

**NOTICE OF PROPOSED CLASSIFICATION ACTIONS BY
THE HUMAN RESOURCES DIRECTOR**

The following actions are being posted in accordance with Civil Service Rule 109. In the absence of a protest addressed to the Human Resources Director, the proposed changes will become final seven (7) calendar days from the posting date.

Posting No: 29
Fiscal Year: 2023/2024
Posted Date: 02/20/2024
Reposted Date: N/A

AMEND THE FOLLOWING JOB SPECIFICATION(S):
(Job specification(s) attached)

Item #	Job Code	Title
1	5362	Engineering Assistant
2	5364	Engineering Associate I
3	5366	Engineering Associate II

Protests on an item should be addressed to the Human Resources Director and can be submitted by mail to the City and County of San Francisco, Department of Human Resources, 1 South Van Ness Ave, 4th Floor, San Francisco, CA 94103 or by email to DHR.ClassificationActionPostings@sfgov.org. All protests must be received in writing no later than close of business seven (7) calendar days from the posting date, and must include the posting and item number(s), the basis on which the protest is submitted and identify the affected parties.

Copies of this notice may be obtained from the Department of Human Resources or from the website at: <http://sfdhr.org/index.aspx?page=109>. Copies of Civil Service Rule 109 may be obtained from the Department of Human Resources, the office of the Civil Service Commission at 25 Van Ness Ave, Suite 720, San Francisco, CA 94102 or from the website at: [Rule 109 Position Classification and Related Rules | Civil Service Commission](#).

cc: All Employee Organizations
All Departmental Personnel Officers
DHR – Class and Comp Unit
DHR – Client Services Unit
DHR – Employee Relations Unit
DHR – Recruitment and Assessment Unit
DHR – Client Services Operations
Carol Isen, DHR
Sandra Eng, CSC
Erik Rapoport, SFERS
Theresa Kao, Controller/ Budget Division
E-File

CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF HUMAN RESOURCES

Title: Engineering Assistant
Job Code: 5362

DEFINITION

Under supervision, the Engineering Assistant ~~applies~~ **performs** technical engineering/drafting techniques **work** in the preparation of civil (including structural and/or transportation), electrical, or mechanical engineering drawings and other graphic material using computer-aided **design and drafting** software products such as ~~AutoCAD, Map 3D, Civil 3D, and/or Revit,~~ and working accurately and in compliance with **City agency's** drafting standards.

DISTINGUISHING FEATURES

The Engineering Assistant is the entry level in the **technical engineering drafting** classification series and is distinguished from the 5364 Engineering Associate I by the latter's higher level of responsibility **for overseeing and/or supervising work of others and design functions**. There are three distinct specialty areas in this classification: Civil (**including structural and transportation**), Electrical, and Mechanical.

SUPERVISION EXERCISED

None.

EXAMPLES OF IMPORTANT AND ESSENTIAL DUTIES

According to Civil Service Commission Rule 109, the duties specified below are representative of the range of duties assigned to this job code/class and are not intended to be an inclusive list.

- ~~1. Depending on the specialty area/discipline, p~~**Prepares** civil (including structural and/or transportation), electrical or mechanical drawings using computer-aided **design and drafting** software products such as ~~AutoCAD, Map 3D, Civil 3D, and/or Revit,~~ in compliance with engineering drafting standards.
- Researches and reviews record drawings to obtain as-built information and C**ollects and calculates field and departmental data needed for the preparation of designs and drawings.
- ~~3. Assists in the preparation of cost and quantity estimates for engineering projects and~~ **Conducts** site investigations **with engineers of existing facilities to determine and verify layout**.
- ~~4. Processes contractor construction shop submittals through logging, transcribing and filing of materials~~
- Updates, indexes, reproduces, and maintains engineering documents and drawing records** stored in databases or spreadsheets in hard copy form.
- Reviews drawing submittals from utility agencies or other City departments and utilize the information submitted in the preparation of construction drawings.**
- ~~6. Updates Geographic Information System or drawing milestone database at various stages of a project.~~
- ~~6. Applies mathematical and other engineering computations as required in the course of performing work.~~

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- ~~7. Operates and replaces media on equipment used in the course of performing work.~~
- ~~8. Responds orally to inquiries and requests for information from the general public, contractors, and other agencies.~~
- ~~9. Prepares memos, letters, and field reports in the course of performing work.~~
- ~~10. May drive a vehicle to and from work sites.~~
11. Performs related duties as required.

