Professional Services for Construction Projects and Land Surveys

A guide to the services of professional engineers, architects, surveyors, and landscape architects

1998

State of Hawaii

Board of Professional Engineers, Architects, Surveyors and Landscape Architects

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Introduction

Building codes and professional registration and licensing laws are intended to work together. Building codes and the Board of Professional Engineers, Architects, Surveyors and Landscape Architects ("Board") exist to protect the public against unsafe or improperly designed and constructed work.

The Board protects the public by ensuring that all licensed design professionals have satisfied education and training standards and passed rigorous examinations demonstrating professional and technical competence in their respective fields.

Building code officials devise and enforce building codes that are intended to protect the public's life, health and property.

This guide has been published by the Board to aid the public, building officials and design professionals in understanding the laws and rules governing engineering, architecture, surveying and landscape architecture in Hawaii. It does not attempt to address all issues concerning the practice of these professions.

Some of the information herein is taken from Hawaii Revised Statutes ("HRS") chapter 464 and Hawaii Administrative Rules ("HAR") chapter 16-115. Other information describes policies and informal interpretations by the Board.

NOTE: To obtain the full text of the laws and rules governing professional engineers, architects, surveyors and landscape architects, readers should consult the current versions of the HRS and HAR.

"Professional engineer," "architect," "surveyor" or "land surveyor" and "landscape architect" have defined legal meanings. These appear at the end in Appendix B. References to these professionals in this guide intend those meanings.

Acknowledge-ments

The Board wishes to acknowledge The American Institute of Architects/Hawaii State Council for their efforts in preparing this guide, and the Department of the Attorney General, American Society of Landscape Architects/Hawaii Chapter, and Consulting Engineers Council of Hawaii for their review and comments prior to publication. Special thanks go to Glenn E. Mason, AIA, and Douglas P. Luna, AIA for their significant contributions.

When a Project Requires a Licensed Professional

To safeguard life, health and property, under provisions of HRS chapter 464, any project involving constructed work must be designed and the construction observed by a licensed engineer, architect or landscape architect, as appropriate for the type of project.

Certain structures are exempted from these provisions:

- Private structures of one story costing $40,000 or less or two stories costing $35,000 or less, whose principal structural members do not consist of reinforced concrete or structural steel.
- Private residences of one story costing $50,000 or less or two stories costing $45,000 or less.
- State or local public construction costing $15,000 or less.
- Federal construction.

All land surveys involving property boundaries for public purposes or plans thereof must be done by or under the supervision of a licensed land surveyor.

Even in situations where the use of an engineer, architect or landscape architect is not required by law, it is often a good idea to use the services of one anyway. These professionals have training and experience unique to their respective disciplines. This greatly increases the prospect of identifying potential problems that the owner may not be aware of. The use of a licensed professional may prevent mistakes that end up costing an owner more in the long run and may result in more satisfaction with the completed project.

Roles of Engineers, Architects, Surveyors and Landscape Architects

Engineering, architecture and landscape architecture all involve analysis, design, and observation. Professionals in these disciplines work with the client to determine the objectives for the project. They then study environmental factors affecting the site, its infrastructure and other existing conditions, develop a design responsive to these factors and the project's objectives, and observe the construction of the project (and its operation where applicable) to assure conformity with the design intent.

Engineers generally practice in one of the various specialized branches or in several related branches. Among the major branches in the construction industry are **geotechnical** or "soils" (concerned mainly with subsurface investigations and foundation systems), **civil** (roads, bridges, and sewer, water and drainage systems), **structural** (building support and stability), **mechanical** (plumbing, air conditioning and fire protection), **electrical** (power, lighting, communications and security). Other regulated engineering professionals include agricultural, chemical, and industrial engineers.

These engineers generally act as consultants to architects in the case of building projects, and sometimes to other engineers on other types of projects. Other branches of engineering not regulated by the board are concerned with such things as environmental matters, manufacturing processes, transportation systems and equipment, and oceanographic work.

