

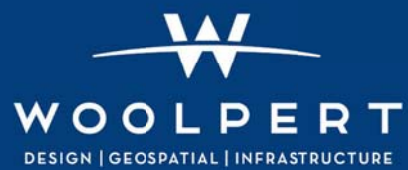
CAD STANDARDS



GIS/CAD Standards Update

*Columbus Regional Airport Authority
Columbus, Ohio*

June 2012



CAD Standards

GIS/CAD Standards Update

Columbus Regional Airport Authority
Columbus, Ohio

June 2012

Prepared by Woolpert, Inc.
4050 East Cotton Center Boulevard
Building 3, Suite 39
Phoenix, Arizona 85040
www.woolpert.com

QUALITY

At Woolpert, quality is the cornerstone of our business. We invite your comments and suggestions for improving this document.

TRADEMARKS

All brand names and product names are trademarks or registered trademarks of their respective companies.

TABLE OF CONTENTS

1. CHANGE CONTROL & REVISION HISTORY	4
1.1. Change Control.....	4
1.2. Revision History	6
2. INTRODUCTION.....	7
2.1. Purpose	7
2.2. Scope	7
2.3. Intended Audience.....	8
2.4. References to parties.....	8
2.5. Related Documents.....	8
2.6. Request for Waiver.....	9
2.7. Document Organization.....	9
3. OVERVIEW OF GIS/CAD STANDARDS	10
3.1. Acquiring and Applying the Standards.....	10
3.2. CAD Support Package.....	10
3.3. Update Process	11
3.4. GIS/CAD Standards Development.....	11
3.5. Required Data Standards & Suggested Graphic Guidelines.....	11
4. DATA STANDARDS AND SPECIFICATIONS	13
4.1. Introduction	13
4.2. Hardcopy Plots	13
4.3. Raster Scanned Drawing Files.....	13
4.4. GIS/CAD Software Drawing Files	13
4.5. Layer Assignments	14
4.6. Standard Symbolology – Blocks (Real-World and Graphical).....	22
4.7. Linetype Styles	22
4.8. Electronic CAD File Organization	24
4.9. Spatial Compliance.....	25
4.10. Required Disclaimers for Data Use and Data Security.....	27
4.11. Submittal Compliance & Check Process.....	29
4.12. Required Submittals	30
4.13. GIS-Oriented Data Submittal Requirements	32
5. FILE & GRAPHIC STANDARDS AND SPECIFICATIONS	34
5.1. Introduction	34
5.2. CAD Drawing File Organization.....	34
5.3. Detail and Schedule Sheet Standards	43
5.4. Graphic Concepts	43
APPENDIX A – PROJECT DATA SPECIFICATIONS FORM.....	A-1
APPENDIX B – REQUIREMENT REFERENCE / DATA CHECKLIST.....	B-1
APPENDIX C – CAD/GIS RELATED TERMS	C-1
APPENDIX D - LAYER STANDARDS	D-1
APPENDIX E - STANDARD SYMBOLS.....	E-1

LIST OF FIGURES

Figure 1. Typical Layers Contained in a Sheet File.....	14
Figure 2. Sheet and Feature-Specific Information	15
Figure 3. Layer Naming Format	16
Figure 4. Typical Border Sheet and Sheet Number	25
Figure 5. Model File Naming Convention	35
Figure 6. Sheet File Naming Convention	40
Figure 7. Typical Sheet Border & Title Block.....	48
Figure 8. Designer Identification Block	48
Figure 9. Revision Block	49
Figure 10. Sheet Identification Block	49

LIST OF TABLES

Table 1. Status Indicator Codes	18
Table 2. Comparison of Typical CAD Data to GIS-Oriented CAD	33
Table 3. Discipline Codes.....	35
Table 4. Model File Types.....	36
Table 5. Discipline Designators with Level 2 Designators.....	40
Table 6. Sheet Type Designators	43
Table 7. Line Thickness Designations	44
Table 8. Screen Color Definitions – CRAA Pen Table Definitions	45
Table 9. ANSI and Architectural Sheet Size Definitions.....	47
Table 10. Drawing Scales	50

1. CHANGE CONTROL & REVISION HISTORY

All changes to the *CAD Standards* will be documented below and incorporated into this document as the Standards may be adjusted over time. This document will be made available as appropriate each time a revision is adopted.

If the CAD Standards requires modification to accommodate a new project, new feature or data not currently defined, consultants, designers and CRAA staff may request modifications to the CAD Standards (text, requirements, layers, blocks, GIS features, GIS attributes and enumerations, etc.). The procedures and change control form below define the general framework to request and document all change requests and approved changes.

1.1. CHANGE CONTROL

As requests to modify Standards arise, a change control form shall be completed and signed by the GIS Supervisor of the CRAA Planning and Construction Administration Department for a change to be considered.

Using a defined process to consider all requests and a standard request form will provide a consistent process to evaluate change requests. This process will also allow CRAA to accumulate information on both adopted and rejected changes to aid long-term Standards maintenance.

Adopted changes shall be appended to this document in both electronic and hardcopy form to record the document evolution and change history. Rejected change requests shall be archived to accumulate a complete change request history to help consistently evaluate future requests and assist in consistent reasoning for rejections.

1.1.1. Change Control Processes and Responsibilities

Data Standards Maintainer Responsibilities

1. Receive informal requests for Standards Modification, complete and then print the Change Control Form and provide to the GIS Supervisor for review.
2. If the Change Request is approved after review, insert the approved Change Control Form in the Appendix to this electronic document for future reference.
3. Revise this document to include the requested change, and update the revision history table.
4. Archive all rejected change requests.

GIS Supervisor Responsibilities

1. Review the hardcopy Application Change Control Form.
2. Evaluate the request and document the reasons for approval or rejection.
3. Oversee the updating of the Standards

1.1.2. Change Control Request Form

CRAA CAD Change Control / Waiver Request Form		
Date Submitted		
Proposed By: Name, Title, Company		
Contact Phone No. & Email		
Project Name		
Requested Revision or Waiver Request and Applicable Section No. :		
Impact on Budget if not approved:		
Impact on Schedule if not approved:		
<i>Signing this document confirms that both the Proposer and GIS Manager have agreed on the changed standards as described in this form.</i>		
Proposer:		
	Signature	Date
CRAA GIS Supervisor		
	Signature	Date
Final Resolution: Approved as requested or as listed here		

1.2. REVISION HISTORY

As changes to the *CAD Standards* are indicated and accepted, this document will be updated accordingly and summarized in the following table.

[illegible]

2. INTRODUCTION

2.1. PURPOSE

All Computer Aided Drawing and Design (CAD) data created for the CRAA must be developed and submitted according to the specifications documented in this Standard.

This includes data prepared both internally by CRAA staff and by outside organizations for work performed on behalf of Airport tenants and consultants to CRAA. The objective is to standardize design deliverables so that data and drawing files received from these multiple sources can easily be integrated into the CRAA's CAD and Geographic Information System (GIS) datasets and standardized data can be provided to consultants and the FAA as required.

Each submitted GIS data file or database and CAD drawing file will become part of the permanent archive. The GIS data and data used produce the CAD drawing serve as a critical source for updating information within the CRAA's GIS/CAD Data Warehouse.

This data and CAD drawings make up the baseline for future work at CRAA facilities. The availability of standardized data products and drawing files for use on future projects maintains the value of the original data creation effort, and produces additional value by providing an accurate basis for designing modifications to existing facilities.

The standardization of GIS/CAD data also allows drawing files and individual data layers to be integrated with other non-spatial data. This data integration improves operational efficiency and decision making by providing an accurate, complete and detailed "common operational picture" for use by all staff of the many Airport facilities, utilities and myriad support systems.

CAD data files are the primary source of data to both initially populate and update the CRAA GIS/CAD database over time. In the future, as new data and drawings sets are received, this process will only be successful if data and drawings are developed according to a consistent standard that is designed to facilitate migration of data into the GIS as the end goal.

In addition, the FAA now requires standard airport geospatial data for their own use and for sharing important information with other airports. In the past, CAD data has primarily been used for creating plan sheets and paper plots for design and construction purposes with very little "3D" elevation data except for some features to be shown in plan/profile like utilities and roadways. However, with the initiation of the FAA data requirements for 3D data to be submitted to the FAA Airports GIS (AGIS), final CAD "as-built" data must meet far more stringent geometry requirements than the typical CAD design file. This will be discussed in greater detail in Section 4.13 - GIS-Oriented Data Submittal Requirements and in the separate **CRAA GIS Data Standards**. The CRAA GIS Standards and CAD Standards are intended to define the requirements needed to support these new and ongoing data delivery requirements to the FAA.

2.2. SCOPE

The scope of the CAD Standard and separate GIS Data Standard is to document the requirements that will "regulate" CAD and GIS data and drawing development for the CRAA, including spatial data standards, metadata and coordinate system. It does not include other data issues that may be desired such as aerial imagery.

2.3. INTENDED AUDIENCE

This document is intended to be used by people who maintain or create GIS/CAD data for the CRAA. All CRAA staff and outside consultants should understand the requirements of this Standard and follow its specifications for the submittal of GIS/CAD Data to the CRAA.

2.4. REFERENCES TO PARTIES

The primary receiving party and owner of the GIS its content and the standards is referred to as the CRAA. The CRAA is the short name for the Columbus Regional Airport Authority.

The party providing GIS/CAD data is referenced as the Data Provider. This is generally going to be a party external to the CRAA whose submittals are controlled by contract, either directly with the Data Provider or through another contract (such as through an airport Tenant Lease Agreement). This Standard and its related documents are meant to be part of each CRAA contract to Data Providers and all airport contractors who may develop data to be consumed by CRAA.

For issues regarding data standards or data acceptance, the primary contact between the CRAA and Data Providers is the Design and Construction Department's GIS Supervisor.

2.5. RELATED DOCUMENTS

The following documents contain information that is related to this document and are referenced in the appropriate section(s). The documents listed include other standards, regulations or reference materials. This document is intended to be coupled with the CAD Layer standards, which are published in Appendix A to this document titled: "CRAA GIS/CAD Layer Standards" (aka Layer Standard). In addition to this CAD Standards document, the CRAA has developed a set of comprehensive geospatial data standards.

- *Aerial Photography Standards*
- *Subsurface Utility Engineering Standards (SUE)*
- *CAD Standards (this document)*
- *CAD Support Package – CAD Templates and Blocks*
- *GIS Data Standards – for GIS and GIS-Oriented CAD Deliverables*

The following documents are available from sources outside of the CRAA:

- *National CAD Standard* (<http://www.nationalcadstandard.org>)
- *49 CFR 1520 defines Sensitive Security Information and how it is to be handled. This document is a federal regulation that applies to all citizens of and agencies within the United States. Protection of Sensitive Security Information, United States Code of Federal Regulations, Title 49, Volume 9, Part 1520, Revised as of October 1, 2005, <http://www.gpoaccess.gov/cfr/index.html>*
- *Federal Aviation Advisory Circular AC 150/5300-18B, defines GIS and CAD data standards for airport data delivered to the FAA. Issued May 21, 2009 http://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.information/documentID/74204*

Together, these Standards document the concepts, policies, and data creation practices necessary for the CRAA to incorporate both CAD and GIS data into the GIS Program.

It is the responsibility of the Data Provider to obtain the latest set of Standards referenced in this document. The Data Provider is encouraged to contact the CRAA Project Manager to facilitate obtaining these documents. The Data Provider is also encouraged to obtain the CAD Support Package which contains the electronic drawing template in AutoCAD that matches this CAD standard, and any existing “as built” electronic data which may be applicable.

2.6. REQUEST FOR WAIVER

Please note: **Request for waivers must only be submitted for standards contained in Section 4 of these Data Standards.** Section 5 - Graphic Standards and Specifications are recommended practices and deviations from the defined standards may be negotiated with the CRAA Project Manager directly.

Situations may arise where data should be created for the CRAA GIS that would not be consistent with this Standard. If such a situation were to arise, the party creating the data must request a waiver to this standard.

The request must define the specific section of the Standard for which the waiver is requested, the reason for the waiver, the resulting impacts on the use of the data in the GIS, and any alternative approaches that should be considered. The request will also include a detailed description of the business need for the waiver request and why adherence to this standard will prevent satisfaction of the business need. The CRAA must approve any waiver request before such data can be submitted.

2.7. DOCUMENT ORGANIZATION

This document is organized as follows:

1. **Revision History and Change Control.**
2. **Introduction** – purpose of and how the GIS/CAD Data Standards document is organized.
3. **Overview of GIS/CAD Standards** –background of the GIS/CAD Data Standards development.
4. **Data Standards and Specifications** – defines the required data structure and format. These standards are required to be followed unless a waiver has been granted.
5. **File & Graphic Standards and Specifications** – defines standards related to graphic appearance and data organization. These standards are suggested to be followed if possible.
6. **Appendices**

3. OVERVIEW OF GIS/CAD STANDARDS

3.1. ACQUIRING AND APPLYING THE STANDARDS

At the beginning of any design process that will result in the creation of GIS Data or CAD drawings, the Data Provider must obtain the latest version of this standard and the associated electronic drawing template files (CAD Support Package) from the CRAA. The Data Provider will use this standard when creating all GIS/CAD data for the project. As part of the technical review of all projects, the CRAA will review delivered drawings and data files for compliance with these standards. GIS/CAD files that do not meet this standard may be rejected by the CRAA and will need to be resubmitted until data/drawings meet Standards and is accepted by the CRAA.

The Data Provider will acknowledge their understanding of the requirements of the applicable CAD and/or GIS Data Standards and their commitment to them by returning the Project Data Specifications Form (see Appendix A – Project Data Specifications Form to the CRAA Project Manager within 30 days of the formal Notice to Proceed date.

Prior to construction, all drawings must be provided to the CRAA in accordance with the CRAA Contract Manual. Record and As-Built Drawings must also be provided at the conclusion of construction as indicated in the contract and in these standards (See Section 4.12).

3.2. CAD SUPPORT PACKAGE & TEMPLATE FILES

The CRAA has developed a set of CAD template files to assist Data Providers who are using CAD in complying with these standards. The CAD Support Package consists of the following items for AutoCAD:

Blocks and Symbols	(see Appendix E - Standard Symbols for list of blocks)
Border Sheets	(see Section 5.4.2 for Border Sheet Template definitions)
Line Types	(see Appendix D - Layer Standards for list of layers & linetypes)
Hatch Patterns	
Pen Table	(see Section 5.4.1.6 for Pen Table color standards)
Plot Styles	
Templates	

The Data Provider must obtain the latest CAD Support Package CD from the CRAA prior to beginning GIS/CAD Design work. Use of the CAD Support Package is recommended to facilitate development of GIS/CAD drawings that meet the Standards. Existing Airport data may also be provided from CRAA in the CAD Template format for Data Providers to validate and use as existing data.

3.2.1. CRAA CAD Template Files

Civil_Site	Bldg_Architectural
Civil_Airfield_Elec	Bldg_Structural
Civil_Uilities	Bldg_Mech_HVAC
Civil_General	Bldg_Mech_Plumbing
	Bldg_FAA_Electrical
	Bldg_Electrical
	Bldg_General

3.3. UPDATE PROCESS

The Standards described in this document may be updated from time to time in accordance with the needs of the CRAA. Recommendations for improvements are encouraged from all parties that may create GIS/CAD files and data. Any recommendations should be submitted in writing to the CRAA GIS Supervisor, so they can be forwarded to the appropriate group for consideration.

3.4. GIS/CAD STANDARDS DEVELOPMENT

The CRAA CAD Standard and GIS Data Standard were created by incorporating elements of the following documents:

- **Federal Aviation Administration Advisory Circular 150/5300-18** (General Guidance and Specifications for Submission of Aeronautical Surveys to NGS: Field Data Collection and Geographic Information System (GIS) Standards). These standards are based on the older versions of the Spatial Data Standards for Facilities, Infrastructure and Environmental (SDSFIE) and National CAD Standards (below) have been expanded to better facilitate use at aviation facilities. They tend to focus on exterior (outside the building) features and are typically lacking for interior features.
- **Architectural, Engineering and Construction (A/E/C) CAD Standard.** These standards, available at http://www.buildingsmartalliance.org/index.php/ncs?gclid=CPWe8K2c_qgCFcZM4AodeUONRg, are derived from standards developed by the American Institute of Architects (AIA), the National Institute of Building Sciences (NIBS) and others which together form the U.S. National CAD Standards (<http://www.nationalcadstandard.org>). The A/E/C Standards also contain specifications for exterior features but do not tend to focus on later incorporation into a Geographic Information System (GIS) nor do they incorporate specifications for features that are of particular importance to aviation facilities. However, they do provide excellent specifications for interior features.

In case of conflicts between these two underlying Standards, these CRAA Standards will define the appropriate method to resolve the conflict. For example:

- The NCS method of layer naming will be followed for all “Demolition” layers or to describe “Phases”, rather than defining specific layers as “DEMO” or “PHS1”, “PHS2” as described in AC-18B. See Section 4.5.2.3.
- Various layer names are defined by both AC-18B and the NCS. In some cases the layer name defined in AC-18B doesn’t use the defined Major or Minor code values in the NCS. In cases of conflict the major and minor codes defined in AC-18B will be used, except if expressly noted that NCS values will be used (as in the paragraph above).

3.5. REQUIRED DATA STANDARDS & SUGGESTED GRAPHIC GUIDELINES

The standards described below have been divided into two sections.

Section 4 - Data Standards and Specifications. This section documents the Standards related to data structure and format. These standards define the data that can be used to update the GIS database. **These standards are required to be followed unless a waiver has been granted.**

Section 5 – File & Graphic Standards and Specifications. This section documents the Standards related to graphic appearance and data organization. These standards are **suggested** guidelines whereby deviations may be negotiated with the CRAA Project Manager for large projects or where the type of data or scope of work demands deviating from these standards.

4. DATA STANDARDS AND SPECIFICATIONS

4.1. INTRODUCTION

All of the provisions contained in this section are expected to be followed by the Data Provider in developing design information. If the Data Provider feels that it cannot effectively comply with a provision in this section, it should submit a waiver request as described in Section 3.

4.2. HARDCOPY PLOTS

As per the CRAA Contract Manual, hardcopy plots of the construction documents and record drawings must be provided to the CRAA as required. The Data Provider and CRAA Project Manager will jointly determine what plot sizes are required.

4.3. RASTER SCANNED DRAWING FILES

Two sources of scanned drawing files (raster files) exist: 1.) Plots of pure vector files to TIFF or PDF - as would typically occur when no plan markups or seals are to be affixed, and 2.) Scans of plan sheets when markups or seals are added after plotting but prior to scanning. These requirements below apply to both these types of raster files.

Plotted, scanned images of each final drawing file must be provided for incorporating into the CRAA's document management system. These drawings must be provided in TIFF or PDF format. Naming conventions for these files must follow those defined for sheet drawing files below. The files must be scanned so that they comply with the following requirements.

Raster scanned drawing files of construction plans are required only at the 100% design stage.

Raster scanned drawing files of "As-Built" drawings are required only at project completion.

Raster scanned drawing files of GIS-oriented CAD files are required at project completion.

4.3.1. Scanned Image File Requirements

- All image files will be scanned at a minimum resolution of 200 dots per inch. Unless required for clarity, files should not be scanned at a resolution greater than 300 dots per inch.
- All image files must be rotated correctly.
- All areas of the image must be clear and complete. All text must be legible.
- All image files must include all required professional seals, signatures, etc.

4.4. GIS/CAD SOFTWARE DRAWING FILES

Both CAD and GIS data submittals to CRAA are governed by both the CAD Standard and GIS Data Standard requirements.

Drawing files in the native format of the GIS/CAD package must be provided. At the commencement of the project within 30 days following Notice to Proceed, the Data Provider must specify in the **Project Data Specifications Form** (see Appendix A – Project Data Specifications Form), **what versions of software will be used to create and deliver project data. It is the desire of CRAA that** drawing files are created using the most current shipping and supported software versions of commercial off-the-shelf GIS/CAD software packages. Data Provider who desire to submit drawings in a specific version which is not the most current version or long project duration is anticipated before final data can be delivered and software upgrades mid-project are not desired; a request for waiver must be submitted. The following software products are approved:

- **AutoCAD.** Note that it is acceptable to utilize companion products such as AutoCAD Map 3D and AutoCAD Civil 3D. Except as specifically noted below, file conversions from MicroStation/Geopak to AutoCAD are not acceptable
- **MicroStation.** Note that CRAA contracts for Data Development in AutoCAD, and will accept data products in MicroStation or MicroStation Geographics format only on an as-needed basis from other governmental agencies with prior approval from CRAA. Example: FAA, ODOT, etc.
- **Autodesk Revit.** Note that it is acceptable to utilize companion products.

Design data created in any other GIS/CAD products must be exported into a format readable in one of the approved products with no loss of data.

4.5. LAYER ASSIGNMENTS

4.5.1. Layers

CAD layers are analogous to overlays in manual drafting systems and serve to separate graphic elements (lines, shapes, and text) according to the design discipline they represent (Figure 1. Typical Layers Contained in a Sheet File).

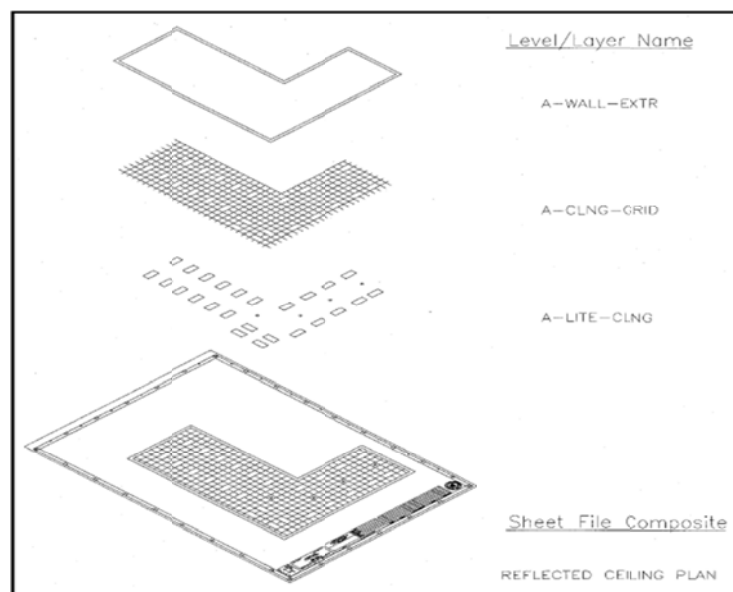


Figure 1. Typical Layers Contained in a Sheet File

The types of information represented by individual layers can be grouped into two primary types: feature-specific information and sheet-specific information (Figure 2. Sheet and Feature-Specific Information).

- Feature-specific model information represents the physical form of a site, its buildings, and the items composing a building. This information is often shared between drawings. Examples include walls, doors, underground utilities, light fixtures, and building outlines. Feature-specific information may be either literal (e.g., walls) or symbolic (e.g., electrical outlets).
- Sheet-specific information may include notes, annotative symbols, and title blocks. This type of information will not be shared between drawings. To use and manipulate feature-specific and sheet-specific information effectively, every layer must be defined (standardized) by its name and its use. For individual features and their layer assignments, see Appendix D - Layer Standards and the applicable CAD templates from the CAD Support Package.

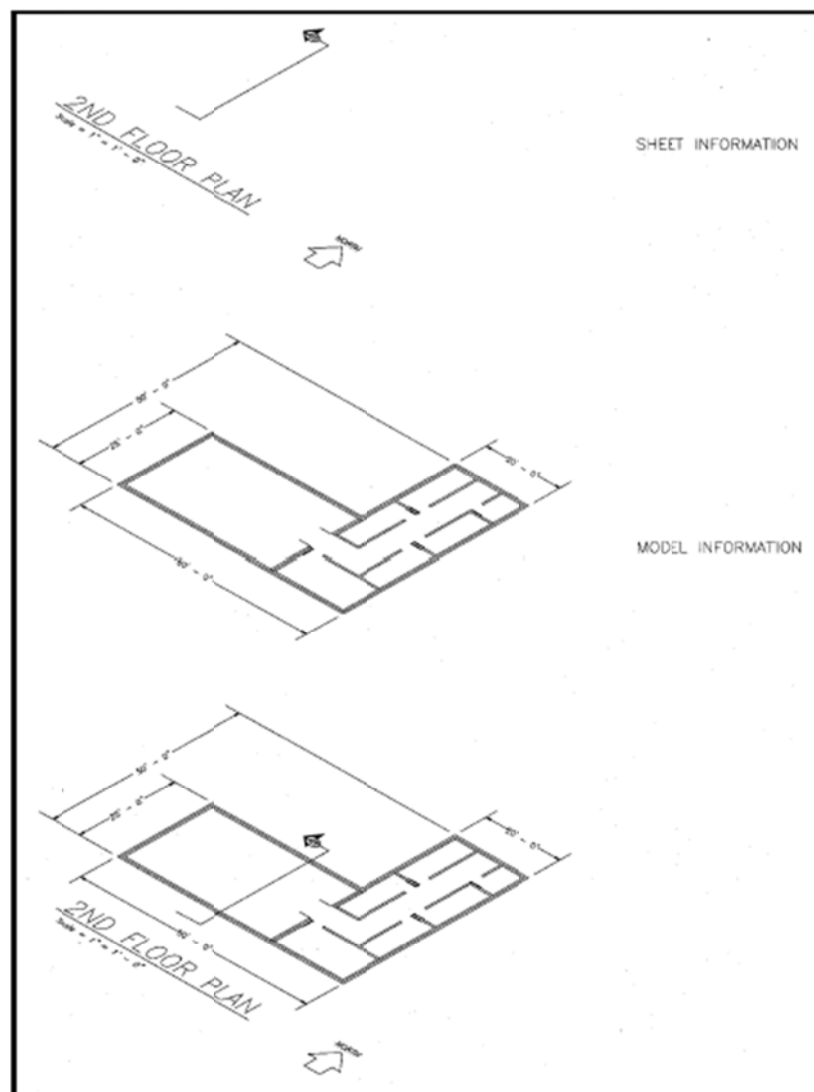


Figure 2. Sheet and Feature-Specific Information

4.5.1.1. Layer Naming Convention

The layer names for the CRAA are organized as a hierarchy. Names consist of distinct subject fields separated by dashes (“-”) to distinguish between the distinct sections of the layer names. The CRAA CAD template files are loaded with layers meant to be applicable to the type of data to be included in a particular drawing, as defined by Discipline Designators. Related layers are grouped together in the various CRAA CAD templates (e.g. HVAC, Civil, etc.). A full listing of the defined CRAA CAD layers are contained in the CAD Support Package and the layer names are listed in Appendix D - Layer Standards.

The sections of a layer name are defined as:

- **Discipline Designator** (one mandatory character and a second optional character)
- **Major Group** (four-characters)
- Two **Minor Groups** (four-characters each).

Only the Discipline Designator, Major Group, and one Minor Group are mandatory fields.

A **second minor group** is optional and used by the CRAA when additional detail is needed to divide features on a drawing. Submitters may also use the second minor group to establish further distinctions between layers.

An example of this is a layer name such as A-WALL-FULL-EXTR for an architectural exterior full height wall versus A-WALL-FULL-INTR for an interior full height wall.

Lastly, the optional one character **Status Indicator** field is used when appropriate.

The layer name format shown here is used by the CRAA for the level of detailed information desired (the Discipline Designator, the Major Group, and one Minor Group). All layers must be created according to this convention.

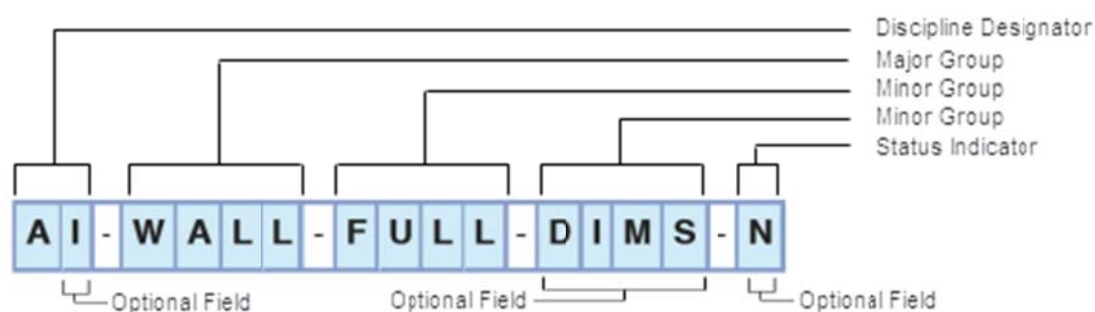


Figure 3. Layer Naming Format

4.5.2. CAD Model Files

Model files represent full-size drawings of civil/site or building elements, systems, or information (e.g., the mechanical HVAC system, the architectural floor plan, details, sections), and sheet files represent final plotted sheets. Model files are used as components in creating plotted sheet files. The information

contained within a model file for a discipline may be referenced by other disciplines to create the particular model files or sheet files for that discipline.

4.5.2.1. Layer Assignment Tables

The layer assignment tables in the **Layer Standards** present the following:

- The layers assigned to each model file.
- A detailed description for each layer.
- The suggested presentation graphics (color/lineweight appearance) associated with each layer. This includes the line style, color, and block if necessary. **Note that the suggested graphics may be altered by the Design Team without the need for a waiver.**

4.5.2.2. Annotation Layers

Note that for every discipline type, there are eight layers that are nearly the same; the only difference is that the Discipline Designator changes depending on the discipline for a model file type. The unique function of these eight annotation layers is to contain model-specific information that might not be required by other disciplines. These layers are as follows with ** representing a Discipline Designator (e.g., A-, C-):

**ANNO-DIMS—Witness/extension lines, dimension terminators, and dimension text.

**ANNO-KEYN—Reference keynotes with associated leaders.

**ANNO-NOTE—General notes and remarks.

**ANNO-NPLT—Non-plotting graphic information.

**ANNO-PATT—Miscellaneous patterning and hatching.

**ANNO-SYMB—Miscellaneous symbols.

**ANNO-TEXT—Miscellaneous text and callouts with associated leaders.

**ANNO-REFR—An AutoCAD user-specific layer for use in attachment of external references such as reference files.

4.5.2.3. Demolition, Phasing Layers & Other Status Indicators

Layers or features to be demolished will be designated using the method described in the NCS, rather than expressly naming layers as “DEMO” as listed in AC-18B.

Data Providers must indicate layers to be demolished by following the NCS layer name method where a “status field” is appended to the layer name. See Figure 3. Layer Naming Format.

A specific one-character Status Code at the end of the layer name with a “D” value indicates “demolition”. This status indicator can be added to any layer name.

NOTE: The NCS also provides an alternative method of indicating layers to be demolished - a *Level 2 Discipline code with "D" value*. However, **only the Status Code field shall be used for CRAA projects to indicate features to be demolished.**

The Status Indicator field also can also be used to indicate project phases. Project Phases when appropriate to be developed are indicated with an appropriate numeric value in the Status Indicator field.

The status indicator codes provided below in Table 1. Status Indicator Codes provides appropriate values for the Status Indicator field. These codes are used in the optional Status Indicator Field to designate features to be demolished, project phases, or other status values as defined by the table below and the NCS.

Table 1. Status Indicator Codes

Status Indicator	Code
Abandoned	A
Existing to Demolish	D
Existing to Remain **	E
Future Work	F
Items to be Moved	M
New Work	N
Temporary Work	T
Not in Contract	X
Phase Numbers	1-9

Source: NCS Version 5

****Note** – It is assumed that all existing features will remain unless another status code indicator is present. Therefore, the “E” status code indicator will only be used in cases where it is necessary for clarity as determined by the data provider.

4.5.2.4. Reference Files (Xref) and Border Sheets

A model file contains information that can be referenced by other disciplines to create other model files or final sheet files. Reference files (external references or Xref files) enable designers to share drawing information electronically through model files, eliminating the need to exchange hard copy drawings between the design disciplines. The use of reference files is a key component in the successful use of the layer assignments. To create either a model file or a final sheet file, multiple referenced model files may be required.

All reference files should be attached using the appropriate techniques so that the attachment path remains valid if the files are moved to different networks. Relative paths indicating the directory in which reference files can be found should be used as opposed to a specific hard-coded or “absolute” path.

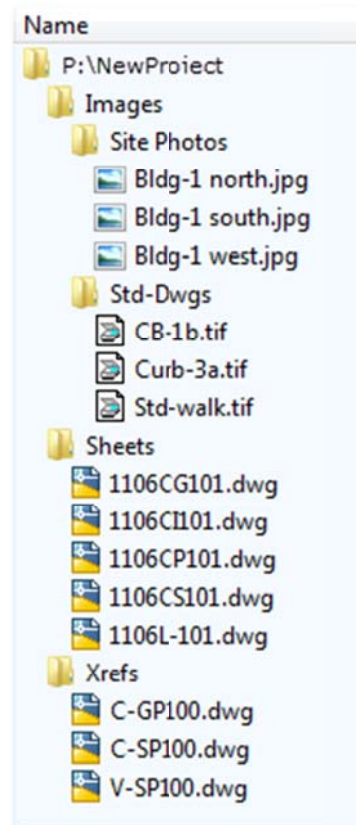
An absolute path specifies the hierarchy of folders and includes the letter of the local hard drive letter or the network server drive letter. This specific option is the least flexible option as groups of files are transmitted from the Data Provider to CRAA and will likely be placed on different drives or in folder hierarchies. In this case, the “absolute” path will no longer be valid and the reef files will no longer be properly referenced.

Relative paths are only partially specified paths. The current drive letter and project folder path to the host drawing folder and path name is not specified; a set of periods and back slashes is used for the relative path. The number of groups indicates the hierarchy of the starting folder. This is the most flexible option and enables a set of drawings and folders to be moved from the current drive and path to a different drive and path that uses the same relative folder structure such as in the case when delivering data to CRAA.

Example of Relative path naming:

SAMPLE PROJECT DIRECTORY

```
P:\NewProject
  \Images
    \SitePhotos
      Bldg-1_north.jpg
      Bldg-1_south.jpg
      Bldg-1_west.jpg
    \Std-Dwgs
      CB-1b.tif
      Curb-3a.tif
      Std-walk.tif
  \Sheets
    1106CG101.dwg
    1106CI101.dwg
    1106CP101.dwg
    1106CS101.dwg
    1106L-101.dwg
  \Xrefs
    C-GP100.dwg
    C-SP100.dwg
    V-SP100.dwg
```



SAMPLE SHEET XREFs with paths

1106CS101.dwg (Existing Site Plan)

..\Images\SitePhotos\Bldg-1_north.jpg
..\Images\SitePhotos\Bldg-1_south.jpg
..\Images\SitePhotos\Bldg-1_west.jpg
..\Xrefs\V-SP100.dwg

1106CG101.dwg (Grading Plan)

..\Xrefs\V-SP100.dwg
..\Xrefs\C-GP100.dwg

1106CP101.dwg (Paving Plan and Details)

..\Images\Std-Dwgs\CB-1b.tif
..\Images\Std-Dwgs\Curb-3a.tif
..\Xrefs\V-SP100.dwg
..\Xrefs\C-GP100.dwg
..\Xrefs\C-SP100.dwg

1106CI 101.dwg (Sidewalk and Patio Plan and Details)

..\Images\Std-Dwgs\Std-walk.tif
..\Xrefs\V-SP100.dwg
..\Xrefs\C-GP100.dwg
..\Xrefs\C-SP100.dwg

1106L-101.dwg (Landscape Plan)

..\Xrefs\V-SP100.dwg
..\Xrefs\C-GP100.dwg
..\Xrefs\C-SP100.dwg

NOTE: With relative paths, the '**Save As**' function to save the drawing to another folder may not properly maintain the Xref file links. Also with Xref relative paths, you cannot always successfully '**Copy and Paste**' Xref's from one DWG file to another depending on the path name and hierarchy of the source and target files.

Border Files are a prime example of external model files that create a professional appearing plan set. A border model file contains border line work, the title block, project-specific text and other “standardized” plan sheet graphics.

Each discipline must use the same border model file and fill in sheet-specific information within the title block or revision block prior to printing the final sheet file (e.g., sheet number, designer names). Each discipline may use a supplemental Xref with discipline-specific information that appears on most of their sheets.