KNOWLEDGE, SKILLS, AND ABILITIES

Knowledge of: **the latest design systems, technologies, and processes for technical** drafting including the techniques, standards, nomenclature, and symbols relevant to each engineering discipline **and/or** specialty areas used in the preparation of engineering drawings and other graphic material.

Ability or Skill to: ~~perform computer-aided drafting~~ **prepare design drawings** using **current trending design systems, software technology and processes** *AutoCAD Map 3D, Civil 3D, and/or Revit*, in the preparation of drawings; **demonstrate beginner to intermediate knowledge of at least one CAD or BIM design, such as AutoCAD Map 3D, Civil 3D, and/or Revit**; use mathematical functions to solve drafting, design, construction, maintenance and other problems; ~~write reports, memos, correspondence and complete forms~~; communicate orally with the general public, other city personnel, and contractors **and in writing** in a clear and understandable manner; transcribe **and/or** interpret basic survey **and/or** field notes.

MINIMUM QUALIFICATIONS

These minimum qualifications establish the education, training, experience, special skills and/or license(s) which are required for employment in the classification. Please note, additional qualifications (i.e., special conditions) may apply to a particular position and will be stated on the exam/job announcement.

Education

Experience

1. ~~Two (2) years of verified civil (including structural and/or transportation), or electrical, or mechanical technical engineering drafting experience using computer-aided software products~~ **CAD or BIM systems** such as ~~AutoCAD, Map 3D, Civil 3D, and/or Revit~~, to prepare engineering drawings, and other engineering graphic material. ~~This experience must have been obtained within the last five (5) years.~~

License and Certification

Possession of a valid California driver's license.

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Substitution:

~~Possession of a Certificate of Completion~~ **Additional education with major coursework** in drafting or Computer-Aided **Design and Drafting** (AutoCAD software, 3-D modeling, technical writing and drawing architectural drafting and design) from an accredited college or technical/vocational school **university** may be substituted for **the required experience on a year-for-year basis** six (6) months of the two years of required experience. **Thirty (30) semester units or forty-five (45) quarter units equal one year;** **OR**

Possession of a current and valid Autodesk Certified Professional and Expert certificate may be substituted for the two (2) years of verified technical engineering drafting experience above.

SUPPLEMENTAL INFORMATION

PROMOTIVE LINES

To: 5364 Engineering Associate I

ORIGINATION DATE: 12/18/1972

AMENDED DATE: 12/18/1972; 11/10/00; 01/31/08, 03/19/08
10/22/04, 03/17/14; XX/XX/XX

REASON FOR AMENDMENT: *To accurately reflect the current tasks, knowledge, skills & abilities, and minimum qualifications.*

BUSINESS UNIT(S): COMMN SFMTA

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Title: Engineering Associate I
Job Code: 5364

DEFINITION

Under general supervision, the Engineering Associate I performs difficult intermediate to advanced technical engineering and/or drafting work in the preparation of civil (including structural and/or transportation), ~~or~~ electrical, or mechanical engineering drawings and other graphic material using computer-aided design and drafting software products such as AutoCAD, Map 3D, Civil 3D, and/or Revit, and working accurately and in compliance with City agency's drafting standards.

DISTINGUISHING FEATURES

The Engineering Associate I is the journey level in the technical engineering drafting classification series and is distinguished from 5362 Engineering Assistant by its higher level of responsibility for overseeing and/or supervising work of others and design functions. It is distinguished from the 5366 Engineering Associate II by the latter's responsibility for full supervision. Additionally ~~some 5366 positions may include responsibility for computer-aided drafting management.~~ There are three distinct specialty areas and/or disciplines in this classification: Civil (including structural and transportation), Electrical, and Mechanical.

SUPERVISION EXERCISED

May supervise the work of others technical staff.

EXAMPLES OF IMPORTANT AND ESSENTIAL DUTIES

According to Civil Service Commission Rule 109, the duties specified below are representative of the range of duties assigned to this job code/class and are not intended to be an inclusive list.

