1.1 CONTRACT DOCUMENT FORMAT

1.1.1 The Electronic Word Programs used for the Project manual shall be Microsoft Word.

1.1.2 The Electronic Drafting Program used for the Contract Drawings shall be AutoCAD 2010.

1.1.3 The format for Record Documents shall be AutoCAD 2010 for Drawing Files and Microsoft Word for the Project Manual.

1.2 The Design Professional shall abide by the Owner's Confined Space Program or the Design Professional’s Confined Space Program, whichever is more stringent. The Owner’s program is available to the Design Professional at the Owner's Physical Plant Department.

1.3 The Project Manual and Drawings shall be prepared in compliance with good practice, state and federal law, and Board of Regents, State of Iowa policy. Statutory requirements relating to preparation include, but are not limited to, the State Building Code (Iowa Code Chapter 103A), Fire Safety (Iowa Code Chapter 100), Occupational Safety and Health (Iowa Code Chapter 88), Life Cycle Cost Analysis and Energy Efficiency (Iowa Code Chapter 470) and the Americans with Disabilities Act.

1.4 The Project Manual consists of the Owner’s Uniform Documents for Construction Contracts, the Owner’s Division I, and the Design Professional’s technical specifications, appendices and 8-1/2” x 11” drawings, when applicable.

1.4.1 The outline specifications, which accompany the design development submittals, shall be typewritten and presented on 8-1/2” x 11” paper or prepared by computer and printer. Top and side margins shall be 1-inch minimum to permit side binding and head-to-head printing. Bottom margins shall be 1-1/4-inches, with page number centered 1-inch above the bottom.

1.4.2 The technical specifications shall follow the Construction Specification Institute (CSI) format.

1.4.3 The Design Professional shall provide a Record Document Project Manual on labeled CD using Microsoft Word, along with one hard copy. The Design Professional, and appropriate professional consultants, shall place their information block with certifications, seals and dates on the original title page of the manual. The information block shall include the numbers of the pages which are covered by the seals. The electronic manual, including the Owner’s Uniform Documents for Construction Contracts and the Design Professional’s technical specifications, shall be submitted in one electronic file so it can be viewed, read, archived, and retrieved in its entirety with ease. The Owner will furnish the initial disk of the Owner's Uniform Documents for Construction Contracts, along with one hard copy to the Design Professional.
1.5 The Design Professional shall include a revision history on the drawings, including the issue dates and descriptions of the revisions.

1.6 A complete design analysis shall be submitted along with the documents of each design phase. The design analysis shall include all calculations, design criteria, applicable standards, etc., needed for equipment and material selection, sizing, detailing, etc.

1.6.1 The design analysis shall be presented on 8-1/2” x 11” paper except that larger sheets may be used when required for graphs or other special calculation forms. All sheets shall be in reproducible form. The material may be typewritten, hand lettered, handwritten or a combination thereof provided it is legible. Side margins shall be 1-inch minimum to permit side binding and head-to-head printing. Bottom margins shall be 1-1/4” with page numbers centered 1-inch from the bottom.

1.7 Revisions in the Project Manual shall be inserted into the text with “italic” type style for ease of recognition. Footnotes for the italic type shall denote addendum number corresponding to such revision. Revisions in the drawings shall be in “clouds” and labeled with the addendum and item numbers. Eight (8) copies and five (5) copies shall be provided to the Owner and Constructor respectively. Of the Owner’s copies two sets of drawings shall be half size (11”x17”). The Constructor shall be supplied with 15 copies on projects greater than $1 million. A complete electronic copy of all drawings shall be provided to the Owner.

1.8 The Design Professional’s drawings shall detail the Project and be prepared by or under the supervision of a design professional. In order to maintain consistency in drawings, the Owner has established standards for drawings.

1.8.1 All drawings shall be 36” x 24” unless otherwise indicated. The maximum allowable size is 42” x 30” with the Owner’s written approval.

1.8.2 The drawing sheets shall include project title, sheet title, sheet number, drawing scale and plotting information to include plotting scale and perimeters, pens and shade width/size and color assignment needed to recreate the plotted drawing in the right-hand corner of each drawing. Only plotting information for each file shall be supplied, i.e., if a line color, line width or layer is not used in the file, no information should be provided.

1.8.3 Sheets shall be numbered in accordance with AIA Standards.

1.8.4 Space for the Owner’s drawing number shall be provided in the lower right-hand corner between the border and edge of the paper approximately 2” wide.

1.8.5 A graphic scale for each of the different scales used on a drawing shall be placed on the drawing.

1.8.6 The plotting scales indicated on the following list shall, in general be used for plotting all drawings. Deliberate reduction of these scales, or use of unusual scales shall be avoided. Similar work for all design disciplines shall, whenever possible, be shown at the same scale.

