A STUDY OF THE STATE OF CALIFORNIA'S APPROACH TO THE ENGINEERING MANPOWER SHORTAGE

by

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B.S. Pennsylvania State University 1938

THESIS

Submitted in partial satisfaction of the requirements for the degree of

MASTER OF ARTS

AT THE

SACRAMENTO STATE COLLEGE

Approved:
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Date July 26, 1958
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CHAPTER I

THE PROBLEM AND DEFINITIONS OF TERMS USED

In accordance with the California Government Code sections relating to state employment, the traditional civil service employment procedures consist of a series of steps which begin with the scheduling of an examination and terminate with the establishment of a list of candidates who are eligible for appointment. Since the end of World War II, California has had a considerable increase in population, industry, agriculture, and transportation. This growth has required the State of California to expand its program of public works construction and has thereby increased the demand for more trained engineers. The traditional civil service employment procedures were not adequate to meet the increased demand.

I. THE PROBLEM

Statement of the problem. It is the purpose of this study to explain and evaluate the methods adopted by the California State Personnel Board to meet the needs of the California State service for more trained engineers.

1California Government Code, Sections 18500 to 19765 inclusive.
Importance of the study. Since the traditional civil service procedures had not been able to meet the needs of the State service, a different approach seemed indicated to the California State Personnel Board if the engineering agencies of the State of California were to function properly. These engineering agencies include the Divisions of Architecture, Highways, and San Francisco Bay Toll Crossings of the Department of Public Works; the Divisions of Forestry and Beaches and Parks of the Department of Natural Resources; the Divisions of Valuation and Assessment Standards of the Board of Equalization; the Division of Environmental Sanitation of the Department of Public Health; the Division of Local Allocations of the Department of Finance; the Board of State Harbor Commissioners for San Francisco; and the Department of Water Resources. The class of Junior Civil Engineer is used as the professional entry level for nearly all engineering done by the California engineering agencies. Junior Civil Engineers are trained to become design squad leaders, resident engineers, party chiefs, and future supervisors and administrators. The annual need for college engineering graduates to fill vacancies, reduce backlog, and prepare for increased workload is in excess of 800 to maintain normal operations. During 1956, colleges in the United States produced 4,250 civil engineering graduates and 5,557 were expected during
It is now well recognized that a shortage of technically trained engineers exists. California must compete on a nation-wide basis for enough technically trained employees to provide for normal losses and to train for advancement. For California to compete successfully, an employment program was needed which would function more efficiently than the traditional procedures in meeting the demands of the California State service for more technically trained engineers.

II. DEFINITIONS OF TERMS USED

Centralized selection procedures. The various steps of the traditional civil service employment procedures which are controlled from a central headquarters or agency.

Certification. The furnishing of an eligible list by the California State Personnel Board in response to the request of an agency for the names of persons eligible for appointment to an established position.

Class. A group of positions sufficiently similar

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with respect to duties and responsibilities that the same
title may be used to designate each position.  

Continuous testing program. A testing plan which is
designed to examine and certify eligibles on a more or less
continuous basis as the manpower needs of an agency demand or
within a few hours or a few days after a candidate makes
application or is recruited.  

Eligible list. A list of persons who have been exam­
ined and are eligible for certification for a specified
class.  

Form test. A test which is designed for repeated use
at regular intervals without change. The test booklets are
reproduced beforehand and can then be handled routinely as to
scheduling, administration, and scoring. The material in the
test is generally not used in other tests.  

Phi-coefficient. A statistical measure that shows how

4California Government Code, Section 18523.

5California State Personnel Board, Division of Stand­
ards and Surveys, Personnel Management Analyst, "Continuous
(Processed.)

6California Government Code, Section 18532.

7California State Personnel Board, Recruitment and
Examining Division, "Form Test Manual: Principles, Policies,
well each individual item in a test contributed to the job of separating the competitors who earned high scores on a test from those who earned low scores.  

**Position.** A group of duties and responsibilities assignable to an employee.  

**Recruitment.** The function which calls for attracting suitable numbers of qualified individuals as part of the employment processes.  

**Reliability.** The extent to which the same or similar tests will result in the examinees maintaining the same or relative rank. 

**Reliability estimate.** An estimate of the internal consistency of a test.  

**Temporary appointment.** The filling of a position on a nonpermanent basis in the absence of a list of persons

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8California State Personnel Board, Recruitment and Examining Division, "The Phi-Coefficient: What it is and how to use it," 1956, p. 1. (Processed.)  

9California Government Code, Section 18522.  


12Ibid.
eligible for appointment. A temporary appointment cannot be held for a period longer than nine months in any consecutive twelve months.

Validity. The extent to which a test measures what is needed on the job. The confirmation of the test's objectives by expert subjective judgment is termed "content validity."

III. ORGANIZATION OF THE REMAINDER OF THE THESIS

Although literature of previous related studies is very meager, pertinent material and references are reviewed as the final section of the first chapter. Chapter II gives the sources of data for each purpose of the study and lists the criteria selected for evaluation of the continuous testing program for Junior Civil Engineers. The engineering manpower situation which necessitated the establishment of the continuous testing program for Junior Civil Engineers is explained in Chapter III. The development and initiation of the program are described in Chapter IV. The regular centralized selection procedures are described and each step

13_ California Government Code, Sections 18529 and 19058.
14_Constitution of the State of California, Article XXIV, Section 6.
subject to decentralization is analyzed. The results of the continuous testing program and its accessories are analyzed in Chapter V. The effectiveness of the program in meeting the established criteria is evaluated and compared with the results of the regular centralized selection procedures. The study is summarized in Chapter VI and the conclusions reached as a consequence of the investigation are set forth. A selected bibliography follows Chapter VI. The appendix has been organized in sections according to the materials included and contains some primary source materials which would not ordinarily be accessible.

IV. REVIEW OF THE LITERATURE

Continuous testing. The California State Personnel Board first commenced the use of a continuous testing program in December, 1948, for typists and stenographers. The program was administered through the local California Department of Employment offices. Applicants were given a typing test, a written examination, and a stenographic test. All scoring was done at the testing center and the materials forwarded daily to the California State Personnel Board for checking. Registers were established on a local basis for each day's test papers. Applicants were permitted to take the tests
once each calendar month in any locality. The program caused a reduction from the average time of ninety days between application and appointment to an average time of less than one week. This first program had other positive results, such as reducing the number of temporary appointments, securing eligible lists for areas which had always had difficulty in recruiting, and reducing work peaks and document processing costs.

An evaluation of this program was made in August, 1949, but since the success of the program had been observable before the evaluation, other classes had been placed under continuous testing programs. By September, 1949, these included three additional clerical classes, two key punch operator classes, and three tabulating machine operator classes. The class of Hospital Attendant (retitled Psychiatric Technician) had been placed on a continuous testing basis shortly after the first program was initiated. By September, 1957, continuous testing plans were available for twenty-five classes.

16Personal interview with Pauline B. Cawley, Personnel Management Analyst, Division of Standards and Surveys, California State Personnel Board, on October 11, 1957.


18Ibid., p. 204 et seq.
In general, no formal evaluations of continuous testing programs have been made by the California State Personnel Board other than as noted above. Each class under consideration for continuous testing has required study on an individual basis. The agency needs and labor market conditions must be examined and the quality of resulting eligible lists as well as the comparative costs considered.¹⁹

**Engineering manpower problem.** The editorial research and reporting staffs of the *Engineering News-Record* prepared a comprehensive report on the engineering shortage which was published in November, 1956.²⁰ This report stresses the need for: more effective use of engineers, the use of technician classes, the development of more engineers, and improved recruiting approaches to include graduates of curricula other than civil engineering. The need for more positive recruitment efforts to meet the demands for qualified personnel has long been recognized by the State Personnel Board but efforts have been restricted because of insufficient funds and staff.²¹

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¹⁹California State Personnel Board, Division of Standards and Surveys, Personnel Management Analyst, "Continuous Testing Programs--Objectives and Standards," *loc. cit.*


²¹Report of the California State Personnel Board to
Interviewing. The importance of interviewing in the selection process is recognized by Bellows and Estep, who consider it to be a profession in itself. They deal with the use and nature of the interview, its background, the possible approaches, the use of guides and personal data, and uses other than selection.22 Halsey considers the interview to be the most important part of the selection process and states that "the personnel interview can be made one of the most valid and dependable tools of selection."23 The State Personnel Board gives major weight to the use of the interview in the continuous testing program for Junior Civil Engineers. Under State Personnel Board Rule 194, the interview is used as the final selection tool; a single representative conducts the interview and rates the education, experience, and personal qualifications of the candidate.24 Stone and Kendall also attach considerable importance to the interview as an effective selection tool when used on an individual

the Governor and the Legislature on Matters Relative to Civil Service Personnel, December 1, 1956, p. 14.


24 California Administrative Code; Title 2, Administration; Division I, Administrative Personnel; Chapter 1, State Personnel Board; Article 8, Examinations; Rule 194.
basis. They grant the existence of negative evidence against the interview as a selection tool. However, they point out that patterned or standardized techniques have demonstrated substantial predictive values. Consistent over-all ratings have been obtained by trained interviewers using a rating form. They conclude that specific validity has been demonstrated in assessing personal qualities but not universal validity for all purposes.25

CHAPTER II

METHOD OF PROCEDURE AND SOURCES OF DATA

The research approach used in this investigation has been the survey method of gathering, treating, and analyzing the data. The sources of data have been given to explain, describe, or provide a basis for evaluation of each of the purposes of the study. The criteria selected have been defined for evaluation in terms of the objectives of the program. Unless otherwise noted, all public agencies mentioned are part of the California state government and all references to sections or units are to State Personnel Board subdivisions.

I. SOURCES OF THE DATA

The first purpose of this study is to explain why the continuous testing program for Junior Civil Engineers was established. The reports, minutes of meetings, and calendar summaries of the State Personnel Board provided the data for this purpose. Periodical literature was also used as a source.

The second purpose of this study is to describe how the continuous testing program was developed and initiated. The sources of data were the instructions, directions, bulletins, and testing materials prepared by various sections of
the State Personnel Board. The procedures of operation were verified by consultation with the analysts and agencies concerned. Many of the primary sources of data have been included in the appendix for reference.

The third purpose of this study is to evaluate the effectiveness of the continuous testing program in terms of its results. The major sources of data for this purpose were the personnel records of the Division of Highways. The records of the Continuous Testing Unit and the Recruitment Section of the State Personnel Board were also used. Additional data on the efficiency of the program were obtained as the result of visits to the testing offices and conferences with testing representatives. Unless otherwise indicated, all sources of data for the tables are from the records of the Personnel Office of the Division of Highways or the State Personnel Board.

II. SELECTION OF THE CRITERIA

An attempt has been made to select criteria that will serve as standards for judging the effectiveness of the continuous testing program and its augmentations. The first criterion selected was the ability of the continuous testing program to reduce materially the time between application and certification so as to meet the employment needs of the engineering agencies and to avoid losing candidates whose
interest in State service might wane during a long wait for employment. The second criterion selected was the ability of the augmented continuous testing program to secure a greater number of engineering graduates than had been secured by the regular testing processes with twice-a-year examinations. The administrative effects of the continuous testing program have been considered as a third criterion. The validity of the continuous testing program has been treated as a fourth criterion.
CHAPTER III

THE ENGINEERING MANPOWER SITUATION

This chapter proposes to establish that, in view of the engineering manpower shortage, the regular selection processes in California had not operated so as to secure for the state its fair share of available engineers.

The Engineering News-Record reported in its issue of November 8, 1956, that the 6,500 member firms of the Associated General Contractors of America would require an estimated 13,000 additional engineers through 1958.¹ The chief of personnel and training in the United States Bureau of Public Roads estimated in the same report that state highway departments had a current annual demand for between 4,000 and 5,000 engineers.² The Division of Highways is capable of absorbing up to 800 Junior Civil Engineers per year but has rarely secured more than 57 per cent of its needs (see Table I). Consequently, many positions remained vacant or were reclassified to engineering aid or technician. Field parties and design squads have had to operate understaffed or take nonprofessional employees and train them. The Department of Water Resources, because of the start of the

²Loc. cit.
<table>
<thead>
<tr>
<th>Year</th>
<th>Candidates</th>
<th>Qualified</th>
<th>Appointments</th>
<th>Engineering graduates</th>
</tr>
</thead>
<tbody>
<tr>
<td>1954</td>
<td>1,234</td>
<td>738</td>
<td>454</td>
<td>503</td>
</tr>
<tr>
<td>1955</td>
<td>1,154</td>
<td>700</td>
<td>437</td>
<td>472</td>
</tr>
<tr>
<td>1956</td>
<td>1,136</td>
<td>661</td>
<td>404</td>
<td>441</td>
</tr>
</tbody>
</table>
Feather River Project as well as its regular investigations, had over three hundred vacant positions by the end of November, 1956, of which over sixty were classified as Junior Civil Engineers. The July, 1956, vacancy report for Junior Civil Engineers compiled by the Recruitment Section indicated that there were 512 vacant positions throughout the state service (see Table II). The total population of California has been increasing at a faster rate than the total civilian work force in the state. Under these circumstances, the need may become more acute unless sufficient qualified entry-level employees can be recruited and retained (see page 1). The California state service has an annual need for 1,400 new engineers at all levels to meet the increasing work loads and to offset losses from normal turnover.

In February, 1956, staff members of the California State Personnel Board and representatives of the Department of Public Works met to discuss the manpower situation with the object of resolving the problem. It was agreed that

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3 Calendar for meeting of the California State Personnel Board, December 1, 1956. Calendar Item No. 8, p. 49.


5 Ibid., p. 13.

6 Minutes of the Meeting of the State Personnel Board and Public Works Officials with Respect to Recruiting for Engineers, February 3, 1956, p. 1. (Processed.)
# TABLE II

**JUNIOR CIVIL ENGINEER VACANCIES, JULY, 1956, TO SEPTEMBER, 1957**

<table>
<thead>
<tr>
<th>Date</th>
<th>Vacancies in all state agencies</th>
</tr>
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<tbody>
<tr>
<td>July 24, 1956</td>
<td>512</td>
</tr>
<tr>
<td>August 24, 1956</td>
<td>430</td>
</tr>
<tr>
<td>October 26, 1956</td>
<td>384</td>
</tr>
<tr>
<td>January 15, 1957</td>
<td>356</td>
</tr>
<tr>
<td>February 15, 1957</td>
<td>364</td>
</tr>
<tr>
<td>May 15, 1957</td>
<td>418</td>
</tr>
<tr>
<td>July 15, 1957</td>
<td>287</td>
</tr>
<tr>
<td>August 22, 1957</td>
<td>107</td>
</tr>
<tr>
<td>September 30, 1957</td>
<td>103</td>
</tr>
</tbody>
</table>

**Note:** As of August 1, 1957, the Division of Highways had reclassified over 300 positions from Junior Civil Engineer to Highway Engineering Technician.
engineering recruiting should be intensified and that continuous testing should be adopted for Junior Civil Engineers, with the written examination eliminated for graduates from accredited engineering curricula. Consideration was also given to the establishment of engineer trainee and technician classes.7

The regular examinations had qualified many applicants for the class of Junior Civil Engineer but relatively few of those who accepted appointment were four-year engineering graduates (see Table III).

7Ibid.
<table>
<thead>
<tr>
<th>Educational level</th>
<th>Candidates</th>
<th>Qualified</th>
<th>Hired</th>
</tr>
</thead>
<tbody>
<tr>
<td>12th grade or less</td>
<td>159</td>
<td>41</td>
<td>36</td>
</tr>
<tr>
<td>1 year of college</td>
<td>43</td>
<td>21</td>
<td>18</td>
</tr>
<tr>
<td>2 years non-engineering</td>
<td>58</td>
<td>31</td>
<td>24</td>
</tr>
<tr>
<td>2 years engineering</td>
<td>84</td>
<td>52</td>
<td>27</td>
</tr>
<tr>
<td>3 years engineering</td>
<td>51</td>
<td>45</td>
<td>16</td>
</tr>
<tr>
<td>4 years engineering</td>
<td>208</td>
<td>188</td>
<td>44</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>603</strong></td>
<td><strong>378</strong></td>
<td><strong>165</strong></td>
</tr>
</tbody>
</table>
CHAPTER IV

DEVELOPMENT AND INITIATION OF THE PROGRAM

Since the traditional civil service processes had been unable to meet the engineering manpower needs of the state service, it was obvious that some action was indicated. The State Personnel Board agreed upon the establishment of a decentralized continuous testing program as the most effective approach to securing an adequate supply of entry-level engineers supplemented by the use of new classes for securing and retaining engineer technicians.

