



UNIVERSITY OF
NOTRE DAME

Utilities Department

CAD Standards

(Revised: January 2015)

University of Notre Dame CAD Standards

1.1 Overview

These standards are issued to aid in the development of AutoCAD™ drawings suitable for use at University of Notre Dame (UND). By maintaining consistency and compatibility with existing documents, electronic drawings produced and submitted in accordance with these standards have a significantly greater value to the University, as well as other architects, engineers, consultants and contractors working with UND.

1.2 Drawing Format

All project drawings be created and submitted using AutoCAD (.dwg file extension) software only. AutoCAD version 2013 or newer is required.

1.3 Drawing Composition

- AutoCAD files containing multiple drawing sheets shall be broken down into separate drawings containing single sheets.
- AutoCAD™ drawings should not contain any XREF's prior to submittal. Externally referenced (x-ref) drawings will be bound to the appropriate drawing.
- The drawing may reference the provided UND electronic maps, as reference only, through an xref. The items shall be clearly labeled and "greyed" out in the background in submitted drawings.
- All CAD drawings shall be purged of empty, unused, or non-essential drawing data.
- All attributes (if any) will be created on layer "0", with color white and continuous line type.
- Use standard AutoCAD fonts and linetypes or provide the font and linetype files used in the submitted drawings.
- Provide any Plot Styles used in producing the hard copies.
- AutoCAD file shall be submitted with a layer state used in producing hard copies.
- Entities will be identified by layer, not by color.
- All base blocks shall be created on layer 0, with color white and line-type continuous.
- All entities will have a Z coordinate of zero, unless requested otherwise
- All line features shall use polylines.
 - Polyline width shall be zero
 - Polylines shall have no unnatural breaks (i.e. from exploded linetypes, alternate to mtext masks)

1.4 Model and Paper Space Usage:

- The primary drawing(s) shall be created in model space drawn to full size (1:1 scale).
- Any additional items such as details, dimensions, elevations, or sections should be drawn to full scale in model spaces.
- General project graphic elements such as title blocks, legends, schematics, key plans, diagrams and notes should be drawn in paper space.
- Scale objects using paper space viewports – zoom viewports to the appropriate scale. Label scale of each viewport in paper space.

1.5 Drawing Units:

Most CAD files should use the architectural units (feet and inches) report format.
Civil Engineering CAD files may use the engineering units (feet and tenths) report format.

1.6 Coordinate System:

Any drawing utilizing a coordinate system shall correspond to the coordinate system utilized by UND. Indiana State Planes, East Zone, US Foot, FIPS zone 1301. HARN/IN or NAD83

1.7 Layering Standards:

UND has adopted the American Institute of Architects (AIA) layering standards. These layering standards should always be followed:

- Use only AIA recommended layer names.
- Use the minimum number of layers necessary to adequately separate entities in each drawing. The number of layers contained in each drawing will vary depending on the scope and complexity; however drawings should not contain extraneous, redundant or overly detailed layer names.
- Purge each drawing of unused and/or unnecessary layers prior to submittal. The drawing file should contain only those layers necessary for displaying and plotting the information and drawing entities contained within each drawing.

1.8 Drawing Submittals:

All electronic and hard copy drawings shall be submitted to UND in a timely fashion, coinciding with the requirements of the contract and the needs of the Project Manager or CAD Manager.

All electronic drawings shall be submitted by eTransmit or on a CD and labeled with project name, type of drawing package (i.e. bid set, construction drawings, record drawings), and date created.

All electronic CAD record (as-built) drawings must be accompanied with a complete matching set of Adobe PDF drawings.

In addition to the electronic CAD record drawings, hardcopy as-built or record drawing submittals shall be on bond paper for reproducibility.

Each final submitted drawing sheet shall have "As-Built" or "Record Drawing" clearly marked on every electronic and printed sheet.