

DEPARTMENT: County Counsel BY: Jeffrey G. Green PHONE: 209/966-3222

RECOMMENDED ACTION AND JUSTIFICATION: (Policy Item: Yes___ No_X_)

Adopt this resolution approving attached revised class specifications for Senior Civil Engineer and Associate Engineer, and new class specification for Junior Civil Engineer, at a salary range of 195; further, authorizing department to promote the incumbent Transportation Planner to the position of Junior Civil Engineer and one incumbent Engineering Technician II to the position of Junior Civil Engineer, eliminating the class specification of Transportation Planner and reducing the number of Engineering Technician IIs on the Employee Allocation Schedule from 3 to 2.

The new classification of Junior Civil Engineer will be assigned to S.E.I.U.

BACKGROUND AND HISTORY OF BOARD ACTIONS: Per Mariposa County Personnel Policies and Procedures Handbook, Section 4.02 "Classification Plan Amendment: The Board may create new classes or revise or abolish existing classes."

The Department of Public Works has requested the Personnel Office to review its civil engineering series with a view to their reorganization of that department to more efficiently address the workload of the department. In a separate request to the Board this date, the Department of Public Works will discuss its proposed departmental organization which incorporates the above requested action and provides necessary budgetary and related cost data.

LIST ALTERNATIVES AND CONSEQUENCES OF NEGATIVE ACTION:

Do not approve these class specifications revisions and new class specification and salary range.

Revise these class specifications and salary range as deemed necessary by the Board.

COSTS: (X) Not Applicable

A. Budgeted current FY \$ _____

B. Total anticipated costs \$ _____

C. Required additional funding \$ _____

D. Internal transfers \$ _____

SOURCE: () 4/5ths Vote Required

A. Unanticipated revenues \$ _____

B. Reserve for contingencies \$ _____

C. Source description: _____

Balance in Reserve for Contingencies, if approved: \$ _____

SPECIAL INSTRUCTIONS:
List the attachments and number the pages consecutively:

CLERK'S USE ONLY:

Res. No.: 15-238 Ord. No. _____

Vote - Ayes: _____ Noes: John

Absent: John Abstained: _____

Approved: _____ () Denied _____

() Minute Order Attached () No Action Necessary

The foregoing instrument is a correct copy of the original on file in this office.

Date: _____

ATTEST: MARGIE WILLIAMS, Clerk of the Board
County of Mariposa, State of California

By: _____
Deputy

ADMINISTRATIVE OFFICER'S RECOMMENDATION:
This item on agenda as:

Recommended

Not Recommended

For Policy Determination

Submitted with Comment

Returned for Further Action

Comment: _____

A.O. Initials: P

MARIPOSA COUNTY

JOB TITLE: Junior Civil Engineer

DESCRIPTION OF BASIC FUNCTIONS AND RESPONSIBILITIES

Under general supervision, to perform a wide variety of routine professional field and office engineering work which includes preparation of plans, specifications and cost estimates for County construction projects related to roadways, bridges, water systems, drainage, buildings, sanitation facilities and other public works projects; to review less complex engineering plans and specifications and land development projects prepared by others; and to do other related work as required. Incumbents may be given assignments of progressively increasing difficulty to either prepare engineering designs and specifications for projects using standardized methods, or to prepare segments of the design work for projects assigned to and supervised by more senior engineers.

DISTINGUISHING CHARACTERISTICS:

This classification is the entry-level in the professional engineering series. This class is distinguished from the journey-level of the series of Associate Civil Engineer in that the latter class performs engineering tasks of greater complexity and exercises more independent latitude and authority, while the former performs routine field and office engineering assignments of average difficulty.

