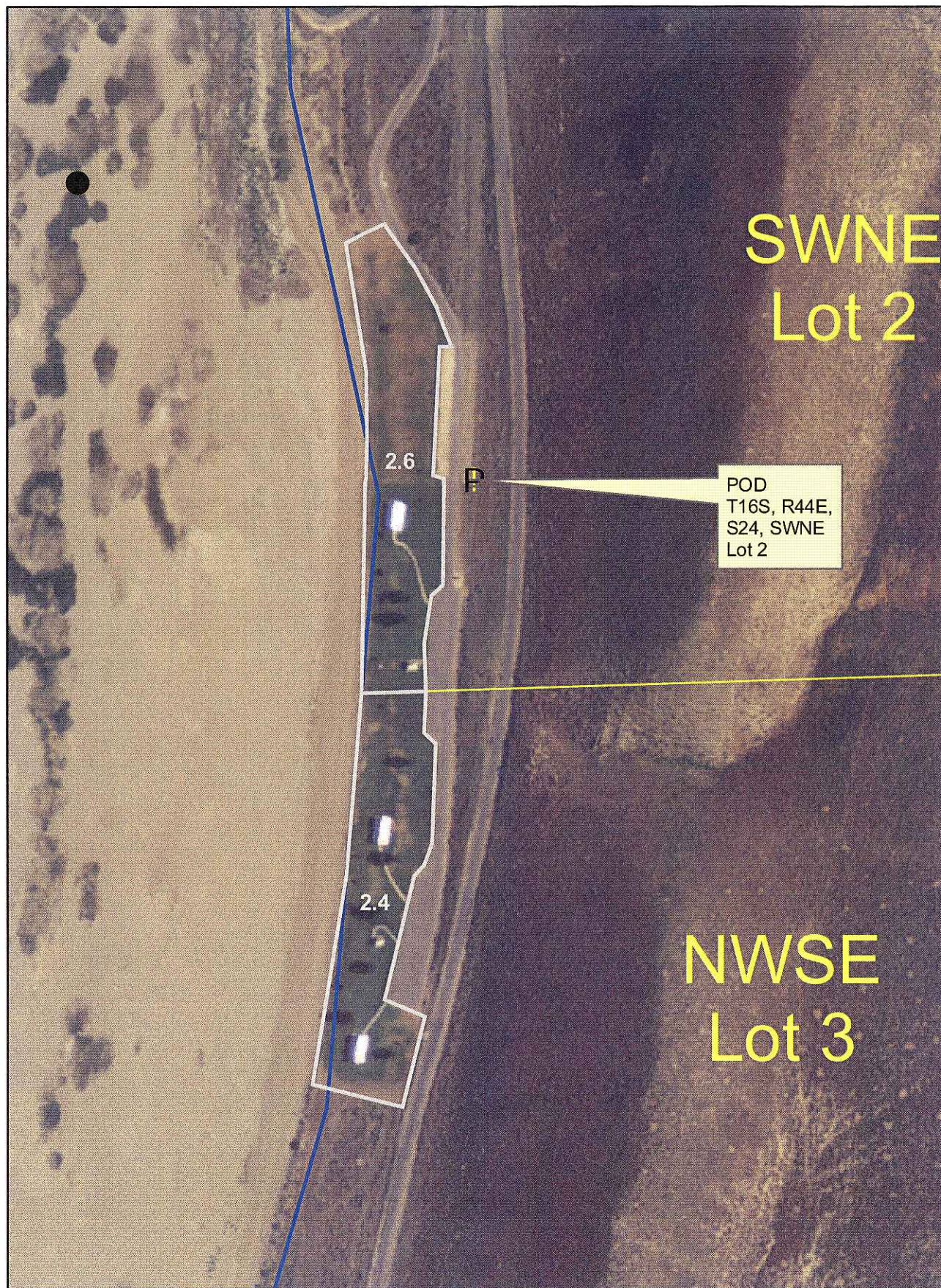
STATE

Q



16S44E24SWNE Lot 2

16S44E24NWSE Lot 3



5.0 ACRES IRRIGATION

2004 image

Theoretical Pump Flow Calculation	
$Q = [(Hp) * (8.814) * (eff)] / [Lift + (psi * 2.308)]$	
Permit No. 31-11737	
Hp = horsepower =	5
Eff = efficiency =	0.7
Lift =	60
PSI = Pressure =	55
Q =	0.17

Lift = Static water level + assumed draw down
or
Measured dynamic water level

