

29 Jan 93

MEMORANDUM FOR RECORD

SUBJECT: Review of draft Unrestricted Water Requirements at Fort Huachuca Military Reservation - January 1993

1. Reference letter, Planning & Management Consultants, Ltd., 20 January 1993, subject as above.
2. Review of subject document follows:
 - a. Page 1: line one: 'sixty' should read 'seventy'.
 - b. Page 1: line 7-9: 'United States Army Intelligence Center and School', '...Communications Agency, the United States Army Information Systems Command, United States Army Electronic Proving Ground, and the 11th Signal Brigade.'
 - c. Page 3: WATER SUPPLY SOURCES AND THEIR USES, 2nd paragraph, '...dust control, (ADD) replenish stabilization ponds, and a vehicle wash rack.
 - d. Page 4: Table II.1, Nonpotable-Groundwater wells, (ADD) under 'USE', stabilization ponds and under 'REMARKS' and one well in the Main Post Garden Canyon area.
 - e. Page 4: Table II.1, Nonpotable-Springs, 'Supports wildlife, recreation, dust control, fire fighting, military training activities, and pond stabilization.'
 - f. Page 4: 2 line of text, 'on-base' change to 'on-post'.
 - g. Page 8: Nonpotable Groundwater Sources and Uses, add 'Garden Canyon well'; 2nd para, 4th line '...exercises in' change to '...exercises and'.
 - h. Page 8: Nonpotable Groundwater Sources and Uses, ADD to end of 1st paragraph, 'Garden Canyon well provides water to supplement, when the spring water line runs low; this spring line feeds water to two stabilization ponds. The water production of this well is not known and there are no available estimates.
 - i. Page 8: Nonpotable Spring Sources and Uses, 2nd paragraph, line 9, 'base' change to 'post' and last line, 'base' change to 'post'.
 - j. Page 8: Nonpotable Spring Sources and Uses, should state all the uses not just the pond stabilization, i.e., the springs provide water for dust control, fire fighting and military

SUBJECT: Review of draft Unrestricted Water Requirements at Fort Huachuca Military Reservation - January 1993

training activities. In addition, though the post is not currently using spring water for potable uses, there is an infrastructure in place to allow for such use. Also, it should be mentioned that the estimated annual use of the 39 springs is 176.7 acre-feet. Could also expand this subject on pages 30-32, Nonpotable and Effluent Water Use and pages 42-44.

k. Page 9: Effluent Water, there are meters measuring the flow of effluent to the golf course and Chaffee Parade Field. A copy of the metering is enclosed (encl 1). There are figures from July 1990 for the golf course. There are no current measurements for Chaffee Field due to the relocation of the Field due to BRAC construction and a system failure that is being resolved. Could also expand this subject on pages 30-32, Nonpotable and Effluent Water Use and pages 42-44.

l. Page 9: Effluent Water, There are 10 ponds involved with the sewage treatment on the installation with an estimated annual capacity of 38.7 acre-feet. There are an additional 64 ponds that are used for erosion control, recreation, military training activities, and fire fighting. The estimated annual capacity of these ponds is 160.2 acre-feet. HSR, Table 5-54 (revised by post), page 391; enclosure 2.

m. Page 9: Effluent Water, rewrite paragraph to reflect metered information for the golf course (see encl 1). The effluent system for Chaffee Field was connected on 28 Jan 93, however, due to system problems, no metering data is available. This problem is currently being resolved.

n. Page 9: WATER DISTRIBUTION SYSTEM, 1st paragraph, lines 2 and 3, '...and, in some cases, ...' delete 'in some cases,'; add after '...distribution system', 'and to storage reservoirs.'

o. Page 10: III. IWRAPS@ FORECASTING MODEL, 2nd paragraph, Question refers to 1st sentence, 'The model utilizes winter water requirements, weather inputs, total square footage, and improved acreage to determine the summer water needs.', Will this include the water required for cooling systems for housing and other than housing buildings? How is the length in days determined for 'summer water needs'?

p. Page 10: Building Types and Sizes, line 3, 'base' change to 'post'.

SUBJECT: Review of draft Unrestricted Water Requirements at Fort Huachuca Military Reservation - January 1993

q. Pages 11 & 12: Construction and Demolition. The premise that new construction will have more efficient water infrastructure, thus less water per square feet than existing buildings is valid, however, the use of WWII buildings has one unique factor that should be considered when weighing the square feet of new construction to demolition of WWII wood. The use of WWII building has been one of 'make shift' adaptation and 'let's make it work' philosophy. This activity over time has not provided efficient use of space within these buildings, nor have the buildings been necessarily modified to new construction standards as it applies to human comforts, i.e. breakrooms, increase of water fountains, showers, etc. The new construction has specific design guides that will be meet to provide the human comforts and allow for efficient use of space. The use of systems or modular furniture has reduced the square foot usage from 130 SF per person to 106 SF per person. This accommodates more people in a building, thus more use of the water base elements. Most, if not all, WWII buildings on post were partitioned (walled) and used the bulky metal/wood desks and file cabinets. It is felt that a reevaluation of the weight given to new construction be different than the weight of demolition of WWII wood buildings in the IWRAPS model, that is, it should not be a 1:1 ratio for the reasons stated above.

r. Page 16: Water Production and Usage Data, line 2, 'Appendices A and B' change to 'Appendices D and E'.

s. Page 18: 3rd paragraph, line 4, 'base' change to 'post' and line 12, 'buildings.' change to 'building.'.

t. Page 27: Vehicle Wash and Fundraiser Carwashes, Additional meter readings are enclosed (encl 3, source of the following meter readings). The 11th Signal BDE vehicle wash meter currently reads 113,000 gallons. This meter was installed in November 1992. The Libby Army Airfield wash apron currently reads 91,460 gallons. This meter was installed in September 1992. The installation vehicle wash facility was also metered in November 1992, however, upon completion of the job a water line break was discovered under the washrack. For this reason no meter data is available. The problem will be repaired as soon as a design modification has been approved.

u. Page 31: Other Facilities, 2nd paragraph, need to change narrative to reflect sewage metering data provided in enclosure 1.

v. Page 32: line 1, 'the base' change to 'post' and 2nd para, line 3, '1995' change to '1993'.

