CALIFORNIA ARCHITECTS BOARD

OCCUPATIONAL ANALYSIS OF THE ARCHITECT PROFESSION

STATE OF CALIFORNIA

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DEPARTMENT OF CONSUMER AFFAIRS

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December 2020

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STATE OF CALIFORNIA

dca

DEPARTMENT OF CONSUMER AFFAIRS

OFFICE OF PROFESSIONAL EXAMINATION SERVICES

This occupational analysis report is mandated by California Business and Professions Code (BPC) section 139 and by DCA Licensure Examination Validation Policy OPES 18-02.

EXECUTIVE SUMMARY

The California Architects Board (Board) requested that the Department of Consumer Affairs' Office of Professional Examination Services (OPES) conduct an occupational analysis (OA) of architect practice in California. The purpose of the OA is to define practice for architects in terms of the actual tasks that newly licensed architects must be able to perform safely and competently at the time of licensure. The results of this OA provide a description of practice for the architect profession that can then be used to review the Architect Registration Examination (ARE) developed by the National Council of Architectural Registration Boards (NCARB). In addition, the results of this OA provide the examination outline used to develop the California Supplemental Examination (CSE). The CSE examination outline will be reviewed and, if necessary, updated when NCARB completes their occupational analysis of the ARE.

OPES test specialists began by researching the profession and conducting telephone interviews with licensed architects working in locations throughout California. The purpose of these interviews was to identify the tasks performed by architects and to specify the knowledge required to perform those tasks in a safe and competent manner. Using the information gathered from the research and the interviews, OPES test specialists developed a preliminary list of tasks performed in architect practice and statements representing the knowledge needed to perform those tasks.

In June 2020, OPES convened two workshops to review and refine the preliminary lists of task and knowledge statements derived from the telephone interviews. The workshops comprised licensed architects, or subject matter experts (SMEs), with diverse backgrounds in the profession (i.e., location of practice, years licensed, specialty). These SMEs also identified changes and trends in architect practice, determined demographic questions for the OA questionnaire, and performed a preliminary linkage of the task and knowledge statements to ensure that all tasks had a related knowledge statement and all knowledge statements had a related task. Additional task and knowledge statements were created as needed to complete the scope of the content areas of the description of practice.

After the second workshop, OPES test specialists developed a three-part OA questionnaire to be completed by architects statewide. Development of the OA questionnaire included a pilot study that was conducted using a group of licensed architects. The pilot study participants' feedback was incorporated into the final questionnaire.

In the first part of the OA questionnaire, licensed architects were asked to provide demographic information relating to their work settings and practice. In the second part, architects were asked to rate specific tasks in terms of frequency (i.e., how often the architect performs the task in the architect's current practice) and importance (i.e., how important the task is to effective performance of the architect's current practice). In the third part, architects were asked to rate specific knowledge statements in terms of how important each item of knowledge is to performance of the architect's current practice.

In August 2020, on behalf of the Board, OPES sent emails to all architects with a California email address (a total of 21,590) inviting them to complete the OA questionnaire online. Of the emails sent, 11 were invalid or rejected. Therefore, the final sample decreased to 21,579 architects. The email invitation can be found in Appendix D. A total of 2,216 architects, or approximately 10%, responded by accessing the OA questionnaire online. The final sample size included in the data analysis was 1,568, or approximately 7% of respondents. This response rate reflects two adjustments. First, OPES excluded data from respondents who indicated they were not currently licensed and practicing as architects in California. Second, questionnaires containing a large volume of incomplete and unresponsive data were removed. The demographic composition of the respondent sample is representative of the licensed architect population in California.

OPES test specialists then performed data analyses of the task and knowledge ratings obtained from the OA questionnaire respondents. The task frequency and importance ratings were combined to derive an overall criticality index for each task statement. The mean importance rating was used as the criticality index for each knowledge statement.

Once the data was analyzed, OPES conducted an additional workshop with SMEs in October 2020. The description of practice content outline was discussed first. The SMEs evaluated the criticality indices and determined whether any task or knowledge statements should be eliminated. The SMEs in this group also established the final linkage between tasks and knowledge statements, organized the task and knowledge statements into content areas, and defined those areas. The SMEs then evaluated and confirmed the content area weights of the description of practice.

The description of practice is structured into six content areas weighted by criticality relative to the other content areas. It provides a description of the full scope of practice for architects, and it also identifies the tasks and knowledge critical to safe and effective architect practice in California at the time of licensure. Additionally, this description of practice provides a basis for evaluating the degree to which the content of any examination under consideration measures content critical to architect practice in California.

After the description of practice content areas were finalized, the examination outline used to develop the California Supplemental Examination (CSE) was discussed. The SMEs evaluated the task and knowledge statements from the description of practice and determined which should be included in the CSE outline. The SMEs then organized the selected task and knowledge statements into content areas and assigned weights to the content areas.

The CSE outline includes five content areas weighted by criticality relative to the other content areas. It provides a description of California-specific aspects of architecture practice and is therefore not comprehensive or representative of the full scope of architecture practice. The CSE outline identifies the California-specific tasks and knowledge statements critical to safe and effective architect practice in California at the time of licensure.

At this time, California licensure as an architect is granted by meeting educational and experience requirements and passing the ARE and the CSE.

OVERVIEW OF THE ARCHITECT DESCRIPTION OF PRACTICE

Content Area	Content Area Description
1. Contract Development/Project Planning	This area describes the CA architect's role related to professional responsibilities across various project types, planning requirements, and construction contract arrangements resulting in the creation of the framework for project delivery.
2. Project Management	This area describes the CA architect's role related to budgeting, coordinating, overseeing, and executing the delivery of a project and achieving the project objectives.
3. Schematic Design/Discretionary Approvals	This area describes the CA architect's role in identifying and evaluating site and project opportunities and constraints through developing design concepts that incorporate the stakeholders' needs, as well as integrating regulatory requirements and approvals.
4. Design Development	This area describes the CA architect's role in developing detailed design solutions, evaluating building systems and project costs, preparing documents, and performing quality review in conformance with the project requirements and applicable laws and regulations.
5. Construction Documents/ Permitting	This area describes the CA architect's role in managing a project team, producing coordinated and comprehensive construction documents, processing and addressing regulatory agency comments, and obtaining approvals.
6. Project Bidding and Construction	This area describes the CA architect's role and responsibilities associated with the bidding process and construction administration, from assisting with initial contractor selection to post-construction services.

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CHAPTER 1 | INTRODUCTION

PURPOSE OF THE OCCUPATIONAL ANALYSIS

The California Architects Board (Board) requested that the Department of Consumer Affairs' Office of Professional Examination Services (OPES) conduct an occupational analysis (OA) of architect practice in California. The purpose of the OA is to define practice for architects in terms of the actual tasks that newly licensed architects must be able to perform safely and competently at the time of licensure. The results of this OA provide a description of practice for the architect profession that can then be used to review the Architect Registration Examination (ARE) developed by the National Council of Architectural Registration Boards (NCARB). In addition, the results of this OA provide the content outline used to develop the California Supplemental Examination (CSE). The CSE content outline will be reviewed and if necessary, updated, when NCARB completes an updated OA for the ARE.

CONTENT VALIDATION STRATEGY

OPES used a content validation strategy to ensure that the OA reflected the actual tasks performed by practicing architects. OPES incorporated the technical expertise of California architects throughout the OA process to ensure that the identified task and knowledge statements directly reflect requirements for performance in current practice.

PARTICIPATION OF SUBJECT MATTER EXPERTS

The Board selected California licensed architects to participate as subject matter experts (SMEs) during the phases of the OA. The SMEs were selected by the Board to represent the profession in terms of geographical location, experience, and specialty.

During the development phase of the OA, an initial group of SMEs provided information about the different aspects of current architect practice. In addition, two groups of SMEs provided technical expertise during the two workshops that were convened to evaluate and refine the content of task and knowledge statements before administration of the OA questionnaire. After the administration of the OA questionnaire, OPES convened a fourth group of SMEs for a final workshop to review the results and finalize the description of practice, as well as to develop the examination outline for the CSE.

ADHERENCE TO LEGAL STANDARDS AND GUIDELINES

Licensing, certification, and registration programs in the State of California adhere strictly to federal and state laws and regulations, as well as to professional guidelines and technical standards. For the purpose of occupational analyses, the following laws and guidelines are authoritative:

- California Business and Professions Code § 139.

- 29 Code of Federal Regulations Part 1607 - Uniform Guidelines on Employee Selection Procedures (1978).

- California Fair Employment and Housing Act, Government Code § 12944.

- *Principles for the Validation and Use of Personnel Selection Procedures* (2018), Society for Industrial and Organizational Psychology (SIOP).

- *Standards for Educational and Psychological Testing* (2014), American Educational Research Association, American Psychological Association, and National Council on Measurement in Education.

For a licensure program to meet these standards, it must be solidly based upon the activities required for practice.

DESCRIPTION OF OCCUPATION

California Business and Professions Code (BPC) § 5500.1 describes the occupation of architect as follows:

(a) The practice of architecture within the meaning and intent of this chapter is defined as offering or performing, or being in responsible control of, professional services which require the skills of an architect in the planning of sites, and the design, in whole or in part, of buildings, or groups of buildings and structures.

(b) Architects' professional services may include any or all of the following:
(1) Investigation, evaluation, consultation, and advice.
(2) Planning, schematic and preliminary studies, designs, working drawings, and specifications.
(3) Coordination of the work of technical and special consultants.
(4) Compliance with generally applicable codes and regulations, and assistance in the governmental review process.
(5) Technical assistance in the preparation of bid documents and agreements between clients and contractors.
(6) Contract administration.
(7) Construction observation.

(c) As a condition for licensure, architects shall demonstrate a basic level of competence in the professional services listed in subdivision (b) in examinations administered under this chapter.

CHAPTER 2 | OCCUPATIONAL ANALYSIS QUESTIONNAIRE

SUBJECT MATTER EXPERT INTERVIEWS

The Board provided OPES with a list of architects to contact for telephone interviews. During the semi-structured interviews, 10 SMEs were asked to identify the activities they perform that are specific to the architect profession. The SMEs outlined major content areas of their practice and confirmed the tasks performed in each content area. The SMEs were also asked to identify the knowledge necessary to perform each task safely and competently.

TASK AND KNOWLEDGE STATEMENTS

To develop task and knowledge statements, OPES test specialists integrated the information gathered from literature reviews of profession-related sources (e.g., previous OA reports, laws and regulations, articles, industry publications) and from the interviews with SMEs.

In June 2020, OPES test specialists facilitated a workshop with eight SMEs from diverse backgrounds (i.e., years licensed, specialty, and practice location) to evaluate the task statements for technical accuracy and comprehensiveness.

In June 2020, OPES test specialists facilitated a second workshop with another eight SMEs to evaluate the knowledge statements for technical accuracy and comprehensiveness. The SMEs also assigned each task statement and each knowledge statement to a description of practice content area and verified that the content areas were independent and nonoverlapping. In addition, the SMEs performed a preliminary linkage of the task and knowledge statements to ensure that every task had a related knowledge statement and every knowledge statement had a related task. The SMEs also verified proposed demographic questions for the OA questionnaire, including questions regarding scope of practice and practice setting.

After SMEs verified the lists of task and knowledge statements and the demographic questions, OPES used this information to develop an online OA questionnaire.

QUESTIONNAIRE DEVELOPMENT

OPES test specialists developed an online OA questionnaire designed to solicit architects' ratings of the task and knowledge statements. The surveyed architects were instructed to rate each task in terms of how often they perform the task in their current practice (Frequency) and in terms of how important the task is to effective performance of their current practice (Importance). They were also instructed to rate each knowledge statement in terms of how important the specific knowledge is to performance of their current practice (Importance). The OA questionnaire also included a demographic section for purposes of developing an accurate profile of the respondents. The OA questionnaire can be found in Appendix E**.**

PILOT STUDY

Before administering the final questionnaire, OPES conducted a pilot study of the online questionnaire. The draft questionnaire was reviewed by the Board and then sent to the SMEs who had participated in the task and knowledge statement development workshops. OPES received feedback to the pilot study from 12 respondents. The respondents reviewed the online questionnaire, provided the estimated time for completion, and evaluated the online navigation and ease of use of the questionnaire. OPES used this feedback to develop the final questionnaire.

CHAPTER 3 | RESPONSE RATE AND DEMOGRAPHICS

SAMPLING STRATEGY AND RESPONSE RATE

In August 2020, on behalf of the Board, OPES emailed all architects with a California email address (a total of 21,590) inviting them to complete the OA questionnaire online. Of the emails sent, 11 were invalid or rejected. Therefore, the final sample decreased to 21,579 architects. The email invitation can be found in Appendix D.

Of the 21,579 architects who received the invitation, 2,216 licensed architects (10.3%) accessed the online questionnaire. The final sample size included in the data analysis was 1,568, or 7.3% of the population that received the invitation to complete the questionnaire. This response rate reflects two adjustments. First, OPES excluded data from respondents who indicated they were not currently licensed and practicing as architects in California. Second, questionnaires containing a large volume of missing or unresponsive data were also excluded. Despite the low response rate, the respondent sample appears representative of the population of California architects based on the sample's demographic composition.

DEMOGRAPHIC SUMMARY

As shown in Table 1 and Figure 1, 23.6% of the respondents included in the analysis reported having been licensed and practicing in California for less than 5 years, 12.8% for 6 to 10 years, 18.4% for 11 to 20 years, and 45% for more than 20 years.

As shown in Table 2 and Figure 2, 0.4% of respondents reported working for less than 1 year in architecture before obtaining their license, 13.5% reported working for 1 to 3 years, 33% for 4 to 6 years, 25.5% for 7 to 10 years, 15.4% for 11 to 15 years, and 12.1% for more than 15 years.

When asked to indicate their primary work setting, 74.9% of the respondents reported architecture firm, 10.8% multidisciplinary firm, and 4.2% governmental agency; 4.7% reported they work in another type of setting (see Table 3 and Figure 3). A breakdown of respondents' primary area of practice is provided in Table 4 and Figure 4.

When asked how many other licensed architects work in their organization, 33.6% of the respondents reported no other licensed architects, 29.9% reported more than 10 other licensed architects, 28.3% reported 1 to 5 other licensed architects, and 7.8% reported 6 to 10 other licensed architects (see Table 5 and Figure 5).

The majority of respondents, 51.5%, reported a bachelor's degree as the highest level of education completed and 40.7% reported earning a master's degree. Over 91% received their certificate or degree in architecture (see Tables 6-7 and Figures 6-7).

More detailed demographic information from respondents including number of hours worked per week, additional licenses held, methods used for construction documents, primary work location, and respondents' region can be found in Tables 1–12 and Figures 1–10.

TABLE 1 – NUMBER OF YEARS LICENSED AND PRACTICING AS AN ARCHITECT

YEARS	NUMBER (N)	PERCENT
Less than 1 year	68	4.3
1 to 5 years	303	19.3
6 to 10 years	200	12.8
11 to 20 years	289	18.4
More than 20 years	706	45.0
Missing	2	0.1
Total	1,568	100*

**NOTE: Percentages may not add to 100 due to rounding.*

FIGURE 1 – NUMBER OF YEARS LICENSED AND PRACTICING AS AN ARCHITECT

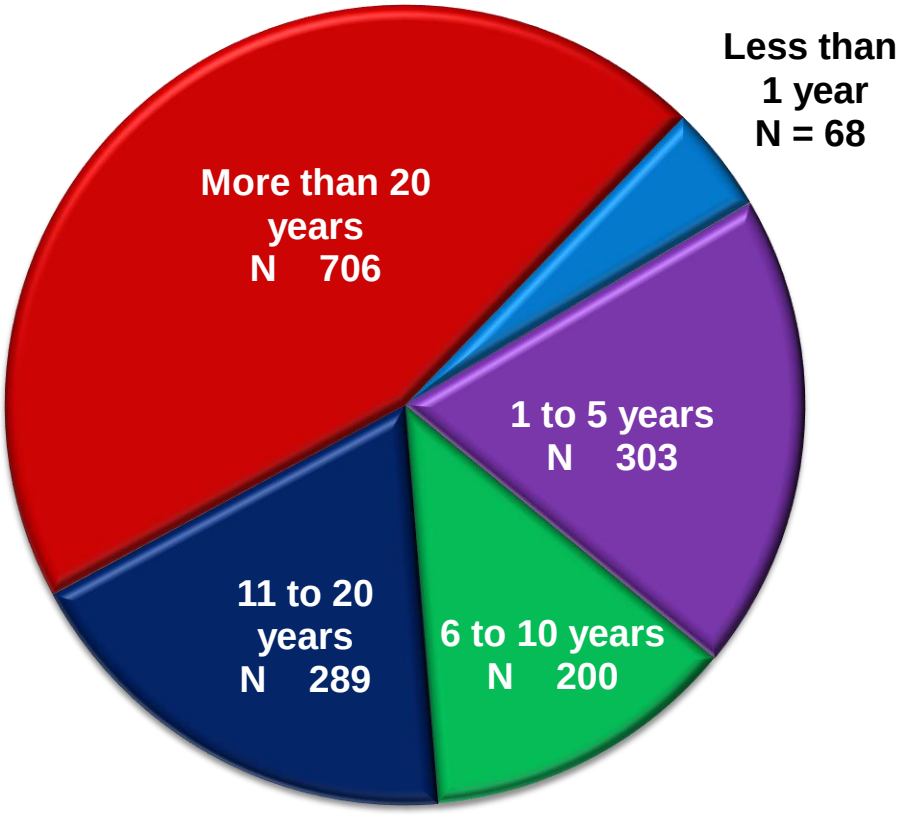

TABLE 2 – NUMBER OF YEARS WORKED BEFORE OBTAINING LICENSURE

YEARS	NUMBER (N)	PERCENT
Less than 1 year	7	0.4
1 to 3 years	212	13.5
4 to 6 years	517	33.0
7 to 10 years	400	25.5
11 to 15 years	241	15.4
More than 15 years	189	12.1
Missing	2	0.1
Total	1,568	100