Chapter IV describes the regular centralized selection processes for comparison with the new decentralized continuous program, the actions of the State Personnel Board which made possible the new program, and the development and initiation of the new program.

I. THE REGULAR CENTRALIZED SELECTION PROCEDURES

In the regular centralized selection procedures, an examination is scheduled from nine to fifteen weeks before it is to be held. The date selected is based on the recruitment effort required, the date by which an eligible list is

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needed, the possible loss of temporary appointees, and the existing examination workload.

An announcement bulletin is prepared by the examiner who is to construct the examination and who determines the scope of the examination at the time the bulletin is set up. The Recruitment Section plans publicity and has special mailings made of the bulletin after it has been checked and reproduced. Advertisements may be placed in publications which will reach qualified individuals, and inquiries are invited. Applications received are reviewed by the examiner to determine whether the applicant possesses the minimum qualifications of education and experience. The Application Review Section checks the application as to citizenship, residence, and completeness. Rejected applicants are notified.

During the three to nine weeks before the scheduled examination date, the examiner plans the coverage and type of the test; assembles materials from Test Pool files, consultants, and agencies; constructs new items and problems; and evaluates all material as to pertinency, validity, and difficulty. An examination rough draft is then assembled for review and checking about three weeks before the scheduled examination date.

The Scheduling Unit initiates an "Arrangements and Shipping Sheet" which is completed by the examiner and includes time allotted for the test, materials required by the
candidates, materials to be furnished, test arrangements necessary, conditions of employment, and special instructions. The number of approved applications is tabulated by the Test Processing Section and the information is sent to the Arrangements Section, which arranges for the administration of the examination at various locations throughout the state and notifies the accepted applicants one week before the scheduled date as to the date, time, place, and materials required for the examination. The Duplityping Unit prepares stencils of the examination rough draft, which, after proofing, checking, and correcting, are reproduced by the Mimeograph Section. The final booklets are shipped to the examination proctors together with any materials needed and instructions which have been prepared by the examiner.

The proctor administers the examination and returns all materials to the Test Scoring Section for processing. The Test Pool prepares the scoring key and inspection copies. Inspection of a keyed copy of the examination by the competitors is normally provided for the week following an examination except in cases of urgency or when standardized tests are used. When inspection is permitted, the Test Pool receives any item protests and forwards them to the examiner, who allows or disallows them, based on further research or advice from consultants. The Test Scoring Section amends the scoring key, if necessary, and scores all objective material.
Problems and essay questions are scored by the examiner or outside experts. Grading is usually complete two to three weeks after the examination.

After grading, the Test Scoring Section totals raw scores, which are tabulated by the Test Processing Section. A minimum passing mark is set by the examiner and reviewed by his supervisor and the Examining Section. After the passing mark has been established, the Test Processing Section identifies the booklets, computes percentage scores, lists candidates as to passing or failing, and prepares a list for checking veterans' preference. The Scheduling Unit then arranges oral interviews for the candidates who have passed the written examination and provides a chairman, a departmental representative, and an outside or public member. The Test Processing Section prepares lists of candidates, rating sheets, and interview notices. The Arrangements Section makes a detailed scheduling breakdown, has notices sent to the candidates, and furnishes the chairman with all necessary materials for conducting the interviews.

After conducting the interviews the chairman returns all test materials to the Scheduling Unit for checking. The Test Processing Section receives the checked material, punches averaged interview scores into cards, computes overall averages, applies verified veterans' preference credits, compiles the final eligible list, and prepares the test
results notices to candidates. The test results notices are finally mailed to the candidates approximately seventy days after the written test. If an appraisal of education and experience had been used instead of the oral interview, the notices would have been sent about thirty-five days after the written test. If the examination had consisted of a written test only, the time would have been between twenty and thirty-five days.

The eligible lists are furnished to the agencies concerned a day or two before the test results notices are sent. The agency can then offer employment to the qualified eligibles and an appointment can be made pending a satisfactory medical examination report.

II. ACTIONS OF THE STATE PERSONNEL BOARD

In order to implement the proposed examination program, the State Personnel Board took certain actions which appeared necessary to its development. These actions included revision of the specification for Junior Civil Engineer and the establishment of nonprofessional classes. Prior to the initiation of the new decentralized testing program, the class specification for Junior Civil Engineer had permitted only graduates of accredited civil engineering curricula to be accepted for the examination without actual experience. Graduates of other curricula were required to have six months
of civil engineering experience in order to have their applications accepted. To attract more engineering graduates, the specification was revised to eliminate the written test for graduates of accredited civil engineering curricula and to permit graduates of other curricula, and those eligible on an experience basis, to take a competitive oral examination after passing a written test which would establish the possession of equivalent qualifications. The revised specification also permitted registered senior students to qualify for examination, with appointment subject to proof of graduation.

On June 15, 1936, the State Personnel Board adopted Rule 194 to be used for classes difficult to recruit and to reduce the delays attendant upon the assembly of qualification appraisal boards. This new rule permits the use of a single representative for rating the education, experience, and personal qualifications of applicants.

On December 1, 1956, the minimum qualifications in

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2Calendar for meeting of the California State Personnel Board, May 5, 1956. Calendar Item No. 3, p. 54.

3Infra, Appendix B-1.

4Calendar for meeting of the California State Personnel Board, June 15, 1956. Calendar Item No. 5, p. 19.

5California Administrative Code; Title 2, Administration; Division 1, Administrative Personnel; Chapter 1, State Personnel Board; Article 8, Examinations; Rule 194.

6Calendar for meeting of the California State Personnel Board, December 1, 1956. Calendar Item No. 7, p. 34.
the Junior Civil Engineer class specification were further revised so as to admit engineering graduates only. Inasmuch as candidates with practical experience only have done poorly in the Junior Civil Engineer examination, which is based upon the basic civil engineering knowledges rather than on specific experience information, the State Personnel Board also established the classes of Civil Engineering Technician and Highway Engineering Technician. These new classes made possible the recruitment of individuals whose previous failure to qualify in a civil engineering examination had lost them to the state service. The entrance requirements for the assistant engineering classes (the next higher level) were also revised to permit the engineering technician classes to qualify for examination after two years of experience. The State Personnel Board believed this action would encourage persons recruited as engineering technicians to remain in the state service because of continued opportunity. Providing opportunity for career advancement to employees whose background is one of practical experience has been recommended by

8 *Infra*, Appendix B-3 *et seq.*
9 Calendar for meeting of the California State Personnel Board, December 1, 1956, *loc. cit.*
10 *Infra*, Appendix B-5 *et seq.*
11 Calendar for meeting of the California State Personnel Board, December 1, 1956, *loc. cit.*
progressive industrial concerns for many years.\textsuperscript{12}

These preliminary actions established the basis for the development of the new program.

III. DEVELOPMENT OF THE NEW PROGRAM

The description above indicates that the regular centralized selection processes consist of over sixty steps or actions on the part of at least twenty sections and units of the State Personnel Board. These steps were consolidated into twelve processes which are described and analyzed in this section. These are the processes which have been integrated into the continuous testing program in such manner as to require minimum attention from the State Personnel Board analysts except for critical incidents or necessary revisions.\textsuperscript{13} The objectives of the program are to examine and certify eligibles as quickly and as continuously as the manpower needs of an agency demand or as soon as possible after a qualified individual makes application or is recruited.


\textsuperscript{13}California State Personnel Board, Division of Standards and Surveys, Personnel Management Analyst, "Continuous Testing Programs--Objectives and Standards," 1956, p. 1. (Processed.)
Scheduling. In order that an applicant may be examined as soon as possible after having his application approved, scheduling was decentralized to the testing location. The representative designated by the State Personnel Board was given full responsibility for the scheduling of the written tests and interviews.

Announcement bulletins. Examinations are announced a reasonable length of time before being held. The bulletin must contain information as to the date and place of the examination, the nature of the entrance requirements, and the scope of the examination. In addition, the bulletin must state the duties and salary range of the class, the method of evaluating the qualifications of the competitors, and such other information as may be deemed proper. The first announcement bulletin issued for the continuous testing program contained all the necessary information and was reproduced in sufficient quantities to give all testing offices an adequate supply.

A revised announcement bulletin was issued on December 11, 1956, to reflect the change in the entrance

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14California Government Code, Section 18933.
15Loc. cit.
16California Administrative Code, op. cit., Rule 171.
17Infra, Appendix A-2.
requirements adopted December 1, 1956. The salary adjustments of July 1, 1957, necessitated revision of the announced salary range, which was indicated in the bulletin issued August 8, 1957. Announcement bulletins were distributed to all testing offices and to such agencies, institutions, locations, and individuals as might result in maximum recruitment benefit.

**Recruitment.** The first active phase in the employment procedure is recruitment. The objectives are to reach a maximum number of individuals with the desired qualifications and encourage them to enter the selection process. The State Personnel Board has recognized for some time the need for an expanded recruitment effort. To increase the recruiting effort, the Recruitment Section has coordinated nation-wide recruitment on college campuses, using representatives from the State Personnel Board, the Division of Highways, and the Department of Water Resources. The procedures recommended by Stone and Kendall have been of value in planning such

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18 *Loc. cit.*

19 *Infra, Appendix A-4.*


recruiting tours. These include the use of advertisements in local newspapers, timing of campus visits, furnishing brochures and application blanks to the placement officers, preliminary screening of applicants, and scheduling of interviews by the placement officers, referrals by professors, and meetings with student groups. 22 The suggestion by Halsey that one should "find out what the 'customer' wants and show him that you have it" has been well followed. 23 The effort of recruitment then has been to show the potential applicant that employment with the State of California offers him what he wants. Brochures and informational materials have been used to follow through, as well as advertisements in newspapers and technical publications. The objective has been to emphasize recruitment impact at the testing location and thus avoid the impersonal approach that can be so inherent in centralized recruitment. 24 The fourteen testing locations in California can bring an even more personal approach to recruitment by having employees refer friends who are registered seniors in engineering curricula or already graduated. Although the recruitment effort is aimed at securing


engineering graduates, the referral technique can uncover many potential engineering aids or technicians and thus help the over-all situation.

Form tests. Section 18900 of the California Government Code requires that eligible lists be established as a result of competitive examinations.\(^{25}\) These examinations may be of various types, including written or oral and assembled or unassembled.\(^{26}\)

The purpose of using form tests is to regularize and improve testing and to effect economies in the time and effort involved in examinations which are frequently and regularly scheduled.\(^{27}\) For more effective test security, and to effect greater savings in total time and effort, the use of six comparable forms was decided on. A committee composed of representatives of the State Personnel Board, the Division of Highways, and the Department of Water Resources met in May, 1956, and planned the coverage and size of the tests, with the purpose of having the items be a sampling of the areas in


\(^{26}\)California Government Code, Section 18930.

which knowledges were considered to be essential. It was agreed that, since perfect prediction of success was not possible, the objective should be as high a "batting average" as possible in predicting failures. All material was newly written by teams of engineers from the agencies represented and under the guidance of State Personnel Board examiners. Kenneth L. Bean's presentation of the different categories of multiple-choice items and the rules for writing them was of considerable assistance in constructing the items. All items were checked and reviewed by the engineers and the examiners before being assembled into the six form tests.

The first form test was used for a regularly scheduled examination so that item analysis could be done before releasing any forms to the testing offices. The results of the item analysis showed the range of difficulty values to be between 20 and 90 per cent (see Table IV). The number of items significant at the 5 per cent level or better was relatively high (see Table V, p. 35). All form tests were evaluated by a consultant from Sacramento State College and, on


29 Stone and Kendall, op. cit., p. 234 et seq.

### TABLE IV

DISPERSAL OF ITEMS BY DIFFICULTY VALUE

<table>
<thead>
<tr>
<th>Level of difficulty range in per cent</th>
<th>Test form</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A-1</td>
</tr>
<tr>
<td>91-100</td>
<td>1</td>
</tr>
<tr>
<td>81-90</td>
<td>2</td>
</tr>
<tr>
<td>71-80</td>
<td>-</td>
</tr>
<tr>
<td>61-70</td>
<td>4</td>
</tr>
<tr>
<td>51-60</td>
<td>7</td>
</tr>
<tr>
<td>41-50</td>
<td>11</td>
</tr>
<tr>
<td>31-40</td>
<td>5</td>
</tr>
<tr>
<td>21-30</td>
<td>6</td>
</tr>
<tr>
<td>11-20</td>
<td>4</td>
</tr>
<tr>
<td>6-10</td>
<td>-</td>
</tr>
</tbody>
</table>

**NOTE:** A-2 consisted of ten multiple-choice problems weighted at three points each. Subsequent forms were revised to consist of sixty equally weighted multiple-choice items.
TABLE V
TEST RESEARCH DATA

<table>
<thead>
<tr>
<th>Form</th>
<th>No. in group</th>
<th>5%</th>
<th>1%</th>
<th>Significant or better</th>
<th>No. of competitors</th>
<th>No. of items</th>
<th>Mean</th>
<th>Median</th>
<th>Range</th>
<th>Std. dev.</th>
<th>Split-half</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-1</td>
<td>100</td>
<td>.14</td>
<td>.18</td>
<td>34</td>
<td>85</td>
<td>528</td>
<td>40</td>
<td>17.7</td>
<td>18</td>
<td>7-32</td>
<td>6.41</td>
</tr>
<tr>
<td>A-2</td>
<td>100</td>
<td>.14</td>
<td>.18</td>
<td>10</td>
<td>100</td>
<td>528</td>
<td>10</td>
<td>12.6</td>
<td>15</td>
<td>0-30</td>
<td>2.43</td>
</tr>
<tr>
<td>B</td>
<td>45</td>
<td>.21</td>
<td>.28</td>
<td>44</td>
<td>73</td>
<td>180</td>
<td>60</td>
<td>23.3</td>
<td>23</td>
<td>8-47</td>
<td>7.24</td>
</tr>
<tr>
<td>C</td>
<td>27</td>
<td>.28</td>
<td>.36</td>
<td>30</td>
<td>50</td>
<td>109</td>
<td>60</td>
<td>23.4</td>
<td>20</td>
<td>11-38</td>
<td>6.84</td>
</tr>
<tr>
<td>D</td>
<td>14</td>
<td>.36</td>
<td>.47</td>
<td>28</td>
<td>47</td>
<td>57</td>
<td>60</td>
<td>23.8</td>
<td>24</td>
<td>10-41</td>
<td>7.25</td>
</tr>
</tbody>
</table>
the basis of his recommendations, the tests were revised to consist of sixty equally weighted multiple-choice items instead of the forty multiple-choice items weighted at one point and the ten multiple-choice problems weighted at three points, which had been the original set-up. The revisions simplified scoring and permitted the time allowed for the test to be reduced from two hours to one hour.

Test materials. Based upon careful estimates, all materials necessary for use in the continuous testing program were reproduced and distributed to the testing offices before the program went into effect. Instructions and directions for the use of the materials were also distributed. The supply of test materials at each testing office was replenished as necessary on the basis of records of use kept by the Continuous Testing Unit.

Space arrangements. The responsibility for testing and interviewing arrangements at the testing offices in California was completely decentralized to the place of test. These test locations include the headquarters of the eleven districts of the Division of Highways and the offices of the State Personnel Board in Los Angeles, Sacramento, and San Francisco. The Recruitment Section retained responsibility for arrangements on the college campuses and at locations outside of California.
Review of applications. The responsibility for the review and approval of applications was delegated completely to the representative at the testing location. State Personnel Board Rule 174 requires that applications be filed at the place, within the time, and on the form specified. Testing places were listed on the announcement bulletin, the time was whenever the applicant came in, and the required application form was available at any place of test. Under the minimum qualifications adopted by the State Personnel Board on May 5, 1956, candidates who had graduated from or were registered seniors in a curriculum accredited by the Engineers Council for Professional Development could be accepted immediately for the interview. Candidates who offered engineering graduation other than civil, or who offered civil engineering experience in lieu of education, could be accepted for the interview after first qualifying by passing a written form test covering basic civil engineering. Authority to review citizenship documents was delegated to the representatives, who were furnished with the requirements for proof of citizenship of those candidates born outside of the United States or

32 Infra, Appendix C-1.
33 Infra, Appendix C-2.
34 Infra, Appendix A-2, and reverse of Appendix C-2.
its possessions. Candidates who were accepted for testing received a "conditions of employment" form to fill out. They were also required to sign a statement regarding their nonparticipation in the program during the current testing period. Representatives were instructed to question and to report to the State Personnel Board on candidates with records of dismissal from previous employment or arrests. Where necessary, the Investigation Unit checked with former employers or law enforcement agencies.

