Montana Department of Environmental Quality

Water in Subdivisions

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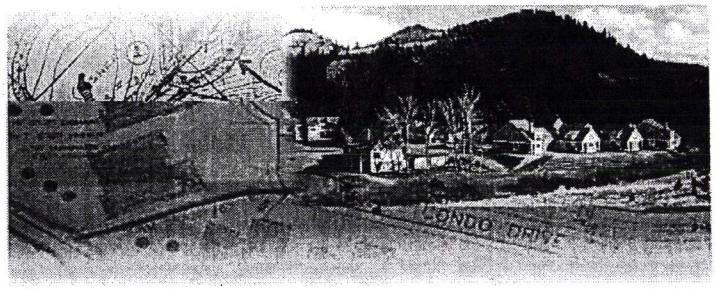

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Sanitation Act

- The Sanitation in Subdivisions Act, 76-4 MCA, pertains to the water supply, wastewater system, nondegradation, solid waste, and storm drainage in the Subdivision. Must have Platting Act approval or exemption prior to DEQ approval.
- Sanitation Act review is conducted by DEQ staff in three offices or by 22 contracted counties.
- DEQ will be concerned about:
  - Issuance of a Certificate of Subdivision Approval for filing and the COSA is required by statute to be given to the lot purchaser containing details on
    - Proper lot layout
    - Water quality, quantity, and dependability
    - Proper design and functioning of the wastewater system
    - Non-degradation of state waters
    - Storm water drainage
    - Solid waste

WPIC
January 10, 2012
Exhibit 12

Water Review

General criteria for water supplies described in ARM 17.36.330:

"...applicant shall demonstrate that water systems provide an adequate supply..."

"a description of the proposed groundwater source including approximate depth to water bearing zones and lithology of the aquifer"

"The reviewing authority may restrict the volume of water withdrawn from a proposed water source for a subdivision in order to ensure that an adequate water supply will be available at all times."

Water Review

Water quantity and dependability described in ARM 17.36.332

- Quantity based on well yield (ARM 17.36.332 (1):
  - 10 gpm for 1 hour, 6 gpm for 2 hours, or 4 gpm for 4 hours for single family system.
  - 15 gpm for 1 hour or 10 gpm for 2 hours for shared system.
  - Multi-user and public system criteria in Circulars DEQ-3 and DEQ-1, respectively.

- Dependability addressed in ARM 17.36.332(6):
  "The reviewing authority may require the applicant to submit information in addition to that required in (1) through (5) to demonstrate the dependability of the groundwater supply if the reviewing authority believes that dependability is questionable. **At a minimum, the applicant shall provide evidence that the aquifer can supply, by itself or through recharge from surrounding geologic units, water to wells in an amount equal to the proposed groundwater withdrawals."**

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Water Supply – Dependability

Question of dependability is one of the biggest issues facing new subdivisions as more land becomes developed and more wells are constructed.

DEQ decides dependability on weight of evidence and best professional judgment. In some cases, providing 100% assurance that the supply will remain "dependable" may be difficult due to:

- Uncertainties in the analysis and assumptions used
- Future impacts from new wells in the area
- Changes in irrigation practices

DEQ looks at dependability only for subdivision under review, with level of analysis based on:

- Size of subdivision
- Location of subdivision/hydrogeological setting
- Known problems in the area
- Input from area residents

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Types of water systems

- Individual – one
- Shared – two
- Multi-family – three to public
- A public system is defined by the Safe Drinking Water Act as one that serves 25 people for 60 days out of the year or has 15 service connections. Subdivision rules pick up 25 people based on current census data.
- Public can be a new well or connection to existing.
- Hauled – cisterns (owner or certified water haulers)

