



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX  
75 Hawthorne Street  
San Francisco, CA 94105

November 16, 1999

Commanding Officer  
Engineering Field Activity, West  
Naval Facilities Engineering Command  
Attn: Mr. Stephen Chao  
900 Commodore Drive  
San Bruno, CA 94066-2402

Dear Mr. Chao:

The U.S. Environmental Protection Agency has reviewed the East-Side Aquifers Treatment System Draft Final Operation and Maintenance Manual, Moffett Federal Airfield. This review was performed by TRC, a subcontractor to TechLaw Inc., under an EPA contract.

In general, the Manual is well written and provides sufficient detail. However, several elements that are typically part of operation and maintenance plans for groundwater treatment systems are not included in the Manual or are not described in sufficient detail, as described in the enclosed comments.

We appreciate the opportunity to review this report and look forward to your response. If you have any questions regarding the comments, please call me at (415) 744-1685.

Sincerely,

A handwritten signature in cursive script that reads "Roberta Blank".

Roberta Blank  
Remedial Project Manager, Moffett

cc: Joseph Chou, RWQCB

Enclosure: (3 pgs)

PAGE 1

COMMENTS ON THE DRAFT FINAL  
OPERATION AND MAINTENANCE MANUAL  
EAST-SIDE AQUIFER TREATMENT SYSTEM

THE ABOVE IDENTIFIED PAGE IS NOT  
AVAILABLE.

EXTENSIVE RESEARCH WAS PERFORMED BY  
NAVFAC SOUTHWEST TO LOCATE THIS PAGE.  
THIS PAGE HAS BEEN INSERTED AS A  
PLACEHOLDER AND WILL BE REPLACED  
SHOULD THE MISSING ITEM BE LOCATED.

QUESTIONS MAY BE DIRECTED TO:

**DIANE C. SILVA**  
**RECORDS MANAGEMENT SPECIALIST**  
**NAVAL FACILITIES ENGINEERING COMMAND**  
**SOUTHWEST**  
**1220 PACIFIC HIGHWAY**  
**SAN DIEGO, CA 92132**

**TELEPHONE: (619) 532-3676**

4. **Section 4.5.2, Pages 30 and 31: GAG Changeout:** The Manual lacks sufficient detail with regards to the GAC Changeout procedures. To avoid confusion and misunderstanding by the treatment system operators, please revise the Manual to include more specific GAC Changeout procedures, e.g., specify whether the canisters themselves will be changed, whether the spent carbon will be shoveled out of the canister or whether the spent carbon will be vacuumed out, will a subcontractor be hired to do the changeout, ...)

In addition, as indicated in General Comment 2, this section calls for draining the lead GAC vessel to the secondary containment sump and allowing the sump to overflow. It is further stated that "The sump will overflow and trip the sump high level switch (LSSH-110), but because the system is already off, this should not be a concern." The Manual should be modified to specify proper containment of the drainage from the GAC vessel. Based on General Comment 2, please revise the Manual to reflect the modified changeout procedures.

5. **Section 4.5.2, Pages 30 and 31: GAG Changeout:** The last sentence of the fourth paragraph states: "Because of the very low influent contaminant concentrations, it is highly unlikely that the spent GAC will be a hazardous waste." Since this sentence could cause the operator to mishandle the spent carbon and to ensure that the operator uses the appropriate protective clothing, please omit this sentence.

#### MINOR COMMENTS

1. **Section 1.1, 2<sup>nd</sup> paragraph, Page 1:** The third sentence erroneously references "Attachment-1" instead of "Attachment A." To avoid confusion, please revise the text of the Manual to refer to "Attachment A".
2. **Section 2.2, Table 1, Pages 3 and 4:** The table shows Footnote 1 next to "Influent Concentration", but does not explain this footnote. For completeness, please add an explanation of Footnote 1 to Table 1. In addition, no influent concentration is given for TPH (extractable). Please, revise the Manual to include the TPH (extractable) influent concentration or explain, why no influent concentration is provided.
3. **Section 2.2.1, 4<sup>th</sup> paragraph, Page 5:** The text erroneously refers to LSLH-101 in the third sentence. However, the correct reference is LSHL-101. For consistency and to avoid confusion, please revise the text and tables of the Manual to indicate the correct identification code.
4. **Section 3.4, Table 3, Page 12:** The table refers to "NA", but does not define "NA" in the table notes. For completeness, please revise the Manual to define "NA" in the table notes. In addition, Table 3 lacks an entry in the "Normal Operating Range" column for the antiscalant pump (P-106). For completeness, please add the normal operating range for P-106.
5. **Section 4.1.1, Table 5, Page 18:** The second to last entry in the Equipment/Instrument Description column of Table 5 does not clearly state that "Pipe" refers to underground piping. Since the text and Table 6 refer to "Underground Pipe", please revise Table 5 to specify "Underground Pipe" instead of "Pipe" for clarity and consistency.

6. **Section 5.1, Table 9, Pages 35 and 36:** The table is missing an entry under "Analytical Methods" for hardness and TDS. For completeness, please revise the table to include the appropriate analytical methods for hardness and TDS.
  
7. For clarity, please correct the following sentences:  
**Section 4.1.3, 1<sup>st</sup> paragraph, Page 20:** In the second sentence, insert "is" between "(ER)" and "mounted";  
**Section 4.5.3, Page 31:** In the first sentence, delete "a" between "with" and "ranges".  
**Section 5.1, 2<sup>nd</sup> paragraph, Page 33:** Insert "to" between "according" and "the".  
**Section 7.1, 2<sup>nd</sup> paragraph, Page 38:** In the last sentence, insert "in" between "containerized" and "55-gallon".