Written test administration and scoring. Administration and scoring of the written test were completely decentralized to the testing locations. Candidates accepted to take the written test were to be tested as soon as possible, preferably on the same day. Directions for test administration and scoring were issued to all testing offices with other test material. After completion of the one-hour written test by the candidate, the test was to be scored and

35 Infra, Appendix C-3.
36 Infra, Appendix C-4.
37 Infra, Appendix C-5.
38 California State Personnel Board, Recruitment and Examining Division, "Continuous Testing for Junior Civil Engineers," July 19, 1956, p. 4. (Processed.)
39 Ibid., p. 6.
40 Infra, Appendix C-6, et seq.
the candidate notified as to whether or not he had passed. The passing mark was made known to the testing offices on August 27, 1956, before fully decentralized operations commenced.

Interviewing. Under State Personnel Board Rule 194, the score obtained by the candidate in his interview was to be his final examination score. A rating guide was to be completed for each candidate interviewed, following the instructions furnished. Bellows' and Estep's recommendations on developing patterned interviews were helpful in producing the suggestions for use of the rating guide. These include planning the questions after checking the applicant's background; establishing rapport with the applicant, and putting him at ease; scoring the factors listed on the rating guide; and avoiding hasty judgments. The use of the patterned interview and a rating form, as described by Stone and Kendall, was also of value. The guide issued by the New York City Civil Service Commission to its special examiners was helpful because of its presentation of the precautions to be observed.

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41California Administrative Code, op. cit., Rule 194.
42Infra, Appendix C-8 et seq.
in questioning and in rating the answers. \textsuperscript{45} Suggestions for the effective review of ratings were obtained from a guide used by the Los Angeles City Civil Service Commission. \textsuperscript{46}

A test cannot yield more than has been put into it. \textsuperscript{47} Consequently, the development of the rating guide and the suggestions for its use was meticulously done and carefully checked by consultants and reference to authorities and the experiences of other agencies.

Mock interviews were conducted for the testing representatives during July, 1956, and explanations given as to the effective use of the rating guide and the suggestions.

Medical examination. Candidates receiving a passing score in the interview were to be immediately eligible for appointment pending an approved medical examination report. \textsuperscript{48} Authority to approve or disapprove the medical examination reports was delegated to the testing office representatives, based upon standards established by the medical examiner of the State Personnel Board which were included in the


\textsuperscript{46} Los Angeles City Civil Service Commission, "The Interview: Suggestions to Members of Interview Boards," January, 1953, p. 5 \textit{et seq.}

\textsuperscript{47} Edith M. Huddleston, \textit{op. cit.}, P. 283.

\textsuperscript{48} \textit{Infra}, Appendix C-10.
Eligible lists and certification. Candidates whose medical examination reports had been approved were to be ranked for purposes of certification in the order of final earned ratings as of the day the examination was given. Candidates wishing to work for agencies other than the Division of Highways or the Department of Water Resources were to be given a referral card and instructed how to reach the authorized representative for the agency desired. The medical examination reports of referred candidates were to be reviewed by the State Personnel Board and eligible lists established on a continuous basis according to score order and the date. Eligibles could be certified as soon as the Certification Section had checked to see if there was an existing unused eligible list for the agency concerned. In practice, there has been no delay since all agencies have been willing to make appointments of all eligibles who wish to work for them.

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49 California State Personnel Board, Recruitment and Examining Division, "Continuous Testing for Junior Civil Engineers," in situ, p. 8 et seq.

50 California Government Code, Section 18939.

51 Infra, Appendix C-11.

52 California State Personnel Board, Recruitment and Examining Division, "Junior Civil Engineer Certification Procedures," 1956 (revised, October 16, 1957). (Processed.)
The names of all eligibles were sent to the Department of Veterans Affairs for the addition of the credits allowed by law. Disabled veterans are allowed fifteen points and all other veterans and widows of veterans are allowed ten points. The additional credits were not expected to have any effect on whether or not an eligible was hired, but those who were veterans received an application for veterans' preference, with instructions to send it directly to the Department of Veterans Affairs in Sacramento.54

Appointments. Eligibles whose medical examination report had been approved could be appointed effective the day they could report for work. All appointments were to be documented on the regular Form No. 604 (Report of Appointment). Appointment documents prepared for eligibles who were to work for the Division of Highways were required to include a notation as to the date the eligible was qualified by interview, the date his medical examination report was approved, and what prior employment he had had with the state. Candidates not available for immediate employment were to be placed on inactive status and the Certification Section was to maintain a list of the inactives.

53 California Government Code, Section 18973.
54 Infra, Appendix C-12.
Because the Division of Highways had guaranteed employment of all eligibles, there was no need to delay certifications until lists had been assembled and the rule of three applied. The rule of three refers to the requirement that an appointing power be furnished the names and addresses of the three highest eligibles willing to accept appointment and that he fill the position by the appointment of one of the persons certified.56

The Department of Water Resources was also able to make the same guarantee.

IV. INITIATION

Passing mark establishment. Before having the testing offices commence testing, it was considered desirable to establish a reasonable passing mark and to provide for a record of vacant positions. To assure a passing mark of reasonable cut-off, testing was given on an assembled basis, using Form B for sixty-one candidates in Los Angeles and Form C for seventy-five candidates in San Francisco. The mean raw percentages were 38.8 and 39.0 respectively (see Table VI). The tests were held on Saturday, August 25, 1956, and by Monday, August 27, 1956, the papers had been graded and tabulated and the established passing mark made known to all testing

56 California Government Code, Section 19057.
### TABLE VI

RESULTS OF WRITTEN FORM TESTS

<table>
<thead>
<tr>
<th>Examination date or period</th>
<th>Form used</th>
<th>Applicants</th>
<th>Number passing</th>
<th>Mean raw percentage</th>
<th>Per cent passing</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 14, 1956</td>
<td>A</td>
<td>533</td>
<td>283</td>
<td>43.3</td>
<td>53.1</td>
</tr>
<tr>
<td>August 25, 1956</td>
<td>B</td>
<td>61</td>
<td>16</td>
<td>38.8</td>
<td>26.2</td>
</tr>
<tr>
<td>August 25, 1956</td>
<td>C</td>
<td>75</td>
<td>26</td>
<td>39.0</td>
<td>34.7</td>
</tr>
<tr>
<td>8-27 to 12-31-56</td>
<td>B</td>
<td>182</td>
<td>59</td>
<td>38.8</td>
<td>32.4</td>
</tr>
<tr>
<td>8-27 to 12-31-56</td>
<td>C</td>
<td>84</td>
<td>21</td>
<td>34.8</td>
<td>25.0</td>
</tr>
<tr>
<td>1-1 to 4-30-57</td>
<td>D</td>
<td>148</td>
<td>85</td>
<td>39.7</td>
<td>57.4</td>
</tr>
<tr>
<td>5-1 to 8-31-57</td>
<td>B</td>
<td>53</td>
<td>39</td>
<td>51.1</td>
<td>74.7</td>
</tr>
</tbody>
</table>
offices. San Francisco began the use of Form B on August 27 and all other testing offices used Form C. All testing offices were instructed to change to Form D for the four-month testing period beginning January 1, 1957.

**Forecasting requirements.** Although the Division of Highways was willing to hire all eligibles and has been employing approximately 90 per cent of all Junior Civil Engineer eligibles, it was recognized that candidates with particular qualifications or interests could be more advantageously placed with other agencies. The testing office representatives were instructed to guarantee employment with the Division of Highways but to refer the eligible to the agency which would offer the most effective placement.57

A continuous inventory of personnel distribution in existing positions is useful and can assist in determining current needs as well as trends to consider for future needs.58 The Recruitment Section has developed a form for recording vacancies so as to keep the testing offices informed of the needs of the agencies. This form, known as the "Junior Civil Engineer Vacancy Report," lists each agency and the

57California State Personnel Board, Recruitment and Examining Division, "Continuous Testing for Junior Civil Engineers," op. cit., p. 7.

number and location of its vacancies. The reverse side of the form lists the name and address of the person in each agency who is to handle the exchanges of information and to speak to interested eligibles. 59

Program revisions. The establishment of the engineering technician classes on December 1, 1956, and the revision of the entrance requirements for Junior Civil Engineer on the same date simplified the review of applications since evaluation of engineering experience was no longer necessary. The announcement bulletin was re-run to reflect the revised entrance requirements. 60

Basically, the program has required no other revisions from December 1, 1956, to August 31, 1957, the end of the third testing period and first year of operation.

Nation-wide recruitment. During the spring of 1957, representatives of the State Personnel Board visited the campuses of forty-one colleges which offered curricula in civil engineering accredited by the Engineers Council for Professional Development. A total of 163 senior students were qualified by interview for appointment pending an approved medical examination report. By October 1, 1957,

59 Infra, Appendix C-14.
60 Cf. Appendix A-2 et seq.
seventy-nine had been appointed by the Division of Highways and other agencies.

V. CONTROLS

To maintain security and consistency in application review, certain controls are required. After being used, testing materials are returned by the representative at the testing location to the Continuous Testing Unit for tabulation and recording. A current tabulation is maintained for each testing office as to written test and oral interview results for each test form. The applications are sent to the Application Review Section, which checks them for completeness and compliance with legal requirements. Graduation is verified by the Investigation Unit. Where indicated, further information is secured concerning arrest records and firings. Discrepancies are reported to the examiner responsible for the program.

Test forms are changed every four months. Applicants are permitted to take a written test once in a testing period and must sign a statement regarding nonparticipation in the program. The Application Review Section maintains a file of the statements and checks all names against this file. If an applicant has previously taken the test during the testing period, the second set of papers is voided and the applicant must wait until the next testing period before
he can be retested.

The operation of the program has been checked by the Division of Highways Personnel Office and analysts from the State Personnel Board. These checks have been for the purpose of assuring proper operation of the program and to maintain uniform standards of interviewing.

The tabulations of form test scores make possible their comparison (see Table VI, p. 44).
CHAPTER V

RESULTS OF THE PROGRAM

Chapter V consists of an evaluation of the continuous testing program for Junior Civil Engineers. The effects of the use of the engineering technician classes have also been considered.

I. REDUCTION IN TIME BETWEEN APPLICATION AND CERTIFICATION

In practice, the program has reduced the average time between application and certification from about seven weeks to two days. The examining process for an applicant can be completed within a few hours after he files an application in person and he can be employed as soon as he has secured an approved medical report.

II. INCREASE IN GRADUATE ENGINEERS ENTERING THE STATE SERVICE

Table VII indicates the increase in graduate hirings during the first twelve months of operation of the program as compared to the two previous twelve-month periods. The trend in recruiting graduates had been sharply downward in 1956 (see Table VIII, p. 51). California had been competing on a nation-wide basis for engineers with private industry and
TABLE VII

TOTAL APPOINTMENTS AND ENGINEERING GRADUATE APPOINTMENTS
OF JUNIOR CIVIL ENGINEERS IN DIVISION OF HIGHWAYS,
SEPTEMBER 1, 1954, TO AUGUST 31, 1957

<table>
<thead>
<tr>
<th></th>
<th>9-1-54 to 8-31-55</th>
<th>9-1-55 to 8-31-56</th>
<th>9-1-56 to 8-31-57</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applicants</td>
<td>1,154</td>
<td>1,139</td>
<td>847a</td>
</tr>
<tr>
<td>Qualified</td>
<td>712</td>
<td>929</td>
<td>425b</td>
</tr>
<tr>
<td>Hired</td>
<td>421</td>
<td>524</td>
<td>280c</td>
</tr>
<tr>
<td>Graduates</td>
<td>121</td>
<td>116</td>
<td>189</td>
</tr>
</tbody>
</table>

aIncludes 244 graduates of accredited curricula who did not have to take the written test. Of the remaining 603, 231 were graduates of non-accredited curricula and 151 passed the written test. Three hundred seventy-two were non-graduates and 95 passed the written test.

bIncludes 184 graduates of accredited curricula, 150 graduates of non-accredited curricula, and 91 non-graduates.

cIncludes 87 graduates of accredited curricula and 102 graduates of non-accredited curricula.
<table>
<thead>
<tr>
<th>Engineers recruited</th>
<th>Out of state</th>
<th>From California</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>1954</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Qualified</td>
<td>106</td>
<td>53</td>
<td>159</td>
</tr>
<tr>
<td>Hired</td>
<td>32&lt;sup&gt;a&lt;/sup&gt;</td>
<td>29</td>
<td>61</td>
</tr>
<tr>
<td>1955</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Qualified</td>
<td>120</td>
<td>77</td>
<td>197</td>
</tr>
<tr>
<td>Hired</td>
<td>45&lt;sup&gt;a&lt;/sup&gt;</td>
<td>36</td>
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<td>19</td>
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<tr>
<td>1957&lt;sup&gt;b&lt;/sup&gt;</td>
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<td>154</td>
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<sup>a</sup>Majority from University of Hawaii.

<sup>b</sup>Figures include only spring recruitment results.
other public agencies. The 1957 spring recruitment effort resulted in 124 more hirings than the previous year's recruitment effort. Apparently the guarantee of a definite job pending completion of college had a favorable effect on the students. The representatives conducting the program on the campuses were able to make a definite job offer rather than extend an invitation to come to California and take a chance on securing permanent employment. The large increase in graduate hirings in California is most probably due to the specification revisions which allowed graduates of non-accredited institutions to be interviewed for appointment after passing a written test. Previous to July, 1956, graduates of non-accredited institutions had to have six months of civil engineering experience in addition to their education.

III. ADMINISTRATIVE EFFECTS

The program has eliminated the need for over three hundred temporary appointments per year, with resulting savings in document processing time for the State Personnel Board and the employing agencies. The speed with which the program can operate has also helped agencies, such as the Division of Highways, to hold closer to proposed training schedules and commitments to the districts for new employees. The use of form tests has reduced the time formerly needed for examination construction by at least sixty hours
per year. The use of pre-run forms has resulted in savings of approximately forty hours of clerical time per year spent in preparation of stencils, proofing of material, and reproduction of the booklets. The re-use of the booklets has resulted in the elimination of shipping costs for over 1,800 booklets per year to over forty locations.

As of June 30, 1957, there were 460 engineering technicians in the state service (see Table IX). The establishment of these classes has made possible the recruitment and retention of individuals who can perform many of the more routine duties usually assigned to entry-level engineers. During the twelve months prior to the continuous testing program, 96 temporary appointees failed to qualify in a written examination and were separated from state service. Another 74 returned to school and 118 others left for other employment.

IV. THE CONTINUOUS TESTING PROGRAM

AS A SELECTION METHOD

For the continuous testing program to be considered a sound selection method, its written and oral tests should possess validity and reliability. Any well-conceived test is an instrument for evaluating a sample of behavior as a basis
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for the prediction of probable future behavior. The oral interview was the instrument used to predict probable future behavior. Candidates who were graduates of accredited civil engineering curricula were interviewed immediately after application. All other candidates were required to pass a written test covering basic civil engineering before being interviewed. The written test was noncompetitive and there was no ranking of candidates on the basis of test results. The use of consultants and subject matter specialists in all stages of the preparation and construction of the form tests was assumed to have assured the possession of content validity. The reliability estimates obtained for the form tests ranged from .71 to .80 and were computed by the split-half coefficient with the Spearman-Brown prophecy formula applied for double length. No evidence was obtained from the test research results to indicate that the tests were inadequate for the purpose of qualifying candidates to take

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Despite a lack of evidence as to the reliability of the oral interview as a measuring device, it is one of the most commonly used selection techniques in industry. A written test cannot always readily measure personal traits. For Junior Civil Engineers, required personal traits included the traits and characteristics which would make for success in the engineering field. A rating guide was used which listed the factors to be considered by the interviewer and a leaflet of suggestions was furnished for reference. The interviewers were carefully selected and trained by the Recruitment and Examining Division. All had an engineering background and had had experience in personnel management. Of 490 candidates interviewed, 425 were qualified and 280 accepted appointments (see Table VII, p. 50). Only one of the 280 eligibles hired has failed to perform satisfactorily during the first year of operation of the program. While this one dismissal may appear to equate non-dismissal with

4Personal interview with Mr. Vernon R. Taylor, Supervisor, Examining Standards Section, Division of Standards and Surveys, California State Personnel Board, May 23, 1958.