FIGURE 2 – NUMBER OF YEARS WORKED BEFORE OBTAINING LICENSURE

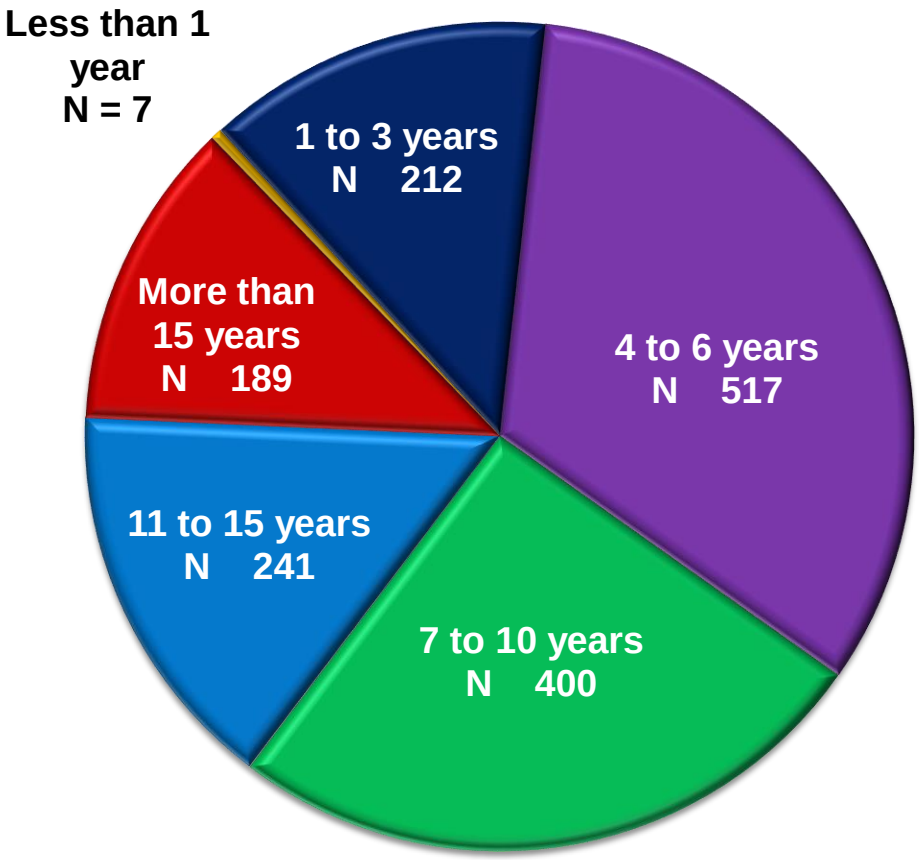

TABLE 3 – PRIMARY WORK SETTING

WORK SETTING	NUMBER (N)	PERCENT
Architecture firm	1,174	74.9
Multidisciplinary firm	169	10.8
Governmental agency	66	4.2
Institution	30	1.9
Development	25	1.6
Construction firm	16	1.0
Non-design company	12	0.8
Other	73	4.7
Missing	3	0.2
Total	1,568	100*

**NOTE: Percentages may not add to 100 due to rounding.*

FIGURE 3 – PRIMARY WORK SETTING

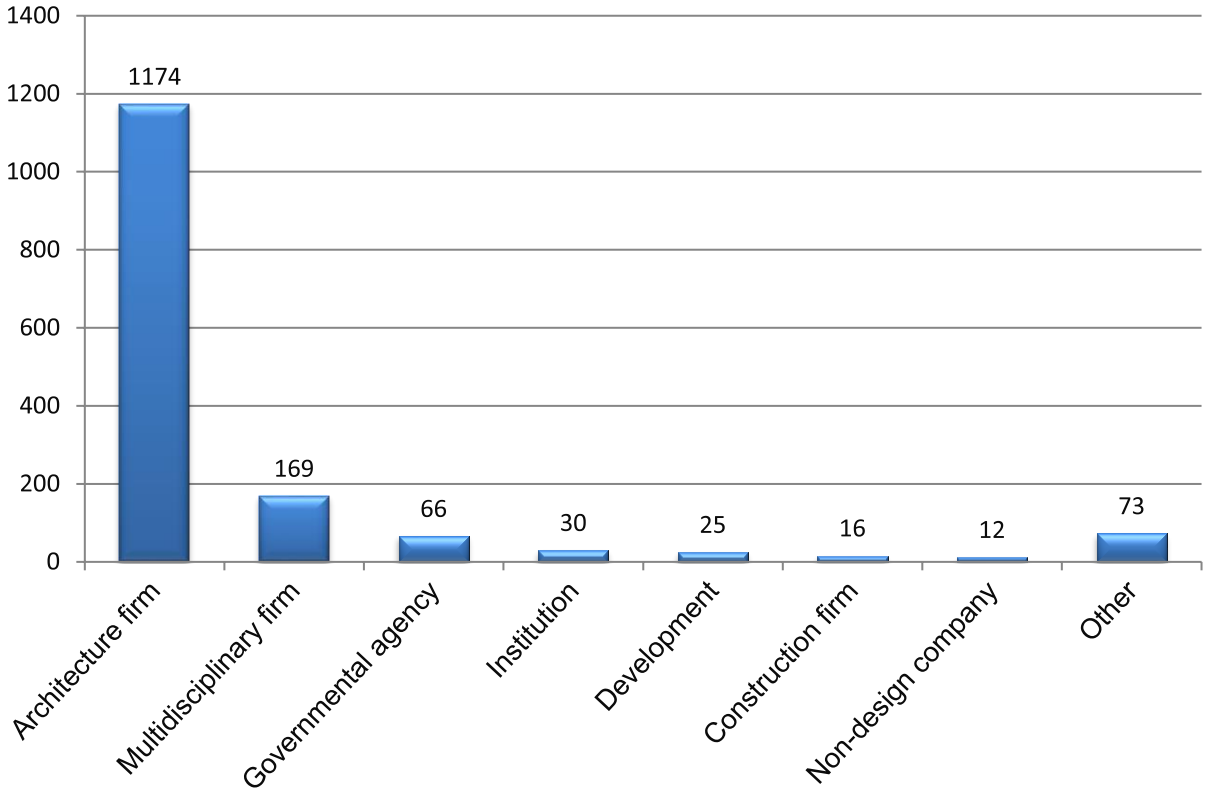

TABLE 4 – PRIMARY AREA OF PRACTICE

AREA OF PRACTICE	NUMBER (N)	PERCENT
Residential	543	34.6
Commercial	297	18.9
Education	180	11.5
Health care	128	8.2
Hospitality	63	4.0
Institutional	59	3.8
Industrial	44	2.8
Other	247	15.8
Missing	7	0.4
Total	1,568	100

FIGURE 4 – PRIMARY AREA OF PRACTICE

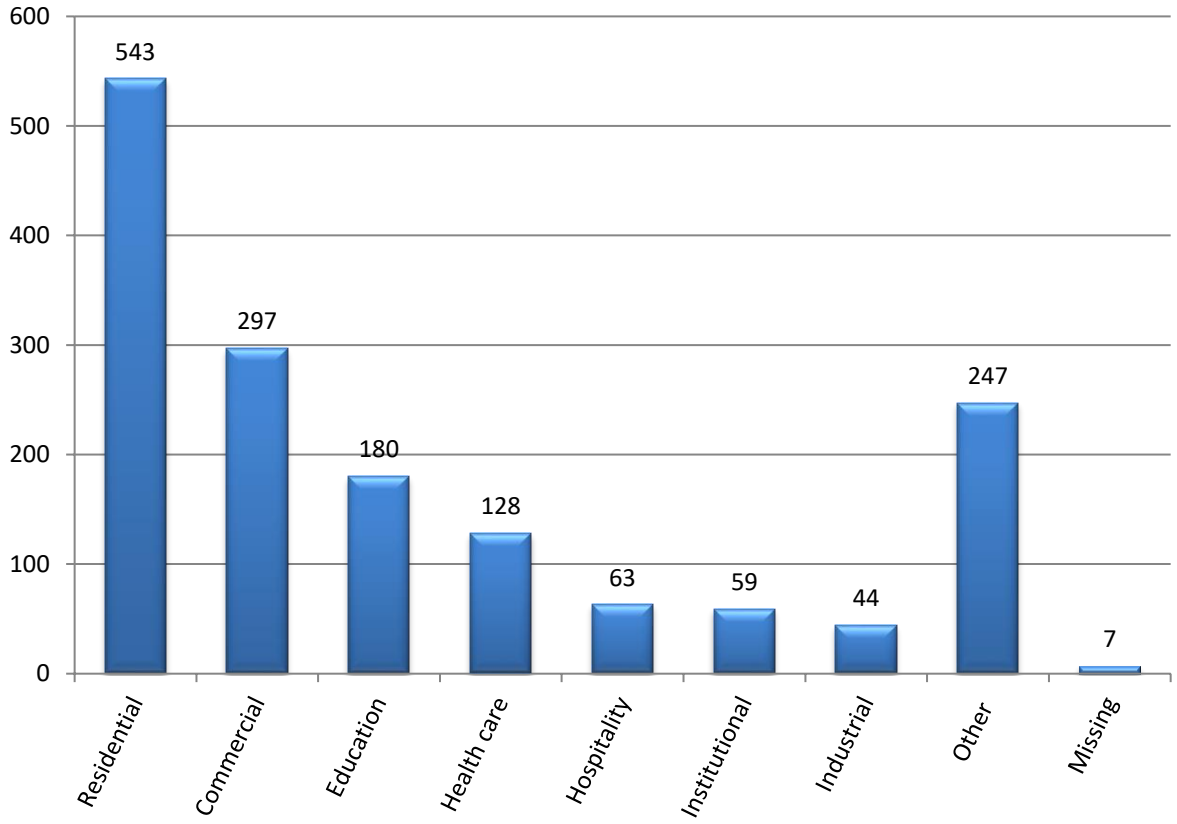

TABLE 5 – OTHER LICENSED ARCHITECTS IN ORGANIZATION

NUMBER OF ARCHITECTS	NUMBER (N)	PERCENT
None	527	33.6
1 to 5	443	28.3
6 to 10	122	7.8
More than 10	469	29.9
Missing	7	0.4
Total	1,568	100

FIGURE 5 – OTHER LICENSED ARCHITECTS IN ORGANIZATION

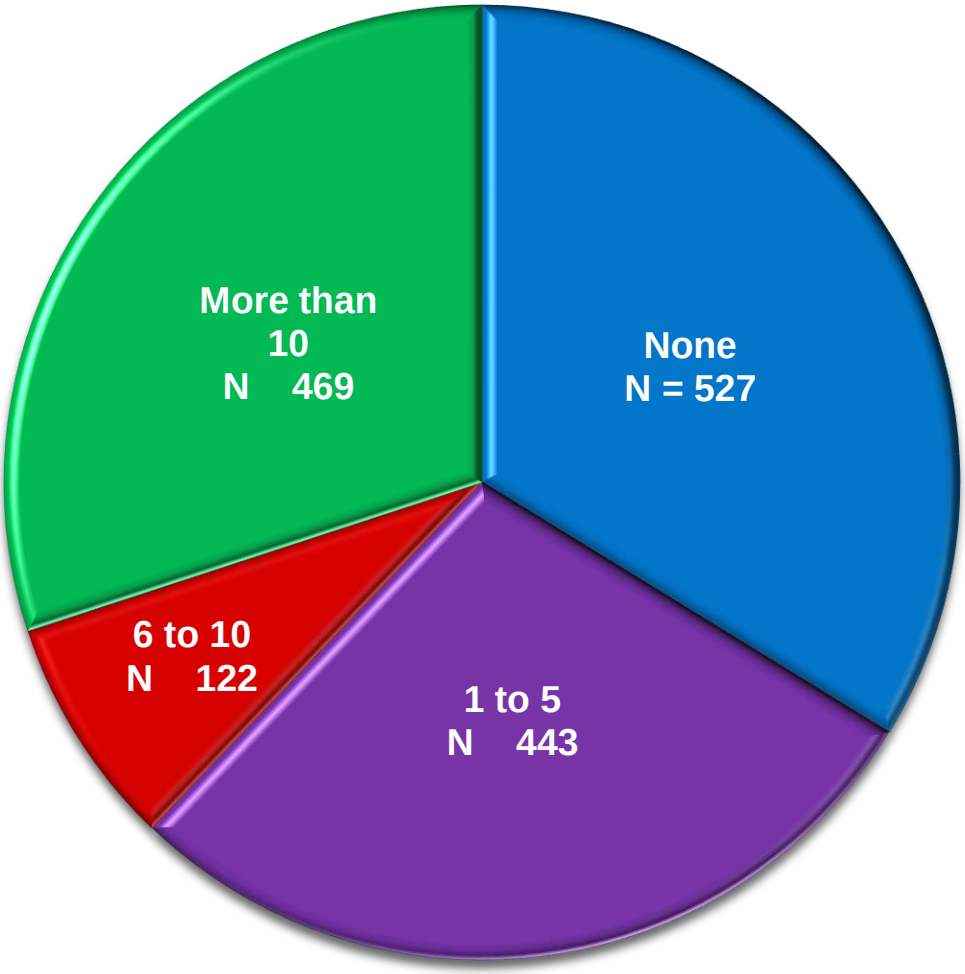

TABLE 6 – HIGHEST LEVEL OF EDUCATION COMPLETED

LEVEL OF EDUCATION	NUMBER (N)	PERCENT
High school diploma or GED	40	2.6
Technical certificate	14	0.9
Associate degree	49	3.1
Bachelor's degree	808	51.5
Master's degree	638	40.7
Doctorate	13	0.8
Missing	6	0.4
Total	1,568	100

FIGURE 6 – HIGHEST LEVEL OF EDUCATION COMPLETED

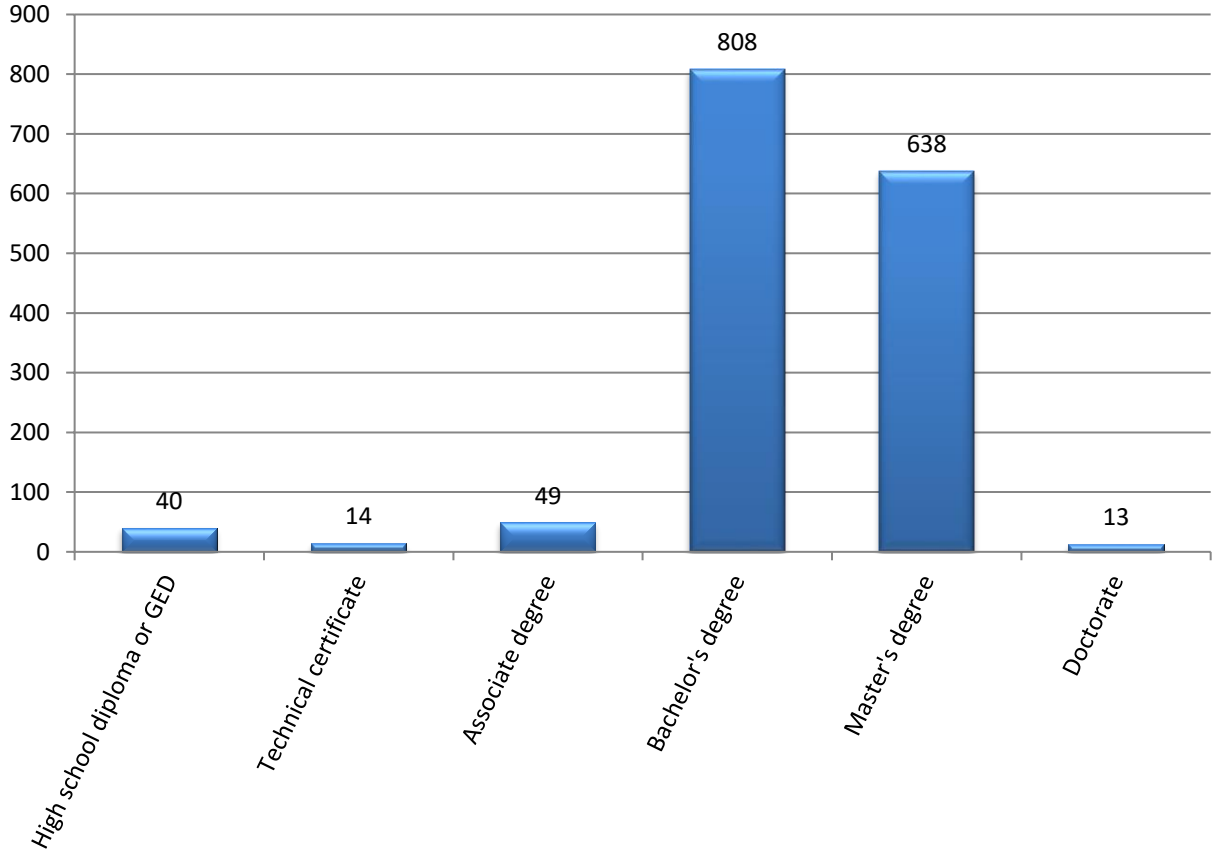

TABLE 7 – FIELD OF STUDY

FIELD	NUMBER (N)	PERCENT
Architecture	1,433	91.4
Interior Design	9	0.6
Construction Management	7	0.4
Engineering	7	0.4
Landscape Architecture	4	0.3
Other	74	4.7
None	31	2.0
Missing	3	0.2
Total	1,568	100

