

JOB DESCRIPTION AND POSITION CLASSIFICATION

CLASSIFICATION Engineer, Water Resources		DWR POSITION NUMBER 1730-3137-020	SAP POSITION NUMBER 50101859	MCR 1
APPOINTEE Vacant		SAP PERSONNEL NO. TBD	DIVISION/SECTION Design Engineering Branch Section 1	
COLLECTIVE BARGAINING IDENTIFIER Management Related BU: ☐ Supervisory Related BU: ☐ Confidential Related BU: ☒ Rank and File BU: R09				
RESPONSIBILITIES EXERCISED ☐ Supervisory ☐ Lead Person		IMMEDIATE SUPERVISOR (Print) Nekane Hollister	SUPERVISOR'S CLASSIFICATION Supervising Engineer, Water Resources	
APPROVED BY (Personnel Analyst's Name) Marissa Arriaga			DATE 10/15/26	
<i>Percent of Time</i>	<i>Activity</i>			
	POSITION SUMMARY Under the direction of a Supervising Engineer in the Design Engineering Branch, the incumbent performs difficult and complex engineering assignments regarding the design and evaluation of dams and appurtenant structures. The incumbent should have technical knowledge to review and perform hydrology and hydraulic studies, geotechnical analyses, structural analyses, risk evaluations, site investigations and laboratory testing, seismology, project constructability, performance monitoring, and inundation mapping for emergency planning.			
	ESSENTIAL FUNCTIONS This position requires the incumbent to have knowledge in dam engineering, good communication abilities, technical skills, maintain consistent predictable attendance, and adhere to the Division's policies and procedures. The incumbent must interact well with Division staff, dam owners, consulting engineers, and the general public. Assignments require site visits, sometimes in remote areas. This position requires the incumbent to drive a vehicle under difficult driving conditions on public roadways and in the field on uneven terrain. The specific essential duties are but are not limited to:			
25%	Review and analyze complex plans, specifications, and technical reports for the construction, enlargement, or modification of dams and their appurtenant structures. Develop conclusions and recommendations supported by independent engineering analyses of submitted designs. Dam safety analyses require the use of routine office software and specialized engineering software to conduct hydrology and hydraulic studies, geotechnical analyses, and structural analyses. As part of an application review, identify potential failure modes associated with dams and their appurtenances to understand their risk levels and implications of the proposed work to prioritize the areas that require detailed reviews and analyses.			
20%	Perform risk evaluations of jurisdictional dams and their appurtenant structures. Following Division procedures, conduct file review of original design, dam construction and modifications, existing analyses, field inspections, past performance, and instrumentation data.			
SUPERVISOR'S STATEMENT: I HAVE DISCUSSED THE DUTIES OF THE POSITION WITH THE EMPLOYEE.				
SUPERVISOR'S NAME (Print) Nekane Hollister		SUPERVISOR'S SIGNATURE ➤		DATE
EMPLOYEE'S STATEMENT: I HAVE DISCUSSED WITH MY SUPERVISOR THE DUTIES OF THE POSITION AND HAVE RECEIVED A COPY OF THE DUTY STATEMENT.				
EMPLOYEE'S NAME (Print)		EMPLOYEE'S SIGNATURE ➤		DATE

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	As necessary conduct field inspections with a multi-disciplinary team. Work closely with a risk study team to identify and develop potential failure modes, their likelihood of failures for various loading cases, and associated consequences to estimate the overall dam risk.				
15%	Conduct special engineering studies and focused evaluations of new and existing dams using simple to complex analyses to ensure that dams meet design standards, dam safety deficiencies are identified, and appropriate risk reduction and mitigation measures are considered. Evaluations include hydrologic and hydraulic studies; structural analyses; dynamic analyses of earth and concrete dams; evaluation of critical appurtenant structures such as spillways, control structures, and outlets; review and verification of inundation maps; construction and constructability details. Incumbent is responsible for review and oversight of evaluations using computer programs such as SAP2000, LS-DYNA, Geostudio Software, FLAC 2D and 3D, Computation Fluid Dynamics, HEC-HMS, HEC-RAS, ArcGIS, and DSS-Wise.				
15%	Prepare memoranda and reports for all reviews, analyses, studies, etc., as required. As required prepare outgoing correspondence and review for technical content, political sensitivity, responsiveness, clarity, accuracy, and quality. Present results of technical reviews and studies to management. Meet with owners and their engineers to discuss review comments or analysis results on the design, construction, and reevaluation of dams.				
10%	Conduct reviews of inundation maps and technical reports submitted for dams and their appurtenant structures. Conduct dam breach analysis as necessary and confirm downstream hazard potentials of dams based on the inundation maps.				
5%	Keep abreast of the State-of-the-Art in design and construction of dams and their appurtenant structures. Participate in professional organizations related to dam safety such as the Association of State Dam Officials, U.S. Committee on Large Dams, and the American Society of Civil Engineers.				
5%	Review and prepare documentation necessary to meet the requirements of the California Environmental Quality Act (CEQA). Evaluate proposed and existing dams for potential state jurisdiction pursuant to the California Water Code and Code of Regulations.				
5%	Perform inspections of dams and dam sites and evaluate conditions and performance of existing dams and determine the suitability of the site for proposed dams. Additionally, perform inspections of exploration and testing programs. Assist Division and other branches in various projects and tasks as necessary.				

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	SPECIAL REQUIREMENTS This position provides necessary support to the Divisions of Flood Management, Safety of Dams, Operations and Maintenance, Engineering, and/or the Public Affairs Office during Governor declared emergencies, flood, dam, State Water Project, and other incidents and emergencies. Additionally, this position may participate in emergency operations in the capacity of area teams, field inspection, coordination, and assist agencies such as CalOES and FEMA in disaster work, including performing fieldwork to complete damage survey reports for droughts, flooding, earthquakes, and other emergencies. This position may also serve in one of the sections established in the Incident Command System to assist the Department in performing its emergency preparedness, response, recovery, and mitigation functions. These functions are established in the California State Emergency Plan and the Department's Administrative Orders. Incumbent must possess a valid driver's license and be able to travel by airplane and/or vehicle to different areas of California with some overnight travel, as required. This position requires the ability to inspect dams following appropriate safety protocols, which includes walking sloped dam faces, climbing steep abutments, climbing ladders, and similar physical activity. Must maintain training, certification, and the ability to inspect excavation trenches and confined spaces. All employees are responsible for contributing to an inclusive, safe, and secure work environment that values diverse cultures, perspectives, and experiences, and is free from discrimination. The Department of Water Resources is committed to its mission and employees, and we are grounded in our commitment to public safety. Regular, consistent, and predictable attendance is essential to the successful performance in this position.			