6Personal interview with Mr. Scott H. Lathrop, Principal Highway Engineer in charge of Public Relations and Personnel, California Division of Highways, May 23, 1958.
satisfactory performance, Mr. Lathrop considers the super-
visors, who rated all but one of the appointees as satis-
factory, to be in the best position to evaluate job
performance. If the criterion of satisfactory job perform-
ance is acceptable, then, as a selection method, the continu-
ous testing program correlates highly with the criterion.
The recruitment and appointment of 189 engineering graduates
does not appear to indicate any decline in minimum qualifi-
cations if engineering education can be accepted as presump-
tive proof of technical training.\footnote{Aronson, \textit{op. cit.}, p. 42.}
CHAPTER VI

SUMMARY AND CONCLUSIONS

I. SUMMARY

As a result of the engineering manpower shortage in the California state service and the inability of the regular selection processes to improve the situation, the State Personnel Board took the necessary action in the spring of 1956 to make continuous testing possible. The program was augmented by the establishment of engineering technician classes to recruit individuals who were capable of performing many duties which did not require a highly technical education.

The staff of the State Personnel Board, with the assistance of the cooperating agencies, developed and initiated a continuous testing program which modified the regular selection processes into a decentralized and accelerated program. Representatives were designated to administer the program in each of the eleven Highway Districts and in the State Personnel Board offices in Los Angeles, Sacramento, and San Francisco.

The Division of Highways guaranteed employment for all certified eligibles and cooperated fully in all phases of the program. Additional assistance was given by other agencies, particularly in the 1957 spring recruitment effort. Control devices were set up to assure uniform application of the
standards and compliance with the legal requirements regarding minimum qualifications and test security.

II. CONCLUSIONS

A study of the first year's operation appears to warrant the following conclusions:

1. The time between application and certification has been reduced to two days as compared to the six to nine weeks required under the centralized examining procedures. This reduction in time has most probably made it possible to secure employees who might otherwise have been lost to the state service if they had been required to wait several weeks for examination results.

2. The number of engineering graduates entering the state service has been increased to 189 as compared to the 116 obtained during the previous twelve-month period. Recruiting and examining on the college campuses seems mainly responsible for this increase. The 1957 recruitment effort secured 154 of the 189 engineering graduates hired. The guarantee of a definite job with the Division of Highways was certainly an important factor, plus a reasonable starting salary and opportunities for training and professional advancement with a nationally known engineering organization.

3. The elimination of 300 temporary appointments per year
has made possible savings in document processing time both for appointment and separation documents. The use and re-use of form tests has resulted in annual savings of approximately sixty hours of examination construction time and forty hours of clerical time. The elimination of temporary appointments has also had the effect of reducing turnover. Of the 300 temporary appointments made in the twelve months prior to the continuous testing program, 96 were terminated because of failure to qualify in a written examination and 74 returned to school. Of the 118 who left for other employment, it may be assumed that some left because of inability to perform the work. The 280 appointments made during the first twelve months of the program were of tested eligibles rather than of untried temporary employees. The use of the Engineering Technician classes has made possible the reclassification of over 300 Junior Civil Engineer positions to Engineering Technician. Junior Civil Engineers can now be relieved of more routine duties and concentrate on professional training.

4. The apparent high correlation of the criterion of satisfactory job performance with the selection method should not be accepted as conclusive proof of validity. Despite the satisfaction of the Division of Highways with the selection method and with the performance of the
employees obtained, the continuous testing program can only be conceded an apparent high degree of validity on the basis of successfully predicting satisfactory work performance under existing performance standards. Further conclusions would not appear to be warranted until the ability of the appointees to reach the assistant engineer level can be tested.
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C. PARTS OF SERIES


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Personal interview with Mr. Scott H. Lathrop, Principal Highway Engineer in charge of Public Relations and Personnel, California Division of Highways, May 22, 1958.

Personal interview with Mr. Vernon R. Taylor, Supervisor, Examining Standards Section, Division of Standards and Surveys, California State Personnel Board, May 23, 1958.
CALIFORNIA STATE PERSONNEL BOARD

examination for

JUNIOR CIVIL ENGINEER

Final Date For Filing Applications: June 22, 1956
Competitive Oral Interview: By appointment
Qualifying Written Test: July 14, 1956
Salary Range: $436-458-481

SCOPE OF THE EXAMINATION

Examination for Junior Civil Engineer consists of a competitive oral interview. Candidates applying under the provisions of (2) A or (2) B of the entrance requirements must qualify in a written test to be eligible for the interview.

ENTRANCE REQUIREMENTS

California residence is not required for this examination.

QUALIFYING FOR EXAMINATION: (1) Graduation from a curriculum in civil engineering accredited by the Engineers' Council for Professional Development, or equivalent qualifications. (Registration as a "Senior" in such a curriculum will admit an applicant to the competition, but he must produce evidence of graduation before he will be considered eligible for appointment.) OR

(2) Qualifying in a written test by applicants who offer either:

A. Graduation from an engineering curriculum which includes the basic engineering courses normally covered in a standard 4-year course. (Registration as a "Senior" in such a curriculum will admit an applicant to the qualifying examination, but he must produce evidence of graduation before he will be considered to meet the minimum qualifications.) OR

B. Education equivalent to completion of the twelfth grade and two years of civil engineering experience at least equivalent in responsibility to that of a head chairman on a survey party. (College education as described herein may be substituted for the required experience on the basis of one year of education being equivalent to six months experience. Additional civil engineering experience may be substituted for the required education below the twelfth grade on a year-for-year basis.)

FACTS ABOUT THE POSITION

Junior Civil Engineer assists in engineering work in connection with projects relating to land, hydraulics, dams, bridges, piers, dams, levees, and similar works; acts as instrument man in a surveying party, and in the absence of a superior, takes temporary charge of the party; keeps survey and construction notes; makes engineering calculations in connection with field or office work; does simple design work and drafts working plans and detail drawings and tracings; makes or revises maps, charts, and diagrams; acts as inspector on a variety of construction projects; inspects, makes field or laboratory tests, or takes samples for laboratory analysis on materials being used for construction projects; assists in the preparation of progress and construction reports and estimates; and does other work as required.

Employment exists throughout the State, chiefly with the Division of Highways, but also with the Bridge Department, Reclamation Board, Board of Equalization, Board of State Harbor Commissioners, Department of Water Resources, and the Divisions of Architecture, Beaches and Parks, San Francisco Bay Toll Crossings and State Lands.

FACTS ABOUT THE EXAMINATION

Scope of Examination: The competitive oral interviews and the qualifying written test will be given in such aces in California as the numbers of candidates warrant and conditions permit.

SCOPE OF THE QUALIFYING WRITTEN TEST

Knowledge of the basic principles of physics, chemistry, and mathematics as applied to civil engineering.

Knowledge of Surveying.

Knowledge of Hydraulics.

Knowledge of Stress Analysis and Mechanics.

Knowledge of the strength, properties, and uses of engineering materials.

Ability to make accurate computations.

Salary Range: $436-458-481
EVALUATION OF EDUCATION, EXPERIENCE, AND PERSONAL QUALIFICATIONS WILL BE MADE BY PERSONAL INTERVIEW. PERSONAL QUALIFICATIONS INCLUDE THOSE TRAITS AND CHARACTERISTICS WHICH MAKE FOR SUCCESS IN THE ENGINEERING FIELD AND THE GENERAL QUALIFICATIONS STATED BELOW.

THE RATING IN THE COMPETITIVE ORAL INTERVIEW WILL CONSTITUTE THE CANDIDATE'S FINAL EXAMINATION SCORE EXCLUSIVE OF VETERANS PREFERENCE POINTS.

ALL APPLICANTS MUST BE UNITED STATES CITIZENS.

APPLICATIONS ARE OBTAINABLE FROM THE STATE PERSONNEL BOARD IN SACRAMENTO, SAN FRANCISCO, LOS ANGELES, AND AT THE LOCAL CALIFORNIA DEPARTMENT OF EMPLOYMENT OFFICE. APPLICATIONS FILED AT THE STATE PERSONNEL BOARD'S OFFICES MUST BE FILED NOT LATER THAN THE CLOSE OF BUSINESS ON THE FINAL FILING DATE. APPLICATIONS FILED BY MAIL MUST BE ADDRESSED TO THE STATE PERSONNEL BOARD, SACRAMENTO, CALIFORNIA. APPLICATIONS WILL NOT BE ACCEPTED IF POSTMARKED LATER THAN MIDNIGHT OF THE FINAL FILING DATE. APPLICATIONS MUST BE MADE ON FORM 678, THE OFFICIAL APPLICATION FORM OF THE STATE PERSONNEL BOARD. APPLICATIONS MUST BE COMPLETELY FILLED OUT AND SIGNED. YOUR ACCEPTABILITY FOR ANY EXAMINATION MUST BE BASED ON THE INFORMATION ON YOUR APPLICATION. NO SUPPLEMENTAL INFORMATION CONCERNING YOUR EDUCATION OR EXPERIENCE WILL BE ACCEPTED IF FILED OR MAILED AFTER THE FINAL FILING DATE. FILE YOUR APPLICATION EARLY.

VETERANS PREFERENCE: REQUESTS FOR VETERANS PREFERENCE, TOGETHER WITH PROOF OF ELIGIBILITY, SHOULD BE SUBMITTED TO THE DEPARTMENT OF VETERANS AFFAIRS, P.O. BOX 1559, SACRAMENTO, AT THE DATE OF THE EXAMINATION, UNLESS YOUR ELIGIBILITY FOR VETERANS PREFERENCE HAS BEEN PERMANENTLY ESTABLISHED.

PERSONAL QUALIFICATIONS: ALL CANDIDATES MUST POSSESS THE PERSONAL QUALIFICATIONS GENERALLY RECOGNIZED AS ESSENTIAL IN GOOD PUBLIC EMPLOYEES INCLUDING INTEGRITY, INITIATIVE, DEPENDABILITY, COURTESY, GOOD JUDGMENT, AND ABILITY TO WORK COOPERATIVELY WITH OTHERS.

INVESTIGATION: INFORMATION PRESENTED DURING THE COURSE OF THE EXAMINATION MAY BE VERIFIED AND SUPPLEMENTED BY INVESTIGATION WHICH MAY ALSO COVER THE EMPLOYMENT RECORD, CHARACTER, AND PERSONAL HISTORY OF COMPETITORS.

ELIGIBLE LIST: ANY LIST OF ELIGIBLES RESULTING FROM THIS EXAMINATION WILL EXPIRE NOT LESS THAN ONE BUT LESS THAN FOUR YEARS AFTER ADOPTION OF THE LIST.

FINGERPRINTING: COMPETITORS MUST BE FINGERPRINTED PRIOR TO EMPLOYMENT.

MEDICAL REQUIREMENTS: GOOD HEALTH AND FREEDOM FROM DISABLING DEFECTS. A MEDICAL EXAMINATION MAY BE REQUIRED OF ALL SUCCESSFUL COMPETITORS BEFORE APPOINTMENT TO A POSITION. THE EXAMINATION MUST BE MADE BY A LICENSED PHYSICIAN WHOSE FEE MUST BE PAID BY THE CANDIDATE. IF THE POSITION EXISTS IN A STATE INSTITUTION WHERE MEDICAL FACILITIES ARE AVAILABLE, THE EXAMINATION WILL BE GIVEN WITHOUT CHARGE BY A PHYSICIAN AT THAT INSTITUTION. ANY DEFICIENCY, ABNORMALITY, OR DISEASE THAT TENDS TO IMPAIR HEALTH OR USEFULNESS MAY CONSTITUTE BASIS FOR REMOVAL OF THE CANDIDATE'S NAME FROM THE ELIGIBLE LIST.
THE STATE OF CALIFORNIA OFFERS PROFESSIONAL CAREERS FOR

Junior Civil Engineers

You will be assigned professional engineering duties in surveying, design, construction, inspection, and related work on engineering projects. You may choose the section of the State you prefer to work in. You may also select the State agency you prefer. These agencies are: Division of Highways, including the Bridge Department, Reclamation Board, Board of State Harbor Commissioners, Department of Water Resources, Division of Architecture, Division of Beaches and Parks, Division of State Lands, and San Francisco Bay Toll Crossings.

The starting salary is $436 a month. A merit salary adjustment to $458 is granted after six month's satisfactory service. One year later the salary is increased to $481.

Promotion is to the Assistant Engineer level with a salary range of $481 to $584 a month. Junior Civil Engineers become eligible for promotion after a year's service. Promotion is by competitive examination on a merit basis.

Check the requirements you meet.

I Graduation from a civil engineering curriculum accredited by the Engineers Council for Professional Development.

If you meet this requirement you need only compete successfully in a personal interview.

(If you are a "senior" in an accredited civil engineering curriculum you may compete in the interview, but you must have your degree before you may be appointed.)

II Graduation from an engineering curriculum which includes the basic engineering courses normally covered in a standard 4-year course.

If you meet this requirement you need to qualify in a written test covering basic civil engineering in addition to the personal interview.

(If you are a "senior" in an engineering curriculum you may compete in the test and interview, but you must have your degree before you may be appointed.)

III Two years of civil engineering experience equivalent in responsibility to head chairman on a survey party and graduation from high school. (College education in engineering may be substituted for the required experience on the basis of one year of education for six months of experience. If you have less than high school graduation, you may substitute additional civil engineering experience for the education on a year-for-year basis.)

If you meet this requirement, you need to qualify in a written test covering basic civil engineering, in addition to the personal interview.

Visit one of the offices listed below to get your application and to make arrangements for the personal interview and written test, if required. Call in the morning, and you will usually be able to complete your application and examination, and if you qualify, receive a job offer all on the same day. You may qualify in any testing office for appointment in any section of the State.

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2. If you offer other than a bachelor's degree in Civil Engineering from an accredited curriculum, you need to earn a passing score in a written test before being interviewed. The written test will cover the basic principles of physics, chemistry, and mathematics as applied to civil engineering; surveying, hydraulics, stress analysis and mechanics; strength, properties, and uses of engineering materials; methods and equipment of engineering construction; and mathematical computations. The test will require only one hour to complete. It will be of the objective type. Bring your slide rule. No drafting instruments, handbooks, or other aids are needed.

3. Your score on the personal interview will be your final examination score.

4. If you are a veteran you may be eligible for veterans preference points. See the statement on Veterans Preference below for details.

The examination may be taken only once during each four-month testing period.

State employees will be tested at the beginning of each testing period.

All applicants must be United States Citizens

Applications are obtainable from and may be filed in person at any of the offices listed under "How to Apply". Application must be made on Form 678, the official application form of the State Personnel Board.

Veterans Preference: Send your request for veterans preference points to the Department of Veterans Affairs, P.O. Box 1559, Sacramento, California. Once your eligibility has been established, veterans preference points will be automatically added for all future examinations.

Investigation: Information presented during the course of the examination may be verified and supplemented by investigation which may also cover the employment record, character, and personal history of competitors.

Eligible List: Any list of eligibles resulting from this examination will expire not less than one but less than four years after establishment of the list.

Fingerprinting: Candidates must be fingerprinted prior to employment.

Medical Requirements: Good health and freedom from disabling defects. A medical examination will be required of all successful competitors before appointment. The examination must be made by a licensed physician whose fee must be paid by the candidate. Any deficiency, abnormality, or disease that tends to impair health or usefulness may constitute basis for removal of the candidate's name from the eligible list.
THIS CANCELS AND SUPERSEDES THE PREVIOUS BULLETIN ISSUED AUGUST 24, 1956.

