

# **Reference Manual For Building Officials**



**Board of Registration for  
Architects, Engineers  
and Land Surveyors**

*January 2003 Edition*

*Alaska*

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**DEPARTMENT OF COMMUNITY  
AND ECONOMIC DEVELOPMENT**  
Division of Occupational Licensing

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## INTRODUCTION

This manual has been published by the State Board of Registration for Architects, Engineers and Land Surveyors (AELS) to aid government, building officials, and design professionals in understanding the laws governing architecture, engineering, land surveying and landscape architecture in the State of Alaska.

Building codes and professional registration laws are meant to work together. Building code jurisdictions and architectural, engineering, land surveying, and landscape architectural registration boards, such as the AELS Board, each exist to protect the public against unsafe structures and site conditions.

This manual is a guideline intended as a source of basic information and does not attempt to address all of the questions concerning the practices of architecture, engineering, land surveying or landscape architecture. Registration officials protect the public by ensuring that all design professionals have satisfied education and training standards and have passed a rigorous examination on technical and practice issues (see Alaska statutes 08.48, and AELS regulations, 12 AAC 36).

Building officials promulgate and enforce building code requirements that protect the public's health and safety.

While some items identified herein are taken from Alaska Statutes, other items are recommended minimum practices or Board policies.

It is recommended that the design professional contact the local building official as specific site and building permit requirements may vary from jurisdiction to jurisdiction within the state. If you need further information or assistance concerning requirements of the AELS Board, please write or telephone:

Licensing Examiner  
Department of Community and  
Economic Development  
Division of Occupational Licensing  
P.O. Box 110806  
Juneau, Alaska 99811-0806  
Phone: (907) 465-2540 or (907)465-2691  
Fax: (907) 465-2974  
website:<http://www.dced.state.ak.us/occ/pael.htm>

To check current licenses and registration numbers, the following numbers can also be contacted, or you may query the database: click on "list of licensees" at <http://www.dced.state.ak.us/occ/pael.htm>.

Other office locations for the Division of Occupational Licensing:

Atwood Building  
550 W.7<sup>th</sup> Ave Suite 1500  
Anchorage, AK 99501  
Phone: (907) 269-8160  
Fax: (907) 269-8156

A section of this manual address the questions most often asked by building officials. The questions are illustrative only and do not modify any statutory requirements.

The State Fire Marshal offices are designated as the state building official that conducts plan reviews on all construction (except exempted occupancies) in the state except where this office has granted deferrals. The State Fire Marshal adopts the building code under the authority of AS 18.70 and defines that under 13 AAC 50-55.

State Fire Marshal  
State of Alaska  
Division of Fire Prevention  
5700 E. Tudor Toad  
Anchorage, AK 99507-1225  
(907) 269-5491

