Permit No._____

APPLICATION FOR PERMIT TO CONSTRUCT, MODIFY OR MAINTAIN AN INJECTION WELL

IDAHO DEPARTMENT OF WATER RESOURCES
322 East Front St., PO Box 83720, Boise, ID 83720-0098
Under the Provisions of Title 42, Chapter 39 of the Idaho Code

I. GENERAL INFORMATION

A. Application Type:

☐ New Injection Well Operating Permit (A Drilling Permit is also required prior to construction)
☐ Permit to Modify an Existing Injection Well
☐ Renew Operating Permit of an Existing Injection Well

B. Legal Owner:

Applicant Name _____
Organization Name _____
Mailing Address _____
City _____ State _____ Zip Code _____
Phone No. _____ Email _____

C. Facility Information:

Facility Name _____
Street Address _____
City _____ State _____ Zip Code _____
County _____ Facility Phone No. _____

D. Project Engineer:

Name _____
Engineering Firm Name _____
Mailing Address _____
City _____ State _____ Zip Code _____
Phone No. _____ Email _____

E. Injection Well Classification: (Circle the proper code.)

Code:	Injection Activity Associated With:	Code:	Injection Activity Associated With:
5A5	Electric Power Generation	5W10	Cesspools
5A6	Geothermal Heat (Source H_2O Temp > 85º F)	5W11	Septic Systems (General)
5A7	Closed-Loop Heat Pump Return (Source H_2O Temp < 85º F)	5W12	Water Treatment Plant Effluent
5A8	Aquaculture Return Flow	5W20	Industrial Process Water
5A19	Cooling Water Return (Industrial Cooling)	5W31	Septic Systems (Well Disposal)
5B22	Saline Water Intrusion Barrier	5W32	Septic Systems (w/ Drainfield)
5D2	Storm Water Runoff (Roadway/Pavement Drainage)	5X13	Mine Tailing Backfill
5D3	Improved Sinkholes	5X14	Solution Mining
5D4	Industrial Storm Runoff (Building/Pavement Drainage)	5X15	In-Situ Fossil Fuel Recovery
5F1	Agricultural Runoff Waste (Agricultural Drainage)	5X16	Spent Brine Return Flow
5G30	Special Drainage Water (Rarely Used)	5X25	Experimental Technology
5N24	Low-Level Radioactive Waste	5X26	Aquifer Remediation
5R21	Aquifer Recharge	5X27	Other Wells (Rarely Used)
5S23	Subsidence Control	5X28	Service Station Wells (Motor Vehicle Waste Disposal Wells)
5W9	Untreated Sewage	5X29	Abandoned Drinking Wells (Converted from Domestic)

F. Well Location: (Provide one of the following two options)
1) GPS Location (Datum = WGS84):
Latitude _____ Longitude _____

(You can check the accuracy of your GPS data with the "Well Diller's Locator Tool" here: "https://maps.idwr.idaho.gov/apps/GPSLocatorToolForWellDrillers/")

2) A USGS Topographic Map or aerial photo with the well location marked **AND** Township, Range, Section information. (Free mapping tool: https://experience.arcgis.com/experience/8f35de01e3644dfb88317e9296d5e577)

Township	Range	Section	¼, ¼, ¼ Section	¼, ¼ Section	¼ Section

G. Well Operation:
Frequency of Injection: ☐ Continuous (24 hr/day, 7 day/wk) ☐ Intermittent

Maximum Injection Rate _____ ☐ cfs ☐ gpm

Injection Duration _____

H. Well Construction Information: (Attach well log, if available)

☐ As Built ☐ Expected Construction ☐ Well Modification

Total Well Depth: _____ (ft)

Well Casing: Diameter _____ (in) Depth _____ (ft)

Ht. above Ground Surface _____ (ft) Casing Type _____

Perforation: From _____ (ft) To _____ (ft)