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Investigation: Information presented during the course of the examination may be verified and supplemented by investigation which may also cover the employment record, character, and personal history of competitors.

Eligible List: Any list of eligibles resulting from this examination will expire not less than one but less than four years after establishment of the list.

Fingerprinting: Competitors must be fingerprinted prior to employment.

Medical Requirements: Good health and freedom from disabling defects. A medical examination will be required of all successful competitors before appointment. The examination must be made by a licensed physician whose fee must be paid by the candidate. Any deficiency, abnormality, or disease that tends to impair health or usefulness may constitute basis for removal of the candidate’s name from the eligible list.

CALIFORNIA STATE PERSONNEL BOARD
THE STATE OF CALIFORNIA OFFERS PROFESSIONAL CAREERS FOR

Junior Civil Engineers

You will be assigned professional engineering duties in surveying, design, construction, inspection, and related work on engineering projects. You may choose the section of the State you prefer to work in. You may also select the State agency you prefer. These agencies are: Division of Highways, including the Bridge Department, Reclamation Board, Board of State Harbor Commissioners, Department of Water Resources, Division of Architecture, Division of Beaches and Parks, Division of State Lands, and San Francisco Bay Toll Crossings.

The starting salary is $481 a month. A merit salary adjustment to $505 is granted after six month's satisfactory service. One year later the salary is increased to $530.

Promotion is to the Assistant Engineer level with a salary range of $530 to $644 a month. Junior Civil Engineers become eligible for promotion after a year's service. Promotion is by competitive examination on a merit basis.

Check the requirements you meet.

I Graduation from a civil engineering curriculum accredited by the Engineers Council for Professional Development.

If you meet this requirement you need only compete successfully in a personal interview.

(If you are a "senior" in an accredited civil engineering curriculum you may compete in the interview, but you must have your degree before you may be appointed.)

II Graduation from an engineering curriculum which includes the basic engineering courses normally covered in a standard 4-year course.

If you meet this requirement you need to qualify in a written test covering basic civil engineering in addition to the personal interview.

(If you are a "senior" in an engineering curriculum you may compete in the test and interview, but you must have your degree before you may be appointed.)

Visit one of the offices listed below to get your application and to make arrangements for the personal interview and written test, if required. Call in the morning, and you will usually be able to complete your application and examination, and if you qualify, receive a job offer all on the same day. You may qualify in any testing office for appointment in any section of the State.

<table>
<thead>
<tr>
<th>Agency</th>
<th>City</th>
<th>Street Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>State Personnel Board</td>
<td>Los Angeles</td>
<td>110 State Building</td>
</tr>
<tr>
<td>State Personnel Board</td>
<td>San Francisco</td>
<td>515 Van Ness Avenue</td>
</tr>
<tr>
<td>State Personnel Board</td>
<td>Sacramento</td>
<td>801 Capitol Avenue</td>
</tr>
<tr>
<td>Division of Highways</td>
<td>Eureka</td>
<td>430 West Wabash Avenue</td>
</tr>
<tr>
<td>Division of Highways</td>
<td>Redding</td>
<td>1657 Riverside Drive</td>
</tr>
<tr>
<td>Division of Highways</td>
<td>Marysville</td>
<td>703 B Street</td>
</tr>
<tr>
<td>Division of Highways</td>
<td>San Francisco</td>
<td>150 Oak Street</td>
</tr>
<tr>
<td>Division of Highways</td>
<td>San Luis Obispo</td>
<td>50 Higuera Street</td>
</tr>
<tr>
<td>Division of Highways</td>
<td>Fresno</td>
<td>1352 West Olive Avenue</td>
</tr>
<tr>
<td>Division of Highways</td>
<td>San Bernardino</td>
<td>247 Third Street</td>
</tr>
<tr>
<td>Division of Highways</td>
<td>Bishop</td>
<td>South Main Street</td>
</tr>
<tr>
<td>Division of Highways</td>
<td>Stockton</td>
<td>1976 East Charter Way</td>
</tr>
<tr>
<td>Division of Highways</td>
<td>San Diego</td>
<td>4075 Taylor Street</td>
</tr>
</tbody>
</table>

(Over)
The scope of the examination depends on the requirements you meet, as described on
the reverse side of this bulletin.

1. You must qualify in a personal interview which will cover education, experience,
and personal qualifications. Required personal qualifications include the traits
and characteristics which make for success in the engineering field, and integrity,
initiative, dependability, courtesy, good judgment, ability to work cooperatively
with others, and other personal qualifications essential in good public employees.

2. If you offer other than a bachelor's degree in Civil Engineering from an accredited
curriculum, you need to earn a passing score in a written test before being inter­
viewed. The written test will cover the basic principles of physics, chemistry, and
mathematics as applied to civil engineering; surveying, hydraulics, stress analysis
and mechanics; strength, properties, and uses of engineering materials; methods
and equipment of engineering construction; and mathematical computations. The
test will require only one hour to complete. It will be of the objective type. Bring
your slide rule. No drafting instruments, handbooks, or other aids are needed.

3. Your score on the personal interview will be your final examination score.

4. If you are a veteran you may be eligible for veterans preference points. See the
statement on Veterans Preference below for details.

The examination may be taken only once during each four-month testing period.

State employees will be tested at the beginning of each testing period.

All applicants must be United States Citizens

Applications are obtainable from and may be filed in person at any of the offices listed
under "How to Apply". Application must be made on Form 678, the official appli­
cation form of the State Personnel Board.

Veterans Preference: Send your request for veterans preference points to the Depart­
ment of Veterans Affairs, P.O. Box 1559, Sacramento, California. Once your
eligibility has been established, veterans preference points will be automatically
added for all future examinations.

Investigation: Information presented during the course of the examination may be veri­
ified and supplemented by investigation which may also cover the employment record,
character, and personal history of competitors.

Eligible List: Any list of eligibles resulting from this examination will expire not less
than one but less than four years after establishment of the list.

Fingerprinting: Competitors must be fingerprinted prior to employment.

Medical Requirements: Good health and freedom from disabling defects. A medical
examination will be required of all successful competitors before appointment.
The examination must be made by a licensed physician whose fee must be paid by
the candidate. Any deficiency, abnormality, or disease that tends to impair health
or usefulness may constitute basis for removal of the candidate's name from the
eligible list.

CALIFORNIA STATE PERSONNEL BOARD
Definition:

Under supervision, to do the less complex professional office and field work in civil engineering; and to do other work as required.

Typical Tasks:

Assists in engineering work in connection with projects relating to land, hydraulics, roads, bridges, wharves, piers, dams, levees, and similar works; acts as instrument man in a surveying party, and in the absence of a superior, takes temporary charge of the party; keeps survey and construction notes; makes engineering calculations in connection with field or office work; does simple design work and drafts working plans and detail drawings and tracings; makes or revises maps, charts, and diagrams; acts as inspector on a variety of construction projects such as highway construction and structural steel, concrete and timber construction; inspects, makes field or laboratory tests, or takes samples for laboratory analysis on materials being used for construction projects; makes field inspections of existing structures to determine extent of damage, deterioration, or defects; assists in the preparation of progress and construction reports and estimates.

Minimum Qualifications:

Graduation from a curriculum in civil engineering accredited by the engineers' Council for Professional Development, or equivalent qualifications. (Registration as a "Senior" in such a curriculum will admit an applicant to the competition, but he must produce evidence of graduation before he will be considered eligible for appointment.)

Possession of equivalent qualifications may be demonstrated by:

Either

1. Graduation from an engineering curriculum which includes the basic engineering courses normally covered in a standard 4-year course. (Registration as a "Senior" in such a curriculum will admit an applicant to the qualifying examination, but he must produce evidence of graduation before he will be considered to meet the minimum qualifications.) or

2. Education equivalent to completion of the twelfth grade and two years of civil engineering experience at least equivalent in responsibility to that of a head chairman on a survey party. (College education as described herein may be substituted for the required experience on the basis of one year of education being equivalent to six months experience. Additional civil engineering experience may be substituted for the required education below the twelfth grade on a year-for-year basis.)

and in addition to (1) or (2) above

Qualifying in a written examination covering basic civil engineering.

and
Knowledges and abilities: Thorough knowledge of the basic principles of physics, chemistry, and mathematics as applied to civil engineering; general knowledge of surveying; general knowledge of hydraulics; general knowledge of stress analysis; general knowledge of mechanics; general knowledge of the strength, properties, and uses of engineering construction materials; familiarity with the methods and equipment of engineering construction; familiarity with engineering economics; familiarity with the common descriptions of real property; ability to do simple mapping and drafting and to make neat and accurate computations and engineering notes; ability to prepare reports; ability to establish and maintain friendly and cooperative relations with those contacted in the course of the work.

Monthly Compensation: $436 458 481

Work Week Group: 1, 4B, 4D5, 4D6

3-step range

Note: Salary information for this class was correct on 8/7/56. Any subsequent salary changes have not been recorded.
CALIFORNIA STATE PERSONNEL BOARD

specification for the class of

JUNIOR CIVIL ENGINEER

Definition:

Under supervision in a learner capacity, to do the less complex professional office and field work in civil engineering; and to do other work as required.

Typical Tasks:

Assists in engineering work in connection with projects relating to land, hydraulics, roads, bridges, wharves, piers, dams, levees, and similar works; acts as instrumentman in a surveying party and, in the absence of a superior, takes temporary charge of the party; keeps survey and construction notes; makes engineering calculations in connection with field or office work; does simple design work and drafts working plans and detail drawings and tracings; makes or revises maps, charts, and diagrams; acts as inspector on a variety of construction projects such as highway construction and structural steel, concrete and timber construction; inspects, makes field or laboratory tests, or takes samples for laboratory analysis on materials being used for construction projects; makes field inspections of existing structures to determine extent of damage, deterioration, or defects; assists in the preparation of progress and construction reports and estimates.

Minimum Qualifications:

Graduation from a curriculum in civil engineering accredited by the Engineers' Council for Professional Development, or equivalent qualifications. (Registration as a "Senior" in such a curriculum will admit an applicant to the competition, but he must produce evidence of graduation before he will be considered eligible for appointment.)

Possession of equivalent qualifications may be demonstrated by graduation from an engineering curriculum which includes the basic engineering courses normally covered in a standard 4-year course, and by qualifying in a written examination covering basic civil engineering. (Registration as a "Senior" in such a curriculum will admit an applicant to the qualifying examination, but he must produce evidence of graduation before he will be considered to meet the minimum qualifications.)

Knowledge and abilities: Thorough knowledge of the basic principles of physics, chemistry, and mathematics as applied to civil engineering; general knowledge of surveying; general knowledge of hydraulics; general knowledge of stress analysis; general knowledge of mechanics; general knowledge of the strength, properties, and uses of engineering construction materials; familiarity with the methods and
equipment of engineering construction; familiarity with engineering economics; familiarity with the common descriptions of real property; ability to do simple mapping and drafting and to make neat and accurate computations and engineering notes; ability to prepare reports; ability to establish and maintain friendly and cooperative relations with those contacted in the course of the work.

Monthly Compensation: $481 505 530

Work Week Group: 1, 4D5, 4D6

3-step range

Note: Salary information for this class was correct on 9/3/57. Any subsequent salary changes have not been recorded.
CALIFORNIA STATE PERSONNEL BOARD

specification for the class of

CIVIL ENGINEERING TECHNICIAN

Definition:

Under supervision, in a working level capacity, to do complex non-professional field and office civil engineering work; and to do other work as required.

Typical Tasks:

Acts as instrumentman in a survey party; may act as temporary party chief; sets up, operates and adjusts all types of precision surveying instruments; acts as survey party recorder; makes inspections to enforce compliance with plans and specifications on a variety of construction projects such as buildings, bridges, roads, wharves, piers, dams, levees, retaining walls, and similar structures; makes field or laboratory tests of materials used for construction projects; assists with foundation and hydraulic investigations; makes engineering calculations; assists with design work, plans, estimates, reports, and specifications; makes working plans and detailed drawings; makes or revises maps, charts, and diagrams; as required, directs the work of engineering aids in drafting, water distribution, construction inspection, materials testing, surveying or in other work.

Minimum Qualifications:

Either I

Two years as an Engineering Aid II in the California state service.

Or II

Experience: Three years of subprofessional civil engineering experience, two years of which shall have been equivalent in responsibility to that of an Engineering Aid II in the California state service; and

Education: Equivalent to completion of the twelfth grade. (Additional qualifying experience may be substituted for the required education on a year-for-year basis.)

and

Knowledges and abilities: Wide knowledge of and ability to use and adjust precision surveying instruments; general knowledge of the methods, materials, tools and equipment used in engineering construction; general knowledge of the methods of proportioning and handling concrete; general knowledge of the physical characteristics and approved testing methods of construction materials; ability to do difficult drafting and assist in the preparation of designs, plans, estimates, reports and specifications; ability to gather data for civil engineering computations and compilations; ability to make accurate engineering calculations; ability to inspect construction and enforce compliance with plans and specifications;
Civil Engineering Technician

-2-

familiarity with the principles of effective supervision; ability to analyze situations accurately and to adopt an effective course of action; ability to prepare reports.

Monthly Compensation: $415 436 458 481 505

Work Week Group: 1

Note: Salary information for this class was correct on 12/26/56. Any subsequent salary changes have not been recorded.
CALIFORNIA STATE PERSONNEL BOARD

specification for the class of

HIGHWAY ENGINEERING TECHNICIAN

Definition:

Under supervision, in a working level capacity, to do complex non-professional highway and bridge engineering office and field work; and to do other work as required.

Typical Tasks:

Acts as instrumentman on highway or bridge location or construction stakeout surveys; may act as chief of a small party or, in the absence of a superior, may take charge of a large party; sets up, operates and adjusts all types of precision surveying instruments; keeps survey and construction notes; makes inspections in enforcing compliance with plans and specifications on all phases of highway or bridge construction projects such as earthwork operations, placing of base materials, paving with asphalt or concrete materials, materials control at asphalt or concrete batch plants, culvert construction, piledriving, placing or fabrication of structural steel, erection of falsework and forms and concrete pours; performs field or laboratory physical tests on all kinds of highway construction materials; assists with research or investigation work on road or bridge materials or methods of construction; calculates traverses or earthwork quantities or prepares them for machine processing; analyzes engineering data; assists in the preparation of designs, plans, estimates, reports, and specifications for all types of highway and bridge projects; prepares working plans and detail drawings; plots boundary lines and calculates land areas; as required, directs the work of aids in drafting, construction inspection, materials testing, surveying, or in other work.

Minimum Qualifications:

Either I

Two years as an Engineering Aid II in the Department of Public Works.

Or II

Experience: Three years of subprofessional engineering experience, two years of which shall have been in highway, bridge, or material engineering equivalent in level to work performed by an Engineering Aid II in the Department of Public Works; and

Education: Equivalent to completion of the twelfth grade. (Additional qualifying experience may be substituted for the required education on a year-for-year basis.)

and

Knowledges and abilities: Wide knowledge of and ability to use and adjust precision surveying instruments; general knowledge of the methods, materials, tools, and equipment used in highway and bridge construction and maintenance work; general knowledge of the methods of proportioning and handling Portland cement concrete; general knowledge of proportioning and handling bituminous surfacing
Highway Engineering Technician

- materials and of the handling of asphaltic oils and emulsions;
- general knowledge of the physical characteristics and properties of highway and bridge construction materials and of the approved methods and equipment used in making physical tests of construction materials;
- ability to do difficult drafting and to do simple highway and bridge design work;
- ability to make accurate engineering calculations;
- ability to inspect construction work and to enforce compliance with plans and specifications;
- familiarity with the principles of effective supervision;
- ability to analyze situations accurately and to adopt an effective course of action;
- ability to prepare reports.

Monthly Compensation: $415, 436, 458, 481, 505

Work Week Group: 1

Note: Salary information for this class was correct on 12/6/56. Any subsequent salary changes have not been recorded.
CALIFORNIA STATE PERSONNEL BOARD

specification for the class of

ASSISTANT CIVIL ENGINEER

Definition:

Under direction, to perform field and office civil engineering work of average difficulty; and to do other work as required.

