

77085

Ident. No. 98-7909

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

APPLICATION FOR PERMIT

To appropriate the public water of the State of Idaho

1. Name: IDAHO DEPARTMENT OF FISH AND GAME
2885 W KATHLEEN AVE
COERU D ALENE ID 83815
(208)769-1414

2. Source: BOUNDARY CREEK Tributary to: KOOTENAI RIVER

3. Location of Point of Diversion:

#1 BOUNDARY CREEK L4 (NW1/4SW1/4) Sec. 11, Twp 65N, Rge 02W, B.M.
BOUNDARY County

4. Water will be used for the following purposes:

<u>Purpose</u>	<u>From</u>	<u>To</u>	<u>RATE OF DIVERSION</u>	<u>ANNUAL VOLUME</u>
WILDLIFE STORAGE	01/01	to 12/31		1,552.0 AF
DIVERSION TO STORAGE	01/01	to 12/31	5.00 CFS	
WILDLIFE	01/01	to 12/31	5.00 CFS	

5. Total quantity to be appropriated is: 5.00 CFS 1,552.0 AF

6. Proposed diverting works:

POINT OF DIVERSION #1

a. Type and size of devices used to divert water from the source: GRAVITY FED BELOW
STREAM INFILTRATION GALLERY. SAME AS WATER RIGHT 98-7848

- b. Height of storage dam _____ feet;
Active reservoir capacity _____ acre-feet;
Total reservoir capacity _____ acre-feet;.

- c. Proposed well diameter is _____ inches;
Proposed depth of well is _____ feet.

- d. Is ground water with a temperature of greater than 85F being sought?

- e. If well is already drilled, when? _____;
Drilling Firm _____;
Drilling Permit No. _____.

7. Time required for the completion of the works and application of the water to the proposed beneficial use is 1 year(s).

- 8.

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PLACE OF USE: WILDLIFE STORAGE

Twp Rge Sec	NE				NW				SW				SE				Totals
	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
65N 02W 23	X			X									X			X	
65N 02W 24					X	X	X	X	X	X	X						
					L 3			L 4									

PLACE OF USE: WILDLIFE

Twp Rge Sec	NE				NW				SW				SE				Totals
	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
65N 02W 23	X			X									X			X	
65N 02W 24					X	X	X	X	X	X	X						
					L 3			L 4									

9a. Who owns the property at the point of diversion? If other than applicant, describe the arrangement enabling the applicant to make this filing.

Forest Capital

9b. Who owns the land to be irrigated or place of use? If other than applicant, describe the arrangement enabling the applicant to make this filing.

APPLICANT

10. Remarks:

SEE ATTACHMENT

Interagency Billing Receipt # BLL0533

11. Map of proposed point of diversion and place of use attached? [YES]

BE IT KNOWN that the undersigned hereby makes application for permit to appropriate the public waters of the State of Idaho as herein set forth.

Colleen Trese ; IDFG, North Panhandle
Habitat Manager

Applicant

Received by _____ Date _____ Time _____ Preliminary check by _____
Publication prepared by _____ Date _____ Published in _____
Publication approved _____ Date _____

