

SAMPLE LETTER FOR POPULATION SURVEY CRITERIA

Date

Name
Address

RE: DWR POPULATION SURVEY STANDARDS

Dear Name:

As you requested, here are the Department of Water Resources standards for conducting a population survey. The Department requires that any survey of population be correct to within a 95% confidence interval plus or minus 0.2 persons per housing unit (PPHU). In order to help you attain this level of confidence in the data, we have obtained a simple equation from Dr. Gary Woodard of the UA's Division of Economic and Business Administration. The equation is used to derive the number of households you must sample (sample size). In the equation, N is the total number of households you serve and n is the sample size needed to obtain acceptable survey results.

$$\text{Equation: } n = \frac{N}{1 + [0.00463 \times (N-1)]}$$

According to our records, Water Company served S households as of July 1, 1989. The sample size for your survey is X households, and was determined as follows:

$$1) n = \frac{S}{1 + [0.00463 \times (S-1)]}$$

$$2) n = \frac{S}{1 + [0.00463 \times A]}$$

$$3) n = \frac{S}{1 + B}$$

$$4) n = X \text{ (sample size)}$$

In addition to sampling X households in your survey, you must ensure that the sample is random. This is done by pre-selecting every "nth" household from your customer list and contacting those households only. Do not substitute any other households for those pre-selected, as this will bias the survey and make it unacceptable to the Department. In order to randomly choose 119 households to be surveyed, just divide the total number of households by the number to be sampled.

Equation:
$$\frac{S}{X} = Z$$

As you can see, if you choose every Z th customer on your list, you will have chosen $\frac{S}{Z}$ households, T over the required X . You can either go ahead and contact the extra T households, or reduce the number chosen to X by skipping a customer every E counted to reduce the number chosen by T . We can help you to pre-select households if you provide us with your customer list.

When you reach a household, ask how many permanent residents live at the address. You must be sure not to count seasonal residents and guests in the count. A permanent resident is one who lives year-round at the address and considers it his or her sole residence.

If no one is home at one of the randomly selected households the first time you contact them, keep trying either by phone, mail, in person, or in any manner that is appropriate for you. **AGAIN, DO NOT SUBSTITUTE ANOTHER HOUSEHOLD FOR A PRE-SELECTED ONE AS THIS WILL BIAS THE SURVEY AND MAKE IT UNACCEPTABLE.** In general, the harder a household is to reach, the fewer number of people reside there. Therefore if you are not able to reach a pre-selected household after trying your best, the Department will assume a PPHU of 1.5 for that household.

If you follow the directions above for conducting a population survey, you will be assured of statistically significant results that will be acceptable by the Department. Please call me if you have any questions. Again, I will be happy to assist you with pre-selecting a random sample of households before you begin your survey.

Sincerely,

Equation:
$$\frac{S}{X} = Z$$

As you can see, if you choose every z th customer on your list, you will have chosen Q households, T over the required X . You can either go ahead and contact the extra T households, or reduce the number chosen to X by skipping a customer every E counted to reduce the number chosen by T . We can help you to pre-select households if you provide us with your customer list.

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