



Code: 4834

Family: Construction, Maintenance, and Skilled Labor

Service: Operation and Construction

Group: Building Maintenance and Operation

Series: Structural Trades

CLASS TITLE: BRIDGE AND STRUCTURAL IRON WORKER

CHARACTERISTICS OF THE CLASS

Under supervision, performs journey-level bridge and structural ironwork in the installation, repair, and maintenance of structural elements and framework on City bridges, viaducts, buildings, and other steel structures, and performs related duties as required

ESSENTIAL DUTIES

- Reads blueprints, specifications, and work orders to assess work required and to layout and cut steel units
- Cuts metal units with hacksaws, burning torches, or plasma cutters to remove damaged ironwork and to install or repair steel structures
- Ensures adequate supplies of tools, equipment, and materials are at work sites to complete jobs
- Fastens steel units to cables from a crane or derrick to hoist steel into place
- Checks the vertical and horizontal alignment of steel and iron framework and guides units into position
- Operates turnbuckles, crowbars, and jacks to fit steel units into final position
- Drills and rings out rivet holes in steel units
- Aligns rivet holes and uses a pneumatic riveter to bolt steel units into place
- Repairs and maintains ironwork by welding steel joints with wire-feeding machines and electric or acetylene torches
- Prepares work activity reports
- Installs reinforcing iron into concrete (e.g., foundations, walls)
- Loads, transports, and unloads equipment and supplies as required
- Cleans equipment and work site after repairs as required

NOTE: *The list of essential duties is not intended to be inclusive; there may be other duties that are essential to particular positions within the class.*

MINIMUM QUALIFICATIONS

Education, Training, and Experience

- Successful completion of a US Department of Labor registered structural ironwork apprenticeship training program and journeyman status; or an equivalent combination of education, training, and experience

Licensure, Certification, or Other Qualifications

- A valid State of Illinois driver's license is required

WORKING CONDITIONS

- Exposure to outdoor weather conditions
- Exposure to loud noise, fumes or dust
- Exposure to hazardous conditions (e.g., construction sites, heavy machinery)

- Work performed above or below ground level
- Work performed using scaffolds and ladders

EQUIPMENT

- Personal protective equipment (e.g., hard hat, shoes, glasses, gloves, vest, pads)
- Safety devices or equipment (e.g., cones, barricades, metal plates, scaffolding, ropes)
- Measuring tools (e.g., tape measure, ruler, calipers, measuring wheel)
- Standard tools and equipment used in structural ironwork (e.g., drills, pneumatic riveters, welding equipment)
- Jacks and hoists
- Ladders
- Two-way radio

PHYSICAL REQUIREMENTS

- Heavy lifting (up to 75 pounds) is required
- Ability to stand and walk for extended or continuous periods of time
- Ability to quickly bend, stretch, twist, or reach out with one's body, arms, and/or legs
- Ability to climb staircases, ladders, and/or step stools
- Ability to access difficult to enter spaces (e.g., roofs, basements, tanks, field equipment, cramped quarters)
- Ability to operate applicable hand tools, power tools, and equipment
- Ability to tolerate heights while working

KNOWLEDGE, SKILLS, ABILITIES, AND OTHER WORK REQUIREMENTS**Knowledge**

Moderate knowledge of:

- *applicable hand and power tools, equipment, and materials specific to the structural ironwork trade
- *use of safety equipment and protective gear
- *applicable safety and code standards specific to the structural ironwork trade, including OSHA standards

Some knowledge of:

- *bridge and structural iron repair, maintenance, and preventative maintenance methods, practices, and procedures
- applicable emergency operations

Knowledge of applicable City and department policies, procedures, rules, regulations, and ordinances

Skills

- *ACTIVE LISTENING - Give full attention to what other people are saying, taking time to understand the points being made, ask questions as appropriate, and not interrupt at inappropriate times

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- *CRITICAL THINKING - Use logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems
- *JUDGEMENT AND DECISION MAKING - Consider the relative costs and benefits of potential actions to choose the most appropriate one
- EQUIPMENT SELECTION - Determine the kind of tools and equipment needed to do a job

Abilities

- COMPREHEND ORAL INFORMATION - Listen to and understand information and ideas presented through spoken words and sentences
- SPEAK - Communicate information and ideas in speaking so others will understand
- COMPREHEND WRITTEN INFORMATION - Read and understand information and ideas presented in writing
- CONCENTRATE - Concentrate on a task over a period of time without being distracted
- REASON TO SOLVE PROBLEMS - Apply general rules to specific problems to produce answers that make sense
- RECOGNIZE SPACIAL ORIENTATION - Know one's location in relation to the environment or to know where other objects are in relation to one's self

Other Work Requirements

- PERSISTENCE - Persist in the face of obstacles on the job
- INITIATIVE - Demonstrate willingness to take on job challenges
- STAMINA - Demonstrate energy and stamina to accomplish work tasks
- COOPERATION - Be pleasant with others on the job and display a good-natured, cooperative attitude
- DEPENDABILITY - Demonstrate reliability, responsibility, and dependability and fulfill obligations
- ATTENTION TO DETAIL - Pay careful attention to detail and thoroughness in completing work tasks

All employees of the City of Chicago must demonstrate commitment to and compliance with applicable state and federal laws, and City ordinances and rules; the City's Ethics standards; and other City policies and procedures.

The City of Chicago will consider equivalent foreign degrees, accreditations, and credentials in evaluating qualifications.

* May be required at entry.

City of Chicago
Department of Human Resources
(Valtera Corporation)

Date: June, 2010