



**City Utilities
Design Standards
Manual**

Exhibit SW3-1 (1 of 2)
Topographic Minimum Requirements

Created: February 2014

Revised:

Topographic minimum requirements

All project submittals require a basic topographic survey and boundary survey to establish existing requirements.

Primary Development Discussions

Preliminary project discussions and meetings can be based on GIS and aerial photos. Field measured inverts are suggested for these discussions but are not necessary.

Construction Plan Reviews

Construction Plans to be based on survey data. GIS and aerial photos are not sufficient for design plans. The topographic survey for construction plans are to include as a minimum.

1. Boundary and easement lines
 - The parcel boundary lines are to be shown. The boundary lines shall have an uncertainty of 1 foot or less based on field measurements (not GIS). The uncertainty shall be per the applicable Rule 12 land surveying requirements when retracement or original surveys are required.
 - The location uncertainty of easement lines will reflect those of the parcel boundary.
 - Statutory easements to be shown based on reasonable surveying and engineering principles.
 - The source of the boundary and easement locations shall be noted on the topographic survey. (ie document number, 75 feet regulated drain...)
 - Undocumented public right-of-ways shall be labeled as "apparent right-of-ways". The use of undocumented public right-of-ways shall be used with caution. INDOT and other jurisdictions recommend using the "edge of the traveled way" when there is no documented public right-of-way.
2. Underground utilities are to be shown based on a reasonable effort. As a minimum, the survey process shall include a request to the Indiana 811 underground utility protection service to have buried lines located. The request number shall be included on the topographic survey.
3. All topographic surveys shall reference the applicable FEMA map by number. A statement on the survey shall identify the flood zone associated with the project. The limits of the flood zones and the base flood elevation are to be mapped on the topographic survey as applicable.



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4. All topographic surveys shall include a statement addressing the potential of wetlands based on the National Wetlands Inventory Maps.
5. Existing features shall be located on the project's boundary limits. These features shall include:
 - All constructed improvements including fences, pavements, buildings and other structures.
 - All natural features including vegetation limits, individual trees greater than 6-inches in diameter or general limits of wooded areas and water bodies.
6. The vertical datum of the topographic surveys shall be clearly identified on the survey and based on the current FEMA FIRM studies. All topographic surveys shall include:
 - One-foot contours. The contours shall be based on a data collection interval grid no greater than 50 feet.
 - Sewer structure casting and inverts shall have a precision of one tenth of a foot (0.1') or less.
 - Include vertical relief for the 30 feet adjacent to the project's limits.
 - One TBM.
7. All topographic surveys shall include the entire right-of-way for any road frontages associated with local streets and minor collectors. The need for topographic data for all other classifications of road frontages can be discussed with City Utilities prior to the plan submittal.