**NOTE: Percentages may not add to 100 due to rounding.*

FIGURE 7 – FIELD OF STUDY

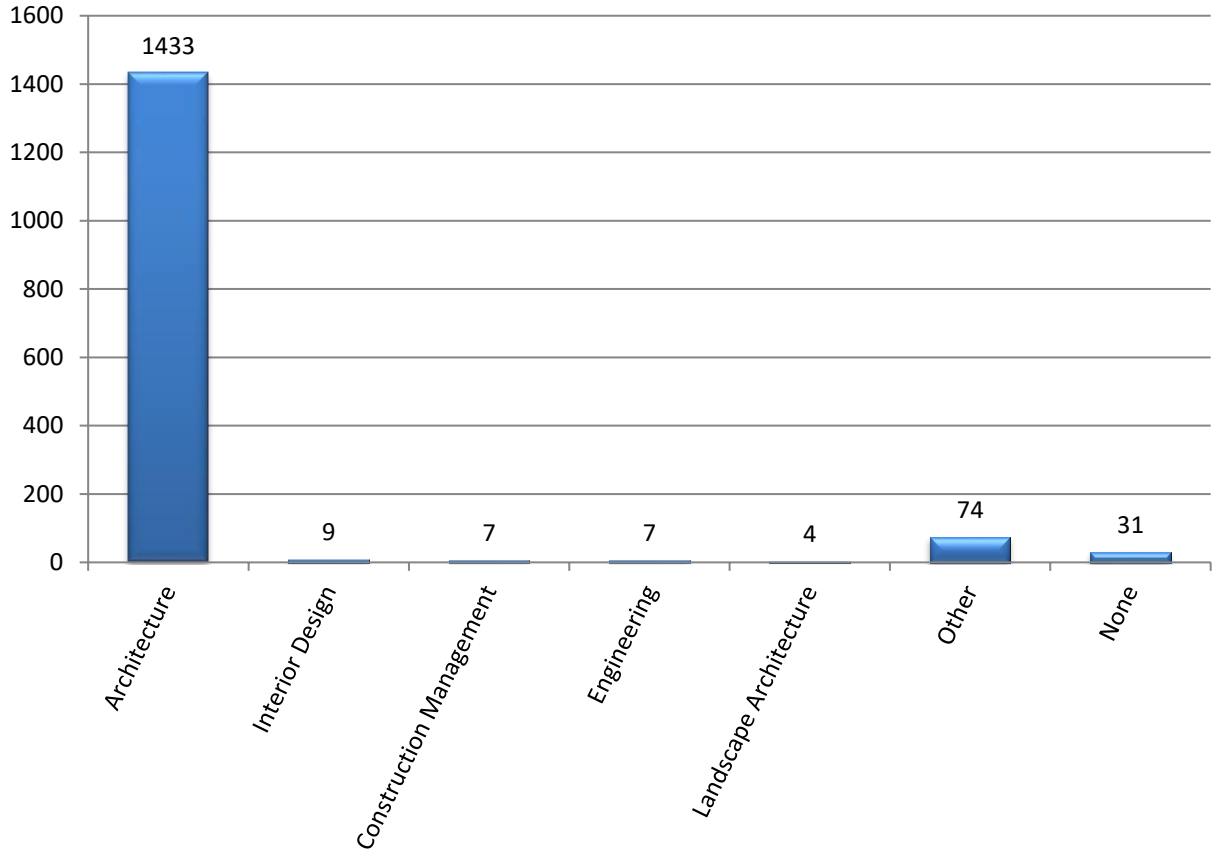

TABLE 8 – NUMBER OF HOURS WORKED PER WEEK

HOURS	NUMBER (N)	PERCENT
Fewer than 10 hours	112	7.1
11 to 20	116	7.4
21 to 39	249	15.9
More than 40 hours	1,082	69.0
Missing	9	0.6
Total	1,568	100

FIGURE 8 – NUMBER OF HOURS WORKED PER WEEK

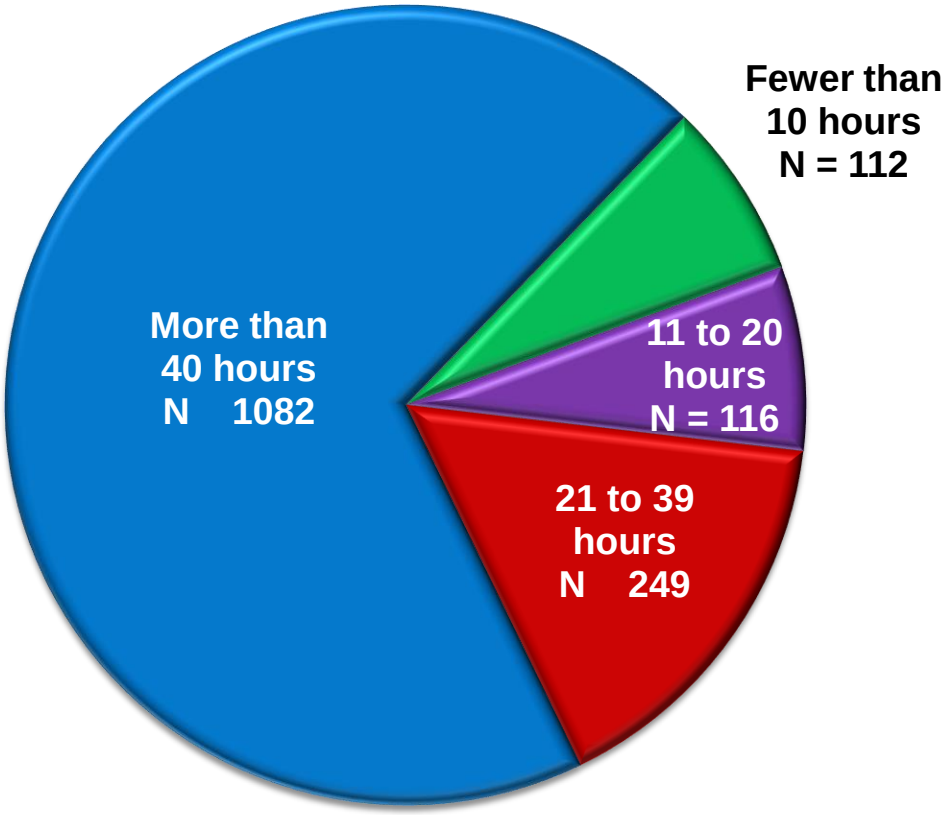

TABLE 9 – ADDITIONAL LICENSES HELD

TYPE OF LICENSE	NUMBER (N)	PERCENT
None	1,382	88.1
Contractor	78	5.0
Engineer	8	0.5
Landscape Architect	2	0.1
Other	53	3.4
Missing	45	2.6

**NOTE: Respondents were asked to select all that apply. Percentages indicate the proportion in the sample of respondents.*

FIGURE 9 – ADDITIONAL LICENSES HELD

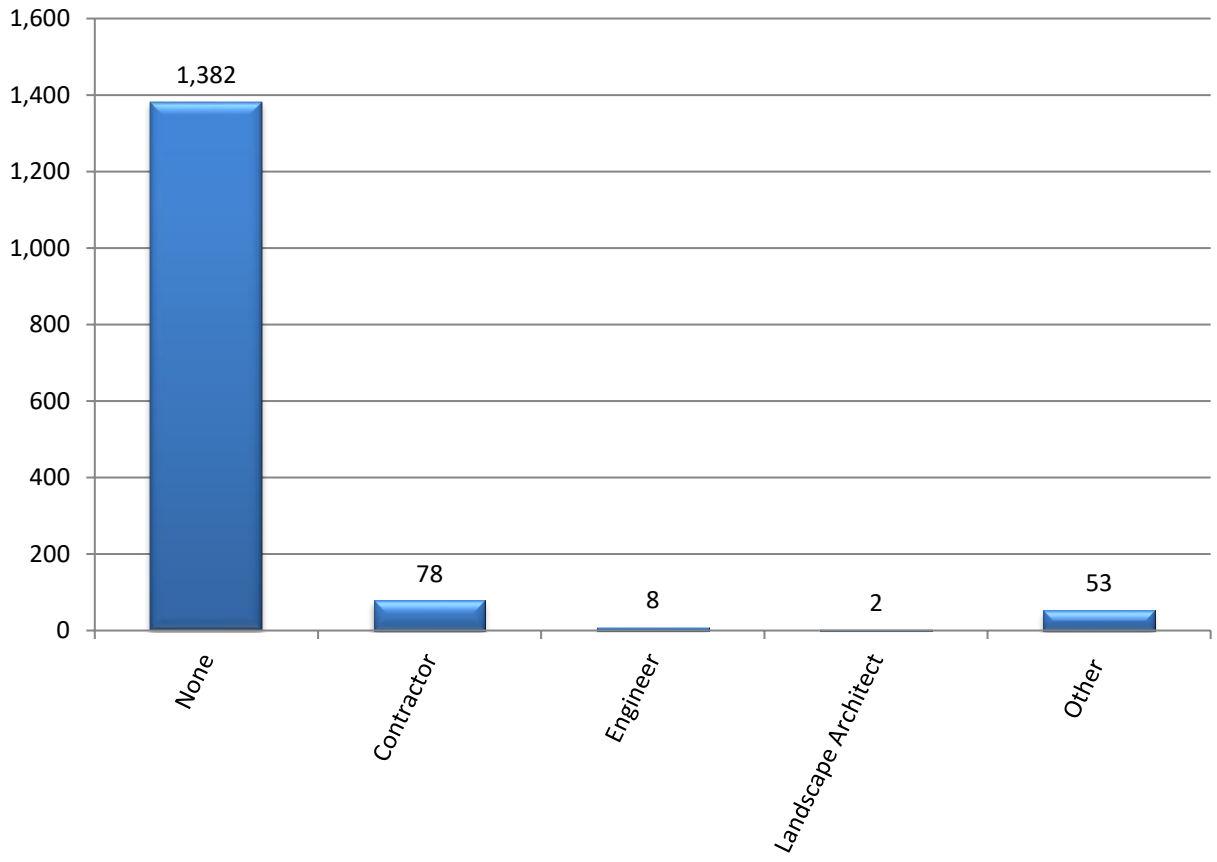

TABLE 10 – CONSTRUCTION DOCUMENTS METHOD

METHOD	NUMBER (N)	PERCENT
CAD	1,052	67.1
BIM	891	56.8
Hand Drafting/Sketching	596	38.0
Modeling	349	22.3
Other	65	4.1
Missing	45	2.6

**NOTE: Respondents were asked to select all that apply. Percentages indicate the proportion in the sample of respondents.*

FIGURE 10 – CONSTRUCTION DOCUMENTS METHOD

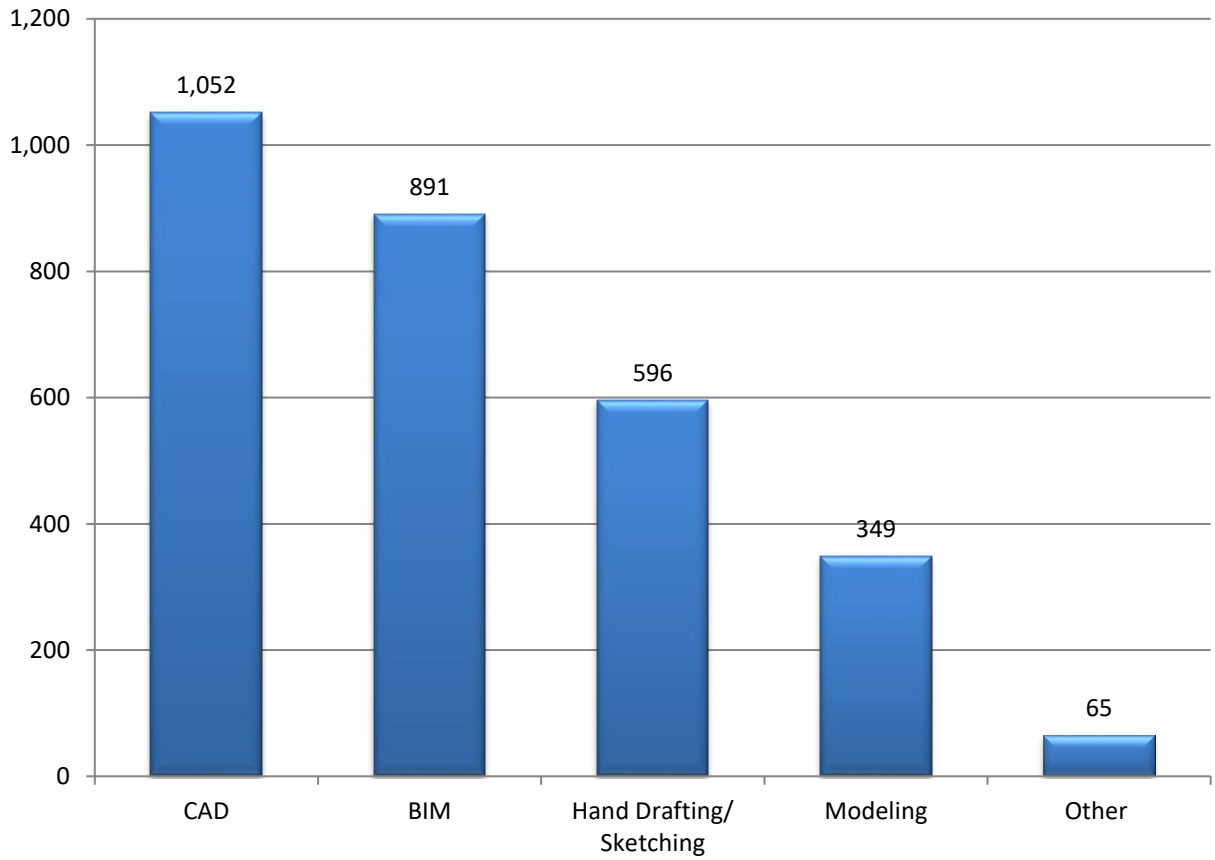

TABLE 11 – PRIMARY WORK LOCATION

LOCATION	NUMBER (N)	PERCENT
Urban	1,428	91.1
Rural	134	8.5
Missing	6	0.4
Total	1,568	100

TABLE 12 – RESPONDENTS BY REGION

REGION NAME	NUMBER (N)	PERCENT
Los Angeles County and Vicinity	528	33.7
North Coast	46	2.9
Riverside and Vicinity	58	3.7
Sacramento Valley	109	7.0
San Diego County and Vicinity	138	8.8
San Francisco Bay Area	527	33.6
San Joaquin Valley	52	3.3
Shasta-Cascade	5	0.3
Sierra Mountain Valley	26	1.7
South Coast and Central Coast	71	4.5
Missing	8	0.5
Total	1,568	100.0

Appendix A shows a more detailed breakdown of the frequencies by region.

CHAPTER 4 | DATA ANALYSIS AND RESULTS

RELIABILITY OF RATINGS

OPES evaluated the task and knowledge ratings obtained from responses to the questionnaire with a standard index of reliability, coefficient alpha (α), which ranges from 0 to 1. Coefficient alpha is an estimate of the internal consistency of the respondents' ratings of the task and knowledge statements. A higher coefficient value indicates more consistency between respondent ratings. Coefficients were calculated for all respondent ratings.

Table 13 displays the reliability coefficients for the task statement rating scales in each content area. The overall ratings of task frequency and task importance across content areas were highly reliable (frequency α = .966; importance α = .969). Table 14 displays the reliability coefficients for the knowledge statement rating scale in each content area. The overall ratings of knowledge importance across content areas were highly reliable (α = .981). These results indicate that the responding architects rated the task and knowledge statements consistently throughout the questionnaire.

TABLE 13 – TASK SCALE RELIABILITY

CONTENT AREA	NUMBER OF TASKS	α FREQUENCY	α IMPORTANCE
1. Contract Development/Project Planning	6	.721	.747
2. Project Management	9	.877	.886
3. Schematic Design/Discretionary Approvals	8	.899	.903
4. Design Development	6	.860	.857
5. Construction Documents/Permitting	5	.890	.888
6. Project Bidding and Construction	16	.945	.943
Total	50	.966	.969

TABLE 14 – KNOWLEDGE SCALE RELIABILITY

CONTENT AREA	NUMBER OF KNOWLEDGE STATEMENTS	α IMPORTANCE
1. Contract Development/Project Planning	9	.868
2. Project Management	13	.936
3. Schematic Design/Discretionary Approvals	21	.937
4. Design Development	6	.872
5. Construction Documents/Permitting	7	.891
6. Project Bidding and Construction	23	.959
Total	79	.981

TASK CRITICALITY INDICES

OPES convened a workshop of eight SMEs in October 2020. The purpose of this workshop was to identify the essential tasks and knowledge required for safe and competent architect practice at the time of licensure. The SMEs reviewed the mean frequency, mean importance, and criticality index for each task. They also reviewed the mean importance ratings for each knowledge statement.

To calculate the criticality indices of the task statements, OPES test specialists used the following formula. For each respondent, OPES first multiplied the frequency rating (Fi) and the importance rating (Ii) for each task statement. Next, OPES averaged the multiplication products across respondents as shown below.

Task criticality index = mean [(Fi) X (Ii)]

The task statements were sorted by descending order of their criticality index and by content area. The task statements, their mean frequency and importance ratings, and their associated criticality indices are presented in Appendix B.

The SMEs who participated in the October 2020 workshop evaluated the task criticality indices derived from the questionnaire results. OPES test specialists instructed the SMEs to identify a cutoff value to determine if any of the tasks did not have a high enough criticality index to be retained. Based on their review, the SMEs determined that all task statements should remain in the description of practice outline based on the criticality index value; however, 20 task statements (T5, T8, T9, T10, T12, T13, T14, T15, T17, T19, T29, T30, T33, T36, T38, T39, T42, T46, T47, and T48) were excluded from the CSE outline because the SMEs determined they were not California-specific. These task statements are identified in Appendix B.