4.5.3. CAD Sheet Files and Tabs

Sheet files are the final project sheets that are intended to be plotted. A sheet file is an assembly of referenced model files plus additional sheet-specific information (e.g., north arrows, scales, section cuts, title block information).

All sheet files must be provided with each CAD data delivery. All referenced files (image files, Xrefs and special fonts if authorized, etc.) must also be included, and all reference links must be resolved so that all appropriate Xref files are loaded when the drawing file is opened.

It is up to the designer to determine whether it is more appropriate to use multiple tabs in one CAD file (.DWG) for multiple sheets, or if the type of work is more appropriate where individual plot sheets should be placed in separate CAD Sheet Files (.DWG). A Maximum of 10 tabs per sheet file is preferred if tabs are used.

4.5.3.1. Common Sheet File Type Layer Assignment for Annotation

Note that ten annotation layers are the same for every discipline except the Discipline Designator changes depending on the discipline for that sheet file type. The unique function of these ten annotation layers is to contain sheet-specific information in annotation. The annotation layer naming conventions should be followed to maintain consistency throughout all the annotation layers to facilitate “harvesting” of annotation data if needed for GIS data development purposes. These layers are as follows with ** representing a Discipline Designator (e.g., A-, C-):

**ANNO-DIMS—Sheet-specific witness/extension lines, dimension terminators, and dimension text.

**ANNO-KEYN—Sheet-specific reference keynotes with associated leaders.

**ANNO-LEGN—Legends and schedules.

**ANNO-NOTE—Sheet-specific general notes and remarks.

**ANNO-PATT—Sheet-specific miscellaneous patterning and hatching (e.g., key plan patterning).

**ANNO-REDL—Redlines, markups.

**ANNO-REVS—Revisions, amendments, addenda, and modifications.

**ANNO-SYMB—Sheet-specific symbols (e.g., north arrow, scales).

**ANNO-TEXT—Sheet-specific text and callouts with associated leaders.

**ANNO-REFR—An AutoCAD user-specific layer for use in attachment of external references such as reference files.

4.5.3.2. Development of Sheet Files

Data Providers must use appropriate CRAA Templates for borders and details as provided in the CAD Support Package.

4.6. STANDARD SYMBOLOGY – BLOCKS (REAL-WORLD AND GRAPHICAL)

A “block” in AutoCAD is a collection of graphical elements that can be manipulated as a single entity. Examples of typical blocks are windows, doors, graphic scale keys, furniture, etc. The use of such symbology enhances CRAA CAD productivity and provides an excellent opportunity for CAD standardization. Appendix B contains standardized block library.

Many named blocks anticipated to be needed are provided on the CAD Support Package. The standardized blocks listed in Appendix B and the CAD Support Package represent real-world features are to be used wherever possible. If custom blocks are needed to represent real-world drawing elements are not covered in this Standard, a request to use a block from either an outside source (e.g. equipment manufacturer) or a custom block created the designer themselves should be submitted to the CRAA GIS Supervisor. To be approved, the custom block must be submitted in electronic form along with a simple sheet that illustrates its use.

Blocks that are used to represent section callout bubbles or other items used for drawing clarity that do not represent real world features (e.g. are not intended to be translated into the GIS) are not covered by this provision and are not restricted. It is expected that a Legend Sheet will be included in the plan set to illustrate the block’s proper appearance and define any abbreviations, symbols and linetypes.

4.7. LINETYPE STYLES

A list the defined layers and associated linetypes for each layer is provided in Appendix D - Layer Standards. The basis for determining the various linetypes are discussed here.

AutoCAD has two basic types of linetypes: **Simple** - consisting of a combination of dots and dashes of various lengths and gaps; and **Complex** - which adds text and/or shapes to the dots, dashes and gaps. Most classes of information that consist of areas (roads, buildings, taxiways, etc.) are suitably represented in drawings with simple linetypes if they are suitably chosen and used. The bounded area can easily be further differentiated by adding a hatch or shaded pattern inside the boundary line.

Linear information is more challenging, especially when depicting aerial and buried utility lines. Because these linear features do not enclose areas, hatch patterns cannot be used to differentiate between all of the different types and sizes. Using only dashes and dots also lacks the needed capabilities to differentiate between the many different linear features at CRAA airports.

All these methods are acceptable and are to be used at the discretion of the designer:

- Add text characters and/or labels on the feature to annotate CAD line work in some fashion.
- Add an adjacent text label parallel to the line being described.
- Use leader text to point to the linear features.
- Use a library of defined complex linetypes that embeds text identifiers in the utility line itself.
- Use “mtext objects” with their background turned on and placed on top of the linear feature.

All of the methods have issues in an Xref drawing environment involving multiple scales. CRAA recommends using complex linetypes as a default, supplemented with **mtext objects** as needed.

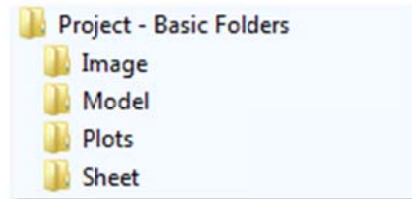
One method which yields unacceptable results when converted into GIS data is to break linear features in to separate segments with text object placed in the resulting gap. This is therefore unacceptable for CRAA CAD/GIS data.

4.8. ELECTRONIC CAD FILE ORGANIZATION

Drawing sets must be organized into a logical directory structure so that the CRAA will be able to easily locate the design files. As each project and project team is different, CRAA recognizes that file structure definitions are not “one size fits all” for each type and size of project or design team.

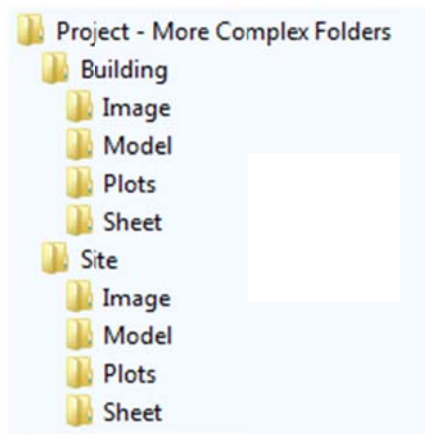
One of the reasons for following the model and sheet file naming conventions is to minimize the number of folders. In a smaller (1 to 50 sheets) construction plan set one might use the following simple folder structure:

Project
 Image
 Model
 Plots
 Sheet



In a larger construction plan set, the main folder would be the Job Name, and any needed disciplines should be used as the second level folders, then following the simple subfolder structure listed above (Sheet/Model/Image/Plots).

Project
 Building
 Image
 Model
 Plots
 Sheet
 Site
 Image
 Model
 Plots
 Sheet



For very large project involving multiple designers, disciplines, phases, etc., the Data Provider should coordinate with the CRAA Project Manager to develop a data file structure that fits the project needs, and incorporates as much consistency with these standards as possible to fit the needs of CRAA data maintenance staff.

4.8.1. Coordination between File Name and Drawing Sheet Name

In assigning a sheet name (for use in the sheet title block, reference bubbles, etc.), the Data Provider must coordinate with the discipline name assigned to the electronic model file. As shown in Figure 4 below, the sheet code precedes the sheet sequence number prior to the dash separator. Typically, drawing sheet numbers are limited to 6 characters but more may be needed for large projects. The first character is for the single character Discipline Designators listed in Table 3 or alternatively the 2-character Level 2 Discipline Designators listed in Table 4. The next character is for the numerical Sheet Type Designator

listed in Table 6. The last three characters are for the sequential sheet number, with zeros preceding one or two digit numbers (i.e. 001 and 010).

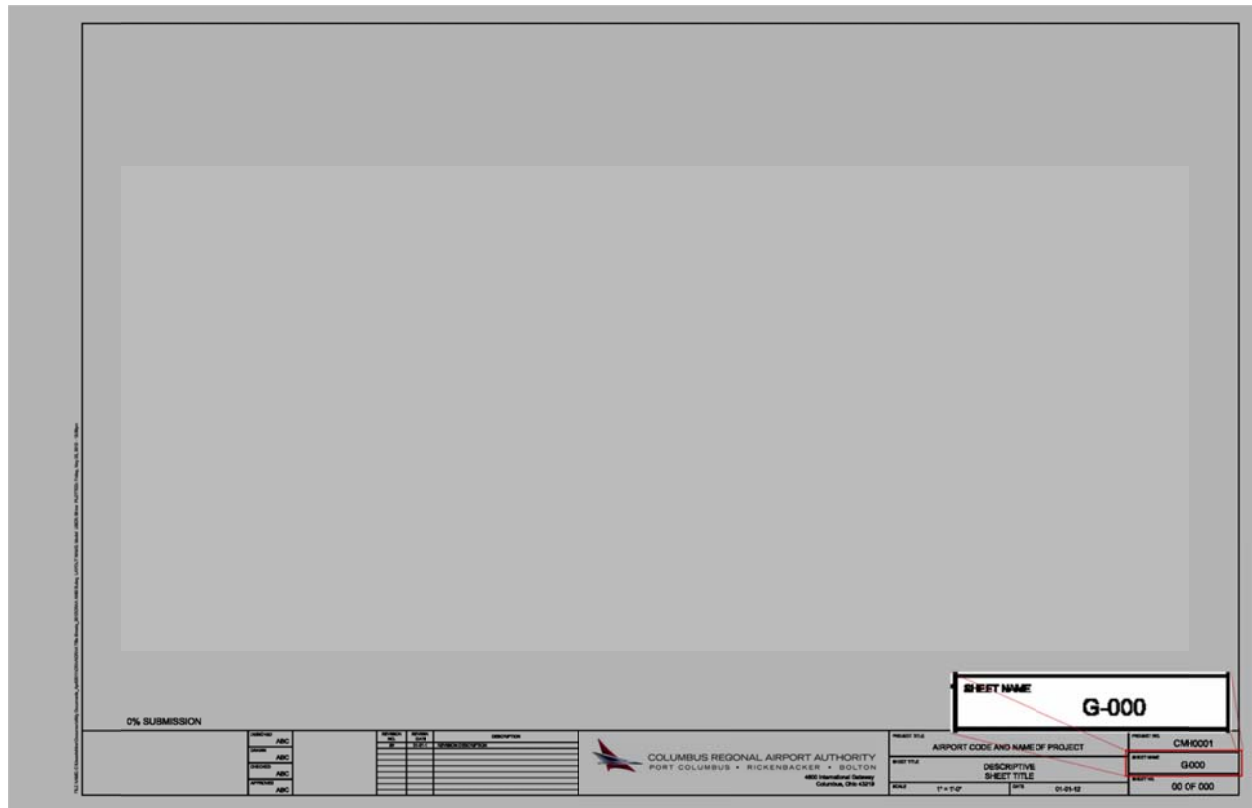


Figure 4. Typical Border Sheet and Sheet Number

Example of appropriate Sheet Identification Information:

SHEET TITLE: Taxiway B Paving Plan

SHEET NAME: CP-103

SHEET NUMBER : 4 of 7

4.9. SPATIAL COMPLIANCE

4.9.1. Exterior Data

Model space in a GIS/CAD drawing that primarily relates to exterior features shall be submitted in the following coordinate system: **NAD 83 Ohio State Plane, South, US Survey Feet (Decimal).**

It is assumed that most drawings for CRAA will be based on some existing data provided by CRAA, along with template files with proper layer definitions and exterior geodetic control points included. If for

some reason this is not the case, the following information should be used to ensure all exterior data deliveries to CRAA include proper spatial coordinate references.

These requirements generally apply only to data provided in Site Plan sheets, Civil or Major Utility sheets, not Building Plans, Sections or Detail sheets. All site plan work including enlarged plans drawn to scale shall be georeferenced in their proper position in the AutoCAD World Coordinate System (WCS) with the assumption that the WCS is equivalent to the specified Airport survey coordinate system with default units of decimal feet.

Using AutoCAD's "assign coordinate system" (`_adesetcrdsys`) command, the coordinate system "NAD 83 Ohio State Plane, South Zone – US Foot", shall be assigned and obtained from the available coordinate systems. **Note:** "adesetcrdsys" may not be available in all versions of AutoCAD.

Two points of geodetic control shall be included in each electronic file for spatial reference; the Primary (PACS) and Secondary (SACS) monument coordinates provided by CRAA in the CAD Support Package, and available on-line from the National Geodetic Survey database

Features in drawing files that are stored in drawing units will be translated to their real world locations by applying a coordinate system. If include the PACS and SACS data is not applicable, acceptable control can includes section corners, quarter section corners, and other existing airport monumentation.

State Plane coordinates exist for most section corners and for all existing monumentation points on airport premises. Geodetic control assistance can be obtained from the CRAA.

It is a requirement that the control used be referenced and shown in the plan drawing. If the point of control is located within the project limits it should be symbolically indicated and annotated in the drawing file. If the nearest control is located well outside of the project area then it should be tied to one of the other geodetic control points used, and a reference tie annotated and indicated in the design file. Any land survey information, such as basis of bearings and or any assumptions must be submitted and annotated on the drawing file.

4.9.2. Interior Data

GIS/CAD drawings that primarily relate to interior data shall be submitted using architectural drawing units. However, for each drawing set that contains data to be incorporated into the CRAA GIS database (e.g. outline of a new building on a site plan), the locations of at least two points of geodetic control must be included in the electronic drawing file with the coordinate values (in State Plane coordinates) for those points provided for reference. If the nearest control is located well outside of the project area then it should be tied to other known CRAA geodetic control points, and a reference tie annotated and indicated in the design file. Any land survey information, such as basis of bearings and or any assumptions must be submitted and annotated on the drawing file.

Data inside building structures may be geographically positioned within the building envelop based on the building footprint, or for the data inside the terminal or other buildings by referencing the structural column grid. For the Terminal building only, CRAA can provide a base floor map in which to work. For instance in the terminal floor plan the WCS is square to the Concourse B column grid and the basic unit is assumed to be a fractional inch. Contact the GIS Supervisor for any existing data or interior spatial coordinate grid information.

4.9.3. Rotating Data vs. Rotating View

Designers shall not use the AutoCAD “Rotate” command to spin aerial images, Xefs or other georeferenced line work out of their proper position in the WCS in project plan files.

The “Twist” option for AutoCAD’s Dview command may be used to rotate the WCS in relation to the computer screen and layout tab viewports. AutoCAD User Coordinate Systems (UCS) may be used as the designer needs to facilitate drafting in a drawing file where Dview-Twist is being used.

4.10. REQUIRED DISCLAIMERS FOR DATA USE AND DATA SECURITY

4.10.1. Proper Use of Data

Data provided by CRAA to designers and Data Providers for their use must not be relied upon as being 100% accurate and is subject to independent verification by the Data Provider if used in any design, and is subject to the following conditions:

Any electronic files (“Files”) provided by the Columbus Regional Airport Authority relating to a development project (“Project”) are provided for reference information only. Files are provided strictly for the Data Provider convenience, and the accuracy or completeness of these electronic Files is neither implied nor guaranteed. Usage of these Files shall be solely at your own risk. The sealed conformed to contract documents, not any electronic Files, are the official documents developed for the procurement of any CRAA project.

The Design Engineers and the Columbus Regional Airport Authority (CRAA) hereby disclaim any and all responsibility and liability for all claims, damages, causes of action, losses, costs, and expenses (including but not limited to attorneys’ fees) arising out of, resulting from, or relating to any and all interpretations and use of electronic Files by Data Providers for any purpose whatsoever.

It is expressly agreed and understood by the recipient of Files, that by virtue of receipt and use by recipient, to the fullest extent permitted by law, recipient thereby agrees to indemnify and hold harmless the CRAA Design Engineers who may have originally developed the electronic data, the CRAA, their respective officers, employees, representatives and affiliated companies from any and all responsibility and liability for all claims, damages, causes of action, losses, costs, and expenses (including but not limited to attorneys’ fees) arising out of, resulting from, or relating to any and all interpretations and use of these electronic Files by the Data Provider, or any other party to whom the Data Provider may supply the Files, for any purpose whatsoever. This indemnification shall extend to any and all claims arising from third parties, of whatsoever cause, and recipient shall indemnify the CRAA Design Engineers and the CRAA, their respective officers, employees, representatives and affiliated companies for same.

Any electronic Files provided by CRAA are considered the Confidential and Proprietary property of the CRAA. Copying, distribution, dissemination or publication of these Files is strictly prohibited without the express written consent of CRAA.

4.10.2. Security Sensitive Information

All parties who receive electronic or hard copy drawings pertaining to CRAA properties must comply with the following CRAA Regulation, as may be amended or revised:

§ 1520.13 Marking SSL.

(a) Marking of paper records. In the case of paper records containing SSI, a covered person must mark the record by placing the protective marking conspicuously on the top, and the distribution limitation statement on the bottom, of--

- (1) The outside of any front and back cover, including a binder cover or folder, if the document has a front and back cover;
- (2) Any title page; and
- (3) Each page of the document.

(b) Protective marking. The protective marking is: SENSITIVE SECURITY INFORMATION/OHIO INFRASTRUCTURE RECORD.

(c) Distribution limitation statement. The distribution limitation statement is:

WARNING: This record contains Sensitive Security Information that is controlled under 49 CFR parts 15 and 1520. No part of this record may be disclosed to persons without a "need to know", as defined in 49 CFR parts 15 and 1520, except with the written permission of the Administrator of the Transportation Security Administration or the Secretary of Transportation. Unauthorized release may result in civil penalty or other action. For U.S. government agencies, public disclosure is governed by 5 U.S.C. 552 and 49 CFR parts 15 and 1520.....INFRASTRUCTURE RECORD Section 149.433(A)(2), ORC

(d) Other types of records. In the case of non-paper records that contain SSI, including motion picture films, videotape recordings, audio recording, and electronic and magnetic records, a covered person must clearly and conspicuously mark the records with the protective marking and the distribution limitation statement such that the viewer or listener is reasonably likely to see or hear them when obtaining access to the contents of the record.

4.11. SUBMITTAL COMPLIANCE & CHECK PROCESS

CRAA has made available a CAD Support Package with CAD templates that are compliant with these standards. Data Providers are required to use the CAD Support Package and run the checks described below and others to ensure their data deliveries meet standards and will pass the submittal compliance checks by CRAA.

4.11.1. CAD Drawing Files

NOTE – Unless otherwise specified in the CRAA Data Provider contract, CRAA requires AutoCAD's .DWG format files for all CRAA CAD data deliveries, not MicroStation .DGN format. Conversions of MicroStation DGN files to AutoCAD DWG files are not acceptable.

This CRAA CAD standard does not apply to Building Information Modeling (BIM) 3D CAD data. BIM data and drawing file specifications will be addressed through the BIM Data Provider contract or other means.

All CAD drawings submitted to the CRAA will be checked for compliance with these standards. The compliance check process seeks to ensure that the formats of the submittals conform to the standards. The checks include the following activities:

- Each drawing/model will be opened in the native AutoCAD software. Any problem opening the file, missing reference files, fonts, etc. will be noted.
- Each drawing/model will be checked for extraneous layers, blocks, etc. Any deficiencies will be noted.
- Each drawing/model will be checked for spatial compliance. Any deficiencies will be noted.
- Randomly selected sheet drawings will be plotted to PDF for viewing either on the screen or on a paper printout. Any deficiencies will be noted.
- Randomly selected drawings will be reviewed to validate the appropriate data is located on the correct layer. Any deficiencies will be noted.
- A report will be generated noting the deficiencies. Note that some types of deficiencies will result in the compliance check process being terminated, and so all checks may not be performed.

If any drawing or model in the submittal fails the process, the submittal, along with the deficiency report, will be returned to the originator for resubmission.

4.11.1.1. CAD Drawing File Submittal Specifications / Checklist

- Fonts – MS Windows font is required. Only include special font if a waiver has been granted.
- Custom AutoCAD .SHX files - These are sometimes used for symbols embedded in linetypes, but are discouraged for use in CRAA data as they are not incorporated into the .DWG file. If they must be used, the custom .SHX must be provided.

-
- The CRAA CAD Support Package includes the standard CRAA .CTB pen table files. However, the designer must include the files the standard files used in submittal package in case CRAA issues upgraded versions of the standard pen table files.
 - Plot configurations for some hardware – CRAA doesn't need these files for the Data Provider's plotters.
 - Remaining Required Deliverables:
 - Sheet files –.DWG VECTOR FILES
 - All Xref files needed to support the sheet files
 - Image files (aerial images, site photos, scanned details sheets), used in the sheet files
 - Vector drawing files converted to Raster scans (PDF or TIFF)

4.11.2. Raster Scanned Drawing Files

All Scanned Image drawings submitted to the CRAA will be checked for compliance with these standards. See Section 4.3 Raster Scanned Drawing Files for specific technical specifications regarding acceptable file type, scanning resolution and drawing file orientation. The compliance check process will generally include the following activities:

- Randomly selected raster files will be reviewed for the image resolution. Any deficiencies will be noted.
- Randomly selected raster files will be reviewed for correct rotation (either Landscape or Portrait viewing). Any deficiencies will be noted.
- Randomly selected raster files will be reviewed for visual clarity and readability. Any deficiencies will be noted.
- Randomly selected drawings will be reviewed for required professional seals, signatures, etc. Any deficiencies will be noted.
- A report will be generated noting the deficiencies. Some types of deficiencies will result in the compliance check process being terminated as the Data Provider will need to make corrections and resubmit, and so all checks may not be performed.

If any image in the image submittal fails the process, the image submittal, along with the deficiency report, will be returned to the Data Provider for resubmission.

4.12. REQUIRED SUBMITTALS

There are two “types” of drawing files to be submitted. The “type” and submittal requirements for each type depend on the intended purpose of the drawing: Plan Set Drawing Files or GIS-Oriented Files.

4.12.1. CAD Data vs. GIS-Oriented CAD/GIS Data – Definitions

It is important to clarify the distinction between the two types of electronic data submittals as some requirements apply to both submittal types (e.g. Layer naming conventions), whereas additional spatial accuracy and other requirements contained in the “GIS Data Standards” only apply to the “GIS-Oriented” CAD or native GIS files.

Plan Set Files – 2D Electronic Data

- Design Sets: 30%, 60%, 90% & 100%
- Bid Set
- Conformed Plan Set
- Record Drawing Plan Set

GIS-Oriented Files - 3D Electronic Data

- Airside Site Composite File
- Landside Site Composite File
- Building Composite Files (By Levels)
- “Planning Data” (e.g. Airport Layout Plan set data)
- “Environmental Data” (e.g. Noise Contours, Environmental Samples etc.)

Other than the addition of new layer and block requirements and submittal of progress drawings for compliance checks, the submittal of CAD electronic files **for Plan Set Files** shall not undergo significant changes.

The “As-Built” data for Civil type projects however, must undergo additional conversion to “Composite File” CAD drawings so that it can be submitted to the FAA Airports GIS. These GIS-Oriented “As-Built” files must meet criteria contained in the GIS Data Standards.

Building Composite file submittal to FAA AGIS standards will be handled on a case-by-case basis.

4.12.2. CAD Plan Set Drawing File Requirements – In Progress Submittal Milestones

In compliance with the CRAA Contract Manual Requirements, progress drawings shall be submitted in their native CAD format complete (along with all required Xref and image files) at the 30%, 60%, 90% and 100% design milestones.

The CAD drawing file data must be submitted along with evidence that it does/does not fully comply with the CRAA CAD Standards. The designer shall state in the data transmittal whether or not the data fully complies with the CRAA CAD Standards, what quality assurance checks have been performed and any known non-conformance with the data that must be addressed for future data submittals.

Deficiencies noted at the 30% and 60% data submittals shall be noted for correction prior to the 100% complete data submittal stage. Data at the 100% complete stage must fully comply with these Standards. Data that does not fully comply with the standards will be rejected and required to be resubmitted after correction. Raster scanned drawing files are only required at the 100% submittal milestone.

4.12.3. GIS-Oriented Drawing File Requirements – In Progress Submittal Milestones

In compliance with the CRAA Contract Manual Requirements, As-built GIS-Oriented drawings shall be submitted in their native CAD/GIS format complete (along with all required Xref and image files) when the project is at 100% complete stage and plan data has been migrated into appropriate Composite 3D “As-Built” files.

GIS-Oriented data at the 100% complete stage must fully comply with these Standards and applicable GIS Standards. Data that does not fully comply with the standards will be rejected and required to be resubmitted after correction. Raster scanned drawing files are only required at the 100% submittal milestone.

4.13. GIS-ORIENTED DATA SUBMITTAL REQUIREMENTS

4.13.1. Overview of Converting CAD to GIS-Oriented CAD

CAD data is often a primary source of geometric feature data for GIS. However, CAD design files typically provide only “raw” geometry that requires significant conversion into an FAA-compliant GIS dataset; unless the essential “GIS” requirements for geometric construction and supporting “attribute” data are present in the CAD file.

CAD files created primarily for inclusion in GIS systems have different assumptions, needs and standard practices than those created for construction plan sets. CAD files developed for design and construction typically only need to appear correct when plotted in a bid/construction plan set. With the arrival of FAA data submittal requirements for airport CAD and GIS data, , more stringent data requirements are now required for how CAD data and drawing files are assembled if the data is eventually to be submitted to the FAA Airport GIS.

CAD files for construction plan sets are constructed with a different goal (a paper plan set), than electronic files intended to be used as spatially-correct 3D GIS features in a database.

4.13.2. GIS-Oriented CAD

GIS-oriented CAD is what we must differentiate from Plan-Oriented CAD. The GIS-Oriented CAD files consist of:

- Points & symbol blocks at points
- Lines (including open CAD polylines)
- Polygons (including closed CAD polylines)
- Data “attributes” are object-based, carried by **Object Data Tables** or other object characteristics defined by the CAD properties for:
 - Layer
 - Linetype
 - Block type, etc.

4.13.3. Plan-Oriented CAD

Plan-oriented CAD consists of these features and more, however, 3D data requirements and “connectivity” of the actual features are not typically present, and text annotations that have no direct relationship to the depicted features and are added for user comprehension/direction of the final plan.

For example, consider how to depict an area of contaminated soil to be removed – represented by a dashed line. In a CAD drawing intended for plotting, this could be represented by a closed polyline, a few open polylines, a collection of lines and arcs, or even a large number of unconnected ‘broken’ line segments placed individually along the designated boundary. All of these approaches would have the same appearance when plotted to paper. However, only the closed polygon would be valid or useful as a data object for GIS conversion.

4.13.4. GIS-Oriented CAD Requirements Compared to Plan Oriented CAD

Designers must understand the differences between the two types of electronic data submittal and when CAD data for a plan set must be converted to GIS-Oriented CAD for “As-Built” data submittal. The following table illustrates how CAD features must meet additional requirements to qualify as GIS-Oriented CAD data.

Table 2. Comparison of Typical CAD Data to GIS-Oriented CAD

Typical CAD Design/Construction File	GIS-Oriented CAD File / GIS Data
Lines must look appropriate when plotted	Intersecting lines must “snap” at vertices. Gaps or overshoots not allowed
“Polygon” features are made up of bounding lines but do not have to be “closed”	Closed polylines required to create a polygon in GIS
Lines are often broken for linetype display or to avoid text or other symbols.	Lines must be continuous between nodes
“Annotation” text placed on the plan sheet to indicate an “attribute” such as diameter or utility type	Text labels are attributes of the feature linked to CAD Object Data (GIS attributes)
Hatching used to delineate an area omitted from an area	GIS uses complex geometry (i.e. “donut hole” polygons)
Two dimensional (2D) data needed for most plans.	Three dimensional (3D) data needed for most FAA AGIS required features
Shared bounding lines used for adjacent paved areas	Discrete polygons

Many of these CAD data issues are suitable for publishing a CAD plan set that will only be viewed on paper. Requiring a fully FAA AGIS compliant “3D” data file that meets all “GIS” requirements for geometric construction and object data would needlessly increase the complexity to produce a data set that would only be viewed on paper. **Therefore, CRAA is only requiring the CAD layering standards be followed for a CAD bid/construction plan set.**

However, As-Built GIS-Oriented CAD data that falls within the regulations for the FAA’s geospatial Advisory Circulars, must meet the CRAA GIS Data Standards for 3D data, geometric construction and object data (i.e. required attributes).

The very specific “GIS” data standards which apply to GIS-Oriented CAD are contained in the CRAA GIS Data Standards, Chapter 2, Chapter 3 and Appendix.

5. FILE & GRAPHIC STANDARDS AND SPECIFICATIONS

5.1. INTRODUCTION

This section defines the graphic standards that are guidelines to be used for creating graphical presentation of CAD data. The standards in this section are to be followed where feasible and practical. When following these standards is not feasible or practical, the design team may collectively decide to deviate from the graphical standards only. It is suggested that any changes that impact the sheet cover page, index page, or title block be approved by the CRAA Project Manager.

5.2. CAD DRAWING FILE ORGANIZATION

Two distinct types of CAD files are distinguished in this standard: sheet files, which are intended for plotting plan sheets, and model files, which are files containing features and other design/drawing information. Model files are typically used in many sheet files and are usually incorporated “by reference” into the sheet files using the AutoCAD “Xref” command.

The data in the Xref files is only displayed in files to which they are attached, not permanently incorporated into the sheet file data. Examples of model files that are commonly added via Xref include the plan sheet border graphics attached to the layout tab, and drawing files of existing and proposed components of the work.

5.2.1.1. Electronic CAD File Naming Conventions

Naming conventions for electronic files allow CAD users to determine the contents of a drawing without actually displaying the file. They also provide a convenient and clear structure for organizing files within project directories. CAD files should be named in accordance with the following conventions unless a waiver has been granted by the CRAA GIS Supervisor. It is important that CAD file naming follow a standard practice to facilitate the storage and retrieval of many electronic drawing files over time by CRAA staff.

5.2.1.2. Model File Naming Convention

The model file naming convention is based on the National CAD Standards (NCS), Version 5.0 and has four required fields as shown below in Figure 5. Model File Naming Convention Model file naming conventions are similar to the CAD Layer naming conventions discussed earlier, but there are important differences as this discussion pertains to file names for improved file organization, whereas the layer naming refers to multiple layers contained within drawing files.

The first two-characters of the Model File name represent the **Discipline Designator**. The options for the first character in the Discipline Designator are listed below in Table 3. The first discipline designator character is required. The second character of the Discipline Designator field is either a hyphen (-), or an optional second character to further refine the discipline indicator.

The next two-character field represents the **Model File Type** (see Table 4. Model File Types). These third and fourth characters in the model file name are alphabetic characters that define the type of model, based on established model type designators.

The final four-character field is **User Defined** based on the NCS codes or user defined codes if no NCS applicable Model codes are published. The NCS defines an optional additional four character **prefix** before the Discipline Designator. **However, electronic files submitted to CRAA cannot include any optional four character prefix.**

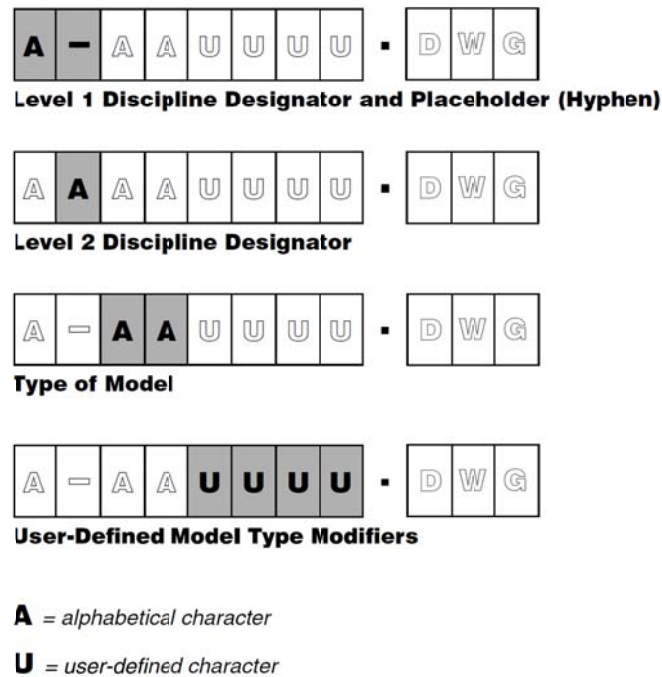


Figure 5. Model File Naming Convention

The National CAD Standard lists “valid” designator values to be used in CRAA design and CAD deliverables. The Tables below show the various file naming designator codes for Discipline and Model File Types.

Table 3. Discipline Codes

Discipline	Designator
General	G
Hazardous Materials	H
Survey/Mapping	V
Geotechnical	B
Civil	C
Landscape	L
Structural	S
Architectural	A
Interiors	I
Equipment	Q
Fire Protection	F

Discipline	Designator
Plumbing	P
Process	D
Mechanical	M
Electrical	E
Distributed Energy	W
Telecommunications	T
Resource	R
Other Disciplines	X
Contractor/Shop Drawings	Z
Operations	O

A comprehensive listing of all possible **Level 2 discipline designator codes** are omitted here for brevity. For examples of discipline designators, refer to the National CAD Standard Uniform Drawing System ***UDS Appendix A – Discipline Designators, UDS section 1.6.***

Table 4. Model File Types

Discipline	Code	Definition
General - Model		
	BS	Border Sheet
	KP	Key plan
Hazardous Materials - Model		
	DT	Detail
	EL	Elevation
	LG	Legend
	PP	Pollution Prevention Plan
	SC	Section
	XD	Existing/Demolition Plan
Survey/Mapping - Model		
	AL	Existing Airfield Lighting Plan
	CP	Existing Communication Plan
	EU	Existing Electrical Utilities Plan
	FU	Existing Liquid Fuel Utilities Plan
	HP	Hydrographic Survey Plan
	HT	Existing HTCW Utilities Plan
	IW	Existing Industrial Waste Water Plan
	LG	Legend
	NG	Existing Natural Gas Utilities Plan
	PB	Project Boundary
	PR	Existing Profile
	SC	Existing Section
	SP	Survey and Mapping Plan
	SS	Existing Sanitary Sewer Plan
	ST	Existing Storm Sewer Plan
	WA	Existing Domestic Water Plan
Geotechnical - Model		
	BL	Boring Location Plan
	LB	Boring Log
	LG	Legend
	SH	Schedule
Civil - Model		
	AF	Airfield Plan
	AM	Airfield Pavement Marking Plan
	CP	Channel Plan
	DT	Detail
	EC	Erosion Control Plan
	EL	Elevation
	FU	Liquid Fuel Utilities Plan
	GP	Grading Plan
	IP	Installation Plan/Base Map
	IW	Industrial Waste Water Plan

Discipline	Code	Definition
	JP	Joint Layout Plan
	KP	Staking Plan
	LG	Legend
	NG	Natural Gas Utilities Plan
	PL	Project Location Map
	PR	Profile
	SC	Section
	SH	Schedule
	SP	Site Plan
	SS	Sanitary Sewer Plan
	ST	Storm Sewer Plan
	TS	Transportation Site Plan
	WA	Domestic Water Plan
	XD	Existing/Demolition Plan
Landscape - Model		
	DT	Detail
	EL	Elevation
	IP	Irrigation Plan
	LG	Legend
	LP	Landscape Plan
	SC	Section
	SH	Schedule
	XD	Existing/Demolition Plan
Structural - Model		
	3D	Isometric/3D
	CP	Column Plan
	DT	Detail
	EL	Elevation
	EP	Enlarged Plan
	FP	Framing Plan
	LG	Legend
	NB	Non-Building Structures Plan
	NP	Foundation Plan
	SC	Section
	SH	Schedule
	XD	Existing/Demolition Plan
Architectural - Model		
	3D	Isometric/3D
	AC	Area Calculations/Occupancy Plan
	CP	Reflected Ceiling Plan
	DT	Detail
	EL	Elevation
	EP	Enlarged Plan
	FF	Floor Finish Plan
	FP	Floor Plan
	GP	Graphic Plan
	LG	Legend

Discipline	Code	Definition
	QP	Equipment Plan
	RP	Roof Plan
	SC	Section
	SH	Schedule
	SP	Architectural Site Plan
	XD	Existing/Demolition Plan
Interiors - Model		
	3D	Isometric/3D
	DT	Detail
	EL	Elevation
	EP	Enlarged Plan
	LG	Legend
	QP	Equipment Plan
	RP	Furniture Plan
	SC	Section
	SH	Schedule
	SP	Signage Placement Plan
	WP	System/Prewired Workstation Plan
	XD	Existing/Demolition Plan
Fire Protection - Model		
	DG	Diagram
	DT	Detail
	FA	Fire Alarm/Detection Plan
	FP	Fire Suppression Plan
	LG	Legend
	LP	Life Safety Plan
	SH	Schedule
	XD	Existing/Demolition Plan
Plumbing - Model		
	DG	Diagram
	DT	Detail
	EL	Elevation
	EP	Enlarged Plan
	LG	Legend
	PP	Piping Plan
	SH	Schedule
	XD	Existing/Demolition Plan
Mechanical - Model		
	3D	Isometric/3D
	DG	Diagram
	DT	Detail
	EL	Elevation
	EP	Enlarged Plan
	HP	HVAC Plan
	HT	HTCW Utilities Plan
	LG	Legend
	MD	Machine Design Plan

Discipline	Code	Definition
	MH	Material Handling Plan
	PP	Piping Plan
	QP	Equipment Plan
	SC	Section
	SH	Schedule
	SP	Specialty Piping Plan
	XD	Existing/Demolition Plan
Electrical - Model		
	AL	Airfield Lighting Plan
	AP	Auxiliary Power Plan
	CP	Exterior Communication Systems Plan
	DG	Diagram
	DT	Detail
	EU	Electrical Utilities Plan
	GP	Grounding System Plan
	LG	Legend
	LP	Lighting Plan
	PP	Power Plan
	SH	Schedule
	SS	Special Systems Plan
	XD	Existing/Demolition Plan
Telecommunications - Model		
	DG	Diagram
	DT	Detail
	LG	Legend
	SH	Schedule
	TP	Telephone/Data Plan
	XD	Existing/Demolition Plan

5.2.1.2.1. Existing/Demolition Model File Naming

There are instances when a facility is being renovated and the as-built designs need to be revised to show demolition and new items. These revisions are made on copies of the existing as-built model files.