SUPERVISOR: Senior Civil Engineer or as assigned

TYPICAL DUTIES:

- Makes calculations, estimates and drawings for public works projects including buildings, bridges, roads, utility lines, drainage works, sewer lines, wastewater facilities, solid waste facilities and other public works projects and grants that meet federal, state and local environmental safety standards; assists in reviewing plans and specifications of other agencies and private land developers for conformance with existing County Improvement Standards, zoning, Circulation Policy, and for adequacy of drainage and road improvements
- Designs road alignment profile, grade, earthwork calculations and right-of-way from field survey data using computer-aided design (CAD)

MARIPOSA: Junior Civil Engineer

TYPICAL DUTIES (Cont'd):

- Prepares profiles and cross sections and computes stresses and strains; makes foundation studies and lays out water mains, sewers, wastewater plants and drainage systems; directs and/or reviews the work of field survey parties and preparation of plans, maps, charts and diagrams
- Assists in inspecting projects under construction for compliance with regulations and specifications; checks land development plans for compliance with established requirements; inspects damaged structures and makes estimates of repair cost
- May assist in gathering and analyzing data concerning rainfall, run-off, stream flow, water level and ground water
- Conducts and/or reviews routine field and laboratory tests of construction materials; writes memoranda and reports
- Trains and monitors work of technicians in computer design techniques using CAD specialized engineering design software
- Assists staff in the operation of the department's computer network and the Special District zone of benefit program
- Perform other related duties similar to the above in scope and function as required

EMPLOYMENT STANDARDS:

Knowledge of:

- principles, practices and techniques of civil engineering and surveying as applied to public works projects
- chemistry, physics and mathematics as applied to civil engineering
- topographic and construction surveying, stress analysis, analytical mechanics and the strength, properties and uses of construction materials
- local, state and federal laws, codes and regulations related to civil engineering
- highway alignment and grade standards

MARIPOSA: Junior Civil Engineer

Knowledge of (Cont'd):

- common methods and equipment utilized in engineering construction and of inspection methods used in reviewing such work
- uses, physical characteristics, sampling and testing of construction materials, including nuclear compaction testing equipment
- personal computer software, including operating systems, word processors, databases, spreadsheets, CAD and other engineering software
- surveying and drafting procedures, record keeping and equipment

Ability to:

- prepare basic civil works designs, make accurate drawings and maps and prepare cost estimates
- accomplish computerized design of roadways
- inspect construction projects and enforce compliance with plans and specifications
- operate precision surveying instruments, including total station and data collector
- operate a PC and use a variety of operating systems and software including word processing, spreadsheet, database and specialized engineering programs
- make accurate mathematical calculations and neat and accurate field notes
- review engineering plans and specifications prepared by private builders, contractors and/or consultants
- perform complex tests and analyses on construction material samples, including use of nuclear gage
- understand and execute written and oral instructions
- write clearly and concisely in order to prepare technical reports, correspondence and maintain records

MARIPOSA: Junior Civil Engineer

Ability to (Cont'd)

- present and explain technical material and reports to a non-technical individual or group
- establish and maintain effective working relationships with those contacted in the performance of work

MINIMUM QUALIFICATIONS:

- a Bachelor's degree from an accredited college or university in civil engineering or a closely-related engineering discipline; **or** possession of a valid certificate as an Engineer-in-Training issued by the State of California Board of Registration for Professional Engineers and Land Surveyors, **and** one year of technical field and office engineering experience with public works projects
- possession of a valid California driver's license.

Creation Date: 5/95
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MARIPOSA COUNTY

JOB TITLE: Associate Civil Engineer

DESCRIPTION OF BASIC FUNCTIONS AND RESPONSIBILITIES

Under limited supervision, to perform a wide variety of difficult field and office professional civil engineering work involved in the design, construction and maintenance of County roads, bridges, sanitation facilities and drainage, water systems and other public works projects; to perform traffic engineering and transportation planning work; and to provide technical direction and guidance to other County personnel and contractors regarding public works construction methods, materials and requirements. Employees in this classification may serve as supervising engineer on public works construction projects and may direct, oversee and supervise the work of others in a lead capacity. This job class is the mid-level of the civil engineering series and functions at a full journey level of classification which requires the application of complex technical and professional civil engineering knowledge as well as project administration skills.