KNOWLEDGE IMPORTANCE RATINGS

To determine the importance of each knowledge statement, the mean importance rating for each knowledge statement was calculated. The knowledge statements and their mean importance ratings, sorted by descending order of mean importance and grouped by content area, are presented in Appendix C.

The SMEs who participated in the October 2020 workshop that evaluated the task criticality indices also reviewed the knowledge statement mean importance ratings. Based on their review, the SMEs determined that all knowledge statements should remain in the description of practice; however, 21 knowledge statements (K2, K11, K12, K16, K19, K20, K21, K22, K23, K26, K41, K48, K50, K58, K61, K62, K63, K64, K65, K69, and K75) were excluded from the CSE outline because the SMEs determined they were not California-specific. The eliminated knowledge statements are identified in Appendix C.

CHAPTER 5 | DESCRIPTION OF PRACTICE

TASK-KNOWLEDGE LINKAGE

The SMEs who participated in the October 2020 workshop reviewed the preliminary assignments of the task and knowledge statements to content areas from the June 2020 workshops. The SMEs established the final linkage of specific knowledge statements to task statements. The SMEs reviewed the content areas and wrote descriptions for each content area.

CONTENT AREAS AND WEIGHTS

The SMEs in the October 2020 workshop were also asked to finalize the weights for each content area of the architect description of practice. OPES test specialists presented the SMEs with preliminary weights of the content areas that were calculated by dividing the sum of the criticality indices for the tasks in each content area by the overall sum of the criticality indices for all tasks, as shown below.

$$\frac{\textit{Sum of Criticality Indices for Tasks in Content Area}}{\textit{Sum of Criticality Indices for All Tasks}} = \textit{Percent Weight of Content Area}$$

The SMEs evaluated the preliminary weights by reviewing the following elements for each content area: the group of tasks and knowledge, the linkage established between the tasks and knowledge, and the relative importance of the tasks to architect practice in California. The SMEs adjusted the preliminary weights based on what they perceived as the relative importance of the tasks' content to architect practice in California. A summary of the preliminary and final content area weights for the architect description of practice is presented in Table 15.

TABLE 15 – DESCRIPTION OF PRACTICE CONTENT AREA WEIGHTS

CONTENT AREA	Preliminary Weights	Final Weights
1. Contract Development/Project Planning	12%	15%
2. Project Management	18%	15%
3. Schematic Design/Discretionary Approvals	17%	10%
4. Design Development	13%	15%
5. Construction Documents/Permitting	11%	22%
6. Project Bidding and Construction	27%	23%
Total	100%*	100%

**NOTE: Percentages of preliminary weights do not add to 100 due to rounding.*

The description of practice outline for the architect profession is presented in Table 16.

TABLE 16 – DESCRIPTION OF PRACTICE: ARCHITECT

1. Contract Development/Project Planning (15%) - This area describes the CA architect's role related to professional responsibilities across various project types, planning requirements, and construction contract arrangements resulting in the creation of the framework for project delivery.

Task Statement	*Associated Knowledge Statements*
T1. Advertise and solicit services in compliance with professional and legal practice requirements.	K1. Knowledge of Architects Practice Act and CA Code of Regulations related to architect business and professional requirements. K2. Knowledge of different project delivery methods. K4. Knowledge of architect and project team contractual roles and responsibilities. K8. Knowledge of different types of consultants and services provided, and how they relate to meeting project requirements.
T2. Assess project budget, funding sources, schedule, constraints, and contractual risks.	K2. Knowledge of different project delivery methods. K5. Knowledge of methods for evaluating project requirements, constraints, resources and contractual risks. K9. Knowledge of types of project funding sources, their impact on project scopes, and additional requirements.
T3. Develop owner-architect contracts with clients by collaborating on contract language in compliance with professional and legal practice requirements.	K1. Knowledge of Architects Practice Act and CA Code of Regulations related to architect business and professional requirements. K2. Knowledge of different project delivery methods. K4. Knowledge of architect and project team contractual roles and responsibilities. K8. Knowledge of different types of consultants and services provided, and how they relate to meeting project requirements. K9. Knowledge of types of project funding sources, their impact on project scopes, and additional requirements.
T4. Identify local, state, and federal regulatory jurisdictions impacting projects.	K3. Knowledge of various agency impacts to project scopes and schedules. K7. Knowledge of methods for determining regulatory agencies having jurisdiction over projects and their specific requirements.

1. Contract Development/Project Planning (15%) - This area describes the CA architect's role related to professional responsibilities across various project types, planning requirements, and construction contract arrangements resulting in the creation of the framework for project delivery.

Task Statement	*Associated Knowledge Statements*
T5. Establish project team member roles and responsibilities in consultation with clients.	K4. Knowledge of architect and project team contractual roles and responsibilities. K8. Knowledge of different types of consultants and services provided, and how they relate to meeting project requirements.
T6. Contract with consultants (e.g., systems, engineering) to complete scope of projects.	K6. Knowledge of types of contracts and their application to scope of work and project service requirements. K8. Knowledge of different types of consultants and services provided, and how they relate to meeting project requirements.

2. Project Management (15%) - This area describes the CA architect's role related to budgeting, coordinating, overseeing, and executing the delivery of a project and achieving the project objectives.

Task Statement	*Associated Knowledge Statements*
T7. Implement strategies for managing project and contractual risk to limit architect and client liability.	K10. Knowledge of strategies for managing project and contractual risk. K11. Knowledge of methods and techniques for communicating with clients, project teams, and external parties. K12. Knowledge of methods for documenting communication and using communication applications. K13. Knowledge of architect and project team roles and responsibilities in all phases of projects. K15. Knowledge of standards and procedures for documenting approvals and submitting contractual milestones. K16. Knowledge of principles and techniques of project management and coordination. K17. Knowledge of conflict resolution principles and techniques. K19. Knowledge of principles of QA/QC in all phases of projects.
T8. Implement strategies for managing and documenting project communication.	K11. Knowledge of methods and techniques for communicating with clients, project teams, and external parties. K12. Knowledge of methods for documenting communication and using communication applications. K16. Knowledge of principles and techniques of project management and coordination. K17. Knowledge of conflict resolution principles and techniques. K19. Knowledge of principles of QA/QC in all phases of projects.
T9. Establish project standards and protocols to be used by the project team.	K16. Knowledge of principles and techniques of project management and coordination. K19. Knowledge of principles of QA/QC in all phases of projects.
T10. Implement strategies for the QA/QC process.	K10. Knowledge of strategies for managing project and contractual risk. K15. Knowledge of standards and procedures for documenting approvals and submitting contractual milestones. K19. Knowledge of principles of QA/QC in all phases of projects. K22. Knowledge of methods and procedures for allocating resources and managing in-house and consultant costs throughout all phases of architectural services.

2. Project Management (15%) - This area describes the CA architect's role related to budgeting, coordinating, overseeing, and executing the delivery of a project and achieving the project objectives.

Task Statement	*Associated Knowledge Statements*
T11. Submit contractual milestone deliverables to clients for approval to demonstrate project phase completions according to schedules.	K13. Knowledge of architect and project team roles and responsibilities in all phases of projects. K15. Knowledge of standards and procedures for documenting approvals and submitting contractual milestones. K16. Knowledge of principles and techniques of project management and coordination. K18. Knowledge of methods for project scheduling in all phases of projects. K22. Knowledge of methods and procedures for allocating resources and managing in-house and consultant costs throughout all phases of architectural services.
T12. Conduct kick-off, critical, and periodic meetings with project team to coordinate progress.	K12. Knowledge of methods for documenting communication and using communication applications. K13. Knowledge of architect and project team roles and responsibilities in all phases of projects. K16. Knowledge of principles and techniques of project management and coordination.

2. Project Management (15%) - This area describes the CA architect's role related to budgeting, coordinating, overseeing, and executing the delivery of a project and achieving the project objectives.

Task Statement	*Associated Knowledge Statements*
T13. Review and update construction cost estimates in accordance with contracts.	K20. Knowledge of procedures for preparing and monitoring project budgets including hard and soft costs. K22. Knowledge of methods and procedures for allocating resources and managing in-house and consultant costs throughout all phases of architectural services.
T14. Manage project coordination, design team fees, deliverables, schedules, and contract changes to conform to contracts requirements.	K11. Knowledge of methods and techniques for communicating with clients, project teams, and external parties. K13. Knowledge of architect and project team roles and responsibilities in all phases of projects. K16. Knowledge of principles and techniques of project management and coordination. K19. Knowledge of principles of QA/QC in all phases of projects. K20. Knowledge of procedures for preparing and monitoring project budgets including hard and soft costs. K21. Knowledge of procedures for changes to owner/architect contract agreements (e.g., add/deductive services, terminations). K22. Knowledge of methods and procedures for allocating resources and managing in-house and consultant costs throughout all phases of architectural services.
T15. Manage distribution and review of contract documents.	K11. Knowledge of methods and techniques for communicating with clients, project teams, and external parties. K13. Knowledge of architect and project team roles and responsibilities in all phases of projects. K14. Knowledge of methods for coordinating with owner-contracted consultants. K19. Knowledge of principles of QA/QC in all phases of projects.

3. Schematic Design/Discretionary Approvals (10%) - This area describes the CA architect's role in identifying and evaluating site and project opportunities and constraints through developing design concepts that incorporate the stakeholders' needs, as well as integrating regulatory requirements and approvals.

Task Statement	*Associated Knowledge Statements*
T16. Conduct site feasibility studies to clarify and address project requirements.	K23. Knowledge of methods, techniques, and procedures for conducting and evaluating site feasibility studies. K27. Knowledge of procedures for obtaining data about existing conditions and determining project impacts. K28. Knowledge of environmental conditions regulated in California and the impacts/mitigation measures related to design and construction. K31. Knowledge of methods and procedures for complying with California Environmental Quality Act (CEQA) as it relates to design and construction. K32. Knowledge of methods and procedures for complying with California Coastal Act as it relates to design and construction. K37. Knowledge of methods and procedures for complying with California water quality regulations related to design and construction. K39. Knowledge of methods and procedures for complying with Americans with Disabilities Act (ADA) guidelines related to access compliance.
T17. Develop programs with clients to determine design concepts and direction in accordance with project objectives.	K24. Knowledge of methods for developing and evaluating design programs to determine code compliance, feasibility, and conformance to project requirements. K25. Knowledge of methods for developing design solutions with involvement of clients, users, consultants, and stakeholders. K26. Knowledge of methods, procedures, and tools for developing schematic designs and deliverables. K27. Knowledge of procedures for obtaining data about existing conditions and determining project impacts. K39. Knowledge of methods and procedures for complying with Americans with Disabilities Act (ADA) guidelines related to access compliance. K40. Knowledge of methods and procedures for complying with California Accessibility regulations related to access compliance.

3. Schematic Design/Discretionary Approvals (10%) - This area describes the CA architect's role in identifying and evaluating site and project opportunities and constraints through developing design concepts that incorporate the stakeholders' needs, as well as integrating regulatory requirements and approvals.

Task Statement	*Associated Knowledge Statements*
T18. Develop schematic designs based on program requirements and local, state, and federal regulatory jurisdictions.	K24. Knowledge of methods for developing and evaluating design programs to determine code compliance, feasibility, and conformance to project requirements. K25. Knowledge of methods for developing design solutions with involvement of clients, users, consultants, and stakeholders. K26. Knowledge of methods, procedures, and tools for developing schematic designs and deliverables. K27. Knowledge of procedures for obtaining data about existing conditions and determining project impacts. K28. Knowledge of environmental conditions regulated in California and the impacts/mitigation measures related to design and construction. K29. Knowledge of processes and procedures for obtaining discretionary approvals. K30. Knowledge of procedures for complying with local codes and ordinances related to design and construction. K31. Knowledge of methods and procedures for complying with California Environmental Quality Act (CEQA) as it relates to design and construction. K32. Knowledge of methods and procedures for complying with California Coastal Act as it relates to design and construction. K33. Knowledge of methods and procedures for complying with California Clean Air Act related to design and construction. K34. Knowledge of methods and procedures for complying with state regulatory requirements related to the design and construction of hospitals, public schools, fire/police stations, and other essential services buildings. K35. Knowledge of methods and procedures for complying with California Building Standards Code related to design and construction. K36. Knowledge of methods and procedures for complying with California Health and Safety Code related to design and construction. K37. Knowledge of methods and procedures for complying with California water quality regulations related to design and construction.

3. Schematic Design/Discretionary Approvals (10%) - This area describes the CA architect's role in identifying and evaluating site and project opportunities and constraints through developing design concepts that incorporate the stakeholders' needs, as well as integrating regulatory requirements and approvals.

Task Statement	*Associated Knowledge Statements*
T18. Develop schematic designs based on program requirements and local, state, and federal regulatory jurisdictions.	K38. Knowledge of methods and procedures for complying with California Green Building Standards Code (CALGreen) related to design and construction. K39. Knowledge of methods and procedures for complying with Americans with Disabilities Act (ADA) guidelines related to access compliance. K40. Knowledge of methods and procedures for complying with California Accessibility regulations related to access compliance. K41. Knowledge of methods and procedures for complying with federal laws, regulations, and national standards related to design and construction. K42. Knowledge of contents of design drawings and related documents required for discretionary approvals.
T19. Prepare and present schematic design documents to clients for input and approval.	K24. Knowledge of methods for developing and evaluating design programs to determine code compliance, feasibility, and conformance to project requirements. K26. Knowledge of methods, procedures, and tools for developing schematic designs and deliverables. K42. Knowledge of contents of design drawings and related documents required for discretionary approvals.
T20. Prepare and present schematic design documents to stakeholders (e.g., community groups) for feedback.	K24. Knowledge of methods for developing and evaluating design programs to determine code compliance, feasibility, and conformance to project requirements. K25. Knowledge of methods for developing design solutions with involvement of clients, users, consultants, and stakeholders. K26. Knowledge of methods, procedures, and tools for developing schematic designs and deliverables. K42. Knowledge of contents of design drawings and related documents required for discretionary approvals. K43. Knowledge of architect role and responsibilities in leading project team to obtain discretionary approvals.

3. Schematic Design/Discretionary Approvals (10%) - This area describes the CA architect's role in identifying and evaluating site and project opportunities and constraints through developing design concepts that incorporate the stakeholders' needs, as well as integrating regulatory requirements and approvals.

Task Statement	*Associated Knowledge Statements*
T21. Prepare and submit exhibits and application forms to governing agencies for discretionary approvals.	K24. Knowledge of methods for developing and evaluating design programs to determine code compliance, feasibility, and conformance to project requirements. K26. Knowledge of methods, procedures, and tools for developing schematic designs and deliverables. K42. Knowledge of contents of design drawings and related documents required for discretionary approvals. K43. Knowledge of architect role and responsibilities in leading project team to obtain discretionary approvals.
T22. Work with agency staff, clients, and consultants to revise project documents for discretionary approval.	K29. Knowledge of processes and procedures for obtaining discretionary approvals. K30. Knowledge of procedures for complying with local codes and ordinances related to design and construction. K42. Knowledge of contents of design drawings and related documents required for discretionary approvals. K43. Knowledge of architect role and responsibilities in leading project team to obtain discretionary approvals.
T23. Incorporate final conditions of discretionary approval into project documents.	K29. Knowledge of processes and procedures for obtaining discretionary approvals.

4. Design Development (15%) - This area describes the CA architect's role in developing detailed design solutions, evaluating building systems and project costs, preparing documents, and performing quality review in conformance with the project requirements and applicable laws and regulations.

Task Statement	*Associated Knowledge Statements*
T24. Prepare design development documents that integrate architectural design and engineering disciplines.	K44. Knowledge of methods and procedures for evaluating and integrating building systems and utilities into the project design. K45. Knowledge of methods and procedures for evaluating building materials and equipment. K46. Knowledge of methods for identifying and evaluating the implications of special conditions on design and construction (e.g., seismic zones, fire severity zones, flood zones, wind). K47. Knowledge of methods for analyzing initial and life cycle costs to select materials and systems for projects. K48. Knowledge of value engineering methods and procedures. K49. Knowledge of methods for evaluating and reviewing energy analysis for compliance with California regulations.
T25. Determine, coordinate and design building systems and utilities with design teams and client consultants.	K44. Knowledge of methods and procedures for evaluating and integrating building systems and utilities into the project design. K45. Knowledge of methods and procedures for evaluating building materials and equipment. K46. Knowledge of methods for identifying and evaluating the implications of special conditions on design and construction (e.g., seismic zones, fire severity zones, flood zones, wind). K47. Knowledge of methods for analyzing initial and life cycle costs to select materials and systems for projects. K48. Knowledge of value engineering methods and procedures. K49. Knowledge of methods for evaluating and reviewing energy analysis for compliance with California regulations.

4. Design Development (15%) - This area describes the CA architect's role in developing detailed design solutions, evaluating building systems and project costs, preparing documents, and performing quality review in conformance with the project requirements and applicable laws and regulations.

Task Statement	*Associated Knowledge Statements*
T26. Select and evaluate materials and equipment.	K44. Knowledge of methods and procedures for evaluating and integrating building systems and utilities into the project design. K45. Knowledge of methods and procedures for evaluating building materials and equipment. K47. Knowledge of methods for analyzing initial and life cycle costs to select materials and systems for projects. K48. Knowledge of value engineering methods and procedures. K49. Knowledge of methods for evaluating and reviewing energy analysis for compliance with California regulations.
T27. Incorporate regulatory requirements into design development documents.	K46. Knowledge of methods for identifying and evaluating the implications of special conditions on design and construction (e.g., seismic zones, fire severity zones, flood zones, wind). K49. Knowledge of methods for evaluating and reviewing energy analysis for compliance with California regulations.
T28. Perform value engineering and life cycle cost analyses to advise clients about alternatives for managing project costs.	K44. Knowledge of methods and procedures for evaluating and integrating building systems and utilities into the project design. K45. Knowledge of methods and procedures for evaluating building materials and equipment. K47. Knowledge of methods for analyzing initial and life cycle costs to select materials and systems for projects. K48. Knowledge of value engineering methods and procedures.
T29. Conduct constructability review of design development documents.	K44. Knowledge of methods and procedures for evaluating and integrating building systems and utilities into the project design. K45. Knowledge of methods and procedures for evaluating building materials and equipment. K46. Knowledge of methods for identifying and evaluating the implications of special conditions on design and construction (e.g., seismic zones, fire severity zones, flood zones, wind). K47. Knowledge of methods for analyzing initial and life cycle costs to select materials and systems for projects. K49. Knowledge of methods for evaluating and reviewing energy analysis for compliance with California regulations.