Surface Seal: Depth _____ (ft) Seal Type _____

Construction Date (Indicate Actual, Approximate or Anticipated): _____

Driller's Name: _____

For well modifications describe purpose and intended changes: _____
_____
_____

I. Adjacent Features:

Depth to Groundwater _____ (ft) ☐ Estimate ☐ Measured Date Measured _____

Distance to Nearest Domestic Well _____ (ft) Direction _____

II. INFORMATION REQUIRED ONLY FOR HEAT EXCHANGE (CLASS 5A7) INJECTION WELLS

Please check all of your domestic uses served by your groundwater well:

☐ Household ☐ Irrigation (≤ ½ acre) ☐ Livestock
☐ Heat Pump ☐ Other _____

What is your total domestic groundwater usage? _____ Gallons Per Day (Guidance on page 6)

Are you connected to a city or community drinking water system? ☐ Yes ☐ No

Do you have water right for the heat pump? ☐ Yes ☐ No Water Right # _____

Have you applied for a water right for the heat pump? ☐ Yes ☐ No Water Right Application # _____

* Attach documentation from your heat pump manufacturer that indicates how many gallons per day your heat pump will use during peak heating and cooling days.

** Applicants seeking permits for a Heat Exchange Injection Well can skip Section III.

III. INFORMATION REQUIRED FOR ALL INJECTION WELLS, EXCEPT HEAT EXCHANGE (CLASS 5A7) INJECTION WELLS

A. Alternative Methods to Injection Well Use:

Describe alternatives to the use of an injection well for waste disposal _____

_____

Why were the above alternative methods rejected? _____

_____

B. Water Treatment Prior to Injection:

☐ None ☐ Chemical Treatment ☐ Ultra-Violet Treatment

☐ Settling Pond ☐ Filtration

☐ Other _____

C. Is this injection well part of a contamination remediation system? ☐ Yes ☐ No

If yes, please attach a copy of the signed regulatory approval for the remediation action, description of the remediation system, and intended use of the injection well.

D. Constituents in Waste Stream:

☐ None ☐ Hazardous wastes ☐ Automotive fluids ☐ Pesticides

☐ Herbicides ☐ Other additives or chemicals _____

E. Source of Injectate:

Describe the source of the injectate and any process the fluid goes through before injection _____

_____
_____

F. Attach a topographic map or aerial photo showing a one-mile radius of the injection well. Identify the following on the map/photo:

1. Location of the injection well.
2. Location of domestic wells.

You can use the IDWR Well Drillers' Locator to map the existing wells near your location by:

- Open the Well Drillers' Locator: http://maps.idwr.idaho.gov/locator/default.aspx
- Enter your GPS location into the "Find a Location in Idaho" window. The map will zoom to that location and mark it with a yellow dot.
- Click the down-arrow on the zoom slider button twice (upper left corner of the map) to zoom out. You should now see a map which shows all wells within a one-mile radius of your site
- Click "Wells", in the list of layers on the right side of the map
- Click the "Print Map" button on the left side of the map

IV. SIGNATURE OF LEGAL OWNER

I hereby submit this Application for Permit to Construct or Maintain an Injection Well. The information herein is true and correct to the best of my knowledge.

_____	_____	_____
Date	Signature	Title

_____
Print Name

V. PROCESSING FEE

A $100.00 processing fee must be submitted for each permit application. A separate permit application and processing fee must be submitted for each injection well. Make checks payable to: Idaho Department of Water Resources.

All sections of this form must be complete and accurate. Incomplete forms will be returned to applicants. The information submitted is subject to verification by IDWR or its agents. Applications and fees can be submitted to your nearest IDWR office:

IDWR Northern Region
7600 N Mineral Dr., Suite 100
Coeur d'Alene, ID 83815
Ph: (208) 762-2800

IDWR Southern Region
650 Addison Ave., Suite 500
Twin Falls, ID 83301
Ph: (208) 736-3033

IDWR Eastern Region
900 North Skyline
Idaho Falls, ID 83402
Ph: (208) 525-7161

IDWR Western Region
2735 Airport Way
Boise, ID 83705
Ph: (208) 334-2190

IDWR State Office
322 East Front St., PO Box 83720
Boise, ID 83720-0098
Ph: (208) 287-4800.

