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**GLHN, INC.**  
**MEMORANDUM**

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DATE: September 24, 1996

TO: Gretchen Kent ( Fort Hauchuca Environmental Section)

FROM: John C. McGarr

SUBJECT: Water Demands at Fort Hauchuca

JOB No.: 9428.01

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Per your request, there are several sources for predicting water demands at the fort. The following identifies some of the major sources and the limitation associated with the source.

- Departments of the Army, Technical Manual TM5-813-1, June 4, 87, "Water Supply, Sources and General Considerations"

Table 2-1, Domestic Water Allowances for Army and Air Force Projects, estimates the water demand for permanent Camps and Forts at 150 gallons per capita per day (GPCPD), and for Hospital Units at 600 gallons per day per bed. This projection includes laundries to serve resident personal, limited irrigation, and uses around the housing units. Non-resident personal are assumed to use 33% of the projected demand (50 GPCPD). This projection does not include special industrial demands (large cooling towers, large vehicle wash racks, etc.), nor special irrigation uses ( large turf area).

- Departments of the Army, Technical Manual TM5-813-7, March, 75, "Water Supply for Special Projects"

This manual predicts a demand of 150 GPCPD.

- Available Records on Water Well Production

Between the period of 1978 through 1993, the average per capita use at the fort was 223 GPCPD. This factor was calculated using the reported population with the non-resident population factored in at 33%. In the same period, an average of 148 GPCPD was returned to the treatment plant as wastewater flow. During the period between 1994 and 1995, after the Fort enacted water use restrictions, the demand for water dropped to approximately 185 GPDPC, and there was no substantial change in the wastewater flows. It should be pointed out that the quality of the existing meters, at the wells and the wastewater treatment plant, was

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less that desired, however the above data was adjusted to account for the known variations between actual flow rates and recorded flow rates.

In utilizing this data for planning purposes, the 185 GPCPD is likely a reasonable number to input into your projects until the expanded reuse system is constructed. With full implementation of expanded reuse on the fort, the demand for groundwater should be reduced even further to approximately 158 GPCPD. This reduced demand may not appear substantial, but on a yearly basis, this reduction will reduce the demand for groundwater by 102, 600,000 gallons per year.

We hope that this helps you, and if you need additional information please call us.

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**GLHN**  
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To: U.S. Army Garrison  
Directorate of Engineering and Housing  
Fort Huachuca, AZ 85613

Date: Oct. 10, 1996  
Time: \_\_\_\_\_

Project: Water Reuse and Recharge

Attention:  
Mr. Michael Shaughnessey  
Ms. Geetchen Kent

Project No.: 9428.01

Fax No.: 520-533-3709 / 520-533-3043

GLHN Inc. Fax No. (602) 795-1822

Remarks:

Attached is the information Gretchen requested. Call me if you have any questions.

Please notify us if Facsimile is not received in full.

Copy to: \_\_\_\_\_

From: John C. McGann P.E.

Original to follow? [no]

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