5. Construction Documents/Permitting (22%) - This area describes the CA architect's role in managing a project team, producing coordinated and comprehensive construction documents, processing and addressing regulatory agency comments, and obtaining approvals.

Task Statement	*Associated Knowledge Statements*
T30. Modify contract documents based on changes in cost estimates, including developing bid alternates.	K50. Knowledge of architect role in reconciling client budget with probable construction costs. K52. Knowledge of contents of contract documents required for agency approval, bidding, and construction.
T31. Compile and coordinate contract documents that meet program requirements, project goals, and contract requirements.	K50. Knowledge of architect role in reconciling client budget with probable construction costs. K51. Knowledge of methods and procedures for managing distribution and review of documents during construction document and permitting phases. K52. Knowledge of contents of contract documents required for agency approval, bidding, and construction. K53. Knowledge of methods for the detailed integration of building systems and constructability. K54. Knowledge of processes and procedures for working with regulatory agencies having jurisdiction over projects to obtain final approvals. K55. Knowledge of interrelationships between regulatory agencies and their impact on the approval process (e.g., sequence of approvals, hierarchy of jurisdictions).
T32. Produce contract documents and ensure conformance with discretionary conditions of approvals and applicable codes and regulations.	K51. Knowledge of methods and procedures for managing distribution and review of documents during construction document and permitting phases. K52. Knowledge of contents of contract documents required for agency approval, bidding, and construction. K53. Knowledge of methods for the detailed integration of building systems and constructability. K54. Knowledge of processes and procedures for working with regulatory agencies having jurisdiction over projects to obtain final approvals. K55. Knowledge of interrelationships between regulatory agencies and their impact on the approval process (e.g., sequence of approvals, hierarchy of jurisdictions). K56. Knowledge of architect role in resolving conflicts between agencies regarding conflicting codes, regulations, and standards.

5. Construction Documents/Permitting (22%) - This area describes the CA architect's role in managing a project team, producing coordinated and comprehensive construction documents, processing and addressing regulatory agency comments, and obtaining approvals.

Task Statement	*Associated Knowledge Statements*
T33. Review contract documents for constructability and incorporate modifications as necessary.	K53. Knowledge of methods for the detailed integration of building systems and constructability.
T34. Manage submittal of contract documents to regulatory agencies through initial submittal, addressing comments, providing responses, and obtaining approvals.	K52. Knowledge of contents of contract documents required for agency approval, bidding, and construction. K54. Knowledge of processes and procedures for working with regulatory agencies having jurisdiction over projects to obtain final approvals. K55. Knowledge of interrelationships between regulatory agencies and their impact on the approval process (e.g., sequence of approvals, hierarchy of jurisdictions). K56. Knowledge of architect role in resolving conflicts between agencies regarding conflicting codes, regulations, and standards.

6. Project Bidding and Construction (23%) - This area describes the CA architect's role and responsibilities associated with the bidding process and construction administration, from assisting with initial contractor selection to post-construction services.

Task Statement	*Associated Knowledge Statements*
T35. Assist clients with bidding process.	K57. Knowledge of methods and procedures for preparing bidding documents based on project funding source and delivery method. K58. Knowledge of architect role and responsibilities related to construction bidding and negotiation processes. K59. Knowledge of provisions of California Public Contract Code related to bidding and contracting for publicly funded projects. K61. Knowledge of limits of the architect role and responsibilities during construction. K62. Knowledge of interrelationships and responsibilities of owner, architect, and contractor during construction. K63. Knowledge of methods and procedures for resolving conflicts that occur during construction. K64. Knowledge of methods and procedures for developing and reviewing bidding documents. K66. Knowledge of methods and procedures for implementing changes during construction. K76. Knowledge of construction manager impact on construction administration services. K77. Knowledge of procedures for reviewing shop drawings, submittals, and samples.
T36. Assist clients with selecting contractors and negotiating construction contracts.	K57. Knowledge of methods and procedures for preparing bidding documents based on project funding source and delivery method. K58. Knowledge of architect role and responsibilities related to construction bidding and negotiation processes. K59. Knowledge of provisions of California Public Contract Code related to bidding and contracting for publicly funded projects.

6. Project Bidding and Construction (23%) - This area describes the CA architect's role and responsibilities associated with the bidding process and construction administration, from assisting with initial contractor selection to post-construction services.

Task Statement	*Associated Knowledge Statements*
T37. Prepare bid documents according to the selected delivery method.	K57. Knowledge of methods and procedures for preparing bidding documents based on project funding source and delivery method. K58. Knowledge of architect role and responsibilities related to construction bidding and negotiation processes. K59. Knowledge of provisions of California Public Contract Code related to bidding and contracting for publicly funded projects. K61. Knowledge of limits of the architect role and responsibilities during construction. K62. Knowledge of interrelationships and responsibilities of owner, architect, and contractor during construction. K63. Knowledge of methods and procedures for resolving conflicts that occur during construction. K64. Knowledge of methods and procedures for developing and reviewing bidding documents. K66. Knowledge of methods and procedures for implementing changes during construction. K76. Knowledge of construction manager impact on construction administration services. K77. Knowledge of procedures for reviewing shop drawings, submittals, and samples.
T38. Prepare and submit changes to construction documents for agency and client approval.	K67. Knowledge of methods and procedures for the preparation and submittal of construction change documents for regulatory approval. K68. Knowledge of methods and procedures for processing deferred submittals for agency approval. K69. Knowledge of procedures for monitoring construction costs and schedules.

6. Project Bidding and Construction (23%) - This area describes the CA architect's role and responsibilities associated with the bidding process and construction administration, from assisting with initial contractor selection to post-construction services.

Task Statement	*Associated Knowledge Statements*
T39. Manage and process changes during construction (e.g., architect supplemental instructions, change orders, contractor substitutions).	K61. Knowledge of limits of the architect role and responsibilities during construction. K62. Knowledge of interrelationships and responsibilities of owner, architect, and contractor during construction. K63. Knowledge of methods and procedures for resolving conflicts that occur during construction. K66. Knowledge of methods and procedures for implementing changes during construction. K67. Knowledge of methods and procedures for the preparation and submittal of construction change documents for regulatory approval.
T40. Review, coordinate, and process deferred submittals for agency approval.	K61. Knowledge of limits of the architect role and responsibilities during construction. K65. Knowledge of procedures for determining general conformance of construction work with contract documents. K68. Knowledge of methods and procedures for processing deferred submittals for agency approval.
T41. Participate in pre-construction and pre-installation meetings with contractors as required by the contract documents.	K62. Knowledge of interrelationships and responsibilities of owner, architect, and contractor during construction. K63. Knowledge of methods and procedures for resolving conflicts that occur during construction. K75. Knowledge of architect role and responsibilities when providing construction administration services. K76. Knowledge of construction manager impact on construction administration services. K79. Knowledge of construction industry standards and detailing.

6. Project Bidding and Construction (23%) - This area describes the CA architect's role and responsibilities associated with the bidding process and construction administration, from assisting with initial contractor selection to post-construction services.

Task Statement	*Associated Knowledge Statements*
T42. Monitor project construction costs and schedules, including processing contractor applications of payment.	K60. Knowledge of California law related to liens and implications for architect and client responsibilities. K65. Knowledge of procedures for determining general conformance of construction work with contract documents. K69. Knowledge of procedures for monitoring construction costs and schedules. K70. Knowledge of protocols for contractor application for payment. K71. Knowledge of procedures for performing project close-out. K75. Knowledge of architect role and responsibilities when providing construction administration services.
T43. Review testing and inspection reports for conformance with contract documents.	K61. Knowledge of limits of the architect role and responsibilities during construction. K63. Knowledge of methods and procedures for resolving conflicts that occur during construction. K65. Knowledge of procedures for determining general conformance of construction work with contract documents. K73. Knowledge of code-required special inspections and testing. K74. Knowledge of state inspection, testing, reporting, and documentation requirements for construction of hospitals, public schools, and essential services buildings. K75. Knowledge of architect role and responsibilities when providing construction administration services. K77. Knowledge of procedures for reviewing shop drawings, submittals, and samples. K79. Knowledge of construction industry standards and detailing.

6. Project Bidding and Construction (23%) - This area describes the CA architect's role and responsibilities associated with the bidding process and construction administration, from assisting with initial contractor selection to post-construction services.

Task Statement	*Associated Knowledge Statements*
T44. Review shop drawings, submittals, and samples during construction for design intent and conformance with contract documents.	K61. Knowledge of limits of the architect role and responsibilities during construction. K62. Knowledge of interrelationships and responsibilities of owner, architect, and contractor during construction. K65. Knowledge of procedures for determining general conformance of construction work with contract documents. K66. Knowledge of methods and procedures for implementing changes during construction. K75. Knowledge of architect role and responsibilities when providing construction administration services. K76. Knowledge of construction manager impact on construction administration services. K77. Knowledge of procedures for reviewing shop drawings, submittals, and samples.
T45. Conduct periodic site observations.	K61. Knowledge of limits of the architect role and responsibilities during construction. K62. Knowledge of interrelationships and responsibilities of owner, architect, and contractor during construction. K63. Knowledge of methods and procedures for resolving conflicts that occur during construction. K65. Knowledge of procedures for determining general conformance of construction work with contract documents. K75. Knowledge of architect role and responsibilities when providing construction administration services.

6. Project Bidding and Construction (23%) - This area describes the CA architect's role and responsibilities associated with the bidding process and construction administration, from assisting with initial contractor selection to post-construction services.

Task Statement	*Associated Knowledge Statements*
T46. Prepare or review field reports to ensure that construction is in general conformance with contract documents.	K61. Knowledge of limits of the architect role and responsibilities during construction. K62. Knowledge of interrelationships and responsibilities of owner, architect, and contractor during construction. K75. Knowledge of architect role and responsibilities when providing construction administration services. K76. Knowledge of construction manager impact on construction administration services.
T47. Respond to requests for information from contractors during project bidding and construction.	K63. Knowledge of methods and procedures for resolving conflicts that occur during construction. K66. Knowledge of methods and procedures for implementing changes during construction. K67. Knowledge of methods and procedures for the preparation and submittal of construction change documents for regulatory approval. K69. Knowledge of procedures for monitoring construction costs and schedules. K75. Knowledge of architect role and responsibilities when providing construction administration services. K79. Knowledge of construction industry standards and detailing.

6. Project Bidding and Construction (23%) - This area describes the CA architect's role and responsibilities associated with the bidding process and construction administration, from assisting with initial contractor selection to post-construction services.

Task Statement	*Associated Knowledge Statements*
T48. Assist clients with evaluating possible changes during construction.	K59. Knowledge of provisions of California Public Contract Code related to bidding and contracting for publicly funded projects. K60. Knowledge of California law related to liens and implications for architect and client responsibilities. K61. Knowledge of limits of the architect role and responsibilities during construction. K71. Knowledge of procedures for performing project close-out. K72. Knowledge of California law related to minimum construction warranty periods. K74. Knowledge of state inspection, testing, reporting, and documentation requirements for construction of hospitals, public schools, and essential services buildings.
T49. Manage project close-out procedures in accordance with contracts.	K78. Knowledge of post-construction services in accordance with contracts.
T50. Conduct post-construction services in accordance with contracts.	K71. Knowledge of procedures for performing project close-out. K72. Knowledge of California law related to minimum construction warranty periods. K78. Knowledge of post-construction services in accordance with contracts.

CHAPTER 6 | CALIFORNIA SUPPLEMENTAL EXAMINATION (CSE) OUTLINE

At this time, California licensure as an architect is granted to applicants by passing the national Architect Registration Examination (ARE) and the California Supplemental Examination (CSE).

The SMEs who participated in the October 2020 workshop were asked to develop an examination outline for the CSE by identifying the tasks and knowledge that they believed were California-specific. The SMEs determined that 30 task and 58 knowledge statements should be used in the CSE outline. In addition, the SMEs determined that five out of the six content areas from the description of practice should be used in the CSE outline. The SMEs then reviewed the five content areas, wrote descriptions for each, and determined in which content area the California-specific tasks and knowledges belong.

CONTENT AREAS AND WEIGHTS

The SMEs in the October 2020 workshop were also asked to determine the weights for the content areas on the CSE. After the SMEs identified the CSE outline tasks, knowledge statements, and determined the content areas, OPES test specialists performed calculations to determine the preliminary weights of the content areas. The content area preliminary weights were calculated by dividing the sum of the criticality indices for the tasks in each content area by the overall sum of the criticality indices for all tasks.

The SMEs adjusted the preliminary weights based on what they perceived as the relative importance of the tasks' content to architect practice in California as well as the importance of the tasks' content being tested by the CSE. A summary of the preliminary and final content area weights for the CSE outline is presented in Table 17. The proposed CSE outline is presented in Table 18.

TABLE 17 – CALIFORNIA SUPPLEMENTAL EXAMINATION CONTENT AREAS AND WEIGHTS

CONTENT AREA	Preliminary Weights	Final Weights
1. Contract Development/Project Planning	24%	25%
2. Schematic Design/Discretionary Approvals	21%	30%
3. Design Development	18%	15%
4. Construction Documents/Permitting	13%	10%
5. Project Bidding and Construction	24%	20%
Total	100%	100%

TABLE 18 – EXAMINATION OUTLINE: CALIFORNIA SUPPLEMENTAL EXAMINATION

1. Contract Development/ Project Planning (25%)

This area assesses the candidate's knowledge related to professional responsibility across various project types, planning requirements, and construction contract arrangements, including knowledge of tools and techniques to coordinate, oversee, and execute a project to mitigate risk and achieve its objectives.

Task Statement	*Associated Knowledge Statements*
T1. Advertise and solicit services in compliance with professional and legal practice requirements.	K1. Knowledge of Architects Practice Act and CA Code of Regulations related to architect business and professional requirements. K3. Knowledge of architect and project team contractual roles and responsibilities. K7. Knowledge of different types of consultants and services provided, and how they relate to meeting project requirements.
T2. Assess project budget, funding sources, schedule, constraints, and contractual risks.	K4. Knowledge of methods for evaluating project requirements, constraints, resources and contractual risks. K8. Knowledge of types of project funding sources, their impact on project scopes, and additional requirements.
T3. Develop owner-architect contracts with clients by collaborating on contract language in compliance with professional and legal practice requirements.	K1. Knowledge of Architects Practice Act and CA Code of Regulations related to architect business and professional requirements. K3. Knowledge of architect and project team contractual roles and responsibilities. K7. Knowledge of different types of consultants and services provided, and how they relate to meeting project requirements. K8. Knowledge of types of project funding sources, their impact on project scopes, and additional requirements.
T4. Identify local, state, and federal regulatory jurisdictions impacting projects.	K2. Knowledge of various agency impacts to project scopes and schedules. K6. Knowledge of methods for determining regulatory agencies having jurisdiction over projects and their specific requirements.

1. Contract Development/ - Project Planning (25%)

This area assesses the candidate's knowledge related to professional responsibility across various project types, planning requirements, and construction contract arrangements, including knowledge of tools and techniques to coordinate, oversee, and execute a project to mitigate risk and achieve its objectives.

T5. Contract with consultants (e.g., systems, engineering) to complete scope of projects.	K5. Knowledge of types of contracts and their application to scope of work and project service requirements. K7. Knowledge of different types of consultants and services provided, and how they relate to meeting project requirements.
T6. Implement strategies for managing project and contractual risk to limit architect and client liability.	K9. Knowledge of strategies for managing project and contractual risk. K10. Knowledge of architect and project team roles and responsibilities in all phases of projects. K11. Knowledge of methods for coordinating with owner-contracted consultants. K12. Knowledge of standards and procedures for documenting approvals and submitting contractual milestones. K13. Knowledge of conflict resolution principles and techniques.
T7. Submit contractual milestone deliverables to clients for approval to demonstrate project phase completions according to schedules.	K10. Knowledge of architect and project team roles and responsibilities in all phases of projects. K12. Knowledge of standards and procedures for documenting approvals and submitting contractual milestones. K14. Knowledge of methods for project scheduling in all phases of projects.

2. Schematic Design/Discretionary - Approvals (30%) This area assesses the candidate's knowledge related to identifying and evaluating site and project opportunities and constraints through developing design concepts that incorporate the stakeholders' needs, as well as integrating regulatory requirements and approvals.