Copies of as-built files can be renamed to indicate files depicting existing features to be demolished.

A model file type, **Existing/Demolition (XD)**, has been added to the standard to allow Data Providers to indicate revisions to as-built features if this approach is most appropriate for submittal of data pertaining to numerous features “removed” in a project. This model file type can be used if needed to aid Data Providers in separating existing “to remain” data files from data files that depict existing as built features to be demolished.

5.2.1.3. Sheet File Naming Convention

This section describes the Sheet file naming convention established by the National CAD Standard which CRAA has adopted and recommends be followed whenever possible. Maintaining consistency in sheet file naming between projects will aid CRAA staff efforts for data management.

However, CRAA understands that each project and each design team is unique and strict conformance to this sheet naming standard may not be appropriate for each project. Very large projects may have unique requirements which would justify deviating from this sheet file naming standard. Very small design projects or planning/environmental projects such as an Airport Layout Plan or maps of Wildlife areas submitted in CAD format may not be applicable for the NCS codes (discipline, major, minor, etc.). Data Providers should coordinate with the CRAA Project Manager if seeking approval to deviate from the Sheet file naming convention.

The sheet file naming convention (Figure 6. Sheet File Naming Convention) has five fields. The first field will be used for a 0 to 20-character Project Code which is the CRAA Project number assigned by CRAA. The next two characters are the Discipline Designator with Level 2 Designator (Table 5. Discipline Designators with Level 2 Designators). The next character is the Sheet Type Designator (Table 6. Sheet Type Designators) followed by a two-character Sheet Sequence Number (typically 01-99). The remaining three characters are user definable to better organize/group sheet data files. For large projects where sheet sequences may exceed two digits, three digit sheet sequence numbers may be used.

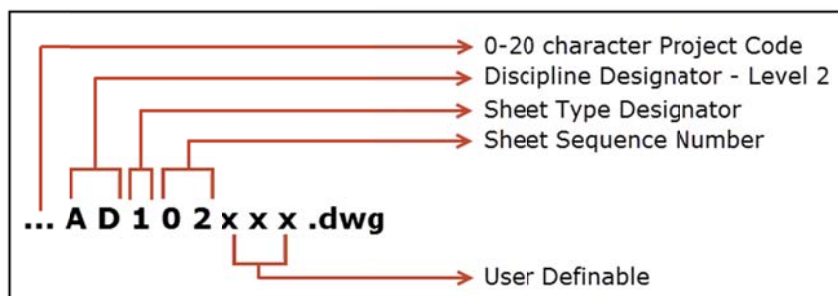


Figure 6. Sheet File Naming Convention

***Note:** When more than one sheet type (such as plan, elevation, and detail) is represented in one sheet file, the dominant sheet type determines the Sheet Type Designator.*

Table 5. Discipline Designators with Level 2 Designators

Discipline	Designator	Description	Content
General - Sheet			
	G-	All General	All or any portion of subjects in the following Level 2 Designators
	GI	General Informational	Drawing index, code summary, symbol legend, orientation maps
	GC	General Contractual	Phasing, schedules, contractor staging areas, fencing, haul routes, erosion control, temporary and special requirements
	GR	General Resource	Photographs, soil borings
Hazardous Materials - Sheet			
	H-	All Hazardous Materials	All or any portion of subjects in the following Level 2 Designators
	HA	Asbestos	Asbestos abatement, identification, or containment
	HC	Chemicals	Toxic chemicals handling, removal or storage
	HL	Lead	Lead piping or paint removal
	HP	PCB	PCB containment and removal
	HR	Refrigerants	Ozone depleting refrigerants

Discipline	Designator	Description	Content
Survey/Mapping - Sheet			
	V-	All Survey/Mapping	All or any portion of subjects in the following Level 2 Designators
	VA	Aerial Survey	
	VF	Field Survey	
	VH	Hydrographic Survey	
	VI	Digital Survey	
	VU	Combined Utilities	
Geotechnical - Sheet			
	B-	All Geotechnical	
Civil - Sheet			
	C-	All Civil	All or any portion of subjects in the following Level 2 Designators
	CD	Civil Demolition	Structure removal and site clearing
	CS	Civil Site	Plats, dimension control
	CG	Civil Grading	Excavation, grading , drainage, erosion control
	CP	Civil Paving	Roads, driveways, parking lots
	CI	Civil Improvements	Pavers, flagstone, exterior tile, furnishings, retaining walls, and water features
	CT	Civil Transportation	Waterways, wharves, docks, trams, railways, airfields, and people movers
	CU	Civil Utilities	Water, sanitary sewer, storm sewer, power, communications, fiber optic, telephone, cable television, natural gas, and steam systems
Landscape - Sheet			
	L-	All Landscape	All or any portion of subjects in the following Level 2 Designators
	LD	Landscape Demolition	Protection and removal of existing landscaping
	LI	Landscape Irrigation	
	LP	Landscape Planting	
Structural - Sheet			
	S-	All Structural	All or any portion of subjects in the following Level 2 Designators
	SD	Structural Demolition	Protection and removal
	SS	Structural Site	
	SB	Structural Substructure	Foundations, piers, slabs, and retaining walls
	SF	Structural Framing	Floors and roofs
Architectural - Sheet			
	A-	All Architectural	All or any portion of subjects in the following Level 2 Designators
	AD	Architectural Demolition	Protection and removal
	AS	Architectural Site	
	AE	Architectural Elements	General architectural
	AI	Architectural Interiors	
	AF	Architectural Finishes	
	AG	Architectural Graphics	

Discipline	Designator	Description	Content
Interiors - Sheet			
	I-	All Interiors	All or any portion of subjects in the following Level 2 Designators
	ID	Interior Demolition	
	IN	Interior Design	
	IF	Interior Furnishings	
	IG	Interior Graphics	Murals and visuals
Fire Protection - Sheet			
	F-	All Fire Protection	All or any portion of subjects in the following Level 2 Designators
	FA	Fire Detection and Alarm	
	FX	Fire Suppression	Fire extinguishing systems and equipment
Plumbing - Sheet			
	P-	All Plumbing	All or any portion of subjects in the following Level 2 Designators
	PD	Plumbing Demolition	Protection, termination, and removal
	PS	Plumbing Site	Extensions and connections to Civil Utilities
	PP	Plumbing Piping	Piping, valves, and insulation
	PQ	Plumbing Equipment	Pumps and tanks
Mechanical - Sheet			
	M-	All Mechanical	All or any portion of subjects in the following Level 2 Designators
	MD	Mechanical Demolition	Protection, termination, and removal
	MS	Mechanical Site	Utility tunnels and piping between facilities
	MH	Mechanical HVAC	Ductwork, air devices, and equipment
	MP	Mechanical Piping	Chilled and heated water, steam
	MI	Mechanical Instrumentation	Instrumentation and controls
Electrical - Sheet			
	E-	All Electrical	All or any portion of subjects in the following Level 2 Designators
	EA*	Electrical Airfield Lighting and NAVAIDs	Visual air navigation systems
	ED	Electrical Demolition	Protection, termination, and removal
	ES	Electrical Site	Exterior electrical systems (power, lighting, telecommunications, auxiliary)
	EP	Electrical Interior Power	Interior power
	EL	Electrical Interior Lighting	Interior lighting
	EI	Electrical Instrumentation	Controls, relays, instrumentation, and measurement devices
	ET	Electrical Interior Telecommunications	Interior telecommunications (telephone, network, voice and data cables)
	EY	Electrical Interior Auxiliary Systems	Interior auxiliary (alarms, nurse call, security, CCTV, PA, music, clock, and program)

Discipline	Designator	Description	Content
Telecommunications - Sheet			
	T-	All Telecommunications	All or any portion of subjects in the following Level 2 Designators
	TD	Telecommunications Demolition	Protection, termination, and removal
	TN	Data Networks	Network cabling and equipment
	TT	Telephone	Telephone systems, wiring, and equipment
Other Disciplines	X		

Sheet type designators are also used to indicate how the various datasets are presented in a defined view or layout method. These designators help users to easily lookup of similar types of views for dissimilar datasets (e.g. Section drawings for structure members and HVAC piping when they are on different plan sheets).

Table 6. Sheet Type Designators

Sheet Type	Designator
General (symbols legend, notes, etc.)	0
Plans (horizontal views)	1
Elevations (vertical views)	2
Sections (sectional views)	3
Large Scale Views (plans, elevations, or sections that are not details)	4
Details	5
Schedules and Diagrams	6
User Defined	7
User Defined	8
3D Representations (isometrics, perspectives, photographs)	9

5.3. DETAIL AND SCHEDULE SHEET STANDARDS

CRAA does not define standards for detail and schedules sheets/files that differ from the National CAD Standards (NCS). Data Providers instead should follow appropriate file naming conventions defined above and in NCS version 5 for any questions relating to detail sheets and schedule sheets file naming and sheet naming.

5.4. GRAPHIC CONCEPTS

5.4.1. Presentation Graphics

The first step in establishing an effective CAD standard is the development of a uniform approach to presentation graphics. Presentation graphics typically consist of drawing elements such as lines, arcs, shapes, text, and their characteristics (line color, line width, and line style). This section presents brief overviews of the characteristics of suggested presentation graphics and the philosophy used to standardize them.

5.4.1.1. Line Widths

Varied line widths substantially improve readability of hardcopy CAD drawings. For the majority of drawings, the five line widths defined in Table 7 with the optional 0.040 in, 0.055 in, and 0.079 in lines, are considered sufficient and should not be expanded unless an appreciable improvement in drawing clarity or contrast can be realized.

Table 7. Line Thickness Designations

Line Thickness	Technical Pen Designation	in.
Fine	0000	0.007
Thin	000	0.010
Medium	0	0.014
Wide	1	0.020
Extra Wide	2.5	0.028
Option 1	3.5	0.040
Option 2 ³	n/a	0.055
Option 3 ³	n/a	0.079

The following are typical uses for the line widths shown in Table 7 Comparison of Line Widths

- **Fine (0.007 in).** Fine lines should be used sparingly, mostly for poche/patterning (this line thickness typically does not reproduce well in photocopies).
- **Thin (0.010 in).** Thin lines should be used for depicting dimension lines, dimension leader/witness lines, note leader lines, line terminators (arrowheads, dots, and slashes), phantom lines, hidden lines, center lines, long break lines, schedule grid lines, and object lines seen at a distance.
- **Medium (0.014 in).** Medium lines should be used for depicting minor object lines, dimension text, text for notes/callouts, and schedule text.
- **Wide (0.020 in).** Wide lines should be used for major object lines, cut lines, section cutting plane lines, and titles.
- **Extra wide (0.028 in).** Extra wide lines should be used for minor title underlining, schedule outlines, large titles, and object lines requiring special emphasis. For very large scale details drawn at 3" = 1' – 0" or larger, the extra wide width should be used for the object lines. Extra wide widths are also appropriate for use as an elevation grade line, building footprint, or top of grade lines on section/foundation details.
- **Option 1 (0.040 in).** This line weight should be used for major title underlining and separating portions of drawings.
- **Option 2 (0.055 in).** This line weight should be used for border sheet outlines, cover sheet line work, and as an option for the designer as required.
- **Option 3 (0.079 in).** This line weight should be used for border sheet outlines, cover sheet line work, and as an option for the designer as required.

5.4.1.2. Screen Colors

The primary reason to use color in CAD drawings is to improve the clarity of the drawing on a computer monitor or when plotted. CRAA requires plots use a standard pen table for plotting which is available in the CAD Support Package. Users can establish whatever screen color settings appropriate for their work. See Table 8. Screen Color Definitions.

Note: These colors are best viewed on a monitor with a black background.

Table 8. Screen Color Definitions – CRAA Pen Table Definitions

Color	Pen Size		% Screen	Alternate Colors
	mm	in.		
1	0.25	0.010	100	11,21,31,41...241
2	0.35	0.014	100	12,22,32,42...242
3	0.50	0.020	100	13,23,33,43...243
4	0.70	0.028	100	14,24,34,44...244
5	1.00	0.039	100	15,25,35,45...245
6	1.40	0.055	100	16,26,36,46...246
7	0.18	0.007	100	17,27,37,47...247
8	0.10	0.004	100	18,28,38,48...248
9	0.35	0.014	30	19,29,39,49...249
10	0.50	0.020	30	20,30,40,50...250
251	By Object		50	
252	By Object		20	
253	By Object		10	
254	By Object		5	
255	By Object		0	

5.4.1.3. Hatch Patterns

Hatching applied on pattern layers (i.e. listed in Appendix D - Layer Standards with the minor group in the layer name of PATT) is recommended as a means of filling in areas on CAD drawings. Any hatch pattern can be used. Care should be taken to ensure that hatch patterns are not so dense that line work or annotations below or on top of the hatching become unreadable.

5.4.1.4. Use of Wipeouts in AutoCAD Prohibited

AutoCAD has a tool that allows a Data Provider to create “wipeouts”. This tool can be used to wipeout background information under an object to clarify the plotted look. Unfortunately, unfavorable results happen when creating PDF’s of a drawing that contains wipeouts. Typically the wipeouts get plotted as blackouts. **Due to this problem, wipeouts are not to be used.**

Instead, a layer/color combination can be created to be used in place of wipeouts. Assign color 255 which has a “0” screening value to the wipeout layer. The Data Provider can create solid fill hatching on that layer and the result will work like wipeouts. Draw order commands can be used as needed to generate the desired output.

5.4.1.5. Text Styles/Fonts

CRAA has selected **Verdana** as the default annotation font as this font is typically installed on most computers as a default Windows True Type font, and Arial for the default Border Sheet font for contrast.

Verdana was designed to be readable at small sizes. Additionally, the lack of serifs, large x-height, wide proportions, loose letter-spacing and emphasized distinctions between similarly-shaped characters are chosen to increase legibility. Examples of distinction between similarly spaced characters are: (Verdana) lower case "l", Capital "I", lower case "i" and the number "1").

Contrasting text styles are used within a drawing to delineate types of information.

In CRAA deliverable CAD drawings, only the Verdana font shall be used. However, the Verdana font may be modified in size, color or style (bold, italics, underline, outline, etc.) as needed by the data provider for additional emphasis or deemphasize. Only Verdana True Type Font available through a standard MS Windows program is permitted. No special Verdana font downloads are permitted as they will not be "universal" on every PC.

5.4.1.6. Plotting Colors - CRAA Standard Pen Table (.CTB File)

Printers and plotters are controlled by files called pen tables (or feature tables). These files (tables) convert thicknesses and/or color in an electronic file to line thicknesses on a paper drawing.

By employing the standard CRAA pen table, the Data Provider can ensure that consistent drawings are produced from an electronic file regardless of the type of printer or plotter used. Required standard pen tables have been provided as part of the CAD Support Package. See Section 5.4.1.2.

5.4.2. Border Sheets

5.4.2.1. Standard Sheets

Standardized versions of standard Cover sheets, Index sheets, and Borders with Title Blocks are included in the CAD Support Package and should be requested by the Data Provider at the beginning of work on each design project.

5.4.2.2. Sheet Sizes

Except as noted below, all CAD drawings for a project will be prepared on A1 sheets in accordance with the ISO sheet size shown in Table 9. ANSI and Architectural Sheet Size Definitions, which also shows American National Standards Institute (ANSI) equivalents. The ISO A0 sheet is recommended for large maps (for example, airport master plans and drawings for civil works projects). All documents that are not engineering drawings will be prepared on ISO A4 sized sheets. The sheet sizes to be used on specific projects should be established in conjunction with the CRAA Project Manager for each project. Smaller sheet sizes may be used in certain circumstances if specified in writing by the CRAA.

Table 9. ANSI and Architectural Sheet Size Definitions

ANSI Sheets	
Letter	in.
A	8.5 x 11.0
B	11.0 x 17.0
C	17.0 x 22.0
D	22.0 x 34.0
E	34.0 x 44.0
Architectural Sheets	
Letter	in.
A	9 x 12.0
B	12.0 x 18.0
C	18.0 x 24.0
D	24.0 x 36.0
E	36.0 x 48.0
E1	30.0 x 42.0

5.4.2.3. Cover and Index Sheets

Each set of drawings will include a cover sheet and one or more index sheets (these may be combined for small drawing sets). The content and layout of the cover and index sheets is project specific. All text provided on the cover and index sheets must be of such size that it will be legible if the drawings are reduced to ½ size.

5.4.2.4. Typical Sheet Title Block

The standard CRAA plan sheet layout is a horizontal landscaped orientation with the various title blocks arranged along the bottom of the sheet, also in a horizontal arrangement. The exact arrangement of the various title blocks differ slightly depending on the sheet size. The CRAA CAD Support Package contains templates in the various ANSI and ARCH sizes as defined above.

A typical drawing layout is shown in Figure 7. Typical Sheet Border & Title Block. Each title block includes the following data blocks:

- Designer Identification block
- Revision block
- Owner block
- Index and Notes block
- Sheet Identification block

0% SUBMISSION		DESIGNED ABC		
CONSULTANT LOGO		DRAWN ABC		
		CHECKED ABC		
		APPROVED ABC		

COLUMBUS REGIONAL AIRPORT AUTHORITY
PORT COLUMBUS • RICKENBACKER • BOLTON
400 International Gateway
Columbus, Ohio 43260

PROJECT CODE AND NAME OF PROJECT	PROJECT NO.
CM-6001	
SHEET TITLE	SHEET NO.
G-000	
DATE	SHEET NO.
01-01-12	00 OF 000

Designer Identification Block Revision Block Owner Block Project & Sheet Information Block

Figure 7. Typical Sheet Border & Title Block

5.4.2.4.1. Designer Identification Block

The designer identification block (Figure 8. Designer Identification Block) contains the logo or name of the agency that designed the sheet. This space will also accommodate professional seals when required.

Directly above the Designer Identification Block is the Percent Submittal Designation to indicate the stage of the drawing development.

0% SUBMISSION	
DESIGNED	ABC
DRAWN	ABC
CHECKED	ABC
APPROVED	ABC

CONSULTANT LOGO

STATE OF OHIO
PLACE NAME HERE
E-66765
REGISTERED
PROFESSIONAL ENGINEER

Figure 8. Designer Identification Block

5.4.2.4.2. Revision Block

The revision block (Figure 9. Revision Block) contains a history of revisions, addenda, and/or clarifications to the sheet. The first entry should be placed on the upper row of the issue revision block and subsequent entries should be made below it.

REVISION NO.	REVISION DATE	DESCRIPTION
###	01-01-12	IDENTIFY REVISION

Figure 9. Revision Block

5.4.2.4.3. Project & Sheet Information Block

The Project & Sheet Information Block (Figure 10. Sheet Identification Block) contains general information about the project (Project Title and CRAA Project Number) the sheet (Sheet Title, Sheet number, Scale and date). The sheet identifier is comprised of the discipline designator, the sheet type designator, and the sheet sequence number as described in the Electronic File Naming Conventions section of this document. The sheet number listing can contain either the total number of sheets for the entire project drawing set or the number of sheets for that particular discipline designator.

PROJECT TITLE AIRPORT CODE AND NAME OF PROJECT		PROJECT NO. CMH0001
SHEET TITLE DESCRIPTIVE SHEET TITLE		SHEET NAME G-000
SCALE 1" = 1'-0"	DATE 01-01-12	SHEET NO. 00 OF 000

Figure 10. Sheet Identification Block

5.4.2.4.4. Use of Blocks to Store Attributes about the Sheet

Drawing submitters are permitted to establish AutoCAD blocks which contain attributes for the border sheet items described above. This provides an efficient way to change the graphical elements described above when the values of attributes such as sheet number and title change.

5.4.3. Drawing Scales

Typical drawing scales for English measurements are indicated in Table 10. Drawing Scales below.

Table 10. Drawing Scales

Drawing Type	Civil (Decimal Units) Where 1 AutoCAD unit equals 1 decimal foot	Architectural (Inch) Where 1 AutoCAD unit equals 1 inch
Site plans	1" = 20'	1" = 20' - 0"
	1" = 30'	1" = 30' - 0"
	1" = 40'	1" = 40' - 0"
	1" = 50'	1" = 50' - 0"
	1" = 60'	1" = 60' - 0"
	1" = 100'	1" = 100' - 0"
	1" = 200'	1" = 200' - 0"
	1" = 400'	1" = 400' - 0"
	1" = 500'	1" = 500' - 0"
	1" = 1000'	1" = 1000' - 0"
	1" = 2000'	1" = 2000' - 0"
Floor plans	na	1/4" = 1' - 0"
	na	1/8" = 1' - 0"
	na	1/16" = 1' - 0"
Reflective ceiling plans	na	1/4" = 1' - 0"
	na	1/8" = 1' - 0"
	na	1/16" = 1' - 0"
Roof plan	na	1/16" = 1' - 0"
Exterior elevations	na	1/16" = 1' - 0"
	na	1/8" = 1' - 0"
Interior elevations	na	1/8" = 1' - 0"
	na	1/4" = 1' - 0"
Cross sections	1" = 5'	1/8" = 1' - 0"
	1" = 10'	1/4" = 1' - 0"
	1" = 50'	1/16" = 1' - 0"
	1" = 100'	
Wall sections	1/2" or 3/4" = 1' - 0"	1/2" or 3/4" = 1' - 0"
Stair details	1" or 1-1/2" = 1' - 0"	1" or 1-1/2" = 1' - 0"
Details	3" = 1' - 0"	3" = 1' - 0"
	1" or 1-1/2" = 1' - 0"	1" or 1-1/2" = 1' - 0"

APPENDIX A – PROJECT DATA SPECIFICATIONS FORM

Project Electronic Data Specifications Form – CRAA CAD/GIS Standards	
PROJECT INFORMATION	
Date Submitted	
Project Name	
Notice to Proceed Date	
Anticipated Project Completion Date	
CRAA Project Number	
Design Project Manager (PM): Name, Title, Company	
Contact Phone No. & Email	
CADD / GIS SOFTWARE & DATA SPECIFICATIONS	
Design Software & Version	
Deliverable: Software & Version	
Deliverables (check all that apply)	<input type="checkbox"/> Electronic CAD: Design/Bid Set <input type="checkbox"/> Electronic CAD: As-builts
	<input type="checkbox"/> CAD-GIS-Oriented Data (3-D CAD with Object Data)
	<input type="checkbox"/> GIS Data (3D ESRI Shapefile, Geodatabase, .MXD) <input type="checkbox"/> Other _____
<i>By signing, the Design Project Manager acknowledges receipt of the applicable CRAA or GIS Standards, and confirms that the electronic data provided will be delivered in conformance with the applicable CRAA CAD or GIS Standard using the software and version specifications reported above unless otherwise approved by the CRAA Project Manager and GIS Supervisor.</i>	
Design Firm PM:	
Signature	Date

APPENDIX B – REQUIREMENT REFERENCE / DATA CHECKLIST

<i>CHAPTER / SECTION</i>	<i>REQUIREMENT</i>
CAD STANDARDS	
2.1	Submitted data complies with CRAA CAD Standard.
3.2	CRAA CAD Support Package obtained.
4.3	Raster scanned drawings provided in the proper format and at various data submittal stages.
4.4	Project Data Specifications Form submittal to CRAA required at start of project – within 30 days of Notice to Proceed date. Specifies what software versions and electronic data deliverable formats are planned. See Appendix __ for this form.
4.5.1.1	Layer names follow the CRAA naming convention either by using existing CRAA defined layers or a waiver has been requested and granted to add a new layer name to the CRAA standard.
4.5.2	Electronic CAD Model Files follow the CAD Standard for annotation layers, status indicators and Externally Referenced (Xref) files.
4.6	Only CRAA supplied or approved Blocks are used.
4.7	CRAA Linetype styles are used unless at the discretion of the designer other linetypes defined in the CAD Standard are used.
4.8	Electronic CAD files are provided in a file structure with the hierarchy matching that defined in the CAD Standard or as otherwise approved in advance by CRAA for a project with special data needs.
4.9	All electronic CAD and GIS-Oriented CAD data provided to CRAA will comply with Spatial Data requirements for both Civil (outside of the building) and Building data (terminal only).
4.11	All electronic CAD and GIS-Oriented CAD data provided to CRAA has been checked for compliance with the CAD and GIS Data Standards and meets all required standards. Specifications include: fonts, blocks, plotting using CRAA pen table, Xref files, proper raster scans, etc.
4.12	Electronic data for both CAD Plan data and CAD GIS-Oriented/GIS Data is submitted to CRAA at the proper stages.

4.13	Final “As-Built” Data is submitted in 3D form and meets all applicable requirements for GIS-Oriented CAD Data. Also see <u>GIS Data Standards</u>.
5.2	CAD Drawing Files (Model Files and Sheet Files) are properly names and organized and all Xref files are appropriately named and organized following the CRAA CAD Standard for file naming.
5.3	Detail and Schedule sheets are prepared following National CAD Standard guidance. CRAA does not define specifications for Details or Schedule Sheets in the CRAA CAD Standards.
5.4	All presentation graphics follow the guidelines defined in the CRAA or following the standards, the designer has modified how the data appears for plotting purposes as appropriate.
5.4.1.5	Text Styles for annotation are Verdana only. Border template file fonts are set using Arial and should not be changed.
5.4.1.6	The Standard CRAA .CTB Pen Table shall be used to control the plan plotting styles.
5.4.2	Only standard sheet sizes and CRAA Border template files shall be used. See CAD Support Package for these template files.
GIS DATA STANDARDS (Applicable to GIS Data/GIS-Oriented CAD Data)	
2.3	GIS Data shall be properly formatted for delivery to CRAA.
2.4	For GIS Data submitted in GIS Database, all data must meet the requirements set forth in this Section.
2.5	For GIS Data submitted to CRAA, all data must meet the Coordinate System requirements set forth in this Section.
2.6	For GIS Data submitted to CRAA, all data must meet the Metadata requirements set forth in this Section.
3	For GIS Data submitted to CRAA, all data must meet the Data Delivery and Acceptance specifications and procedures set forth in this Section.

APPENDIX C – CAD/GIS RELATED TERMS

	Definition
ArcGIS	A collection of Geographic Information System software product lines produced by ESRI, composed of ArcInfo, ArcEditor, and ArcView.
ArcGIS Server	A GIS web Map Server, produced by ESRI, which facilitates sharing of GIS data across the Internet or within an Intranet.
ArcMap	The central application in ArcGIS Desktop for all map-based tasks including cartography, map analysis, and editing.
ArcSDE	An application server that facilitates storing and managing spatial data (raster, vector, and survey) in a database management system. Makes this data available to many applications.
Attribute data	Descriptive data of a system feature, such as manufacturer, size, or material.
AutoCAD	A suite of CAD software products for 2- and 3-dimensional design and drafting developed and sold by Autodesk.
Data model	The logical data structure developed during the database design process. It is a description of the structural properties that define all entities represented in a database and all the relationships that exist among them.
Enterprise GIS system	A GIS that integrates geographic data across multiple departments or divisions and serves the entire organization. Provides access to other information systems in the organization by using a map or application as the integrator of the organization's information.
ESRI	Environmental Systems Research, Inc., of Redlands, California. Producer of ArcGIS family of products.
External reference	Xref – files such as border sheets or images that are shown in an AutoCAD file by externally referencing the data rather than having the data reside in the current drawing file.
Geodatabase	A database for spatial and tabular geographic data.
GIS	Geographic Information System. A system that integrates tabular system data with a spatial representation.
Metadata	Detailed information about the dataset—how it was created and by whom. Accuracy and completeness descriptions.
MicroStation	A CAD drafting software by Bentley Microsystems. Not currently used by CRAA.
National CAD Standard	(NCS) Version 5 is currently the CRAA adopted version. NCS is collaboration between the American Institute of Architects and National Institute of Building Sciences to create a unified approach to CAD software design.
Object data	A method by which some versions of AutoCAD (Map/Civil 3D) store attribute data about AutoCAD entities. Not all versions of AutoCAD use Object Data.
Orthophotograph	An aerial photograph that shows images of ground features in their true map positions.
Planimetric data	A map that represents the horizontal position of features such as boundaries, fences, streets, and structures.
Raster data	A raster data structure is usually a rectangular, square-based “gridding” of a 2D plane into cells. Some raster datasets contain elevation data but most are “flat”. Raster data typically isn't scalable.
Shapefile	The Esri shapefile is a popular geospatial vector data format for use in GIS software. Shapefile store geometric information as points, lines or polygons and potentially some attribute information about each in a tabular format.
Spatial data	Information about the location, shape, and relationships among geographic features, usually stored as coordinates and topology.
SQL Server	A relational database management system (RDBMS) produced by Microsoft.
Tabular data	Non-spatial descriptive data of system features often captured in spreadsheets, databases, or hardcopy sources.
Vector data	Vector data consists of geometric features such as points, lines, curves, and shapes or polygon(s), which are all based on mathematical expressions, to represent more complex geometric shapes. Vector data is scalable.