**Building Officials**

**Municipality of Anchorage**

4700 S. Bragaw St.  
Anchorage, AK 99507  
Phone:(907) 343-8301  
Fax: (907) 343-8200

**City of Fairbanks**

800 Cushman St.  
Fairbanks, AK 99701  
Phone:(907) 459-6720  
Fax: (907) 459-6719

**City of Juneau**

155 S. Seward Street  
Juneau, AK 99801  
Phone:(907) 586-0770  
Fax: (907) 586-3365

**City of Kenai**

210 Fidalgo, Suite 200  
Kenai, AK 99611-7794  
(907) 283-7933

**City of Kodiak**

619 Mill Bay Rd.  
Kodiak, AK 99615  
(907) 486-8070

**City of Seward**

P.O. Box 1397  
Seward, AK 99644  
(907) 224-4071

**City of Soldotna**

177 N. Birch St.  
Soldotna, AK 99669  
(907) 262-9107

**City of Sitka**

100 Lincoln St.  
Sitka, AK 99835  
(907) 747-1807

**City of Ketchikan**

334 Front St.  
Ketchikan, AK 99901  
(907) 228-5673

**City of Homer**

3575 Heath St.  
Homer, AK 99603  
(907) 235-3170

**City of Valdez**

P.O. Box 307  
Valdez, AK 99686  
(907) 835-4313

**City of Cordova**

P.O. Box 1210  
Cordova, AK 99574  
(907) 424-6200

**City of Whittier**

P.O. Box 608  
Whittier, AK 99693  
(907) 472-2340

**City of Palmer**

231 W. Evergreen Ave.  
Palmer, AK 99645  
(907) 745-3271

**City of North Pole**

125 Snowman Lane  
North Pole, AK 99705  
(907) 488-2281

**City of Unalaska**

P.O. Box 610  
Unalaska, AK 99685  
(907) 581-1260

**Kenai Peninsula Borough**

144 N. Binkley Street  
Soldotna, AK 99669  
(907) 262-4441

**DEFINITION OF ARCHITECTURE, ENGINEERING,  
LAND SURVEYING AND LANDSCAPE ARCHITECTURE**

**Alaska State Statute 08.48.341** defines architecture, engineering, land surveying and landscape architecture as follows:

(11) "practice of architecture" means professional service or creative work in the design of buildings, the teaching of advance architectural courses in institutions of higher learning, consultation, investigation, evaluation, planning, design, and professional observation of construction of public or private buildings, works, or projects, and architectural review of drawings and specifications by regulatory agencies; "practice of architecture" may by regulation of the board include mechanical, electrical, or structural design of minor importance.

(12) "practice of engineering" means a professional service or creative work, the adequate performance of which requires the specialized knowledge of applied mathematics and sciences, dealing with the design of structures, machines, equipment, utilities systems, materials, processes, works, or projects, public or private; the teaching of advanced engineering courses in institutions of higher learning; the direction of or the performance of engineering surveys, consultation, investigation, evaluation, planning and professional observation of construction of public and private structures, works, or projects and engineering review of drawings and specifications by regulatory agencies; "practice of engineering" may by regulation of the board include architectural building design of minor importance, but it does not include comprehensive architectural services;

(13) "practice of land surveying" means the teaching of land surveying courses at an institution of higher learning, or any service or work the adequate performance of which involves the application of special knowledge of the principles of mathematics, the related physical and applied sciences, and the relevant requirements of law for adequate evidence of the act of measuring and locating land, geodetic and cadastral surveys for the location and monumentation of property boundaries, for the platting and planning of land and subdivisions of land, including the topography, alignment, and grades for streets, and for the preparation and perpetuation of maps, record plats, field note records, and property descriptions that represent these surveys(14)

(14) "practice of landscape architecture" means professional services or creative work in site investigation, reconnaissance, research, planning, design, and preparation services related to drawings and construction documents, observation of construction, and location, arrangement, and design of incidental and necessary tangible objects and features for the purpose of

(A) preservation and enhancement of land uses and natural land features;

(B) location and construction of aesthetically pleasing and functional approaches for structures, roadways, and walkways;

(C) establishing or maintaining trails, plantings, landscape irrigation, landscape lighting, and landscape grading; or

(D) generalized planning of the development of land areas in a manner that is sensitive to the area's natural and cultural resources;

Unless specifically exempt **under AS 08.48.331** all projects (public, commercial and private) which require the involvement of architects, engineers, land surveyors and landscape architects, must utilize only registered professionals.

### **AS 08.48 EXEMPTIONS**

NOTE: The State of Alaska exempts the following activities from the licensing regulations under **Alaska Statute 08.48.311**, which reads

#### **Sec. 08.48.331. Exemptions.**

(a) This chapter does not apply to

(1) a contractor performing work designed by a professional architect, engineer, or landscape architect or the supervision of the construction of the work as a supervisor or superintendent for a contractor;

(2) workers in building trades crafts, earthwork, grounds keeping, or nursery operations, and superintendents, supervisors, or inspectors in the performance of their customary duties;

(3) an officer or employee of the United States government practicing architecture, engineering, land surveying, or landscape architecture as required by the person's official capacity;

(4) an employee or a subordinate of a person registered under this chapter if the work or service is done under the direct supervision of a person registered under this chapter;

(5) associates, consultants, or specialists retained by a registered individual, a partnership of registered individuals, a corporation, a limited liability company, or a limited liability partnership authorized to practice architecture, engineering, land surveying, or landscape architecture under this chapter, in the performance of professional services if responsible charge of the work remains with the individual, the partnership, or a designated representative of the corporation, limited liability company, or limited liability partnership;

(6) a person preparing drawings or specifications for

(A) a building for the person's own use and occupancy as a single family residence and related site work for that building;

(B) farm or ranch buildings and their grounds unless the public health, safety, or welfare is involved;

(C) a building that is intended to be used only as a residence by not more than four families and that is not more than two stories high and the grounds of the building;

(D) a garage, workshop, or similar building that contains less than 2,000 square feet of floor space to be used for a private noncommercial purpose and the grounds of the building;

(7) a specialty contractor licensed under AS 08.18 while engaged in the business of construction contracting or designing systems for work within the specialty to be performed or supervised by the specialty contractor, or a contractor preparing shop or field drawings for work that the specialty contractor has contracted to perform;

(8) a person furnishing drawings, specifications, instruments of service, or other data for alterations or repairs to a building or its grounds that do not change or affect the structural system or the safety of the building, or that do not affect the public health, safety, or welfare;

(9) a person who is employed by a post secondary educational institution to teach engineering, architectural, or landscape architectural courses; in this paragraph, "post secondary educational institution" has the meaning given in AS 14.48.210;

(10) an officer or employee of an individual, firm, partnership, association, utility, corporation, limited liability company, or limited liability partnership, who practices engineering involved in the operation of the employer's business only, and further provided that neither the employee nor the employer offers engineering services to the public; exclusions under this paragraph do not apply to buildings or structures whose primary use is public occupancy;

(11) a person while involved in revegetation, restoration, reclamation, rehabilitation, or erosion control for disturbed land;

(12) a person while maintaining or directing the placement of plant material;

(13) an employee, officer, or agent of a regulatory agency of the state or a municipality when reviewing drawings and specifications for compliance with the building codes of the state or a municipality if the drawings and specifications have been signed and sealed by a professional architect or professional engineer or the preparation of the drawings and specifications is exempt under this section from the requirements of this chapter; in this paragraph, "building codes" includes codes relating to building, mechanical, plumbing, electrical, and fire standards.

(b) The requirement to be registered as a landscape architect under this chapter only applies to a person who practices an aspect of landscape architecture that the board has determined affects the public health or safety.

**12 AAC 36.069. STANDARDS FOR REGISTRATION AS A LANDSCAPE ARCHITECT.** In accordance with **AS 08.48.331(b)**, and except as exempted in **AS 08.48.331(a)**, design or creative work involving any of the following constitutes the practice of an aspect of landscape architecture that affects the public health or safety and thus requires registration as a landscape architect:

- (1) grading, clearing, or shaping of land'
- (2) landscape irrigation;
- (3) outdoor planting plans
- (4) outdoor play apparatus;
- (5) outdoor structures.

## **12 AAC 36.195. SITE ADAPTATION OF DESIGN DOCUMENTS**

An architect, engineer, or landscape architect registered in the state may site adapt design documents prepared by others if the architect, engineer, or landscape architect

(1) has written permission to adapt the design documents from the person who sealed the original design documents or the legal owner of the design documents;

(2) reviews the design documents and makes all necessary revisions to bring the design documents into compliance with applicable codes, regulations, and job-specific requirements;

(3) independently performs all calculations and maintains them on file;

(4) after review, reissues the design documents with the title block and seal of the architect, engineer, or landscape architect performing the site adaptation;

(5) maintains design control over the use of the site-adapted design documents just as if they were the original design of the architect, engineer, or landscape architect performing the site adaptation.

**SEALING OR STAMPING WORK OUTSIDE OF EXPERTISE IS NOT PERMITTED**

REFER TO:

**AS 08.48.221**  
**12 AAC 36.185**

**SUMMARY**  
**SEALING PROFESSIONAL WORK**

The law and applicable codes in Alaska have requirements that professional submissions must be sealed by the professional who prepared them and/or supervised their preparation. This state has specific laws requiring that drawings used for construction bear the seal of a registered architect, engineer, land surveyor and/or landscape architect as appropriate. The International Building Code as adopted by 13 AAC 50-55 also contains this requirement.

Registered architects, engineers, land surveyor and landscape architects are responsible for their professional design services. The public as well as building officials rely on their professional expertise. As a result, professional submissions such as drawings, specifications and calculations should clearly show the identity of the professional who prepared them by having affixed a seal and signature and otherwise complying with the requirements of state law. Without proper professional identification, ultimate responsibility for any deficiencies may not be clear.

The State Fire Marshal or the designated building official must require that all drawings have either the seals of an architect, engineer, land surveyor or landscape architect as appropriate, or have a notation on the drawings and/or building permit application noting reason for the lack of a seal or the state law exempting the preparation of the drawings by registered professionals **08.48.331**.

Architects, engineers, land surveyors and landscape architects as design professionals are responsible for performing design services within their area of expertise. All design work so performed shall be sealed and signed as specified in **12 AAC 36.185(a)(3)**.

Registered professionals may not perform design services outside their area of expertise or registration. They shall not seal work performed by others unless they were prepared under the registrants' direct supervision. Sealing plans for which you do not have the expertise and registration is a violation of **AS 08.48**.

## **STAMPING & SIGNING OF PLANS BY REGISTERED ARCHITECTS AND ENGINEERS**

The following policy is presented as the minimum acceptable standard for the sealing and submittal of drawings.

Specifically, all drawings and documents shall be sealed and signed as follows:

1. Drawings: Each sheet of final drawings approved for building permit issuance shall bear the signed seal of the responsible design professional(s) (i.e., architectural, civil, mechanical, electrical, etc.). Cover sheets that do not include design elements do not require a seal [*Defines which final documents need a seal*].
2. Soils and Other Required Reports: A signed seal must be placed on a front page or within the body of the report.

## FREQUENTLY ASKED QUESTIONS

1. **I have a set of drawings sealed and signed by an engineer, architect, land surveyor and landscape architect registered in a state other than Alaska. Does the plan submittal meet the requirements for a design professional in Alaska?**

No. Only design professionals currently registered in the State of Alaska, have a legal standing in the state. Professionals registered in other states must obtain registration in Alaska prior to offering or initiating any design work within Alaska unless exempt under AS 08.48.331.

2. **Can an Alaska registrant take responsibility for a design done by an out-of-state registrant not registered in Alaska?**

Yes, if they follow the requirements under 12 AAC 36.195, for Site Adaptation.

3. **Can an owner, builder, or contractor, make changes to drawings prepared by an architect, engineer, land surveyor, or landscape architect?**

No. When drawings are prepared by an Alaska registrant no changes may be made except by that professional or under the provisions of 12 AAC 36.195.

4. **May an Alaska registrant make changes to drawings prepared by another Alaska registrant?**

No, except as provided by 12 AAC 36.195.

5. **May an engineer registered in Alaska prepare and stamp architectural plans?**

No. Registered professionals may only practice within their area of expertise and registration.

6. **May an architect registered in Alaska prepare and stamp engineering documents?**

No. Registered professionals may only practice within their area of expertise and registration [INCIDENTAL PRACTICE HAS NOT BEEN DEFINED].

7. **May an engineer, architect or land surveyor prepare and stamp landscape plans?**

No, not unless exempted (AS 08.48.331). Registered professionals may only practice within their area of expertise and registration.

8. **May an engineer whose experience is limited to roadway design stamp structural plans for a high rise building?**

No. Registered professionals may only practice within their area of expertise and registration.

9. **Can an engineer's calculations be used as the only documents for construction work?**

No, the engineering analysis calculation does not provide a complete description of the project, for construction purposes.

**10. Do shop drawings have to be stamped by an engineer, architect, or landscape architect and submitted to the building official for approval?**

No. Typically, shop drawings are intended as contractor or fabricator details that support the original design work. These are not typically part of the building department approved design documents. The contract Specifications for a given project may require stamped shop drawings.

**11. What are examples of component, supplemental designs or shop drawings which are required to be sealed by a design professional when submitted to the building official for approval?**

This is just a small list of the examples:

- a) Prefabricated metal buildings
- b) Roof truss systems (complete system)
- c) Post-tension or prestress designs
- d) An alternate to original submittal
- e) Component or system substitution which substantially changes scope of work or code application
- f) Precast concrete building components

**12. Can a land surveyor prepare and submit plot and grading plans?**

Yes. Land surveyors may prepare plot plans which provide topographical and related measurement data, including the location of design features. However, a land surveyor may not design engineering, architectural, or landscape architectural components.

**13. Can an architect, engineer, residential designer, or home-owner/builder submit book-bought residential drawings or residential drawings prepared by others and comply with Alaska statutes?**

Drawings or specifications for private residences may be exempt under **08.48.331(6)**. However, the building official may require calculations for unusual structures or conditions.

**14. Can a contractor sign the cover sheet of a set of drawings prepared by an out-of-state architect, engineer, or landscape architect?**

No, not for a project requiring the seal of a registered professional.

**15. At what point does a plan or drawing need to be sealed?**

Refer to **12 AAC 36.185 (a)(3)**:

Seal only final plans, surveys, reports, and required construction documents approved for building permit issuance for which the registrant is qualified to seal and for which the registrant claims responsibility [*defines which final plans need seal*].

**16. Can an architect, engineer, land surveyor, or landscape architect seal a preliminary document?**

Yes, if it is adequately noted near the seal that it is not a final plan but is intended as a conceptual document.

**17. Do sealed and signed construction documents need to be on the construction site?**

Yes, copies of the final sealed and signed construction documents are allowed.

**18. Can drawings be submitted electronically with digital seals?**

Documents submitted for construction must be sealed and signed. There must be an original document with a seal and original signature on file with the professional or document owner. Documents submitted for other purposes do not need to be sealed.

**19. How can a building official determine if the property plan boundary is correct?**

One way to check is to look for the seal of a Registered Land Surveyor. The Registered Land Surveyor could then be contacted.

**20. When is a landscape architect plan required to be signed and sealed?**

When it affects the public health and safety as determined by the AELS Board. Refer to 12 AAC 36.069:

In accordance with AS 08.48.331 (b), and except as exempted in AS 08.48.331 (a), design or creative work involving any of the following constitutes the practice of an aspect of landscape architecture that affects the public health or safety and thus requires registration as a landscape architect:

- (1) grading, clearing, or shaping of land;
- (2) landscape irrigation;
- (3) outdoor planting plans;
- (4) outdoor play apparatus;
- (5) outdoor structures.

**21. Does a planting plan need to be stamped by a registered landscape architect?**

Yes, unless it falls under the exemptions under AS 08.48.331.

**22. Am I doing anything wrong by reviewing plans that are not stamped by an architect or engineer?**

Yes (AS 08.48.331).

**23. As a plan reviewer, do I need to be a professional architect, engineer, land surveyor, or landscape architect?**

Yes, you need to be registered unless you are exempt. Under AS 08.48.331 (13) you are exempt "when reviewing drawings and specifications for the compliance with the building codes of the state or a municipality if the drawings, have been signed and sealed by a professional architect or professional engineer or the preparation of the drawings and specifications is exempt under this section from the requirements of this chapter;"

## **COMMON SERVICES PROVIDED BY ARCHITECT, ENGINEERS, LAND SURVEYORS AND LANDSCAPE ARCHITECTS**

### **The Architect**

Presented in this section is a description of the general areas of responsibility for architects that elaborate on the statutory definitions of architecture mentioned above. The descriptions are not all-inclusive, but are intended to give general guidance on the definition of the practice of architecture.

A practicing architect is a person who has a valid license issued by the state within which he or she intentionally assumes responsibility for providing professional services, including but not limited to safeguarding the health, safety and property and promoting the public's welfare for the enhancement of both the natural and built environment. These enhancements shall be functional, aesthetically pleasing, sustainable, and cost effective. The result of the architect's professional service shall contribute to the physical, sociocultural, and emotional well being of the public. Listed below are examples of subjects that architects typically address:

1. Overall Project Management: construction management and inspection; planning; application of federal, state, and local codes; and design standards.
2. Site Layout: comprehensive plans; land use laws; building layout; and barrier-free access.
3. Building Classification and Intended Use: occupancy; type of construction; occupant load.
4. Building Circulation and Egress: corridors; travel distances; exists and exit widths; stairways.
5. Building Structural Systems, Including Gravity and Lateral Forces (wind and seismic forces).
6. Fire Safety Considerations:
  - a. fire ratings, fire walls, separations, requirements for sprinklers, fire alarms, smoke control, penetration control, product and material specifications, and damper types and locations.
  - b. consideration of the use and storage of hazardous materials (e.g., toxics, flammables, corrosives).
7. Interior Space Planning.
8. Interior and Exterior Finish Materials, and Wall/Floor Construction Systems (for durability, water tightness, aesthetics, and fire ratings).
9. Energy/Ventilation and Indoor Air Quality, including environmental impacts and compliance with regulations:
  - a. sound attenuation,
  - b. solar ventilation,
  - c. vapor barriers.
10. Accessibility for Persons with Disabilities *in compliance with the International Building Code*.
11. Aesthetically Pleasing and Contextually Appropriate Overall Design.
12. Project Coordination.

## The Engineer

In Alaska State, engineers may obtain a certificate of registration in any one or more of the following disciplines:

Civil  
 Chemical  
 Electrical  
 Mechanical  
 Mining, and  
 Petroleum.

Presented in this section are descriptions of the general areas of responsibility of professional engineers that elaborate on the statutory definition of engineering mentioned above. The descriptions are not all-inclusive, but are intended to give general guidance on the practice of engineering.

1. Overall Project Management: construction management and inspection; planning; application of federal, state and local codes; and design standards.
2. Structural Systems: seismic design and analysis; foundations; soil-structure interaction; connections; beam sizing; horizontal/vertical loading and forces; load and stress analysis; truss design; failure analysis.
3. Electrical Systems: Power generation distribution and load use requirements; instrumentation; lighting protection and grounding; communication systems; and electronic devices.
4. Mechanical Systems: Machines; dynamics; finite element analysis; fuels; boilers; heating/ventilation/air conditioning control systems; fluid distribution; energy analysis; air circulation; heat transfer; venting; fire protection systems and acoustics.
5. Civil Systems: Site design; grading and drainage; soil analysis; wastewater treatment; ground water and wells; earth retaining structures; traffic analysis; parking and access; road and utility design; water treatment; storm water runoff & treatment; airports; marine and erosion control.
6. Fire Protection Systems: Fire suppression using water and non-water systems; fire detection and alarms; fire prevention; and water supply and risk analysis.
7. Environmental Systems Water system planning, development and operation; hazardous wastes; air quality; pollution control; natural and ground water sources; and public and occupational health and risk assessment.
8. Miscellaneous: System operations; tools; quality assurance; safety; manufacturing process; thermodynamics; conservation systems; materials selection; and project quality control.
9. The practice of landscape architecture overlaps with civil engineering and depending on the work, it could be stamped by either a civil engineer or landscape architect.

## **The Land Surveyor**

This section describes the general areas of responsibility for professional land surveyors and elaborates on the statutory definitions of land surveying above. The descriptions are not all-inclusive, but are intended to give general guidance on the definition of the practice of land surveying.

1. Establishment, reestablishment and recovery of land boundaries, monuments and corners.
2. The subdivision of land into lots, parcels or tracts by the determination and location of new corners, lines and monuments according to local and state subdivision codes.
3. Horizontal and vertical measurement, analysis and adjustment.
4. Topographic measurement for the creation of a topographic (contour) map that illustrates slope, terrain, geographical features, structures, improvement, boundary lines and wetland delineation.
5. Writing, reviewing, researching, editing and analyzing land boundary descriptions (legal descriptions).
6. Geodetic surveys, aquatic land surveys and hydrographic surveys.
7. Research of written, physical and parole evidence related to the interpretation of land descriptions and boundary locations.

## The Landscape Architect

Presented in this section is a description of the general areas of responsibility for landscape architects that elaborate on the statutory definitions of landscape architecture above. The descriptions are not all-inclusive, but are intended to give general guidance on the definition of the practice of landscape architecture.

1. Planning:
  - a. Site Analysis
  - b. Visual Assessment
  - c. Environmental Assessment
  - d. Recreation Assessment
  - e. Vegetation Management
  - f. Urban and Town
  - g. Regional
  - h. Parks and recreational facilities
  - i. Land development
  - j. Historic preservation and reclamation
  
2. Design:
  - a. Site layout
  - b. Grading
  - c. Drainage
  - d. Planting
  - e. Landscape Irrigation
  - f. Pedestrian/bicycle/equestrian/vehicular circulation
  - g. Site furniture
  - h. Recreational facilities
  - i. Wetland and wildlife habitat mitigation/restoration
  - j. Soil stabilization
  - k. Biofiltration
  
3. Construction
  - a. Site construction management and administration
  
4. The practice of civil engineer overlaps with landscape architecture and depending on the work, it could be stamped by either a civil engineer or landscape architect.

## **GUIDELINES FOR CONSTRUCTION DRAWINGS**

Drawings and specifications submitted to the building official must be of sufficient nature to clearly show the project in its entirety. The minimum required drawings will depend greatly upon the size, nature, and complexity of the project.

### **COVER SHEET OR FOLLOWING SHEET**

1. Project identification
2. Project address and location map
3. Identification of all design professionals
4. Design\Code Criteria:
  - a. Land use zone/setback requirements/parking requirements
  - b. Relevant codes
  - c. Occupancy group/separation requirements
  - d. Construction Type
  - e. Height and number of stories
  - f. Square footage/Allowable area of each occupancy by floor [raw square footage is of limited use]
  - g. Occupant load
  - h. Exiting requirements
  - i. Seismic/wind zones
  - j. Design loads
  - k. Fire Sprinklers/standpipes
  - l. Legal description

### **LAND SURVEY/PLOT PLAN/BOUNDARY SURVEY [DRAWINGS]**

Show surveyed boundary of land with existing structures, easements and setbacks.

### **SITE [DRAWINGS] PLANS**

Show proposed new structure and any existing buildings or structures, property lines, streets, easements, encroachments [*buildings primarily on an adjacent lot*] and setbacks. Show proposed utility services. Show required parking, drainage and grading information (with reference to finish floor and adjacent streets). Indicate drainage inflow and outfall locations and specify areas required to be maintained for drainage purposes.

### **LANDSCAPE [DRAWINGS] PLANS**

Show vegetation management, site layout, aesthetics and overall project design, site circulation and exiting, recreation facilities, playground structures, grading and drainage of the landscape, new planting, landscape irrigation, environmental impacts, and barrier free design.

### **FLOOR [DRAWINGS] PLANS**

Show floor plans including basements. Show rooms, with their use, dimensions and locations of structural elements and openings. Show doors and window schedules or show dimensions at each opening on the drawings [*to avoid schedules for small projects*].

### **FLOOR [DRAWINGS] PLANS (Continued)**

Show fire assemblies, area and occupancy separations, fire barriers, fire areas, [*new terms in the International Building Code*] and draft stops shall be shown.

### **FOUNDATION [DRAWINGS] PLANS**

Show foundations and footings. Indicate size, locations, thicknesses, materials and reinforcing. Show embedded anchoring such as anchor bolts, hold-downs, post bases, etc. Provide soils boring locations.

### **EXTERIOR ELEVATIONS**

Show all building elevations and indicate building materials.

### **BUILDING SECTIONS AND WALL SECTIONS**

Show materials of construction, non-rated and fire-rated assemblies and fire-rated penetrations. Show critical dimensions unless indicated elsewhere.

### **FRAMING [DRAWINGS] PLAN**

Show structural members, size, methods of attachment, location, spacing, *[need rafter spacing, for example]* and materials. Indicate characteristics of sheathing, slabs, or decking. Locate lateral force-resisting elements.

### **MECHANICAL SYSTEM**

Show entire mechanical system. Include units, their sizes, mounting details, duct work and duct sizes. Indicate fire dampers where required. Provide equipment schedules.

### **PLUMBING SYSTEM**

Show fixtures, piping, slopes, materials, fitting types *[type of DWV fitting is important]* and sizes. Show point of connections to site utilities with size and pressure, where appropriate *[size of utility lines and water pressure are critically needed information]*.

### **ELECTRICAL SYSTEMS**

Show electrical fixtures (interior, exterior and site), circuit protection requirements *[can include ground-fault, arc-fault and short circuit protection]*, wiring sizes and circuiting, grounding, panel schedules, single line diagrams, load calculations, and fixture schedules or label each fixture on drawings *[so that engineer is not required to produce a schedule for a small project]*. Show point of connection to utility.

### **SPECIFICATIONS**

Either on the drawings or in booklet form, further define construction components, covering materials and methods of construction, finishes, and all pertinent equipment. Schedules may be incorporated in project manual in lieu of on drawings.

### **PROJECT CHANGES**

The responsible design professional shall notify the building official of significant changes throughout the bidding and construction process and provide revised drawings, calculations or other appropriate documents. For clarity, all revisions shall be on the drawings and be submitted.