ENGINEERING GEOLOGIST ASSOCIATE (7253)

TASK LIST

1. Performs professional engineering, geologic, and environmental work (including groundwater and soil vapor characterization) by assisting in the planning, organizing, and conducting of preliminary and final engineering and/or geological studies and investigations, and providing recommendations on the soundness of locations for new and existing structures and facilities.

2. Assists engineering geologists and civil and structural engineers in investigations of geologic hazards such as landslides, slope failures, erosion, faults, fractures, subsidence, subsurface soil and groundwater contamination, and water seepage, and in recommending measures for corrective action.

3. Assists in planning and directing exploratory trenching, drilling and sampling operations, including environmental and safety protocols.

4. Logs boreholes and test pits, prepares trench profiles, takes samples and produces field records.

5. Uses data from a petrographic microscope study to determine mineral content, degree of lithification, percent of water-soluble material, and other characteristics which might affect the stability of a formation.

6. Investigates and evaluates the hydrogeology of formations including porosity and permeability and potential contamination.

7. Locates joints, fractures, cracks, landslides, settlement, cleavage, porosity, and faults, prior to, and during construction of public improvements.

8. Determines causes and effects of erosion and sedimentation in reservoirs, waterways, and other property.

9. Prepares geologic maps and cross-sections to develop a three dimensional picture of a geologic setting.

10. Assists in the review of tentative tracts and parcel maps, and geotechnical, geological, or environmental reports prepared by private consultants.

11. Provides technical assistance to the City Attorney's Office in the preparation of geologic exhibits for areas of interest to the City.

12. Compiles, collects and interprets data from the field using geological equipment such as a Brunton compass, global positioning system (GPS), and hand lens, and from reports, aerial photographs, existing topographic and geological maps and cross sections, test holes, and well logs.

13. Notes and locates the sources and occurrences of groundwater, geothermal and other energy sources.

14. Monitors, observes, and documents the construction of foundations and their relation to geologic structures for construction projects.

15. Reviews current engineering geology literature and attends conferences/meetings to maintain technical competence.

16. Confers with City personnel, and other public and private employees on geological or environmental matters, and may represent the City as an expert witness.

17. Aids in the preparation of engineering geological reports, maps, and illustrations, using computer-aided drafting (CAD) techniques.

18. Prepares face maps during tunneling operations.

19. May occasionally be assigned to other duties for training purposes or to meet technological changes or emergencies.

20. May perform or review environmental site assessments on City property where contamination is suspected or has been encountered.

21. Determines the volume and suitability of sand and gravel aggregates and other raw materials for use in City construction projects.