Receipt No. BLL0533

Date: _____

Received by: _____

SUPPLEMENTAL ATTACHMENT

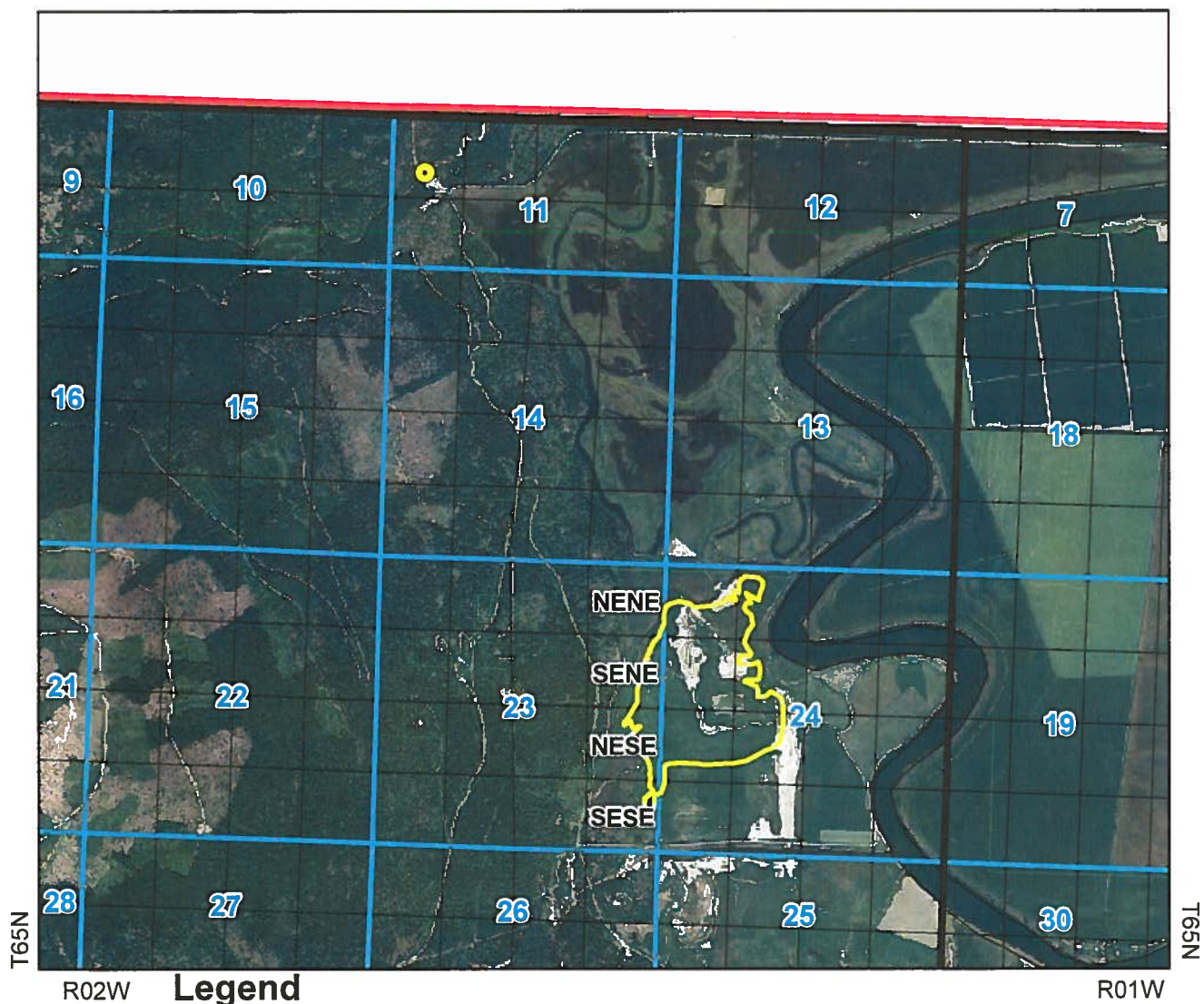
Question 11.

Water use as described in WATER RIGHT 98-7848 applies here. This additional water right will be used for the same purpose as WATER RIGHT 98-7848 but will allow for the replacement of water loss due to evaporation and seepage, and will allow for flexible water level manipulation throughout the year.

Water level management for the wetland cell typically involves mimicking the natural historical hydrograph; water is added in the spring, held high until summer, gradually lowered throughout the summer, and then refilled in the fall.

In addition, one or twice during every five years, wetland drawdowns will be conducted which require the wetland to be filled more than once within a year. During wetland drawdowns, the wetland is drained during the growing season to facilitate oxidation of bottom soils and wetland vegetation management. During years of wetland drawdown, additional water is needed to refill the wetland in the late fall. During these years an additional water use of up to 575.8 acre-feet will be utilized to refill the wetland in the fall.

State of Idaho
 Department of Water Resources
Water Right License *Application*
 98-7909
 Water Service Area Boundary for



Legend

- Point of Diversion
- Place Of Use Boundary
- Townships
- PLS Sections
- Quarter Quarters
- Taxlots

0 0.4 0.8 1.6 Miles



Dark Blue - GPS Surveyed surface water at Full Pool = 154.5 ac.