SUBJECT: Review of draft Unrestricted Water Requirements at Fort Huachuca Military Reservation - January 1993

w. Page 32: Improved Acreage. The figure of 1,287 acres of improved ground is low, (need source); the improved grounds figure is closer to 4,911.6 acres, of which 3,843 acres are maintained in content of this paragraph: Source-Statement of Work, Chapter C.5.3., CA contract.

x. Page 36: Effective Population. A copy of the ASIP is provided to address the population growth on the installation through 1998 (encl 4). The ASIP does not account for dependents living on post, therefore, the figures shown in the ASIP should be adjusted by approximately 4,830 for each year to reflect the on-post dependent population.

y. Page 40: Table V.2. Why are the QRATIO the same for the cemetery, fish holding facility, swimming pools, garden plots, and Brown Parade Field?

z. Page 40: Table V.2. Why is the summer water loss (unaccounted) greater than the winter water loss (unaccounted)?

aa. Page 41: 2nd paragraph, 'the base' change to 'post'.

bb. Page 41: WINTER UNRESTRICTED IWRAPS@ FORECAST RESULTS. Refer to line 11, 'No planned construction or demolition between the years 2005 and 2025 results in identical water requirement forecasts during this period.' There are major new construction projects due to mission changes and expansion on the installation during 2005 to 2025. A copy of the draft JOTS/SWATS Master Plan is enclosed (encl 5), specific details on SF and personnel are mentioned on pages 1-13 & 14, 3-13, 7-23, 8-2, and 8-4 & 5. In addition, there are plans by two major tenants on post, EPG and JITC, to expand between 2000 and 20025 (contact Mr. Hill (602) 533-5529 for more details). The continued review of the DOD services under BRAC actions will involve bringing new missions to the post that are unknown at this time. Mr. Hill has stated that 'there will be major replacement projects all through this period (2005-2025)'.

cc. Page 42: NONPOTABLE AND EFFLUENT WATER, last sentence, add the following uses: military training activities and recreation.

dd. Page 42: NONPOTABLE AND EFFLUENT WATER, last sentence, '...fighting exercise...' delete 'exercise'.

SUBJECT: Review of draft Unrestricted Water Requirements at Fort Huachuca Military Reservation - January 1993

ee. Page 42: NONPOTABLE AND EFFLUENT WATER, last sentence, the statement '...there are no available estimates of this type of water use.', the HSR provides the post's estimated use for these types of water uses. Refer to enclosure 2 for this information.

ff. Page 43: line 4 of text, '1995' change to '1993' and 'There are no available metered data on water use at Chaffee Parade Field and the golf course...' refer to enclosure 1 for data on the golf course.

gg. Page 44: SECTORAL WATER USE ANALYSIS, 2nd paragraph. Why is the forecast years for the four largest water use sectors from 1995-2010, why not 1995 to 2025?

hh. Page 44: SECTORAL WATER USE ANALYSIS, last sentence. 'It appears that the total future water needs, both potable and nonpotable, at the installation is about 2,850 acre-feet.', in order to better reflect Table VI.5, the figure 2,850 should be 2,835. Additionally, this statement does not reflect the post's nonpotable water uses, refer to the estimated use claimed by the post (encl 2).

ii. Page 49: TABLE VI.4, Barracks; why is the water usage going down?

jj. Page 50: TABLE VI.5, Potable water; why is the ac-ft figure for 1991 (2,676.1 or 869.7 MG)) less than the FY91 figure of 872.01 MG (2,683.1 ac-ft), Table V.1, page 39? Are the years 1991, 1995, 2000, etc. FYs or calendar years?

kk. Page 50: TABLE VI.5, Potable water; why are the ac-ft figures for 1995, 2000, 2005, 2010, 2015, 2020, and 2025 different than the ac-ft equivalents noted in TABLE VI.1 (page 42), for the same years (881.9 or 2713 ac-ft; 888.0 or 2732 ac-ft; 896.49 or 2758; 896.5 or 2758...)?

ll. Page 50: TABLE VI.5, Nonpotable water, refer to comment ee., above; the figure of 83.39 ac-ft reflects only a small portion of the nonpotable water uses at Fort Huachuca.

3. Would like you to provide comparison data from the other installations that have had the IWRAPS model applied showing the installation's metered water production vs. IWRAPS' figures, i.e., similar to Fort Huachuca's data as shown on page 6, Table II.2 and page 50, Table VI.5.

ATZS-EHE (420-17a)

29 Jan 93

SUBJECT: Review of draft Unrestricted Water Requirements at Fort
Huachuca Military Reservation - January 1993

4. Point of contact is the undersigned, telephone (602)
533-1864/1863.

5 Encls


MICHAEL M. SHAUGHNESSEY
IWRAPS Coordinator
Directorate of Engineering
and Housing