

***NEW GUIDELINES FOR PREPARATION OF ENGINEERING REPORTS FOR
NEW DRINKING WATER SOURCES FOR REGULATED PUBLIC WATER SYSTEMS
September 12, 2007***

Unless otherwise directed by the Department of Health (DOH), Safe Drinking Water Branch (SDWB), a comprehensive engineering report of the proposed water works project shall be prepared and sealed by a registered engineer. The report shall be typewritten reproductions on letter-sized bond paper, firmly bound between appropriate covers. Drawings, diagrams, brochures, and other pertinent information shall be incorporated within the report. Two (2) copies of the report shall be submitted to the SDWB for initial review and comment. Applicants shall address all resulting comments to the satisfaction of the SDWB in order for the report to be deemed complete enough for interagency review. At the interagency review stage, the Applicant shall provide six (6) copies of the complete report for distribution to various agencies (County Water Department, Department of Land and Natural Resources Commission on Water Resource Management, State District Health Office, U.S. Geological Survey, University of Hawaii Water Resources Research Center and the DOH Wastewater Branch) for review and comment. These agencies are typically given 30 calendar days to respond. Upon completion of interagency review period, the Applicant shall address all interagency comments and resubmit one (1) copy of a final engineering report in bound hardcopy and in scanned “.pdf” format.

Upon receipt of this final submittal, a “conditional” approval letter authorizing the use of the proposed source will be issued by the SDWB. The additional requirements below may also apply.

New, proposed water systems (publicly or privately owned): the source review process must be completed through the interagency review stage, together with 1) a satisfactory demonstration of pre-construction technical, managerial and financial (TMF) capacity; and 2) review and approval by the Department of Health of the entire water system’s construction plans (including new sources), prior to the issuance of a SDWB letter authorizing the construction of said improvements. Authorization to use these improvements (including the new sources) will be granted following receipt of a satisfactory final engineering report, start-up TMF capacity documentation and the performance of a satisfactory sanitary survey by the SDWB.

County water system projects funded by the Drinking Water State Revolving Fund (DWSRF): must, in addition to processing the engineering report through the interagency review stage, additionally meet all applicable environmental review process, cross cutter, and construction document (plans and specs) submittal requirements prior to receipt of the authority to construct the new source from the SDWB. Authorization to use these improvements (including the new sources) will be granted following receipt of a satisfactory final engineering report.

The engineering report shall include, at a minimum, the following information as applicable to the proposed project:

General Information

1. Brief description of the project and location, including phasing schedule,
2. persons/communities served by new water source and/or service connections,
3. public water system (PWS) name and number (as designated by SDWB),
4. conformance with local land use planning and zoning regulations,
5. Name of well owner, land owner and any other authorized representative(s),

Physical Characteristics of Area

1. Site plan and topographic map of well or project site drawn to scale.
2. Earthquake considerations and design parameters,
3. Flood problems including tsunami inundation zones and preventive measures that may be used,

Well Information

1. Coordinates (latitude, longitude) in GPS NAD 83, State Well Number, and Tax Map Key Number,
2. Well cross-sectional diagram, as approved by the Department of Land and Natural Resources' Commission on Water Resource Management (CWRM), showing as-built well depth and depth to groundwater; CWRM-approved pumping rate (gpm) and/or proposed withdrawal (gpd);
3. Water quality data on any existing wells in the area;
4. Nature of soil and stratum within and overlaying the water source, with special emphasis on identification of fissures and faults as it relates to the natural purification or treatment of percolating fluids from existing or future activities,
5. Slope of water table, with a map showing approximate groundwater contours (if possible), preferably as determined from observation wells, or studies of wells in the area,
6. Data relating to quality and quantity of the source waters under normal conditions and during stress conditions such as drought or heavy precipitation, as determined by field and laboratory analyses and investigations of available records. If records are not available or are inadequate to determine source quality under stress conditions, an estimate of expected quality and quantity during stress conditions should be established and related to the hydrologic budget to the aquifer or isopiestic area.
7. Analyses for all of the contaminants listed in the table, "Contaminants to be Tested in All New Sources of Drinking Water", including Total Coliform and Fecal Coliform, shall be performed by a laboratory approved by the Department of Health, State Laboratories Division, for all sources being addressed in the report. For example, when approval of a "well field" is being sought, all of the wells must be tested for the all of the required contaminants.
8. Laboratories performing the analyses must be currently certified by the Hawaii Department of Health, State Laboratories Division. While the lab data has often been conveniently summarized in a table, some reports have failed to note when analyses have been subcontracted to another lab. The lab reports from all of the laboratories involved must be included in the engineering report to allow the Department to verify that an approved lab performed the analyses. Failure to do so will delay the review process.

