

**CLASS SPECIFICATION**  
**Field Science Technician**

FLSA Status: Covered  
Union Representation: Professional and Technical Employees (PTE)

**GENERAL PURPOSE**

Under general supervision, monitors, plans, coordinates and implements environmental surface water, stormwater, flow, groundwater and watershed monitoring projects in the field; inspects, investigates, monitors and assesses facilities for environmental concerns and regulatory/permit compliance; participates on a watershed management team; maintains records and collects data; and performs related duties as assigned.

**DISTINGUISHING CHARACTERISTICS**

Field Science Technicians are responsible for planning and coordinating and conducting various groundwater, surface water, stormwater, flow monitoring, and environmental monitoring field projects for watershed protection and enhancement. Incumbents are expected to administer and conduct environmental monitoring and investigations in the field.

Field Science Technicians are distinguished from other related environmental technician classes by the regular and continuous assignment of field work related to environmental investigations involving monitoring and sampling.

Field Science Technicians are distinguished from Field Science Specialists in that incumbents in the latter class have greater responsibilities for project management of the most technically and administratively complex environmental monitoring program and projects, associated technical training of monitoring techniques and the use of specialized monitoring equipment, and provide recommendations to the section supervisor regarding the development of time lines, schedules and budgets. Field Science Specialists apply professional level scientific knowledge to perform advanced environmental monitoring analysis, activities, and projects.

**ESSENTIAL DUTIES AND RESPONSIBILITIES**

Any one position in this class may not perform all the duties listed below, nor do the listed examples of duties include all similar and related duties that may be assigned to this class.

1. As a project leader, coordinates projects by assigning, directing and coordinating discrete tasks and processes performed by support or other technical staff; reviews work products; prepares cost estimates, monitors and maintains records on the financial status and progress of work to ensure projects are completed on schedule and meet local, state or federal standards.
2. Organizes environmental data, maintains databases and electronic files, prepares charts and graphs, and creates project maps using geographical information system (GIS) software.

3. Collects water quality samples using grab sampling, time-paced, and flow-paced composite sampling techniques; analyzes information and recommends changes to sampling plans based on field conditions, weather, and forecasting; recognizes and resolves discrepancies between actual and expected results.
4. Collects field water, soil, sediment, biosolids, and stormwater monitoring samples; analyzes laboratory data; gathers, evaluates and interprets data for sources of pollution to determine ambient conditions, trending and cause-and-effect relationships between pollutants and impacts; updates and organizes field sampling binders.
5. Maintains, downloads, calibrates and deploys monitoring equipment in long-term water-quality monitoring projects.
6. Performs and directs confined space entry into areas such as sewers and manholes to manually verify the accuracy of sewer flow monitors, collect inline sediment samples, and install maintain, and remove monitoring equipment.
7. Performs database management; develops data management systems for section use in generating monitoring result reports; collects, analyzes and summarizes monitoring data; documents technical and legal determinations; enters water-quality and watershed data; manages bureau and City files; collects global positioning satellite data; installs, and makes adjustments to and performs upgrades to section database programs and data collection devices.
8. Indexes, files, updates, researches and compiles data from various sources.
9. Utilizes calculators and computers to perform calculations, or enter and extract information to assist in developing plans and specifications for various work projects.
10. Assists in the preparation of technical reports that analyze and interpret environmental data; researches and assembles quantitative data concerning the quality of environmental quality and watershed health.
11. Prepares and presents informational materials including maps, fact sheets, articles, environmental reports, and mailers to educate the public about projects.
12. Prepares project management plans including all phases of preparation, implementation and maintenance, meets with watershed managers and staff to ensure coordination between bureau projects and overall bureau goals for watershed health; meets with project engineers to develop reconstruction design of facilities to accommodate environmental monitoring equipment and procedures.
13. Implements finalized projects; assists with the direction of field activities of seasonal and contract labor in implementing projects and surveys work sites for safety hazards.
14. Researches professional literature, consults with other agencies and professionals to collect data and analyze possible environmental impacts and to refine monitoring practices and protocols.

15. Updates equipment checklists; contacts instrumentation manufacturer representatives for technical advice; procures minor equipment and tools.
16. Drives, navigates and operates a variety of utility vehicles and boats.
17. Designs, creates, plans, maintains and updates maps, drawings, plans, spreadsheets, data files and documentation for a wide variety of purposes.
18. Interprets rules, regulations, laws and policies regarding environmental issues to develop team work plans.
19. May participate as a presenter in professional conferences and workshops.
20. Provides technical expertise to other bureau staff, City staff and the public to solve environmental or natural resource monitoring problems.