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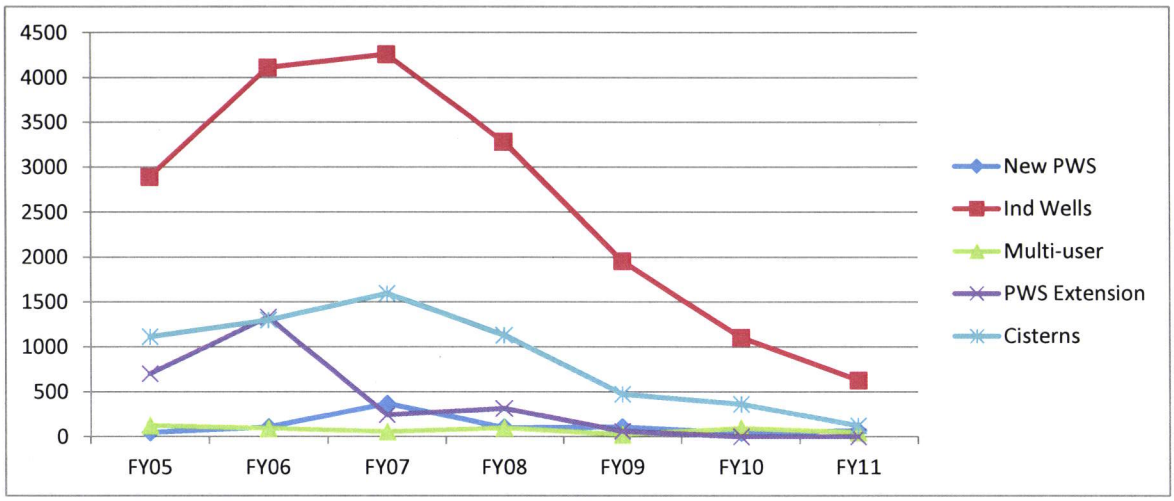
Public Water Systems

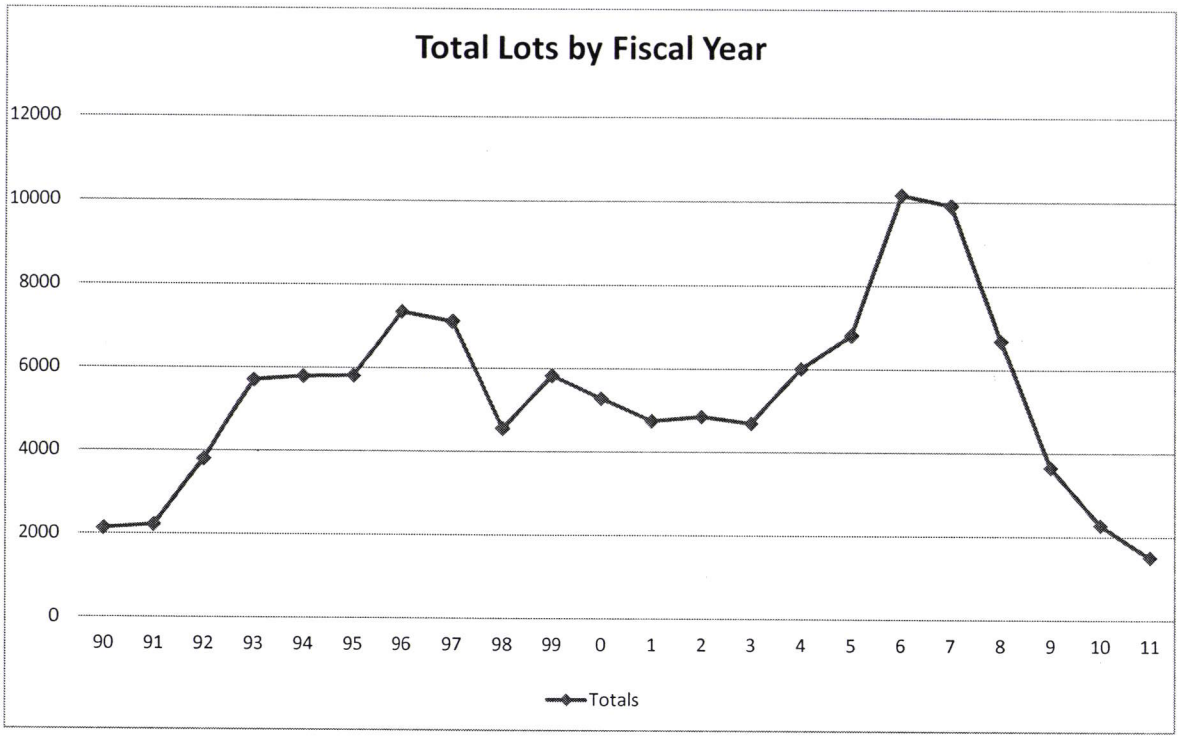
- 75-6 MCA and 17.38.100 ARM
- Public means serving 25 people for 60 days/year
- Transient – different 25 like at a restaurant
- Non-transient non-community – same 25 for 8 hours a day like a school
- Community – same 25 all day like a subdivision
- DEQ-3 & DEQ-1 are design standards and both say
  - If water rights are needed you must show proof of application at time of system design
  - Must show proof of water right at time of use
  - 3 year shelf life for plans – problems associated with that