DISTINGUISHING CHARACTERISTICS:

This classification is the journey-level of the professional engineering series. This class is distinguished from the next higher classification of Senior Civil Engineer in that the latter has supervision responsibilities over subordinate engineers, engineering technicians and other support staff, while the former has no direct supervisory responsibility. Senior Civil Engineers are required to be licensed, while Associate Civil Engineers may be licensed or unlicensed. Associate Civil Engineers are distinguished from the next lower classification in the engineering series of Junior Civil Engineer by the complexity of the engineering assignments performed.

SUPERVISOR: Director of Public Works or Senior Civil Engineer,
as assigned

TYPICAL DUTIES:

- Performs complex professional office and field engineering related to the design, construction and maintenance of County public works projects
- Performs special technical studies and investigations related to public works construction projects; analyzes structures, roads, highways, and other project sites for economic, environmental, engineering, legal and other considerations of project feasibility

MARIPOSA: Associate Civil Engineer

TYPICAL DUTIES (Cont'd):

- Directs, oversees and evaluates the work of field survey parties in securing needed data and information prior to actual construction operations.
- Performs transportation planning functions in consultation with the Local Transportation Commission and other County staff
- Reviews and prepares engineering plans, drawings, and specifications related to public works construction projects; and performs technical drafting operations as required
- Serves as supervisory engineer on assigned projects; directs, trains, coordinates, inspects and reviews the work of assigned staff or outside contractors for compliance with established engineering plans, specifications and legal standards; recommends changes in design and construction as necessary and prepares change orders and construction project cost accounting
- Reviews field and laboratory tests of construction materials; prepares cost estimates of materials and construction quantities to develop engineering project budgets; inspects damaged infrastructures and makes estimates of repair costs
- Checks land development improvement plans for compliance with the County Improvement Standards, Circulation Policy and building codes and provides engineering advice to County Planning and Building Department staff
- May apply for state and federal funding for public works projects
- May set up, administer and maintain the Disadvantaged Business Program as required for state and federal funding
- Represents the department at technical meetings and public gatherings and before the Board of Supervisors; makes other public presentations as required
- Prepares comprehensive reports and maintains accurate records
- Performs other related duties similar to the above in scope and function as required

MARIPOSA: Associate Civil Engineer

EMPLOYMENT STANDARDS

Knowledge of:

- local, state and federal laws, codes, and regulations related to civil engineering
- principles, practices and techniques of civil engineering and surveying
- statistics and advanced mathematics including algebra, analytic geometry and trigonometry
- topographic and construction surveying, stress analysis, analytical mechanics and the strength, properties and uses of construction materials; uses, physical characteristics, sampling and testing of construction materials, including nuclear compaction testing equipment
- modern methods and equipment utilized in engineering construction and of inspection methods used in reviewing such work
- personal computer software, including operating systems, word processors, databases, spreadsheets, CAD and other engineering software
- surveying and drafting procedures, record keeping and equipment
- principles, practices and techniques of supervision and training

Ability to:

- plan, assign, and supervise the work of others in a lead capacity
- analyze situations and adopt effective courses of action
- perform technical and professional engineering work assignments with discretion and independent judgment
- inspect construction projects and enforce compliance with all regulations, plans and specifications
- read, understand and interpret complex technical and legal documents, technical drawings and plans, maps and other data rapidly and accurately

MARIPOSA: Associate Civil Engineer

Ability to (Cont'd):

- listen attentively and participate in negotiations by providing required data and information
- establish priorities and work under stress to meet deadlines
- develop and coordinate master planning for projects such as transportation and water resource improvements
- generate computerized designs of roadways and other public works projects; train and direct assigned staff in computerized design work
- use word processing, database software and a variety of operating systems on a personal computer
- communicate clearly and concisely, orally and in writing, at both a technical and general level
- establish and maintain effective working relationships with those contacted in the performance of required duties

MINIMUM QUALIFICATIONS:

- a Bachelor's degree from an accredited college or university in civil engineering, or a closely-related engineering discipline, and four years of increasingly responsible experience in public works-related civil engineering projects. This experience must include at least one year of experience in personnel supervision and project management.
- possession of a valid California Drivers License and a valid certificate as an Engineer-in-Training issued by the State of California Board of Registration for Professional Engineers and Land Surveyors. Professional registration as a Civil Engineer in the State of California is desirable.

