

Domestic 0.13
Irrigation 0.12
0.25 cfs max. instantaneous
diversion

[Per Home.]

1.) Domestic (Inhouse Use)

Flow Rate = $0.13 \text{ cfs} / 8 \text{ homes} = 0.01625 \text{ cfs}$ (7.29 gpm)

Volume = 0.6 AF/yr (195,510 gallons)

$195,510 \text{ gal} / 365 \text{ days/yr} = \underline{535.64 \text{ gal/day}}$

Comparison:

If 7.29 gpm were allowed to run for
a 24 hour period, then:

$7.29 \text{ gpm} \times 60 \text{ min/hr} \times 24 \text{ hrs/day} = \underline{10,497.6 \text{ gpd}}$

$10,497.6 \text{ gpd} \neq 535.64 \text{ gpd}$

2) Irrigation

$$\text{Flow Rate} = 0.12 \text{ cfs} / 4 \text{ ac.} = 0.03 \text{ cfs/Ac}$$

$$\frac{1}{2} \text{ ac.} \times \overset{\text{state max. allowable}}{0.03 \text{ cfs/Ac}} = \underline{0.015 \text{ cfs}} \quad (6.73 \text{ gpm})$$

$$\text{Volume} = \overset{\text{state max. allowable}}{3 \text{ ac-ft/Ac}} \times \frac{1}{2} \text{ ac} = \underline{1.5 \text{ AF}} \quad (488,775 \text{ gal.})$$

$$\text{Irrigation Season: } 4/1 - 11/30 \quad (244 \text{ days})$$

$$488,775 \text{ gallons} / 244 \text{ days} = \underline{2,003.17 \text{ gal/day}}$$

Gallons/Day by Month

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec.
536	536	536	2539	2539	2539	2539	2539	2539	2539	2539	536

$$\text{Ave} = 1,871.33 \text{ gal./day/year.}$$

Vincent Application

Per House.

	<u>Flow Rate</u>	<u>Annual Volume</u>
Domestic:	0.01625 cfs (7.29 gpm)	0.6 AF (195,510 gal)
Irrigation:	0.015 cfs (6.73 gpm)	1.5 AF (482,775 gal)
Total:	0.03125 cfs (13.5 gpm)	2.1 AF (684,285 gal)

→ If run for 24 hrs. = 7,095,600 gal/yr — compare to

Total Project, 8 Homes.

	<u>Flow Rate</u>	<u>Annual Volume</u>
Domestic:	0.13 cfs (58.35 gpm)	4.8 AF (1,564,080 gal)
Irrigation:	0.12 cfs (53.86 gpm)	12.0 AF (3,910,800 gal)
Total:	0.25 cfs (112.21 gpm)	16.8 AF (5,474,880 gal)

Comparison:

If for 24 hr. period,

$$0.25 \text{ cfs} = 112.21 \text{ gpm} \times 60 \times 24$$
$$= 161,532.4 \text{ gpd}$$
$$+ 1,935.15 \text{ gpd}$$
$$+ 16,025.41 \text{ gpd}$$
$$\rightarrow 20,310.56 \text{ gpd}$$

or 14,970.6 gpd based on ave.

Coeur D'Alene 1 E Consumptive Use from Allen and Brockway 83

** Monthly average daily (mm/day) and Seasonal Totals (mm) **

Mar Apr May Jun Jul Aug Sep Oct Total

ETr										
MEAN ETr	1.18	3.59	4.94	5.90	7.62	6.01	4.23	2.03	1087.	
STDV ETr	0.25	0.34	0.35	0.33	0.28	0.32	0.35	0.19	36.	
Alfalfa Hay										
MEAN CU		2.14	4.59	5.21	6.32	4.65	3.04	0.99	825.	
MEAN IR		1.18	3.33	3.88	5.79	4.01	2.28	-0.06	625.	24.6"/yr
STDEV CU		0.20	0.33	0.29	0.23	0.25	0.25	0.09	25.	
STDEV IR		0.60	0.93	0.75	0.62	0.73	0.69	0.73	68.	
Silage Corn										
MEAN CU			1.48	1.96	5.76	5.69	3.57		567.	
MEAN IR			0.50	0.94	5.28	5.04	2.82		447.	
STDEV CU			0.11	0.11	0.21	0.30	0.30		18.	
STDEV IR			0.67	0.53	0.57	0.79	0.72		53.	
Peas										
MEAN CU		1.08	2.40	4.99	3.20	0.94			385.	
MEAN IR		0.28	1.44	3.84	2.83	0.50			271.	
STDEV CU		0.10	0.17	0.28	0.12	0.05			14.	
STDEV IR		0.46	0.68	0.67	0.42	0.44			44.	
Potatoes										
MEAN CU		1.08	1.59	4.05	6.40	4.66	2.48		621.	
MEAN IR		0.41	0.84	3.14	6.01	4.18	1.94		506.	
STDEV CU		0.10	0.11	0.23	0.24	0.25	0.21		18.	
STDEV IR		0.39	0.53	0.54	0.50	0.59	0.51		46.	
Spring Grain										
MEAN CU		1.08	2.30	5.64	7.56	2.87			596.	
MEAN IR		0.30	1.38	4.47	7.07	2.38			478.	
STDEV CU		0.10	0.16	0.32	0.28	0.15			19.	
STDEV IR		0.45	0.66	0.70	0.61	0.54			50.	
Winter Grain										
MEAN CU	0.36	2.28	4.81	5.90	7.60	3.19			740.	
MEAN IR	-0.67	1.38	3.62	4.62	7.07	2.65			572.	
STDEV CU	0.07	0.22	0.34	0.33	0.28	0.17			25.	
STDEV IR	0.45	0.57	0.90	0.76	0.65	0.60			58.	
Pasture										
MEAN CU		2.21	3.80	4.54	5.87	4.63	3.26	1.56	792.	
MEAN IR		1.28	2.66	3.33	5.38	4.02	2.52	0.51	603.	23.7"/yr
STDEV CU		0.21	0.27	0.26	0.22	0.24	0.27	0.14	24.	
STDEV IR		0.58	0.84	0.69	0.58	0.71	0.69	0.75	64.	
Orchard										
MEAN CU		1.43	2.32	4.25	6.45	5.11	3.60	1.56	757.	
MEAN IR		0.55	1.29	3.06	5.94	4.48	2.84	0.51	572.	
STDEV CU		0.14	0.17	0.24	0.24	0.27	0.30	0.14	23.	
STDEV IR		0.52	0.73	0.67	0.61	0.74	0.72	0.75	63.	
Vegetables										
MEAN CU			1.49	2.90	5.76	4.80	2.97		550.	
MEAN IR			0.73	2.06	5.39	4.32	2.41		457.	
STDEV CU			0.11	0.16	0.21	0.25	0.25		17.	
STDEV IR			0.53	0.47	0.47	0.60	0.55		43.	
Lentils										
MEAN CU		1.08	2.08	5.00	3.80	1.00			395.	
MEAN IR		0.28	1.14	3.84	3.41	0.56			282.	
STDEV CU		0.10	0.15	0.28	0.14	0.05			14.	
STDEV IR		0.46	0.66	0.67	0.44	0.44			44.	

End of Data Set