Water in Subdivisions presented to WPIC by Steve Kilbreath 1/10/2012

	Cisterns	Individual	Multi-user	New public	Public Ext	% exempt well
FY05	49	2893	128	702	1115	62
FY06	110	4113	96	1332	1302	60
FY07	374	4262	59	247	1597	65
FY08	105	3283	100	316	1133	68
FY09	111	1955	24	60	478	75
FY10	47	1101	97	0	368	75
FY11	71	629	51	0	125	78



	Lots	Acres	Average Acres	Percent
Total lots with avg acreage	28435	91291	3.21	
Total lots with cisterns	867	3271	3.77	3.05
Total lots with individual well	18237	78064	4.28	64.14
Total lots with multi-user	469	1549	3.30	1.65
Total lots with new pws	2745	2613	0.95	9.65
Total lots with pws ext or con	6117	5794	0.95	21.51


Total Lots by Fiscal Year
12000
10000
8000
6000
4000
2000
0
90
91
92
93
94
95
96
97
98
99
0
1
2
3
4
5
6
7
8
9
10
11
Totals

CNTY_NAME	TOTAL LOTS FY90	TOTAL LOTS FY91	TOTAL LOTS FY92	TOTAL LOTS FY93	TOTAL LOTS FY94	TOTAL LOTS FY95	TOTAL LOTS FY96	TOTAL LOTS FY97	TOTAL LOTS FY98	TOTAL LOTS FY99	TOTAL LOTS FY00	TOTAL LOTS FY01	TOTAL LOTS FY02	TOTAL LOTS FY03	TOTAL LOTS FY04	TOTAL LOTS FY05	TOTAL LOTS FY06	TOTAL LOTS FY07	TOTAL LOTS FY08	TOTAL LOTS FY09	TOTAL LOTS FY10	TOTAL LOTS FY11	Total lots
Treasure	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
Prairie	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	5
Wibaux	3	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	8
Golden Valley	4	0	0	0	0	0	0	0	3	3	2	0	0	0	0	0	0	0	0	0	0	0	12
Powder River	0	4	0	0	0	0	0	1	0	1	0	2	0	0	0	1	0	0	4	0	1	0	14
Garfield	0	0	0	0	0	0	10	0	0	0	0	3	0	0	0	1	0	0	0	0	1	0	15
Blaine	4	3	1	2	2	0	2	0	0	0	0	0	0	0	0	1	1	0	3	0	0	0	19
Liberty	3	0	8	0	0	1	0	2	2	2	0	0	0	0	6	0	0	0	0	0	0	0	24
Carter	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	23	0	0	0	0	1	0	26
Petroleum	1	0	0	0	0	0	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28
Daniels	0	1	3	0	1	2	2	0	10	1	0	8	0	0	2	1	0	0	0	0	2	0	33
Judith Basin	11	0	0	0	4	0	0	1	2	2	2	0	3	3	0	0	0	0	2	1	0	2	33
Pondera	0	3	3	2	3	2	1	6	1	2	1	2	1	1	3	0	0	0	0	1	1	4	37
Wheatland	3	0	0	0	14	3	6	5	5	1	0	2	1	0	0	0	0	0	1	1	1	0	43
Musselshell	0	0	0	2	0	2	4	3	4	30	0	0	6	1	0	1	0	0	1	0	1	3	58
Fallon	0	1	0	1	0	1	3	0	0	0	0	2	8	1	3	2	2	4	12	12	3	4	59
Choteau	0	0	8	3	0	2	0	5	7	2	1	3	7	0	0	0	2	6	4	13	0	5	68
Roosevelt	2	0	1	6	1	2	0	4	0	0	1	0	1	1	1	1	0	1	4	2	0	40	68
Rosebud	4	1	4	1	1	0	1	1	2	1	46	1	3	1	1	2	0	0	1	0	1	0	72
Dawson	2	2	0	8	9	5	0	2	19	14	2	4	2	0	0	1	0	0	4	0	1	0	75
McCone	1	0	0	0	0	1	2	0	29	0	0	1	0	0	0	0	0	0	0	13	1	30	78
Toole	2	2	10	13	6	7	3	5	3	0	9	1	0	0	7	0	1	7	0	0	0	3	79
Custer	5	1	6	2	1	2	5	6	8	9	0	2	2	1	1	4	1	14	0	1	14	5	90
Sheridan	4	11	20	1	28	7	10	0	0	0	1	3	2	3	0	2	0	0	0	1	29	8	130
Glacier	4	2	6	3	7	6	6	52	3	6	1	4	4	4	1	6	16	0	0	0	4	0	135
Meagher	6	2	2	4	53	2	15	6	34	8	0	1	2	1	2	1	1	0	1	2	2	0	145