Creation date: 4/88
Revised: 9/91
Revised: 5/95
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MARIPOSA COUNTY

JOB TITLE: Senior Civil Engineer

DESCRIPTION OF BASIC FUNCTIONS AND RESPONSIBILITIES

Under minimal supervision, to perform advanced journey-level field and office professional civil engineering work in a wide variety of public works projects; to perform traffic engineering and transportation planning work; and to supervise the engineering positions within the Public Works Department and work performed by independent contractors. Incumbents in this position use considerable discretion and independent judgment in prioritizing, planning, directing, and coordinating engineering division projects. This class performs a variety of departmental administrative functions and is responsible for reviewing and training assigned staff and providing advanced technical engineering assistance.

DISTINGUISHING CHARACTERISTICS:

This classification is the advanced journey level of the professional engineering series. Employees in this class must be registered and exercise considerable independent judgment and application of a thorough knowledge of the principles and techniques of civil engineering to perform work of the highest complexity; they have a significant amount of responsibility for program administration and formulation of policies and procedures involving public works engineering projects. This class is supervised by the executive level of the department and is distinguished from the next lower class of Associate Civil Engineer in that the former provides supervision over subordinate engineers, engineering technicians and other support staff and must be registered, while the latter has no direct supervisory responsibility and may be unlicensed.

SUPERVISOR: Director of Public Works

TYPICAL DUTIES:

- Performs complex field and office professional civil engineering related to the design, construction and maintenance of County public works projects
- Prioritizes the work of assigned staff
- Directs and monitors design work, environmental reviews, construction inspection, and field surveying
- Conducts performance reviews, and recommends training
- Ensures that work is in compliance with local, state, and federal requirements

MARIPOSA: Senior Civil Engineer

TYPICAL DUTIES (Cont'd):

- Prepares feasibility reports, facility plans, and other detailed reports and plans
- May apply for state and federal funding for public works projects
- May set up, administer and maintain the Disadvantaged Business Program as required for state and federal funding
- Works with contractors, consultants and the general public to coordinate projects and services
- Investigates and responds to complaints and inquiries
- Prepares and reviews detailed cost estimates
- Assists in the preparation of budgets and the development of policies and procedures
- Confers with management and other county staff regarding engineering issues and makes recommendations
- Represents the department at technical meetings and before the Board of Supervisors; makes other public presentations as required
- Performs other related duties as assigned

EMPLOYMENT STANDARDS

Knowledge of:

- principles, practices, and design techniques used in civil engineering
- topographic and construction surveying
- local, state and federal laws, codes and regulations related to civil engineering
- common methods of use of equipment and material in construction and maintenance projects
- project administration, service agreements, and contract law
- hazards and safety measures relating to public works projects and facilities
- state and federal funding for public works projects, budget preparation and administration
- personnel supervision, management, and staff development
- environmental review procedures

MARIPOSA: Senior Civil Engineer

Ability to:

- efficiently perform complex and technical engineering
- learn and utilize engineering computer software
- operate a PC and other general office equipment
- effectively direct, supervise, and develop assigned staff
- communicate clearly and concisely, orally and in writing, at both a technical and general level
- make effective presentations before public bodies
- apply principles of logic and scientific reasoning to develop and evaluate alternatives
- establish priorities and meet deadlines
- establish and maintain effective working relationships with those contacted in the course of work

MINIMUM QUALIFICATIONS:

- a Bachelor's degree from an accredited college or university in civil engineering or a closely-related engineering discipline and five years of increasingly responsible experience in public works-related civil engineering projects. This experience must include at least two years experience involving personnel supervision and budget administration and not less than one year as a registered civil engineer.
- Possession of a valid California Drivers License and a valid California certificate of registration as a Civil Engineer or a valid registration as a Civil Engineer in another state and the ability to obtain registration in California within one year.

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Revision Date: 5/95
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