

MEMO

TO: File 79-7249

FROM: CPadilla

DATE: March 22, 2011

RE: Licensing Review Memo

Time Line:

Application for Permit Received: 10/15/96

Permit Approved: 12/31/96

Proof of Beneficial Use Received: 11/17/97

Field Exam Conducted: 9/19/07

POU Overlap Analysis: There are no overlapping water rights. Right 79-7183 has been voided.

PD Summary: There are two points of diversion in the spring where a perforated pipe and a five gallon bucket convey water to a collection area (garbage can), that I will designate as collection area 1, about 200' down the hill. From collection area 1 the water is piped to a second collection area (also a garbage can and is designated as collection area 2) about 218' toward the house before being carried to the hose bib for irrigating lawn/home. Collection area 2 and the house are roughly 66' apart. The pipe that conveys the water is 1" plastic piping. There was little water flowing at the time of the field examiner's visit so the examiner estimated 0.02 cfs as the system's capacity based on bucket and stopwatch method. The examiner measured 0.01 cfs at the point of diversion and added another 0.01 cfs to account for spring run-off flow. I conducted further calculations in order to estimate the system's capacity using the Manning's Equation as follows: *I assume that the pipe is running full since there are collection points*

Manning's Equation $\rightarrow Q = 1.49/n AR^{0.67} S^{0.5}$

Pipe = 1" or 0.083'

Radius = 0.042'

Pipe material, plastic (n) = 0.009

Area = $3.14 \times (r^2)$ or 0.006ft²

Wetted Perimeter = $2 \times 3.14 \times 0.042 = 0.26'$

Hydraulic Radius (R) = $0.006/0.26 = 0.02$

Slope* = 1). 0.20' (from the PD to collection area 1)

2). 0.29' (from collection area 1 to collection area 2)

3). 0.15' (from collection area 2 to the POU)

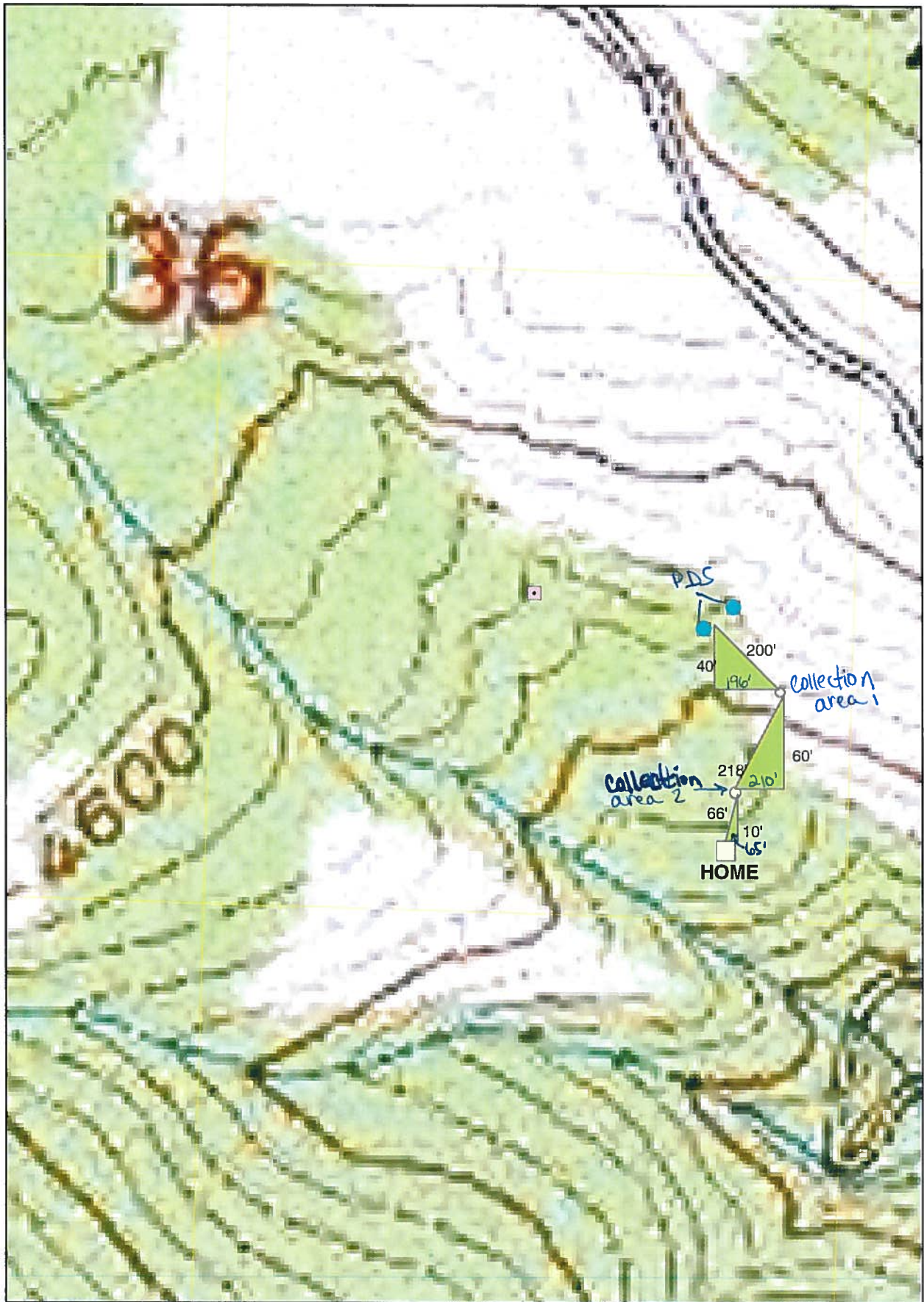
For the three different scenarios the results are 1). 0.036 or 0.04 cfs 2). 0.043 or 0.04 cfs 3). 0.03 cfs.

*Slope calculations were conducted using the attached map

I recommend that we license this right for 0.03 cfs since we can prove that the system can at least provide 0.03 cfs no matter what the spring is doing (unless it's completely dry). Water can be collected at various points on the system and the limiting factor is not the springs capacity but rather the system's.

Volume and Diversion Rate: Diversion rate recommended for 0.03 cfs and the volume will be the amount recommended by the field examiner, 1.2 afa.

Amendment Needed?: Yes, there are two points of diversion in the spring, not one.



Contour lines = 40' interval