Task Statement	*Associated Knowledge Statements*
T8. Conduct site feasibility studies to clarify and address project requirements.	K17. Knowledge of procedures for obtaining data about existing conditions and determining project impacts. K18. Knowledge of environmental conditions regulated in California and the impacts/mitigation measures related to design and construction. K21. Knowledge of methods and procedures for complying with California Environmental Quality Act (CEQA) as it relates to design and construction. K22. Knowledge of methods and procedures for complying with California Coastal Act as it relates to design and construction. K27. Knowledge of methods and procedures for complying with California water quality regulations related to design and construction. K29. Knowledge of methods and procedures for complying with Americans with Disabilities Act (ADA) guidelines related to access compliance.
T9. Develop schematic designs based on program requirements and local, state, and federal regulatory jurisdictions.	K15. Knowledge of methods for developing and evaluating design programs to determine code compliance, feasibility, and conformance to project requirements. K16. Knowledge of methods for developing design solutions with involvement of clients, users, consultants, and stakeholders. K17. Knowledge of procedures for obtaining data about existing conditions and determining project impacts. K18. Knowledge of environmental conditions regulated in California and the impacts/mitigation measures related to design and construction. K19. Knowledge of processes and procedures for obtaining discretionary approvals. K20. Knowledge of procedures for complying with local codes and ordinances related to design and construction. K21. Knowledge of methods and procedures for complying with California Environmental Quality Act (CEQA) as it relates to design and construction. K22. Knowledge of methods and procedures for complying with California Coastal Act as it relates to design and construction. K23. Knowledge of methods and procedures for complying with California Clean Air Act related to design and construction. K24. Knowledge of methods and procedures for complying with state regulatory requirements related to the design and construction of hospitals, public schools, fire/police stations, and other essential services buildings. K25. Knowledge of methods and procedures for complying with California Building Standards Code related to design and construction.

2. Schematic Design/Discretionary - Approvals (30%) This area assesses the candidate's knowledge related to identifying and evaluating site and project opportunities and constraints through developing design concepts that incorporate the stakeholders' needs, as well as integrating regulatory requirements and approvals.

Task Statement	*Associated Knowledge Statements*
T9. Develop schematic designs based on program requirements and local, state, and federal regulatory jurisdictions.	K26. Knowledge of methods and procedures for complying with California Health and Safety Code related to design and construction. K27. Knowledge of methods and procedures for complying with California water quality regulations related to design and construction. K28. Knowledge of methods and procedures for complying with California Green Building Standards Code (CALGreen) related to design and construction. K29. Knowledge of methods and procedures for complying with Americans with Disabilities Act (ADA) guidelines related to access compliance. K30. Knowledge of methods and procedures for complying with California Accessibility regulations related to access compliance. K31. Knowledge of contents of design drawings and related documents required for discretionary approvals.
T10. Prepare and present schematic design documents to stakeholders (e.g., community groups) for feedback.	K15. Knowledge of methods for developing and evaluating design programs to determine code compliance, feasibility, and conformance to project requirements. K16. Knowledge of methods for developing design solutions with involvement of clients, users, consultants, and stakeholders. K31. Knowledge of contents of design drawings and related documents required for discretionary approvals. K32. Knowledge of architect role and responsibilities in leading project team to obtain discretionary approvals.
T11. Prepare and submit exhibits and application forms to governing agencies for discretionary approvals.	K15. Knowledge of methods for developing and evaluating design programs to determine code compliance, feasibility, and conformance to project requirements. K31. Knowledge of contents of design drawings and related documents required for discretionary approvals. K32. Knowledge of architect role and responsibilities in leading project team to obtain discretionary approvals.

2. Schematic Design/Discretionary - Approvals (30%)

This area assesses the candidate's knowledge related to identifying and evaluating site and project opportunities and constraints through developing design concepts that incorporate the stakeholders' needs, as well as integrating regulatory requirements and approvals.

Task Statement	*Associated Knowledge Statements*
T12. Work with agency staff, clients, and consultants to revise project documents for discretionary approval.	K19. Knowledge of processes and procedures for obtaining discretionary approvals. K20. Knowledge of procedures for complying with local codes and ordinances related to design and construction. K31. Knowledge of contents of design drawings and related documents required for discretionary approvals. K32. Knowledge of architect role and responsibilities in leading project team to obtain discretionary approvals.
T13. Incorporate final conditions of discretionary approval into project documents.	K19. Knowledge of processes and procedures for obtaining discretionary approvals.

3. Design Development (15%) - This area assesses the candidate's knowledge related to developing detailed design solutions, evaluating building systems and project costs, preparing documents, and performing quality review in conformance with the project requirements and applicable laws and regulations.

Task Statement	*Associated Knowledge Statements*
T14. Prepare design development documents that integrate architectural design and engineering disciplines.	K33. Knowledge of methods and procedures for evaluating and integrating building systems and utilities into the project design. K34. Knowledge of methods and procedures for evaluating building materials and equipment. K35. Knowledge of methods for identifying and evaluating the implications of special conditions on design and construction (e.g., seismic zones, fire severity zones, flood zones, wind). K36. Knowledge of methods for analyzing initial and life cycle costs to select materials and systems for projects. K37. Knowledge of methods for evaluating and reviewing energy analysis for compliance with California regulations.
T15. Determine, coordinate and design building systems and utilities with design teams and client consultants.	K33. Knowledge of methods and procedures for evaluating and integrating building systems and utilities into the project design. K34. Knowledge of methods and procedures for evaluating building materials and equipment. K35. Knowledge of methods for identifying and evaluating the implications of special conditions on design and construction (e.g., seismic zones, fire severity zones, flood zones, wind). K36. Knowledge of methods for analyzing initial and life cycle costs to select materials and systems for projects. K37. Knowledge of methods for evaluating and reviewing energy analysis for compliance with California regulations.

3. Design Development (15%) - This area assesses the candidate's knowledge related to developing detailed design solutions, evaluating building systems and project costs, preparing documents, and performing quality review in conformance with the project requirements and applicable laws and regulations

T16. Select and evaluate materials and equipment.	K33. Knowledge of methods and procedures for evaluating and integrating building systems and utilities into the project design. K34. Knowledge of methods and procedures for evaluating building materials and equipment. K36. Knowledge of methods for analyzing initial and life cycle costs to select materials and systems for projects. K37. Knowledge of methods for evaluating and reviewing energy analysis for compliance with California regulations.
T17. Incorporate regulatory requirements into design development documents.	K35. Knowledge of methods for identifying and evaluating the implications of special conditions on design and construction (e.g., seismic zones, fire severity zones, flood zones, wind). K37. Knowledge of methods for evaluating and reviewing energy analysis for compliance with California regulations.
T18. Perform value engineering and life cycle cost analyses to advise clients about alternatives for managing project costs.	K33. Knowledge of methods and procedures for evaluating and integrating building systems and utilities into the project design. K34. Knowledge of methods and procedures for evaluating building materials and equipment. K36. Knowledge of methods for analyzing initial and life cycle costs to select materials and systems for projects.

4. Construction Documents/ Permitting (10%) - This area assesses the candidate's knowledge related to managing a project team, producing coordinated and comprehensive construction documents, processing and addressing regulatory agency comments, and obtaining approvals.

Task Statement	*Associated Knowledge Statements*
T19. Compile and coordinate contract documents that meet program requirements, project goals, and contract requirements.	K38. Knowledge of methods and procedures for managing distribution and review of documents during construction document and permitting phases. K39. Knowledge of contents of contract documents required for agency approval, bidding, and construction. K40. Knowledge of methods for the detailed integration of building systems and constructability. K41. Knowledge of processes and procedures for working with regulatory agencies having jurisdiction over projects to obtain final approvals. K42. Knowledge of interrelationships between regulatory agencies and their impact on the approval process (e.g., sequence of approvals, hierarchy of jurisdictions).
T20. Produce contract documents and ensure conformance with discretionary conditions of approvals and applicable codes and regulations.	K38. Knowledge of methods and procedures for managing distribution and review of documents during construction document and permitting phases. K39. Knowledge of contents of contract documents required for agency approval, bidding, and construction. K40. Knowledge of methods for the detailed integration of building systems and constructability. K41. Knowledge of processes and procedures for working with regulatory agencies having jurisdiction over projects to obtain final approvals. K42. Knowledge of interrelationships between regulatory agencies and their impact on the approval process (e.g., sequence of approvals, hierarchy of jurisdictions). K43. Knowledge of architect role in resolving conflicts between agencies regarding conflicting codes, regulations, and standards.

4. Construction Documents/ Permitting (10%) - This area assesses the candidate's knowledge related to managing a project team, producing coordinated and comprehensive construction documents, processing and addressing regulatory agency comments, and obtaining approvals.

Task Statement	*Associated Knowledge Statements*
T21. Manage submittal of contract documents to regulatory agencies through initial submittal, addressing comments, providing responses, and obtaining approvals.	K39. Knowledge of contents of contract documents required for agency approval, bidding, and construction. K41. Knowledge of processes and procedures for working with regulatory agencies having jurisdiction over projects to obtain final approvals. K42. Knowledge of interrelationships between regulatory agencies and their impact on the approval process (e.g., sequence of approvals, hierarchy of jurisdictions). K43. Knowledge of architect role in resolving conflicts between agencies regarding conflicting codes, regulations, and standards.

5. Project Bidding and Construction (20%) - This area assesses the candidate's knowledge related to the bidding process and construction administration, from assisting with initial contractor selection to post-construction services.

Task Statement	*Associated Knowledge Statements*
T22. Assist clients with bidding process.	K44. Knowledge of methods and procedures for preparing bidding documents based on project funding source and delivery method. K45. Knowledge of provisions of California Public Contract Code related to bidding and contracting for publicly funded projects. K47. Knowledge of methods and procedures for implementing changes during construction. K48. Knowledge of methods and procedures for the preparation and submittal of construction change documents for regulatory approval. K55. Knowledge of construction manager impact on construction administration services. K56. Knowledge of procedures for reviewing shop drawings, submittals, and samples.
T23. Prepare bid documents according to the selected delivery method.	K44. Knowledge of methods and procedures for preparing bidding documents based on project funding source and delivery method. K45. Knowledge of provisions of California Public Contract Code related to bidding and contracting for publicly funded projects. K47. Knowledge of methods and procedures for implementing changes during construction. K48. Knowledge of methods and procedures for the preparation and submittal of construction change documents for regulatory approval. K55. Knowledge of construction manager impact on construction administration services. K56. Knowledge of procedures for reviewing shop drawings, submittals, and samples.

5. Project Bidding and Construction (20%) - This area assesses the candidate's knowledge related to the bidding process and construction administration, from assisting with initial contractor selection to post-construction services.

Task Statement	*Associated Knowledge Statements*
T24. Review, coordinate, and process deferred submittals for agency approval.	K49. Knowledge of methods and procedures for processing deferred submittals for agency approval.
T25. Participate in pre-construction and pre-installation meetings with contractors as required by the contract documents.	K55. Knowledge of construction manager impact on construction administration services. K58. Knowledge of construction industry standards and detailing.
T26. Review testing and inspection reports for conformance with contract documents.	K53. Knowledge of code-required special inspections and testing. K54. Knowledge of state inspection, testing, reporting, and documentation requirements for construction of hospitals, public schools, and essential services buildings. K56. Knowledge of procedures for reviewing shop drawings, submittals, and samples. K58. Knowledge of construction industry standards and detailing.
T27. Review shop drawings, submittals, and samples during construction for design intent and conformance with contract documents.	K47. Knowledge of methods and procedures for implementing changes during construction. K55. Knowledge of construction manager impact on construction administration services. K56. Knowledge of procedures for reviewing shop drawings, submittals, and samples.
T28. Conduct periodic site observations.	K58. Knowledge of construction industry standards and detailing.
T29. Manage project close-out procedures in accordance with contracts.	K46. Knowledge of California laws related to liens and implications for architect and client responsibilities. K50. Knowledge of protocols for contractor application for payment. K57. Knowledge of post-construction services in accordance with contracts.
T30. Conduct post-construction services in accordance with contracts.	K50. Knowledge of protocols for contractor application for payment. K51. Knowledge of procedures for performing project close-out. K52. Knowledge of California law related to minimum construction warranty periods. K57. Knowledge of post-construction services in accordance with contracts.

CHAPTER 7 | CONCLUSION

The OA of the architect profession described in this report provides a comprehensive description of current practice in California. The procedures employed to perform the OA were based upon a content validation strategy to ensure that the results accurately represent architect practice. Results of this OA provide information regarding current practice that can be used to review the Architect Registration Examination (ARE) developed by the National Council of Architectural Registration Boards (NCARB).

Use of the CSE content outline included in this report ensures that the Board is compliant with Business and Professions Code §139.

This report provides all documentation necessary to verify that the analysis has been completed in accordance with legal, professional, and technical standards.

APPENDIX A | RESPONDENTS BY REGION

LOS ANGELES COUNTY AND VICINITY

County of Practice	Frequency
Los Angeles	422
Orange	106
TOTAL	528

NORTH COAST

County of Practice	Frequency
Humboldt	4
Mendocino	6
Sonoma	36
TOTAL	46

RIVERSIDE AND VICINITY

County of Practice	Frequency
Riverside	32
San Bernardino	26
TOTAL	58

SACRAMENTO VALLEY

County of Practice	Frequency
Butte	5
Colusa	1
Sacramento	95
Yolo	7
Yuba	1
TOTAL	109

SAN DIEGO COUNTY AND VICINITY

County of Practice	Frequency
San Diego	138
TOTAL	138

SAN FRANCISCO BAY AREA

County of Practice	Frequency
Alameda	121
Contra Costa	26
Marin	26
Napa	12
San Francisco	194
San Mateo	44
Santa Clara	94
Santa Cruz	8
Solano	2
TOTAL	527

SAN JOAQUIN VALLEY

County of Practice	Frequency
Fresno	20
Kern	16
Madera	2
Merced	2
San Joaquin	6
Stanislaus	3
Tulare	3
TOTAL	52

SHASTA-CASCADE

County of Practice	Frequency
Shasta	4
Siskiyou	1
TOTAL	5

SIERRA MOUNTAIN VALLEY

County of Practice	Frequency
Amador	1
Calaveras	2
El Dorado	1
Mariposa	1
Mono	1
Nevada	10
Placer	10
TOTAL	26

SOUTH COAST AND CENTRAL COAST

County of Practice	Frequency
Monterey	11
San Luis Obispo	25
Santa Barbara	20
Ventura	15
TOTAL	71

MISSING

TOTAL	8

APPENDIX B | CRITICALITY INDICES FOR ALL DESCRIPTION OF PRACTICE TASKS BY CONTENT AREA

Content Area 1: Contract Development/Project Planning

Task Number	Task Statement	Mean Importance	Mean Frequency	Task Criticality Index
4	Identify local, state, and federal regulatory jurisdictions impacting projects.	4.01	4.02	17.04
6	Contract with consultants (e.g., systems, engineering) to complete scope of projects.	3.59	3.67	14.72
2	Assess projects budgets, funding sources, schedules, constraints, and contractual risks.	3.38	3.30	12.70
5	Establish project team member roles and responsibilities in consultation with clients.	3.08	3.24	11.63
3	Develop owner-architect contracts with clients by collaborating on contract language in compliance with professional and legal practice requirements.	3.25	2.80	10.91
1	Advertise and solicit services in compliance with professional and legal practice requirements.	2.13	1.71	5.70

**Note: Shaded task statements were excluded from the CSE outline as the SMEs determined they were not California-specific (see Chapter 4).*

Content Area 2: Project Management

Task Number	Task Statement	Mean Importance	Mean Frequency	Task Criticality Index
11	Submit contractual milestone deliverables to clients for approval to demonstrate project phase completions according to schedules.	3.3741	3.4600	13.23
14	Manage project coordination, design team fees, deliverables, schedules, and contract changes to conform to contracts requirements.	3.3859	3.4043	13.21
8	Implement strategies for managing and documenting project communication.	3.4147	3.4547	13.08
12	Conduct kickoff and periodic meetings with project teams to coordinate progress.	3.3336	3.4572	12.74
15	Manage distribution and review of contract documents.	3.3306	3.3824	12.73
7	Implement strategies for managing project and contractual risk to limit architect and client liability.	3.3659	3.0655	11.85
9	Establish project standards and protocols to be used by the project teams.	3.1659	3.1080	11.28
10	Implement strategies for the QA/QC process.	3.1478	2.9148	10.88
13	Review and update construction cost estimates in accordance with contracts.	2.6409	2.3908	7.98

**Note: Shaded task statements were excluded from the CSE outline as the SMEs determined they were not California-specific (see Chapter 4).*

Content Area 3: Schematic Design/Discretionary Approvals

Task Number	Task Statement	Mean Importance	Mean Frequency	Task Criticality Index
18	Develop schematic designs based on program requirements, and state, local, and federal jurisdictions.	3.7412	3.7432	15.26
19	Prepare and present schematic design documents to clients for input and approval.	3.6983	3.6976	15.00
23	Incorporate final conditions of discretionary approval into project documents.	3.5479	3.3468	13.26
22	Work with agency staff, clients, and consultants to revise project documents for discretionary approval.	3.5048	3.3834	13.16
21	Prepare and submit exhibits and application forms to governing agencies for discretionary approvals.	3.4646	3.2419	12.68
17	Develop programs with clients to determine design concepts and direction in accordance with project objectives.	3.4260	3.2622	12.66
16	Conduct site feasibility studies to clarify and address project requirements.	3.3192	3.1103	11.82
20	Prepare and present schematic design documents to stakeholders (e.g., community groups) for feedback.	2.8050	2.4733	8.50

**Note: Shaded task statements were excluded from the CSE outline as the SMEs determined they were not California-specific (see Chapter 4).*

Content Area 4: Design Development

Task Number	Task Statement	Mean Importance	Mean Frequency	Task Criticality Index
27	Incorporate regulatory requirements into design development documents.	3.8456	3.8494	15.98
24	Prepare design development documents that integrate architectural design and engineering disciplines.	3.6372	3.6789	14.79
25	Determine, coordinate, and design building systems and utilities with design teams and client consultants.	3.5414	3.5524	13.94
26	Select and evaluate materials and equipment.	3.3520	3.4743	12.60
29	Conduct constructability review of design development documents.	3.0885	2.8974	10.61
28	Perform value engineering and life cycle cost analyses to advise clients about alternatives for managing project costs.	2.6833	2.5196	8.08

**Note: Shaded task statements were excluded from the CSE outline as the SMEs determined they were not California-specific (see Chapter 4).*