Typical Tasks:

Assists in the preparation of plans, specifications and estimates for various types of minor construction projects, including buildings, bridges, roads, wharves, piers, dams, levees, ditches, retaining walls, and similar structures; supervises and assists in the preparation of maps, plans, charts and diagrams; plans and directs the work of survey parties; makes foundation studies and lays out water mains, sewers, sewage disposal plants, and drainage systems; inspects structures under construction; inspects damaged structures and estimates cost of repairs; writes memoranda and prepares reports.

Minimum Qualifications:

Either I

One year of experience as a Junior Civil Engineer or two years as a Civil Engineering Technician or Highway Engineering Technician in the California state service.

Or II

Experience: Two years of civil engineering experience comparable to that of a Junior Civil Engineer in the California state service which shall have included at least one year of field work. (A master's degree in civil engineering may be substituted for the required experience.) and

Education: Equivalent to graduation from college with major work in civil engineering. (Additional qualifying experience may be substituted for the required education on a year-for-year basis.)

and

Knowledges and abilities: Wide knowledge of the principles and practices of civil engineering; wide knowledge of surveying; working knowledge of engineering mathematics; general knowledge of stress analysis, graphostatics, and the strength, properties and uses of the materials of engineering construction; general knowledge of the common descriptions of real property; ability to do mapping and drafting; ability to prepare detailed plans and specifications, to inspect construction projects, and to supervise survey parties; ability to maintain friendly and cooperative relations with those contacted in the course of the work; ability to prepare clear and concise reports.

Monthly Compensation: Range A: $481 505 530 556 584
                     Range B: $505 530 556 584 613

Work Week Group: 4A, 4B, 4D5, 4D6

NOTE: Salary information for this class was correct on 12/6/56. Any subsequent salary changes have not been recorded.
ASSISTANT HIGHWAY ENGINEER

Definition:

Under direction, to do highway engineering work of average difficulty in directing or assisting in the direction of a highway surveying party or a minor highway construction project; to perform engineering office work; and to do other work as required.

Typical Tasks:

Acts as chief of a party engaged in making highway preliminary surveys or does difficult instrument work and acts as assistant party chief; acts as resident engineer on minor construction projects, or as assistant engineer on major construction projects, including grading, and paving jobs and treated or untreated surfacing contracts; makes engineering inspections, directs subordinate inspectors, and advises contractor foremen on major phases of construction activity; enforces compliance with plans and specifications; prepares designs, plans and specifications for minor projects; assists in drafting and preparing instructions for bidders, proposals, affidavits, bonds, specifications, change of plan orders, and other documents and reports involved in the construction of engineering projects; uses engineering, drafting, and calculating instruments and techniques to gather and compile data and prepare designs, plans, estimates, reports, and specifications for the construction, alteration, maintenance, and operation of a wide variety of highway engineering projects; assists in the design of highways and drainage structures by preparing plans, profiles, cross sections, and other details; makes quantity estimates, horizontal and vertical alignment, and curve computations; establishes tentative grades for review and adjustment by supervisors; checks proposed improvements for clearance with existing and proposed improvements and substructures; as required, supervises a group of draftsmen, junior engineers, and engineering aids; dictates correspondence and prepares reports.

Minimum Qualifications:

Either I

One year of experience as a Junior Civil Engineer or two years as a Highway Engineering Technician or Civil Engineering Technician in the Department of Public Works.

Or II

Experience: Two years of engineering experience, one year of which shall have been in highway engineering as transit man in a large survey party, or as an inspector on paving or construction work or in other highway engineering office or field work of equal responsibility. (A master's degree in civil engineering may be substituted for the required experience.) and

Education: Equivalent to graduation from college with major work in civil engineering. (Additional qualifying experience may be substituted for the required education on a year-for-year basis.) and
Knowledge and abilities: Wide knowledge of highway surveying; wide knowledge of the methods, materials, tools, and equipment used in highway construction, paving, and maintenance work; wide knowledge of the methods of proportioning and handling Portland cement and asphalt concrete, of the handling of asphaltic oils and emulsions, of highway grading, construction, and maintenance, and of the theory of mass diagrams and of their use in controlling highway grading; ability to prepare designs, plans, and specifications for minor projects and to perform difficult and responsible drafting; ability to inspect construction work and to judge whether it meets specification requirements; familiarity with the principles of effective supervision and ability to plan, direct, and coordinate the work of a group of office and field engineering assistants; ability to analyze situations accurately and to adopt an effective course of action; ability to dictate correspondence and prepare reports.

Monthly Compensation: $481.505 530 556 584

Work Week Group: 4A

NOTE: Salary information for this class was correct on 12/6/56. Any subsequent salary changes have not been recorded.
# Application for Examination

**IMPORTANT:** Fill out this box completely—Print or typewrite

**1.** Enter below the exact titles of the examinations for which you are applying and check open, promotional, or both.

<table>
<thead>
<tr>
<th>No.</th>
<th>Title of Examination</th>
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</thead>
<tbody>
<tr>
<td>1</td>
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<tr>
<td>2</td>
<td></td>
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<tr>
<td>3</td>
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</tbody>
</table>

**2.** Certificates of proficiency in typing and shorthand issued by the State of California.

<table>
<thead>
<tr>
<th>Type</th>
<th>Number</th>
<th>Expiration Date</th>
<th>Level</th>
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</thead>
<tbody>
<tr>
<td>Typing</td>
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<td></td>
<td>JIS</td>
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<tr>
<td>Shorthand</td>
<td></td>
<td></td>
<td>JIS</td>
</tr>
</tbody>
</table>

**3.** Place of examination—Write in the number indicating the place in which you prefer to take the written test.

**4.** Only State employees applying promotionally fill out A, B, C, D, E below

<table>
<thead>
<tr>
<th>A.</th>
<th>Name of State Department in which you are now employed</th>
</tr>
</thead>
<tbody>
<tr>
<td>B.</td>
<td>Name of Unit or Division in which you work</td>
</tr>
</tbody>
</table>

**5.** For how long immediately prior to this date have you been a resident of California?

<table>
<thead>
<tr>
<th>Type</th>
<th>Yes</th>
<th>No</th>
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</thead>
<tbody>
<tr>
<td>Single</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Divorced</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**6.** Marital status

- Single
- Married
- Divorced
- Widowed

**7.** If ever a married woman fill in following:

<table>
<thead>
<tr>
<th>Last Name</th>
<th>Maiden Name</th>
<th>Country of Husband's Birth</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

**8.** Have you worked for the State of California before?

- Yes
- No

**9.** Were you ever discharged or have you resigned under pressure from any employment?

- Yes
- No

**10.** Have you as a juvenile or adult, ever been detained by law enforcement officers, arrested, or convicted of any offense, other than traffic violations?

- Yes
- No

**11.** Certificate of Applicant. Read carefully before signing.

I hereby certify that all statements made in this application are true, and I agree and understand that any misstatements of material facts herein will cause forfeiture on my part of all rights to any employment in the service of the State of California.

**IF MORE SPACE IS REQUIRED ATTACH A SEPARATE SHEET**

**TURN APPLICATION OVER AND FILL OUT REVERSE SIDE**
12. **EDUCATION:**

CIRCLE THE HIGHEST GRADE YOU COMPLETED IN SCHOOL

<table>
<thead>
<tr>
<th>GRADES</th>
<th>YEARS</th>
<th>DEGREE</th>
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DATE COMPLETED:

<table>
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<tr>
<th>NAME OF HIGH SCHOOL</th>
<th>GRADUATE</th>
<th>YEARS</th>
<th>COMPLETED</th>
<th>GRADUATE</th>
<th>DEGREE</th>
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<table>
<thead>
<tr>
<th>UNIVERSITY</th>
<th>GRADUATE STUDY</th>
<th>COURSE OF STUDY</th>
<th>1234</th>
<th>YEARS</th>
<th>COMPLETED</th>
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</thead>
</table>

<table>
<thead>
<tr>
<th>BUSINESS, CORRESPONDENCE, TRADE OR SERVICE SCHOOLS</th>
<th>COURSE STUDIED</th>
<th>YRS. --- MONTHS</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>NAME OF COURSE OF STUDY</th>
<th>CERTIFICATES OF PROFESSIONAL OR VOCATIONAL COMPETENCE OR LICENSES</th>
<th>MEMBERSHIP IN PROFESSIONAL OR TECHNICAL ASSOCIATIONS</th>
</tr>
</thead>
</table>

13. **EXPERIENCE:**

BEGIN WITH YOUR MOST RECENT EXPERIENCE

<table>
<thead>
<tr>
<th>FROM MO. YR.</th>
<th>TO MO. YR.</th>
<th>OCCUPATIONS AND DESCRIPTIONS OF DUTIES PERFORMED</th>
<th>SALARIES RECEIVED</th>
<th>EMPLOYERS</th>
<th>REAS FOR LEAVE</th>
</tr>
</thead>
</table>

LIST ENTIRE EXPERIENCE RECORD

IF MORE SPACE IS REQUIRED ATTACH A SEPARATE SHEET—SEE INSTRUCTIONS ON MAILING.

IMPORTANT—If your application is not acceptable for this examination you will be promptly notified of the reason. If your application is accepted you will be sent a notice of when and where to appear for the written test. If you have received no notice 2 days before the announced examination date you should inquire at the nearest State Personnel Board office.
INSTRUCTIONS FOR APPLYING MINIMUM QUALIFICATIONS (ENTRANCE REQUIREMENTS) TO JUNIOR CIVIL ENGINEER APPLICANTS

A. Applicants will be immediately eligible for the competitive oral interview if they have graduated in Civil Engineering from one of the following institutions:

Akron, Univ. of
Alabama Poly. Inst.
Alabama, Univ. of
Alaska, Univ. of
Arizona, Univ. of
Arkansas, Univ. of
Brooklyn, Poly. Inst. of
Brown Univ.
Bucknell Univ.
Calif. Inst. of Tech.
Calif., Univ. of (Berkeley)
Carnegie Inst. of Tech.
Case Inst. of Tech.
Cincinnati, Univ. of
Citadel, The
Clarkson Col. of Tech.
Clemson A. and M. Col.
Colorado A. and M. Col.
Colorado, Univ. of
Columbia Univ.
Connecticut, Univ. of
Cooper Union Sch. of Eng.
Cornell Univ.
Dartmouth Col.
Dayton, Univ. of
Delaware, Univ. of
Denver, Univ. of
Detroit, Univ. of
Drexel Inst. of Tech.
Duke Univ.
Fenn Col.
Florida, Univ. of
George Washington Univ.
Georgia Inst. of Tech.
Harvard Univ.
Hawaii, Univ. of
Howard Univ.
Idaho, Univ. of
Illinois Inst. of Tech.
Illinois, Univ. of
Iowa State Col.
Iowa, State Univ. of
Johns Hopkins Univ.
Kansas State Col.
Kansas, Univ. of
Kentucky, Univ. of
Lafayette Col.
Lehigh Univ.
Louisiana Poly. Inst.
Louisiana State Univ.
Louisville, Univ. of
Maine, Univ. of
Manhattan Col.
Marquette Univ.
Maryland, Univ. of
Mass. Inst. of Tech.
Massachusetts, Univ. of
Michigan Col. of Mining and Tech.
Michigan State Univ.
Michigan, Univ. of
Minnesota, Univ. of
Mississippi State Col.
Mississippi, Univ. of
Missouri Sch. of Mines and Metallurgy
Missouri, Univ. of
Montana State Col.
Nebraska, Univ. of
Nevada, Univ. of
New Hampshire, Univ. of
New Mexico Col. of A. and M. Arts
New Mexico, Univ. of
New York, City Col. of
New York Univ.
Newark Col. of Eng.
North Carolina State Col.
North Dakota Agric. Col.
North Dakota, Univ. of
Northeastern Univ.
Northwestern Univ.
Norwich Univ.
Notre Dame, Univ. of
Ohio Northern Univ.
Ohio State Univ.
Ohio Univ.
Okla. A. & M. Col.
Oklahoma, Univ. of
Oregon State Col.
Penn. State Univ.
Penn., Univ. of
Pittsburgh, Univ. of
Princeton Univ.
Purdue Univ.
Rensselaer Poly. Inst.
Rhode Island, Univ. of
Rice Institute
Rose Poly. Inst.
Rutgers Univ.
Santa Clara, Univ. of
South Carolina, Univ. of
So. Dakota Sch. of Mines
South Dakota State Col.
So. Calif., Univ. of
So. Methodist Univ.
Stanford Univ.
Swarthmore Col.
Tennessee, Univ. of
Texas, A. and M. Col. of
Texas Tech. Col.
Texas, Univ. of
Toledo, Univ. of
Tufts Univ.
Tulane Univ.
Union Col.
Utah State Agric. Col.
Utah, Univ. of
Vanderbilt Univ.
Vermont, Univ. of
Villanova Univ.
Virginia Military Inst.
Virginia Poly. Inst.
Virginia, Univ. of
Washington, State Col.
Washington Univ.
Washington, Univ. of
Wayne Univ.
West Virginia Univ.
Wisconsin, Univ. of
Worcester Poly. Inst.
Wyoming, Univ. of
Yale Univ.

Canadian Institutions
Alberta, Univ. of
British Columbia, Univ. of
L'Universite Laval
Manitoba, Univ. of
McGill Univ.
New Brunswick, Univ. of
Queen's Univ.
Saskatchewan, Univ. of
Toronto, Univ. of
B. Applicants will be admitted to the qualifying written examination if they are graduates as indicated from the following institutions:

1. Graduation in any engineering curriculum from:

   a. Any four-year institution having any engineering curriculum accredited by Engineer's Council for Professional Development including:

   - Alaska, Univ. of
   - Bradley Univ. (Ill.)
   - Catholic Univ. (DC)
   - Ecole Poly. (Canada)
   - Montana Sch. of Mines
   - Pratt Inst. (NY)
   - Rochester, Univ. of (NY)

   or

   - Calif. Maritime Academy
   - Chico State Col.
   - College of the Pacific
   - Fresno State Col.

   St. Louis Univ. (Mo.)
   Stevens Inst. (NY)
   Syracuse Univ. (NY)
   Texas Western Col.
   Tulsa, Univ. of (Okl.)
   UCLA
   U.S.A.F. Inst. of Tech. (Ohio)
   Youngstown Univ. (Ohio)

   U.S.C.G. Acad. (Conn.)
   U.S. Naval Pdg. Sch. (Calif.)
   Webb Inst. of Naval Arch. (NY)
   Wichita, Min. Univ. of (Kansas)

2. Graduation in Civil Engineering from:

   - Antioch Col. (Ohio)
   - Brigham Young Univ. (Utah)
   - Chicago Tech. (Illinois)
   - Colorado Col. (Colorado)
   - Davis Elkins Col. (W.Va.)
   - Detroit Inst. of Tech.
   - Gonzaga Univ. (Wash.)
   - Houston, Univ. of (Texas)
   - Indiana Tech. Col.
   - Lamar State Col. of Tech. (Tex.)
   - Lawrence Inst. of Tech. (Mich.)
   - Marshall Col. (W. Va.)
   - Merrimack Col. (Mass.)
   - Miami, Univ. of (Florida)
   - New England Col. (NH)
   - Penn. Military Col.
   - Portland, Univ. of (Oregon)
   - Prairie View A & M (Texas)
   - Puerto Rico, Univ. of

   - Saint Martin's Col.
   - State Univ.
   - Tenn. Poly. Inst.
   - Tenn. Agric. & Ind.
   - Tenn. Agric. & Ind.
   - Valparaiso Col. (Ind.)
   - Wisconsin Inst. of Tech.

C. Applicants not admissible under the above paragraph B will be allowed one year of experience credit if an engineering graduate of:

1. Any junior college offering a pre-engineering course.

2. Any California State College not listed above.


4. The International Correspondence School's completed course in Civil Engineering.

D. Applications and transcripts should be submitted to the Personnel Board for review if the institution is not listed in A, B, or C above. Service schools are not to be evaluated.

