

CITY UTILITIES DESIGN STANDARDS MANUAL

**Book 1
General Requirements (GR)
GR2 Introduction**

June 2015

GR2.01 Purpose

The City Utilities Design Standards Manual (Standards) is a guide for the planning, design, and construction of stormwater and sanitary sewer collection systems, water distribution systems and facilities, and associated activities for City Utilities. Guidelines, basic design criteria, standards, and mapping are presented in the Standards.

The intent of the Standards is twofold: to present design basics and to present general submittal requirements. The Standards present detailed design methods and comprehensive design guidelines. There is discussion on intent and various computation worksheets to assist in infrastructure design for City Utilities Engineering (CUE) design staff and professional design consultants.

In general, the Standards:

- enumerate general design standards that have been either commissioned or authorized by local and state agencies to facilitate City Utility's compliance with local, state and federal regulations;
- identifies submittal requirements and procedures for the review of infrastructure projects;
- serves as a reference document for City Utilities Engineering design staff, professional design consultants, and private developers to define review procedures and requirements; thus facilitating the approval of infrastructure projects;
- identifies and provides standards for the construction and installation of stormwater, sanitary sewer, and water distribution systems; and
- was created to provide uniformity in design and construction of projects within the City Utilities service area. This is important to ensure completed projects are easily maintainable, are reliable and durable, and ultimately meet the needs of the public as well as the City.

GR2.02 City Utilities

City Utilities departments that are responsible for management of design and construction, review and approval of plans, and mapping are referred to throughout the Standards as follows:

- City Utilities Engineering (CUE),
- Development Services (DVS), and
- Geographic Information Systems (GIS).

1. City Utilities Engineering (CUE)

CUE plans for City-sponsored infrastructure improvements, conducts system studies and analysis, and manages and performs design and construction services in the following main program management areas:

- stormwater collection and quality
- sewer repair/replacement/rehabilitation
- sewer capacity and combined sewer capacity
- sewage treatment/plant engineering
- water distribution capacity
- water distribution repair/replacement/rehabilitation
- construction inspection, construction management, and contract management services

2. Development Services (DVS)

DVS is the primary provider of services for plan review and approval of private development utility work within the City Utilities Service Area. Plan review includes, but is not limited to: stormwater infrastructure and associated detention facilities, sanitary sewer facilities, and water distribution facilities.

DVS is the primary administrator of private project permits within the City Utilities Service Area. Permitting is discussed in [Chapter GR4 - Contracts, Fees, and Permits](#).

3. Geographic Information Systems (GIS)

GIS is responsible for maintaining and updating all electronic information pertaining to the Fort Wayne infrastructure system.

GR2.03 Description and Use of the Standards

The Standards identifies requirements to be used in the planning, design, permitting, and construction of projects within City Utilities Service Area.

The Standards is not intended to serve as a step-by-step design procedure nor can it address every situation that may arise. The application of sound engineering principles and judgment combined with the information contained herein are necessary to complete the planning, design, and preparation of related construction documents for stormwater, wastewater, and potable water projects.

Adherence to these standards does not eliminate the need to comply with other applicable City, County, State and Federal ordinances and regulations.

The provisions of the Standards shall be deemed as additional requirements to minimum standards required by other applicable ordinances and standards. In the case of conflicting requirements, the most restrictive shall apply.

GR2.04 Structure of the Design Manual

The Standards contains six Books and is structured as follows:

Book 1: General Requirements - Outlines City Utilities general policies for coordination, approval procedures, preparation of drawings and accompanying documents, and basic design criteria associated with stormwater, sanitary sewer, and potable water improvement projects.

Book 2: Stormwater - Outlines stormwater standards and policies for the design of stormwater facilities.

Book 3: Sanitary - Outlines standards and policies for the design of sanitary sewers and sanitary lift stations.

Book 4: Water - Outlines standards and policies for the design of potable water distribution systems.

Book 5: Materials - Outlines approved construction materials for use on stormwater, sanitary, or water projects.

Book 6: CADD Standards - Outlines drawing requirements and details for use on stormwater, sanitary sewer and water projects.

GR2.05 Updates to the Manual

The Standards is intended to be a dynamic document. As design criteria and technology evolves, the Standards will require revisions and improvements. As changes are made, supplements or revisions will be posted and updated at the City Utilities website, www.cityoffortwayne.org/utilities/design-and-construction/design-standards.html.

GR2.06 Enforcement of Standards & Penalties

Failure to comply with requirements set forth in the Standards may result in rejection of design or construction work by City Utilities and/or the Board of Public Works.

GR2.07 Topics Not Included

Topics not included in the Standards, that are within the jurisdiction of City Utilities include:

- Wastewater treatment and storage
- Water treatment, pumping, and storage
- City Utilities master specifications
- Procedures internal to City Utilities departments
- Contract and Agreement procurement

GR2.08 Other Resource Documents

External documents, standards, and manuals that were used as references in the development of the Standards include, but are not limited to, the following:

- “Draft” *Storm Water Design and Specification Manual, Green Infrastructure Supplemental Storm Water Document*,
- Great Lakes-Upper Mississippi River Board of State Public Health and Environmental Managers, *Recommended Standards for Wastewater Facilities*, latest edition. (Also referred to as Ten State Standards for Wastewater Facilities);
- Great Lakes-Upper Mississippi River Board of State Public Health and Environmental Managers, *Recommended Standards for Water Works*, latest edition. (Referred to as Ten State Standards for Water Works);
- Indiana Department of Environmental Management (IDEM) Regulations including Title 327 of the Indiana Administrative Code (327 IAC);
- Indiana Department of Natural Resources (IDNR) *Storm Water Quality Manual*;
- Indiana Department of Transportation (INDOT) Standard specifications, latest edition,
- American Association of State Highway and Transportation Officials (AASHTO) *A Policy of Geometric Design of Highway and Streets*, latest edition;
- American Association of State Highway and Transportation Officials (AASHTO) *Roadside Design Guide*, latest edition;
- Indiana Manual on Uniform Traffic Control Devices (IMUTCD), latest edition;
- Fort Wayne Water Pollution Control Utility (Wastewater Utility) General Rules and Regulations, 2002;
- Fort Wayne Water Utilities General Rules and Regulations, 1995; revised 2006;
- Fort Wayne Stormwater Utility General Rule and Regulations, 1995; revised 2006;
- Indiana State Standards for Energy Conservation Codes, and
- American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) *ASHRAE Standard 90.1-2007*.