Content Area 5: Construction Documents/Permitting

Task Number	Task Statement	Mean Importance	Mean Frequency	Task Criticality Index
34	Manage submittal of contract documents to regulatory agencies through initial submittal, addressing comments, providing responses, and obtaining approvals.	3.7906	3.6370	15.41
32	Produce contract documents and ensure conformance with discretionary conditions of approvals and applicable codes and regulations.	3.7354	3.6277	15.15
31	Compile and coordinate contract documents that meet program requirements, project goals, and contract requirements.	3.5090	3.5284	13.96
33	Review contract documents for constructability and incorporate changes into final documents.	3.4777	3.3863	13.15
30	Modify contract documents based on changes in cost estimates, including developing bid alternates.	2.9375	2.7888	9.57

**Note: Shaded task statements were excluded from the CSE outline as the SMEs determined they were not California-specific (see Chapter 4).*

Content Area 6: Project Bidding and Construction

Task Number	Task Statement	Mean Importance	Mean Frequency	Task Criticality Index
47	Respond to requests for information from contractors during project bidding and construction.	3.5285	3.4846	13.56
45	Conduct periodic site observations.	3.5649	3.4893	13.38
44	Review shop drawings, submittals, and samples during construction for design intent and conformance with contract documents.	3.4929	3.3766	13.06
38	Prepare and submit changes to construction documents for agency and client approval.	3.4107	3.3543	12.86
39	Manage and process changes during construction (e.g., architect supplemental instructions, change order, contractor substitutions).	3.3993	3.2827	12.56
48	Assist clients with evaluating possible changes during construction.	3.3012	3.1754	11.46
41	Participate in pre-construction and pre-installation meetings with contractors as required by the contract documents.	3.0009	2.8574	9.80
37	Prepare bid documents according to the selected delivery method.	2.8424	2.7826	9.71
46	Prepare or review field reports to ensure that construction is in general conformance with contract documents.	2.9428	2.7269	9.51
49	Manage project close-out procedures in accordance with contracts.	2.7909	2.6238	8.90
35	Assist clients with bidding process.	2.7106	2.6425	8.57
40	Review, coordinate, and process deferred submittals for agency approval.	2.7720	2.4936	8.50
42	Monitor project construction costs and schedules, including processing contractor applications of payment.	2.6202	2.4274	8.20
36	Assist clients with selecting contractors and negotiating construction contracts.	2.6263	2.4177	7.96
43	Review testing and inspection reports for conformance with contract documents.	2.6168	2.3157	7.67
50	Conduct post-construction services in accordance with contracts.	2.0545	1.7779	5.04

**Note: Shaded task statements were excluded from the CSE outline as the SMEs determined they were not California-specific (see Chapter 4).*

APPENDIX C | KNOWLEDGE IMPORTANCE RATINGS

Content Area 1: Contract Development/Project Planning

Number	Knowledge Statement	Mean Importance
4	Knowledge of architect and project team contractual roles and responsibilities.	2.90
3	Knowledge of various agency impacts to project scopes and schedules.	2.89
7	Knowledge of methods for determining regulatory agencies having jurisdiction over projects and their specific requirements.	2.89
8	Knowledge of different types of consultants and services provided, and how they relate to meeting project requirements.	2.75
5	Knowledge of methods for evaluating project requirements, constraints, resources, and contractual risks.	2.53
1	Knowledge of Architects Practice Act and CA Code of Regulations related to architect business and professional requirements.	2.42
6	Knowledge of types of contracts and their application to scope of work and project service requirements.	2.24
2	Knowledge of different project delivery methods.	2.18
9	Knowledge of types of project funding sources, their impact on project scopes, and additional requirements.	1.55

**Note: Shaded knowledge statements were excluded from the CSE outline as the SMEs determined they were not California-specific (see Chapter 4).*

Content Area 2: Project Management

Number	Knowledge Statement	Mean Importance
13	Knowledge of architect and project team roles and responsibilities in all phases of projects.	2.82
11	Knowledge of methods and techniques for communicating with clients, project teams, and external parties.	2.71
12	Knowledge of methods for documenting communication and using communication applications.	2.55
15	Knowledge of standards and procedures for documenting approvals and submitting contractual milestones.	2.46
16	Knowledge of principles and techniques of project management and coordination.	2.42
14	Knowledge of methods for coordinating with owner-contracted consultants.	2.41
10	Knowledge of strategies for managing project and contractual risk.	2.34
21	Knowledge of procedures for changes to owner/architect contract agreements (e.g., add/deductive services, terminations).	2.31
17	Knowledge of conflict resolution principles and techniques.	2.30
19	Knowledge of principles of QA/QC in all phases of projects.	2.29
22	Knowledge of methods and procedures for allocating resources and managing in-house and consultant costs throughout all phases of architectural services.	2.14
18	Knowledge of methods for project scheduling in all phases of projects.	2.12
20	Knowledge of procedures for preparing and monitoring project budgets including hard and soft costs.	1.86

**Note: Shaded knowledge statements were excluded from the CSE outline as the SMEs determined they were not California-specific (see Chapter 4).*

Content Area 3: Schematic Design/Discretionary Approvals

Number	Knowledge Statement	Mean Importance
35	Knowledge of methods and procedures for complying with California Building Standards Code related to design and construction.	3.14
39	Knowledge of methods and procedures for complying with Americans with Disabilities Act (ADA) guidelines related to access.	3.12
40	Knowledge of methods and procedures for complying with California Accessibility regulations related to access compliance.	3.08
30	Knowledge of procedures for complying with local codes and ordinances related to design and construction.	3.05
24	Knowledge of methods for developing and evaluating design programs to determine code compliance, feasibility, and conformance to project requirements.	2.75
27	Knowledge of procedures for obtaining data about existing conditions and determining project impacts.	2.71
25	Knowledge of methods for developing design solutions with involvement of clients, users, consultants, and stakeholders.	2.67
42	Knowledge of contents of design drawings and related documents required for discretionary approvals.	2.66
43	Knowledge of architect role and responsibilities in leading project team to obtain discretionary approvals.	2.65
26	Knowledge of methods, procedures, and tools for developing schematic designs and deliverables.	2.57
28	Knowledge of environmental conditions regulated in California and the impacts/mitigation measures related to design and construction.	2.55
38	Knowledge of methods and procedures for complying with California Green Building Standards Code (CALGreen) related to design and construction.	2.55
29	Knowledge of processes and procedures for obtaining discretionary approvals.	2.55
41	Knowledge of methods and procedures for complying with federal laws, regulations, and national standards related to design and construction.	2.29
36	Knowledge of methods and procedures for complying with California Health and Safety Code related to design and construction.	2.24
23	Knowledge of methods, techniques, and procedures for conducting and evaluating site feasibility studies.	2.20
31	Knowledge of methods and procedures for complying with California Environmental Quality Act (CEQA) as it relates to design and construction.	2.10
33	Knowledge of methods and procedures for complying with California Clean Air Act related to design and construction.	1.75
34	Knowledge of methods and procedures for complying with state regulatory requirements related to the design and construction of hospitals, public schools, fire/police stations, and other essential services buildings.	1.70
32	Knowledge of methods and procedures for complying with California Coastal Act as it relates to design and construction.	1.70
37	Knowledge of methods and procedures for complying with California water quality regulations related to design and construction.	1.69

**Note: Shaded knowledge statements were excluded from the CSE outline as the SMEs determine determined they were not California-specific (see Chapter 4).*

Content Area 4: Design Development

Number	Knowledge Statement	Mean Importance
46	Knowledge of methods for identifying and evaluating the implications of special conditions on design and construction (e.g., seismic zones, fire severity zones, flood zones, wind).	2.66
44	Knowledge of methods and procedures for evaluating and integrating building systems and utilities into the project design.	2.60
45	Knowledge of methods and procedures for evaluating building materials and equipment.	2.48
49	Knowledge of methods for evaluating and reviewing energy analysis for compliance with California regulations.	2.09
48	Knowledge of value engineering methods and procedures.	1.87
47	Knowledge of methods for analyzing initial and life cycle costs to select materials and systems for projects.	1.67

**Note: Shaded knowledge statements were excluded from the CSE outline as the SMEs determined they were not California-specific (see Chapter 4).*

Content Area 5: Construction Documents/Permitting

Number	Knowledge Statement	Mean Importance
54	Knowledge of processes and procedures for working with regulatory agencies having jurisdiction over projects to obtain final approvals.	2.91
52	Knowledge of contents of contract documents required for agency approval, bidding, and construction.	2.88
55	Knowledge of interrelationships between regulatory agencies and their impact on the approval process (e.g., sequence of approvals, hierarchy of jurisdictions).	2.71
53	Knowledge of methods for the detailed integration of building systems and constructability.	2.59
56	Knowledge of architect role in resolving conflicts between agencies regarding conflicting codes, regulations, and standards.	2.58
51	Knowledge of methods and procedures for managing distribution and review of documents during construction document and permitting phases.	2.36
50	Knowledge of architect role in reconciling client budget with probable construction costs.	2.14

**Note: Shaded knowledge statements were excluded from the CSE outline as the SMEs determined they were not California-specific (see Chapter 4).*

Content Area 6: Project Bidding and Construction

Number	Knowledge Statement	Mean Importance
62	Knowledge of interrelationships and responsibilities of owner, architect, and contractor during construction.	2.87
61	Knowledge of limits of the architect role and responsibilities during construction.	2.72
75	Knowledge of architect role and responsibilities when providing construction administration services.	2.66
77	Knowledge of procedures for reviewing shop drawings, submittals, and samples.	2.63
65	Knowledge of procedures for determining general conformance of construction work with contract documents.	2.62
66	Knowledge of methods and procedures for implementing changes during construction.	2.60
63	Knowledge of methods and procedures for resolving conflicts that occur during construction.	2.59
79	Knowledge of construction industry standards and detailing.	2.56
67	Knowledge of methods and procedures for the preparation and submittal of construction change documents for regulatory approval.	2.53
64	Knowledge of methods and procedures for developing and reviewing bidding documents.	2.09
73	Knowledge of code-required special inspections and testing.	2.08
76	Knowledge of construction manager impact on construction administration services.	2.07
68	Knowledge of methods and procedures for processing deferred submittals for agency approval.	2.03
58	Knowledge of architect role and responsibilities related to construction bidding and negotiation processes.	1.95
71	Knowledge of procedures for performing project close-out.	1.89
57	Knowledge of methods and procedures for preparing bidding documents based on project funding source and delivery method.	1.83
69	Knowledge of procedures for monitoring construction costs and schedules.	1.79
70	Knowledge of protocols for contractor application for payment.	1.73
60	Knowledge of California law related to liens and implications for architect and client responsibilities.	1.72
78	Knowledge of post-construction services in accordance with contracts.	1.67
72	Knowledge of California law related to minimum construction warranty periods.	1.63
74	Knowledge of state inspection, testing, reporting, and documentation requirements for construction of hospitals, public schools, and essential services buildings.	1.54
59	Knowledge of provisions of California Public Contract Code related to bidding and contracting for publicly funded projects.	1.33

**Note: Shaded knowledge statements were excluded from the CSE outline as the SMEs determined they were not California-specific (see Chapter 4).*

APPENDIX D | EMAIL INVITATION TO PRACTITIONERS

CALIFORNIA ARCHITECTS BOARD

BUSINESS, CONSUMER SERVICES, AND HOUSING AGENCY • GAVIN NEWSOM, GOVERNOR
DEPARTMENT OF CONSUMER AFFAIRS • CALIFORNIA ARCHITECTS BOARD
2420 Del Paso Road, Suite 105, Sacramento, CA 95834
P (916) 574-7220 | F (916) 575-7283 | www.cab.ca.gov

August 21, 2020

Dear Licensee:

The California Architects Board (Board) is currently conducting an occupational analysis of our licensed professionals. An occupational analysis is a comprehensive study of the profession and uses a survey questionnaire to determine the important tasks that are currently performed by practicing architects.

Results of the occupational analysis will provide the Board with important information about the architectural profession and will be used to develop a current description of practice. In addition, the competencies identified during the study will provide the basis for development of the California Supplemental Examination in the future.

The Board understands that your time is valuable, and your input is greatly appreciated in this vital process. The occupational analysis survey is available online and can be filled out at your convenience any time prior to the deadline below.

The survey does not have to be completed in a single session. You can exit the survey at any time and return to it later without losing your responses, if you are accessing the survey from the same computer. The survey will save **fully completed** pages; responses to items on partially completed pages will not be saved.

Your responses to this questionnaire will be combined with the responses of other architects practicing in California to determine the tasks and knowledge needed for independent practice. Your individual responses will be kept confidential.

If you wish to participate, please complete the questionnaire by **September 30, 2020**.

Please contact [redacted] if you have questions about this process.

Thank you for your participation.

Laura Zuniga
Executive Officer

APPENDIX E | QUESTIONNAIRE

Part I - Personal Data

Complete this survey only if you are currently licensed and working as an architect in California.

The Board recognizes that every architect may not perform all of the tasks and use all of the knowledge contained in this survey. However, your participation is essential to the success of this study, and your contributions will help establish standards for safe and effective architect practice in the State of California.

The information you provide here is voluntary and confidential. It will be treated as confidential information subject to the Information Practices Act (Civil Code section 1798 et seq.) and will be used only for the purpose of analyzing the data from this survey.

* 1. Are you currently licensed in California as an architect?

- ◯ Yes
- ◯ No

Part I - Personal Data

2. Are you currently practicing in California?

- ◯ Yes
- ◯ No

3. How many years have you been licensed and practicing in California?

- ◯ Less than one year
- ◯ 1 to 5 years
- ◯ 6 to 10 years
- ◯ 11 to 20 years
- ◯ More than 20 years

4. How many years did you work in architecture before obtaining licensure in California?

- ◯ Less than one year
- ◯ 1 to 3 years
- ◯ 4 to 6 years
- ◯ 7 to 10 years
- ◯ 11 to 15 years
- ◯ More than 15 years

5. Which of the following best describes your primary work setting?

- ◯ Architecture firm (self-employed or group)
- ◯ Multidisciplinary firm
- ◯ Governmental agency
- ◯ Institution (hospital, school)
- ◯ Non-design company (hotel, utility company, etc.)
- ◯ Construction firm
- ◯ Development
- ◯ Other (please specify)

6. How many other licensed architects work in your organization?

- ◯ None
- ◯ 1 to 5
- ◯ 6 to 10
- ◯ More than 10

7. How many hours per week do you work as an architect?

- ◯ Less than 10 hours
- ◯ 11 to 20 hours
- ◯ 21 to 39 hours
- ◯ 40 or more hours

8. What is the highest level of education you have completed?

- ◯ High School Diploma or GED
- ◯ Technical certificate
- ◯ Associate's Degree
- ◯ Bachelor's Degree
- ◯ Master's Degree
- ◯ Doctorate Degree

9. In which field of study did you receive your certificate or degree?

- ◯ None
- ◯ Architecture
- ◯ Construction Management
- ◯ Interior Design
- ◯ Engineering
- ◯ Landscape Architecture
- ◯ Other (please specify)

10. Which of the following project types best describes your primary area of practice?

- ◯ Education (community colleges, universities, K-12)
- ◯ Health care (hospitals, clinics)
- ◯ Commercial (offices, mixed-use)
- ◯ Industrial (factories, warehouses, utilities)
- ◯ Hospitality (hotels, restaurants)
- ◯ Residential (single-family, multifamily)
- ◯ Institutional (military, justice, fire/police stations)
- ◯ Other (please specify)

11. Which of the following California licenses do you possess in addition to your architect license? (select all that apply)

- ☐ None
- ☐ Contractor
- ☐ Landscape Architect
- ☐ Engineer
- ☐ Other

(please specify)

12. Which of the following methods do you use to develop construction documents? (select all that apply)

- ☐ BIM
- ☐ CAD
- ☐ Hand drafting/sketching
- ☐ Modeling
- ☐ Other

(please specify)

13. Which type of setting best describes your primary work location?

- ◯ Urban (more than 50,000 people)
- ◯ Rural (fewer than 50,000 people)

Part I - Personal Data

14. In what California county do you perform the majority of your work?

- Alameda
- Alpine
- Amador
- Butte
- Calaveras
- Colusa
- Contra Costa
- Del Norte
- El Dorado
- Fresno
- Glenn
- Humboldt
- Imperial
- Inyo
- Kern
- Kings
- Lake
- Lassen
- Los Angeles
- Madera
- Marin
- Mariposa
- Mendocino
- Merced
- Modoc
- Mono
- Monterey
- Napa
- Nevada
- Orange
- Placer
- Plumas
- Riverside
- Sacramento
- San Benito
- San Bernardino
- San Diego
- San Francisco
- San Joaquin
- San Luis Obispo
- San Mateo
- Santa Barbara
- Santa Clara
- Santa Cruz
- Shasta
- Sierra
- Siskiyou
- Solano
- Sonoma
- Stanislaus
- Sutter
- Tehama
- Trinity
- Tulare
- Tuolumne
- Ventura
- Yolo
- Yuba

Part II - Task Ratings

INSTRUCTIONS FOR RATING TASK STATEMENTS

This part of the survey contains 50 task statements. Please rate each task as it relates to your current practice as a licensed architect.

If the task is not part of your current practice, rate the task "0" (zero) frequency and "0" (zero) importance.

The boxes for rating the Frequency and Importance of each task have drop-down lists. Click on the "down" arrow in each box to see the rating options, and then select the value that applies to your current practice.

Your Frequency and Importance ratings should be separate and independent ratings. Therefore, the ratings that you assign using one rating scale should not influence the ratings that you assign using the other rating scale.

15. Please rate the following tasks based on how often you perform the task (Frequency) and how important the task is for effective performance of your current practice (Importance).