Architects primarily plan, design and observe the construction of an individual building such as a house or office tower, and groups of buildings such as a shopping center or resort complex. They must reconcile zoning constraints, topography, views and other contextual factors, construction type and materials, building code requirements, arrangement of spaces and movement among them, finish materials, aesthetic character, and other considerations. Architects utilize engineers and other consultants to provide specialized expertise.

Architects sometimes do community planning, interior design and furnishing, and design of expansion or alteration of existing buildings, where most, if not all, of the same considerations must be addressed as well.

Surveyors make surveys, which describe a parcel of land or area, its boundaries, and the location of structures and other significant features, and often its topography or other items of interest. Such information may be needed in connection with the conveyance of a property, or as a planning and design aid in developing a property.

Landscape Architects plan, design and observe the construction of exterior spaces such as residential gardens, parks, golf courses, and urban plazas. They set land contours, define roadway and walkway locations, select plant material, and design landscape irrigation and lighting. Many landscape architects are urban and regional planners and prepare environmental impact statements. Landscape architects frequently work with architects and civil engineers.

Project Permit Requirements

Nearly all construction projects in Hawaii require a building permit. With only minor exceptions, the construction, alteration, removal or demolition of a building or other structure, and plumbing and electrical work, require a building permit. Grading and paving work generally requires a permit. In certain locations, the removal of a tree over a specified size requires a permit. Other county or state permits or approvals may also be required in some areas and on some other types of projects.

In general, the owner is responsible for obtaining any required permit. However, the owner may designate an agent such as the architect, engineer, or contractor to do this.

Prior to the start of any work requiring a permit, a completed permit application, multiple copies of drawings and specifications and any other documentation required to fully describe the work proposed (collectively, "plans") must be approved by the building department. Approval of the plans by other departments also may be required.

Once the necessary approvals have been obtained and the appropriate fees paid, the building department will issue a permit for the work covered by the submitted plans. The building permit must be posted in a conspicuous location at the job site.

Information on plans, permits and approvals required for a proposed project can be obtained at the local building department.

Design Changes	Changes in the project's design after the building permit has been issued may require approval by the building department. Drawings, specifications, calculations, and other relevant descriptive information for any change affecting the preservation of regulated community development standards, public health and life safety must be submitted to the building department for its review and approval before proceeding with any such change. Proposed changes must be clearly identified.
Incomplete or Deficient Submittals	Plans submitted to the building department for a permit should be complete and in compliance with the current zoning and building codes. If found incomplete or noncompliant, the plans will be returned for correction and re-submittal.

Stamping and Signing Plans

All drawings, specifications and other construction or survey documents filed with a building or other public department which are prepared by or under the supervision of a professional engineer, an architect, land surveyor or landscape architect must be stamped and manually signed by that licensee over a statement that the work was prepared by the licensee or under the licensee's supervision. Similar documents submitted with a building or other construction permit application for a project involving public safety or health must be stamped and manually signed by the architect, landscape architect or professional engineer who will be responsible for observation of the construction of the project over a statement that construction will be observed by the licensee.

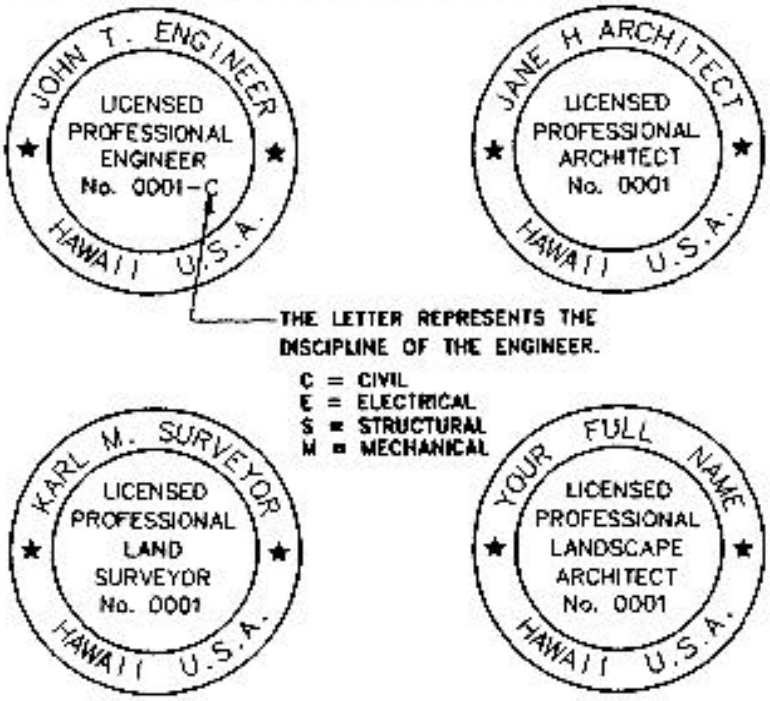
Generally, construction documentation and construction observations for a project are done by the same licensee and these responsibility statements are consolidated into one statement. In the uncommon situation where responsibility for construction documentation and construction observation is separated, the documents must be stamped and signed separately by each of the responsible licensees over separate statements of their respective roles.