E. Applicants claiming field or office experience equivalent in responsibility to head chairman or higher should have one or more years' experience in lower level work to support their claim.
REQUIREMENTS FOR PROOF OF CITIZENSHIP FOR CANDIDATES BORN OUTSIDE THE UNITED STATES AND POSSESSIONS

A. **Naturalized Citizens**

1. Original Naturalization Certificate; or

2. Duplicate Naturalization Certificate
   plus
   original or photostatic copy of marriage certificate, if candidate is a woman who was naturalized under a former name,

B. **Derivative Citizenship**

1. Certificate of Derivative Citizenship; or

2. Original Naturalization Certificate of either parent, if dated prior to January 13, 1941, together with original or photostatic copy of candidate's birth certificate; or

3. Original Naturalization Certificates of both parents, if dated after January 13, 1941, together with original or photostatic copy of candidate's birth certificate; or
   If candidate is unable to furnish birth certificate, any one of the following documents is also acceptable:
   a. Baptismal Certificate
   b. Passport
   c. Early school record
   d. Early insurance policy
   e. Entry in family Bible if made at time of birth
   f. Notarized statement of relationship (signed by someone other than parent)

4. If born in a foreign country of native-born parents,
   a. Birth certificate of either parent and candidate's birth certificate; or
   b. American Consular Registration Certificate; or


C. **Other Types of Citizenship**

1. If foreign-born woman,
   a. Marriage certificate and husband's birth certificate if citizenship was acquired through marriage to a native-born citizen before September 22, 1922; or
   b. Marriage certificate and husband's original Naturalization Certificate if the marriage and naturalization took place before September 22, 1922.

*Hawaii, Alaska, Virgin Islands, Guam, Puerto Rico*
2. If Native-Born woman,

a. Husband's original Naturalization Certificate and marriage certificate, if married to a foreign-born man before September 22, 1922; or

b. Oath of Allegiance obtainable through the United States Immigration and Naturalization Service (applies to marriage to non-citizens prior to September 22, 1922).
CALIFORNIA STATE PERSONNEL BOARD
801 CAPITOL AVENUE
SACRAMENTO, CALIFORNIA

CONDITIONS OF EMPLOYMENT

NAME ________________________________

DATE AVAILABLE _______________________

CHECK YOUR EMPLOYMENT PREFERENCES BELOW:

TYPE OF APPOINTMENT PREFERRED:

☐ PERMANENT (MORE THAN 6 MONTHS)

☐ TEMPORARY (LESS THAN 6 MONTHS)

LOCATION PREFERENCES:

☐ CHECK HERE IF YOU WILL WORK ANYWHERE.

IF YOU WILL WORK ONLY IN CERTAIN AREAS, CHECK THE APPROPRIATE BOXES ON THE MAP.

AGENCIES WHERE YOU WILL WORK:

☐ HIGHWAYS

☐ BRIDGES

☐ WATER RESOURCES

☐ BAY TOLL CROSSINGS

☐ ARCHAEOLOGY

☐ STATE LANDS

☐ HARBOR COMMISSIONERS

☐ EQUALIZATION

☐ BEACHES AND PARKS

☐ RECLAMATION BOARD

FOR DEPARTMENTAL USE ONLY.

Hired by _______________________________

Effective Date ________________________

NOW ATTENDING SCHOOL. PLACE MY NAME ON

☐ Bishop (J9)

THE INACTIVE LIST UNTIL ___________________

☐ San Bernardino (J6)

☐ San Diego (K2)

☐ Los Angeles (J7)

☐ Sacramento (K1)

☐ Stockton (K1)

☐ Marysville (J3)

☐ Eureka (J1)

☐ Redding (J2)

☐ San Francisco (J4)

☐ San Luis Obispo (J5)

☐ Fresno (J6)

☐ II

☐ III

☐ IV

☐ V

☐ VI

☐ VII

☐ VIII

☐ IX

☐ X

☐ XI
EMPLOYMENT OPPORTUNITIES FOR JUNIOR CIVIL ENGINEERS

Most Junior Civil Engineers are employed by the Division of Highways although there is opportunity for employment with several other State agencies. A list of agencies employing Junior Civil Engineers and showing the general location of employment is given below:

DIVISION OF HIGHWAYS: Plans, designs, constructs, and maintains more than 1,400 miles of the State highway system. The Division of Highways is divided into 11 districts and employment opportunities exist in practically all districts. Design and construction of bridges in the highway system is the responsibility of the Bridge Department of the Division, which has offices in Sacramento and Los Angeles. Headquarters of the Materials and Research Department is in Sacramento.

DEPARTMENT OF WATER RESOURCES: Has responsibility for improving the conservation, control, and utilization of California’s water resources, which includes water project planning, flood control investigations, water quality control, investigation of underground waters, water rights administration, and supervision of dam construction. Headquarters in Sacramento with a branch office in Los Angeles.

DIVISION OF SAN FRANCISCO BAY TOLL CROSSINGS: Studies, surveys, prepares plans, specifications, and estimates for the construction of additional toll crossings of San Francisco Bay and supervises their construction. Headquarters are in Berkeley.

DIVISION OF ARCHITECTURE: Performs architectural, engineering, and allied technical services for State agencies with reference to construction of and alteration to buildings and grounds, including those for State office buildings, institutions, prisons and State colleges. Headquarters are in Sacramento with a branch office in Los Angeles.

STATE LANDS DIVISION: Manages certain State-owned lands leased for grazing, agricultural, commercial, and recreational purposes, and for extraction of minerals, oil and gas. Positions are in Los Angeles.

BOARD OF STATE HARBOR COMMISSIONERS: Builds, maintains, and operates the water front facilities for the Port of San Francisco, including the Belt Line Railroad and the streets adjacent to the water front. Positions are in San Francisco.

BOARD OF EQUALIZATION: Administers tax laws, values public utility property for purposes of local taxation, and equalizes property tax assessments between the counties. Junior Civil Engineers are employed in the Valuation Division to do valuation work on public utility property. Positions are in Sacramento.

DIVISION OF BEACHES AND PARKS: Administers, protects, and develops the State park system, acquiring new park areas, designing and constructing park facilities, and controlling beach erosion. Positions are in Sacramento.

RECLAMATION BOARD: Cooperates with the United States Army Engineers in planning and constructing flood control projects on the Sacramento and San Joaquin Rivers. Positions are located in Sacramento.
JUNIOR CIVIL ENGINEER

STATEMENT REGARDING TAKING EXAMINATION

Read Carefully Before Signing

By signing this statement I certify that I have taken neither the written test nor the qualifications appraisal interview for the California State Civil Service class of Junior Civil Engineer during the current testing period.

I understand that should I falsely sign this statement, I may thereby forfeit any eligibility which I may have or acquire for employment by the State of California.

Date __________________________ Signature __________________________

581 7/56 California State Personnel Board
DIRECTIONS FOR ADMINISTERING TEST FOR

Junior Civil Engineer

1. All test material should be kept under lock and key when it is not in use. Only authorized persons may have access to test material.

2. Before the competitors arrive, check each booklet to be sure that any marks made by previous competitors have been erased. Also check the booklets to make sure that the correct test form is being used.

3. If there are two or more competitors, be sure to seat them so there is no possibility of their copying from the test papers of other candidates. If any competitor withdraws from the examination, be sure that he turns in all test material before you permit him to leave the room. Do not allow anyone but an authorized competitor to see the examination questions at any time. No one should be allowed to make any notes about the subject matter or wording of examination questions. Be sure that all extra material is put in a safe place so that competitors will be unable to secure extra booklets.

4. When competitors are seated make the following announcement:

"Test booklets, answer sheets, special pencils and 2 sheets of scratch paper will now be distributed. Read the instructions on the cover of the booklet but do not open the booklet until given further instructions.

"In taking this test DO NOT MAKE ANY marks in your test booklet."

5. When competitors have read the cover page and have completed the entries on the answer sheet, say:

"Open your test booklet and read carefully the information on the reverse side of the cover page and the instructions on the opposite page. Do not turn to any other page until told to do so."

Allow time for reading this.

6. Then say:

"Do you have any questions on how to mark your answer sheets?"

Make any reasonable explanations necessary.

7. Then say:

"You will have one hour in which to complete this test."

Make one of the three following announcements:

a. "At the end of that time please remain seated until your test paper has been scored."

b. "At the end of that time you may leave the room, but please return at _______ o'clock to learn whether you have qualified in the written test."

c. "You will be notified of the results of this test as soon as possible."
"If you finish before time is called you may review your work or hand in your booklet.

"It is now _______ time will be called. All ready; turn to Page 2 and begin."

Patrol the room as necessary to see that competitors are marking their answers in the proper manner.

8. At the end of one hour say:

"Stop. Close your booklets."

9. Collect a test booklet, answer sheet; special pencil; and scratch paper from each competitor.

10. After the test material has been collected the Proctor is to enter the form number of the test on each answer sheet on the line below Title of Examination. This form number (B.6, C.6, etc.) appears near the lower left corner of the cover page. The purpose of asking the Proctor to do this is to avoid calling candidates' attention to the form number.

11. Before returning test booklets to storage, check the pages to be sure no marks have been made in them. If marks have been made which cannot be completely erased and the booklet can no longer be used, return it to the State Personnel Board, Attention: Test Arrangements and Scoring Section.

12. At the completion of each test day mail answer sheets, applications, interview rating sheets, forms 631 (Conditions of Employment), and any reports to the State Personnel Board, 801 Capitol Avenue, Sacramento, Attention: Test Arrangements and Scoring Section. This material should be securely sealed and returned by first class mail. Burn any scratch paper used by competitors.

13. At the end of each period for which a form test is to be used, securely package and return by Railway Express, collect, the test booklets and scoring keys. New booklets and scoring keys will be mailed to you prior to the time they are to be put in use.
INSTRUCTIONS FOR SCORING

THE JUNIOR CIVIL ENGINEER TEST

A supply of answer sheets and special pencils has been sent to each testing location for use with this test.

You are reminded that this test material, including the scoring key, are confidential and should be kept under lock, available only to persons authorized to administer it.

There are a number of forms of the written test, each with a different key. Be sure you use the proper key. The test form number appears near the lower left corner of the cover page of the book, and it is also on the scoring key. The form numbers in use at the beginning of the program are B.6, C.6, and D.6. The Proctors have been instructed to enter the form number on the answer sheets after the competitors have turned them in. Please inspect the answer sheets to see that this has been done.

In scoring this test one point is allowed for each correct answer, but no credit is allowed if more than one answer is marked. There is no penalty for wrong answers. The number of correct answers is determined by placing the scoring key over the answer sheet and counting the pencil marks that show through the holes. However, in order to get an accurate count, it is necessary to take the following steps:

1. Scan the answer sheet to find items answered twice and any stray pencil marks that might look like answers.

2. If more than one choice has been marked draw a line with a red pencil across all five choices.

3. If a stray pencil mark could be mistaken for an answer draw a short red line across the stray mark.

4. The general manner of the competitor in marking items will help in deciding whether an item has a duplicate answer. If all items are marked heavily only count items with two or more heavy marks as duplicate items.

Example:

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
</table>
| ||||| duplicate answer
| ||||| stray mark

5. Now place the scoring key over the answer sheet so that the answers are centered in the holes.

6. Count all the pencil marks that show through the holes, except those that have a red pencil mark across them as illustrated above. Enter this number in the space marked l in the heading of the answer sheet.

7. As a check, count the blank holes and those with red pencil marks across them. The total of these added to the score already recorded should equal the number of items in the test. If it does not, an error has been made.
Instructions for Scoring the
Junior Civil Engineer Test

Each testing location will be informed of the passing mark required for the current testing period.

Extreme care will be necessary to insure use of the correct scoring key. After completion of the scoring, the test books and scoring key should be returned to a locked cabinet.
CALIFORNIA STATE PERSONNEL BOARD

RATING GUIDE FOR JUNIOR CIVIL ENGINEER

NAME OF COMPETITOR ____________________________ DATE __________________________

PLACE OF INTERVIEW ____________________________

OVER-ALL RATING ____________________________

RATER'S SIGNATURE ____________________________

RATER'S DEPARTMENT ____________________________

RATING SCALE
Use this scale to make the over-all rating after considering all factors.

| 95 | OUTSTANDING |
| 90 | SUPERIOR |
| 85 | THOROUGHLY SATISFACTORY |
| 80 | SATISFACTORY |
| 75 | FAIR |
| 70 | BARELY ACCEPTABLE |
| 65 | UNACCEPTABLE |

APPRASIAL FACTORS
Place a check (not a figure) in the appropriate box opposite each factor.

GENERAL PERSONAL QUALIFICATIONS:

PHYSICAL ASPECTS. (Consider appropriateness of dress, physique, bearing, poise, and vigor. Caution: do not rate medical factors.)

INTELLECTUAL ASPECTS. (Consider ability to understand questions, to analyze critically, and to express himself effectively.)

SOCIAL ASPECTS. (Consider adjustment to interviewer, friendliness, tact, responsiveness, and probable effectiveness with coworkers and public.)

CHARACTER ASPECTS. (Consider integrity, initiative, reliability, and perseverance.)

FACTORS:

1. EDUCATION: Classroom and field instruction, correspondence courses, and self-study. (Consider relationship to civil engineering, duration and quality of instruction, competitor's success, and how much he profited from his opportunities.)

2. EXPERIENCE: Full-time paid engineering experience; other full-time paid experience; part-time and unpaid experience. (Consider duration, level, responsibility involved, opportunity for development, how much he profited from his opportunities.)

3. PROFESSIONAL INTERESTS AND OBJECTIVES: (Consider demonstrated interest in the field, appropriateness and practicality of plans for self-improvement and development of technical and professional competence.)

4. ACTIVITIES: General reading and study habits; athletics; civic and professional organizations; club and other group activities; recreations. (Consider how much these have contributed to the development of desirable qualities such as: ability to organize one's time and carry out a program; ability to contribute to a group project; leadership; etc. Caution: avoid questions which involve specific political, religious or fraternal affiliations.)

IF THE OVER-ALL RATING IS BELOW 70%, THE RATER MUST BRIEFLY STATE HIS REASONS ON THE BACK OF THIS SHEET.

589/8/56
A Statewide Program:

These suggestions relate primarily to the technical aspects of interviewing and rating. It is presumed that interviewers will already be familiar with the desirability of stressing the recruiting aspects of interviews for Junior Civil Engineer -- to make every reasonable effort to interest all qualified applicants in the State service, irrespective of their suitability for, or interest in any particular assignment.

This more general viewpoint should be reflected in the use of the Rating Guide. A uniform attitude and approach will provide similar standards for all interviewers so that ratings made by one interviewer will be comparable with ratings made by other interviewers. Comparability of ratings should result in more effective placement.

Developing Reliable Ratings:

The Rating Guide is a tool to assist interviewers to conduct satisfactory interviews. It consists of eight factors which lead to an overall percentage rating. If the interviewer will develop the information necessary to rate the eight factors, he will almost certainly have conducted a thorough and diversified interview. His overall rating should then be a reliable evaluation of the applicant's qualifications for Junior Civil Engineer.

An Interview Pattern:

In using the Rating Guide, interviewers will probably find it useful to develop an interview pattern. An interview pattern usually insures full coverage and saves the interviewer's time. The following steps illustrate such a pattern:

1. Before calling in the applicant, the interviewer familiarizes himself with the information contained in his application and writes the applicant's name, the date, and the place of interview at the top of a Rating Guide.

2. The interviewer calls the applicant into the interview room and greets him in a relaxed and friendly manner. (The interviewer should, if possible, have his name on a name plate which the applicant can see at all times.)

3. The interviewer uses the information from the application to very briefly summarize the applicant's major accomplishments in education and experience. The interviewer can begin with, "Mr. ______, I see from your application that you have ..." (This brief summary is intended to give the applicant a chance to catch his breath and a feeling of confidence that his qualifications are understood by the interviewer.) After the summary, the interviewer pauses a moment to allow the applicant an opportunity to comment on the summary if he wishes.
4. The interviewer then asks the applicant the questions which will produce the information that the interviewer needs to rate Factors 1, 2, 3, and 4 on the Rating Guide, covering Education, Experience, Professional Objectives and Activities. When these questions have been answered, the interviewer may also have developed information and gained impressions which will enable him to appraise the applicant's personal qualifications--Factors 5 through 8.

