

# CADD Standards and Procedures Manual



## SECTION 1 - INTRODUCTION

### 1.1 Preface

The information contained in this document is intended for all Computer Aided Design & Drafting (CADD) work completed for the City of Waco (City) by in-house staff or engineering consultants. This manual has been developed to provide CADD standards and guidelines for use by City of Waco staff in the design and drafting of roadway, public utilities, and storm drainage projects within the City of Waco. This manual also serves as a guideline for all consultants performing design of bridge, road, water utilities, sanitary sewer, and storm drainage projects to be constructed in Waco, Texas, and its extraterritorial jurisdiction.

All consultants that provide plans to the City shall adhere to these standards. Drawings that do not comply with these CADD Standards & Procedures will not be accepted.

The City will create, manage, and provide the CADD Standards & Procedures for all consultants that provide CADD plans to the City of Waco. Because of rapidly changing technologies used in engineering design and drafting, this manual shall be considered a “living” document, subject to change as technologies and engineering methods change. Consultants are responsible to stay informed and ask for the latest revisions of the CADD Standards & Procedures when they work on new projects for the City. Latest versions shall be located on the City website and available for download.

### 1.2 Scope

This manual covers the basic groundwork involved for developing capital improvement project plans using CADD as the method of preparation. Elements covered are the CADD system; project initiation/startup; drawing file directory structure & file naming conventions; drawing setup; drawing set structure; drafting procedures; layers, linetypes, and colors; annotation, hatching, and symbols; and pen weights and plotting procedures.

This manual is neither a textbook nor a substitute for engineering or drafting knowledge, experience, or judgment. It includes techniques and procedures not typically found in textbooks, intended as aids in the solution of CADD specific issues. No attempt is made to detail basic engineering and drafting techniques. Instructions in this document are not intended to preclude the exercise of individual initiative and judgment in reaction to specific conditions or application of current practices. Rather, such initiative and judgment are encouraged when appropriate. However, it is equally important that consistency in the application of this document is maintained, the objective being uniformity of the process and presentation.

### **1.3 Importance of Standards**

While CADD software enhances productivity and effectiveness of design teams in the short term, one of the more important long-term advantages is the reusability of data. In order for a CADD system to fully utilize this advantage, data must be created, linked, and stored in a systematic manner.

This manual has been created to foster an efficient and productive CADD environment. From this environment comes a quality product in both the form of construction plans and a digital database for future use.

In general, these standards provide guidelines covering the majority of drawings used in the design of most projects. It is not intended to be all inclusive and to cover every situation that may arise, however, it is required that designs conform to these guidelines whenever possible. Flexibility in making deviations to this standard is allowable in certain situations and is important to ensure efficiency in the development of projects.

To facilitate the use of drawings by future users, it is suggested that all non-standard aspects of the drawing be documented with notes placed on a non-plotting layer of the drawing.