APPENDIX D - LAYER STANDARDS

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
1	A-ANNO-DIMS	Witness/Extension Lines, Dimension Terminators, Dimension Text	1	CONTINUOUS	Bldg_General	
2	A-ANNO-KEYN	Reference Keynotes with Associated Leaders	2	CONTINUOUS	Bldg_General	
3	A-ANNO-LEGN	Legends and Schedules	21	CONTINUOUS	Bldg_General	
4	A-ANNO-MATC	Match Lines	5	CONTINUOUS	Bldg_General	
5	A-ANNO-NOTE	General Notes and Remarks	22	CONTINUOUS	Bldg_General	
6	A-ANNO-NPLT	Non-plotting Graphic Information	211	CONTINUOUS	Bldg_General	
7	A-ANNO-PATT	Miscellaneous Patterning and Hatching	8	CONTINUOUS	Bldg_General	
8	A-ANNO-REDL	Redlines and Markups	41	CONTINUOUS	Bldg_General	
9	A-ANNO-REFR	Reference files	7	CONTINUOUS	Bldg_General	
10	A-ANNO-REVS	Revision Clouds and Symbols	42	CONTINUOUS	Bldg_General	
11	A-ANNO-SITE-OTLN	Key Plan	27	CONTINUOUS	Bldg_General	
12	A-ANNO-SYMB	Miscellaneous Symbols	61	CONTINUOUS	Bldg_General	
13	A-ANNO-TEXT	Miscellaneous Text and Callouts with Associated Leaders	62	CONTINUOUS	Bldg_General	
14	A-ANNO-TTLB	Title Block	82	CONTINUOUS	Bldg_General	
15	A-AREA-IDEN	Room numbers, tenant identifications, area calculations	81	CONTINUOUS	Bldg_Architectural	
16	A-AREA-LINE	Area Calculation Boundary	101	CONTINUOUS	Bldg_Architectural	
17	A-AREA-OCCP	Occupant or employee names	121	CONTINUOUS	Bldg_Architectural	
18	A-AREA-PATT	Area cross hatching	28	CONTINUOUS	Bldg_Architectural	
19	A-BAGS-BELT	Baggage system belt	141	CONTINUOUS	Bldg_Architectural	
20	A-BAGS-BGRD	Baggage system belt guard	161	CONTINUOUS	Bldg_Architectural	
21	A-BAGS-BTRK	Baggage system belt track	181	CONTINUOUS	Bldg_Architectural	
22	A-BAGS-CARR	Baggage system claim carousel	201	CONTINUOUS	Bldg_Architectural	
23	A-BAGS-CART-RACK	Baggage Cart Rack	221	CONTINUOUS	Bldg_Architectural	
24	A-BAGS-CATH	Baggage system catwalk hatch	241	CONTINUOUS	Bldg_Architectural	
25	A-BAGS-CATW	Baggage system catwalk	11	CONTINUOUS	Bldg_Architectural	
26	A-BAGS-CHAI	Baggage system chain	31	CONTINUOUS	Bldg_Architectural	
27	A-BAGS-CHAN	Baggage system channel	51	CONTINUOUS	Bldg_Architectural	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
28	A-BAGS-CONV	Baggage Conveyor	71	CONTINUOUS	Bldg_Architectural	
29	A-BAGS-CVFL-INBD	Baggage system conveyor, at floor, Inbound	91	CONTINUOUS	Bldg_Architectural	
30	A-BAGS-CVFL-OTBD	Baggage system conveyor, at floor, Outbound	111	CONTINUOUS	Bldg_Architectural	
31	A-BAGS-CVL1-INBD	Baggage system conveyor, 1st level below, Inbound	131	CONTINUOUS	Bldg_Architectural	
32	A-BAGS-CVL1-OTBD	Baggage system conveyor, 1st level below, Outbound	151	CONTINUOUS	Bldg_Architectural	
33	A-BAGS-CVL2-INBD	Baggage system conveyor, 2nd level below, Inbound	171	CONTINUOUS	Bldg_Architectural	
34	A-BAGS-CVL2-OTBD	Baggage system conveyor, 2nd level below, Outbound	191	CONTINUOUS	Bldg_Architectural	
35	A-BAGS-CVL3-INBD	Baggage system conveyor, 3rd level below, Inbound	231	CONTINUOUS	Bldg_Architectural	
36	A-BAGS-CVL3-OTBD	Baggage system conveyor, 3rd level below, Outbound	1	CONTINUOUS	Bldg_Architectural	
37	A-BAGS-CVU1-INBD	Baggage system conveyor, 1st level above, Inbound	21	CONTINUOUS	Bldg_Architectural	
38	A-BAGS-CVU1-OTBD	Baggage system conveyor, 1st level above, Outbound	41	CONTINUOUS	Bldg_Architectural	
39	A-BAGS-CVU2-INBD	Baggage system conveyor, 2nd level above, Inbound	61	CONTINUOUS	Bldg_Architectural	
40	A-BAGS-CVU2-OTBD	Baggage system conveyor, 2nd level above, Outbound	81	CONTINUOUS	Bldg_Architectural	
41	A-BAGS-CVU3-INBD	Baggage system conveyor, 3rd level above, Inbound	101	CONTINUOUS	Bldg_Architectural	
42	A-BAGS-CVU3-OTBD	Baggage system conveyor, 3rd level above, Outbound	121	CONTINUOUS	Bldg_Architectural	
43	A-BAGS-DCUR	Baggage handling system draft curtain	141	CONTINUOUS	Bldg_Architectural	
44	A-BAGS-EQPM	Baggage handling system equipment, not classified	161	CONTINUOUS	Bldg_Architectural	
45	A-BAGS-MCPP	Baggage handling system motor control panel	181	CONTINUOUS	Bldg_Architectural	
46	A-BAGS-MOTR	Baggage handling system motor	201	CONTINUOUS	Bldg_Architectural	
47	A-BAGS-SECD	Baggage handling system security device	221	CONTINUOUS	Bldg_Architectural	
48	A-BAGS-SORT	Baggage handling system sorting device	241	CONTINUOUS	Bldg_Architectural	
49	A-CHEM-EQPM	Chemical Analyzer	11	CONTINUOUS	Bldg_Architectural	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
50	A-CLNG-ACCS	Access panels	102	CONTINUOUS	Bldg_Architectural	
51	A-CLNG-CTLJ	Ceiling control joints	122	CONTINUOUS	Bldg_Architectural	
52	A-CLNG-GRID	Ceiling Tile Support	47	CONTINUOUS	Bldg_Architectural	
53	A-CLNG-LEVL	Level Changes	3	CONTINUOUS	Bldg_Architectural	
54	A-CLNG-OPEN	Openings, ceiling/roof penetrations (see also A-FLOR-OVHD)	142	CONTINUOUS	Bldg_Architectural	
55	A-CLNG-PATT	Ceiling Elements (Patterns)	67	CONTINUOUS	Bldg_Architectural	
56	A-CLNG-REFL	Reflective Ceiling	31	CONTINUOUS	Bldg_Architectural	
57	A-CLNG-SOFT	Structures Above Soffits	87	CONTINUOUS	Bldg_Architectural	
58	A-CLNG-SUSP	Suspended elements	107	CONTINUOUS	Bldg_Architectural	
59	A-CLNG-TEES	Main tees	127	CONTINUOUS	Bldg_Architectural	
60	A-CLNG-TYPE	Ceiling Type Boundary	162	CONTINUOUS	Bldg_Architectural	
61	A-COLS-ENCL	Column enclosures/fire protection	23	CONTINUOUS	Bldg_Architectural	
62	A-DETL-GRPH	Graphics, gridlines, non-text items	147	CONTINUOUS	Bldg_General	
63	A-DETL-INPD	Inch-pound-specific dimensions and notes	51	CONTINUOUS	Bldg_General	
64	A-DETL-METR	Metric-specific dimensions and notes	71	CONTINUOUS	Bldg_General	
65	A-DOOR-BIFD	Bifold Door - Double	91	CONTINUOUS	Bldg_Architectural	
66	A-DOOR-BRDG	Boarding Gate	111	CONTINUOUS	Bldg_Architectural	
67	A-DOOR-COIL	Coil-up Door	131	CONTINUOUS	Bldg_Architectural	
68	A-DOOR-DBLE	Double Door	151	CONTINUOUS	Bldg_Architectural	
69	A-DOOR-FULL	Full height (to ceiling) door: swing and leaf	171	CONTINUOUS	Bldg_Architectural	
70	A-DOOR-IDEN	Door number and symbol, hardware group, etc.	191	CONTINUOUS	Bldg_Architectural	
71	A-DOOR-ORHD	Overhead Door	231	HIDDEN2	Bldg_Architectural	
72	A-DOOR-PRHT	Partial height door: swing and leaf	1	CONTINUOUS	Bldg_Architectural	
73	A-DOOR-ROTA	Rotating Door	21	CONTINUOUS	Bldg_Architectural	
74	A-DOOR-SECR	Security Door	41	CONTINUOUS	Bldg_Architectural	
75	A-DOOR-SING	Single Door	61	CONTINUOUS	Bldg_Architectural	
76	A-DOOR-SLID	Sliding Door	81	CONTINUOUS	Bldg_Architectural	
77	A-DOOR-SYMB	Miscellaneous door symbols (e.g., overhead, bifold, pocket, etc.)	101	CONTINUOUS	Bldg_Architectural	
78	A-ELEV-CASE	Wall-mounted casework	121	CONTINUOUS	Bldg_General	
79	A-ELEV-FIXT	Miscellaneous fixtures	141	CONTINUOUS	Bldg_General	
80	A-ELEV-FNSH	Finishes, woodwork and trim	161	CONTINUOUS	Bldg_General	
81	A-ELEV-IDEN	Component identification numbers	181	CONTINUOUS	Bldg_General	
82	A-ELEV-OTLN	Building outlines	43	CONTINUOUS	Bldg_General	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
83	A-ELEV-PATT	Textures and hatch patterns	48	CONTINUOUS	Bldg_General	
84	A-ELEV-PFIX	Plumbing fixtures	201	CONTINUOUS	Bldg_General	
85	A-ELEV-SIGN	Signage	221	CONTINUOUS	Bldg_General	
86	A-EQPM-ACCS	Equipment access	182	CONTINUOUS	Bldg_Architectural	
87	A-EQPM-BELW	Equipment below Floor	167	HIDDEN2	Bldg_Architectural	
88	A-EQPM-CLRN	Equipment clearance	187	CONTINUOUS	Bldg_Architectural	
89	A-EQPM-FIXD	Fixed equipment	202	CONTINUOUS	Bldg_Architectural	
90	A-EQPM-IDEN-EQID	Equipment Identifier	241	CONTINUOUS	Bldg_Architectural	
91	A-EQPM-JETB	Aircraft Jetbridge	222	CONTINUOUS	Bldg_Architectural	
92	A-EQPM-MDTR	Metal Detector	242	CONTINUOUS	Bldg_Architectural	
93	A-EQPM-MOVE	Moveable equipment	12	CONTINUOUS	Bldg_Architectural	
94	A-EQPM-NICN	Not in contract equipment	11	HIDDEN2	Bldg_Architectural	
95	A-EQPM-OVHD	Ceiling Mounted or Suspended Equipment	32	CONTINUOUS	Bldg_Architectural	
96	A-EQPM-XRAY	X-Ray Equipment	52	CONTINUOUS	Bldg_Architectural	
97	A-FLOR-ADAS	ADA Min. Space Required	31	CONTINUOUS	Bldg_Architectural	
98	A-FLOR-CASE	Casework (manufactured cabinets)	72	CONTINUOUS	Bldg_Architectural	
99	A-FLOR-COLS	Column	92	CONTINUOUS	Bldg_Architectural	
100	A-FLOR-ECSL	Escalator	51	CONTINUOUS	Bldg_Architectural	
101	A-FLOR-EVTR	Elevator cars and equipment	112	CONTINUOUS	Bldg_Architectural	
102	A-FLOR-EXPJ	Expansion and Seismic Joints	63	DASHED	Bldg_Architectural	
103	A-FLOR-FIXT	Floor mounted/Free standing miscellaneous fixtures	132	CONTINUOUS	Bldg_Architectural	
104	A-FLOR-FURN	Furniture Layers	71	CONTINUOUS	Bldg_Architectural	
105	A-FLOR-HRAL	Stair and balcony handrails, guard rails	91	CONTINUOUS	Bldg_Architectural	
106	A-FLOR-IDEN	Room name, space identification text	111	CONTINUOUS	Bldg_Architectural	
107	A-FLOR-IDEN-RNUM	Room Number / Space Identification	131	CONTINUOUS	Bldg_Architectural	
108	A-FLOR-LEVL	Level changes, shafts, ramps, pits, breaks in construction, etc.	152	CONTINUOUS	Bldg_Architectural	
109	A-FLOR-LEVL-RAMP	Exterior Stairs / Ramps / Stoops	151	CONTINUOUS	Bldg_Architectural	
110	A-FLOR-LOKR	Lockers	171	CONTINUOUS	Bldg_Architectural	
111	A-FLOR-MWLK	Moving Walkway	191	CONTINUOUS	Bldg_Architectural	
112	A-FLOR-NUMB	Room/space identification number and symbol	231	CONTINUOUS	Bldg_Architectural	
113	A-FLOR-NUMB-RMID	Room Name / Space Identification Text	1	CONTINUOUS	Bldg_Architectural	
114	A-FLOR-OTLN	Floor Outline / Perimeter / Building Footprint	83	CONTINUOUS	Bldg_Architectural	
115	A-FLOR-OTLN-APRM	Aisle Lines	4	DASHED	Bldg_Architectural	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
116	A-FLOR-OTLN-RPRM	Room Perimeter (Inside Interior walls)	24	DASHED	Bldg_Architectural	
117	A-FLOR-OVHD	Overhead items (skylights, overhangs etc.)	21	HIDDEN	Bldg_Architectural	
118	A-FLOR-PATT	Paving, tile, carpet patterns	207	CONTINUOUS	Bldg_Architectural	
119	A-FLOR-RAIS	Access (raised) flooring	227	CONTINUOUS	Bldg_Architectural	
120	A-FLOR-SIGN	Signage	41	CONTINUOUS	Bldg_Architectural	
121	A-FLOR-SIGN-WAYF	Wayfinding	61	CONTINUOUS	Bldg_Architectural	
122	A-FLOR-SPCE	Interior space not delineated by walls	172	DASHED	Bldg_Architectural	
123	A-FLOR-SPCL	Architectural specialties (e.g., toilet room accessories, display cases)	81	CONTINUOUS	Bldg_Architectural	
124	A-FLOR-SPCL-CASE	Display Case (Public Art Displays)	101	CONTINUOUS	Bldg_Architectural	
125	A-FLOR-STRS	Stair risers/treads, escalators, ladders	121	CONTINUOUS	Bldg_Architectural	
126	A-FLOR-STRS-SRLD	Stair Tread	141	CONTINUOUS	Bldg_Architectural	
127	A-FLOR-STRS-SRLU	Stair Direction Line Up	161	CONTINUOUS	Bldg_Architectural	
128	A-FLOR-TPTN	Toilet Partitions	181	CONTINUOUS	Bldg_Architectural	
129	A-FLOR-TYPE	Floor Type Boundary	192	CONTINUOUS	Bldg_Architectural	
130	A-FLOR-WDWK	Architectural woodwork (field built cabinets and counters)	201	CONTINUOUS	Bldg_Architectural	
131	A-FURN-ACCS	Curtains	221	CONTINUOUS	Bldg_Architectural	
132	A-FURN-SEAT	Seating	241	CONTINUOUS	Bldg_Architectural	
133	A-GLAZ-FULL	Full height glazed walls and partitions (see A-WALL-CWMG for curtain walls)	11	CONTINUOUS	Bldg_Architectural	
134	A-GLAZ-FULL-EXTR	Exterior Window	31	CONTINUOUS	Bldg_Architectural	
135	A-GLAZ-FULL-GLLS	Glass	51	CONTINUOUS	Bldg_Architectural	
136	A-GLAZ-FULL-INTR	Interior Window	71	CONTINUOUS	Bldg_Architectural	
137	A-GLAZ-FULL-SLHT	Sidelight	91	CONTINUOUS	Bldg_Architectural	
138	A-GLAZ-FULL-WDOW	Window	111	CONTINUOUS	Bldg_Architectural	
139	A-GLAZ-FULL-WFIX	Fixed 1 Foot Window	131	CONTINUOUS	Bldg_Architectural	
140	A-GLAZ-FULL-WNSH	Single Hung Window	151	CONTINUOUS	Bldg_Architectural	
141	A-GLAZ-IDEN	Window number and symbol	171	CONTINUOUS	Bldg_Architectural	
142	A-GLAZ-IDEN-WNID	Window Identifier	191	CONTINUOUS	Bldg_Architectural	
143	A-GLAZ-PRHT	Windows and partial height glazed partitions	231	CONTINUOUS	Bldg_Architectural	
144	A-GLAZ-SILL	Window sills	1	CONTINUOUS	Bldg_Architectural	
145	A-LITE-CLNG	Specialty ceiling lights not shown on Electrical Lighting Plan	21	CONTINUOUS	Bldg_Architectural	
146	A-OTLN-FLOR	Floor Level Boundary	103	DASHDOT	Bldg_Architectural	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
147	A-PENE-FLOR	Floor Penetrations	212	CONTINUOUS	Bldg_Architectural	
148	A-PENE-ROOF	Roof Penetrations	232	HIDDEN	Bldg_Architectural	
149	A-PKNG-EQPM-GATE	Parking Automatic Gate	41	CONTINUOUS	Bldg_Architectural	
150	A-PKNG-EQPM-TCKT	Parking Ticket Machine	61	CONTINUOUS	Bldg_Architectural	
151	A-PROP-LEAS	Lease line (interior)	123	DASHED	Bldg_Architectural	
152	A-ROOF-CRTS	Crickets flow arrows flow info	81	CONTINUOUS	Bldg_Architectural	
153	A-ROOF-CRTS-SLPE	Direction of Line Slope	101	CONTINUOUS	Bldg_Architectural	
154	A-ROOF-DRAN	Roof Drain	121	CONTINUOUS	Bldg_Architectural	
155	A-ROOF-EQPM-OTLN	Roof Equipment Outline	141	CONTINUOUS	Bldg_Architectural	
156	A-ROOF-EXPJ	Expansion joints	2	DASHED	Bldg_Architectural	
157	A-ROOF-GUTR	Roof internal gutters	161	CONTINUOUS	Bldg_Architectural	
158	A-ROOF-HRAL	Stair handrails, nosings, guard rails	181	CONTINUOUS	Bldg_Architectural	
159	A-ROOF-LEVL	Level changes	22	CONTINUOUS	Bldg_Architectural	
160	A-ROOF-OPEN	Roof Open Below ('X' line symbol)	201	CONTINUOUS	Bldg_Architectural	
161	A-ROOF-OTLN	Roof perimeter/edge	143	CONTINUOUS	Bldg_Architectural	
162	A-ROOF-PATT	Roof surface patterns, hatching	68	CONTINUOUS	Bldg_Architectural	
163	A-ROOF-PIPE-MISC	Miscellaneous Pipe	221	CONTINUOUS	Bldg_Architectural	
164	A-ROOF-RFDR	Roof drains	241	CONTINUOUS	Bldg_Architectural	
165	A-ROOF-SPCL	Roof specialties, accessories, access hatches, dormers	11	CONTINUOUS	Bldg_Architectural	
166	A-ROOF-STRS	Stair risers/treads, ladders	31	CONTINUOUS	Bldg_Architectural	
167	A-ROOF-WALK	Roof walkways	51	CONTINUOUS	Bldg_Architectural	
168	A-ROOF-WALL	Parapet walls and wall caps	42	CONTINUOUS	Bldg_Architectural	
169	A-SECT-IDEN	Component identification numbers	71	CONTINUOUS	Bldg_General	
170	A-SECT-MBND	Material beyond section cut	91	CONTINUOUS	Bldg_General	
171	A-SECT-MCUT	Material cut by section	62	CONTINUOUS	Bldg_General	
172	A-SECT-PATT	Textures and hatch patterns	88	CONTINUOUS	Bldg_General	
173	A-STAT-DEMO	Demolition	111	CONTINUOUS	Bldg_General	
174	A-STAT-DEMO-PHS1	Demolition - phase 1	131	CONTINUOUS	Bldg_General	
175	A-STAT-DEMO-PHS2	Demolition - phase 2	151	CONTINUOUS	Bldg_General	
176	A-STAT-DEMO-PHS3	Demolition - phase 3	171	CONTINUOUS	Bldg_General	
177	A-STAT-FUTR	Future work	191	CONTINUOUS	Bldg_General	
178	A-STAT-NEWW	New work	82	CONTINUOUS	Bldg_General	
179	A-STAT-TEMP	Temporary work	247	CONTINUOUS	Bldg_General	
180	A-TRSH-RECP	Trash Receptacle	231	CONTINUOUS	Bldg_Architectural	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
181	A-WALL-CAVI	Cavity wall lines	17	CONTINUOUS	Bldg_Architectural	
182	A-WALL-CNTR	Wall centerlines	37	CENTER2	Bldg_Architectural	
183	A-WALL-CWMG	Curtain wall mullions and glass	1	CONTINUOUS	Bldg_Architectural	
184	A-WALL-CWMG-GLLS	Glass Block, Large Scale	21	CONTINUOUS	Bldg_Architectural	
185	A-WALL-FIRE	Fire wall designators (patterning)	108	CONTINUOUS	Bldg_Architectural	
186	A-WALL-FULL-EXTR	Exterior full height walls	163	CONTINUOUS	Bldg_Architectural	
187	A-WALL-FULL-INTR	Interior full height walls	183	CONTINUOUS	Bldg_Architectural	
188	A-WALL-FUTR	Future Walls	102	DASHDOT2	Bldg_Architectural	
189	A-WALL-HEAD	Door and window headers	203	CONTINUOUS	Bldg_Architectural	
190	A-WALL-IDEN	Wall identification/type text or tags	41	CONTINUOUS	Bldg_Architectural	
191	A-WALL-IDEN-WLID	Wall Type Identifier	61	CONTINUOUS	Bldg_Architectural	
192	A-WALL-JAMB	Door and window jambs	81	CONTINUOUS	Bldg_Architectural	
193	A-WALL-MOVE	Moveable walls/partitions	101	CONTINUOUS	Bldg_Architectural	
194	A-WALL-OPEN-LVRS	Louvers	121	CONTINUOUS	Bldg_Architectural	
195	A-WALL-PATT	Wall insulation, hatching, and fill	57	CONTINUOUS	Bldg_Architectural	
196	A-WALL-PRHT	Partial height walls	223	CONTINUOUS	Bldg_Architectural	
197	A-WALL-SPCL	Wall-hung/attached specialties (e.g., fixtures, grab bars (incl. handicap), telephone booths)	141	CONTINUOUS	Bldg_Architectural	
198	B-ANNO-DIMS	Witness/extension lines, dimension terminators and text	161	CONTINUOUS	Civil_General	
199	B-ANNO-KEYN	Reference keynotes with associated leaders	122	CONTINUOUS	Civil_General	
200	B-ANNO-NOTE	General notes and general remarks	142	CONTINUOUS	Civil_General	
201	B-ANNO-NPLT	Non-plotting graphic information	211	CONTINUOUS	Civil_General	
202	B-ANNO-PATT	Miscellaneous patterning and hatching	128	CONTINUOUS	Civil_General	
203	B-ANNO-REFR	Reference files (AutoCAD users only)	77	CONTINUOUS	Civil_General	
204	B-ANNO-SYMB	Miscellaneous symbols	181	CONTINUOUS	Civil_General	
205	B-ANNO-TEXT	Miscellaneous text and callouts with associated leaders	162	CONTINUOUS	Civil_General	
206	B-BORE-HOLE	Bore/perc hole number	201	CONTINUOUS	Civil_Site	
207	B-BORE-IDEN	Component identification numbers	221	CONTINUOUS	Civil_Site	
208	B-BORE-PATT-ROCK	Soil/rock patterns	97	CONTINUOUS	Civil_Site	
209	B-EXST-BLDG	Existing building	182	CONTINUOUS	Civil_Site	
210	B-PVMT-OTLN-AGSC	Outline - aggregate surface course and gravel	241	HIDDEN2	Civil_Site	
211	B-PVMT-OTLN-FLEX	Outline - flexible pavement	11	CONTINUOUS	Civil_Site	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
212	B-PVMT-OTLN-RIGD	Outline - rigid pavement	31	CONTINUOUS	Civil_Site	
213	C-AFLD-AHOA	Air Operations Area	44	DASHED	Civil_Site	
214	C-AFLD-AIDS-COMM	Communications airfield navigational aids	71	CONTINUOUS	Civil_Airfield_Elec	
215	C-AFLD-AIDS-CRIT	Airfield Navigational Aid - Critical Area	91	CONTINUOUS	Civil_Airfield_Elec	
216	C-AFLD-AIDS-GPS	GPS airfield navigational aids	111	CONTINUOUS	Civil_Airfield_Elec	
217	C-AFLD-AIDS-GPS_	GPS airfield navigational aids	131	CONTINUOUS	Civil_Airfield_Elec	
218	C-AFLD-AIDS-ILS	Airfield Instrument Landing System	151	CONTINUOUS	Civil_Airfield_Elec	
219	C-AFLD-AIDS-MCWV	Microwave airfield navigational aids	171	CONTINUOUS	Civil_Airfield_Elec	
220	C-AFLD-AIDS-OTHR	Other airfield navigational aids	191	CONTINUOUS	Civil_Airfield_Elec	
221	C-AFLD-AIDS-RADI	Radio airfield navigational aids	231	CONTINUOUS	Civil_Airfield_Elec	
222	C-AFLD-AIDS-RADR	Radar airfield navigational aids	1	CONTINUOUS	Civil_Airfield_Elec	
223	C-AFLD-AIDS-RMTE	Remote airfield navigational aids	21	CONTINUOUS	Civil_Airfield_Elec	
224	C-AFLD-AIDS-SITE	Airfield Navigational Aid - Site	41	CONTINUOUS	Civil_Airfield_Elec	
225	C-AFLD-AIDS-SYST	NAVAID system	61	CONTINUOUS	Civil_Airfield_Elec	
226	C-AFLD-AIDS-WTHR	Weather airfield navigational aids	81	CONTINUOUS	Civil_Airfield_Elec	
227	C-AFLD-ARWY	Airway	202	DASHED	Civil_Site	
228	C-AFLD-DSRF-NMOV	Aircraft Non-Movement Area	243	DASHED	Civil_Site	
229	C-AIRF-DSRF-BLDR	Building Restriction Line	63	DASHED	Civil_Site	
230	C-AIRF-DSRF-KEYH	Key holes	201	CONTINUOUS	Civil_Site	
231	C-AIRF-DSRF-OFA	Object Free Area	83	DASHED	Civil_Site	
232	C-AIRF-DSRF-OFZ_	Object Free Zone	103	DASHED	Civil_Site	
233	C-AIRF-DSRF-POFA	Precision Object Free Area	123	DASHED	Civil_Site	
234	C-AIRF-DSRF-RPZ_	Runway Protection Zone	143	DASHED	Civil_Site	
235	C-AIRF-DSRF-RSA_	Runway Safety Area - HELIPAD	163	DASHED	Civil_Site	
236	C-AIRF-FAAR	FAA Region	221	CONTINUOUS	Civil_Site	
237	C-AIRF-FREQ	Frequency Area	241	CONTINUOUS	Civil_Site	
238	C-AIRF-JETB	Airport Jetbridge	11	CONTINUOUS	Civil_Site	
239	C-AIRF-SECR-RSTR	Restricted access boundary	183	DASHED	Civil_Site	
240	C-AIRF-SECR-SIDA	Security Identification Display Area	203	DASHED	Civil_Site	
241	C-AIRS-AAAS-APRC	Airport Airspace Analysis Survey - Approach Surfaces	31	CONTINUOUS	Civil_Site	
242	C-AIRS-AAAS-CONL	Airport Airspace Analysis Survey - Conical Surfaces	51	CONTINUOUS	Civil_Site	
243	C-AIRS-AAAS-HORZ	Airport Airspace Analysis Survey - Horizontal Surfaces	71	CONTINUOUS	Civil_Site	
244	C-AIRS-AAAS-PRIM	Airport Airspace Analysis Survey - Primary Surfaces	91	CONTINUOUS	Civil_Site	
245	C-AIRS-AAAS-TRNS	Airport Airspace Analysis Survey - Transitional Surfaces	111	CONTINUOUS	Civil_Site	
246	C-AIRS-AAAS-VERT	Airport Airspace Analysis Survey - Vertical Guidance protection Surface	131	CONTINUOUS	Civil_Site	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
247	C-AIRS-OEIA	One Engine Inoperative Analysis	223	CONTINUOUS	Civil_Site	
248	C-AIRS-TERP-DEPT	Departure Analysis	181	CONTINUOUS	Civil_Site	
249	C-APRN-CNTR	Centerlines	157	CENTER2	Civil_Site	
250	C-APRN-CNTR-IDEN	Centerline annotation	177	CONTINUOUS	Civil_Site	
251	C-APRN-DEIC	Aircraft Deicing Area	243	HIDDEN	Civil_Site	
252	C-APRN-GRND	Grounding points	11	CONTINUOUS	Civil_Site	
253	C-APRN-HOLD	Holding position markings	9	CONTINUOUS	Civil_Site	
254	C-APRN-IDEN	Annotation	31	CONTINUOUS	Civil_Site	
255	C-APRN-JOIN	Apron joints	168	HIDDEN2	Civil_Site	
256	C-APRN-MOOR	Mooring points	51	CONTINUOUS	Civil_Site	
257	C-APRN-MRKG	Apron markings	49	CONTINUOUS	Civil_Site	
258	C-APRN-OTLN	Airfield apron - outlines	112	CONTINUOUS	Civil_Site	
259	C-APRN-SECU	Security zone markings	69	CONTINUOUS	Civil_Site	
260	C-APRN-SHLD	Shoulder stripes	71	CONTINUOUS	Civil_Site	
261	C-APRN-SIGN	Airfield signs on the apron	91	CONTINUOUS	Civil_Site	
262	C-BLDG-BASE-ELEV	Building Base Elevation	111	CONTINUOUS	Civil_Site	
263	C-BLDG-IDEN	Building Labels	131	CONTINUOUS	Civil_Site	
264	C-BLDG-LEGN	Building Legend	151	CONTINUOUS	Civil_Site	
265	C-BLDG-OTLN	Buildings	132	CONTINUOUS	Civil_Site	
266	C-BLDG-OVHD	Building overhangs	171	HIDDEN	Civil_Site	
267	C-BLDG-PATT	Building hatching and patterns	188	CONTINUOUS	Civil_Site	
268	C-BLDG-SECT-HGEX	Building Section Height Extras	191	CONTINUOUS	Civil_Site	
269	C-BLDG-SECT-HGHT	Building Section Height	152	CONTINUOUS	Civil_Site	
270	C-BLDG-SPOT	Building gspt	231	CONTINUOUS	Civil_Site	
271	C-BLDG-STCK	Stacks	172	CONTINUOUS	Civil_Site	
272	C-BLDG-STCK-HLOC	Stack Horizontal Location	1	CONTINUOUS	Civil_Site	
273	C-BLDG-STCK-IDEN	Stack Number	21	CONTINUOUS	Civil_Site	
274	C-BLDG-STCK-RELV	Stack Release Elevation	41	CONTINUOUS	Civil_Site	
275	C-BORW-IDEN	Borrow/Spoil area annotation	61	CONTINUOUS	Civil_Site	
276	C-BORW-LINE	Borrow/Spoil area	81	HIDDEN2	Civil_Site	
277	C-BRDG-CNTR	Bridge centerlines	197	CENTER2	Civil_Site	
278	C-BRDG-DECK	Bridge deck	192	CONTINUOUS	Civil_Site	
279	C-BRDG-IDEN	Bridge annotation	101	CONTINUOUS	Civil_Site	
280	C-BRDG-OTLN	Bridge outlines	212	CONTINUOUS	Civil_Site	
281	C-CHAN-CNTR	Channel centerline and survey report lines	217	CENTER2	Civil_Site	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
282	C-CHAN-CNTR-IDEN	Channel centerline and survey report lines - annotation	237	CONTINUOUS	Civil_Site	
283	C-CHAN-DACL	De-authorized channel limits, anchorages, etc.	121	CONTINUOUS	Civil_Site	
284	C-CHAN-DACL-IDEN	De-authorized channel limits, anchorages, etc. - annotation	141	CONTINUOUS	Civil_Site	
285	C-CHAN-LIMT	Channel limits, anchorages, turning basins, disposal areas, etc.	161	CONTINUOUS	Civil_Site	
286	C-CHAN-TURN	Turning points	181	CONTINUOUS	Civil_Site	
287	C-DETL-FENC	Fencing	201	FENCELINE-1	Civil_General	
288	C-DETL-FENC-SECU	Security Fencing	221	FENCELINE-1	Civil_General	
289	C-DETL-GRPH	Graphics, gridlines, non-text items	7	CONTINUOUS	Civil_General	
290	C-DETL-INPD	Inch-pound-specific dimensions and notes	241	CONTINUOUS	Civil_General	
291	C-DETL-METR	Metric-specific dimensions and notes	11	CONTINUOUS	Civil_General	
292	C-DETL-TANK	Tanks	31	CONTINUOUS	Civil_General	
293	C-DOMW-ABND	Abandoned Piping	208	WTR	Civil_Uilities	
294	C-DOMW-ANNO	Annotation	51	CONTINUOUS	Civil_Uilities	
295	C-DOMW-DEVC	Connectors, faucets, reducers, regulators, vents, intake points, tanks, taps, backflow preventers, and valves	71	CONTINUOUS	Civil_Uilities	
296	C-DOMW-DEVC-FPIV	Water Valve-Fire	91	CONTINUOUS	Civil_Uilities	
297	C-DOMW-DEVC-FSCV	Fire Sectional Control Valve	111	CONTINUOUS	Civil_Uilities	
298	C-DOMW-DEVC-WVAL	Water Valve	131	CONTINUOUS	Civil_Uilities	
299	C-DOMW-FIRE	Fire Lines	27	WTR	Civil_Uilities	
300	C-DOMW-FTTG-CLNO	Cleanout Water	47	CONTINUOUS	Civil_Uilities	
301	C-DOMW-HYDR-HRNT	Hydrant	151	CONTINUOUS	Civil_Uilities	
302	C-DOMW-IDEN	Identifier tags, symbol modifier, and text	171	CONTINUOUS	Civil_Uilities	
303	C-DOMW-MAIN	Water Main Piping	67	WTR	Civil_Uilities	
304	C-DOMW-METR-WAME	Water Meter	87	CONTINUOUS	Civil_Uilities	
305	C-DOMW-NHYD	Non-potable hydrants/flushing hydrants	107	CONTINUOUS	Civil_Uilities	
306	C-DOMW-NPOT	Non-Potable Water Piping	127	WTR	Civil_Uilities	
307	C-DOMW-PIPE-MISC	Miscellaneous Pipe Riser	191	CONTINUOUS	Civil_Uilities	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
308	C-DOMW-PITS-IDEN	Identifier tags, symbol modifier, and text	231	CONTINUOUS	Civil_Uilities	
309	C-DOMW-PUMP-PSTA	Pump Station Water	13	CONTINUOUS	Civil_Uilities	
310	C-DOMW-REDC	Pressure reducing station	232	CONTINUOUS	Civil_Uilities	
311	C-DOMW-RSVR	Reservoirs	109	H2OLINE	Civil_Uilities	
312	C-DOMW-SERV	Water Service Piping	147	CONTINUOUS	Civil_Uilities	
313	C-DOMW-SIGN	Surface Markers/Signs	167	CONTINUOUS	Civil_Uilities	
314	C-DOMW-STNS-IDEN	Identifier tags, symbol modifier, and text	1	CONTINUOUS	Civil_Uilities	
315	C-DOMW-TANK	Water storage tanks	2	CONTINUOUS	Civil_Uilities	
316	C-DOMW-UTIL-UNKN	Unknown Utility	187	HIDDEN2	Civil_Uilities	
317	C-DOMW-VENT	Vent pits	21	HIDDEN2	Civil_Uilities	
318	C-DOMW-VLVE-WVAL	Water Valve Vault	22	CONTINUOUS	Civil_Uilities	
319	C-DOMW-WELL	Water well houses	42	CONTINUOUS	Civil_Uilities	
320	C-DRED-LIMIT	Dredge limit lines	33	DASHED	Civil_Site	
321	C-DRED-OHWM	Ordinary high water marks	53	DASHED	Civil_Site	
322	C-ELEV-FIXT	Miscellaneous fixtures	41	CONTINUOUS	Civil_General	
323	C-ELEV-IDEN	Component identification numbers	61	CONTINUOUS	Civil_General	
324	C-ELEV-OTLN	Building outlines	73	CONTINUOUS	Civil_General	
325	C-ELEV-PATT	Textures and hatch patterns	228	CONTINUOUS	Civil_General	
326	C-ELEV-SIGN	Signage	81	CONTINUOUS	Civil_General	
327	C-FUEL-DEFL	Aviation Fuel - Defueling piping	207	CONTINUOUS	Civil_Uilities	
328	C-FUEL-DEVC	Aviation Fuel - Air eliminators, filter strainers, hydrant fill points, line vents, markers, oil/water separators, reducers, regulators, and valves	101	CONTINUOUS	Civil_Uilities	
329	C-FUEL-FLOW	Aviation Fuel - Flow direction arrows	227	CONTINUOUS	Civil_Uilities	
330	C-FUEL-FTTG	Aviation Fuel - Caps, crosses, and tees	247	CONTINUOUS	Civil_Uilities	
331	C-FUEL-HYDR	Aviation Fuel - Hydrant control pits	121	CONTINUOUS	Civil_Uilities	
332	C-FUEL-IDEN	Aviation Fuel - Identifier tags, symbol modifier, and text	141	CONTINUOUS	Civil_Uilities	
333	C-FUEL-JBOX	Aviation Fuel -Junction boxes, manholes, handholes, test boxes	161	CONTINUOUS	Civil_Uilities	
334	C-FUEL-JBOX-FOMH	Aviation Fuel - Fuel Oil Manhole	181	CONTINUOUS	Civil_Uilities	
335	C-FUEL-MAIN	Aviation Fuel - Main fuel piping	17	CONTINUOUS	Civil_Uilities	
336	C-FUEL-METR	Aviation Fuel -Meters	37	CONTINUOUS	Civil_Uilities	
337	C-FUEL-METR-FOME	Aviation Fuel - Fuel Oil Meter	57	CONTINUOUS	Civil_Uilities	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
338	C-FUEL-PITS-IDEN	Aviation Fuel - Identifier tags, symbol modifier, and text	201	CONTINUOUS	Civil_Uilities	
339	C-FUEL-PUMP	Aviation Fuel - Booster pump stations	62	CONTINUOUS	Civil_Uilities	
340	C-FUEL-SERV	Aviation Fuel - Service piping	77	CONTINUOUS	Civil_Uilities	
341	C-FUEL-STNS-IDEN	Aviation Fuel - Identifier tags, symbol modifier, and text	97	CONTINUOUS	Civil_Uilities	
342	C-FUEL-TANK	Aviation Fuel - Fuel tanks	82	CONTINUOUS	Civil_Uilities	
343	C-FUEL-TRCH	Aviation Fuel - Fuel line trench	117	CONTINUOUS	Civil_Uilities	
344	C-FUEL-VENT	Aviation Fuel - Vent pits	221	CONTINUOUS	Civil_Uilities	
345	C-FUEL-VLVE	Aviation Fuel - Valve pits	241	CONTINUOUS	Civil_Uilities	
346	C-GRAD-EXST	Existing grade, ground line	102	HIDDEN	Civil_Site	
347	C-GRAD-FNSH	Finished grade	93	CONTINUOUS	Civil_Site	
348	C-GRID-FRAM	Frame (bounding frame of an area referenced by a grid)	137	CONTINUOUS	Civil_Site	
349	C-GRID-MAJR	Major grid lines	18	CONTINUOUS	Civil_Site	
350	C-GRID-MINR	Minor grid lines	38	CONTINUOUS	Civil_Site	
351	C-GRID-TEXT	Grid text, annotation	157	CONTINUOUS	Civil_Site	
352	C-HELI-BLST	Blast pad and stopway markings	129	CONTINUOUS	Civil_Site	
353	C-HELI-CNTR	Centerlines	177	CENTER2	Civil_Site	
354	C-HELI-CNTR-MARK	Centerline markings	149	CONTINUOUS	Civil_Site	
355	C-HELI-DISP	Displaced threshold markings	169	CONTINUOUS	Civil_Site	
356	C-HELI-DIST	Fixed distance markings	189	CONTINUOUS	Civil_Site	
357	C-HELI-DSRF	Helipad design surface	122	CONTINUOUS	Civil_Site	
358	C-HELI-FATO	Helipad FATO	142	CONTINUOUS	Civil_Site	
359	C-HELI-IDEN	Heliport numbers and letters	11	CONTINUOUS	Civil_Site	
360	C-HELI-SHLD	Shoulder markings	209	CONTINUOUS	Civil_Site	
361	C-HELI-SIDE	Side stripes	229	CONTINUOUS	Civil_Site	
362	C-HELI-TDZM	Touchdown zone markers	31	CONTINUOUS	Civil_Site	
363	C-HELI-THRS	Threshold markers	51	CONTINUOUS	Civil_Site	
364	C-HELI-TLOF	Helipad take off and landing area	162	CONTINUOUS	Civil_Site	
365	C-INDW-ABND	Industrial Waste Water - Abandoned piping	58	CONTINUOUS	Civil_Uilities	
366	C-INDW-DEVC-GRIT	Industrial Waste Water - Grit Chamber Waste	71	CONTINUOUS	Civil_Uilities	
367	C-INDW-DEVC-IWME	Industrial Waste Water - Meter	91	CONTINUOUS	Civil_Uilities	
368	C-INDW-FLOW	Industrial Waste Water - Flow direction arrows	197	CONTINUOUS	Civil_Uilities	
369	C-INDW-FTTG-CLNO	Industrial Waste Water - Cleanout Waste	217	CONTINUOUS	Civil_Uilities	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
370	C-INDW-IDEN	Industrial Waste Water - Identifier tags, symbol modifier, and text	111	CONTINUOUS	Civil_Uilities	
371	C-INDW-JBOX-IWMH	Industrial Waste Water - Manhole	131	CONTINUOUS	Civil_Uilities	
372	C-INDW-LAGN	Industrial Waste Water - Lagoons	182	H2OLINE	Civil_Uilities	
373	C-INDW-LIFT	Industrial Waste Water - Lift stations	202	CONTINUOUS	Civil_Uilities	
374	C-INDW-MAIN	Industrial Waste Water - Main industrial waste water piping	237	CONTINUOUS	Civil_Uilities	
375	C-INDW-PLNT	Industrial Waste Water - Treatment plants	222	CONTINUOUS	Civil_Uilities	
376	C-INDW-SERV	Industrial Waste Water - Industrial waste water service piping	7	CONTINUOUS	Civil_Uilities	
377	C-INDW-SIGN	Industrial Waste Water - Surface markers/signs	151	CONTINUOUS	Civil_Uilities	
378	C-INDW-STNS-IDEN	Industrial Waste Water - Identifier tags, symbol modifier, and text	171	CONTINUOUS	Civil_Uilities	
379	C-JOIN-CNSL	Construction joints - longitudinal	113	HIDDEN2	Civil_Site	
380	C-JOIN-CNST	Construction joints - transverse	133	HIDDEN2	Civil_Site	
381	C-JOIN-CNTL	Contraction joints - longitudinal	153	HIDDEN2	Civil_Site	
382	C-JOIN-CNTT	Contraction joints - transverse	173	HIDDEN2	Civil_Site	
383	C-JOIN-EDGE	Thickened edges	27	HIDDEN	Civil_Site	
384	C-JOIN-EXPN	Expansion joints	193	HIDDEN2	Civil_Site	
385	C-MARK-CROS	Landmark, Cross	249	CONTINUOUS	Civil_Site	
386	C-NGAS-ABND	Abandoned piping	78	GAS	Civil_Uilities	
387	C-NGAS-ANNO	Annotation	191	CONTINUOUS	Civil_Uilities	
388	C-NGAS-DEVC	Hydrant fill points, lights, vents, markers, rectifiers, reducers, regulators, sources, tanks, drip pots, taps, and valves	231	CONTINUOUS	Civil_Uilities	
389	C-NGAS-DEVC-IDEN	Identifier tags, symbol modifier, and text	1	CONTINUOUS	Civil_Uilities	
390	C-NGAS-DEVC-MRKR	Markers	21	CONTINUOUS	Civil_Uilities	
391	C-NGAS-DEVC-VLVE	Valve	41	CONTINUOUS	Civil_Uilities	
392	C-NGAS-FLOW	Flow direction arrows	47	CONTINUOUS	Civil_Uilities	
393	C-NGAS-FTTG	Caps, crosses, and tees	67	CONTINUOUS	Civil_Uilities	
394	C-NGAS-IDEN	Identifier tags, symbol modifier, and text	61	CONTINUOUS	Civil_Uilities	
395	C-NGAS-MAIN	Main natural gas piping	87	GAS	Civil_Uilities	
396	C-NGAS-METR-GSME	Gas Meter	127	CONTINUOUS	Civil_Uilities	
397	C-NGAS-PITS-IDEN	Identifier tags, symbol modifier, and text	81	CONTINUOUS	Civil_Uilities	
398	C-NGAS-PUMP	Compressor stations	242	CONTINUOUS	Civil_Uilities	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
399	C-NGAS-REDC	Reducing stations	12	CONTINUOUS	Civil_Uilities	
400	C-NGAS-SERV	Service piping	147	CONTINUOUS	Civil_Uilities	
401	C-NGAS-SIGN	Surface markers/signs	101	CONTINUOUS	Civil_Uilities	
402	C-NGAS-STNS-IDEN	Identifier tags, symbol modifier, and text	121	CONTINUOUS	Civil_Uilities	
403	C-NGAS-VENT	Vent pits	141	CONTINUOUS	Civil_Uilities	
404	C-NGAS-VLVE	Valve pits/boxes	161	CONTINUOUS	Civil_Uilities	
405	C-NGAS-VLVE-GSVA	Gas Valve Vault	32	HIDDEN2	Civil_Uilities	
406	C-OBST-AIRS	Airspace obstructions	52	CONTINUOUS	Civil_Site	
407	C-OBST-AIRS-IDEN	Obstruction annotation	181	CONTINUOUS	Civil_Site	
408	C-OVRN-CNTR	Airfield overrun area - Centerlines	167	CENTER2	Civil_Site	
409	C-OVRN-CNTR-IDEN	Centerline annotation	207	CONTINUOUS	Civil_Site	
410	C-OVRN-IDEN	Airfield overrun area - annotation	201	CONTINUOUS	Civil_Site	
411	C-OVRN-OTLN	Airfield overrun area - outlines	72	CONTINUOUS	Civil_Site	
412	C-OVRN-SHLD	Airfield overrun area - Shoulder markings	19	CONTINUOUS	Civil_Site	
413	C-OVRN-SHLD-MRKG	Shoulder markings	39	CONTINUOUS	Civil_Site	
414	C-PADS-CNTR	Centerlines	227	CENTER2	Civil_Site	
415	C-PADS-CNTR-IDEN	Centerline annotation	247	CONTINUOUS	Civil_Site	
416	C-PADS-IDEN	Pads - annotation	221	CONTINUOUS	Civil_Site	
417	C-PADS-OTLN	Pad outline	112	CONTINUOUS	Civil_Site	
418	C-PADS-SHLD	Shoulders with annotation	132	CONTINUOUS	Civil_Site	
419	C-PKNG-CARS	Graphic illustration of cars	17	CONTINUOUS	Civil_Site	
420	C-PKNG-CNTR	Centerlines	37	CENTER2	Civil_Site	
421	C-PKNG-CURB	Curbs and gutters	241	CONTINUOUS	Civil_Site	
422	C-PKNG-DEVC-GATE	Parking Lot Gate	11	CONTINUOUS	Civil_Site	
423	C-PKNG-EQPM	Parking Equipment (I.e. booths, gates, etc.)	31	CONTINUOUS	Civil_Site	
424	C-PKNG-FIXT	Parking lot fixtures (e.g., wheel stops, parking meters)	51	CONTINUOUS	Civil_Site	
425	C-PKNG-ISLD	Parking islands	152	CONTINUOUS	Civil_Site	
426	C-PKNG-MRKG-FLAR	Flow Arrow Right	59	CONTINUOUS	Civil_Site	
427	C-PKNG-OTLN	Parking lots and minor roads	172	CONTINUOUS	Civil_Site	
428	C-PKNG-SBMP	Speed bumps in parking areas	57	HIDDEN2	Civil_Site	
429	C-PRKG-IDEN	Parking lot annotation	71	CONTINUOUS	Civil_Site	
430	C-PRKG-OTLN	Parking lot outlines	192	CONTINUOUS	Civil_Site	
431	C-PRKG-SIGN	Signs	91	CONTINUOUS	Civil_Site	
432	C-PROF-PIPE	Piping	111	CONTINUOUS	Civil_General	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
433	C-PROF-ROAD	Roads	212	CONTINUOUS	Civil_General	
434	C-PROP-CONS	Construction limits/controls, staging area	213	DASHED	Civil_Site	
435	C-PROP-ESMT	Easements	77	HIDDEN	Civil_Site	
436	C-PROP-IDEN	Property annotation	131	CONTINUOUS	Civil_Site	
437	C-PROP-LA	Limited access line	233	LA	Civil_Site	
438	C-PROP-LEAS	Lease line (exterior / ground lease)	151	LEASELINE	Civil_Site	
439	C-PROP-PROP	Airport property	171	PROPLINE	Civil_Site	
440	C-PROP-RWAY	Right of ways	3	RW	Civil_Site	
441	C-PROP-RWLA	Combined limited access and right of way line	23	LA-RW	Civil_Site	
442	C-PVMT-ASPH	Pavement - Asphalt	232	CONTINUOUS	Civil_Site	
443	C-PVMT-ASPH	Pavement pattern - asphalt	2	CONTINUOUS	Civil_Site	
444	C-PVMT-CONC	Pavement pattern - concrete	97	CONTINUOUS	Civil_Site	
445	C-PVMT-CONC-TRAN	Pavement - Concrete	137	CONTINUOUS	Civil_Site	
446	C-PVMT-GROV	Pavement Grooving	98	CONTINUOUS	Civil_Site	
447	C-PVMT-GRVL	Pavement - Gravel	191	HIDDEN2	Civil_Site	
448	C-PVMT-GRVL	Pavement pattern - gravel	118	CONTINUOUS	Civil_Site	
449	C-PVMT-IDEN	Parking lot, railroad, airfield pavement annotation	231	CONTINUOUS	Civil_Site	
450	C-PVMT-MRKG	Pavement markings and signs	79	CONTINUOUS	Civil_Site	
451	C-PVMT-MRKG-WHIT	Roadway markings (white)	99	CONTINUOUS	Civil_Site	
452	C-PVMT-MRKG-YELO	Roadway markings (yellow)	119	CONTINUOUS	Civil_Site	
453	C-PVMT-PATT	Reinforced pavement pattern	138	CONTINUOUS	Civil_Site	
454	C-PVMT-ROAD	Roads, parking lots, railroads, airfield pavements	22	CONTINUOUS	Civil_Site	
455	C-PVMT-SBMP	Speed bumps on roadways	157	HIDDEN2	Civil_Site	
456	C-PVMT-SIGN	Other signs	1	CONTINUOUS	Civil_Site	
457	C-PVMT-UNPV	Unpaved	21	HIDDEN2	Civil_Site	
458	C-RAIL-BRDG	Railroad bridge area	41	CONTINUOUS	Civil_Site	
459	C-RAIL-BRDG-CNTR	Railroad bridge centerline	177	CENTER2	Civil_Site	
460	C-RAIL-CNTR	Centerlines	197	CENTER2	Civil_Site	
461	C-RAIL-CNTR-IDEN	Centerline annotation	217	CONTINUOUS	Civil_Site	
462	C-RAIL-EQPM-SIGN	Rail Signal Equipment	61	CONTINUOUS	Civil_Site	
463	C-RAIL-EQPM-SWTC	Rail Switch	81	CONTINUOUS	Civil_Site	
464	C-RAIL-IDEN	Railroad - annotation	101	CONTINUOUS	Civil_Site	
465	C-RAIL-IDEN-SIGN	Rail Signal Sign	121	CONTINUOUS	Civil_Site	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
466	C-RAIL-TRAK	Railroads	141	TRACKS	Civil_Site	
467	C-RAIL-TRAK-RTIE	Railroad Tie	237	CONTINUOUS	Civil_Site	
468	C-RAIL-YARD	Railroad Yard	161	CONTINUOUS	Civil_Site	
469	C-ROAD-ASPH	Road outlines - asphalt surface	42	CONTINUOUS	Civil_Site	
470	C-ROAD-CNTR	Centerlines	7	CENTER2	Civil_Site	
471	C-ROAD-CNTR-IDEN	Centerline annotation	27	CONTINUOUS	Civil_Site	
472	C-ROAD-CONC	Road outlines - concrete surface	62	CONTINUOUS	Civil_Site	
473	C-ROAD-CURB	Curbs	181	CONTINUOUS	Civil_Site	
474	C-ROAD-DRIV	Driveway edge of pavement	82	CONTINUOUS	Civil_Site	
475	C-ROAD-DRIV-CNTR	Driveway centerline	47	CENTER2	Civil_Site	
476	C-ROAD-GRAL	Guardrail	201	CONTINUOUS	Civil_Site	
477	C-ROAD-GRAL-CNTR	Guardrail Centerline	67	CENTER2	Civil_Site	
478	C-ROAD-GRAL-SYMB	Guardrail Symbol	221	CONTINUOUS	Civil_Site	
479	C-ROAD-GRVL	Road outlines - gravel surface	241	HIDDEN2	Civil_Site	
480	C-ROAD-IDEN	Road, curb, and guardrail annotation	11	CONTINUOUS	Civil_Site	
481	C-ROAD-OTLN	Roads	102	CONTINUOUS	Civil_Site	
482	C-ROAD-POIN	Road Point	31	CONTINUOUS	Civil_Site	
483	C-ROAD-SHLD	Roadway shoulder	51	HIDDEN2	Civil_Site	
484	C-ROAD-SIGN	Signs	71	CONTINUOUS	Civil_Site	
485	C-ROAD-UPVD	Road outlines - unpaved surface	91	HIDDEN2	Civil_Site	
486	C-RUNW-ARST	Runway arresting gear	111	CONTINUOUS	Civil_Site	
487	C-RUNW-ARST-RUNW	Runway Arresting Gear Critical Area	131	CONTINUOUS	Civil_Site	
488	C-RUNW-BLST	Blast pad and stopway markings	139	CONTINUOUS	Civil_Site	
489	C-RUNW-CLRW	Runway clearway	151	CONTINUOUS	Civil_Site	
490	C-RUNW-CNTR	Centerlines	87	CENTER2	Civil_Site	
491	C-RUNW-CNTR-MARK	Centerline markings	159	CONTINUOUS	Civil_Site	
492	C-RUNW-DISP	Displaced threshold markings	199	CONTINUOUS	Civil_Site	
493	C-RUNW-DIST	Fixed distance markings	219	CONTINUOUS	Civil_Site	
494	C-RUNW-EDGE	Airfield runway edges	122	CONTINUOUS	Civil_Site	
495	C-RUNW-ENDP	Runway endpoint	171	CONTINUOUS	Civil_Site	
496	C-RUNW-ENDP-MARK	Runway label marking point	239	CONTINUOUS	Civil_Site	
497	C-RUNW-IDEN-MARK	Runway numbers and letters	231	CONTINUOUS	Civil_Site	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
498	C-RUNW-INTS	Runway intersection	1	CONTINUOUS	Civil_Site	
499	C-RUNW-LAHS	Runway land and hold short area	21	CONTINUOUS	Civil_Site	
500	C-RUNW-SAFT	Runway Safety Area	43	DASHED	Civil_Site	
501	C-RUNW-SEGM	Runway segment	142	CONTINUOUS	Civil_Site	
502	C-RUNW-SHLD	Runway Shoulder	162	CONTINUOUS	Civil_Site	
503	C-RUNW-SIDE	Side stripes	29	CONTINUOUS	Civil_Site	
504	C-RUNW-SIGN	Airfield signs on the runway such as distance remaining signs	41	CONTINUOUS	Civil_Site	
505	C-RUNW-STWY	Runway stopway markings	49	CONTINUOUS	Civil_Site	
506	C-RUNW-TDZM	Touchdown zone markers	61	CONTINUOUS	Civil_Site	
507	C-RUNW-THRS	Threshold markers	81	CONTINUOUS	Civil_Site	
508	C-SEAP-ANCH	Seaplane anchorage area	101	CONTINUOUS	Civil_Site	
509	C-SEAP-BUOY	Seaplane navigation buoy	121	CONTINUOUS	Civil_Site	
510	C-SEAP-DOCK	Seaplane dock	141	CONTINUOUS	Civil_Site	
511	C-SEAP-LNDA	Seaplane landing area	63	DASHED	Civil_Site	
512	C-SEAP-RAMP	Seaplane ramp site	161	CONTINUOUS	Civil_Site	
513	C-SEAP-RAMP-CNTR	Seaplane ramp centerline	127	CENTER2	Civil_Site	
514	C-SEAP-TAXI	Seaplane taxi channel	83	DASHED	Civil_Site	
515	C-SEAP-TBSN	Seaplane turning basin	103	DASHED	Civil_Site	
516	C-SEAP-WTOA	Seaplane water operating area	181	CONTINUOUS	Civil_Site	
517	C-SECR-SECA	An area of the airport in which security measures required by 49 CFR	123	DASHED	Civil_Site	
518	C-SECT-IDEN	Component identification numbers	201	CONTINUOUS	Civil_General	
519	C-SECT-MBND	Material beyond section cut	221	CONTINUOUS	Civil_General	
520	C-SECT-MCUT	Material cut by section	182	CONTINUOUS	Civil_General	
521	C-SECT-PATT	Textures and hatch patterns	158	CONTINUOUS	Civil_General	
522	C-SECU-FENC	Security fencing	241	FENCELINE-1	Civil_Site	
523	C-SITE-EROS	Riprap, revetments/stone protection, breakwaters, dikes, etc.	11	CONTINUOUS	Civil_Site	
524	C-SITE-FENC	Fences and Handrails	31	FENCELINE-1	Civil_Site	
525	C-SITE-FENC-IDEN	Fence, handrail, ramp, sign, and trail annotation	71	CONTINUOUS	Civil_Site	
526	C-SITE-FENC-POST	Fence Post	91	CONTINUOUS	Civil_Site	
527	C-SITE-GATE	Gates along fences or other barriers intended to restrict access	151	CONTINUOUS	Civil_Site	
528	C-SITE-IDEN	Site improvement annotation	171	CONTINUOUS	Civil_Site	
529	C-SITE-IMPR	Site improvements (channel or levee features)	191	CONTINUOUS	Civil_Site	
530	C-SITE-MAIL-SYMB	Mail Box	231	CONTINUOUS	Civil_Site	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
531	C-SITE-MISC-UNKN	Miscellaneous Unknown Item	1	CONTINUOUS	Civil_Site	
532	C-SITE-POLE-MISC	Existing Miscellaneous Poles	21	CONTINUOUS	Civil_Site	
533	C-SITE-RAMP-ADA	ADA Ramp	41	CONTINUOUS	Civil_Site	
534	C-SITE-SECU	CMRA Security camera locations outside of buildings	61	CONTINUOUS	Civil_Site	
535	C-SITE-SIGN-LARG	Large Sign	81	CONTINUOUS	Civil_Site	
536	C-SITE-SIGN-SMAL	Small Sign	101	CONTINUOUS	Civil_Site	
537	C-SITE-SIGN-STOP	Stop and Yield Signs	121	CONTINUOUS	Civil_Site	
538	C-SITE-STRC	Structures (bridges, sheds, foundation pads, footings, etc.)	143	CONTINUOUS	Civil_Site	
539	C-SITE-STRS	Stairs and ramps	141	CONTINUOUS	Civil_Site	
540	C-SITE-WALK	Walks, trails, and bicycle paths	161	HIDDEN2	Civil_Site	
541	C-SSWR-ABND	Abandoned Piping	178	SAN	Civil_Uilities	
542	C-SSWR-ANNO	Annotation	181	CONTINUOUS	Civil_Uilities	
543	C-SSWR-DEVC	Sanitary, Unknown Miscellaneous Item	201	CONTINUOUS	Civil_Uilities	
544	C-SSWR-DEVC-IDEN	Identifier tags, symbol modifier, and text	221	CONTINUOUS	Civil_Uilities	
545	C-SSWR-FILT	Filtration beds	147	HIDDEN2	Civil_Uilities	
546	C-SSWR-FILT-IDEN	Identifier tags, symbol modifier, and text	241	CONTINUOUS	Civil_Uilities	
547	C-SSWR-FLOW	Flow Direction Arrows	167	CONTINUOUS	Civil_Uilities	
548	C-SSWR-FTTG	Caps and cleanouts	187	CONTINUOUS	Civil_Uilities	
549	C-SSWR-FTTG-CLNO	Cleanout	207	CONTINUOUS	Civil_Uilities	
550	C-SSWR-IDEN	Identifier tags, symbol modifier, and text	11	CONTINUOUS	Civil_Uilities	
551	C-SSWR-JBOX	Junction boxes and manholes	31	CONTINUOUS	Civil_Uilities	
552	C-SSWR-JBOX-IDEN	Identifier tags, symbol modifier, and text	51	CONTINUOUS	Civil_Uilities	
553	C-SSWR-JBOX-SNMH	Sanitary Manhole	71	CONTINUOUS	Civil_Uilities	
554	C-SSWR-LAGN	Lagoons	202	H2OLINE	Civil_Uilities	
555	C-SSWR-LEAC	Leach field	227	HIDDEN2	Civil_Uilities	
556	C-SSWR-LFSTA-LFSTA	Lift Station	222	CONTINUOUS	Civil_Uilities	
557	C-SSWR-MAIN	Sanitary Sewer Piping	247	SAN	Civil_Uilities	
558	C-SSWR-NITF	Nitrification drain fields	17	HIDDEN2	Civil_Uilities	
559	C-SSWR-PLNT	Treatment plants	242	CONTINUOUS	Civil_Uilities	
560	C-SSWR-PUMP	Booster pump stations	12	CONTINUOUS	Civil_Uilities	
561	C-SSWR-PUMP-PMPS	Pump Station Pumps	32	CONTINUOUS	Civil_Uilities	
562	C-SSWR-SERV	Sanitary Sewer Service Piping	37	SAN	Civil_Uilities	
563	C-SSWR-SIGN	Surface Markers/Signs	91	CONTINUOUS	Civil_Uilities	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
564	C-SSWR-STNS-IDEN	Identifier tags, symbol modifier, and text	111	CONTINUOUS	Civil_Uilities	
565	C-SSWR-SVLVE-SVLVE	Sewer Valve	57	CONTINUOUS	Civil_Uilities	
566	C-SSWR-TANK	Septic tanks	77	HIDDEN2	Civil_Uilities	
567	C-STAT-DEMO	Demolition	131	CONTINUOUS	Civil_General	
568	C-STAT-DEMO-PHS1	Demolition - phase 1	151	CONTINUOUS	Civil_General	
569	C-STAT-DEMO-PHS2	Demolition - phase 2	171	CONTINUOUS	Civil_General	
570	C-STAT-DEMO-PHS3	Demolition - phase 3	191	CONTINUOUS	Civil_General	
571	C-STAT-FUTR	Future work	231	HIDDEN2	Civil_General	
572	C-STAT-NEWW	New work	52	CONTINUOUS	Civil_General	
573	C-STAT-TEMP	Temporary work	117	CONTINUOUS	Civil_General	
574	C-STRM-CULV	Culverts	21	HIDDEN2	Civil_Uilities	
575	C-STRM-EROS	Erosion control (riprap)	157	CONTINUOUS	Civil_Uilities	
576	C-STRM-FTTG	Caps and cleanouts	197	CONTINUOUS	Civil_Uilities	
577	C-STRM-HDWL	Headwalls and endwalls	112	CONTINUOUS	Civil_Uilities	
578	C-STRM-INLT	Inlets (curb, surface, and catch basins)	237	CONTINUOUS	Civil_Uilities	
579	C-STRM-MHOL	Manholes	67	CONTINUOUS	Civil_Uilities	
580	C-STRM-PUMP	Pump stations	152	CONTINUOUS	Civil_Uilities	
581	C-STRM-PUMP-PMPS	Pump Station Pumps	172	CONTINUOUS	Civil_Uilities	
582	C-STRM-ROOF	Roof Drain Line	107	CONTINUOUS	Civil_Uilities	
583	C-STRM-SERV	Storm Sewer Service Piping	127	CONTINUOUS	Civil_Uilities	
584	C-STRM-SIGN	Surface Markers/Signs	147	CONTINUOUS	Civil_Uilities	
585	C-STRM-STNS-IDEN	Identifier tags, symbol modifier, and text	167	CONTINUOUS	Civil_Uilities	
586	C-STRM-STRC	Storm drainage, headwalls, inlets, manholes, culverts, and drainage structures	187	CONTINUOUS	Civil_Uilities	
587	C-STRM-SUBS	Subsurface drain piping	207	UDR	Civil_Uilities	
588	C-SURV-DATA-CTPT	Survey data (benchmarks and horizontal control points or monuments)	227	CONTINUOUS	Civil_Site	
589	C-SURV-IDEN	Survey, baseline, and control line annotation	161	CONTINUOUS	Civil_Site	
590	C-SURV-LINE	Survey, baseline, and control line	247	CENTER2	Civil_Site	
591	C-TANK-ABOV	Tank, Above Ground	192	CONTINUOUS	Civil_Site	
592	C-TANK-ANNO-LEGN	Storage Tank Label	181	CONTINUOUS	Civil_Site	
593	C-TANK-IDEN	Storage Tank Legend	201	CONTINUOUS	Civil_Site	
594	C-TANK-UNDR	Underground Storage Tank	212	HIDDEN2	Civil_Site	
595	C-TAXI-CNTR	Centerlines	17	CENTER2	Civil_Site	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
596	C-TAXI-CNTR-IDEN	Centerline annotation	37	CONTINUOUS	Civil_Site	
597	C-TAXI-CNTR-MARK	Centerline markings	57	CENTER2	Civil_Site	
598	C-TAXI-EDGE	Edge markings	109	CONTINUOUS	Civil_Site	
599	C-TAXI-HOLD	Holding lines	129	CONTINUOUS	Civil_Site	
600	C-TAXI-IDEN	Annotation	221	CONTINUOUS	Civil_Site	
601	C-TAXI-INTS	Taxiway intersection	241	CONTINUOUS	Civil_Site	
602	C-TAXI-OTLN	Taxiway - outlines	232	CONTINUOUS	Civil_Site	
603	C-TAXI-SHLD	Shoulder transverse stripes	149	CONTINUOUS	Civil_Site	
604	C-TAXI-SIGN	Airfield signs on the taxiway	11	CONTINUOUS	Civil_Site	
605	C-TOPO-AUCO	Noise Complaint	31	CONTINUOUS	Civil_Site	
606	C-TOPO-AUST	Noise Monitoring Station	51	CONTINUOUS	Civil_Site	
607	C-TOPO-AUZN	Noise Contour/Zone	183	DASHED	Civil_Site	
608	C-TOPO-BKLN	Breaklines	22	CONTINUOUS	Civil_Site	
609	C-TOPO-BORE	Boring locations	71	CONTINUOUS	Civil_Site	
610	C-TOPO-COOR	Design coordinate grid ticks and text	218	CONTINUOUS	Civil_Site	
611	C-TOPO-DEPR-TICK	Depression Tick Mark	189	CONTINUOUS	Civil_Site	
612	C-TOPO-DTCH-SWAP	Swamp Symbol	209	CONTINUOUS	Civil_Site	
613	C-TOPO-DTMP	DTM points	238	CONTINUOUS	Civil_Site	
614	C-TOPO-DTMT	DTM triangles	8	CONTINUOUS	Civil_Site	
615	C-TOPO-FLZN	Flood Zone	42	DASHEDX2	Civil_Site	
616	C-TOPO-MAJR	Major contours	60	SCONTOUR	Civil_Site	
617	C-TOPO-MAJR-IDEN	Contour Specific Text	229	CONTINUOUS	Civil_Site	
618	C-TOPO-MINR	Minor contours	249	SCONTOUR	Civil_Site	
619	C-TOPO-MINR-IDEN	Minor contours - annotation	19	CONTINUOUS	Civil_Site	
620	C-TOPO-MINR-ONEF	Minor contours - One Foot Intervals	39	SCONTOUR	Civil_Site	
621	C-TOPO-MINR-TWOF	Minor contours - Two Foot Intervals	59	SCONTOUR	Civil_Site	
622	C-TOPO-OBSC	Obscured Hidden Point	77	CONTINUOUS	Civil_Site	
623	C-TOPO-RNYE	Runway centerline elevation point	97	CONTINUOUS	Civil_Site	
624	C-TOPO-SHOR	Shoreline	79	H2OLINE	Civil_Site	
625	C-TOPO-SLOP-FILL	Cut/fill slopes	117	DASHED	Civil_Site	
626	C-TOPO-SLOP-IDEN	Cut/fill slope, top/toe slope annotation	137	CONTINUOUS	Civil_Site	
627	C-TOPO-SLOP-TOPT	Top/toe slopes	203	DASHED	Civil_Site	
628	C-TOPO-SOUN	Soundings	157	CONTINUOUS	Civil_Site	
629	C-TOPO-SPOT	Spot elevations	28	CONTINUOUS	Civil_Site	
630	C-TOPO-SPOT-IDEN	Spot elevations - annotation	48	CONTINUOUS	Civil_Site	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
631	C-TOPO-WATR	Water area	99	H2OLINE	Civil_Site	
632	C-TRAF-IDEN	Airfield traffic area annotation	91	CONTINUOUS	Civil_Site	
633	C-TRAF-TYPA	Type A traffic area	111	CONTINUOUS	Civil_Site	
634	C-TRAF-TYPB	Type B traffic area	131	CONTINUOUS	Civil_Site	
635	C-TRAF-TYPC	Type C traffic area	151	CONTINUOUS	Civil_Site	
636	E-AFLD-BCNS-IDEN	Identifier tags, symbol modifiers, and text	171	CONTINUOUS	Civil_Airfield_Elec	
637	E-AFLD-BCNS-MISC	Miscellaneous nav aids - windcones and beacons	191	CONTINUOUS	Civil_Airfield_Elec	
638	E-AFLD-BCNS-STRB	Strobe beacons	231	CONTINUOUS	Civil_Airfield_Elec	
639	E-AFLD-DEVC	Capacitors, voltage regulators, motors, buses, generators, etc.	1	CONTINUOUS	Civil_Airfield_Elec	
640	E-AFLD-JBOX	Junction boxes, pull boxes, manholes, handholes, pedestals, splices	21	CONTINUOUS	Civil_Airfield_Elec	
641	E-AIRF-DUCT	Ductbanks	177	HIDDEN2	Civil_Airfield_Elec	
642	E-AIRF-JBOX	Junction boxes, pull boxes, manholes, handholes, pedestals, splices	201	CONTINUOUS	Civil_Airfield_Elec	
643	E-AIRF-VALT	Airfield lighting vaults	82	HIDDEN2	Civil_Airfield_Elec	
644	E-ALRM-IDEN	Identifier tags, symbol modifier, and text	221	CONTINUOUS	Bldg_Electrical	
645	E-ALRM-SYMB-HORN	Security Horn	241	CONTINUOUS	Bldg_Electrical	
646	E-ANNO-DIMS	Witness/Extension Lines, Dimension Terminators, Dimension Text	11	CONTINUOUS	Bldg_General	
647	E-ANNO-KEYN	Reference Keynotes with Associated Leaders	102	CONTINUOUS	Bldg_General	
648	E-ANNO-LEGN	Legends and Schedules	31	CONTINUOUS	Bldg_General	
649	E-ANNO-MATC	Match Lines	25	CONTINUOUS	Bldg_General	
650	E-ANNO-NOTE	General Notes and Remarks	122	CONTINUOUS	Bldg_General	
651	E-ANNO-NPLT	Non-plotting Graphic Information	211	CONTINUOUS	Bldg_General	
652	E-ANNO-PATT	Miscellaneous Patterning and Hatching	68	CONTINUOUS	Bldg_General	
653	E-ANNO-REDL	Redlines and Markups	51	CONTINUOUS	Bldg_General	
654	E-ANNO-REFR	Reference files (AutoCAD users only, see Chapter 4)	197	CONTINUOUS	Bldg_General	
655	E-ANNO-REVS	Revision Clouds and Symbols	142	CONTINUOUS	Bldg_General	
656	E-ANNO-SITE-OTLN	Key Plan	217	CONTINUOUS	Bldg_General	
657	E-ANNO-SYMB	Miscellaneous Symbols	71	CONTINUOUS	Bldg_General	
658	E-ANNO-TEXT	Miscellaneous Text and Callouts with Associated Leaders	162	CONTINUOUS	Bldg_General	
659	E-ANNO-TEXT-FUTR	Text for Future Objects	182	CONTINUOUS	Bldg_General	
660	E-ANNO-TEXT-TTLB	Title Block Text	202	CONTINUOUS	Bldg_General	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
661	E-ANNO-TTLB	Title Block	222	CONTINUOUS	Bldg_General	
662	E-BAGS-MCPP	Distribution Motor Control Center	91	CONTINUOUS	Bldg_Electrical	
663	E-BAGS-MPDP	Power Distribution Panel	111	CONTINUOUS	Bldg_Electrical	
664	E-BCNS-MISC-MSFL	Sequenced Flasher Light	131	CONTINUOUS	Civil_Airfield_Elec	
665	E-BCNS-MISC-TDZL	Touchdown Zone Light	151	CONTINUOUS	Civil_Airfield_Elec	
666	E-BCNS-MISC-WDCN	Windcone	171	CONTINUOUS	Civil_Airfield_Elec	
667	E-BCNS-STRB-ABCN	Airfield Beacon	191	CONTINUOUS	Civil_Airfield_Elec	
668	E-BELL-IDEN	Identifier tags, symbol modifier, and text	231	CONTINUOUS	Bldg_Electrical	
669	E-BELL-SYMB-BUZZ	Buzzer	1	CONTINUOUS	Bldg_Electrical	
670	E-BELL-SYMB-CHIM	Chime	21	CONTINUOUS	Bldg_Electrical	
671	E-BELL-SYMB-SBEL	Bell	41	CONTINUOUS	Bldg_Electrical	
672	E-CABL-COAX	Coax cable	237	COMMCATV	Bldg_Electrical	X
673	E-CABL-COAX	Coax cable	237	COMMCATV	Civil_Uilities	X
674	E-CABL-FIBR	Fiber optics cable	7	COMMFO	Bldg_Electrical	X
675	E-CABL-FIBR	Fiber optics cable	7	COMMFO	Civil_Uilities	X
676	E-CABL-IDEN	Cable identifiers	61	CONTINUOUS	Bldg_Electrical	X
677	E-CABL-IDEN	Cable identifiers	61	CONTINUOUS	Civil_Uilities	X
678	E-CABL-MULT	Multi-conductor cable	27	CONTINUOUS	Bldg_Electrical	X
679	E-CABL-MULT	Multi-conductor cable	27	CONTINUOUS	Civil_Uilities	X
680	E-CABL-TRAY	Cable tray and wireway symbols	47	CONTINUOUS	Bldg_Electrical	X
681	E-CABL-TRAY	Cable tray and wireway symbols	47	CONTINUOUS	Civil_Uilities	X
682	E-CATH-ANOD	Sacrificial anode system	67	CONTINUOUS	Bldg_Electrical	X
683	E-CATH-ANOD	Sacrificial anode system	67	CONTINUOUS	Civil_Uilities	X
684	E-CATH-ANOD-CPSA	Cathodic Protection Sacrificial Anode	87	CONTINUOUS	Bldg_Electrical	X
685	E-CATH-ANOD-CPSA	Cathodic Protection Sacrificial Anode	87	CONTINUOUS	Civil_Uilities	X
686	E-CATH-CURR	Impress current system	107	CONTINUOUS	Bldg_Electrical	X
687	E-CATH-CURR	Impress current system	107	CONTINUOUS	Civil_Uilities	X
688	E-CATH-IDEN	Identifier tags, symbol modifier, and text	81	CONTINUOUS	Bldg_Electrical	X
689	E-CATH-IDEN	Identifier tags, symbol modifier, and text	81	CONTINUOUS	Civil_Uilities	X
690	E-CATH-TEST	Test stations	101	CONTINUOUS	Bldg_Electrical	X
691	E-CATH-TEST	Test stations	101	CONTINUOUS	Civil_Uilities	X
692	E-CATV-IDEN	Identifier tags, symbol modifier, and text	141	CONTINUOUS	Bldg_Electrical	X
693	E-CATV-IDEN	Identifier tags, symbol modifier, and text	141	CONTINUOUS	Civil_Uilities	X
694	E-CATV-SYMB-TVOU	Cable television system symbols	161	CONTINUOUS	Bldg_Electrical	X
695	E-CATV-SYMB-TVOU	Cable television system symbols	161	CONTINUOUS	Civil_Uilities	X