If a licensee with responsibility for construction observation cannot perform this duty for any reason, that fact, and the designation of another qualified licensee by the owner must be reported to the building department in writing.

Only architects and structural engineers may prepare or supervise the preparation of general building plans and observe building construction. Electrical, mechanical, and civil engineers, landscape architects and surveyors may independently prepare and supervise plan preparation and observe construction for those areas covered by their license.

Only the licensee, who actually prepared or supervised the preparation of construction drawings, specifications and other construction or survey documents may stamp and sign them. Licensees are prohibited from stamping and signing documents not prepared by them or under their supervision, a practice generally known as "**plan stamping**" or simply **"**stamping**."** Licensees who engage in this prohibited practice and owners, contractors and others who initiate, aid or abet the practice, risk disciplinary sanctions.

The following are examples of proper seals/stamps:



Engaging a Professional

Engaging a design professional or surveyor for a project should follow an orderly sequence and be thoughtfully approached.

Identifying Prospects

Anyone contemplating a project should consult **friends, neighbors, fellow members of organizations, co-workers, business associates,** or others who have previously worked with a professional on a similar type of project. **Professional associations** can be consulted also since they often maintain lists of members whose practices concentrate in certain types of projects and will provide names of suitable prospects upon request. The **"Yellow Pages,"** which list professionals by discipline, may also be a useful source.

The owner should always contact the state's Department of Commerce and Consumer Affairs in Honolulu at 587-3222 to confirm that the professional currently is licensed and to learn of any prior complaints filed or disciplinary action taken against the professional.

Meeting with Prospects

After acquiring the names of several prospects, the owner should schedule appointments to meet some of those prospects. There are several purposes to the initial meeting. The first is to inform the professional in some detail about the proposed project. Among the things that should be discussed are the project's intended function, location, size, design objectives, and cost.

Another purpose is to learn about the professional's experience and qualifications to do project. A third purpose is to get the professional's initial assessment of the project's feasibility and possible alternatives to resolve issues that the professional believes should be addressed.

Finally, the owner should discuss the fees charged by the professional for the required services and the projected length of time the various phases of the project might take to complete.

References

The owner should obtain a list of past clients from the professional and contact some of them to discuss their experience and the degree of satisfaction with the services provided. Owners might also visit some of the professional's completed projects. These visits can range from simply driving by to an escorted tour of the project by appointment.

Fee Proposal and Selection

After selecting a professional based on his or her qualifications, the owner should work with the professional to determine a scope of work that will provide a basis for a formal fee proposal. In this proposal, the professional typically will indicate the proposed scope of services and basis of fees and charges. When making a decision on which professional to select for the project, all relevant factors should be considered not just fees.

Agreeing on Terms of Service

The owner and the professional selected for the project should negotiate and sign a formal written agreement prior to work being performed to ensure that the parties have a common understanding of what is expected from one another. The written agreement documents the understanding and protects both parties.

Agreement Forms

The American Institute of Architects has developed widely used standard agreement forms suitable for most building construction projects. Standard forms suitable for other types of construction projects or non-architectural professional services may be available from other professional societies and contractors' organizations. These form agreements have not been reviewed by the Board.

Agreements can also be individually drafted. The owner should consider using an attorney to draft a non-form agreement or to review a standard form agreement.

