

ENGINEERING AIDE II

CLASS DESCRIPTION

General Responsibilities:

This is skilled technical support work in a professional engineering and public works construction environment. The work involves independently performing a variety of tasks such as: technical drafting of plans, maps, drawings and layouts; developing and/or using computer applications; making routine engineering computations, and performing other related field and office work. The work at this level differs from that at the Engineering Aide I level in terms of technical difficulty/complexity of assignments and independence of action. The work is performed under the general direction of higher level technical or professional staff and typically is reviewed upon completion.

Examples of Duties and Responsibilities:

Draft plans, maps, details, layouts and other materials for bid and construction purposes, records/map maintenance, preliminary project work, presentations and reports. Draft by hand and using computer-aided drafting/mapping software. Use information from surveyor notes, field observations, previous maps and plans, and other source to prepare materials. Create and convert scaled drawings as requested. Prepare and convert, "as built" drawings of completed projects.

Survey street improvements, take field notes, interpret plans, prepare layouts and "as built". Prepare flow maps, truck route maps, and other maps and materials for handouts and reports.

Inspect, photograph, catalogue, and measure existing field conditions for inclusion in maps and plans. Measure and scale existing structures and/or topography to be used in maps, plans, reports and other materials.

Setup and maintain computer and/or manual data management systems (e.g., databases, spreadsheets, historical files, etc.) for analysis, computations, report preparation, special projects, data entry and other related tasks. Create or modify existing computer programs and analyze data to provide information and graphics for regular and special reports.

Use computer techniques and software, including computer assisted drafting, to perform a wide range of technical support functions. Assist in the development of specialized applications.

Prepare traffic control phasing, electrical and pavement marking plans for use in preparation of street improvement project contracts and the bidding process.

Assist with the design of streets using coordinate geometry to develop planimetric layouts. Calculate grades from vertical street alignments.

Research and provide information to the public, contractors and other City employees in a variety of areas relating to the work of the agency.

Draft plans for new water mains and water main replacement projects. Maintain water utility distribution system maps and records. Maintain hydrant maps. Maintain files of plans, survey maps, and other records.

Perform related work as required.

QUALIFICATIONS

Knowledges, Skills and Abilities:

Considerable technical knowledge of drafting techniques, materials and tools. Knowledge of standard engineering nomenclature and mathematics including geometry and trigonometry. Working knowledge of surveying techniques and equipment. Working knowledge of computer usage, terminology, and spreadsheet and database applications. Ability to make neat and legible technical drawings. Ability to perform mathematical computations quickly and accurately. Ability to read detailed maps, plans and specifications. Ability to develop computerized systems and programs. Ability to follow instructions and established procedures. Ability to establish and maintain effective working relationships with internal staff and with persons in other agencies, contractors and the public. Ability to manage data using both manual and computerized systems. Ability to contribute to the preparation of technical reports. Ability to perform field work including observations, measurements, data collection, and surveying activities.

Training and Experience:

Three years of experience performing technical office and/or field work in support of engineering activities. Such experience would normally be gained after completion of high school or equivalent (including two years of math and/or mechanical drawing). Vocational school or college training in the area of civil engineering technology or a closely related area may be substituted up to two years of experience. Other combinations of training and/or experience which can be demonstrated to result in the possession of the knowledges, skills and abilities necessary to perform the duties of positions in this class will also be considered.

Necessary Special Qualifications:

Ability to meet the transportation and mobility requirements of the position.

DIVISION/DEPARTMENT: Multiple*
Class Code: 678

Comp. Gr. 16 Range 13

*Traffic Engineering, Water Utility

Approved:

John Hamilton ^{new}
John C. Hamilton Date
Human Resource Director

<u> X </u>	New
<u> </u>	Revised
<u> </u>	Title Change
<u> </u>	CG/Range Change
<u> X </u>	Pers Board Approval
	8/4/93