Existing or Potential Sources of Contamination in Source Water Assessment and Protection Program (SWAP) zones

1. extent of SWAP zones likely to contribute water to source,
2. type of contaminants,
3. distance to proposed well,
4. method of disposal, i.e., surface, subsurface - above groundwater table, subsurface - in groundwater table,
5. "Sources of contamination" include but are not limited to urban development, agricultural areas, pasture lands, feedlots, sanitary landfills, dumps, subsurface disposal units and abandoned wells;
6. A copy of the 1:24,000 scale USGS map: this is the 7-1/2 minute quadrangle map. (Provide a portion large enough to identify the surrounding areas and surrounding pertinent features.) Plot on the map any injection wells, cesspools, septic systems or any other "sources of contamination" as listed above, located within, or a little more than, a 1/4 mile radius of the facility.
7. The probability and effect of surface drainage or contaminated underground water entering the source,
8. Identification of all significant factors having potential for contaminating or reducing the quality of the water source or which could cause the quality of water to be in violation of any state primary drinking water regulation.
9. For each present and projected potential source of contamination, identify and evaluate the alternative control measures that could be implemented to reduce or eliminate the potential for contamination of the water source.

Proposed Treatment Works

1. This section shall be included if treatment other than disinfection of groundwater is required. Pilot studies may be required for the proposed treatment works.
2. Summary description of proposed processes and unit parameters for treating the specific water under consideration. Include pertinent information on built up and packaged plant systems;
3. Site plan: Show on topographic maps the treatment plant and arrangement of present and proposed treatment facilities;
4. For modifications of an existing treatment plant: Describe the existing facilities and discuss plant modifications or expansions;

Professional Engineer Certification

Provide an engineer's certification that the engineering report and the information contained therein is true to the best of the engineer's knowledge and that the source of drinking water identified in the report will comply with Hawaii Administrative Rules Title 11 Chapter 20 Rules Relating to Potable Water Systems (refer to sample form below).

SAMPLE FORM
PROFESSIONAL ENGINEER CERTIFICATION

The undersigned, being a registered professional engineer, certifies that:

1. *He/She* has prepared the attached report and the information contained therein is true to the best of *his/her* information and belief; and
2. The water produced by *name of source(s) (State Well No(s).)*, the drinking water system identified in the attached report, will comply with the State primary drinking water regulations contained in Hawaii Administrative Rules, Title 11, Chapter 20, *Rules Relating to Potable Water Systems*, and will comply with the Rules and Regulations of the *Department of Water Supply, County of _____ / Board of Water Supply, City and County of Honolulu*, when said drinking water system is operated and maintained in accordance with the instructions and information contained in this report.

This work was prepared by me or under my supervision

*Professional
Engineer
Seal*

Name

Title

Company or Organization

**“STILL TIME TO REGISTER AND ATTEND” - THE HAWAII CHAPTER OF THE AMERICAN
BACKFLOW PREVENTION ASSOCIATION presents the PACIFIC RIM CONFERENCE
on October 30-31, 2007 in Honolulu, Hawaii at the Pagoda Hotel**

There is still time to register and attend one of the best Conferences solely dedicated to the field of backflow prevention. This year's conference is centered on how we can do our jobs better. Whether you are a backflow prevention assembly tester or a program administrator, there is something for you at the conference.

This year's agenda will include:

Elements of an Effective CCC Program; Federal Efforts to Regulate CCC; How to Conduct a CCC Survey; ABPA Tester & Specialist Certification Requirements; Survey of a Medical Facility; Testing Demonstration of an RP & PVB; Controlling a Reclaimed Water System; Testing Demonstration of a DC & SVB; Air & Vac Valves Can Contaminate Your System; Common Tester Errors; Operating a Private Water System at a Resort; Proper Assembly Installation; Chemigation in an Agricultural Application; Assembly Repair; State of Hawaii CCC Update; The County's of Hawaii CCC Program Update (Hawaii-Oahu-Maui-Kauai); Operating a CCC Program on a Military Base; USC FCCCHR Update; and Liability in a CCC Program.

There will also be a ABPA Tester Certification & Re-certification Exam on Thursday - 1st November 2007 and a ABPA Proctor Training Class on Friday - 2nd November 2007 at the-Naval Facilities Building (These activities are Not Included with the Conference Registration. You must pre-arrange/register with the Administrator by Phone/Fax at (323) 776-2764 or via email at ehavlinaxc@aol.com)

FOR MORE INFORMATION CHECK OUT THE ABPA WEBSITE: abpa.org

To request a copy of the conference registration material or if you have questions, please contact: Gary Kong (808) 842-7900, Bill Wong (808) 226-9556, or Earl Ichimura (800) 281-9568.

2008 SPRING CLASSES:

Jan 9 • Wed • UH Lanai Education Center, 329 7th St.

Operator Math Review -Lanai (S09339) • 8:30am-12:30pm • 1 mtg • \$46 • Robert Brokate
Total Coliform Rule for Small Systems -Lanai (S09338) • 1:00-5:00pm • 1 mtg • \$46 • Robert Brokate

Feb 12 • Tue • DOH Environmental Health Facility, 1582 Kamehameha Avenue

Waterworks Overview: Water Basics, Reservoirs, Wells, Water Quality & Regulations -Hilo (S09340) • 7:45am-4:15pm • 1 mtg • \$92 • Edward Pedrazzi

Feb 13 • Tue • Maui Community College, 310 Kaahumanu Ave.

