



BOARD OF WATER SUPPLY

Bryan P. Andaya, Chair; **Kapua Sproat**, Vice Chair; **Kay C. Matsui**, **Ray C. Soon**, **David C. Hulihee**, (July 2018 - September 2018), **Max Sword** (October 2018 - present), and Ex-Officio Members: **Ross S. Sasamura**, **Jade T. Butay**, **Ernest Y.W. Lau**, P.E., Manager and Chief Engineer
Ellen E. Kitamura, P.E., Deputy Manager and Chief Engineer

POWERS, DUTIES AND FUNCTIONS

The Board of Water Supply (BWS) manages Oahu's municipal water resources and distribution system, providing residents with a safe, dependable and affordable drinking water supply now and into the future. As the largest municipal water utility in the state of Hawaii, the BWS delivers potable and non-potable water to approximately 1 million customers on Oahu. The BWS carefully and proactively manages and invests in its intricate system, consisting of 94 active potable water sources, 171 reservoirs and nearly 2,100 miles of pipeline.

The BWS is a financially self-sufficient, semi-autonomous agency of the City and County of Honolulu. Its operations and projects are financed with revenues generated from water transmission and distribution fees. It receives no tax money from the city. The BWS also issues revenue bonds and pursues federal grants and State Revolving Fund loans to help subsidize BWS projects.

The BWS is governed by a board of directors (BOD), consisting of seven members. Five members are appointed by the Mayor and confirmed by the Honolulu City Council. The remaining two members serve in their capacities as the Director of the State Department of Transportation and the Director and Chief Engineer of the city's Department of Facility Maintenance. The BOD appoints the BWS Manager and Chief Engineer to administer the department.

Capital Projects Division

The Capital Projects Division ensures improvements to Oahu's municipal water system are designed and constructed in accordance with the BWS Water System Standards; formulates the annual Capital Improvement Program; implements the design and construction of new source, storage, treatment, transmission and distribution facilities; and is responsible for the repair and upgrade of aging water mains and facilities.

Customer Care Division

The Customer Care Division interfaces with BWS customers to provide services in the areas of bill payments, delinquent bills, account inquiries, water service investigations, review of building permit applications, new water services, and investigation of water leaks and possible causes for high water bills.

Field Operations Division

The Field Operations Division maintains and repairs Oahu's water delivery system, which includes all pipelines, valves, fire hydrants, water meters and automatic meter reading components. This division also maintains the BWS's corporation yards, reservoirs, and control buildings, and conducts landscaping work at all BWS facilities.

Finance Division

The Finance Division ensures financial resources are efficiently and effectively managed by providing support for all BWS fiscal functions, including financial reporting, general accounting, payroll, accounts payable, planning and analysis, fixed assets, treasury, debt and investment management, meter reading and customer billing.

Information Technology Division

The Information Technology Division plans, designs, implements, maintains and supports BWS information technology (IT) and geographic information system (GIS) applications, the water system hydraulic models, and the BWS IT infrastructure, which includes physical and virtual data centers, servers, personal computers, mobile computing, wired and wireless network communications, telephone systems, the call center system, cyber security and video surveillance systems.

Land Division

The Land Division acquires real property and interests therein, in the name of the city for BWS use through purchase, condemnation, lease, easement and executive land order; recommends to the council the disposal of surplus real property; and manages real property and real property interests that are under the control of the BWS.

Water Quality Division

The Water Quality Division manages compliance with all federal and state drinking water and applicable environmental rules and regulations. This division also manages microbiological and chemical laboratories.

Water Resources Division

The Water Resources Division directs long-range water resource and capital planning for Oahu's water system, and ensures the health of Oahu's water resources, conserves freshwater supplies, and plans for the expansion of water system infrastructure to ensure an adequate water supply for domestic use and fire protection for current and future water users.

Water System Operations Division

The Water System Operations Division monitors, maintains, repairs and operates the BWS's diverse water systems, including well and booster stations, control valves and the various water treatment facilities. This division also inventories, maintains and repairs the BWS fleet of motor vehicles, construction equipment and trailers.