POND

SURFACE AREA (SQFT) -----	6781232	POND SIZE -----	576.00 AF
AVERAGE DEPTH (FT) -----	3.70	CAPACITY -----	25090558.4 CUFT 187677377 G
FILL OR REFILL RATE (CFS) -----	0.5	USE 0 IF FILLED NATURAL CONVERT TO GPD -----	323136 GPD
TOTAL DOMESTIC RATE CANNOT EXCEED 0.04 CFS FOR PART B DOMESTIC* REFERENCE EXAMPLE:			
ESTIMATED NUMBER OF DAYS -----			
TO FILL BASED ON PROVIDED -----			
INPUTS -----			
580.80 DAYS 13939 HR			
EVAPORATION (IN/DAY) -----	0.1	IF UNKNOWN, USE REFER CONVERT TO GPD -----	422724 GPD
EVAPORATION (GPYper year) -----	154294368.5		
	473.5134833 AFPY		
	317.8378176 AFPY AT 245 DAY IN THE YEAR		
SEEPAGE RATE (FT/DAY) -----	0.01	SUGGESTED VALUES FOR CONVERT TO GPD -----	507236 GPD
SEEPAGE RATE (GPY per year) -----	180576070.7	0 = NATURALLY FILLED FROM GW, OR LINED	
SEEPAGE RATE (AF PER YEAR) -----	554.1693131 AF	0.5 = CLAY SOILS	
		1.5 = LOAMS	
		3.0 = GRAVELS	

SC1 Water Rights Info

NRCS Soil Survey

Month	Precip (in)	SC1 Surface Area (acre)	Precip (ac-ft)
Jan	3.4	144.4	40.91
Feb	2.13	144.4	25.63
Mar	1.72	147.75	21.18
Apr	1.26	147.78	15.52
May	1.67	152.83	21.27
Jun	1.85	154.5	23.82
Jul	0.8	154.5	10.30
Aug	1	144.4	12.03
Sep	1.5	132.45	16.56
Oct	2.39	126.75	25.24
Nov	3.43	126.75	36.23
Dec	3.39	141	39.83

Month	Evap (in)	SC1 Surface Area (acre)	Evap (ac-ft)
Jan	0.3	144.4	3.61
Feb	0.45	144.4	5.42
Mar	0.9	147.75	11.08
Apr	2.7	147.78	33.25
May	3.6	152.83	45.85
Jun	4.2	154.5	54.08
Jul	5.7	154.5	73.39
Aug	5.4	144.4	64.98
Sep	3.3	132.45	36.42
Oct	1.8	126.75	19.01
Nov	1.2	126.75	12.68
Dec	0.45	141	5.29

my method of calculation on SC1

Water Elevation - (ft)	SC1 Surface Area - (ac)	Additional Acres per ft elevation - (ac)	Depth of Additional Acres at Full Pool* (FP) - (ft)	Additional Acre-feet at Full Pool (FP) - (ac-ft)	Minus corners on Add Acres (add. ac./2)
1749.0	22.5	22.5	7	157.5	11.25
1750.0	47.3	24.8	6	148.8	12.4
1751.0	69.9	22.6	5	113.0	11.3
1752.0	99.6	29.7	4	118.8	14.85
1753.0	118.2	18.6	3	55.8	9.3
1754.0	141.0	22.8	2	45.6	11.4
1755.0*	154.5	13.5	1	13.5	6.75
Total Storage at FP				653.0	77.3

minus the corners 77.3
Final ac-ft 575.8
Surface area= 154.5 ac 6730020 sq ft
Avg Depth 3.72686084 ac-ft/total acre
seepage rate = 0.01 This is what Eric uses

Total Evap (af)	365.06 af
Total Precip (af)	288.52 af
Total loss Evap-precip (af)	76.54 af
Total loss by Seepage (af) (Eric's formula)	554 af
Pond Size	575.8 af
Loss by Evap	76.54 af
Loss by Seepage	554 af
Total volume for water right should be	1206.34 af
minus Water Right 98-7848	230.4 af
Total volume for New water right	975.94 af
Total volume plus drawdown refill	1551.74 af