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UIC Program Guidance For Calculating the Average Weekly Injection Rate

The UIC Program does not dictate what method you use to calculate the Average Weekly Injection Rate for your injection well. The following are options you can use to make your calculation or for guidance to develop your own method. Document your calculation by using one of the options below or attaching your calculation. This information is required in Section I.D

Example 1 – Heat Pump (Injection well class 5A7)

Pumping rate of heat pump in gallons per minute (gpm)		Hours per day heat pump will run on coldest day of year		Number of days per week heat pump will run during week coldest day occurs		Constant to convert to gallons per minute (gpm)		Average Weekly Injection Rate (gpm)
8 gal/min	x	18 hours/day	x	7 days/wk	x	0.00595 wks/hour	=	6.0 gpm
	x		x		x		=	
	x		x		x		=	

Example 2 – Sprinkler Irrigation Return Flow (Injection well class 5F1)

Number of acres drained		Volume of water applied		% waste water		Constant to convert to gallons per minute (gpm)		Average Weekly Injection Rate
40 acres	x	9 gal/min/acre X 10080 min/wk	x	0.05	x	0.000099 wk/min	=	18 gpm
	x		x		x		=	
40 acres	x	0.02 ft^3/sec/acre x 604800 min/wk	x	0.05	x	0.0000017 wk/min	=	0.04 cfs
	x		x		x		=	
	x		x		x		=	

Example 3 – Theoretical Calculation of Flow Through a Pipe

The calculation used to generate this table assumes unrestricted flow through a well casing of the designated size. The calculation represents the maximum injection rate that is theoretically possible, which may be significantly larger than the subsurface will actually allow. Using this calculation will result in a relatively large radius of influence, which may cause your permit to include a monitoring requirement.

Well Diameter	Average Weekly Injection Rate
6”	2.5 cfs
8”	4.4 cfs
10”	6.8 cfs
12”	9.8 cfs
14”	13.4 cfs

UIC Program Guidance
For
Calculating Total Domestic Water Use
For Permitting a Ground-Source Heat Pump

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Idaho Code (42-111 & 42-227) defines domestic water use and states that a water right is not required for domestic use, provided that the volume of water does not exceed 13,000 gallons per day. When permitting an injection well for a ground-source heat pump, the UIC Program must determine if the use of a heat pump will cause a homeowner to exceed the 13,000 gallon per day limit for a domestic water right exemption. If domestic water use is anticipated to exceed 13,000 gallons per day, the applicant must obtain a water right before the injection well permit can be issued by IDWR.

The following table should be completed to document your calculation of total domestic water use for Section II of your injection well application.

Use	**Gallons Per Day Per Person**		**Number of People**		**Total Gallons Used Per Day**
Single Family Residence	75	x		=	
Luxury Residence	150	x		=	
Use	**Gallons Per Day Per Animal**		**Number of Animals**		
Cattle	12	x		=	
Dairy Cattle	35	x		=	
Horses	12	x		=	
Mules	12	x		=	
Hogs	4	x		=	
Goats	2	x		=	
Sheep	2	x		=	
Other Livestock		x		=	
Use	**Gallons Per Day Per 100 Animals**		**Number of Animals**		
Chickens	10	x		=	
Turkeys	18	x		=	
Other Poultry		x		=	
Use	**Gallons Per Day Per 1 Acre at 9 gpm**		**Number of Acres**		
Irrigation	12,960	x		=	
Use	**Average Weekly Injection Rate (gpm)** See Page 5 Guidance – Example 1		**Minutes Per Day**		
Heat Pump		x	1440	=	
Other Uses	**Gallons Per Day**				
			Total Gallons Per Day Used		