Office of the Manager and Chief Engineer

The Office of the Manager and Chief Engineer administers the affairs of the BWS in accordance with policies and regulations adopted by the BOD and the provisions of the Revised Charter of the City and County of Honolulu; provides comprehensive strategic communication services and support to all divisions, including internal communications and external communications with key stakeholder groups such as customers, community/advocacy groups, neighborhood boards, media and elected officials; oversees the development and execution of the operating budget, capital improvement program and departmental revenues; administers and provides procurement services; administers and manages human resource classification, recruitment and examination, and labor relations; develops and implements plans and policies to improve security for BWS employees, water resources and distribution system; and develops and executes risk management and emergency preparedness and response in coordination with other city, state and federal agencies.

ACCOMPLISHMENTS

- Adopted the BOD-approved revision to the Schedule of Rates and Changes for the Furnishing of Water and Water Service for fiscal years 2019-2023, which supports city initiatives by providing limited waivers for affordable and homeless dwellings and for residential fire sprinkler retrofits, and the first rate change under this revised schedule begins July 1, 2019;
- Conducted 40,079 chemical tests, 34,056 microbiological tests, and collected 16,888 samples from BWS sources, distribution systems and treatment facilities to ensure all water served is safe to drink; tests performed during Fiscal Year 2019 include regulatory compliance testing, groundwater quality testing, and response to customer inquiries about water quality;
- Responded to 330 main breaks, or about 16 breaks per 100 miles of pipeline, and conducted leak detection surveys for 372 miles of pipeline, which resulted in the Leak Detection Team finding and repairing 50 leaks before major property damages or system interruptions occurred;
- Awarded \$57 million in construction contracts and \$22.5 million in professional service contracts for projects to maintain and improve water system facilities, including well and booster stations, reservoirs and corporation yards, and for the systematic replacement of aging and corroded water mains and fire protection improvements; scheduled construction work for the replacement of approximately 8 miles of pipelines in the Hawaii Kai, Honolulu, Kailua, Makapuu, Makiki, Moanalua, Pacific Heights, Pearl City, Waianae, and Waiiau areas; initiated design work for future construction in

the Aiea, Ala Moana, Ewa Beach, Hauula, Honolulu, Kalama Valley, Kaneohe, Manoa, Pupukea, Waianae, and Waipahu areas; and awarded contracts for the renovation and improvements to the following BWS facilities: Aina Koa 1100 Reservoir, Diamond Head 180 Reservoir, Haleiwa Wells, Hoaeae Wells, Kalihi Corporation Yard, Kamehame 820 Reservoir, Kunia Booster, Makaha Wells VI, Mililani Wells IV, Newtown Wells, Niu Valley Highlands 297 Reservoir, Wahiawa Wells I and II, Waiialae Wells I, Waiialae Iki 180 Reservoir, Waimanalo 230 Reservoir, and Wilder Wells;

- Initiated expansion of the Honouliuli Water Recycling Facility R-1, which will increase irrigation treatment capacity by 2 million gallons a day (mgd), for a total of 10 mgd of recycled water; new disk filters will replace the sand filters, which will result in decreased effluent loss during backwashing, create more beneficial reuse water, and reduce the maintenance cost associated with the sand filters; the new UV disinfection system is significantly more energy efficient and will reduce electricity costs and the carbon footprint; and the additional recycled water will provide irrigation water for new Ewa developments and conserve the limited freshwater resource;
- Issued \$143,330 in rebates and achieved an annual estimated freshwater savings of more than 12 million gallons per year through BWS's new water conservation rebate program for efficient clothes washing machines, rain barrels, and weather-based irrigation controllers;
- Published the Haiku Stairs Draft Environmental Impact Statement to disclose alternatives for the fate of the historic stairs and eliminate BWS liability on a non-mission critical asset;
- BWS is pursuing three loi kalo restoration projects on BWS lands in Makaha, Waihee, and Manoa; these agricultural farms have watershed protection and cultural components; a community nonprofit group is evaluated and selected through an RFP process; and this effort builds community support of the BWS mission for the protection and management of Oahu's freshwater resources;
- In collaboration with the Water Research Foundation, completed a climate change vulnerability assessment of Oahu's water supply from future droughts, and coastal water system infrastructure subject to sea level rise and coastal erosion;
- Developed a spatial main break analysis tool to provide increased insights for improving the construction and operation of the water system by correlating past main breaks with various factors such as pipe size, type, and age, soil type and pressure, and presenting the information in a geospatial, map-based context.