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
696	E-CCTV-IDEN	Identifier tags, symbol modifier, and text	181	CONTINUOUS	Bldg_Electrical	X
697	E-CCTV-IDEN	Identifier tags, symbol modifier, and text	181	CONTINUOUS	Civil_Uilities	X
698	E-CCTV-SYMB-CCAM	Closed-circuit television system (Camera)	201	CONTINUOUS	Bldg_Electrical	X
699	E-CCTV-SYMB-CCAM	Closed-circuit television system (Camera)	201	CONTINUOUS	Civil_Uilities	X
700	E-CIRC-CTRL	Control and monitoring circuits	127	CONTINUOUS	Bldg_Electrical	X
701	E-CIRC-CTRL	Control and monitoring circuits	127	CONTINUOUS	Civil_Uilities	X
702	E-CIRC-IDEN-CLTM	Circuit Line Terminator	221	CONTINUOUS	Bldg_Electrical	X
703	E-CIRC-IDEN-CLTM	Circuit Line Terminator	221	CONTINUOUS	Civil_Uilities	X
704	E-CIRC-IDEN-CTID	Circuit ID Symbol	241	CONTINUOUS	Bldg_Electrical	X
705	E-CIRC-IDEN-CTID	Circuit ID Symbol	241	CONTINUOUS	Civil_Uilities	X
706	E-CIRC-MULT	Multiple circuits	147	CONTINUOUS	Bldg_Electrical	X
707	E-CIRC-MULT	Multiple circuits	147	CONTINUOUS	Civil_Uilities	X
708	E-CIRC-SERS	Series circuits	167	CONTINUOUS	Bldg_Electrical	X
709	E-CIRC-SERS	Series circuits	167	CONTINUOUS	Civil_Uilities	X
710	E-CLOK-IDEN	Identifier tags, symbol modifier, and text	11	CONTINUOUS	Bldg_Electrical	
711	E-CLOK-SYMB-CLKW	Clock Outlet, Wall Mounted	31	CONTINUOUS	Bldg_Electrical	
712	E-COMM-EQPM	Other communications distribution equipment	51	CONTINUOUS	Bldg_Electrical	X
713	E-COMM-EQPM	Other communications distribution equipment	51	CONTINUOUS	Civil_Uilities	X
714	E-COMM-JBOX	Communication junction boxes, pull boxes, manholes, handholes, pedestals, splices	71	CONTINUOUS	Bldg_Electrical	X
715	E-COMM-JBOX	Communication junction boxes, pull boxes, manholes, handholes, pedestals, splices	71	CONTINUOUS	Civil_Uilities	X
716	E-COMM-JBOX-CHL	Communication Manhole	91	CONTINUOUS	Bldg_Electrical	X
717	E-COMM-JBOX-CHL	Communication Manhole	91	CONTINUOUS	Civil_Uilities	X
718	E-COMM-JBOX-JNBX	Junction Box	131	CONTINUOUS	Bldg_Electrical	X
719	E-COMM-JBOX-JNBX	Junction Box	131	CONTINUOUS	Civil_Uilities	X
720	E-COMM-OVHD	Overhead communication/telephone lines	187	COMMTL	Bldg_Electrical	X
721	E-COMM-OVHD	Overhead communication/telephone lines	187	COMMTL	Civil_Uilities	X
722	E-COMM-OVHD-IDEN	Identifier tags, symbol modifier and text	151	CONTINUOUS	Bldg_Electrical	X
723	E-COMM-OVHD-IDEN	Identifier tags, symbol modifier and text	151	CONTINUOUS	Civil_Uilities	X
724	E-COMM-UNDR	Underground communication/telephone lines	207	COMMTL	Bldg_Electrical	X
725	E-COMM-UNDR	Underground communication/telephone lines	207	COMMTL	Civil_Uilities	X
726	E-COMM-UNDR-IDEN	Identifier tags, symbol modifier and text	171	CONTINUOUS	Bldg_Electrical	X
727	E-COMM-UNDR-IDEN	Identifier tags, symbol modifier and text	171	CONTINUOUS	Civil_Uilities	X