- ~~1. Depending on the specialty area/discipline, p~~Prepares civil (including structural and/or transportation), or electrical, or mechanical engineering drawings and other graphic material using computer-aided design and drafting software products AutoCAD, Map 3D, Civil 3D, and/or Revit, in compliance with ~~civil engineering drafting standards~~ City agency's standards, policies and procedures.
- ~~2. Checks and may evaluate the technical engineering work of other staff.~~
- ~~3.2. Researches and reviews record drawings to obtain as-built information and~~ Conducts engineering investigations; and collects and calculates field/departmental data in the preparation of designs and drawings.
- ~~3.3. Makes preliminary c~~Checks and reviews engineering documents and drawings drafting work of other staff for accuracy, engineering sufficiency, and conformance to specifications and standards.
- ~~5. Assist in the preparation of cost and quantity estimates for engineering projects, project specifications and written reports, and site investigations.~~
- ~~6. Processes and/or reviews submittals from contractors, utilities and others.~~
- ~~7.4. Updates~~ Indexes, reproduces and maintains engineering documents and drawing records stored in databases or spreadsheets in hard copy form.

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- ~~8. Applies mathematical and other engineering computations as required in the course of performing work.~~
- ~~9. Operates and replaces media (i.e. printer cartridges, plotter paper rolls and printer paper) on equipment used in the course of performing work.~~
- ~~10. Responds orally and in written form to inquiries, complaints, and requests for information from the general public, contractors, and other agencies.~~
- ~~11. Plans, assigns, schedules, oversees, checks and evaluates the work of subordinate employees.~~
- ~~12. Prepares written reports, minutes, correspondence, field reports and specifications in the course of performing work.~~
- ~~13. Conducts Assists in performing field and equipment inspections site investigations with engineers of existing facilities to determine and verify site layout.~~
- ~~14. Performs design work using engineering knowledge and appropriate software programs.~~
- ~~6. Explains Identifies, develops, and enforces CAD and/or BIM drafting procedures and standards. Contributes to the development of computer-aided drafting and design (CADD) standards.~~
- ~~7. Reviews drawing submittals from utility agencies or other City departments and utilizes the information submitted in the preparation of construction drawings.~~
- ~~8. Coordinate with drafters from other disciplines to maintain project drafting consistency.~~
- ~~9. Updates Geographic Information System or drawing milestone database at various stages of a project.~~
- ~~10. Incorporates data from topographical surveys to prepare drawings.~~
- ~~16. May drive a vehicle to and from work sites.
Performs related duties as required.~~

KNOWLEDGE, SKILLS, AND ABILITIES

Knowledge of: the current design systems, technology, and software processes for technical drafting including the techniques, standards, nomenclature and symbols relevant to each engineering specialty area and/or discipline and used in the preparation of engineering drawings and other graphical output material.

Ability or Skill to: ~~perform computer-aided drafting~~ prepare designs using current trending design systems software technology and processes *such as AutoCAD, Map 3D, Civil 3D and/or Revit*, in the preparation of drawings; demonstrate intermediate to advanced knowledge of at least one CAD or BIM design application, such as AutoCAD Map 3D, Civil 3D, and/or Revit; use mathematical functions to solve drafting, design, construction, maintenance and other problems; write reports, memos, correspondence, and complete forms; communicate orally and in writing with the general public, other city personnel, and

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contractors in a clear and understandable manner; **transcribe and interpret survey field notes**; process and/or review **drawing** submittals from contractors, utilities, and others; supervise, schedule, assign and check the work of subordinate **technical** personnel; and use computer design tools (such as third party software); **and maintain organizational CAD standards**.

MINIMUM QUALIFICATIONS

These minimum qualifications establish the education, training, experience, special skills and/or license(s) which are required for employment in the classification. Please note, additional qualifications (i.e., special conditions) may apply to a particular position and will be stated on the exam/job announcement.

Education:

Experience:

4. Four **(4)** years of verified civil (including structural and/or transportation), or electrical, or mechanical technical engineering drafting experience using computer-aided software products **CAD or BIM systems**, such as AutoCAD, Map 3D, Civil 3D and Revit, to prepare engineering drawings and other engineering graphic material, at least two **(2)** years of which must have been in a position with duties comparable to those of Class 5362 Engineering Assistant. This experience must have been obtained within the last seven years.

License and Certification:

Possession of a valid California driver license.

