



EXHIBIT 5-B

ASSOCIATE HYDROLOGIST

*Class specifications are intended to present a descriptive list of the range of duties performed by employees in the class. Specifications are **not** intended to reflect all duties performed within the job.*

DEFINITION

To develop and maintain complex and difficult programs related to managing the District's groundwater resources including operation and maintenance of Aquifer Storage and Recovery (ASR) facilities, collection of water quality data, water production data and groundwater elevation data; perform a wide variety of technical tasks relative to assigned areas of responsibility.

DISTINGUISHING CHARACTERISTICS

This is the advanced journey level class in the professional Hydrologist series. Positions at this level are distinguished from other classes within the series by the level of responsibility assumed and the complexity of duties assigned. Employees perform the most difficult and responsible types of duties assigned to classes within this series and function with minimal supervision and guidance. Employees at this level are required to be fully trained in all procedures related to assigned area of responsibility.

SUPERVISION RECEIVED AND EXERCISED

Receives direction from the Water Resources and Engineering Manager and Senior Hydrogeologist.

May assume lead responsibilities over lower level staff.

ESSENTIAL AND MARGINAL FUNCTION STATEMENTS

The following duties are typical for positions in this classification. Any single position may not perform all of these duties and/or may perform similar related duties not listed here:

Essential Functions:

1. Design and perform complex hydrologic related research studies; establish methodology and standards; perform data analyses and interpretation relating to groundwater quality and quantity; guide technical field staff in data collection, analyses, storage, retrieval and reporting
2. Schedule maintenance, establish schedules for backflush and water quality sampling frequencies in accordance with ASR Sampling and Analysis Plans and regulatory mandates; determine appropriate injection rates compliant with water rights permits; coordinate activities with California American Water Company and other agencies.
3. Provide technical support for long-term and interim water supply projects, water rights studies, ASR, fisheries, riparian vegetation and groundwater modeling projects.
4. Maintain networks of dedicated monitor wells for collection of water quality and water elevation data. Deploy, maintain and utilize data logging instrumentation in monitor wells.
5. Operate, maintain and repair equipment including groundwater sounders, pressure transducers, data-loggers, and water quality measuring equipment.

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6. Maintain groundwater elevation records, tabulate water quality records and prepare water production reports in support of modeling and permitting efforts; produce graphics of collected hydrologic data. Locate and plot facilities in GIS.
7. Manage computer database and filing system for production wells. Track network of production wells and status of owners; contact owners; distribute, collect and compile reports from all well owners; enforce Rules pertaining to Well Registration, Metering and Water Distribution System permitting. Prepare historical production reports, read and inspect meters, contact owners regarding violations or discrepancies.
8. Collect water quality and water level data from networks of wells.
9. Prepare Board Packet Staff Notes for Water Production and Water Quality reports.
10. Review, evaluate and make recommendations regarding Water Distribution System applications and Requests for Exemptions; assist with review and evaluation of EIRs and other studies.
11. Oversee and administer contracts for construction projects and hydrologic studies and inspect work activities of contractors involved in well construction and maintenance projects; document progress, evaluate cuttings, assist with set up and clean-up of sites.
12. Conduct biological surveys of wetland flora to determine status of habitat. Manage complex data in computer.
13. Attend and participate in professional group meetings; stay abreast of new trends and innovations in the field of surface and groundwater resource management.
14. Assist Hydrography Programs Coordinator in collection of surface water data (stream gauging, surveys, maintenance of stations) and bathymetric surveys.
15. Hike into remote areas to make inspections, measurements and observations and to conduct studies.
16. Assist with fish population surveys, fish rescues and bio-assessment of benthic macroinvertebrate sampling as necessary.
17. Ensure adherence to safe work practices and procedures.
18. Respond to public inquiries in a courteous manner; provide information within the area of assignment; resolve complaints in an efficient and timely manner.
19. Participate in budget process for planning and requisitions; estimate time, materials and equipment required for jobs assigned; requisition materials as required.
20. Perform related duties and responsibilities as required.

QUALIFICATIONS

Knowledge of:

Principles of ASR best operations (rates of injection, frequency and rate of back-flushing, draw-up limits).

Operation of Variable Frequency Drives for ASR well pump motors and Programmable Logic Controllers, SCADA.