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
728	E-COMM-VALT	Communications vault	242	CONTINUOUS	Bldg_Electrical	X
729	E-COMM-VALT	Communications vault	242	CONTINUOUS	Civil_Uilities	X
730	E-DETL-GRPH	Graphics, gridlines, non-text items	227	CONTINUOUS	Bldg_General	
731	E-DETL-INPD	Inch-pound-specific dimensions and notes	191	CONTINUOUS	Bldg_General	
732	E-DETL-METR	Metric-specific dimensions and notes	231	CONTINUOUS	Bldg_General	
733	E-DIAG-GRPH	Graphics, gridlines, non-text items	247	CONTINUOUS	Bldg_General	
734	E-DIAG-IDEN	Identifier tags, symbol modifier, and text	1	CONTINUOUS	Bldg_General	
735	E-DIAG-INPD	Inch-pound-specific dimensions and notes	21	CONTINUOUS	Bldg_General	
736	E-DIAG-METR	Metric-specific dimensions and notes	41	CONTINUOUS	Bldg_General	
737	E-DICT-IDEN	Identifier tags, symbol modifier, and text	61	CONTINUOUS	Bldg_Electrical	
738	E-DICT-SYMB-SOND	Central dictation system symbol	81	CONTINUOUS	Bldg_Electrical	
739	E-DISC-INFO	Clearances and working space information (NEC code, etc.)	17	CONTINUOUS	Bldg_Electrical	
740	E-DUCT-MULT	Ductbank	37	HIDDEN2	Civil_Airfield_Elec	
741	E-DUCT-MULT-COMM	Ductbanks	57	HIDDEN2	Civil_Airfield_Elec	
742	E-DUCT-MULT-DBID	Ductbank ID Symbol	77	CONTINUOUS	Civil_Airfield_Elec	
743	E-DUCT-MULT-ELEC	Ductbanks	97	HIDDEN2	Civil_Airfield_Elec	
744	E-DUCT-MULT-IDEN	Ductbank ID Symbol	117	CONTINUOUS	Civil_Airfield_Elec	
745	E-ELEC-DEVC	Capacitors, voltage regulators, motors, buses, generators, meters, grounds, and markers	101	CONTINUOUS	Bldg_Electrical	
746	E-ELEC-DEVC-GRTR	Generator	121	CONTINUOUS	Bldg_Electrical	
747	E-ELEC-DEVC-MREL	Electrical Meter	141	CONTINUOUS	Bldg_Electrical	
748	E-ELEC-DEVC-MRHP	Motor	161	CONTINUOUS	Bldg_Electrical	
749	E-ELEC-JBOX	Junction boxes, pull boxes, manholes, handholes, pedestals, splices	181	CONTINUOUS	Bldg_Electrical	X
750	E-ELEC-JBOX	Junction boxes, pull boxes, manholes, handholes, pedestals, splices	181	CONTINUOUS	Civil_Uilities	X
751	E-ELEC-JBOX-EHHX	Electrical Handhole	11	CONTINUOUS	Bldg_Electrical	X
752	E-ELEC-JBOX-EHHX	Electrical Handhole	11	CONTINUOUS	Civil_Uilities	X
753	E-ELEC-JBOX-JNB	Junction Box	71	CONTINUOUS	Bldg_Electrical	X
754	E-ELEC-JBOX-JNB	Junction Box	71	CONTINUOUS	Civil_Uilities	X
755	E-ELEC-JBOX-MHOL	Electrical Manhole	31	CONTINUOUS	Bldg_Electrical	X
756	E-ELEC-JBOX-MHOL	Electrical Manhole	31	CONTINUOUS	Civil_Uilities	X
757	E-ELEC-JBOX-PBXX	Electrical Pullbox	201	CONTINUOUS	Bldg_Electrical	X
758	E-ELEC-JBOX-PBXX	Electrical Pullbox	201	CONTINUOUS	Civil_Uilities	X
759	E-ELEC-SUBS	Other substation equipment	91	CONTINUOUS	Bldg_Electrical	X
760	E-ELEC-SUBS	Other substation equipment	91	CONTINUOUS	Civil_Uilities	X

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
761	E-ELEC-SWCH	Fuse cutouts, switches, circuit breakers, reclosers, etc.	111	CONTINUOUS	Bldg_Electrical	X
762	E-ELEC-SWCH	Fuse cutouts, switches, circuit breakers, reclosers, etc.	111	CONTINUOUS	Civil_Uilities	X
763	E-ELEC-VALT	Vaults	12	CONTINUOUS	Bldg_Electrical	X
764	E-ELEC-VALT	Vaults	12	CONTINUOUS	Civil_Uilities	X
765	E-EMCS-IDEN	Identifier tags, symbol modifier, and text	131	CONTINUOUS	Bldg_Electrical	
766	E-EMCS-SYMB	Energy monitoring control system symbols	151	CONTINUOUS	Bldg_Electrical	
767	E-EMER-EMER	Emergency systems equipment	171	CONTINUOUS	Bldg_Electrical	
768	E-FLOR-IDEN	Room name, space identification text	191	CONTINUOUS	Bldg_General	
769	E-FLOR-NUMB	Room/space identification number and symbol	231	CONTINUOUS	Bldg_General	
770	E-GRND-CIRC	Circuit identifiers (e.g., panel circuits, wire/conduit size, tags, etc.)	1	CONTINUOUS	Bldg_Electrical	X
771	E-GRND-CIRC	Circuit identifiers (e.g., panel circuits, wire/conduit size, tags, etc.)	1	CONTINUOUS	Civil_Uilities	X
772	E-GRND-DIAG	Ground system diagram	32	CONTINUOUS	Bldg_Electrical	X
773	E-GRND-DIAG	Ground system diagram	32	CONTINUOUS	Civil_Uilities	X
774	E-GRND-EQUI	Equipotential ground system	137	CONTINUOUS	Bldg_Electrical	X
775	E-GRND-EQUI	Equipotential ground system	137	CONTINUOUS	Civil_Uilities	X
776	E-GRND-REFR	Reference ground system	157	CONTINUOUS	Bldg_Electrical	X
777	E-GRND-REFR	Reference ground system	157	CONTINUOUS	Civil_Uilities	X
778	E-INTC-IDEN	Identifier tags, symbol modifier, and text	21	CONTINUOUS	Bldg_Electrical	
779	E-INTC-SYMB-SOND	Intercom/PA system symbol	41	CONTINUOUS	Bldg_Electrical	
780	E-LITE-APPR	Approach lights	61	CONTINUOUS	Civil_Airfield_Elec	
781	E-LITE-APRN	Apron Lighting	81	CONTINUOUS	Civil_Airfield_Elec	
782	E-LITE-CIRC	Lighting circuits (including crosslines and homeruns)	177	CONTINUOUS	Bldg_Electrical	
783	E-LITE-CIRC-NUMB	Lighting circuit numbers (e.g., panel/circuit number, wire/conduit size)	101	CONTINUOUS	Bldg_Electrical	
784	E-LITE-CLNG	Ceiling mounted (surface/pendant) fixtures	121	CONTINUOUS	Bldg_Electrical	
785	E-LITE-CONS	Constant Current Regulators	141	CONTINUOUS	Bldg_Electrical	
786	E-LITE-DIST	Distance and arresting gear markers and lights	161	CONTINUOUS	Civil_Airfield_Elec	
787	E-LITE-EMER	Emergency fixtures (outline of ceiling mounted light on E-LITE-CLNG)	181	CONTINUOUS	Bldg_Electrical	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
788	E-LITE-EXIT	Exit fixtures (outline of ceiling mounted light on E-LITE-CLNG)	201	CONTINUOUS	Bldg_Electrical	
789	E-LITE-EXTR	Exterior lights	221	CONTINUOUS	Bldg_Electrical	
790	E-LITE-EXTR-IDEN	Identifier tags, symbol modifier, and text	241	CONTINUOUS	Bldg_Electrical	
791	E-LITE-IDEN	Light fixture identifier tags	11	CONTINUOUS	Bldg_Electrical	
792	E-LITE-JBOX	Junction boxes	31	CONTINUOUS	Bldg_Electrical	
793	E-LITE-LANE	Hoverlane, taxilane, and helipad lights	51	CONTINUOUS	Civil_Airfield_Elec	
794	E-LITE-OBST	Obstruction lights	71	CONTINUOUS	Civil_Airfield_Elec	
795	E-LITE-PANL	Main distribution panels, switchboards, lighting panels	91	CONTINUOUS	Bldg_Electrical	
796	E-LITE-RNWX-GARD	Runway guard lights	111	CONTINUOUS	Civil_Airfield_Elec	
797	E-LITE-ROOF	Roof lighting	131	CONTINUOUS	Bldg_Electrical	
798	E-LITE-RUNW-CNTR	Light Runway Centerline	197	CENTER2	Civil_Airfield_Elec	
799	E-LITE-RUNW-DTGS1	Runway Distance to go lights	151	CONTINUOUS	Civil_Airfield_Elec	
800	E-LITE-RUNW-EDGE	Runway edge lights	171	CONTINUOUS	Civil_Airfield_Elec	
801	E-LITE-RUNW-RCLL	Runway Center Light	191	CONTINUOUS	Civil_Airfield_Elec	
802	E-LITE-RUNW-RWEL	Runway End Light	231	CONTINUOUS	Civil_Airfield_Elec	
803	E-LITE-RUNW-TDZN	Light Runway TDZN	1	CONTINUOUS	Civil_Airfield_Elec	
804	E-LITE-SIGN	Taxiway guidance signs	21	CONTINUOUS	Civil_Airfield_Elec	
805	E-LITE-SPCL	Special fixtures	61	CONTINUOUS	Bldg_Electrical	
806	E-LITE-SWCH	Lighting contactors, photoelectric controls, lighting controls, etc.	81	CONTINUOUS	Bldg_Electrical	
807	E-LITE-TAXI-CNTL	Taxiway centerline lights	101	CONTINUOUS	Civil_Airfield_Elec	
808	E-LITE-TAXI-EDGE	Light Taxiway Edge	121	CONTINUOUS	Civil_Airfield_Elec	
809	E-LITE-THRS	Threshold lights	141	CONTINUOUS	Civil_Airfield_Elec	
810	E-LITE-WALL	Wall mounted fixtures	161	CONTINUOUS	Bldg_Electrical	
811	E-LTNG-COND	Lightning protection conductors	181	CONTINUOUS	Bldg_Electrical	
812	E-LTNG-TERM	Lightning protection terminals	201	CONTINUOUS	Bldg_Electrical	
813	E-NURS-IDEN	Identifier tags, symbol modifier, and text	221	CONTINUOUS	Bldg_Electrical	
814	E-PANL-SERV-ENTR	Service Entrance Section (SES)	241	CONTINUOUS	Bldg_Electrical	
815	E-PANL-SOSW	Fuel Shutoff Switch	11	CONTINUOUS	Bldg_Electrical	
816	E-POLE-GUYS	Guy equipment	217	CONTINUOUS	Civil_Uilities	
817	E-POLE-UTIL	Utility poles	237	CONTINUOUS	Civil_Uilities	
818	E-POWR-BUSW	Busways and wireways	31	CONTINUOUS	Bldg_Electrical	
819	E-POWR-CABL	Cable trays	51	CONTINUOUS	Bldg_Electrical	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
820	E-POWR-CIRC	Power circuits (including crosslines and homeruns)	71	CONTINUOUS	Bldg_Electrical	
821	E-POWR-CIRC-NUMB	Power circuit numbers (e.g., panel/circuit number, wire/conduit size)	91	CONTINUOUS	Bldg_Electrical	
822	E-POWR-CLNG	Ceiling outlets (receptacles and switches)	111	CONTINUOUS	Bldg_Electrical	
823	E-POWR-EQUI	Equipment	131	CONTINUOUS	Bldg_Electrical	
824	E-POWR-FEED	Feeders	151	CONTINUOUS	Bldg_Electrical	
825	E-POWR-GENR	Electric Generator	171	CONTINUOUS	Bldg_Electrical	
826	E-POWR-JBOX-JBWM	Junction Box, Wall Mounted	1	CONTINUOUS	Bldg_Electrical	
827	E-POWR-MOTR-MRHP	Motor	41	CONTINUOUS	Bldg_Electrical	
828	E-POWR-PANL	ElectricPanel	61	CONTINUOUS	Bldg_Electrical	
829	E-POWR-PANL-BFMC	Flush Mounted Panelboard Cabinet	81	CONTINUOUS	Bldg_Electrical	
830	E-POWR-PANL-BSMC	Surface Mounted Panelboard Cabinet	101	CONTINUOUS	Bldg_Electrical	
831	E-POWR-SWCH	Electric Automatic Transfer Switch	121	CONTINUOUS	Bldg_Electrical	
832	E-POWR-SWCH-SIDL	Disconnect Switch	141	CONTINUOUS	Bldg_Electrical	
833	E-POWR-SWCH-SIDP	Disconnect Switch	161	CONTINUOUS	Bldg_Electrical	
834	E-POWR-URAC	Underfloor raceways	181	CONTINUOUS	Bldg_Electrical	
835	E-POWR-WALL	Wall/floor outlets (receptacles and switches)	201	CONTINUOUS	Bldg_Electrical	
836	E-POWR-XMEL	Transformer - Elevated	52	CONTINUOUS	Bldg_Electrical	X
837	E-POWR-XMEL	Transformer - Elevated	52	CONTINUOUS	Civil_Uilities	X
838	E-POWR-XMFR	Transformer - Floor/Pad Mounted	72	CONTINUOUS	Bldg_Electrical	X
839	E-POWR-XMFR	Transformer - Floor/Pad Mounted	72	CONTINUOUS	Civil_Uilities	X
840	E-POWR-XMVT	Transformer - Vault	92	CONTINUOUS	Bldg_Electrical	X
841	E-POWR-XMVT	Transformer - Vault	92	CONTINUOUS	Civil_Uilities	X
842	E-PRIM-OVHD	Overhead electrical utility lines	7	ELEC1POP	Bldg_Electrical	X
843	E-PRIM-OVHD	Overhead electrical utility lines	7	ELEC1POP	Civil_Uilities	X
844	E-PRIM-OVHD-3PHS	Overhead 3-phase electrical utility lines	27	ELEC3POP	Bldg_Electrical	X
845	E-PRIM-OVHD-3PHS	Overhead 3-phase electrical utility lines	27	ELEC3POP	Civil_Uilities	X
846	E-PRIM-UNDR	Underground electrical utility lines	47	ELEC1PUP	Bldg_Electrical	X
847	E-PRIM-UNDR	Underground electrical utility lines	47	ELEC1PUP	Civil_Uilities	X
848	E-PRIM-UNDR-3PHS	Underground 3-phase electrical utility lines	67	ELEC3PUP	Bldg_Electrical	X
849	E-PRIM-UNDR-3PHS	Underground 3-phase electrical utility lines	67	ELEC3PUP	Civil_Uilities	X
850	E-SECD-OVHD	Overhead electrical utility lines	87	ELEC1POS	Bldg_Electrical	X

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
851	E-SECD-OVHD	Overhead electrical utility lines	87	ELEC1POS	Civil_Uilities	X
852	E-SECD-OVHD-3PHS	Overhead 3-phase electrical utility lines	107	ELEC3POS	Bldg_Electrical	X
853	E-SECD-OVHD-3PHS	Overhead 3-phase electrical utility lines	107	ELEC3POS	Civil_Uilities	X
854	E-SECD-OVHD-IDEN	Identifier tags, symbol modifier, and text	221	CONTINUOUS	Bldg_Electrical	X
855	E-SECD-OVHD-IDEN	Identifier tags, symbol modifier, and text	221	CONTINUOUS	Civil_Uilities	X
856	E-SECD-UNDR	Underground electrical utility lines	127	ELEC1PUS	Bldg_Electrical	X
857	E-SECD-UNDR	Underground electrical utility lines	127	ELEC1PUS	Civil_Uilities	X
858	E-SECD-UNDR-3PHS	Underground 3-phase electrical utility lines	147	ELEC3PUS	Bldg_Electrical	X
859	E-SECD-UNDR-3PHS	Underground 3-phase electrical utility lines	147	ELEC3PUS	Civil_Uilities	X
860	E-SECD-UNDR-IDEN	Identifier tags, symbol modifier, and text	241	CONTINUOUS	Bldg_Electrical	X
861	E-SECD-UNDR-IDEN	Identifier tags, symbol modifier, and text	241	CONTINUOUS	Civil_Uilities	X
862	E-SERT-ACCS	Access control system symbols	11	CONTINUOUS	Bldg_Electrical	
863	E-SERT-BURD	Buried sensors	31	CONTINUOUS	Bldg_Electrical	
864	E-SERT-CLNG	Ceiling mounted sensor	51	CONTINUOUS	Bldg_Electrical	
865	E-SERT-FLOR	Floor mounted sensor	71	CONTINUOUS	Bldg_Electrical	
866	E-SERT-IDEN	Identifier tags, symbol modifier, and text	91	CONTINUOUS	Bldg_Electrical	
867	E-SERT-WALL	Wall mounted sensor	131	CONTINUOUS	Bldg_Electrical	
868	E-SOUN-IDEN	Identifier tags, symbol modifier, and text	151	CONTINUOUS	Bldg_Electrical	
869	E-SPCL-JBOX	Junction boxes	171	CONTINUOUS	Bldg_Electrical	
870	E-SPCL-PANL	Panelboards, backing boards, patch panel racks	191	CONTINUOUS	Bldg_Electrical	
871	E-SPCL-SRFS	Surface Sensor System	231	CONTINUOUS	Bldg_Electrical	
872	E-SPCL-SYST	Special systems (UMCS, EMCS, CATV)	1	CONTINUOUS	Bldg_Electrical	
873	E-SPCL-TRAF	Traffic signal system	21	CONTINUOUS	Civil_Site	
874	E-SPCL-TRAF-IDEN	Traffic signal identifier tags, symbol modifier, and text	41	CONTINUOUS	Civil_Site	
875	E-STAT-DEMO-PHS1	Demolition - phase 1	61	CONTINUOUS	Bldg_General	
876	E-STAT-DEMO-PHS2	Demolition - phase 2	81	CONTINUOUS	Bldg_General	
877	E-STAT-DEMO-PHS3	Demolition - phase 3	101	CONTINUOUS	Bldg_General	
878	E-TRAN-PADM	Pad Mounted Transformer	132	CONTINUOUS	Bldg_Electrical	X
879	E-TRAN-PADM	Pad Mounted Transformer	132	CONTINUOUS	Civil_Uilities	X
880	E-TRAN-PADM	Pad mounted transformers	112	CONTINUOUS	Bldg_Electrical	X
881	E-TRAN-PADM	Pad mounted transformers	112	CONTINUOUS	Civil_Uilities	X
882	E-TRAN-POLE	Pole mounted transformers	121	CONTINUOUS	Bldg_Electrical	X
883	E-TRAN-POLE	Pole mounted transformers	121	CONTINUOUS	Civil_Uilities	X
884	E-TRAN-POLE-RPLN	Pole Mounted Transformer, New	141	CONTINUOUS	Bldg_Electrical	X