5. If the interviewer feels that there are aspects of the applicant's personal qualifications about which he needs further information, it can frequently be obtained through the technique of expressing reservations about the competitor's qualifications. The interviewer states his reservations in a tentative, easy-going manner. An example is, "Mr. ______, from what you have said, I get the impression that you might not like office work." Reservations are particularly effective when preceded by an acknowledgment of a competitor's strong point, such as, "Mr. ______, you have a very commendable academic record, but I wonder how you will handle practical assignments." or "Mr. ______, you have had some pretty good experience for your age, but you've never supervised anyone. I'm concerned about your ability to handle a survey party of more experienced men." (It is important that the reservation be stated as the personal opinion of the interviewer and that the conclusion be a very tentative one, subject to change if the applicant can convince the interviewer that his opinion is unfounded.)

The applicant may respond with a certain amount of spirit and feeling. He may also give information which reveals his attitudes toward work, study, supervisors, and his own capacities and limitations.

6. The interviewer should now have all the information he needs to rate all the factors. The interviewer next asks the applicant if there is anything he would like to add before the interview is closed. (This is very important as the applicant may still have something to say which will have a bearing on his rating.)

The interviewer completes the rating of the factors and then determines and records his over-all percentage rating. (Over-all ratings of qualified applicants should be made in full percents between 70 and 100, such as 76, 85, or 94.)

7. If the interviewer is inclined to disqualify the applicant, the interviewer should make clear to him the reasons for the disqualification. The applicant should be given full opportunity to comment on these reasons.

If the applicant is disqualified, the interviewer completes the rating of the factors and gives him an over-all rating of 65%. In addition, the interviewer must state in detail, on the back of the Rating Guide, the reasons why the candidate is unacceptable.

Applicants disqualified in this examination have the same right of appeal to the State Personnel Board as applicants who are disqualified by a qualification appraisal board. In the event of an appeal, the Rating Guide including the interviewer's comments will be the only record of the interview before the State Personnel Board.
Interviewers are reminded of the legal restrictions covering questions which relate to the applicant's race, age, sex, marital status, physical condition, and his religious and political affiliations or opinions. The same restrictions extend to disqualification statements.

The interviewer should arrange for an alternate where he is conscious of feeling biased in regard to an applicant's qualifications, or where he might be thought to be biased because of his relationship to an applicant.

**Formula Rating Undesirable:**

It is generally unsatisfactory to attempt to weight numerically the factors and to arrive at the rating by formula. Experience definitely indicates that over-all ratings, made on the basis of a well-developed interview pattern, will generally produce more valid ratings than scores which are computed by weighting factors.

Incidentally, it should be noted that even though a competitor who has had no experience must be rated "Unacceptable" on Factor 2, he may still merit an over-all rating of $90\%$, for example, if education and most of the other factors are rated "Outstanding".

**The "Halo Effect":**

One caution may be in order. Probably the most serious obstacle to reliable interviewing is the so-called "halo effect". When an interviewer allows his judgment to be unduly influenced by a single one or a small group of the applicant's traits or characteristics, the "halo effect" is said to be operating. Most of us have our personal likes and dislikes. Being aware of them is the best assurance that they will not operate as "halo effects".

**Practice Interviews**

Interviewers may find it useful to try a practice interview or two with staff members whose qualifications are somewhat comparable to those of applicants. This will give the interviewer a familiarity with interviewing procedure and with the Rating Guide which will make his first interviews more effective than if he starts to interview without a trial run.
### TO THE PHYSICIAN:

Please examine the person whose name appears below. You are requested to complete the entire report indicating actual measurements of vision, hearing, pulse rate and blood pressure. Your fee will be paid by the patient.

(See other side of this form for instructions for completing this report)

---

<table>
<thead>
<tr>
<th>1. NAME</th>
<th>2. CLASS TITLE</th>
<th>3. DATE OF APPOINTMENT</th>
<th>4. HISTORY OF DISEASES, INJURIES, OR OPERATIONS—PAST AND PRESENT DATES</th>
<th>5. SEX</th>
<th>6. HEIGHT (WITHOUT SHOES)</th>
<th>7. WEIGHT (WITHOUT SHOES &amp; COAT)</th>
<th>8. MOUTH AND THROAT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

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9. EYES AND VISION (Snellen)

Static

Corrected

O.S. 20/______ O.D. 20/______

---

10. EARS AND HEARING (Ordinary conversation at 20 feet considered normal)

A.N. 20/______ A.D. 20/______

Hearing aid used: [ ] YES [ ] NO

---

11. HEART AND BLOOD VESSELS

IF HEART DISEASE IS PRESENT IS IT COMPENSATED?

Diagnosis: __________

---

12. LUNGS

13. ABDOMEN AND G-TRACT

ING. HERNIA: IS PROTRUSION PRESENT BEYOND EXT. RING?

OTHER HERNIA?

---

14. NERVOUS SYSTEM

ALCOHOLISM?

DRUG ADDICTION?

HISTORY OF PSYCHIATRIC TREATMENT?

---

15. GENITO-URINARY:

Urinalysis:

SP. GRAVITY: _____ ALBUMEN: _____ SUGAR: _____

---

16. (WOMEN ONLY) ARE MENSTRUATION PERIODS REGULAR?

ANY DISEASES OF FEMALE ORGANS?

DO PAIN OR CRAMPS EVER REQUIRE BED REST?

IF YES, HOW MANY DAYS?

---

17. (A) SPINE:

(B) EXTREMITIES:

VARICOSE VEINS (DEGREE)?

---

18. SKIN: ULCERS?

SCARS?

TUMOR?

DISEASE?

---

19. I HEREBY CERTIFY THAT THE ABOVE STATEMENTS ARE CORRECT TO THE BEST OF MY KNOWLEDGE.

STREET ADDRESS:

SIGNATURE OF APPLICANT

(CITY)

(WITNESSED BY PHYSICIAN)

---

20. CANDIDATE'S GENERAL PHYSICAL CONDITION ( Aside from specific conditions indicated above) is—check which

EXCELLENT [ ] FAIR [ ]

GENERALLY GOOD [ ] PHYSICALLY UNFIT [ ]

---

21. REMARKS: (BY PHYSICIAN)

(Do Not Use This Space)

---

22. NAME OF PHYSICIAN (PLEASE PRINT OR TYPE)

STREET ADDRESS:

SIGNATURE OF PHYSICIAN:

CITY: DATE:

---

ADDITIONAL REMARKS REGARDING PHYSICAL CONDITION OF THE APPLICANT MAY BE ENTERED ON THE OTHER SIDE OF THIS FORM.
INSTRUCTIONS TO EXAMINING PHYSICIANS FOR COMPLETING STATE MEDICAL EXAMINATION REPORTS

To avoid further correspondence please review form for completeness before examinee leaves your office.

Mail the completed medical report to State Personnel Board, Sacramento, California.

The medical examination of prospective state employees should be painstaking in order to minimize costs to the State Compensation Insurance Fund and the State Employees' Retirement System.

The physician, in the interest of efficient service to the State, should note any impairments which might lead to an abnormally high frequency of sick leave or absenteeism and existing defects which might predispose to disability or occupational injury should be described fully.

Under California's Labor Code, State employees who succumb to heart disease may be compensated as industrial deaths.

If arthritis, diabetes, or healed rheumatic heart disease with valvular lesions exist in an applicant, please indicate whether the condition is static and compatible with the position. Epilepsy should be well controlled by medication in order to permit employment in a sedentary position.

Accurate determination of hearing and vision is particularly important in the following classes: Fire Suppression Workers, Group Supervisors, Law Enforcement Officers, Narcotic Enforcement Officers, State Policemen, and State Traffic Officers. Unless these special senses are preserved, the safety of these and other employees may be endangered and their efficiency affected.

Each applicant for State employment is required to arrange for a medical examination as soon as he is appointed. Approval of a new appointment cannot be granted until a satisfactory medical report has been received by the State Personnel Board. Your cooperation in making early appointments and in expediting completion of the examination will be greatly appreciated.

The completed Form 610 should be mailed to the State Personnel Board by the physician not later than the second working day after the examination. Additional tests, when indicated to determine physical fitness, are justification for additional time before transmittal of the completed examination form.

CALIFORNIA STATE PERSONNEL BOARD
This eligible has qualified in the examination for junior civil engineer and wishes to be interviewed for an appointment to a position. An approved medical examination report is not/is on file with the State Personnel Board.

(All agencies except the Division of Highways should check with one of the State Personnel Board offices to be sure the eligible is reachable for appointment.)

Departmental Representative

Agency

582 7/56 California State Personnel Board
APPLICATION FOR VETERANS PREFERENCE FOR CALIFORNIA STATE CIVIL SERVICE EXAMINATIONS

INSTRUCTIONS:
Please submit with this form a photographic copy or a certified copy of your discharge or other official documents showing the dates of your enlistment and discharge. If you are unable to send a copy, the original will be accepted. Because the original discharge is not replaceable in event of loss in the mails, you are advised to mail copies of your documents rather than the originals.

If you have a current war service incurred disability of 10% or more, please fill out the section below marked "DISABILITY PREFERENCE." You are required to file for disability preference on each open examination.

If you are a widow of a veteran, please submit copies of your husband's discharge papers; marriage certificate; and husband's death certificate or other documentary evidence of death.

Mail this form and your discharge papers to: DEPARTMENT OF VETERANS AFFAIRS, P. O. BOX 1559, SACRAMENTO. If you wish your papers returned by certified mail, please enclose the certification fee.

If you wish to make any inquiry concerning your preferential credits, please give the date of your birth.

PLEASE PRINT OR TYPEWRIT

Full Name
Address
Date

4. SIGNATURE: I HEREBY CERTIFY that I am eligible for veterans preference and that the statements on this application are true, and I agree and understand that any misrepresentation of material facts herein may cause forfeiture of all right to any employment in the service of the State of California.

Signature

5. DISABILITY PREFERENCE. If you were disabled as a result of war service, complete items 1 to 9.

Percentage of disability as stated in most recent award letter
Yes or No
Case number used by the U. S. Veterans Administration

List below the title of the Civil Service examination for which you are now claiming disability:

Examination date

List below the location of the U. S. Veterans Administration regional office where your disability claim is now filed:

City
State

6. Full name

7. Date

8. Case number as listed above.

I hereby authorize the U. S. Veterans Administration to release a statement of my service connected disability rating to the California Department of Veterans Affairs for use in Civil Service examination(s) understanding that the Department of Veterans Affairs will keep this information confidential.

SIGNATURE (Write)
TO: CALIFORNIA DEPARTMENT OF VETERANS AFFAIRS, Division of Service and Coordination  
P. O. Box 1559, Sacramento, California

This is to certify that the records of the Veterans Administration disclose that the veteran named on the reverse side has:

- War service incurred disability currently rated 10% or more (by reason of active service from June 27, 1950 through January 31, 1955; World War II service from September 16, 1940 through December 31, 1946; World War I, April 6, 1917 through November 11, 1918; prior wars and expeditions for which U. S. Government awarded a campaign medal.)

Disability static to the extent of at least 10%—Yes ☐ No ☐

- Review examination requested

- War service incurred disability currently rated less than 10%

- Peace time service incurred disability

- Non-service connected disability

- Had award denied

- Had award terminated

- No claim filed in this office

<table>
<thead>
<tr>
<th>VETERANS ADMINISTRATION</th>
<th>Regional Of</th>
</tr>
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<tbody>
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By:

Date:  

Approximate Date:  

NOTES: This form is used to verify the eligibility of a veteran for certain benefits. It must be completed and signed by the veteran, or their representative, and submitted to the appropriate office. The information provided on this form is used to determine eligibility for assistance, and may be shared with other government agencies as necessary.
STATE OF CALIFORNIA
PAY ROLL ROSTER CHANGE
REPORT OF APPOINTMENT

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<th>2. Employee Number</th>
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<td>4. REGULAR</td>
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<td>5. LIMITED</td>
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<td>6. EXEMPT</td>
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<th>9 (c) Other Eligibility</th>
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<td>(a) Department and Organizational Unit</td>
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<td>(b) Attendance Reporting Unit</td>
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<td>(c) Class Title</td>
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<th>13. Rate of Pay</th>
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<th>14. Salary Anniversary</th>
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<th>15. Retirement Member</th>
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<th>16. (a) No. of Withholding or (b) Non-Taxable Exemptions</th>
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<th>17. Payment of Emergency or Short Term Exempt.</th>
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<th>18. (a) Pay For Days Hours</th>
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<th>19. (a) Days Worked Months</th>
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<tr>
<th>20. Certification of the Appointing Power</th>
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21. State Personnel Board Approval
Oath of Allegiance for Persons Employed by the State of California

WHO MUST SIGN OATH—All public employees including permanent, temporary, emergency and exempt employees of any State agency and volunteers in any civilian defense organization accredited by the California Disaster Council and Members of the California National Guard and California Defense and Security Corps. All public employees are declared to be "Civil Defense workers."

WHEN OATH MUST BE SIGNED—Before entering upon the duties of their employment. For intermittent, temporary or emergency employment, an oath or affirmation shall be effective for all successive periods of employment which commence within one calendar year from the date of the oath or affirmation.

WHERE OATHS ARE FILED—All oaths for State employees, State Civil Defense Volunteers, Members of the California National Guard or California Defense and Security Corps shall be filed with the California State Personnel Board within 30 days of the date the oath is executed.

FAILURE TO SIGN OATH—No compensation or reimbursement for expenses incurred shall be paid to any public employee or civil defense worker by any public agency unless such public employee or civil defense worker has taken and subscribed to the oath or affirmation.

PENALTIES (Government Code)

"3108. Every person who, while taking and subscribing to the oath or affirmation required by this chapter, states as true any material matter which he knows to be false, is guilty of perjury, and is punishable by imprisonment in the state prison not less than one nor more than 14 years."

"3109. Every person having taken and subscribed to the oath or affirmation required by this chapter, who while in the employ of, or service with, the State or county, city, city and county, State agency, public district, or civilian defense organization advocates or becomes a member of any party or organization, political or otherwise, that advocates the overthrow of the Government of the United States by force or violence or other unlawful means, is guilty of a felony, and punishable by imprisonment in the state prison not less than one or more than 14 years."

Oath of Allegiance

I do solemnly swear (or affirm) that I will support and defend the Constitution of the United States and the Constitution of the State of California against all enemies, foreign and domestic; that I will bear true faith and allegiance to the Constitution of the United States and the Constitution of the State of California; that I take this obligation freely, without any mental reservation or purpose of evasion; and that I will well and faithfully discharge the duties upon which I am about to enter.

And I do further swear (or affirm) that I do not advocate, nor am I a member of any party or organization, political or otherwise, that advocates the overthrow of the Government of the United States or of the State of California by force or violence or other unlawful means; that within the five years immediately preceding the taking of this oath (or affirmation) I have not been a member of any party or organization, political or otherwise, that advocated the overthrow of the Government of the United States or of the State of California by force or violence or other unlawful means except as follows:

and that during such time as I hold the office of employee of the State of California I will not advocate nor become a member of any party or organization, political or otherwise, that advocates the overthrow of the Government of the United States or of the State of California by force or violence or other unlawful means.

SIGNATURE OF EMPLOYEE

TAKEN AND SUBSCRIBED

BEFORE ME THIS:______ day of______, 19____

SIGNATURE OF AUTHORIZED OFFICIAL

NO FEE MAY BE CHARGED FOR ADMINISTERING THIS OATH

Oaths may be administered by a person having general or special authority by law to administer oaths—or may be administered by the appointing power, or by a person for whom written authorization to witness oaths has been filed with the State Personnel Board by the appointing power.
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<tr>
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<td>ADDRESS</td>
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<td>C. W. Rhodes</td>
<td>1100 South Grand Avenue</td>
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<td>Manley Sahlberg</td>
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<td></td>
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<td>Aldo Crestetto</td>
<td>65th Education Building</td>
<td>5373</td>
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<td>John H. Knight</td>
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<td>Beaches and Parks or</td>
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<td>Underhill 1-8700</td>
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<tr>
<td>Colorado River Board</td>
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<tr>
<td>Harbor Commissioners</td>
<td>Sidney S. Gorman</td>
<td>Ferry Building</td>
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<td>District I</td>
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<td>District III</td>
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<td>Harry Webb</td>
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<tr>
<td>Bridge Department, L.A.</td>
<td>Frank W. Feiler</td>
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*For Sacramento numbers, clear through State Exchange GI 2-4711.