Substitution:

Candidates may substitute possession of a Certificate of Completion in drafting or computer-aided drafting from an accredited college or technical/vocational school for six months of the required four years of experience. **Additional education with major coursework in Computer Aided Design and Drafting from an accredited college or university may be substituted for the required experience on a year-for-year basis (up to a maximum of two (2) years). Thirty (30) semester units or forty-five (45) quarter units equal one (1) year; OR**

Possession of a current and valid Autodesk Certified Professional & Expert certificate may be substituted for the two (2) of the four (4) years of verified technical engineering drafting experience above.

SUPPLEMENTAL INFORMATION

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Title: Engineering Associate I
Job Code: 5364

PROMOTIVE LINES

From: 5362 Engineering Assistant

To: 5366 Engineering Associate II

ORIGINATION DATE:

AMENDED DATE: 12/18/72; 11/10/00; 01/13/05; 03/18/08; 03/17/14;
XX/XX/XX

REASON FOR AMENDMENT: *To accurately reflect the current tasks, knowledge, skills & abilities, and minimum qualifications.*

BUSINESS UNIT(S): COMMN SFMTA

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Title: Engineering Associate II
Job Code: 5366

DEFINITION

~~Under general direction, works with engineers and drafting personnel in the areas-~~ **the Engineering Associate II performs advanced technical engineering drafting work in the preparation of civil (including structural and transportation), electrical, or mechanical, transportation, or structural engineering drawings and other graphic material using computer aided software design and drafting products in compliance with City Agency's drafting standards; leads the organization to set and update drafting standards and techniques; works with engineers and drafting personnel to enforce compliance with drafting standards to a high quality; and be the liaison between section and departments for drafting related software and hardware issues.**

DISTINGUISHING FEATURES

The Engineering Associate II is the highest **advanced** level **in the** technical engineering job code in the City **drafting classification series**. It is distinguished from the next lower level, the three Engineering Associate I job codes (5364 Civil Engineering Associate I, 5346 Mechanical Engineering Associate I, and 5354 Electrical Engineering Associate), by the increased level of **supervisory** responsibility and complexity of duties. **There are three distinct specialty areas/disciplines in this classification: Civil (including structural and transportation), Electrical, and Mechanical.**

SUPERVISION EXERCISED

~~Most Engineering Associate II's s~~**Supervises** ~~other personnel including clerical and technical staff.~~

EXAMPLES OF IMPORTANT AND ESSENTIAL DUTIES

According to Civil Service Commission Rule 109, the duties specified below are representative of the range of duties assigned to this job code/class and are not intended to be an inclusive list.

- ~~1. Prepares designs and supervises the preparation of plans, specifications, and documents using manual and computer-aided equipment in the areas of civil~~ **(including structural and transportation), mechanical, or electrical, transportation, and structural engineering design drawings, 3D design models, and/or other graphical outputs using computer aided design and drafting software products in compliance with City agency's standards, policies and procedures.**
- ~~2. Performs and checks basic engineering calculations in connection with plans, drawings, and specifications.~~
- ~~3. Collects and verifies engineering field data through research and investigation.~~
- ~~4. Reviews, checks, processes, and issues permits for work in the public right-of-way.~~
- ~~5. Explains and interprets applicable codes and contract requirements orally and in writing to customers including contractors, consultants, the Board of Supervisors, community groups, other city departments, and the general public.~~

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Title: Engineering Associate II
Job Code: 5366

~~63.~~ Acts as a liaison Coordinates with utility companies and city departments to ~~coordinate street and building work~~ obtain site information and as-builts and reviews the drawing submittals in the preparation of construction drawings.

~~7.~~ Prepares technical reports and legislation such as survey site assessment, construction inspection, pavement management, excavation coordination, and permit tracking.

~~84.~~ Prepares costs estimates and quantity lists for projects.

~~9.~~ Prepares, manages, and maintains records and documents including logs and databases.

~~105.~~ Plans, assigns, monitors, trains, and evaluates the drafting work of subordinate personnel staff for accuracy, engineering sufficiency, and conformance to specifications and standards.; includes completing performance evaluations.

~~11.~~ Drives a vehicle to work sites and meetings.

~~12.~~ Develops and implements procedures and trains staff to improve work products and output.