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
885	E-TRAN-POLE-RPLN	Pole Mounted Transformer, New	141	CONTINUOUS	Civil_Uilities	X
886	E-TRAN-POLE-RPLR	Pole Mounted Transformer, Remove	161	CONTINUOUS	Bldg_Electrical	X
887	E-TRAN-POLE-RPLR	Pole Mounted Transformer, Remove	161	CONTINUOUS	Civil_Uilities	X
888	E-TRAN-POLE-RPLX	Pole Mounted Transformer, Existing	181	CONTINUOUS	Bldg_Electrical	X
889	E-TRAN-POLE-RPLX	Pole Mounted Transformer, Existing	181	CONTINUOUS	Civil_Uilities	X
890	E-TVAN-IDEN	Identifier tags, symbol modifier, and text	201	CONTINUOUS	Bldg_Electrical	X
891	E-TVAN-IDEN	Identifier tags, symbol modifier, and text	201	CONTINUOUS	Civil_Uilities	X
892	E-TVAN-SYMB	TV antenna system	221	CONTINUOUS	Bldg_Electrical	X
893	E-TVAN-SYMB	TV antenna system	221	CONTINUOUS	Civil_Uilities	X
894	F-AFFF-EQPM	Equipment	241	CONTINUOUS	Bldg_Mech_Plumbing	
895	F-AFFF-PIPE	Piping	11	CONTINUOUS	Bldg_Mech_Plumbing	
896	F-ALRM-EQPM-AMPL	Distributive Amplifier	31	CONTINUOUS	Bldg_Electrical	
897	F-ALRM-EQPM-BSTR	Strobe Power Booster	51	CONTINUOUS	Bldg_Electrical	
898	F-ALRM-INDC	Indicating appliances	71	CONTINUOUS	Bldg_Electrical	
899	F-ALRM-MANL	Manual fire alarm pull stations	91	CONTINUOUS	Bldg_Electrical	
900	F-ALRM-PHON	Fire service or emergency telephone stations	111	CONTINUOUS	Bldg_Electrical	
901	F-ANNO-DIMS	Witness/Extension Lines, Dimension Terminators, Dimension Text	131	CONTINUOUS	Bldg_General	
902	F-ANNO-KEYN	Reference Keynotes with Associated Leaders	192	CONTINUOUS	Bldg_General	
903	F-ANNO-LEGN	Legends and Schedules	151	CONTINUOUS	Bldg_General	
904	F-ANNO-MATC	Match Lines	45	CONTINUOUS	Bldg_General	
905	F-ANNO-NOTE	General Notes and Remarks	212	CONTINUOUS	Bldg_General	
906	F-ANNO-NPLT	Non-plotting Graphic Information	211	CONTINUOUS	Bldg_General	
907	F-ANNO-PATT	Miscellaneous Patterning and Hatching	88	CONTINUOUS	Bldg_General	
908	F-ANNO-REDL	Redlines and Markups	171	CONTINUOUS	Bldg_General	
909	F-ANNO-REFR	Reference files (AutoCAD users only, see Chapter 4)	167	CONTINUOUS	Bldg_General	
910	F-ANNO-REVS	Revision Clouds and Symbols	232	CONTINUOUS	Bldg_General	
911	F-ANNO-SITE-OTLN	Key Plan	187	CONTINUOUS	Bldg_General	
912	F-ANNO-SYMB	Miscellaneous Symbols	191	CONTINUOUS	Bldg_General	
913	F-ANNO-TEXT	Miscellaneous Text and Callouts with Associated Leaders	2	CONTINUOUS	Bldg_General	
914	F-ANNO-TTLB	Title Block	22	CONTINUOUS	Bldg_General	
915	F-CO2S-EQPM	Equipment	231	CONTINUOUS	Bldg_Mech_Plumbing	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
916	F-CO2S-PIPE	CO2 piping or CO2 discharge nozzle piping	1	CONTINUOUS	Bldg_Mech_Plumbing	
917	F-CTRL-DOOR-DEVC	Magnetic Hold Open Device	21	CONTINUOUS	Bldg_Electrical	
918	F-CTRL-PANL	Control panels	41	CONTINUOUS	Bldg_Electrical	
919	F-DETL-GRPH	Graphics, gridlines, non-text items	207	CONTINUOUS	Bldg_General	
920	F-DETL-INPD	Inch-pound-specific dimensions and notes	61	CONTINUOUS	Bldg_General	
921	F-DETL-METR	Metric-specific dimensions and notes	81	CONTINUOUS	Bldg_General	
922	F-FLOR-IDEN	Room name, space identification text	101	CONTINUOUS	Bldg_General	
923	F-FLOR-NUMB	Room/space identification number and symbol	121	CONTINUOUS	Bldg_General	
924	F-HALN-EQPM	Halon equipment	141	CONTINUOUS	Bldg_Mech_Plumbing	
925	F-HALN-PIPE	Halon piping	161	FPHAL	Bldg_Mech_Plumbing	
926	F-IGAS-EQPM	Inert gas equipment	181	CONTINUOUS	Bldg_Mech_Plumbing	
927	F-IGAS-PIPE	Inert gas piping	201	FPIGS	Bldg_Mech_Plumbing	
928	F-LITE-EMER	Emergency fixtures	221	CONTINUOUS	Bldg_Electrical	
929	F-LITE-EXIT	Exit fixtures	241	CONTINUOUS	Bldg_Electrical	
930	F-LSFT-EGRE	Egress requirements designator	11	CONTINUOUS	Bldg_Architectural	
931	F-LSFT-OCPP	Occupant load for egress capacity	31	CONTINUOUS	Bldg_Architectural	
932	F-LSFT-TRVL	Maximum travel distances	42	CONTINUOUS	Bldg_Architectural	
933	F-PROT-ALRM-COMB	Audible with Integral Strobe	51	CONTINUOUS	Bldg_Electrical	
934	F-PROT-ALRM-HORN	Audible Alarm	71	CONTINUOUS	Bldg_Electrical	
935	F-PROT-ALRM-MANL	Fire Alarm - Pull Station	91	CONTINUOUS	Bldg_Electrical	
936	F-PROT-ALRM-STRB	Strobe	111	CONTINUOUS	Bldg_Electrical	
937	F-PROT-CABN	Fire hose cabinets	131	CONTINUOUS	Bldg_Architectural	
938	F-PROT-CO2M	Carbon Monoxide Detector - Wall Mount	151	CONTINUOUS	Bldg_Electrical	
939	F-PROT-DFIB	Automatic Electronic Defibrillator (A.E.D.)	171	CONTINUOUS	Bldg_Architectural	
940	F-PROT-EQPM-AIRC	Air Compressor	191	CONTINUOUS	Bldg_Mech_Plumbing	
941	F-PROT-EQPM-PUMP	Fire Pump	231	CONTINUOUS	Bldg_Mech_Plumbing	
942	F-PROT-EXTN	Fire extinguishers and fire extinguisher cabinets	1	CONTINUOUS	Bldg_Architectural	
943	F-PROT-HEAT	Heat Detector - Ceiling Mounted	21	CONTINUOUS	Bldg_Electrical	
944	F-PROT-HOSE	Fire hoses	41	CONTINUOUS	Bldg_Architectural	
945	F-SPRN-STAN-DRY	Standpipe system - Dry	221	FPDSP	Bldg_Mech_Plumbing	
946	F-SPRN-STAN-WET	Standpipe system - Wet	241	FPWSP	Bldg_Mech_Plumbing	
947	F-STAT-DEMO	Demolition (NOTE: comprehensive demolition is handled in Model File Type: Demolition Plan)	11	CONTINUOUS	Bldg_General	
948	F-STAT-FUTR	Future work	91	CONTINUOUS	Bldg_General	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
949	F-STAT-NEWW	New work	62	CONTINUOUS	Bldg_General	
950	F-STAT-TEMP	Temporary work	227	CONTINUOUS	Bldg_General	
951	F-WATR-MAIN	Main Supply	151	FPSPM	Bldg_Mech_Plumbing	
952	H-DECN-EQPM	Decontamination equipment	81	CONTINUOUS	Bldg_Architectural	
953	H-DECN-IDEN	Annotation	101	CONTINUOUS	Bldg_Architectural	
954	H-DETL-GRPH	Graphics, gridlines, non-text items	17	CONTINUOUS	Bldg_General	
955	H-DETL-INPD	Inch-pound-specific dimensions and notes	121	CONTINUOUS	Bldg_General	
956	H-DETL-METR	Metric-specific dimensions and notes	141	CONTINUOUS	Bldg_General	
957	H-DISP-TANK	Spill containment tanks	182	CONTINUOUS	Civil_Site	
958	H-MNST-GWTR	Ground water	31	CONTINUOUS	Civil_Site	
959	H-MNST-SWTR	Surface water	119	H2OLINE	Civil_Site	
960	H-POLL-POTN	Potential spill, emission, or release source	191	CONTINUOUS	Civil_Site	
961	H-SAMP-BIOL	Biological samples	21	CONTINUOUS	Civil_Site	
962	H-SAMP-GWTR	Ground water samples	41	CONTINUOUS	Civil_Site	
963	H-SAMP-SEDI	Sediment samples	121	CONTINUOUS	Civil_Site	
964	H-SAMP-SOIL	Soil samples	161	CONTINUOUS	Civil_Site	
965	H-SAMP-SOLI	Solid material samples	181	CONTINUOUS	Civil_Site	
966	H-SAMP-SWTR	Surface water samples	221	CONTINUOUS	Civil_Site	
967	H-SAMP-WAST	Waste samples	11	CONTINUOUS	Civil_Site	
968	H-SECT-IDEN	Component identification numbers	51	CONTINUOUS	Bldg_General	
969	H-SECT-MBND	Material beyond section cut	222	CONTINUOUS	Bldg_General	
970	H-SECT-MCUT	Material cut by section	71	CONTINUOUS	Bldg_General	
971	H-SECT-PATT	Textures and hatch patterns	168	CONTINUOUS	Bldg_General	
972	H-STAT-DEMO-PHS1	Demolition - phase 1	91	CONTINUOUS	Bldg_General	
973	H-STAT-DEMO-PHS2	Demolition - phase 2	111	CONTINUOUS	Bldg_General	
974	H-STAT-DEMO-PHS3	Demolition - phase 3	131	CONTINUOUS	Bldg_General	
975	H-STOR-HAZM	Hazardous materials	151	CONTINUOUS	Bldg_Architectural	
976	H-STOR-HAZW	Hazardous waste	171	CONTINUOUS	Bldg_Architectural	
977	H-STOR-IDEN	Annotation	191	CONTINUOUS	Bldg_Architectural	
978	I-ANNO-DIMS	Witness/extension lines, dimension terminators, dimension text	231	CONTINUOUS	Bldg_General	
979	I-ANNO-KEYN	Reference keynotes with associated leaders	242	CONTINUOUS	Bldg_General	
980	I-ANNO-NOTE	General notes and general remarks	12	CONTINUOUS	Bldg_General	
981	I-ANNO-NPLT	Non-plotting graphic information	211	CONTINUOUS	Bldg_General	
982	I-ANNO-PATT	Miscellaneous patterning	188	CONTINUOUS	Bldg_General	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
983	I-ANNO-SYMB	Reference bubbles, matchlines and breaklines	33	CONTINUOUS	Bldg_General	
984	I-ANNO-TEXT	Detail title text, text and associated leaders, notes	32	CONTINUOUS	Bldg_General	
985	I-DETL-GRPH	Graphics, gridlines, non-text items	37	CONTINUOUS	Bldg_General	
986	I-DETL-INPD	Inch-pound-specific dimensions and notes	1	CONTINUOUS	Bldg_General	
987	I-DETL-METR	Metric-specific dimensions and notes	21	CONTINUOUS	Bldg_General	
988	I-ELEV-CASE	Wall mounted casework	41	CONTINUOUS	Bldg_General	
989	I-ELEV-FIXT	Miscellaneous fixtures	61	CONTINUOUS	Bldg_General	
990	I-ELEV-FNSH	Finishes, woodwork and trim	81	CONTINUOUS	Bldg_General	
991	I-ELEV-IDEN	Component identification numbers	101	CONTINUOUS	Bldg_General	
992	I-ELEV-PATT	Textures and hatch patterns	208	CONTINUOUS	Bldg_General	
993	I-ELEV-SIGN	Signage	121	CONTINUOUS	Bldg_General	
994	I-EQPM-ACCS	Equipment access	57	CONTINUOUS	Bldg_Architectural	
995	I-EQPM-CHLD	Child development (play toys, teaching rugs, play forms)	141	CONTINUOUS	Bldg_Architectural	
996	I-EQPM-COPY	Copiers, fax machines, office equipment	161	CONTINUOUS	Bldg_Architectural	
997	I-EQPM-FIXD	Fixed equipment	181	CONTINUOUS	Bldg_Architectural	
998	I-EQPM-IDEN	Equipment identification numbers	201	CONTINUOUS	Bldg_Architectural	
999	I-EQPM-MEDI	Medical (exam beds, dental chairs, etc.)	221	CONTINUOUS	Bldg_Architectural	
1000	I-EQPM-MOVE	Moveable equipment	241	CONTINUOUS	Bldg_Architectural	
1001	I-EQPM-OVHD	Overhead, ceiling mounted, and suspended equipment	11	CONTINUOUS	Bldg_Architectural	
1002	I-EQPM-STOR	Storage equipment	31	CONTINUOUS	Bldg_Architectural	
1003	I-FLOR-SIGN	Signage	51	CONTINUOUS	Bldg_Architectural	
1004	I-FURN-ACCS	Accessories (vestibule mats, partitions, draperies, trash cans, etc.)	71	CONTINUOUS	Bldg_Architectural	
1005	I-FURN-ADPC	Automated Data Processing Components	91	CONTINUOUS	Bldg_Architectural	
1006	I-FURN-ARTW	Artwork	111	CONTINUOUS	Bldg_Architectural	
1007	I-FURN-FLOR	Flooring (carpet, rugs, etc.)	77	CONTINUOUS	Bldg_Architectural	
1008	I-FURN-FREE	Free-standing furnishings (desks, beds, tables, dressers, credenzas)	131	CONTINUOUS	Bldg_Architectural	
1009	I-FURN-GRID	Planning Grid/modular outline	228	CONTINUOUS	Bldg_Architectural	
1010	I-FURN-IDEN	Furniture code identification	151	CONTINUOUS	Bldg_Architectural	
1011	I-FURN-IDEN-MFSY	Furniture Symbol	171	CONTINUOUS	Bldg_Architectural	
1012	I-FURN-PLNT	Plants	191	CONTINUOUS	Bldg_Architectural	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
1013	I-FURN-PLNT-APLT	Artificial Plant	231	CONTINUOUS	Bldg_Architectural	
1014	I-FURN-SEAT	Chairs, sofas, etc.	1	CONTINUOUS	Bldg_Architectural	
1015	I-FURN-STOR	File cabinets, high density storage, shelving, storage cabinets	21	CONTINUOUS	Bldg_Architectural	
1016	I-SYST-BIDS	Baggage information display system equipment	41	CONTINUOUS	Bldg_Architectural	
1017	I-SYST-CUTE	Common use terminal equipment in an airport terminal	61	CONTINUOUS	Bldg_Architectural	
1018	I-SYST-FIDS	Flight information display system equipment	81	CONTINUOUS	Bldg_Architectural	
1019	I-SYST-FURN	Furniture	101	CONTINUOUS	Bldg_Architectural	
1020	I-SYST-IDEN	Code identification	121	CONTINUOUS	Bldg_Architectural	
1021	I-SYST-LITE-WLIT	Workstation Light	141	CONTINUOUS	Bldg_Architectural	
1022	I-SYST-PATT	Patterns	161	CONTINUOUS	Bldg_Architectural	
1023	I-SYST-PNLS	Panels	181	CONTINUOUS	Bldg_Architectural	
1024	I-SYST-POWR	Power, communication components	201	CONTINUOUS	Bldg_Architectural	
1025	I-SYST-SECU-CMRA	Security camera locations inside buildings	221	CONTINUOUS	Bldg_Architectural	
1026	I-SYST-STOR	Storage components	241	CONTINUOUS	Bldg_Architectural	
1027	I-SYST-WALL	Systems furniture partition walls	52	CONTINUOUS	Bldg_Architectural	
1028	I-SYST-WKSF	Work surface components	11	CONTINUOUS	Bldg_Architectural	
1029	L-ANNO-DIMS	Witness/extension lines, dimension terminators, dimension text	31	CONTINUOUS	Bldg_General	
1030	L-ANNO-KEYN	Reference keynotes with associated leaders	72	CONTINUOUS	Bldg_General	
1031	L-ANNO-NOTE	General notes and general remarks	92	CONTINUOUS	Bldg_General	
1032	L-ANNO-NPLT	Non-plotting graphic information	211	CONTINUOUS	Bldg_General	
1033	L-ANNO-PATT	Miscellaneous patterning	248	CONTINUOUS	Bldg_General	
1034	L-ANNO-SYMB	Reference bubbles, matchlines and breaklines	53	CONTINUOUS	Bldg_General	
1035	L-ANNO-TEXT	Detail title text, text and associated leaders, notes	112	CONTINUOUS	Bldg_General	
1036	L-DETL-FENC	Fencing	51	CONTINUOUS	Bldg_General	
1037	L-DETL-GATE	Gate	71	CONTINUOUS	Bldg_General	
1038	L-DETL-GRAS	Grass, sod	97	CONTINUOUS	Bldg_General	
1039	L-DETL-GRPH	Graphics, gridlines, non-text items	117	CONTINUOUS	Bldg_General	
1040	L-DETL-INPD	Inch-pound-specific dimensions and notes	91	CONTINUOUS	Bldg_General	
1041	L-DETL-METR	Metric-specific dimensions and notes	111	CONTINUOUS	Bldg_General	
1042	L-DETL-TKST	Tank Site	131	CONTINUOUS	Bldg_General	
1043	L-DETL-VLVE	Valves, fittings	151	CONTINUOUS	Bldg_General	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
1044	L-DETL-WIRE	Wiring	171	CONTINUOUS	Bldg_General	
1045	L-IRRG-COVR	Irrigation coverage, spray distribution patterns	18	HIDDEN2	Civil_Uilities	
1046	L-IRRG-EQPM	Equipment (e.g., controllers, valves, RPBPs, etc.)	191	CONTINUOUS	Civil_Uilities	
1047	L-IRRG-HEAD	Irrigation heads, bubblers, and drip irrigation emitters	137	CONTINUOUS	Civil_Uilities	
1048	L-IRRG-IDEN	Annotation	231	CONTINUOUS	Civil_Uilities	
1049	L-IRRG-PIPE	Piping	1	CONTINUOUS	Civil_Uilities	
1050	L-IRRG-SPKL	Sprinklers	157	CONTINUOUS	Civil_Uilities	
1051	L-PLNT-BEDS	Planting beds	177	CONTINUOUS	Civil_Site	
1052	L-PLNT-BUSH	Bushes and shrubs (e.g., evergreen, deciduous)	197	CONTINUOUS	Civil_Site	
1053	L-PLNT-BUSH-LINE	Bush and Shrub Line	217	CONTINUOUS	Civil_Site	
1054	L-PLNT-BUSH-SHBC	Shrub, Coniferous	237	CONTINUOUS	Civil_Site	
1055	L-PLNT-BUSH-SHBD	Shrub, Deciduous	7	CONTINUOUS	Civil_Site	
1056	L-PLNT-CTNR	Containers or planters	27	CONTINUOUS	Civil_Site	
1057	L-PLNT-GRND	Groundcover and vines	47	CONTINUOUS	Civil_Site	
1058	L-PLNT-IDEN	Annotation	21	CONTINUOUS	Civil_Site	
1059	L-PLNT-MLCH	Mulches - organic and inorganic	38	CONTINUOUS	Civil_Site	
1060	L-PLNT-PLTS	Planting plants (e.g., ornamental annuals and perennials)	67	CONTINUOUS	Civil_Site	
1061	L-PLNT-SHAD	Shadow areas	58	HIDDEN2	Civil_Site	
1062	L-PLNT-SPRG	Sprigs	87	CONTINUOUS	Civil_Site	
1063	L-PLNT-TREE	Trees (e.g., evergreen, deciduous, etc.)	107	CONTINUOUS	Civil_Site	
1064	L-PLNT-TREE-LINE	Tree Line	127	CONTINUOUS	Civil_Site	
1065	L-PLNT-TURF	Lawn areas (turving limits)	147	CONTINUOUS	Civil_Site	
1066	L-SITE-BRDG	Bridges	132	CONTINUOUS	Civil_Site	
1067	L-SITE-DECK	Decks	41	CONTINUOUS	Civil_Site	
1068	L-SITE-FENC	Landscape Fences (ornamental, not security)	61	CONTINUOUS	Civil_Site	
1069	L-SITE-FURN	Furnishings	81	CONTINUOUS	Civil_Site	
1070	L-SITE-GATE	Gate	101	CONTINUOUS	Civil_Site	
1071	L-SITE-IDEN	Annotation	121	CONTINUOUS	Civil_Site	
1072	L-SITE-PLAY	Play structures	141	CONTINUOUS	Civil_Site	
1073	L-SITE-POOL	Pools and spas	161	CONTINUOUS	Civil_Site	
1074	L-SITE-ROCK	Boulders and cobble	167	CONTINUOUS	Civil_Site	
1075	L-SITE-RTWL	Retaining walls	152	CONTINUOUS	Civil_Site	
1076	L-SITE-SPRT	Sports fields	181	CONTINUOUS	Civil_Site	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
1077	L-SITE-TUNL	Tunnels	201	CONTINUOUS	Civil_Site	
1078	L-SITE-WALK	Walks and steps	221	CONTINUOUS	Civil_Site	
1079	L-STAT-DEMO	Demolition (NOTE: comprehensive demolition is handled in Model File Type: Demolition Plan)	241	CONTINUOUS	Bldg_General	
1080	L-STAT-DEMO-PHS1	Demolition - phase 1	11	CONTINUOUS	Bldg_General	
1081	L-STAT-DEMO-PHS2	Demolition - phase 2	31	CONTINUOUS	Bldg_General	
1082	L-STAT-DEMO-PHS3	Demolition - phase 3	51	CONTINUOUS	Bldg_General	
1083	L-STAT-FUTR	Future work	71	CONTINUOUS	Bldg_General	
1084	L-STAT-NEWW	New work	172	CONTINUOUS	Bldg_General	
1085	L-STAT-TEMP	Temporary work	91	CONTINUOUS	Bldg_General	
1086	M-ACID-EQPM	Acid, alkaline, and oil waste equipment	111	CONTINUOUS	Bldg_Mech_HVAC	
1087	M-ACID-PIPE	Piping (includes fittings, valves)	187	PROCACID	Bldg_Mech_HVAC	
1088	M-ACID-VENT	Vent piping 45 Degree Elbow	207	PROCACID	Bldg_Mech_HVAC	
1089	M-AFRZ-PIPE	Piping	131	CONTINUOUS	Bldg_Mech_HVAC	
1090	M-AFRZ-WAST	Waste anti-freeze piping	151	CONTINUOUS	Bldg_Mech_HVAC	
1091	M-ANNO-DIMS	Witness/Extension Lines, Dimension Terminators, Dimension Text	171	CONTINUOUS	Bldg_General	
1092	M-ANNO-KEYN	Reference keynotes with associated leaders	192	CONTINUOUS	Bldg_General	
1093	M-ANNO-LEGN	Legends and Schedules	191	CONTINUOUS	Bldg_General	
1094	M-ANNO-MATC	Match Lines	65	CONTINUOUS	Bldg_General	
1095	M-ANNO-NOTE	General Notes and Remarks	212	CONTINUOUS	Bldg_General	
1096	M-ANNO-NPLT	Non-plotting Graphic Information	211	CONTINUOUS	Bldg_General	
1097	M-ANNO-PATT	Miscellaneous Patterning and Hatching	78	CONTINUOUS	Bldg_General	
1098	M-ANNO-REDL	Redlines and Markups	231	CONTINUOUS	Bldg_General	
1099	M-ANNO-REFR	Reference files (AutoCAD users only, see Chapter 4)	227	CONTINUOUS	Bldg_General	
1100	M-ANNO-REVS	Revision Clouds and Symbols	232	CONTINUOUS	Bldg_General	
1101	M-ANNO-SITE-OTLN	Key Plan	247	CONTINUOUS	Bldg_General	
1102	M-ANNO-SYMB	Miscellaneous Symbols	73	CONTINUOUS	Bldg_General	
1103	M-ANNO-TEXT	Miscellaneous Text and Callouts with Associated Leaders	2	CONTINUOUS	Bldg_General	
1104	M-ANNO-TEXT-FUTR	Text for Future Objects	1	CONTINUOUS	Bldg_General	
1105	M-ANNO-TEXT-TTLB	Title Block Text	22	CONTINUOUS	Bldg_General	
1106	M-ANNO-TTLB	Title Block	93	CONTINUOUS	Bldg_General	
1107	M-BRIN-EQPM	Brine system equipment	21	CONTINUOUS	Bldg_Mech_HVAC	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
1108	M-BRIN-PIPE	Piping	41	HVACBS	Bldg_Mech_HVAC	
1109	M-BRIN-RETN	Brine return piping	61	HVACBR	Bldg_Mech_HVAC	
1110	M-CHEM-EQPM	Equipment	81	CONTINUOUS	Bldg_Mech_HVAC	
1111	M-CHEM-PIPE	Piping	101	PROCCS	Bldg_Mech_HVAC	
1112	M-CNDW-EQPM	Condenser water equipment	121	CONTINUOUS	Bldg_Mech_HVAC	
1113	M-CNDW-PIPE	Condenser water piping	141	HVACCFW	Bldg_Mech_HVAC	
1114	M-CNDW-PIPE-COND	Condensate piping (includes fittings, valves)	181	HVACC	Bldg_Mech_HVAC	
1115	M-CNDW-RETN	Condenser water return piping	161	HVACCR	Bldg_Mech_HVAC	
1116	M-CONT-THER	Thermostats, controls, instrumentation, and sensors	201	CONTINUOUS	Bldg_Electrical	
1117	M-CONT-WIRE	Low voltage wiring	17	CONTINUOUS	Bldg_Electrical	
1118	M-CWTR-EQPM	Chilled Water Equipment	221	CONTINUOUS	Bldg_Mech_HVAC	
1119	M-CWTR-PIPE	Chilled Water Piping (includes fittings, valves)	241	HVACCW	Bldg_Mech_HVAC	
1120	M-DETL-BOIL	Boilers	42	CONTINUOUS	Bldg_General	
1121	M-DETL-COIL	Coils and fin tubes	62	CONTINUOUS	Bldg_General	
1122	M-DETL-DUCT	Ducts	82	CONTINUOUS	Bldg_General	
1123	M-DETL-EQPT	Equipment and fixtures	11	CONTINUOUS	Bldg_General	
1124	M-DETL-FANS	Fans	31	CONTINUOUS	Bldg_General	
1125	M-DETL-GRPH	Graphics, gridlines, non-text items	37	CONTINUOUS	Bldg_General	
1126	M-DETL-INPD	Inch-pound-specific dimensions and notes	51	CONTINUOUS	Bldg_General	
1127	M-DETL-METR	Metric-specific dimensions and notes	71	CONTINUOUS	Bldg_General	
1128	M-DETL-PIPE	Piping	91	CONTINUOUS	Bldg_General	
1129	M-DETL-PUMP	Pumps and compressors	102	CONTINUOUS	Bldg_General	
1130	M-DETL-TANK	Tanks	111	CONTINUOUS	Bldg_General	
1131	M-DETL-TRAP	Traps and drains	131	CONTINUOUS	Bldg_General	
1132	M-DETL-VENT	Vents	151	CONTINUOUS	Bldg_General	
1133	M-DETL-VLVE	Valves and fittings	171	CONTINUOUS	Bldg_General	
1134	M-DETL-WIRE	Electrical wiring	191	CONTINUOUS	Bldg_General	
1135	M-DIAG-GRPH	Graphics, gridlines, non-text items	57	CONTINUOUS	Bldg_General	
1136	M-DIAG-INPD	Inch-pound-specific dimensions and notes	231	CONTINUOUS	Bldg_General	
1137	M-DIAG-METR	Metric-specific dimensions and notes	1	CONTINUOUS	Bldg_General	
1138	M-DUAL-EQPM	Dual Temperature System Equipment	21	CONTINUOUS	Bldg_Mech_HVAC	
1139	M-DUAL-PIPE	Dual Temperature System Piping (includes fittings, valves)	41	HVACDTS	Bldg_Mech_HVAC	
1140	M-DUAL-RETN	Dual Temperature System Return	61	HVACDTR	Bldg_Mech_HVAC	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
1141	M-DUST-DUCT	Dust and fume ductwork	81	CONTINUOUS	Bldg_Mech_HVAC	
1142	M-DUST-EQPM	Dust and fume collection equipment	101	CONTINUOUS	Bldg_Mech_HVAC	
1143	M-ELEV-FIXT	Miscellaneous fixtures	121	CONTINUOUS	Bldg_General	
1144	M-ELEV-IDEN	Component identification numbers	141	CONTINUOUS	Bldg_General	
1145	M-ELEV-OTLN	Building outlines	113	CONTINUOUS	Bldg_General	
1146	M-ELEV-PATT	Textures and hatch patterns	98	CONTINUOUS	Bldg_General	
1147	M-ELEV-PFIX	Plumbing fixtures	161	CONTINUOUS	Bldg_General	
1148	M-EXHS-DUCT	Ductwork	181	CONTINUOUS	Bldg_Mech_HVAC	
1149	M-EXHS-EQPM	Equipment	201	CONTINUOUS	Bldg_Mech_HVAC	
1150	M-FLOR-IDEN	Room name, space identification text	221	CONTINUOUS	Bldg_General	
1151	M-FLOR-NUMB	Room/space identification number and symbol	11	CONTINUOUS	Bldg_General	
1152	M-HTCW-CHLL	High Temp/Chilled Water - Main chilled water piping	111	CONTINUOUS	Bldg_Mech_HVAC	
1153	M-HTCW-CHLS	High Temp/Chilled Water - Chilled water service piping	151	CONTINUOUS	Bldg_Mech_HVAC	
1154	M-HTCW-HTPL	High Temp/Chilled Water - Main high temperature piping	1	CONTINUOUS	Bldg_Mech_HVAC	
1155	M-HTCW-HTPS	High Temp/Chilled Water - High temperature service piping	41	CONTINUOUS	Bldg_Mech_HVAC	
1156	M-HTCW-LTPL	High Temp/Chilled Water - Main low temperature piping	101	CONTINUOUS	Bldg_Mech_HVAC	
1157	M-HTCW-LTPS	High Temp/Chilled Water - Low temperature service piping	121	CONTINUOUS	Bldg_Mech_HVAC	
1158	M-HTCW-STML	High Temp/Chilled Water - Main steam piping	221	WATRCWS	Bldg_Mech_HVAC	
1159	M-HTCW-STMS	High Temp/Chilled Water - Steam service piping	241	HVACLPS	Bldg_Mech_HVAC	
1160	M-HVAC-CDFF	Ceiling diffusers, registers, and grilles	51	CONTINUOUS	Bldg_Mech_HVAC	
1161	M-HVAC-DAMP	Fire and smoke dampers	71	CONTINUOUS	Bldg_Mech_HVAC	
1162	M-HVAC-EQPM	Air system equipment	91	CONTINUOUS	Bldg_Mech_HVAC	
1163	M-HVAC-EQPM-AHDU	Air Handling Unit	111	CONTINUOUS	Bldg_Mech_HVAC	
1164	M-HVAC-EQPM-BOIL	Boiler	131	CONTINUOUS	Bldg_Mech_HVAC	
1165	M-HVAC-EQPM-CHIL	Chiller	151	CONTINUOUS	Bldg_Mech_HVAC	
1166	M-HVAC-EQPM-CLTR	Cooling Tower	171	CONTINUOUS	Bldg_Mech_HVAC	
1167	M-HVAC-EQPM-CNDU	Condensing Unit	191	CONTINUOUS	Bldg_Mech_HVAC	
1168	M-HVAC-EQPM-HTEX	Heat Exchanger	231	CONTINUOUS	Bldg_Mech_HVAC	
1169	M-HVAC-EQPM-PKAC	Packaged AC Unit	1	CONTINUOUS	Bldg_Mech_HVAC	
1170	M-HVAC-EQPM-PUMP	Pump	21	CONTINUOUS	Bldg_Mech_HVAC	
1171	M-HVAC-IDEN	Duct sizes	41	CONTINUOUS	Bldg_Mech_HVAC	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
1172	M-HVAC-RETN	Return ductwork	61	CONTINUOUS	Bldg_Mech_HVAC	
1173	M-HVAC-ROOF	Roof Mounted HVAC Equipment	142	CONTINUOUS	Bldg_Mech_HVAC	
1174	M-HVAC-SUPP	Supply Outlet	81	CONTINUOUS	Bldg_Mech_HVAC	
1175	M-HVAC-TAGS	Diffuser/register/grille tags and air flow arrows	101	CONTINUOUS	Bldg_Mech_HVAC	
1176	M-HVAC-WDFF	Wall Diffuser	121	CONTINUOUS	Bldg_Mech_HVAC	
1177	M-HWTR-EQPM	Equipment	141	CONTINUOUS	Bldg_Mech_HVAC	
1178	M-HWTR-PIPE	Hot Water Return	161	HVACHWR	Bldg_Mech_HVAC	
1179	M-HWTS-PIPE	Hot Water Supply	181	WATRHW	Bldg_Mech_HVAC	
1180	M-HYDR-EQPM	Hydraulic system equipment	201	CONTINUOUS	Bldg_Mech_HVAC	
1181	M-HYDR-PIPE	Hydraulic system piping	221	CONTINUOUS	Bldg_Mech_HVAC	
1182	M-INSL-EQPM	Insulating oil equipment	241	CONTINUOUS	Bldg_Mech_HVAC	
1183	M-INSL-PIPE	Insulating oil piping	11	CONTINUOUS	Bldg_Mech_HVAC	
1184	M-LUBE-EQPM	Lubrication oil equipment	31	CONTINUOUS	Bldg_Mech_HVAC	
1185	M-LUBE-PIPE	Lubrication oil piping	51	CONTINUOUS	Bldg_Mech_HVAC	
1186	M-MACH-BASE	Machinery bases	71	CONTINUOUS	Bldg_Mech_HVAC	
1187	M-MACH-COMP	Miscellaneous machinery parts and components	97	CONTINUOUS	Bldg_Mech_HVAC	
1188	M-MACH-EXST	Existing machinery	91	CONTINUOUS	Bldg_Mech_HVAC	
1189	M-MACH-FAST	Fasteners, nuts, and bolts	138	CONTINUOUS	Bldg_Mech_HVAC	
1190	M-MACH-LROT	Large rotating machinery (turbine and pump outlines)	162	CONTINUOUS	Bldg_Mech_HVAC	
1191	M-MACH-MOTR	Machinery motors	182	CONTINUOUS	Bldg_Mech_HVAC	
1192	M-MATL-CRAN	Bridge cranes, jib cranes, and monorails	202	CONTINUOUS	Bldg_Mech_HVAC	
1193	M-MATL-HOIS	Hoists and hooks	117	CONTINUOUS	Bldg_Mech_HVAC	
1194	M-MATL-LIFT	Miscellaneous lifting equipment	111	CONTINUOUS	Bldg_Mech_HVAC	
1195	M-PENE-FLOR	Floor penetrations	131	CONTINUOUS	Bldg_Mech_HVAC	
1196	M-PENE-ROOF	Roof penetrations	151	CONTINUOUS	Bldg_Mech_HVAC	
1197	M-PENE-WALL	Wall penetrations	171	CONTINUOUS	Bldg_Mech_HVAC	
1198	M-PROC-EQPM	Equipment	191	CONTINUOUS	Bldg_Mech_HVAC	
1199	M-PROC-PIPE	Process piping	231	CONTINUOUS	Bldg_Mech_HVAC	
1200	M-PROT-CO2D	Carbon Dioxide Detector - Wall mount	1	CONTINUOUS	Bldg_Electrical	
1201	M-PROT-DETR-UNKN	Unknown - Detector	21	CONTINUOUS	Bldg_Electrical	
1202	M-PROT-OXGN	Oxygen Detector - Wall Mount	41	CONTINUOUS	Bldg_Electrical	
1203	M-RCOV-EQPM	Energy Recovery System - Equipment	61	CONTINUOUS	Bldg_Mech_HVAC	
1204	M-RCOV-PIPE	Energy Recovery System - Piping (includes fittings, valves)	81	CONTINUOUS	Bldg_Mech_HVAC	
1205	M-REFG-EQPM	Refrigeration System - Equipment	101	CONTINUOUS	Bldg_Mech_HVAC	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
1206	M-REFG-PIPE	Refrigeration System - Piping (includes fittings, valves)	121	CONTINUOUS	Bldg_Mech_HVAC	
1207	M-RWTR-EQPM	Raw water equipment	141	CONTINUOUS	Bldg_Mech_HVAC	
1208	M-RWTR-PIPE	Raw water piping	161	CONTINUOUS	Bldg_Mech_HVAC	
1209	M-SECT-IDEN	Component identification numbers	181	CONTINUOUS	Bldg_General	
1210	M-SECT-MBND	Material beyond section cut	222	CONTINUOUS	Bldg_General	
1211	M-SECT-MCUT	Material cut by section	201	CONTINUOUS	Bldg_General	
1212	M-SECT-PATT	Textures and hatch patterns	158	CONTINUOUS	Bldg_General	
1213	M-STAT-DEMO-PHS1	Demolition - phase 1	221	CONTINUOUS	Bldg_General	
1214	M-STAT-DEMO-PHS2	Demolition - phase 2	241	CONTINUOUS	Bldg_General	
1215	M-STAT-DEMO-PHS3	Demolition - phase 3	11	CONTINUOUS	Bldg_General	
1216	M-STAT-FUTR	Future work	31	CONTINUOUS	Bldg_General	
1217	M-STAT-NEWW	New work	242	CONTINUOUS	Bldg_General	
1218	M-STAT-TEMP	Temporary work	137	CONTINUOUS	Bldg_General	
1219	M-STEM-EQPM	Equipment	51	CONTINUOUS	Bldg_Mech_HVAC	
1220	M-STEM-PIPE	Steam piping	71	HVACLPS	Bldg_Mech_HVAC	
1221	P-ANNO-DIMS	Witness/Extension Lines, Dimension Terminators, Dimension Text	91	CONTINUOUS	Bldg_General	
1222	P-ANNO-KEYN	Reference Keynotes with Associated Leaders	12	CONTINUOUS	Bldg_General	
1223	P-ANNO-LEGN	Legends and Schedules	111	CONTINUOUS	Bldg_General	
1224	P-ANNO-MATC	Match Lines	85	CONTINUOUS	Bldg_General	
1225	P-ANNO-NOTE	General Notes and Remarks	32	CONTINUOUS	Bldg_General	
1226	P-ANNO-NPLT	Non-plotting Graphic Information	211	CONTINUOUS	Bldg_General	
1227	P-ANNO-PATT	Miscellaneous Patterning and Hatching	178	CONTINUOUS	Bldg_General	
1228	P-ANNO-REDL	Redlines and Markups	131	CONTINUOUS	Bldg_General	
1229	P-ANNO-REFR	Reference files (AutoCAD users only)	157	CONTINUOUS	Bldg_General	
1230	P-ANNO-REVS	Revision Clouds and Symbols	52	CONTINUOUS	Bldg_General	
1231	P-ANNO-SITE-OTLN	Key Plan	177	CONTINUOUS	Bldg_General	
1232	P-ANNO-SYMB	Miscellaneous Symbols	133	CONTINUOUS	Bldg_General	
1233	P-ANNO-TEXT	Miscellaneous Text and Callouts with Associated Leaders	72	CONTINUOUS	Bldg_General	
1234	P-ANNO-TTLB	Title Block	153	CONTINUOUS	Bldg_General	
1235	P-CMPA-EQPM	Compressed/Processed Air - Equipment	151	CONTINUOUS	Bldg_Mech_Plumbing	
1236	P-CMPA-EQPM-PRGC	Compressed/Processed Air - Pressure Gage and Cock	171	CONTINUOUS	Bldg_Mech_Plumbing	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
1237	P-CMPA-PIPE	Compressed/Processed Air - Compressed Air Piping	191	CONTINUOUS	Bldg_Mech_Plumbing	
1238	P-DETL-GRPH	Graphics, gridlines, non-text items	197	CONTINUOUS	Bldg_General	
1239	P-DETL-INPD	Inch-pound-specific dimensions and notes	231	CONTINUOUS	Bldg_General	
1240	P-DETL-METR	Metric-specific dimensions and notes	1	CONTINUOUS	Bldg_General	
1241	P-DIAG-GRPH	Graphics, gridlines, non-text items	217	CONTINUOUS	Bldg_General	
1242	P-DIAG-INPD	Inch-pound-specific dimensions and notes	21	CONTINUOUS	Bldg_General	
1243	P-DIAG-METR	Metric-specific dimensions and notes	41	CONTINUOUS	Bldg_General	
1244	P-DOMW-ACCS	Equipment access doors	237	CONTINUOUS	Bldg_Mech_Plumbing	
1245	P-DOMW-CPIP	Domestic cold water piping	61	CONTINUOUS	Bldg_Mech_Plumbing	
1246	P-DOMW-EQPM	Hot and cold water equipment	81	CONTINUOUS	Bldg_Mech_Plumbing	
1247	P-DOMW-FPIP	Domestic filter water piping	101	WATRCW	Bldg_Mech_Plumbing	
1248	P-DOMW-HPIP	Domestic hot water piping	121	WATRHW	Bldg_Mech_Plumbing	
1249	P-DOMW-RISR-RISE	Domestic hot and cold water risers	141	WATRCW	Bldg_Mech_Plumbing	
1250	P-DOMW-TPIP	Tempered Water Line	161	WATRHW	Bldg_Mech_Plumbing	
1251	P-EQPM-AIRC	Air Compressor	181	CONTINUOUS	Bldg_Mech_Plumbing	
1252	P-EQPM-BFPR	Backflow Preventer	201	CONTINUOUS	Bldg_Mech_Plumbing	
1253	P-EQPM-BOIL	Boiler	92	CONTINUOUS	Bldg_Mech_HVAC	
1254	P-EQPM-HTEX	Heat Exchanger	221	CONTINUOUS	Bldg_Mech_HVAC	
1255	P-EQPM-PUMP	Pump	241	CONTINUOUS	Bldg_Mech_Plumbing	
1256	P-EQPM-WATC	Water Cooler / Fountain	11	CONTINUOUS	Bldg_Mech_Plumbing	
1257	P-EQPM-WATR-FLTR	Water Filtration Package	31	CONTINUOUS	Bldg_Mech_Plumbing	
1258	P-EQPM-WATR-HEAT	Water Heater	51	CONTINUOUS	Bldg_Mech_Plumbing	
1259	P-EQPM-WATR-SOFT	Water Softener	71	CONTINUOUS	Bldg_Mech_Plumbing	
1260	P-FLOR-IDEN	Room name, space identification text	91	CONTINUOUS	Bldg_General	
1261	P-FLOR-NUMB	Room/space identification number and symbol	111	CONTINUOUS	Bldg_General	
1262	P-FUEL-EQPM	Equipment	131	CONTINUOUS	Civil_Uilities	
1263	P-FUEL-FGAS	Fuel gas piping	7	CONTINUOUS	Civil_Uilities	