For campus map, go online to: <http://maui.hawaii.edu/about/maps.html>

Waterworks Distribution System: Hydraulics, Pipes, Appurtenances, and Waterworks Math -Maui (S09341) 8:00am-4:30pm • 1 mtg • \$92 • Edward Pedrazzi

Additional classes on Kauai, Oahu, and Molokai will be offered later in 2008.

Because the break between morning and afternoon sessions is short, a brown bag lunch is recommended.

Please bring a handheld calculator to all classes.

AWWA HAWAII SECTION WORKSHOP

The AWWA Hawaii Section will be holding a workshop in Hilo at the Naniloa Resort on November 15 and 16 2007 on Deep Wells, Pumps, Installation and Problems to Avoid. The Safe Drinking Water Branch has been invited to do presentations on Rules and Regulation on Well Drilling and also Source Water Protection. Possible SDWB presentations would include:

- *New Guidelines for Preparation of Engineering Reports for New Drinking Water Sources for Regulated Public Water Systems.*
- *Source Water Assessment and Protection Requirements for New Water Sources.*
- *Source Water/Wellhead Protection Program Grant Program.*

For more information on the workshop, please see the AWWA Hawaii Section website at:

Contact Roy Silva (AWWA Hawaii Section Workshop Coordinator) at (808) 665-5462, via fax at (808) 669-6209, or via email at roy.silva@kapalua.com

SDWB STAFF NEWS

Jude Schwarze, Safe Drinking Water Branch staff on Kauai resigned unexpectedly effective August 31, 2007. Mr. Schwarze has elected to focus his energy towards building his fishing charter business and we wish him the best.. In the interim, staff from the Honolulu Office will be handling inquiries, conducting investigations, collecting regulatory samples, and overseeing water system operations and other activities on Kauai.

ENVIRONMENTAL EDUCATION ACTIVITIES

SCENES FROM THE 2007 HAWAII COUNTY FAIR

The Safe Drinking Water Branch once again participated in the Department of Health booth at this year's Hawaii County Fair held on September 13-16, 2007 at the Hilo Civic Center. This year's theme for the Department of Health's booth was emergency preparedness. The following is some scenes from the fair:



The Department of Health booth at the 2007 Hawaii County Fair.

Student Volunteers Jennifer (Home Schooled) and Kaleb (E.B. Desilva Elementary School) manning the Safe Drinking Water section of the booth.

KAMEHAMEHA SCHOOL (Big Island) Job Shadowing

On April 17, 2007, Theresa Takiue, SDWB staff in East Hawaii participated in the Kamehameha School (Big Island campus) job shadowing program by having two students participate in drinking water sampling activities. For these students, job shadowing is a graduation requirement as part of their Career Academy curriculum.



Bronson Torres conducting chlorine residual measurements. His career objective is to become an Environmental Analyst.



Megan Wery collecting a drinking water sample. Her career objective is to become a civil engineer, environmental engineer or an architect.

SDWB staff will continue to participate in the job shadowing program to encourage students to pursue careers in environmental protection and also participate in a Career Day event at Kamehameha School (Big Island campus) later in this school year.

On the Spot:

New Guidelines for Preparation of Engineering Reports for New Drinking Water
Sources for Regulated Public Water Systems..... 1
American Backflow Prevention Association - Hawaii Section Conference..... 3
University of Hawaii - Outreach College: Water Technology Continuing Education..... 4
AWWA Hawaii Section Workshop..... 4
SDWB Staff News..... 4
Environmental Education Activities
Scenes from the 2007 Hawaii County Fair..... 5
Kamehameha Schools (Big Island) - Job Shadowing..... 5

Please send your suggestions, ideas, questions or comments to:

THE WATER SPOT 2007
Safe Drinking Water Branch
State Department of Health
919 Ala Moana Blvd., Room 308
Honolulu, Hawaii 96814

Fax us at (808) 586-4351,
Attn: "THE WATER SPOT 2007"

SDWB WEB SITE:
<http://www.hawaii.gov/health/environmental/water/sdwb>



LINDA LINGLE
Governor of Hawaii

CHIYOME LEINAALA FUKINO, M.D.
Director of Health

LAURENCE K. LAU
Deputy Director for
Environmental Health

We provide access to our activities without regard to race, color, national origin (including language), age, sex, religion, or disability. Write or call our Affirmative Action Officer at Box 3378, Honolulu, HI 96801-3378 or at (808) 586-4616 (voice) within 180 days of a problem.

The Water Spot 2007 (October 2007)
Safe Drinking Water Branch
Environmental Management Division
Hawai'i Department of Health
919 Ala Moana Boulevard, Room 308
Honolulu HI 96814