### **MINIMUM QUALIFICATIONS**

#### **Knowledge of:**

1. Technical processes of environmental monitoring and management of natural resources.
2. Practices and techniques of physical and biological sciences related to water quality and habitat protection.
3. Federal and state laws and regulations relating to environmental programs; local, state and federal regulations affecting riparian protection, fish/wildlife habitat protection and stormwater volume control of local waterways; municipal regulating codes pertaining to sewers, industrial waste control and recycling programs.
4. City operating policies and departmental work procedures and quality standards.
5. City laboratory and storage procedures and the means and techniques for collecting, storing and disposing of field samples.
6. Groundwater protection practices and procedures.
7. Geographic information system concepts, practices and techniques, including computer mapping and attribute data conversion, transfer, manipulation and analysis; GIS software, tools and applications; relational database concepts and practices.
8. Terminology, methods and techniques used in engineering maps and records.
9. Data-gathering and research methods.
10. Word processing, spreadsheet and database software.

11. Standard office practices and procedures including manual and electronic file development and maintenance; methods and procedures for archiving and retrieving technical documents, maps and drawings.

**Ability to:**

1. Conduct field investigation monitoring.
2. Collect field data and samples and analyze and make recommendations regarding environmental data and sampling results.
3. Monitor discharges and enforce federal and state laws.
4. Utilize a variety of GIS software, computer-aided drafting, graphics and other applications to carry out assigned responsibilities.
5. Operate a computer using a variety of programs, including GIS mapping.
6. Maintain technical files both electronic and manual.
7. Follow safety precautions when working at field sites.
8. Utilize specialized engineering, monitoring, surveying, or electronic tools, materials and equipment.
9. Read and interpret various kinds of maps, architectural and engineering drawings, construction plans, blueprints and other technical materials, such as specifications, engineering manuals, surveying tables, computer manuals, trade journals, equipment instruction manuals, engineering code provisions, state and federal guidelines.
10. Read and interpret field and laboratory notes.
11. Learn and apply City, state or federal codes and regulations.
12. Clearly present technical information in oral, written, graphic or other forms; negotiate agreements with contractors and the public.
13. Perform detailed work thoroughly, neatly, accurately and efficiently.
14. Work/interact with the public and explain technical concepts/processes; respond to inquiries about monitoring work and the environment.
15. Establish and maintain effective working relationships bureau management and staff, contractors and others encountered in the course of work.
16. Recognize and resolve discrepancies in attribute data.

17. Perform special analyses and create data queries using a variety of data-querying tools.
18. Routinely enter confined spaces including manholes and sewers; work in rough, steep and uneven terrain; lift and carry up to 70 pounds and work outdoors in all weather conditions; perform very physical and strenuous work under hazardous working conditions, work in and around traffic and work site equipment or machinery, and exposure to unknown chemicals.
19. Conduct effective problem solving in all working conditions including office and field environments.

**Training and Experience:**

A typical way of obtaining the knowledge, skills and abilities outlined above is graduation from high school, trade school or vocational school, or G.E.D. equivalent, supplemented by college-level courses in environmental science and resource management and monitoring experience; and three years of progressively responsible environmental monitoring experience; or an equivalent combination of training and experience. Experience in a public agency preferred.

**Licenses; Certificates; Special Requirements:**

A valid state driver's license may be required for certain assignments.  
Successful completion of 40-Hour Hazardous Waste Operations and Emergency Response, Confined Space Entry, Boat Safety, and Traffic Control and Flagging training and certification required.

**PHYSICAL AND MENTAL DEMANDS**

Incumbents are required to routinely enter confined spaces including manholes and sewers; work in rough, steep and uneven terrain; lift and carry up to 70 pounds and work outdoors in all weather conditions; perform very physical and strenuous work under hazardous working conditions, work in and around traffic and work site equipment or machinery, and exposure to unknown chemicals.

Persons with disabilities may be able to perform the essential duties of this class with reasonable accommodation. Reasonable accommodation will be evaluated on an individual basis and depends, in part, on the specific requirements for the job, the limitations related to disability and the ability of the hiring bureau to accommodate the limitation.

---

**Class History:**

Adopted: 07-01-13 Created from the COPPEA Classification of Environmental Technician II  
July 2017 – Updated union name from COPPEA to PTE