CLASS SPECIFICATION
CAD Analyst

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

GENERAL PURPOSE

Under general direction, performs a variety of professional-level duties in the development, analysis and implementation of applications, tools and utilities to support efficient and effective computer-aided drafting and design processes and the transfer and integration of data between CAD and GIS databases and applications; performs difficult and complex CAD projects; and performs related duties as assigned.

DISTINGUISHING CHARACTERISTICS

CAD Analyst is a professional-level class in the CAD series. Incumbents conduct work process analyses, map data structures and flows and develop customized applications and tools to improve the productivity, efficiency and work product quality of CAD software and hardware and provide for the seamless flow of facilities data between CAD and GIS databases. Incumbents also perform the more difficult and complex CAD projects, requiring advanced sophisticated utilization of CAD software, tools and utilities. Incumbents may provide lead work direction to other CAD Technicians.

CAD Analyst is distinguished from CAD Technician III in that incumbents in the former class are required to possess and utilize a professional body of knowledge associated with systems analysis and design and the development of applications for use by CAD and other personnel.

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. Analyzes and evaluates processes for utilizing computer-aided design and drafting software, CAD geographic information system extensions and other related software and hardware to support engineering and facilities management processes, analyses and reporting capabilities.

2. Supervises and participates in developing new CAD applications to improve efficiency and productivity.

3. Maps data structures and data flow procedures; develops, installs, tests and administers applications to bridge facilities data between CAD and GIS databases; monitors and evaluates resulting work processes and products; ensures query and data manipulation access to engineering drawings and the as-built GIS database.

4. Works with information systems staff to ensure systems and database reliability, accessibility and integrity; performs hardware and software troubleshooting and resolves or participates in problem identification and resolution; participates in the management of system working files; participates in

operating system administration and maintenance and installation, upgrade and testing of applicable software.

5. Participates in analyses and development of recommendations for short- and long-term expansion and enhancement of computer-aided drafting and design systems; tests and evaluates new software and hardware.

6. Develops programs to improve production and accuracy of drawings and information gathering.

7. Oversees and provides technical support for customized tools, utilities and scripts to automate work processes and improve CAD productivity and efficiency; oversees and participates in performing daily maintenance on CAD databases, including researching and reconciling inconsistencies and variations in data.

8. Trains technical staff on software applications, tools, utilities and forms; provides work direction, guidance, training and coaching on work processes, products and priorities.

9. Performs and coordinates work of other technicians assisting with large, complex CAD projects; prepares drawings of complex construction plans; prepares detailed drawings for the construction and alternation of buildings, utilities, structures and other facilities and improvements; makes onsite visits to check base map accuracy, resolve discrepancies and missing data and ensure no conflicts with construction and development plans; performs complex spatial analyses.

OTHER DUTIES

1. Participates in developing and implementing new drafting standards and procedures; oversees development of CAD system documentation and manuals.

2. May serve as CAD liaison with divisions and bureaus across the City and provides information on GIS capabilities and procedures.

MINIMUM QUALIFICATIONS

Knowledge of:

1. Computer programming principles, techniques and procedures for technical CAD applications including relational database design and management to ensure efficient systems operation and maintenance.

2. Advanced CAD facilities mapping principles, practices, procedures and software used by the City.

3. Geographical information systems concepts and analytical techniques.

4. Methods and procedures for integration of large relational data base applications with CAD/GIS application software.

5. Standard programming languages and utilities applicable to areas of responsibility, including script routines.

6. Terminology, methods, practices, techniques and nomenclature of civil, mechanical and/or electrical engineering.

7. Basic project management methods and techniques applicable to CAD and systems development projects

8. Basic principles, practices and techniques for providing work guidance and technical staff training.

Ability to:

1. Understand, interpret, explain and apply user system specifications in performing systems analysis and evaluation.

2. Organize and plan CAD application development and customization projects from concept to completion in accordance with City quality standards.

3. Perform workflow analyses and application development to improve production efficiencies, data quality and end-user access.

4. Design, develop, debug and implement customization tools and procedures relating to advanced CAD/GIS applications and related software; use CAD/GIS and other related software in conjunction with relational data base management processes.

5. Prepare complex detailed scaled and schematic drawings of facilities and improvements including the conversion of field survey data and interpretation of survey maps, assessor maps and parcel data as required.

6. Troubleshoot and identify the causes of hardware, software and network problems.

7. Provide technical and work process training to other staff.

8. Provide lead work direction and guidance to others.

9. Establish and maintain effective working relationships with division and bureau managers and staff, representatives of other bureaus and others encountered in the course of work.

Training and Experience:

A typical way of obtaining the knowledge, skills and abilities outlined above is graduation from a four-year college or university with a major in computer science, engineering, geo-sciences or a closely related field; and two years of progressively responsible experience in CAD applications analysis, design and programming; or an equivalent combination of training and experience.

Licenses; Certificates; Special Requirements:

A valid state driver's license may be required for certain assignments.

An AutoCAD Level 2 or Instructor certification is highly desirable.

PHYSICAL AND MENTAL DEMANDS

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 depend, 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: 07-01-01   New class CAD Analyst (6034) created as part of the COPPEA Classification and Compensation study.
Revised: 08-01-06   Spec history revised to reflect pre-2001 COPPEA Study history. Spec formatting modified.
June 2009 - Change Job Class number from 6034 to 30000331, due to system change.
July 2017 – Updated union name from COPPEA to PTE