General Site Plan - - 1” = 500’
Layout Plan - - 1” = 50’ *

Grading & Drainage Plan - - 1” = 50’ *

Landscape Plan - - 1” = 50’ *

Utility Plan - - 1” = 50’ *

Road Plan & Profile - - 1” = 50’ Horizontal 1” = 5’ Vertical **

Key Plans & Composite Floor Plans - - As large as practical

Floor Plans - - 1/8” = 1’-0” or ¼” = 1’-0” ***

Roof Plans - - 1/16” = 1’-0” or 1/8” = 1’-0” ***

Mech. And Elec. Equipment Rooms - - ¼” = 1’-0”

Exterior Elevations - - 1/8” = 1’-0” or ¼” = 1’-0” ***

Interior Elevations - - ¼” = 1’-0”

Cross Sections - - 1” =1’-0” ****

Reflected Ceiling Plans - -1/16” = 1’-0” or 1/8” = 1’-0” ***

Stair Details - - ¾” or 3/8” = 1’-0”

Details - - As required for clarity

Note:  * May vary. Obtain Facilities Planning concurrence on scale.

** Smaller scale, 1” = 100’ horizontally and 1” = 10’ vertically, may justify in flat terrain where very little detail is required.

*** Scale of floor plans for small buildings shall be Y-a” = 1’-0”. Scale of Floor plans, elevations and building sections shall be the same. Roof plans and reflected ceiling plans normally need only to be one scale size smaller than floor plan scale but not smaller than 1/16” = 1’-0”.

**** Larger scale may be justified where considerable detail is required. Wall sections may be W’ = 1’-0” if unbroken and if pertinent details such as head, jamb and sill details are drawn at a scale of 1-1/2” = 1’-0”.
1.8.7 Record “as-built” documents are required to be submitted to the Owner thirty (30) Days after the substantial or final completion of the project. One set of drawings and one set of electronic files or CD(s) shall be provided for the as-built record drawings.

1.8.8 Media – Raster plotters must provide a minimum resolution of 400 dpi while vector plotters shall provide a minimum resolution of 0.0010-in. Drawings produced from dot matrix plotters are not acceptable. Line density shall be equivalent to that produced by black India ink; half-tones and gray scale plots are not acceptable unless otherwise approved. Manual changes to plotted originals are not acceptable.

1.8.9 Record drawings shall include, but not be limited to the following:

1. Title/Index Sheet with Owner’s Project Name, number and site location.
2. Design Professional and appropriate professional consultant’s individual information blocks with certification, seals and date.
3. Project Directory
   • Owner and representatives
   • Constructor and Subcontractors.
   • Consultant and Subconsultants.
   • Survey, geotechnical, mechanical testing, adjusting and balancing, and quality control firms.
4. Complete drawings and details of the Project including plan and profile drawings of utilities and street, parking lot and walk pavements.
5. Floor plans with room names, numbers, and area.
6. Tabulation of floor areas by room, corridor, etc.
7. Gross square feet of floor areas.
8. Net assignable square feet of floor areas.
10. Floor loadings.
11. Vertical loadings.
12. Roof loadings.
13. Occupant load and types by room/area.
14. Construction classification(s) with walls fire-rated 2 hours or more when applicable.
15. Geotechnical information/soil boring logs and locations.
18. Door, window and finish schedules.
19. Furnishings and equipment schedules.
20. Shop drawing and sample.
21. Substantial completion and acceptance dates.
22. Legends for all symbols.

1.8.10 Electronic drawing files shall be provided in AutoCAD Release 2010 and shall be in drawing (.DWG) format. Drawings shall be drawn at one-unit equals one unit or full scale. The AutoCAD plot style table (pen assignment) used by the architect/engineer shall be supplied. The name of this file will be the UNI
drawing number including the discipline with an extension of .ctb. Example: 401-55 arch.ctb, 401-55 mech.ctb, 401-55 elec.ctb. This requirement is in addition to the inclusion of the plotting information in 11.26.6. Layers shall be named in accordance with the American Institute of Architects Cad Layer Guidelines, current edition.

1.8.11 At completion of the construction work all record drawings shall receive the Owner’s drawing number electronically. The Owner will assign numbers and the Design Professional shall enter the numbers accordingly. The electronic file shall be renamed to match the UNI drawing number.

1.8.12 Each electronic drawing scheme is to be zoomed to the extents of the drawing. Each electronic file is to be purged of empty blocks, layers, line types, text styles, and dimension styles. X-referenced drawings shall be bound to the electronic drawing file. All frozen and/or turned off layers are to be deleted from the electronic file. Nested blocks will not be accepted. Standard AutoCAD Romano font shall be used on the drawings (other fonts may be used as approved by the Owner). The electronic drawings shall not contain any custom objects (non-AutoCAD) or proxies.

1.8.13 Each plotted drawing is to have a separate like electronic drawing file. Only as-built drawings are to be furnished to the Owner at the end of the project.

1.8.14 Raster images are allowed for photographs only. Non-photographic raster images will not be accepted. When raster photographs are used, insertion point and scale needs to be indicated on the as-built drawing.

1.8.15 Model space format is preferred for electronic record drawings. Paper space format may be used as long as no other layers, lines, text, etc. in the paper space view exists in model space.