Phillips	0	2	6	49	2	12	4	3	0	6	1	4	0	33	0	9	3	2	0	0	0	44	180
Richland	9	15	11	11	4	8	7	2	3	100	8	5	4	8	2	2	1	11	10	3	3	22	249
Teton	13	29	15	3	6	16	15	8	23	16	3	6	13	7	6	5	6	38	8	3	23	15	277
Big Horn	11	14	12	3	39	5	43	2	11	7	5	18	1	92	12	28	4	19	7	8	1	3	345
Sweetgrass	4	4	7	6	9	7	35	51	11	17	10	9	140	25	3	17	9	10	0	10	3	3	390
Valley	5	2	0	1	0	4	4	2	31	39	4	8	156	28	21	5	8	0	0	63	79	5	465
Powell	5	4	5	6	6	27	5	8	80	20	6	8	2	23	5	6	44	124	61	2	3	46	496
Hill	16	11	72	31	24	12	46	181	7	4	7	23	2	12	6	12	3	18	80	7	26	7	607
Fergus	5	7	9	35	42	25	31	36	61	43	9	13	77	27	9	0	0	17	139	37	42	15	679
Deer Lodge	28	7	6	9	17	22	43	24	44	83	46	13	8	54	40	78	66	80	4	35	6	15	728
Granite	7	12	17	0	35	12	54	80	26	23	51	13	22	14	7	114	37	73	40	30	89	10	766
Beaverhead	21	25	45	27	79	60	95	51	78	31	34	63	17	97	41	18	30	116	131	20	10	17	1106
Stillwater	14	19	23	20	39	76	108	111	47	65	91	105	78	38	61	43	75	63	153	31	15	33	1308
Silver Bow	72	66	41	48	57	52	167	147	130	42	96	12	21	26	17	127	66	21	112	13	75	7	1415
Mineral	20	14	21	110	53	98	254	134	68	31	76	27	50	24	61	54	46	126	82	14	80	133	1576
Jefferson	19	44	42	44	59	138	111	256	146	61	78	57	49	31	47	122	177	216	161	127	48	67	2100
Park	37	55	34	200	159	124	458	92	115	112	62	71	77	71	59	80	128	130	79	32	20	25	2220
Carbon	33	54	78	73	56	159	151	462	59	71	107	53	63	54	70	145	263	247	88	88	27	25	2426
Cascade	82	46	98	83	72	100	152	360	117	233	207	130	75	134	67	133	118	214	229	113	86	27	2876
Sanders	37	54	49	192	132	187	206	195	151	155	116	59	56	94	127	185	234	537	248	224	44	74	3356
Broadwater	4	6	27	66	10	45	75	61	54	117	64	98	59	131	193	224	488	1219	438	31	8	8	3426
Madison	17	22	76	121	159	169	260	162	94	170	449	87	99	158	349	353	387	309	464	24	96	76	4101
Lake	123	115	188	225	215	277	291	201	164	284	433	239	212	130	187	222	536	323	469	142	65	71	5112
Lincoln	151	66	128	190	207	424	337	335	339	285	157	189	150	184	242	232	1153	423	364	439	221	108	6324
Lewis & Clark	60	78	128	332	271	214	326	532	327	383	361	503	409	226	394	429	1160	1580	523	222	58	132	8648
Yellowstone	112	97	259	426	624	311	473	728	138	486	503	397	255	623	445	638	525	516	430	409	285	31	8711
Ravalli	164	201	329	460	539	510	533	483	416	314	283	388	354	243	448	718	1103	469	396	257	148	69	8825
Missoula	229	384	504	767	581	654	801	577	317	544	311	281	247	202	640	425	409	541	320	182	184	39	9139
Gallatin	122	275	542	722	649	1074	1266	710	751	1271	636	1084	1286	793	1122	793	1762	956	727	217	199	88	17045
Flathead	653	455	955	1393	1518	941	900	1028	615	731	1000	740	824	1092	1302	1546	1305	1487	890	830	262	184	20651
Totals	2133	2216	3799	5702	5793	5808	7349	7121	4556	5826	5280	4742	4853	4692	6010	6814	10171	9917	6690	3660	2269	1503	116904

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