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At minimum, the agreement for professional services should specify the following:

- scope of the project
- scope of the professional's work
- fee basis (e.g., hourly rate, percentage of construction cost, fixed fee)
- payment terms of compensation
- responsibility for payment of consultants, and incidental expenses (reproduction, travel, etc.)
- time requirements (if any)
- ownership of the professional's plans/work product
- any special conditions important to either party
- defined methods for resolving a conflict between the owner and the professional should one arise

Resolving Problems or Disputes

Many problems and disputes between the owner, the contractor, and the professional arise from some form of miscommunication. To minimize the chances of this, communications concerning design or contract changes or clarifications should always be in writing. When a problem or dispute does arise, the parties should meet to discuss the following:

- the specific grievance
- evidence in support of the grievance, including, as appropriate, the owner-professional or owner-contractor agreement, and other relevant documentation such as letters, notes, or calendar entries which may support the grievance
- the specific remedial action expected

A reasonable time for a response should be allowed following the meeting. The parties always should attempt to resolve the dispute themselves. If this cannot be done, the parties may wish to consider other forms of dispute resolution such as mediation, arbitration, small claims court, or other legal action.

An unresolved complaint against a professional or contractor licensed in Hawaii may be registered with the Regulated Industries Complaint Office at:

- 235 South Beretania Street, 9th Floor Honolulu, Hawaii 96813
- (808) 587-3222

Commonly-Asked Questions and Answers

1. May a drafting service or individual draftsperson, or unlicensed design practitioners such as an interior designer, kitchen designer, etc., prepare plans to be submitted for a building permit?

   No, unless preparation of the plans is supervised by a licensed professional or the project falls under one of the exemptions listed in the section, "When a Project Requires a Professional," on page 4 and HRS § 464-13.

2. May an owner hire a contractor to design and build a house or other building or other constructed work that requires a building permit?

   Yes, if the plans for the project are prepared by or under the direct supervision of the licensed design professional who stamps them. They may not be prepared by an unlicensed employee of the contractor or other unlicensed persons, and be subsequently stamped by a licensed professional.

3. May an unlicensed design practitioner provide design services for the selection of furniture, plumbing and electrical fixtures, appliances and the like?

   Yes, unless the selections are controlled by building codes, require a building permit for installation or do not fall under one of the exemptions on page 4 and HRS § 464-13.

4. May plans for a project (not falling under one of the exemptions) that are stamped and signed by a design professional who is not licensed in Hawaii be submitted for a building permit in Hawaii?

No. Only plans prepared by or under the direct supervision of a design professional licensed in Hawaii may be submitted unless the project is exempt.

5. May plans prepared and stamped by an out-of-state professional be 'over-stamped" by a Hawaii-licensed design professional simply to obtain a building permit in Hawaii?

No. A Hawaii-licensed professional may only stamp plans and other design documents prepared by or under the direct supervision of the licensed design professional, and only plans so prepared may be submitted for a permit when stamped plans are required.

6. May an owner or contractor make changes to plans prepared and stamped by a professional?

No. Only that licensed professional may do so, or, in some circumstances, another professional similarly licensed.

7. May a Hawaii-licensed professional alter, add to, delete or otherwise make changes to plans prepared by another Hawaii-licensed professional?

Yes, if all of the following are true: (a) the original professional no longer is under contract or agreement to provide services; (b) the new professional is qualified and licensed to perform the work involved; (c) the proposed changes comply with permit and code requirements; (d) the new professional assumes full responsibility for the changes and any effect they have on the project; and (e) every effort is made to notify the original professional of the changes.

8. May an engineer's calculations be used as the design document for construction work?

No. Calculations, by themselves, do not convey design form or scope of work, and are inadequate.

9. If plans for a non-exempt project are not stamped by a design professional licensed to prepare them and are submitted for a permit, may a building official suggest that the plans be reviewed and stamped by a properly licensed professional and then be resubmitted?

No. The plans must be rejected and may not be resubmitted. Only new plans prepared by or under the direct supervision of a design professional may be stamped by that professional and submitted for a permit.

10. May component or manufactured-building plans not prepared and stamped by a Hawaii-licensed design professional be submitted for a permit?