Hydraulics and operation of valves, including gate valves, pressure sustaining and pressure reducing Cla-Vals, and inflatable flow control valves; operation and maintenance of gas regulators and pressurized gas cylinders.

Various field and laboratory water quality sampling and analysis procedures, techniques, protocols and devices for measuring dissolved chemistry and physical priorities of water (including general mineral, oxidation-reduction potential, dissolved oxygen, chlorine, turbidity, metals, disinfection byproducts and so forth for regulatory compliance and special studies).

Chain of custody forms.

Computer hardware and software including ARC GIS, GPS, Microsoft Office (Excel and Word), Win-Situ, Solinst and Campbell-Scientific instrumentation, and data collection platforms including laptops, notebooks and specialized

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handheld computers.

Advanced principles and practices of hydrology, climatology, biology, chemistry and geology.

Advanced field hydrologic, climatologic and biologic data collection techniques.

Well construction and development; State and local regulations regarding construction and operation of wells and water systems.

Stream flow measuring techniques.

Methods and techniques of land surveying.

Construction management on water projects.

Basic construction skills including carpentry and cement work.

Intermediate mathematics and statistics.

Basic electronics.

Operational characteristics of power and hand tools.

Occupational hazards and standard safety practices.

Ability to:

Perform professional-level hydrologic and environmental work studies.

Accurately quantify groundwater resources.

Operate pumps, valves and appurtenances related to ASR.

Install, operate and maintain groundwater monitoring facilities.

Measure stream flow and compute stream flow records.

Follow established methods in data collection and analyses; maintain records.

Compile, analyze and interpret difficult technical and statistical information and data.

Utilize a computer terminal for data management, data processing and word processing.

Interpret, explain and enforce District policies and procedures.

Operate a vehicle and equipment in a safe and effective manner.

Perform instrument calibration.

Use proper techniques to acquire water quality samples.

Complete chain of custody forms for water quality and biological samples.

Operate GPS equipment to locate wells and other monitoring sites; prepare maps, import and export data, edit features, attribute tables and shapefiles in GIS.

Conduct meetings and serve as District representative.

Work independently in the absence of supervision.

Understand and follow oral and written instructions.

Communicate clearly and concisely, both orally and in writing.

Establish and maintain effective working relationships with those contacted in the course of work.

Understand and interpret complex regulatory mandates pertaining to ASR operations, Water Distribution System permitting, and well permitting.

Interact diplomatically with property owners in the field on issues related to well registration, metering, production reporting and permitting status.

Respond to requests and inquiries from other agencies, property owners and the general public.

Maintain professional licenses (water treatment operator's certificate) through participation in appropriate continuing education programs.

Maintain physical condition appropriate to the performance of assigned duties and responsibilities.

Experience and Training Guidelines --- Any combination of experience and training that would likely provide the required knowledge and abilities is qualifying. A typical way to obtain the knowledge and abilities would be:

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Experience

Five years of increasingly responsible surface water resource management experience.

Training

Equivalent to a Bachelor's degree from an accredited college or university with major course work in hydrology, geology, environmental sciences, engineering or a related field.

License or Certificate:

Possession of, or ability to obtain, a valid driver's license. T1 or D1 license from California State Water Resources Control Board Drinking Water Operator Certification Program highly desirable

WORKING CONDITIONS

The conditions herein are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential job functions.

Environmental Conditions:

Office and field environment with some travel to attend meetings; work in and around water; exposure to all types of weather and temperature conditions, often in the rain; exposure to poisonous plants, animals, and/or insects; work closely with others and work alone; irregular work hours; exposure to computer screens, atmospheric conditions, and slippery and uneven conditions; working with machinery, including high voltage motor controls, high horsepower and high volume motors and high water pressure. May be required to wear a wetsuit or chest waders for work in river.

Physical Conditions:

Essential and marginal functions may require maintaining physical condition necessary for moderate to heavy lifting and carrying; walking, standing and sitting for prolonged periods of time; bending, climbing and reaching; operating motorized vehicles and equipment.

Vision:

See in the normal visual range with or without correction; specific vision abilities required by this job include close and distance vision, color perception and depth perception.

Hearing:

Hear in the normal audio range with or without correction.

Department: Water Resources

Exempt: Yes

Approved Date:

Revised Date: