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## 1.1 GENERAL CONDITIONS

Uniformity of contract is desirable throughout the industry for purposes of efficiency, economy and interpretation. The basic document which most widely represents the thinking of construction industry leaders is the AIA Document A201, *General Conditions of the Contract for Construction*. The most current edition of AIA A201 should be included in contract documents covering the construction of buildings. Any departure from AIA A201 to meet local needs or to comply with local, state or federal statutes should be included in supplementary conditions (See Chapter 4) and coordinated with Division 1, General Requirements. Do not attempt to retype or hide changes to AIA A201 which are deemed necessary for your jurisdiction. Supplementary conditions should be used to make changes that can be easily identified by bidders. If unique conditions are prevalent in your jurisdiction, they should be noted in supplementary conditions. Examples of these items might be change order mark-up limitations, sewer availability charges and watershed district permitting. AIA provides an instruction sheet and commentary with an annotated AIA A201 reference of items for review and consideration.

## 1.2 MASTERFORMAT™

For the past 40 years MasterFormat™ has been an industry standard for organizing specifications and information for buildings. MasterFormat™ 2004 Edition is a major revision and expansion of this document that reflects advances in construction technology and evolving construction priorities such as security, life safety and facility life cycle. It adds categories for heavy civil construction such as dams and bridges, and process engineering construction such as power plants and refineries, among other new categories.

CICC recommends that all segments of the construction industry in Minnesota should adopt this internationally recognized master list of division and section titles and numbers not only for specifications but also for product and data filing and project cost data.

See Appendix 1 for a list of division and section titles and numbers.

## 1.3 PURCHASING, FURNISHING MATERIALS

Purchasing and furnishing of materials is a logical business management function of construction. This function can be performed most efficiently and economically by the Contractor. Experience shows that the purchase of materials by the Owner cannot be controlled very well and, in fact, often results in acquiring of incomplete or unspecified materials. Therefore, such purchasing and furnishing of materials should be included in the construction contract as a specific responsibility of the Contractor. When that is not possible, owner-purchased material should be carefully coordinated with the Contractor, Architect and subcontractors to minimize confusion and delay to the project.

Allowances should clearly indicate what is included within that allowance, i.e., freight, installation, sales tax, overhead and profit as an example.

## 1.4 COMMUNICATIONS PROTOCOL

Suppliers and subcontractors should coordinate communications through the Contractor. The Contractor should coordinate communications through the appropriate Owner and Architect chain of command identified in the contract documents. Shortcuts, without the clear understanding and approval of contractual parties, will lead to confusion, delays, conflicts and potential legal disputes.

## 1.5 PREPARATION OF CONTRACT DOCUMENTS

Contract documents clearly define the extent of the work of the Owner, the Architect and each Contractor who will be involved in the project. The Contract documents should clearly delineate individual responsibilities within the contractual relationship for each of the parties involved. (Note: See the Introduction to the Blue Book - Terms, regarding use of the term "Architect").

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Contract documents should show building component fire endurance ratings and building use classifications required by the applicable building code or by the Owner.

Electronic drawings used for ongoing facilities management and building inventory systems should be reviewed carefully and standardized by members of the project team.

## 1.6 SURVEYS AND SITE CONDITIONS

Owners should be made aware that the savings from bids based on complete, accurate information more than offset the costs of surveys and soils investigations made to provide this information.

Copies of surveys and soil investigations should be bound, in their entirety, within the contract documents. At a minimum, surveys and soil investigations are to be identified as available to bidders. When hazardous material surveys are required, the Architect should insist such information be made available to bidders.

Survey information should include: (See AIA Document G601, *Request for Proposal - Land Survey*)

- indication of the scale of the survey;
- courses and distances of property lines;
- dimensions and locations (horizontally and vertically) of any structures, easements, rights-of-way or encroachments on the site;
- existing structures or improvements to be removed by the Owner or someone else;
- legal and physical details of party walls, or wall and foundations adjacent to lot lines;
- the positions, dimensions and elevations of all cellars, excavations, wells, filled areas, and the elevation of any water therein;
- trees which may be affected by the building operations;
- type and diameter of trees;
- detailed information relative to building lines, and to lines and grades for street, alley, sidewalk and curb grades at or adjacent to the site, and the materials of which they are constructed;
- sizes and characteristics of utility services;
- expected date and description of any improvements planned for approaches or adjacent utilities;
- location of piping, mains, sewers, poles, wires, hydrants, manholes, etc., upon, over, under or adjacent to the site if within the limits of the survey;
- official datum upon which elevations are based, and a bench mark established on or adjacent to the site;
- contour intervals, elevations, changes in slope, etc., over that portion of the site to be developed, in a scale appropriate to that site.

Site information should include:

- average depth of frost effect below ground surface;
- high and low levels of nearby bodies of water which affect ground water level;
- elevations and locations of the tops of structures relative to the site, if the site is underlaid with mines or old workings in the vicinity;
- whether or not the site is subject to mineral rights which have not been developed;
- plat information checked with the city engineer or similar qualified official to insure that the true street lines and officially established grades of curbs, sidewalks and sewers are correct;
- reconciliation or explanation of any discrepancies between the survey and the recorded legal description;
- visible North arrow on site plan.

Soils information should include: (See AIA Document G602, *Request for Proposal -- Geotechnical Services*)

- log of borings;
- description of soils encountered, also rock, boulders, etc.;
- size and character of obstructions (boulders, foundations, location of pipes and cables, etc.)

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- water table elevation, fluctuations, etc.;
  - soils engineers' analyses and recommendations;
  - pertinent information about the disposal of sanitary, storm water, subsoil drainage, and suitability of subsoil for rainwater or sanitary disposal purposes if dry wells are used.

Plans and specifications should include:

- site data obtained (i.e. survey, soils and the like.);
- specific reference to additional material and/or removal of material;
- specific reference to use of material from the site, including topsoil, for general fill, engineered fill and finish grading and landscaping;
- a requirement that specialty contractors excavating for underground work comply with the general specifications for compacted fill, including tests;
- unit prices for special excavation where appropriate. Where unit prices are used, anticipated quantities and a defined scope of what is included. (See Chapter 2, 2.12, unit prices);
- clarification of requirements for and arrangements between the Owner and the owner of adjacent property for lateral support of ground adjacent to the lot lines;
- identification of sites on the EPA list of sites with hazardous materials or if the owner or architect are aware of any possible contamination, previous construction or other activities that could create hidden conditions.

## **1.7 ESTIMATING SERVICES**

When the Owner or Architect desires a complete and itemized estimate, the party preparing the estimate should be paid on a reasonable basis, preferably agreed upon in advance.

Estimating project costs is an important aspect of any project. Estimates can be based on many costs factors and levels of specificity:

- A preliminary estimate can be based on historical data such as cost per square foot for comparable structures.
- A Conceptual or Schematic Estimate is typically based on a preliminary design.
- Design development or concept development estimates are based upon actual plans provided by an architect.

Published cost data services and estimating are available for various disciplines. General and specialty contractors also provide these services.

## **1.8 LEGIBILITY OF CONTRACT DOCUMENTS**

Legibility, completeness and good organization of contract documents is important to users of these documents, especially with today's increasingly complex construction projects. Clarity of the documents directly affects the bidding phase as well as the time and quality of work during construction of a project.

When producing contract documents, consider that original contract documents may be reduced and reproduced in a variety of ways to facilitate estimating, fabrication and installation of materials during the course of a project. Each time a document is reduced or reproduced, the copy is likely to be less legible than the document from which it was copied.

### **1.8.1 SPECIFICATIONS**

Specifications should be written for a specific project and should include only those sections not required on the project.

Use a Roman typeface, size not less than ten points, in lower and upper case letters. Use no more than two (2) columns across a standard 8-1/2" x 11" page.

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Provide generous side in binding edge. Plastic comb type bindings are preferred. Specifications cover stock must not be too heavy, to permit rolling of specifications for mailing and storage. The use of deep color paper stock is not recommended. If colored paper is used, it should be a light tone.

Include project name, section, page number and date on each specification page to help identify specific sections which may be separately copied.

Common information such as bid date, SAC/WAC/permit charges, special ordinances, alternates, cash allowances etc. should appear in supplementary conditions, and should not be duplicated in technical sections. The Blue Book contains specific recommendations on several of these items.

### 1.8.2 DRAWINGS

General, mechanical, and electrical drawings should all be the same scale.

Reproduction processes used to produce prints must be of top quality.

Information provided on drawings should be clear and complete.

Plan Scales should be 1/8" or 1/4" (1/16" is acceptable for plans where larger scale drawings are included for detailed areas).

Plans should be oriented in same direction with North clearly denoted.

Room finish schedules, door schedules, equipment schedules, and other similar information should easily relate to the plan area they represent, preferably on the same sheet. Nomenclature should be clear. Numbering should be in flowing sequential order.

Cross reference details from the plan to the detail, and from the detail to the plan; verify for accuracy.

Use of reduced sized drawings is discouraged. However, in the event that reduced drawings must be used, consider these precautions:

- Original plans and details should be of sufficient size, scale, and spacing to allow clarity at reduced size reproductions.
- Graphic scales should be used to indicate the scale of the drawings or detail. Scale notations should be given.
- Match lines and key plans should be clearly legible on reduced sized reproductions.

Limit maximum height of drawings to 30" to facilitate the use of drawings during the estimating and construction phases.

Use 70 lb. Kraft paper backing for sets of construction drawings.

Where extensive changes are made by addenda or change order, revised drawings should be issued for construction purposes.

If detail books and/or standard details are used as contract documents, consider these guidelines:

- Detail books should be in standard 8-1/2" x 11" format, and not incorporate larger foldouts.
- Include a standard detail only if it actually applies to the specific project.
- Modify standard details to reflect actual project conditions and to be compatible with project quality, the intended use, and in code compliance within the project jurisdiction.
- Details should have the same cross referencing as other project details.

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## 1.9 RECORD DRAWINGS

Prepare careful documentation of the actual construction as work progresses, for future use, and to help prepare Record Drawings. The Architect and Contractor should clearly understand that Record Drawing information is necessary for the Owner's future use. Upon completion of construction, the Contractor should transfer marked-up red line Record Drawings to the Architect in a timely manner, for the Architect to prepare a reproducible drawing or updated CAD file for distribution to the Owner. Those final Record Drawings should include change orders, field orders, construction directives, any other modifications and equipment manuals.

A format should be specified, such as a three ring binder, clearly identifying the name of the project, the Architect, the Engineer, the Contractor. It should identify specification sections requiring manufacturers' operating or maintenance manuals supplied with equipment. (See also Chapter 6 Commissioning, 6.6.4 Operations and Maintenance Manuals.)

## 1.10 SUSTAINABLE DESIGN

The conservation of not only energy, but all of the earth's resources for the future has become an important issue in construction. As a result, the industry is increasingly facing environmental, ethical and regulatory pressures for sustainable design. Many design and construction professionals are looking for ways to meet their obligations to clients and stockholders without compromising the resources available to future generations. For more information consult the following Minnesota and national resources:

Center for Sustainable Research, University of Minnesota  
[www.csbr.umn.edu](http://www.csbr.umn.edu)

Minnesota Sustainable Design Guide  
[www.msdc.umn.edu](http://www.msdc.umn.edu)

B3 Guidelines (State of Minnesota design legislation on state funded projects for improving building performance).  
[www.csbr.umn.edu/B3](http://www.csbr.umn.edu/B3)

Office of Environmental Assistance  
[www.moea.stste.mn.us](http://www.moea.stste.mn.us)

United States Green Building Council:  
[www.usgbc.org](http://www.usgbc.org)

Energy Star:  
[www.energystar.gov](http://www.energystar.gov)

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### **1.11 DOCUMENT RETENTION**

In Minnesota, construction documents should be retained at least 12 years past the date of substantial completion. The reason for this is Minnesota Statute § 541.051 allows some construction related lawsuits to be brought up to 12 years after the projects' completion.

Construction documents include, but are not limited to, the Contract including the General and Supplementary Conditions, drawings, job logs, photographs, change orders, meeting minutes, accident investigations, correspondence, checklists, payment records, lien waivers and contact information for all parties to the Contract including material suppliers. Also, retain documentation showing that the other parties to the Contract were pleased with your performance or conversely, that shows you were displeased with their efforts. It can be helpful to retain documents showing how you upheld your end of the Contract. Documents to be retained are not only those on paper but may also include documents in other forms such as computer disks, photographs, and e-mail.

Separate retention policies should be established for other areas including taxes and human resource issues.