

Supplemental Licensing Memo

Date: June 3, 2011

To: File 22-7814

From: Craig L. Saxton

Re: Diversion Rate, Diversion Volume, & Addition of Fire Protection

Researching the documents in the file, and looking at aerial photography, it was determined that fifteen (15) 4 plex apartments were built and developed within the authorized development period or prior to **October 1, 2005** when proof was due.

The 2004 aerial photography also supports what appear to be 5 commercial buildings/homes (Central district health office, and the others appear to be property management offices and private homes).

Instantaneous diversion rate (See Spreadsheet):

Calculated based on the number of fixtures per 4 plex unit. See attached spreadsheet for details, but to summarize:

Typical instantaneous diversion rate per fixture for public buildings with 0-50 fixtures is 0.5 GPM. Each 4 plex unit was estimated to have 28 fixtures:

$(0.5 \text{ gpm})(28 \text{ fixtures})(15 \text{ units}) = 210 \text{ gpm} (0.47 \text{ cfs})$
Add 15% to that number if the units include laundry facility

$(0.47 \text{ cfs})(1.15) = 0.54 \text{ cfs}$

Per chart for Maximum instantaneous water requirements for domestic use:
5 domestic uses = 0.11 cfs

Total Instantaneous diversion rate = **0.65 cfs**

Diversion Volume (See Spreadsheet):

Page 6 of Licensing Memo No. 1 provides:

"When licensing a permit for municipal use for a municipal provider that does not serve an incorporated city, the extent of beneficial use established under a non-RAFN permit should be described with both a rate of flow and a volume limitation."

Despite that we know the system has now been incorporated to the City of Driggs municipal system, it was not incorporated during the authorized development period. A diversion volume is required.

60 apartment units + 5 domestic/offices = 65 domestic uses.

0.6 AFA per domestic use = 39 AFA

Irrigation: Using ArcMap, I calculated 3.8 acres of irrigation. The permit is conditioned to limit irrigation to that occurring under a domestic type use:

"Irrigation of large projects such as parks, golf course, or sports activities fields is not authorized under this right."

Therefore any volume associated with the irrigation portion has to be based on the assumption that these are ½ acre parcels in association with a domestic use where 0.6 af per domestic use is authorized.

$3.8 \text{ acres} / 0.5 \text{ acres} * 0.6 \text{ AFA} = 4.6 \text{ AFA}$

Total AFA = 43.6 AFA

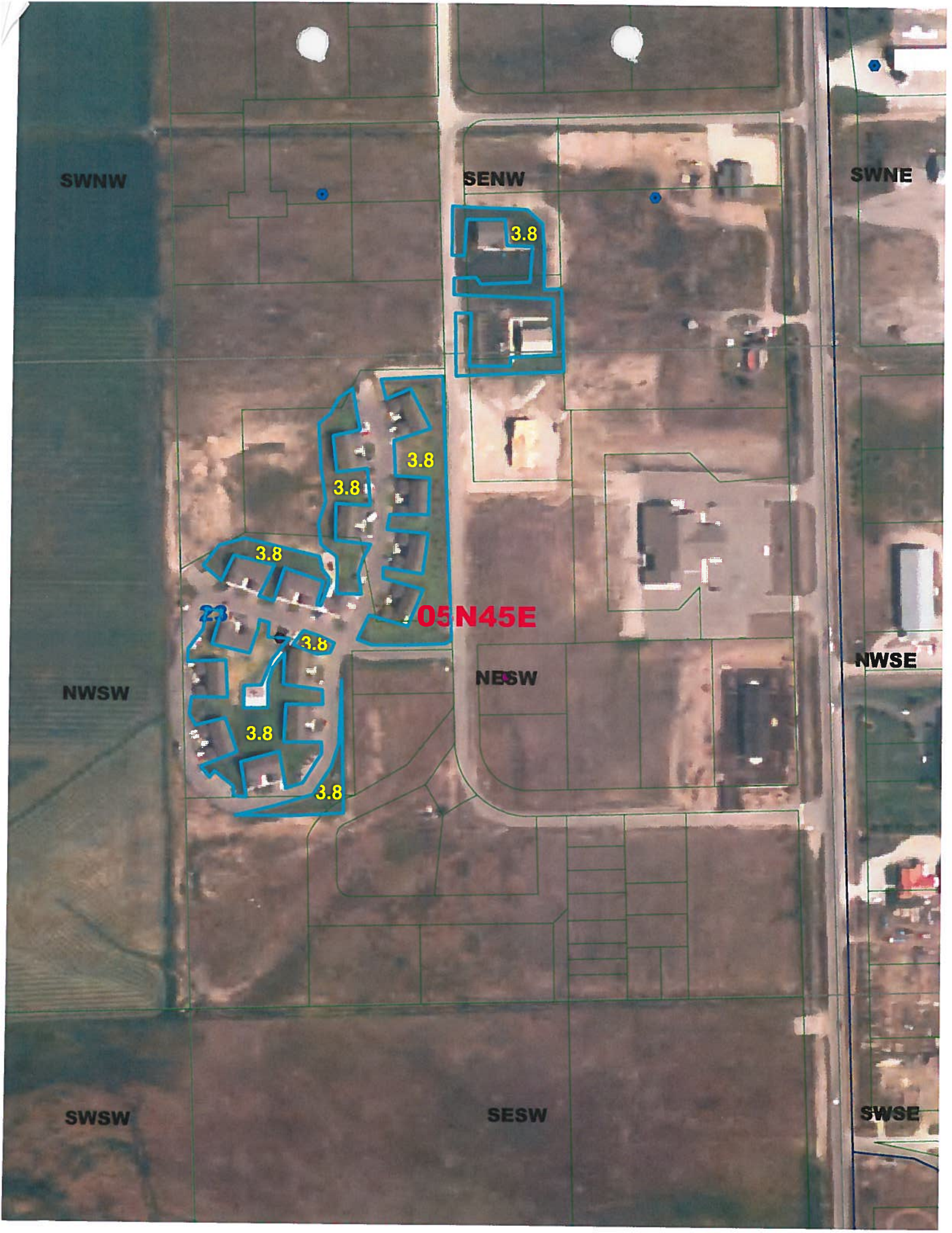
Fire Protection:

Fire protection was added as a purpose of use. Municipal purpose of use includes fire protection, so breaking fire protection out and describing it separately is not enlarging the use by adding a new purpose of use.

The license lists Fire Protection as a separate use because additional diversion rate can be justified under the Fire Protection use.

Page 6 of Licensing Memo No. 1 provides:

"As described above, additional rate justified solely for fire protection should be listed as a separate use on the permit to ensure that the rate, if approved, does not create a de facto water right for RAFN."



SNNW

SENW

SWNE

3.8

3.8

3.8

3.8

05N45E

3.8

3.8

3.8

NWSW

NESW

NWSE

SWSW

SESW

SWSE

Diversion Rate and Volume Calculation

Diversion Rate Calculations

	Single Unit	Total # of fixtures per 4 Plex	
Kitchen	1	4	Per Exhibit 14: Public Building Water requirements
Toilets	2	8	0.5 gpm per/fixture (single public building with 0-50 fixtures)
Tub/Shower	2	8	28 number of fixtures in a single 4 plex unit
Bath Sink	2	8	14 gpm (instantaneous demand for a single 4 plex unit)
		28	0.03 CFS (instantaneous demand for a single 4 plex unit)
			0.47 Total CFS for 15 units
			0.54 cfs Add 15% for laundry facilities
1 Central District Health			
4 office buildings			
0.11 cfs			Per chart for Max Instantaneous water Requirement for domestic use
Total =	15 apt units	0.54	
	5 office/homes	0.11	
		0.65 cfs	

Volume Calculation

15 = # of 4 plexes
 60 = # of apartments (4 plex * # of units)
 0.6 = standard AF per domestic unit

36.0 AFA

5 Total # of office buildings/domestic use
 0.6 AFA per domestic use

3.00 AFA

39.0 AFA

Exhibit 14

PUBLIC BUILDING WATER REQUIREMENTS

use this

Kind of Building		Number of Fixtures				See Notes
		0-50	51-100	101-200	201-400	
Hotels/Clubs	Gpm/Fixture	0.65	0.55	0.45	0.35	A B
	Min. Gpm	25	35	60	100	
	Max. Gpm	33	55	90	140	
Hospitals	Gpm/Fixture	1	0.8	0.6	0.5	A B
	Min. Gpm	25	55	85	125	
	Max. Gpm	50	80	120	200	
Apartments/Hotels	Gpm/Fixture	0.5	0.35	0.3	0.28	A
	Min. Gpm	16	30	40	65	
	Max. Gpm	25	35	60	115	
Mercantile	Gpm/Fixture	1.3	0.75	0.7	0.6	A C
	Min. Gpm	40	70	80	150	
	Max. Gpm	65	75	140	240	
Office	Gpm/Fixture	1.1	0.7	0.6	0.5	A C
	Min. Gpm	35	60	80	140	
	Max. Gpm	55	70	120	200	
Schools/Churches	Gpm/Fixture	1	0.6	0.5	0.4	A
	Min. Gpm	20	50	70	110	
	Max. Gpm	50	60	100	160	

A. Table are based on equal number of men and women. If major number of occupants are women increase capacity 15%.

B. Where laundry is operated in connection with building increase capacity 15%.

C. These estimates do not include water for special process work. The extra amount should be determined and added to the total capacity.

Source, Hydraulic Handbook, Colt Industries, 1979, p. 90.

Date 9/7/00 sig. B. Contor

Claim

Doc Source DAIR Field

Examiner's Handbook

NOTE: THESE CHART VALUES ARE USED FOR HOUSE USE ONLY. YOU MUST CALCULATE THE TOTAL ACRES (1/2 ACRE PER LOT), MULTIPLY BY 0.02 CFS/ACRE AND ADD THAT UNDER THE DOMESTIC VALUE. DO NO LIST IRRIGATION AS A SEPARATE ENTITY. (8 AUG 1996)

Single Family Domestic Home-----0.04 cfs @ 1.2 afa
Single Family Trailer Home-----0.02 cfs @ 0.6 afa

APPENDIX IV

MAXIMUM INSTANTANEOUS WATER REQUIREMENTS FOR DOMESTIC USE

