



JUNIOR TRAIN CONTROL ENGINEER

JC: 000285

PB: 3

FLSA: Exempt

BU: 92 (NR)

Created: June 2019

*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

Under close supervision, assists with the development, modification and maintenance of BART's train control system; tests and modifies wayside, station, and train control equipment, ensuring work quality and adherence to specifications.; and performs related duties as assigned.

CLASS CHARACTERISTICS

This is the entry level in the engineering classification series. This classification works under close supervision. As experience and proficiency are gained, incumbents are expected to exercise more independent judgment while performing more diverse and difficult assignments. Incumbents typically are expected to progress to the Engineer classification in 2-3 years. The Junior Engineer class is distinguished from the Engineer level in that the latter is the full journey level in the engineering series.

REPORTS TO

Engineering Manager, Engineering Supervisor, Principal Engineer or designee.

EXAMPLES OF DUTIES – *Duties include, but are not limited to, the following:*

1. Performs a variety of entry level professional engineering duties in the assigned division, including engineering specifications, computer systems applications, preliminary cost estimates, engineering drawings, calculations and analyses.
2. Conducts field inspections and investigations.
3. Develops preventative and predictive maintenance processes and procedures to improve and sustain equipment reliability.
4. Assists in designing and specifying special testing and service equipment to troubleshoot and maintain transit vehicles.
5. Performs testing and maintenance support of both hardware and software modifications to the Automatic Train Control (ATC), Automatic Train Operation (ATO), and Automatic Train

Protection (ATP) systems.

6. Assists in preparing engineering designs, specification costs and quantity estimates for engineering construction projects.
7. Develops, reviews, and modifies complex engineering plans, designs, and specifications.
8. Assists in the establishment of schedules and methods for train control support positions.
9. Conducts special studies and prepares a variety of reports and correspondence.

QUALIFICATIONS

Knowledge of:

- Basic principles and practices of the engineering discipline to which assigned.
- Appropriate sources of engineering information.
- Computer applications as applied to the solution of engineering problems.
- Engineering materials, equipment and methods.
- Terminology, methods, practices, and techniques used in technical engineering report preparation.
- Programming and reverse engineering of train control software systems.
- Principles and practices of train control and signaling systems.

Ability to:

- Apply basic engineering principles and practices to the solution of engineering problems.
- Conduct engineering studies and evaluations and write clear and concise reports.
- Analyze technical problems, including those involving computer hardware and software.
- Learn engineering division procedures and applicable laws, codes and regulations.
- Interpret and prepare drawings and specifications.
- Learn to prepare construction and/or installation cost estimates.
- Keep accurate records.
- Troubleshoot and design train control equipment.
- Establish and maintain effective working relationships with those contacted in the course of the work.

MINIMUM QUALIFICATIONS

Education:

Bachelor's degree in Electrical Engineering, Electronics, Computer Science, or a related field from an accredited college or university.

Experience:

One (1) to three (3) years of professional verifiable experience with train control and signaling systems or related experience.

Other Requirements:

Professional Engineer's license or Engineer-in-training certification required.

Substitution:

Experience as outlined above may be substituted for the education on a year-for-year basis. A college degree is preferred.

WORKING CONDITIONS

Environmental Conditions:

Office environment; field environment; exposure to computer screens.

Physical Conditions:

May require maintaining physical condition necessary for walking, standing or sitting for prolonged periods of time; must possess sufficient mobility to perform field inspections and investigations.

BART EEO-1 Job Group: 3000 – Engineers
Census Code: 1530 – Miscellaneous Engineers
Safety Sensitive: No