

Dear Hiring Manager,

I am writing to express my sincere interest in the Dams Engineer position at Mott MacDonald. I hold a master's degree in **structural engineering** and have five years of experience in the **structural and hydraulic design of dams, their spillways and outlet works**, I am confident in my ability and experience summarized below aligns with the requirements of the job.

After graduating with a bachelor's degree in civil engineering from Bulent Ecevit University in Turkey, I was awarded a prestigious full scholarship from the Turkish Government to study abroad. Following this, I earned my master's degree in structural engineering from Louisiana State University in 2018. My research at LSU focused on the probabilistic risk assessment of concrete gravity dams subjected to earthquake loads. I used Finite Element Analysis software, ANSYS, to model the dam, considering fluid-structure interaction (FSI) and soil-structure interaction (SSI) for more accurate results. Finally, seismic fragility curves were developed to evaluate the dam's seismic performance and make risk assessment.

I gained five years of valuable experience working for the Department of Dams and Hydropower Plants in the State Hydraulic Works of Turkey (DSI)—the top leading institution in the country for hydraulic works. During my time at DSI, I had the opportunity to apply my theoretical knowledge from my graduate studies to solve real-world problems in the active dam projects. My role involved the structural and hydraulic design of spillways and outlet works.

I have had a responsibility to check stability analyses and structural designs reports prepared by private companies for auxiliary structures associated with dams, encompassing spillways, their gravity/console walls, conduits, tunnels, valve chambers, and similar components. Through these rigorous analyses, I have acquired substantial expertise in stability analysis techniques for retaining walls, as well as in structural analysis and the design of reinforcements for various types of structures. Since Turkey does not have a design code/standards for infrastructures like dams, we mainly rely on the design standards set by the USBR or the USACE for our structures. This familiarity underscores my capability to adapt to U.S. standards.

I have also conducted hydraulic design analyses for spillways and outlet works to determine their size, type, and placement. Furthermore, I participated in a team tasked with conducting hydraulic analysis of stepped and chute channeled spillways using Flow-3D (CFD software) and constructing physical models of them in the laboratory. These experiences provided me with a comprehensive understanding of spillway-outlet works hydraulic performance.

Furthermore, for six months I played an important role during the construction stage of flood protection structures, such as flood protection walls and dikes, serving as a control engineer.

Now, I am eager to take the next step in my career by working overseas. Incorporating my theoretical knowledge with practical experience, I believe I bring to the table a unique blend of skills that would be invaluable to Mott MacDonald. I am deeply passionate about the Dams Engineer position and look forward to the opportunity to work with the innovative team at Mott MacDonald.

It is noteworthy that I am currently residing in Houston and holding a **J2-Dependent visa**, which is eligible to work, **valid for the next four years** due to my spouse's education at the University of Houston.

Thank you for your time and consideration.

Sincerely,  
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