

ANNEX G
DRAWINGS STANDARDS

DRAWING TECHNOLOGY REQUIREMENTS:

- 1.1 Drawing Technology Specifics: Do not send AutoCAD files in pdf format.
 - A. All drawings shall be in 2000i AutoCAD format (.dwg).
 - B. Microstation drawings will need to be saved as Auto-CAD drawings.
 - C. Plot style table (ctb files) shall come with the drawings.

- 1.2 UNC Charlotte reserves the right of refusal of CAD drawings that are not conforming with UNCC's CAD standards outlined in this document.

- 1.3 Drawing Types:
 - A. As-built drawings must be sent in an AutoCAD format.
 - B. Shop drawings specific and or custom to UNCC must be sent in an AutoCAD format.
 - C. General shop drawings, not specific to UNCC may be sent in other standard digital formats such as pdf, doc, and tiff.
 - D. This applies to all designers, contract designers, contractors and sub-contractors. If designers subcontractors are not in direct contract with UNCC it is the designer's responsibility to get the drawings to UNCC in the correct format.

- 1.4 All X-REFS shall be included along with the AS-BUILT drawings.
 - A. Most designers forget to include the X-REF because it is merely a ghost background which typically resides on the company's server.

- 1.5 During preliminary design and construction phases CAD construction documentation along with any amendments will be provided in an AutoCAD 2000i format to UNCC as they be-come available.

- 1.6 If renderings are to be prepared for a project they should also be sent to UNCC in a 3dMax or 3dViz format (.max). 7) AS-BUILT should come in three forms:
 - A. One set of hard copy drawings on regular opaque paper.
 - B. One set of drawings on vellum/ reproducible bond.
 - C. One electronic copy in AutoCAD. 8) All drawings must be drawn "Life size" sometimes referred to as "Full size".

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- 1.7 In paper space setup all drawings with a rectangle indicating the edge of paper base upon the plot scale and sheet size. Place the rectangle on a layer named "border". The bottom left corner is the drawings "lower limits" and will be at 0,0. The upper right corner of the rectangle is the "upper limit. Set the "units" command to architectural. Do not draw any entities outside of the limits set up by the rectangle on the layer "border". All surveys should be compiled in North American Datum 83 using North Carolina State Plane Coordinate System. 14) In model space designers/drafters should use the North Carolina State Plane Coordinate System (from the survey) to orient objects and buildings. All pages should reflect the survey orientation.
- 1.8 Paper space drawings should be setup to be plotted at 1:1 scale. If other page sizes are required add additional layout pages.
- 1.9 Only one (1) line type per layer and only (1) color per layer is permitted. Set line type and color to by layer.
- 1.10 Use only those line types provided with AutoCAD. Do not use third party line types.
- 1.11 The use of standard AutoCAD fonts and shapes is required. Nonstandard FONTS and SHAPES must be transmitted with the drawings in their original file format as separate files in a separate FONTS subdirectory.
- 1.12 Do not draw any entities on layer 0. Leave this layer clean.
- 1.13 All vector graphics shall be created at 1:1 scale. Scaling of drawings is not allowed. Paper space shall be used for creating/printing scaled drawings.
- 1.14 If the use of X-REF is required then upon transmittal of CAD drawings all X-REF's must be bound (using AutoCAD X-REF Bind/Insert command).
- 1.15 The use of Model and Paper space is required for all CAD drawings. No title block should be located in Model Space. Title blocks shall be located and used only in paper space.
- 1.16 Title blocks should not be X-REF'ed. Title blocks should be created using blocks and sheet/title block information should be entered using the edit attributes command.
- 1.17 There should only be 1 page per layout. Each file can have multiple Paper space layouts as long as they are labeled correctly.
- 1.18 Plot styles (.ctb), file names and layer naming conventions will conform to the latest National CAD Standards and the American Institute of Architects (AIA).
- 1.19 A text file (readme.txt) describing the indexing and organization of the Project and each files shall be located in the root directory. The file shall contain a listing of all files being distributed.
- 1.20 AutoCAD files will be submitted for preliminary review to the CAD Manager when the project is sent out for bid. The CAD files will be sent for final review within 30 days of project is completion. If there is a problem with the project but the building is occupied by the University then AutoCAD files will be required within 30 days of occupation.

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- 1.21 If the data provided to the UNC Charlotte is not of adequate quality, it will be remitted to the Consultant for the necessary adjustments.

- 1.22 75%-100% of all design manuals, warranty information, and paper documentation provided to UNC Charlotte will be in a digital format to facilitate storage. Acceptable file types are pdf, doc, xls, tiff, jpg, and dwg.