~~13.~~ Assists in the processing and management of construction and procurement contracts.

~~14.~~ May perform CAD (Computer-aided Design) management duties, including setting and enforcing standards.

6. Prepares site drawings from topographical surveys.

7. Conducts site investigations with engineers of existing facilities to determine and verify site layout.

8. Updates and maintains, engineering documents and drawing records.

9. Updates Geographic Information System database at various stages of a project.

10. Researches and reviews record drawings to obtain as-built information and conducts engineering investigations to collect, calculate, and verify engineering field data for the preparation of designs and drawings.

11. Work with the records and drawing standards team and identifies, develops, trains, and enforces CAD and/or BIM procedures and standards to staff.

12. Collaborates with drafters from other disciplines and agencies to maintain project drafting consistency and develop procedure and policy for CAD standards.

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Title: Engineering Associate II
Job Code: 5366

KNOWLEDGE, SKILLS, AND ABILITIES

Knowledge of: Engineering design and construction including **but not limited to** civil **(including structural and transportation)**, mechanical, **and** electrical, ~~transportation and/or structural engineering~~ **drafting** methods and procedures; **the latest design systems, technology and processes for technical drafting including the techniques, standards, nomenclature and symbols relevant to each engineering design discipline and/or specialty area used in the preparation of engineering drawings and other graphical output; advanced levels of at least one CAD or BIM design application in the preparation of design models and drawings.**

Ability or Skill to: Prepare designs **drawings** using design tools and equipment including AutoCAD **current design systems, software technology and processes such as AutoCAD Map 3D, Civil 3D, and/or Revit; use mathematical functions to solve drafting, design, construction, and other problems;** communicate orally **with the general public, other City personnel, and contractors** in a clear and understandable manner; communicate effectively in writing including preparing reports and correspondence; **transcribe and interpret survey and/or field notes; process and/or review submittals from contractors, utilities, and others; supervise, schedule, assign and check the work of technical personnel; and use computer design tools (such as third party software); maintain and train organizational CAD standards;** supervise **and train subordinate personnel technical engineering and entry level engineering staff** by prioritizing, planning, assigning, ~~monitoring~~, and evaluating work; relate effectively with people.

MINIMUM QUALIFICATIONS

These minimum qualifications establish the education, training, experience, special skills and/or license(s) which are required for employment in the classification. Please note, additional qualifications (i.e., special conditions) may apply to a particular position and will be stated on the exam/job announcement.

Education:

Experience:

Six **(6)** years of verifiable technical experience in the preparation of designs and drafting of plans and specifications for civil **(including structural or transportation)**, mechanical, **or** electrical, ~~transportation, and/or structural engineering~~ **technical engineering drafting experience using CAD or BIM systems to prepare engineering drawings and other engineering graphic material, including experience in engineering design, detailing, construction documentation, coordination and review, document controls, and field inspection of construction** projects, of which at least two **(2)** years must have been in a position(s) with duties equivalent **comparable** to one of the following classifications: **those of** Class 5346 Mechanical Engineering Associate I, 5354 Electrical Engineering Associate I, or 5364 Civil Engineering Associate I **5364 Engineering Associate I.**

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~~2. Some positions in this job code require proficiency in computer-aided drafting (AutoCAD).~~

License and Certification:

Possession of a valid California Driver License.

Substitution:

Additional education with major coursework in Computer Aided Design and Drafting from an accredited college or university may be substituted for the required experience on a year-for-year basis (up to a maximum of two (2) years). Thirty (30) semester units or forty-five (45) quarter units equal one (1) year; OR

Possession of a current and valid Autodesk Certified Professional & Expert certificate may be substituted for the two (2) of the six (6) years of verified technical engineering drafting experience above.

Note: There is no substitution for the required two (2) years of work experience equivalent to a 5364 Civil Engineering Associate I.

SUPPLEMENTAL INFORMATION

PROMOTIVE LINES

From: 5364 Engineering Associate I

ORIGINATION DATE: 09/17/73

AMENDED DATE: 11/29/~~19~~99; 03/30/04; ~~XX/XX/XX~~

REASON FOR AMENDMENT: *To accurately reflect the current tasks, knowledge, skills & abilities, and minimum qualifications.*

BUSINESS UNIT(S): COMMN SFMTA