CLASS SPECIFICATION
Computer Aided Drafting (CAD) Technician II

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

GENERAL PURPOSE

Under general direction, performs advanced specialized computer aided drafting (CAD) assignments to create and modify complex facilities maps and drawings; coordinates large, multiple and/or complex CAD projects; performs quality assurance/peer reviews of maps and drawings prepared by other staff; and performs related duties as assigned.

DISTINGUISHING CHARACTERISTICS

Computer Aided Drafting Technician II is the advanced journey-level class in the Computer Aided Drafting Technician series. Incumbents perform advanced, complex CAD assignments and are responsible for coordinating large, multiple or complex CAD projects. Incumbents are expected to make advanced use of CAD software to achieve efficient development of maps and drawings that are spatially accurate and represent technically correct depictions of the City's production, distribution and transmission infrastructure.

Computer Aided Drafting Technician II is distinguished from Computer Aided Drafting Technician III in that incumbents in the latter class are responsible for leading the work of, and providing training to, a unit of other CAD technical staff.

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. Operates CAD software to create and maintain complex electronic water, street, sewer, stormwater, transportation, street systems and other easement, infrastructure and facility maps, including plans, detailed drawings, site plans, cross sections, and/or drawings for alterations for buildings, utilities or structures.

2. Updates and maintains database records, microfiche, and electronic files.

3. Creates drawings of construction plans using base maps and other available data; prepares detailed drawings for the construction and alteration of buildings, utilities, structures, street, pedestrian and other improvements; makes onsite visits to check base map accuracy, resolve discrepancies and missing data and ensure no conflicts with construction plans; collects and analyses field data.

4. Manipulates raster images for electronic mapping.

5. Performs QA/peer reviews of plans, design drawings and specifications prepared by bureau staff and/or outside engineering consultants for accuracy, completeness and compliance with bureau standards; works with consultants, surveyors and other outside individuals to provide information on standards, resolve problems and ensure that project details are accounted for and integrated into maps and drawings.

6. Obtains record information from other agencies and utilities; researches files, drawings and maps for facilities and line locations, depth and other relative information; checks assessor's maps, survey maps and parcel information for various data; when necessary, gathers data needed to complete drawings by visiting sites; gathers measurements and field notes and verifies incomplete data.

7. Researches GIS and CAD drafting and mapping techniques, identifies sound methodologies and recommends the implementation of new tools and techniques.

8. Plans, organizes, prioritizes, and schedules projects and processes; monitors and adherence to project budgets; communicates project information and requirements to consultants and City personnel; reviews consultant submittal drawings for accuracy, completeness and compliance with City standards.

9. Provides technical support on CAD software; troubleshoots and configures mapping software.

10. Updates previously recorded engineering drawings, maps, profiles and plans with new as-built data utilizing computer-aided drafting techniques; converts paper plans to current as-built plans; edits existing drawings to reflect as-built conditions; updates as-built progress reports for use by bureau managers in budget projections.

11. Performs complex spatial analysis; creates, implements and maintains databases.

12. Represents the bureau on special projects and/or committees.

13. Develops software menus and commands.

14. Writes and edits script files to fit project needs.

OTHER DUTIES

1. Prepares, designs and produces a variety of maps and other graphic representations displaying layers and attribute data from the database, using cartographic techniques to represent spatial data; develops and maintains data layers, using GIS tools, CAD tools and relational databases; enters attribute data pertaining to specific features into a relational database; incorporates maps, charts, spreadsheet data and text into reports.

2. Designs, creates, plans, maintains and updates maps, drawings, plans, spreadsheets, data files and documentation for a wide variety of purposes; responds to emergency mapping and information requests.

3. Archives and organizes old drawings; maintains and updates records for future reference.

4. Explains policies, procedures and progress of pending and past projects to contractors, government agencies and the public.

5. Attends bureau, City, agency and professional user group meetings and prepares notes or meeting minutes; prepares work group at meetings.

6. Performs special projects as assigned.

MINIMUM QUALIFICATIONS

Knowledge of:

1. Terminology, methods, practices, techniques and nomenclature of civil, mechanical and/or electrical engineering drafting by hand and using computers.

2. Principles and practices of project management and evaluation.

3. Uses and operations of advanced CAD software systems, tools, techniques and methods.

4. Basic principles of computer operating systems as applicable to assigned responsibilities.

5. Modern drafting and mapping procedures.

6. Algebra, geometry and trigonometry as applied to drafting formulas.

7. City operating policies and departmental work procedures and quality standards.

8. Methods and procedures for archiving and retrieving map and drawing information.

9. Basic database and system administration techniques as required to move data and files between applications and repositories and perform database queries.

10. Basic GIS concepts and processes.

11. Surveying practices and results.

12. Basic engineering design practices and methods.

13. Terminology, methods and techniques used in engineering maps and records.

14. Data-gathering and research skills.

15. Use of word processing, spreadsheet and database software.

16. Operating system fundamentals and procedures for the use of computer systems and related equipment.

Ability to:

1. Utilize a variety of computer-aided drafting applications, graphics and other applications to carry out complex work responsibilities.

2. Independently perform advanced CAD assignments with initiative and creativity.

3. Perform difficult technical research, analyze complex CAD operations, evaluate alternatives and recommend or adopt effective courses of action.

4. Properly use and care for drafting equipment, instruments, hardware and software.

5. Create engineering designs in accordance with sound engineering principles and design parameters.

6. Understand, interpret and apply field notes, survey data, symbols and legends; identify and resolve discrepancies in field information, errors in legal descriptions and missing detail.

7. Perform basic engineering computations.

8. Prepare detailed and complex maps, plans and records.

9. Clearly present technical information in oral, written, graphic or other forms.

10. Establish and maintain effective working relationships with bureau management and staff, contractors 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 high school, trade school or vocational school, or G.E.D. equivalent, supplemented by courses in mechanical drawing, engineering drafting and computer-assisted drafting; and four years of progressively responsible engineering drafting experience; or an equivalent combination of training and experience. Experience in a public agency is preferred.

Licenses; Certificates; Special Requirements:

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

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:	12-08-95	Engineering Technician (3108) – CADD specialty created.
Revised:	07-01-01	Spec revised as part of the COPPEA Classification and Compensation study. CAD Technician II (6032) class created from the following COPPEA classes: 3108 Technician II (CAD Specialty)
Revised:	08-01-06	Spec history revised to reflect pre-2001 COPPEA Study history. Spec formatting modified.
Revised:	08-07-06	Revised FLSA status from "Non-exempt" to "Covered."

June 2009 - Change Job Class number from 6032 to 30000329, due to system change.

July 2017 – Updated union name from COPPEA to PTE