No. Plans for such buildings must meet the same requirements as those for other buildings and must be prepared by or under the direct supervision of, and stamped by a Hawaii-licensed design professional.

11. Which design professionals may prepare and stamp the plans for the design of a building, or an addition or alteration to one?

Only Hawaii-licensed architects and structural engineers, may do so.

12. May a Hawaii-licensed architect prepare and stamp the plans for structures and systems other than buildings and their associated systems (for example, utilities, equipment or accessories to utilities and equipment)?

No.

13. May mail-order or other pre-produced plans for a nonexempt project that are prepared by a design professional who is not licensed in Hawaii be submitted for a permit?

No, and even if they are prepared by or under the direct supervision of a Hawaii-licensed professional, they must be site-specific, i.e., adapted for a project's specific site.

14. May anyone other than a Hawaii-licensed landscape architect prepare and stamp landscape and irrigation plans?

No, although an irrigation system alone may be designed by a civil engineer.

1 5. May a landscape architect prepare and stamp site plans which incorporate a variety of features such as garden pools, fences, play structures, on-grade decks and the like?

Yes, provided the plans are limited to these features and are not for habitable buildings.

16. Who may serve as the principal design professional on a multi-discipline building project?

Hawaii-licensed architects and structural engineers.

17. May a surveyor prepare and stamp plot or site plans?

Yes, but only to the extent that the plans show boundary, easement, building outline, topographical and other measurement data descriptive of existing conditions. A surveyor may not prepare or stamp design documents.

Appendix A — Standards for Project Plans

The drawings, specifications and other documents required by the building department for a given project depend upon its type, scope and complexity. However, the following is a general list of the information the building department will require, to the extent relevant to the project, prior to the issuance of a permit:

Cover Sheet

- Project identification or title
- Project location, i.e., its street address and town
- Tax Map Key number of the project's location
- Name, contact address and telephone of the owner
- Names, contact addresses and telephones of all design professionals whose work appears in the plans
- Drawing index
- Location map, showing surrounding streets
- Code requirements or allowances per code definition, and design response proposed, for the following:

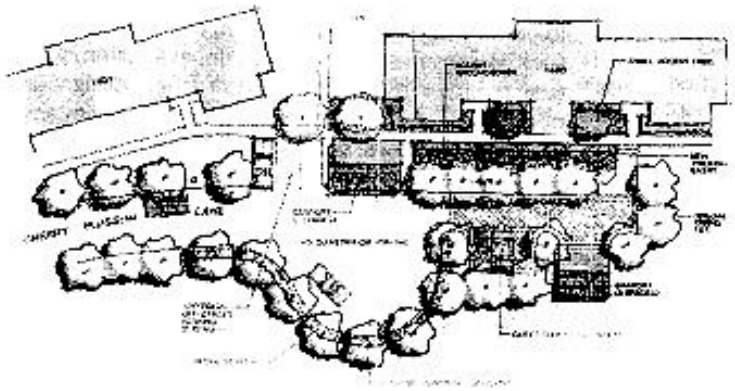
  - applicable zoning and building codes/editions
  - land use zone
  - property area
  - setbacks from property lines/building envelope
  - parking/loading
  - building area/ratio
  - floor area/ratio
  - occupancy group/load
  - number of stories
  - construction type
  - fire sprinklers

Site Plan	Show existing and proposed new structure(s), all property lines with dimensions, adjoining streets, all easements, setback areas and dimensions from key building corners to adjacent property lines. Show all water, sewer, and electrical points of connection and existing utilities on the site. Show all parking, grading and drainage information with reference to adjacent streets and properties.
Foundation Plan	Show foundations (footings, piles, slabs, etc.), materials and strengths, and reinforcing. Show imbedded anchoring such as anchor bolts, hold-downs, post bases, etc. Indicate source of soil bearing analysis.
Floor Plan	Show all floors, including the basement floor(s) if any. Show existing construction to be demolished, on a separate demolition plan if necessary. Show existing and proposed rooms and indicate the use of each. Clearly differentiate between new and existing construction. Show doors and windows including the type(s) of all glass. Show area and occupancy separations, draft stops and fire assemblies.
Structural Framing Plans	Show structural members, their size, methods of attachment including hold-downs, location, intervals, materials and reinforcing. Similarly, describe decking and sheathing and any lateral bracing system. Show roof extents, hips, valleys, and structural materials.
Exterior Elevations	Show views from all directions with vertical dimensions. Show openings and describe all finish materials.