Contract Development / Project Planning

	Frequency	Importance
1. Advertise and solicit services in compliance with professional and legal practice requirements.		
2. Assess projects budgets, funding sources, schedules, constraints, and contractual risks.		
3. Develop owner-architect contracts with clients by collaborating on contract language in compliance with professional and legal practice requirements.		
4. Identify local, state, and federal regulatory jurisdictions impacting projects.		
5. Establish project team member roles and responsibilities in consultation with clients.		
6. Contract with consultants (e.g., systems, engineering) to complete scope of projects.		

Part II - Task Ratings

INSTRUCTIONS FOR RATING TASK STATEMENTS

Please rate each task as it relates to your current practice as a licensed architect.

If the task is not part of your current practice, rate the task "0" (zero) frequency and "0" (zero) importance.

The boxes for rating the Frequency and Importance of each task have drop-down lists. Click on the "down" arrow in each box to see the rating options, and then select the value that applies to your current practice.

Your Frequency and Importance ratings should be separate and independent ratings. Therefore, the ratings that you assign using one rating scale should not influence the ratings that you assign using the other rating scale.

16. Please rate the following tasks based on how often you perform the task (Frequency) and how important the task is for effective performance of your current practice (Importance).

Project Management

	Frequency	Importance
7. Implement strategies for managing project and contractual risk to limit architect and client liability.		
8. Implement strategies for managing and documenting project communication.		
9. Establish project standards and protocols to be used by the project teams.		
10. Implement strategies for the QA/QC process.		
11. Submit contractual milestone deliverables to clients for approval to demonstrate project phase completions according to schedules.		
12. Conduct kickoff and periodic meetings with project teams to coordinate progress.		
13. Review and update construction cost estimates in accordance with contracts.		
14. Manage project coordination, design team fees, deliverables, schedules, and contract changes to conform to contracts requirements.		
15. Manage distribution and review of contract documents.		

Part II - Task Ratings

INSTRUCTIONS FOR RATING TASK STATEMENTS

Please rate each task as it relates to your current practice as a licensed architect.

If the task is not part of your current practice, rate the task "0" (zero) frequency and "0" (zero) importance.

The boxes for rating the Frequency and Importance of each task have drop-down lists. Click on the "down" arrow in each box to see the rating options, and then select the value that applies to your current practice.

Your Frequency and Importance ratings should be separate and independent ratings. Therefore, the ratings that you assign using one rating scale should not influence the ratings that you assign using the other rating scale.

17. Please rate the following tasks based on how often you perform the task (Frequency) and how important the task is for effective performance of your current practice (Importance).

Programming / Schematic Design

	Frequency	Importance
16. Conduct site feasibility studies to clarify and address project requirements.		
17. Develop programs with clients to determine design concepts and direction in accordance with project objectives.		
18. Develop schematic designs based on program requirements, and state, local, and federal jurisdictions.		
19. Prepare and present schematic design documents to clients for input and approval.		
20. Prepare and present schematic design documents to stakeholders (e.g., community groups) for feedback.		
21. Prepare and submit exhibits and application forms to governing agencies for discretionary approvals.		
22. Work with agency staff, clients, and consultants to revise project documents for discretionary approval.		
23. Incorporate final conditions of discretionary approval into project documents.		

Part II - Task Ratings

INSTRUCTIONS FOR RATING TASK STATEMENTS

Please rate each task as it relates to your current practice as a licensed architect.

If the task is not part of your current practice, rate the task "0" (zero) frequency and "0" (zero) importance.

The boxes for rating the Frequency and Importance of each task have drop-down lists. Click on the "down" arrow in each box to see the rating options, and then select the value that applies to your current practice.

Your Frequency and Importance ratings should be separate and independent ratings. Therefore, the ratings that you assign using one rating scale should not influence the ratings that you assign using the other rating scale.

18. Please rate the following tasks based on how often you perform the task (Frequency) and how important the task is for effective performance of your current practice (Importance).

Design Development / Approvals

	Frequency	Importance
24. Prepare design development documents that integrate architectural design and engineering disciplines.		
25. Determine, coordinate and design building systems and utilities with design teams and client consultants.		
26. Select and evaluate materials and equipment.		
27. Incorporate regulatory requirements into design development documents.		
28. Perform value engineering and life cycle cost analyses to advise clients about alternatives for managing project costs.		
29. Conduct constructability review of design development documents.		

Part II - Task Ratings

INSTRUCTIONS FOR RATING TASK STATEMENTS

Please rate each task as it relates to your current practice as a licensed architect.

If the task is not part of your current practice, rate the task "0" (zero) frequency and "0" (zero) importance.

The boxes for rating the Frequency and Importance of each task have drop-down lists. Click on the "down" arrow in each box to see the rating options, and then select the value that applies to your current practice.

Your Frequency and Importance ratings should be separate and independent ratings. Therefore, the ratings that you assign using one rating scale should not influence the ratings that you assign using the other rating scale.

19. Please rate the following tasks based on how often you perform the task (Frequency) and how important the task is for effective performance of your current practice (Importance).

Construction Documents / Permitting

	Frequency	Importance
30. Modify contract documents based on changes in cost estimates, including developing bid alternates.		
31. Compile and coordinate contract documents that meet program requirements, project goals, and contract requirements.		
32. Produce contract documents and ensure conformance with discretionary conditions of approvals and applicable codes and regulations.		
33. Review contract documents for constructability and incorporate changes into final documents.		
34. Manage submittal of contract documents to regulatory agencies through initial submittal, addressing comments, providing responses, and obtaining approvals.		

Part II - Task Ratings

INSTRUCTIONS FOR RATING TASK STATEMENTS

Please rate each task as it relates to your current practice as a licensed architect.

If the task is not part of your current practice, rate the task "0" (zero) frequency and "0" (zero) importance.

The boxes for rating the Frequency and Importance of each task have drop-down lists. Click on the "down" arrow in each box to see the rating options, and then select the value that applies to your current practice.

Your Frequency and Importance ratings should be separate and independent ratings. Therefore, the ratings that you assign using one rating scale should not influence the ratings that you assign using the other rating scale.

20. Please rate the following tasks based on how often you perform the task (Frequency) and how important the task is for effective performance of your current practice (Importance).

Project Bidding and Construction

	Frequency	Importance
35. Assist clients with bidding process.		
36. Assist clients with selecting contractors and negotiating construction contracts.		
37. Prepare bid documents according to the selected delivery method.		
38. Prepare and submit changes to construction documents for agency and client approval.		
39. Manage and process changes during construction (e.g., architect supplemental instructions, change orders, contractor substitutions).		
40. Review, coordinate, and process deferred submittals for agency approval.		
41. Participate in pre-construction and pre-installation meetings with contractors as required by the contract documents.		
42. Monitor project construction costs and schedules, including processing contractor applications of payment.		
43. Review testing and inspection reports for conformance with contract documents.		
44. Review shop drawings, submittals, and samples during construction for design intent and conformance with contract documents.		
45. Conduct periodic site observations.		
46. Prepare or review field reports to ensure that construction is in general conformance with contract documents.		
47. Respond to requests for information from contractors during project bidding and construction.		
48. Assist clients with evaluating possible changes during construction.		
49. Manage project close-out procedures in accordance with contracts.		
50. Conduct post-construction services in accordance with contracts.		

Part III - Knowledge Ratings

INSTRUCTIONS FOR RATING KNOWLEDGE STATEMENTS

This part of the survey contains 79 knowledge statements. Please rate each knowledge statement based on how important you believe the knowledge is for effective performance of your current practice as a licensed architect.

If the knowledge is not required for performance of your current practice, rate the statement "Does not apply."

21. How important is this knowledge for effective performance of tasks in your current practice?

Contract Development / Project Planning

	Does not apply	Not important	Somewhat important	Important	Very important	Critically important
1. Knowledge of Architects Practice Act and CA Code of Regulations related to architect business and professional requirements.	○	○	○	○	○	○
2. Knowledge of different project delivery methods.	○	○	○	○	○	○
3. Knowledge of various agency impacts to project scopes and schedules.	○	○	○	○	○	○
4. Knowledge of architect and project team contractual roles and responsibilities.	○	○	○	○	○	○
5. Knowledge of methods for evaluating project requirements, constraints, resources, and contractual risks.	○	○	○	○	○	○
6. Knowledge of types of contracts and their application to scope of work and project service requirements.	○	○	○	○	○	○
7. Knowledge of methods for determining regulatory agencies having jurisdiction over projects and their specific requirements.	○	○	○	○	○	○
8. Knowledge of different types of consultants and services provided, and how they relate to meeting project requirements.	○	○	○	○	○	○
9. Knowledge of types of project funding sources, their impact on project scopes, and additional requirements.	○	○	○	○	○	○

Part III - Knowledge Ratings

INSTRUCTIONS FOR RATING KNOWLEDGE STATEMENTS

Please rate each knowledge statement based on how important you believe the knowledge is for effective performance of your current practice as a licensed architect.

If the knowledge is not required for performance of your current practice, rate the statement "Does not apply."

22. How important is this knowledge for effective performance of tasks in your current practice?

Project Management

	Does not apply	Not important	Somewhat important	Important	Very important	Critically important
10. Knowledge of strategies for managing project and contractual risk.	○	○	○	○	○	○
11. Knowledge of methods and techniques for communicating with clients, project teams, and external parties.	○	○	○	○	○	○
12. Knowledge of methods for documenting communication and using communication applications.	○	○	○	○	○	○
13. Knowledge of architect and project team roles and responsibilities in all phases of projects.	○	○	○	○	○	○
14. Knowledge of methods for coordinating with owner-contracted consultants.	○	○	○	○	○	○
15. Knowledge of standards and procedures for documenting approvals and submitting contractual milestones.	○	○	○	○	○	○
16. Knowledge of principles and techniques of project management and coordination.	○	○	○	○	○	○
17. Knowledge of conflict resolution principles and techniques.	○	○	○	○	○	○
18. Knowledge of methods for project scheduling in all phases of projects.	○	○	○	○	○	○
19. Knowledge of principles of QA/QC in all phases of projects.	○	○	○	○	○	○
20. Knowledge of procedures for preparing and monitoring project budgets including hard and soft costs.	○	○	○	○	○	○
21. Knowledge of procedures for changes to owner/architect contract agreements (e.g., add/deductive services, terminations).	○	○	○	○	○	○
22. Knowledge of methods and procedures for allocating resources and managing in-house and consultant costs throughout all phases of architectural services.	○	○	○	○	○	○

Part III - Knowledge Ratings

23. How important is this knowledge for effective performance of tasks in your current practice?

Programming / Schematic Design

	Does not apply	Not important	Somewhat important	Important	Very important	Critically important
23. Knowledge of methods, techniques, and procedures for conducting and evaluating site feasibility studies.	○	○	○	○	○	○
24. Knowledge of methods for developing and evaluating design programs to determine code compliance, feasibility, and conformance to project requirements.	○	○	○	○	○	○
25. Knowledge of methods for developing design solutions with involvement of clients, users, consultants, and stakeholders.	○	○	○	○	○	○
26. Knowledge of methods, procedures, and tools for developing schematic designs and deliverables.	○	○	○	○	○	○
27. Knowledge of procedures for obtaining data about existing conditions and determining project impacts.	○	○	○	○	○	○
28. Knowledge of environmental conditions regulated in California and the impacts/mitigation measures related to design and construction.	○	○	○	○	○	○
29. Knowledge of processes and procedures for obtaining discretionary approvals.	○	○	○	○	○	○
30. Knowledge of procedures for complying with local codes and ordinances related to design and construction.	○	○	○	○	○	○
31. Knowledge of methods and procedures for complying with California Environmental Quality Act (CEQA) as it relates to design and construction.	○	○	○	○	○	○
32. Knowledge of methods and procedures for complying with California Coastal Act as it relates to design and construction.	○	○	○	○	○	○
33. Knowledge of methods and procedures for complying with California Clean Air Act related to design and construction.	○	○	○	○	○	○
34. Knowledge of methods and procedures for complying with state regulatory requirements related to the design and construction of hospitals, public schools, fire/police stations, and other essential services buildings.	○	○	○	○	○	○
35. Knowledge of methods and procedures for complying with California Building Standards Code related to design and construction.	○	○	○	○	○	○
36. Knowledge of methods and procedures for complying with California Health and Safety Code related to design and construction.	○	○	○	○	○	○
37. Knowledge of methods and procedures for complying with California water quality regulations related to design and construction.	○	○	○	○	○	○

	Does not apply	Not important	Somewhat important	Important	Very important	Critically important
38. Knowledge of methods and procedures for complying with California Green Building Standards Code (CALGreen) related to design and construction.	○	○	○	○	○	○
39. Knowledge of methods and procedures for complying with Americans with Disabilities Act (ADA) guidelines related to access.	○	○	○	○	○	○
40. Knowledge of methods and procedures for complying with California Accessibility regulations related to access compliance.	○	○	○	○	○	○
41. Knowledge of methods and procedures for complying with federal laws, regulations, and national standards related to design and construction.	○	○	○	○	○	○
42. Knowledge of contents of design drawings and related documents required for discretionary approvals.	○	○	○	○	○	○
43. Knowledge of architect role and responsibilities in leading project team to obtain discretionary approvals.	○	○	○	○	○	○

Part III - Knowledge Ratings

24. How important is this knowledge for effective performance of tasks in your current practice?

Design Development / Approvals

	Does not apply	Not important	Somewhat important	Important	Very important	Critically important
44. Knowledge of methods and procedures for evaluating and integrating building systems and utilities into the project design.	○	○	○	○	○	○
45. Knowledge of methods and procedures for evaluating building materials and equipment.	○	○	○	○	○	○
46. Knowledge of methods for identifying and evaluating the implications of special conditions on design and construction (e.g., seismic zones, fire severity zones, flood zones, wind).	○	○	○	○	○	○
47. Knowledge of methods for analyzing initial and life cycle costs to select materials and systems for projects.	○	○	○	○	○	○
48. Knowledge of value engineering methods and procedures.	○	○	○	○	○	○
49. Knowledge of methods for evaluating and reviewing energy analysis for compliance with California regulations.	○	○	○	○	○	○

Part III - Knowledge Ratings

25. How important is this knowledge for effective performance of tasks in your current practice?

Construction Documents / Permitting

	Does not apply	Not important	Somewhat important	Important	Very important	Critically important
50. Knowledge of architect role in reconciling client budget with probable construction costs.	○	○	○	○	○	○
51. Knowledge of methods and procedures for managing distribution and review of documents during construction document and permitting phases.	○	○	○	○	○	○
52. Knowledge of contents of contract documents required for agency approval, bidding, and construction.	○	○	○	○	○	○
53. Knowledge of methods for the detailed integration of building systems and constructability.	○	○	○	○	○	○
54. Knowledge of processes and procedures for working with regulatory agencies having jurisdiction over projects to obtain final approvals.	○	○	○	○	○	○
55. Knowledge of interrelationships between regulatory agencies and their impact on the approval process (e.g., sequence of approvals, hierarchy of jurisdictions).	○	○	○	○	○	○
56. Knowledge of architect role in resolving conflicts between agencies regarding conflicting codes, regulations, and standards.	○	○	○	○	○	○

Part III - Knowledge Ratings

26. How important is this knowledge for effective performance of tasks in your current practice?

Project Bidding and Construction

	Does not apply	Not important	Somewhat important	Important	Very important	Critically important
57. Knowledge of methods and procedures for preparing bidding documents based on project funding source and delivery method.	○	○	○	○	○	○
58. Knowledge of architect role and responsibilities related to construction bidding and negotiation processes.	○	○	○	○	○	○
59. Knowledge of provisions of California Public Contract Code related to bidding and contracting for publicly funded projects.	○	○	○	○	○	○
60. Knowledge of California law related to liens and implications for architect and client responsibilities.	○	○	○	○	○	○
61. Knowledge of limits of the architect role and responsibilities during construction.	○	○	○	○	○	○
62. Knowledge of interrelationships and responsibilities of owner, architect, and contractor during construction.	○	○	○	○	○	○
63. Knowledge of methods and procedures for resolving conflicts that occur during construction.	○	○	○	○	○	○
64. Knowledge of methods and procedures for developing and reviewing bidding documents.	○	○	○	○	○	○
65. Knowledge of procedures for determining general conformance of construction work with contract documents.	○	○	○	○	○	○
66. Knowledge of methods and procedures for implementing changes during construction.	○	○	○	○	○	○
67. Knowledge of methods and procedures for the preparation and submittal of construction change documents for regulatory approval.	○	○	○	○	○	○
68. Knowledge of methods and procedures for processing deferred submittals for agency approval.	○	○	○	○	○	○
69. Knowledge of procedures for monitoring construction costs and schedules.	○	○	○	○	○	○
70. Knowledge of protocols for contractor application for payment.	○	○	○	○	○	○
71. Knowledge of procedures for performing project close-out.	○	○	○	○	○	○
72. Knowledge of California law related to minimum construction warranty periods.	○	○	○	○	○	○
73. Knowledge of code-required special inspections and testing.	○	○	○	○	○	○

	Does not apply	Not important	Somewhat important	Important	Very important	Critically important
74. Knowledge of state inspection, testing, reporting, and documentation requirements for construction of hospitals, public schools, and essential services buildings.	○	○	○	○	○	○
75. Knowledge of architect role and responsibilities when providing construction administration services.	○	○	○	○	○	○
76. Knowledge of construction manager impact on construction administration services.	○	○	○	○	○	○
77. Knowledge of procedures for reviewing shop drawings, submittals, and samples.	○	○	○	○	○	○
78. Knowledge of post-construction services in accordance with contracts.	○	○	○	○	○	○
79. Knowledge of construction industry standards and detailing.	○	○	○	○	○	○

Thank you

Thank you for taking the time to complete this survey. The Board values your contribution to this study.