Building Sections and Wall Sections	Show materials of construction, non-rated and fire-rated assemblies and fire-rated penetrations, finished floor elevations and top-of-plate dimensions, and other key vertical dimensions not shown elsewhere.
Mechanical Plan	Show the entire air conditioning and ducted ventilation system. Describe all units and their capacities. Show mounting details, duct work, duct sizes, fire dampers and appropriate lateral restraints. Provide energy conservation calculations if required.
Plumbing Plan	Show all fixtures. Except for simple, single family houses, show all piping, materials, and sizes. Show point of connections to utilities, septic tanks, pretreatment sewer systems, and water wells not shown elsewhere.
Electrical Plan	Show all electrical fixtures and appliances for the structure and site, and a fixture and appliance schedule. Except for simple, single family houses, show wiring sizes and circuiting, grounding, panel schedules, single line diagrams, and load calculations. Show point of connection to utility if not shown elsewhere. Provide energy conservation calculations if required.
Irrigation Plan	Show location and describe backflow prevention device, controller, valves, main line, lateral lines, sprinkler heads and point of connection for the system. Indicate pipe sizing, flow in gallons/minute for each valve in spray, and drip irrigation zones.

Specifications Describe generically or by manufacturer's brand and product number, all materials and permanent fixtures and equipment to be used in the project, either on the drawings or in a separate book as the scope of the project warrants, and with sufficient specificity to allow the performance characteristics of these to be established. Describe methods of construction, fabrication, installation and finishes as required to assure realization of the design intent. Describe components and finishes used in multiple locations, applications or variations and reference these on the drawings with identification symbols or notes.

Calculations Provide calculations required to support engineering design.



Appendix B

HRS Chapter 464
Professional Engineers, Architects, Surveyors and Landscape Architects [excerpts]

§464-1 Definitions. As used in this chapter:

"Professional engineer" means a person who holds oneself out as able to perform, or who does perform, any professional service such as consultation, investigation, evaluation, planning design, or observation of construction or operation, in connection with any public or private utilities, structures, buildings, machines, equipment, processes, works, or projects, wherein the safeguarding of life, health, or property is concerned or involved, when such professional service requires the application of engineering principles and data.

"Architect" means a person who holds oneself out as able to perform, or who does perform, any professional service such as consultation, investigation, evaluation, planning, design, including aesthetic and structural design, or observation of construction, in connection with any private or public buildings, structures, or projects or the equipment or utilities thereof, or the accessories thereto, wherein the safeguarding of life, health, or property is concerned or involved, when the professional service requires the application of the art and science of construction based upon the principles of mathematics, aesthetics, and the physical sciences.

“Surveyor” or **“land surveyor"** means a person who holds oneself out as able to make, or who does make cadastral surveys of areas for their correct determination and description, either for conveyancing or for the establishment or reestablishment of land boundaries or the plotting of lands and subdivisions thereof.

“Landscape architect" means a person who holds oneself out as able to perform professional services such as consultation, investigation, reconnaissance, research, design, preparation of drawings and specifications, and observation of construction where the dominant purpose of the services is: (1) the preservation and enhancement of land uses and natural land features; (2) the location and construction of aesthetically pleasing and functional approaches for structures, roadways, and walkways; and (3) the design for equestrian trails, plantings, landscape irrigation, landscape lighting, and landscape grading.

This practice shall include the location, arrangement, and design of tangible objects and features as are incidental and necessary to the purposes outlined herein. Nothing herein shall preclude a duly licensed landscape architect from planning the development of land areas and elements used thereon or from performing any of the services described in this section in connection with the settings, approaches, or environment for buildings, structures, or facilities; provided that nothing in this chapter shall empower a landscape architect licensed under this chapter from practicing or offering to practice architecture or engineering in any of its various recognized branches.