1264	P-FUEL-FOIL	Fuel oil piping	27	CONTINUOUS	Civil_Uilities	
1265	P-FUEL-NGAS	Natural gas piping	47	CONTINUOUS	Civil_Uilities	
1266	P-LGAS-EQPM	Laboratory Gas Equipment	151	CONTINUOUS	Bldg_Mech_Plumbing	
1267	P-LGAS-PIPE	Laboratory Gas Piping	171	CONTINUOUS	Bldg_Mech_Plumbing	
1268	P-MDGS-EQPM	Medical Gas Equipment	191	CONTINUOUS	Bldg_Mech_Plumbing	
1269	P-MDGS-PIPE	Medical Gas Piping	231	CONTINUOUS	Bldg_Mech_Plumbing	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
1270	P-PENE-FLOR	Floor penetrations	1	CONTINUOUS	Bldg_Mech_Plumbing	
1271	P-PENE-ROOF	Roof penetrations	21	CONTINUOUS	Bldg_Mech_Plumbing	
1272	P-PENE-WALL	Wall penetrations	41	CONTINUOUS	Bldg_Mech_Plumbing	
1273	P-SANR-EQPM	Equipment (e.g., sand/oil/water separators)	81	CONTINUOUS	Bldg_Mech_Plumbing	
1274	P-SANR-FLDR	Floor drains, sinks, and cleanouts	101	CONTINUOUS	Bldg_Mech_Plumbing	
1275	P-SANR-PIPE	Sanitary Piping below floor	121	PWLSSB	Bldg_Mech_Plumbing	
1276	P-SANR-PIPE-ABOV	Sanitary Piping above floor	141	PWLSSA	Bldg_Mech_Plumbing	
1277	P-SANR-RISR	Sanitary risers	161	CONTINUOUS	Bldg_Mech_Plumbing	
1278	P-SANR-VENT	Vent piping	181	CONTINUOUS	Bldg_Mech_Plumbing	
1279	P-SOFT-DWTR-ELTD	Turned Down Elbow	201	CONTINUOUS	Bldg_Mech_Plumbing	
1280	P-SOFT-WTRP	Soft Water Line	221	PWLS	Bldg_Mech_Plumbing	
1281	P-STAT-DEMO	Demolition	241	CONTINUOUS	Bldg_General	
1282	P-STAT-DEMO-PHS1	Demolition - phase 1	11	CONTINUOUS	Bldg_General	
1283	P-STAT-DEMO-PHS2	Demolition - phase 2	31	CONTINUOUS	Bldg_General	
1284	P-STAT-DEMO-PHS3	Demolition - phase 3	51	CONTINUOUS	Bldg_General	
1285	P-STAT-FUTR	Future work	71	CONTINUOUS	Bldg_General	
1286	P-STAT-NEWW	New work	112	CONTINUOUS	Bldg_General	
1287	P-STAT-TEMP	Temporary work	67	CONTINUOUS	Bldg_General	
1288	P-STRM-PIPE	Storm drain pipe below floor	91	PWLSSB	Bldg_Mech_Plumbing	
1289	P-STRM-PIPE-ABOV	Storm drain pipe above floor	111	PWLSSA	Bldg_Mech_Plumbing	
1290	P-STRM-RFDR	Roof Drain	131	CONTINUOUS	Bldg_Mech_Plumbing	
1291	P-STRM-RISR	Storm drain risers	151	CONTINUOUS	Bldg_Mech_Plumbing	
1292	S-ACCS-EVTR	Elevators	132	CONTINUOUS	Bldg_Structural	
1293	S-ACCS-STRS	Stairs	152	CONTINUOUS	Bldg_Structural	
1294	S-ACCS-STRS-FRMG	Stair framing	172	CONTINUOUS	Bldg_Structural	
1295	S-ACCS-TUNL	Tunnels	192	CONTINUOUS	Bldg_Structural	
1296	S-ANNO-DIMS	Witness/extension lines, dimension terminators and text, symbols	171	CONTINUOUS	Bldg_General	
1297	S-ANNO-KEYN	Reference keynotes with associated leaders	212	CONTINUOUS	Bldg_General	
1298	S-ANNO-NOTE	General notes and general remarks	232	CONTINUOUS	Bldg_General	
1299	S-ANNO-NPLT	Non-plotting graphic information	211	CONTINUOUS	Bldg_General	
1300	S-ANNO-PATT	Miscellaneous patterning and hatching	198	CONTINUOUS	Bldg_General	
1301	S-ANNO-REFR	Reference files (AutoCAD users only, see Chapter 4)	87	CONTINUOUS	Bldg_General	
1302	S-ANNO-SYMB	Reference bubbles, matchlines and breaklines	173	CONTINUOUS	Bldg_General	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
1303	S-ANNO-TEXT	Miscellaneous text and callouts with associated leaders	2	CONTINUOUS	Bldg_General	
1304	S-BEAM-CNTR-FRAM	Beam centerlines	107	CENTER2	Bldg_Structural	
1305	S-BEAM-PRIM-FRAM	Primary beams, girders	22	CONTINUOUS	Bldg_Structural	
1306	S-BEAM-SECD-FRAM	Secondary beams, girders	191	CONTINUOUS	Bldg_Structural	
1307	S-BRAC-LATL	Lateral bracing	231	CONTINUOUS	Bldg_Structural	
1308	S-BRAC-SHEA	Shear walls	42	CONTINUOUS	Bldg_Structural	
1309	S-BRAC-VERT	Vertical bracing	1	CONTINUOUS	Bldg_Structural	
1310	S-BRDG-BEAR	Bridge bearing	21	CONTINUOUS	Bldg_Structural	
1311	S-BRDG-CURB	Curbs/sidewalks on structure	62	CONTINUOUS	Bldg_Structural	
1312	S-COLS-CNTR	Column centerlines/working lines	127	CENTER	Bldg_Structural	
1313	S-COLS-CNTR-CNIN	Centerline Symbol	147	CONTINUOUS	Bldg_Structural	
1314	S-COLS-MSC1	Miscellaneous columns (Type 1)	41	CONTINUOUS	Bldg_Structural	
1315	S-COLS-MSC2	Miscellaneous columns (Type 2)	61	CONTINUOUS	Bldg_Structural	
1316	S-COLS-MSC3	Miscellaneous columns (Type 3)	81	CONTINUOUS	Bldg_Structural	
1317	S-COLS-MSC4	Miscellaneous columns (Type 4)	101	CONTINUOUS	Bldg_Structural	
1318	S-COLS-POST	Short columns	82	CONTINUOUS	Bldg_Structural	
1319	S-COLS-PRIM	Primary columns	102	CONTINUOUS	Bldg_Structural	
1320	S-COLS-PRIM-CMFL	Fluted Concrete Block	122	CONTINUOUS	Bldg_Structural	
1321	S-COLS-RBAR	Column rebar	121	CONTINUOUS	Bldg_Structural	
1322	S-COLS-SCND-CMFL	Fluted Concrete Block	142	CONTINUOUS	Bldg_Structural	
1323	S-COLS-SECD	Secondary columns	162	CONTINUOUS	Bldg_Structural	
1324	S-DECK-FLOR	Floor deck	182	CONTINUOUS	Bldg_Structural	
1325	S-DECK-OPEN	Openings and penetrations	141	CONTINUOUS	Bldg_Structural	
1326	S-DECK-RBAR	Deck/slab reinforcing	202	CONTINUOUS	Bldg_Structural	
1327	S-DECK-ROOF	Roof deck	222	CONTINUOUS	Bldg_Structural	
1328	S-DETL-GRPH	Graphics, gridlines, non-text items	167	CONTINUOUS	Bldg_General	
1329	S-DETL-INPD	Inch-pound-specific dimensions and notes	161	CONTINUOUS	Bldg_General	
1330	S-DETL-METR	Metric-specific dimensions and notes	181	CONTINUOUS	Bldg_General	
1331	S-FEAT-CMUW	CMU outline (no patterning)	242	CONTINUOUS	Bldg_Structural	
1332	S-FEAT-CNTR	Feature centerlines	187	CONTINUOUS	Bldg_Structural	
1333	S-FEAT-CONC	Concrete outline (no patterning)	12	CONTINUOUS	Bldg_Structural	
1334	S-FEAT-GENL	General features	201	CONTINUOUS	Bldg_Structural	
1335	S-FEAT-WOOD	Wood outline (no patterning)	221	CONTINUOUS	Bldg_Structural	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
1336	S-FNDN-ANCH	Anchor piles, blocks, strands, deadmen, soil/rock anchors	241	CONTINUOUS	Bldg_Structural	
1337	S-FNDN-CNTR	Foundation centerlines	207	CENTER2	Bldg_Structural	
1338	S-FNDN-FTNG	Footings	11	HIDDEN	Bldg_Structural	
1339	S-FNDN-GRBM	Grade beams	31	HIDDEN2	Bldg_Structural	
1340	S-FNDN-PEDS	Column pedestals	51	CONTINUOUS	Bldg_Structural	
1341	S-FNDN-PILE	Piles (steel sheet, concrete, wood), piers, caisson piers, drilled piers	71	CONTINUOUS	Bldg_Structural	
1342	S-FNDN-RBAR	Foundation reinforcing	32	CONTINUOUS	Bldg_Structural	
1343	S-FNDN-TUNL	Service tunnel/duct banks	227	HIDDEN2	Bldg_Structural	
1344	S-GATE-AXIS	Gate axis and centerlines	247	CENTER2	Bldg_Structural	
1345	S-GATE-MISC	Gates incidental to structure	52	CONTINUOUS	Bldg_Structural	
1346	S-GATE-WALK	Walkway	72	CONTINUOUS	Bldg_Structural	
1347	S-GRAT-ELEV	Elevated grating (catwalks)	92	CONTINUOUS	Bldg_Structural	
1348	S-GRAT-FLOR	Floor grating	17	CONTINUOUS	Bldg_Structural	
1349	S-GRAT-SUBS	Subsurface grating	37	CONTINUOUS	Bldg_Structural	
1350	S-GRDL-EXGL	Existing ground line	112	CONTINUOUS	Bldg_General	
1351	S-GRDL-FNGR	Finished grade	193	CONTINUOUS	Bldg_General	
1352	S-GRDL-WATR	Water surface	91	CONTINUOUS	Bldg_General	
1353	S-GRID-HORZ	Primary grid lines (horizontal)	218	CONTINUOUS	Bldg_General	
1354	S-GRID-HORZ-IDEN	Column I.D. tags (horizontal)	132	CONTINUOUS	Bldg_General	
1355	S-GRID-IDEN-COIN	Column Line/Grid Indicator	111	CONTINUOUS	Bldg_General	
1356	S-GRID-MSC1	Miscellaneous grid lines (Type 1)	8	CONTINUOUS	Bldg_General	
1357	S-GRID-MSC2	Miscellaneous grid lines (Type 2)	28	CONTINUOUS	Bldg_General	
1358	S-GRID-MSC3	Miscellaneous grid lines (Type 3)	48	CONTINUOUS	Bldg_General	
1359	S-GRID-MSC4	Miscellaneous grid lines (Type 4)	68	CONTINUOUS	Bldg_General	
1360	S-GRID-VERT	Primary grid lines (vertical)	88	CONTINUOUS	Bldg_General	
1361	S-GRID-VERT-IDEN	Column I.D. tags (vertical)	152	CONTINUOUS	Bldg_General	
1362	S-JOIN-CNST	Construction joints	213	HIDDEN2	Bldg_Structural	
1363	S-JOIN-CTRL	Control/expansion joints	233	HIDDEN	Bldg_Structural	
1364	S-JOIS-BRDG	Bridging	131	HIDDEN2	Bldg_Structural	
1365	S-JOIS-PRIM	Primary joists	172	PHANTOM	Bldg_Structural	
1366	S-JOIS-SECD	Secondary joists	151	PHANTOM2	Bldg_Structural	
1367	S-METL-MISC	Miscellaneous metal	171	CONTINUOUS	Bldg_Structural	
1368	S-OPEN-MISC	Openings and penetrations	191	CONTINUOUS	Bldg_Structural	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
1369	S-OTLN-BLDG	Building outline	3	CONTINUOUS	Bldg_Structural	
1370	S-OTLN-FLOR	Floor outline	23	CONTINUOUS	Bldg_Structural	
1371	S-OTLN-OPNG	Openings	231	CONTINUOUS	Bldg_Structural	
1372	S-OTLN-ROOF	Roof	192	CONTINUOUS	Bldg_Structural	
1373	S-OTLN-STRC	Misc. structures	1	CONTINUOUS	Bldg_Structural	
1374	S-PADS-EQPM	Equipment pads	21	CONTINUOUS	Bldg_Structural	
1375	S-PIPE-GATE	Gates (flap gates, sluice gates, etc.)	41	CONTINUOUS	Bldg_Structural	
1376	S-PIPE-MISC	Miscellaneous piping/culverts	61	CONTINUOUS	Bldg_Structural	
1377	S-PIPE-TRSH	Trash racks	81	CONTINUOUS	Bldg_Structural	
1378	S-REIN-RBAR	Rebar, welded wire mesh	212	CONTINUOUS	Bldg_Structural	
1379	S-SAFE-FENC	Fencing	101	FENCELINE-1	Bldg_Structural	
1380	S-SAFE-HRAL	Handrails	121	CONTINUOUS	Bldg_Structural	
1381	S-SIGN-EXTN	Extrusions	141	CONTINUOUS	Bldg_Structural	
1382	S-SIGN-FRMG	Framing & connections	161	CONTINUOUS	Bldg_Structural	
1383	S-SIGN-GAGE	Staff gages	181	CONTINUOUS	Bldg_Structural	
1384	S-SIGN-PANL	Sign panels	201	CONTINUOUS	Bldg_Structural	
1385	S-SIGN-SPRT	Supports	221	CONTINUOUS	Bldg_Structural	
1386	S-SIGN-TEXT	Signage text	241	CONTINUOUS	Bldg_Structural	
1387	S-SLAB-EDGE	Edge of slab	11	CONTINUOUS	Bldg_Structural	
1388	S-SLAB-RBAR	Slab reinforcing	31	CONTINUOUS	Bldg_Structural	
1389	S-SPPT-MISC	Miscellaneous fasteners, anchor bolts, supports	51	CONTINUOUS	Bldg_Structural	
1390	S-SPPT-SHPS	Miscellaneous shapes, plates	71	CONTINUOUS	Bldg_Structural	
1391	S-STAT-DEMO	Demolition	91	CONTINUOUS	Bldg_General	
1392	S-STAT-DEMO-PHS1	Demolition - phase 1	111	CONTINUOUS	Bldg_General	
1393	S-STAT-DEMO-PHS2	Demolition - phase 2	131	CONTINUOUS	Bldg_General	
1394	S-STAT-DEMO-PHS3	Demolition - phase 3	151	CONTINUOUS	Bldg_General	
1395	S-STAT-FUTR	Future work	171	CONTINUOUS	Bldg_General	
1396	S-STAT-NEWW	New work	232	CONTINUOUS	Bldg_General	
1397	S-STAT-TEMP	Temporary work	57	CONTINUOUS	Bldg_General	
1398	S-STRS-FRAM	Stair/elevator framing	191	CONTINUOUS	Bldg_Structural	
1399	S-STRS-LADD	Ladders, ladder handrails, safety guard, grab bars	231	CONTINUOUS	Bldg_Structural	
1400	S-STRS-RBAR	Stair reinforcing	2	CONTINUOUS	Bldg_Structural	
1401	S-TRUS-PRIM	Primary trusses	1	CONTINUOUS	Bldg_Structural	
1402	S-TRUS-SECD	Secondary trusses	77	CONTINUOUS	Bldg_Structural	
1403	S-WALL-ABUT	Abutments	43	CONTINUOUS	Bldg_Structural	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
1404	S-WALL-CELL	Cell	21	CONTINUOUS	Bldg_Structural	
1405	S-WALL-COFF	Cutoff wall	22	CONTINUOUS	Bldg_Structural	
1406	S-WALL-CONC	Concrete walls	42	CONTINUOUS	Bldg_Structural	
1407	S-WALL-CURT	Curtain/breast wall	62	CONTINUOUS	Bldg_Structural	
1408	S-WALL-FULL	Wall going to the top of the structure	63	CONTINUOUS	Bldg_Structural	
1409	S-WALL-GARD	Guard/guide walls	82	CONTINUOUS	Bldg_Structural	
1410	S-WALL-HBAR-FRAM	Horizontal/secondary reinforcement	102	CONTINUOUS	Bldg_Structural	
1411	S-WALL-LOAD	Load bearing CMU walls	83	CONTINUOUS	Bldg_Structural	
1412	S-WALL-MONO	Wall monoliths	122	CONTINUOUS	Bldg_Structural	
1413	S-WALL-MSE	Mechanically stabilized earth (MSE) wall	142	CONTINUOUS	Bldg_Structural	
1414	S-WALL-NONL	Non-load bearing CMU walls	103	CONTINUOUS	Bldg_Structural	
1415	S-WALL-PCST	Precast walls	123	CONTINUOUS	Bldg_Structural	
1416	S-WALL-PRHT	Wall that does not reach to the top of the structure	143	CONTINUOUS	Bldg_Structural	
1417	S-WALL-RBAR	Wall reinforcing	162	CONTINUOUS	Bldg_Structural	
1418	S-WALL-RTWL	Retaining wall (flood walls, wingwalls, etc.)	163	CONTINUOUS	Bldg_Structural	
1419	S-WALL-SHEA	Shear walls	182	CONTINUOUS	Bldg_Structural	
1420	S-WALL-STUD	Stud walls	202	CONTINUOUS	Bldg_Structural	
1421	S-WALL-VBAR-FRAM	Vertical/primary reinforcement	222	CONTINUOUS	Bldg_Structural	
1422	S-WATR-SURF	Water surface	41	CONTINUOUS	Bldg_General	
1423	T-ALRM-EQPM-SECU	Security Alarm Equipment	61	CONTINUOUS	Bldg_Electrical	
1424	T-ANNO-DIMS	Witness/Extension Lines, Dimension Terminators, Dimension Text	81	CONTINUOUS	Bldg_General	
1425	T-ANNO-KEYN	Reference Keynotes with Associated Leaders	242	CONTINUOUS	Bldg_General	
1426	T-ANNO-LEGN	Legends and Schedules	101	CONTINUOUS	Bldg_General	
1427	T-ANNO-MATC	Match Lines	105	CONTINUOUS	Bldg_General	
1428	T-ANNO-NOTE	General Notes and Remarks	12	CONTINUOUS	Bldg_General	
1429	T-ANNO-NPLT	Non-plotting Graphic Information	211	CONTINUOUS	Bldg_General	
1430	T-ANNO-PATT	Miscellaneous Patterning and Hatching	108	CONTINUOUS	Bldg_General	
1431	T-ANNO-REDL	Redlines and Markups	121	CONTINUOUS	Bldg_General	
1432	T-ANNO-REFR	Reference files (AutoCAD users only, see Chapter 4)	97	CONTINUOUS	Bldg_General	
1433	T-ANNO-REVS	Revision Clouds and Symbols	32	CONTINUOUS	Bldg_General	
1434	T-ANNO-SITE-OTLN	Key Plan	117	CONTINUOUS	Bldg_General	
1435	T-ANNO-SYMB	Miscellaneous Symbols	183	CONTINUOUS	Bldg_General	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
1436	T-ANNO-TEXT	Miscellaneous Text and Callouts with Associated Leaders	52	CONTINUOUS	Bldg_General	
1437	T-ANNO-TEXT-FUTR	Text for Future Objects	141	CONTINUOUS	Bldg_General	
1438	T-ANNO-TEXT-TTLB	Title Block Text	72	CONTINUOUS	Bldg_General	
1439	T-ANNO-TTLB	Title Block	203	CONTINUOUS	Bldg_General	
1440	T-CABL-COAX	Coax cable	137	COMMCATV	Bldg_Electrical	X
1441	T-CABL-COAX	Coax cable	137	COMMCATV	Civil_Uilities	X
1442	T-CABL-FIBR	Fiber optics cable	157	COMMFO	Bldg_Electrical	X
1443	T-CABL-FIBR	Fiber optics cable	157	COMMFO	Civil_Uilities	X
1444	T-CABL-IDEN	Cable identifiers	161	CONTINUOUS	Bldg_Electrical	X
1445	T-CABL-IDEN	Cable identifiers	161	CONTINUOUS	Civil_Uilities	X
1446	T-CABL-MULT	Multi-conductor cable	177	CONTINUOUS	Bldg_Electrical	X
1447	T-CABL-MULT	Multi-conductor cable	177	CONTINUOUS	Civil_Uilities	X
1448	T-CABL-TRAY	Cable tray and wireway symbols	197	CONTINUOUS	Bldg_Electrical	X
1449	T-CABL-TRAY	Cable tray and wireway symbols	197	CONTINUOUS	Civil_Uilities	X
1450	T-COMM-ANTN	Telecommunications antennae	181	CONTINUOUS	Bldg_Electrical	X
1451	T-COMM-ANTN	Telecommunications antennae	181	CONTINUOUS	Civil_Uilities	X
1452	T-COMM-APSY	Audio paging system	217	CONTINUOUS	Bldg_Electrical	
1453	T-COMM-ATMS	Advanced traffic management system	237	CONTINUOUS	Bldg_Electrical	
1454	T-COMM-AVID	Automatic vehicle identification system	7	CONTINUOUS	Bldg_Electrical	
1455	T-COMM-BIDS	Baggage information display system	27	CONTINUOUS	Bldg_Electrical	
1456	T-COMM-FIDS	Flight information display system	47	CONTINUOUS	Bldg_Electrical	
1457	T-COMM-GIDS	Gate information display system	67	CONTINUOUS	Bldg_Electrical	
1458	T-COMM-JBOX	Junction boxes	201	CONTINUOUS	Bldg_Electrical	X
1459	T-COMM-JBOX	Junction boxes	201	CONTINUOUS	Civil_Uilities	X
1460	T-COMM-PMRC	Parking management and revenue control	221	CONTINUOUS	Bldg_Electrical	X
1461	T-COMM-PMRC	Parking management and revenue control	221	CONTINUOUS	Civil_Uilities	X
1462	T-COMM-VPSY	Visual paging system	87	CONTINUOUS	Bldg_Electrical	
1463	T-CTRL-PANL-ACCS	Access Control Panel	241	CONTINUOUS	Bldg_Electrical	
1464	T-DIAG-GRPH	Graphics, gridlines, non-text items	107	CONTINUOUS	Bldg_General	
1465	T-DIAG-IDEN	Identifier tags, symbol modifier, and text	11	CONTINUOUS	Bldg_General	
1466	T-DIAG-INPD	Inch-pound-specific dimensions and notes	31	CONTINUOUS	Bldg_General	
1467	T-DIAG-METR	Metric-specific dimensions and notes	51	CONTINUOUS	Bldg_General	
1468	T-DISC-INFO	Information and notes for other disciplines	71	CONTINUOUS	Bldg_Electrical	
1469	T-EMER-DURE	Emergency Duress Unit	91	CONTINUOUS	Bldg_Electrical	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
1470	T-EQPM-CAMS	CCTV Camera	111	CONTINUOUS	Bldg_Electrical	
1471	T-EQPM-COMB	Distribution equipment for both copper and fiber optics	131	CONTINUOUS	Bldg_Electrical	
1472	T-EQPM-COPP	Distribution equipment for copper	151	CONTINUOUS	Bldg_Electrical	
1473	T-EQPM-FIBR	Distribution equipment for fiber optic	171	CONTINUOUS	Bldg_Electrical	
1474	T-EQPM-MCPH	Microphone	191	CONTINUOUS	Bldg_Electrical	
1475	T-EQPM-MNTR	Monitor	231	CONTINUOUS	Bldg_Electrical	
1476	T-EQPM-MNTR-CCTV	CCTV Monitor	1	CONTINUOUS	Bldg_Electrical	
1477	T-EQPM-OTHR	Other telecommunications equipment	21	CONTINUOUS	Bldg_Electrical	
1478	T-EQPM-PHON-PAGE	Paging System Phone	41	CONTINUOUS	Bldg_Electrical	
1479	T-EQPM-PHON-PUBL	Public Pay Phone	61	CONTINUOUS	Bldg_Electrical	
1480	T-EQPM-RELA	Relays, resistors, capacitors, and inducers	81	CONTINUOUS	Bldg_Electrical	
1481	T-EQPM-SPKR	Speaker	101	CONTINUOUS	Bldg_Electrical	
1482	T-FLOR-IDEN	Room name, space identification text	121	CONTINUOUS	Bldg_General	
1483	T-FLOR-NUMB	Room/space identification number and symbol	141	CONTINUOUS	Bldg_General	
1484	T-JACK-COMB	Combination telephone and data/LAN jacks	161	CONTINUOUS	Bldg_Electrical	
1485	T-JACK-DATA	Data/LAN jacks	181	CONTINUOUS	Bldg_Electrical	
1486	T-JACK-IDEN	Identifier tags, symbol modifier, and text	201	CONTINUOUS	Bldg_Electrical	
1487	T-JACK-PHON	Telephone jacks	221	CONTINUOUS	Bldg_Electrical	
1488	T-STAT-DEMO-PHS1	Demolition - phase 1	241	CONTINUOUS	Bldg_General	
1489	T-STAT-DEMO-PHS2	Demolition - phase 2	11	CONTINUOUS	Bldg_General	
1490	T-STAT-DEMO-PHS3	Demolition - phase 3	31	CONTINUOUS	Bldg_General	
1491	V-AERI-BNDY	Aerial photography boundaries	92	CONTINUOUS	Civil_Site	
1492	V-AERI-IDEN	Aerial annotation	51	CONTINUOUS	Civil_Site	
1493	V-AERI-INDX	Aerial photo index	71	CONTINUOUS	Civil_Site	
1494	V-AERI-PATH	Aerial flight lines/paths	112	DASHEDX2	Civil_Site	
1495	V-AERI-PHOT	Photo center (exposure station)	127	CONTINUOUS	Civil_Site	
1496	V-AERI-PNPT	Panel points	147	CONTINUOUS	Civil_Site	
1497	V-AFLD-BCNS-IDEN	Identifier tags, symbol modifiers, and text	91	CONTINUOUS	Civil_Airfield_Elec	
1498	V-AFLD-BCNS-MISC	Miscellaneous nav aids - windcones and beacons	111	CONTINUOUS	Civil_Airfield_Elec	
1499	V-AFLD-BCNS-STRB	Strobe beacons	131	CONTINUOUS	Civil_Airfield_Elec	
1500	V-AFLD-IDEN	Airfield annotation	151	CONTINUOUS	Civil_Site	
1501	V-AFLD-JBOX	Junction boxes, pull boxes, manholes, handholes, pedestals, splices	171	CONTINUOUS	Civil_Airfield_Elec	
1502	V-AFLD-LITE-RUNW	Runway lights	21	CONTINUOUS	Civil_Airfield_Elec	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
1503	V-AFLD-LITE-SIGN	Taxiway guidance signs	41	CONTINUOUS	Civil_Airfield_Elec	
1504	V-AFLD-LITE-TAXI	Taxiway lights	61	CONTINUOUS	Civil_Airfield_Elec	
1505	V-AIRF-DEVC	Capacitors, voltage regulators, motors, buses, generators, meters, etc.	101	CONTINUOUS	Civil_Airfield_Elec	
1506	V-AIRF-DUCT	Ductbanks	167	CONTINUOUS	Civil_Airfield_Elec	
1507	V-AIRF-JBOX	Junction boxes, pull boxes, manholes, handholes, pedestals, splices	121	CONTINUOUS	Civil_Airfield_Elec	
1508	V-ALGN-DATA	Alignment coordinates and curve data	187	CONTINUOUS	Civil_Site	
1509	V-ALGN-LINE	Alignments	207	CENTER2	Civil_Site	
1510	V-ALGN-MARK	Alignment tick marks	227	CONTINUOUS	Civil_Site	
1511	V-ALGN-STAT-FUEL	Alignment stationing and tick marks	247	CONTINUOUS	Civil_Site	
1512	V-ALGN-STAT-HTCW	Alignment stationing and tick marks	17	CONTINUOUS	Civil_Site	
1513	V-ALGN-STAT-INDW	Alignment stationing and tick marks	37	CONTINUOUS	Civil_Site	
1514	V-ALGN-STAT-NGAS	Alignment stationing and tick marks	57	CONTINUOUS	Civil_Site	
1515	V-ALGN-STAT-SANR	Alignment stationing and tick marks	77	CONTINUOUS	Civil_Site	
1516	V-ALGN-STAT-STRM	Alignment stationing and tick marks	97	CONTINUOUS	Civil_Site	
1517	V-ANNO-DIMS	Witness/extension lines, dimension terminators, dimension text	141	CONTINUOUS	Civil_General	
1518	V-ANNO-KEYN	Reference keynotes with associated leaders	132	CONTINUOUS	Civil_General	
1519	V-ANNO-NOTE	General notes and general remarks	152	CONTINUOUS	Civil_General	
1520	V-ANNO-NPLT	Non-plotting graphic information	211	CONTINUOUS	Civil_General	
1521	V-ANNO-PATT	Miscellaneous patterning and hatching	128	CONTINUOUS	Civil_General	
1522	V-ANNO-REFR	Reference files (AutoCAD users only, see Chapter 4)	117	CONTINUOUS	Civil_General	
1523	V-ANNO-SYMB	Miscellaneous symbols	223	CONTINUOUS	Civil_General	
1524	V-ANNO-TEXT	Miscellaneous text and callouts with associated leaders	172	CONTINUOUS	Civil_General	
1525	V-APRN-HOLD	Holding position markings	139	CONTINUOUS	Civil_Site	
1526	V-APRN-IDEN	Airfield apron - annotation	161	CONTINUOUS	Civil_Site	
1527	V-APRN-MRKG	Apron markings	159	CONTINUOUS	Civil_Site	
1528	V-APRN-OTLN	Airfield apron - outlines	192	CONTINUOUS	Civil_Site	
1529	V-APRN-SECU	Security zone markings	179	CONTINUOUS	Civil_Site	
1530	V-APRN-SHLD	Apron Shoulders	212	CONTINUOUS	Civil_Site	
1531	V-APRN-SHLD-MRKG	Shoulder stripes	199	CONTINUOUS	Civil_Site	
1532	V-BCNS-STRB	Strobe beacons	181	CONTINUOUS	Civil_Airfield_Elec	
1533	V-BLDG-DECK	Outdoor decks (attached, no roof overhead)	201	CONTINUOUS	Civil_Site	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
1534	V-BLDG-DOCK	Loading docks	221	CONTINUOUS	Civil_Site	
1535	V-BLDG-IDEN	Building and other structure annotation	241	CONTINUOUS	Civil_Site	
1536	V-BLDG-OTLN	Buildings and other structures	243	CONTINUOUS	Civil_Site	
1537	V-BLDG-OVHD	Building overhangs	11	HIDDEN	Civil_Site	
1538	V-BLDG-PRCH	Porches (attached, roof overhead)	31	CONTINUOUS	Civil_Site	
1539	V-BRDG-DECK	Bridge deck	232	CONTINUOUS	Civil_Site	
1540	V-BRDG-IDEN	Bridge annotation	51	CONTINUOUS	Civil_Site	
1541	V-BRDG-OTLN	Bridge outlines	2	CONTINUOUS	Civil_Site	
1542	V-CATH-ANOD	Sacrificial anode system	71	CONTINUOUS	Civil_Site	
1543	V-CATH-CURR	Impress current system	91	CONTINUOUS	Civil_Site	
1544	V-CATH-IDEN	Identifier tags, symbol modifier, and text	111	CONTINUOUS	Civil_Site	
1545	V-CATH-TEST	Test stations	131	CONTINUOUS	Civil_Site	
1546	V-CHAN-CNTR	Channel centerline and survey report lines	137	CENTER2	Civil_Site	
1547	V-CHAN-CNTR-IDEN	Channel centerline and survey report lines - annotation	157	CONTINUOUS	Civil_Site	
1548	V-CHAN-DACL	De-authorized channel limits, anchorages, etc.	13	HIDDEN	Civil_Site	
1549	V-CHAN-DACL-IDEN	De-authorized channel limits, anchorages, etc. - annotation	151	CONTINUOUS	Civil_Site	
1550	V-CHAN-LIMIT	Channel limits, anchorages, turning basins, disposal areas, etc.	33	DASHED	Civil_Site	
1551	V-CIRC-CTRL	Control and monitoring circuits	177	CONTINUOUS	Civil_Uilities	
1552	V-CIRC-MULT	Multiple circuits	197	CONTINUOUS	Civil_Uilities	
1553	V-CIRC-SERS	Series circuits	217	CONTINUOUS	Civil_Uilities	
1554	V-COMM-ANNO	Communications Equipment Text	171	CONTINUOUS	Civil_Uilities	
1555	V-COMM-EQPM	Other communications distribution equipment	191	CONTINUOUS	Civil_Uilities	
1556	V-COMM-JBOX	Communication junction boxes, pull boxes, manholes, handholes, pedestals, splices	231	CONTINUOUS	Civil_Uilities	
1557	V-COMM-JBOX-CMHL	Existing Communication Manhole	1	CONTINUOUS	Civil_Uilities	
1558	V-COMM-OVHD	Overhead communication/telephone lines	237	OHT	Civil_Uilities	
1559	V-COMM-OVHD-IDEN	Identifier tags, symbol modifier and text	21	CONTINUOUS	Civil_Uilities	
1560	V-COMM-UNDR	Underground communication/telephone lines	7	UGT	Civil_Uilities	
1561	V-COMM-UNDR-IDEN	Identifier tags, symbol modifier and text	41	CONTINUOUS	Civil_Uilities	
1562	V-COMM-VALT	Communications vault	22	HIDDEN2	Civil_Uilities	
1563	V-DOMW-ABND	Abandoned piping	148	WTR	Civil_Uilities	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
1564	V-DOMW-ANNO	Annotation	61	CONTINUOUS	Civil_Uilities	
1565	V-DOMW-DEVC	Connectors, faucets, vents, taps, backflow preventers, valves, etc.	81	CONTINUOUS	Civil_Uilities	
1566	V-DOMW-DEVC-FPIV	Water Valve-Fire	101	CONTINUOUS	Civil_Uilities	
1567	V-DOMW-DEVC-WELL	Well	121	CONTINUOUS	Civil_Uilities	
1568	V-DOMW-DEVC-WPIT	Water Pit	141	CONTINUOUS	Civil_Uilities	
1569	V-DOMW-DEVC-WVAL	Water Valve	161	CONTINUOUS	Civil_Uilities	
1570	V-DOMW-FIRE	Fire lines	27	WTR	Civil_Uilities	
1571	V-DOMW-FTTG	Caps, cleanouts, crosses, and tees	47	CONTINUOUS	Civil_Uilities	
1572	V-DOMW-HYDR-HYDR	Hydrant	67	CONTINUOUS	Civil_Uilities	
1573	V-DOMW-IDEN	Identifier tags, symbol modifier, and text	181	CONTINUOUS	Civil_Uilities	
1574	V-DOMW-MAIN	Main domestic water piping	87	WTR	Civil_Uilities	
1575	V-DOMW-METR-WMTR	Water Meter	107	CONTINUOUS	Civil_Uilities	
1576	V-DOMW-NHYD	Non-potable hydrants/flushing hydrants	127	CONTINUOUS	Civil_Uilities	
1577	V-DOMW-NPOT	Non-potable water piping	147	WTR	Civil_Uilities	
1578	V-DOMW-PITS-IDEN	Identifier tags, symbol modifier, and text	201	CONTINUOUS	Civil_Uilities	
1579	V-DOMW-PUMP-PMST	Pump Station	42	CONTINUOUS	Civil_Uilities	
1580	V-DOMW-REDC	Pressure reducing station	221	CONTINUOUS	Civil_Uilities	
1581	V-DOMW-RSVR	Reservoirs	219	H2OLINE	Civil_Uilities	
1582	V-DOMW-SERV	Domestic water service piping	167	CONTINUOUS	Civil_Uilities	
1583	V-DOMW-SIGN	Surface markers/signs	241	CONTINUOUS	Civil_Uilities	
1584	V-DOMW-STNS-IDEN	Identifier tags, symbol modifier, and text	11	CONTINUOUS	Civil_Uilities	
1585	V-DOMW-TANK	Water storage tanks	62	CONTINUOUS	Civil_Uilities	
1586	V-DOMW-VENT	Vent pits	31	CONTINUOUS	Civil_Uilities	
1587	V-DOMW-VLVE-WVLV	Water Valve Vault	82	CONTINUOUS	Civil_Uilities	
1588	V-DOMW-WELL	Water well houses	102	CONTINUOUS	Civil_Uilities	
1589	V-DUCT-MULT	Ductbank	187	HIDDEN2	Civil_Airfield_Elec	
1590	V-DUCT-MULT-COMM	Ductbanks	207	HIDDEN2	Civil_Airfield_Elec	
1591	V-DUCT-MULT-DBID	Ductbank ID Symbol	227	CONTINUOUS	Civil_Airfield_Elec	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
1592	V-DUCT-MULT-ELEC	Ductbanks	247	HIDDEN2	Civil_Airfield_Elec	
1593	V-DUCT-MULT-IDEN	Ductbank ID Symbol	17	CONTINUOUS	Civil_Airfield_Elec	
1594	V-ELEC-DEVC	Capacitors, voltage regulators, motors, buses, generators, meters, grounds, and markers	51	CONTINUOUS	Civil_Airfield_Elec	
1595	V-ELEC-JBOX	Junction boxes, pull boxes, manholes, handholes, pedestals, splices	71	CONTINUOUS	Civil_Airfield_Elec	
1596	V-ELEC-SUBS	Other substation equipment	91	CONTINUOUS	Civil_Airfield_Elec	
1597	V-ELEC-SUBS-SBST	Substation	111	CONTINUOUS	Civil_Airfield_Elec	
1598	V-ELEC-SWCH	Fuse cutouts, switches, circuit breakers, reclosers, etc.	131	CONTINUOUS	Civil_Airfield_Elec	
1599	V-ELEC-SWCH-SWCH	Existing Switch	151	CONTINUOUS	Civil_Airfield_Elec	
1600	V-ELEC-VALT	Vaults	122	HIDDEN2	Civil_Airfield_Elec	
1601	V-FUEL-JBOX	Aviation Fuel -Junction boxes, manholes, handholes, test boxes	1	CONTINUOUS	Civil_Uilities	
1602	V-FUEL-METR	Aviation Fuel -Meters	117	CONTINUOUS	Civil_Uilities	
1603	V-FUEL-TANK	Fuel tanks - Any Type	162	CONTINUOUS	Civil_Uilities	
1604	V-HTCW-CHLP	High Temp/Chilled Water - Chilled water plant	7	CONTINUOUS	Civil_Uilities	
1605	V-HTCW-PITS	High Temp/Chilled Water - Valve pits/vaults, steam pits	51	CONTINUOUS	Civil_Uilities	
1606	V-HTCW-PUMP	High Temp/Chilled Water - Pump stations	222	CONTINUOUS	Civil_Uilities	
1607	V-HTCW-RTRN	High Temp/Chilled Water - Return for all HTCW lines	247	CONTINUOUS	Civil_Uilities	
1608	V-HTCW-STML	High Temp/Chilled Water - Main steam piping	17	CONTINUOUS	Civil_Uilities	
1609	V-HTCW-STMS	High Temp/Chilled Water - Steam service piping	37	CONTINUOUS	Civil_Uilities	
1610	V-HTCW-STNS-IDEN	High Temp/Chilled Water - Identifier tags, symbol modifier, and text	111	CONTINUOUS	Civil_Uilities	
1611	V-INDW-ABND	Industrial Waste Water - Abandoned piping	248	CONTINUOUS	Civil_Uilities	
1612	V-INDW-DEVC-GRCH	Industrial Waste Water - Grit Chamber	131	CONTINUOUS	Civil_Uilities	
1613	V-INDW-DEVC-IWMR	Industrial Waste Water - Meter	151	CONTINUOUS	Civil_Uilities	
1614	V-INDW-FLOW	Industrial Waste Water - Flow direction arrows	57	CONTINUOUS	Civil_Uilities	
1615	V-INDW-FTTG-CLOT	Industrial Waste Water - Cleanout	77	CONTINUOUS	Civil_Uilities	
1616	V-INDW-IDEN	Industrial Waste Water - Identifier tags, symbol modifier, and text	171	CONTINUOUS	Civil_Uilities	
1617	V-INDW-JBOX-IWMH	Industrial Waste Water - Manhole	191	CONTINUOUS	Civil_Uilities	
1618	V-INDW-LAGN	Industrial Waste Water - Lagoons	12	H2OLINE	Civil_Uilities	
1619	V-INDW-LIFT	Industrial Waste Water - Lift stations	32	CONTINUOUS	Civil_Uilities	
1620	V-INDW-MAIN	Industrial Waste Water - Main piping	97	CONTINUOUS	Civil_Uilities	
1621	V-INDW-PLNT	Industrial Waste Water - Treatment plants	52	CONTINUOUS	Civil_Uilities	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
1622	V-INDW-SERV	Industrial Waste Water - service piping	117	CONTINUOUS	Civil_Uilities	
1623	V-INDW-SIGN	Industrial Waste Water - Surface markers/signs	231	CONTINUOUS	Civil_Uilities	
1624	V-INDW-STNS-IDEN	Industrial Waste Water - Identifier tags, symbol modifier, and text	1	CONTINUOUS	Civil_Uilities	
1625	V-LITE-APPR	Approach lights	21	CONTINUOUS	Civil_Airfield_Elec	
1626	V-LITE-APPR-ALEL	Elevated Approach Lightbar	41	CONTINUOUS	Civil_Airfield_Elec	
1627	V-LITE-APPR-ALSF	Semiflush Approach Lightbar	61	CONTINUOUS	Civil_Airfield_Elec	
1628	V-LITE-APPR-PAPI	PAPI Light Unit	81	CONTINUOUS	Civil_Airfield_Elec	
1629	V-LITE-DIST	Distance and arresting gear markers	101	CONTINUOUS	Civil_Airfield_Elec	
1630	V-LITE-DIST-DMKR	Runway Distance Marker	121	CONTINUOUS	Civil_Airfield_Elec	
1631	V-LITE-FIXT	Exterior Lights	141	CONTINUOUS	Civil_Airfield_Elec	
1632	V-LITE-FIXT-LTFL	Floodlight	161	CONTINUOUS	Civil_Airfield_Elec	
1633	V-LITE-LANE	Hoverlane, taxilane, and helipad lights	181	CONTINUOUS	Civil_Airfield_Elec	
1634	V-LITE-OBST	Obstruction lights	201	CONTINUOUS	Civil_Airfield_Elec	
1635	V-LITE-RUNW	Runway lights	221	CONTINUOUS	Civil_Airfield_Elec	
1636	V-LITE-RUNW-CNTL	Runway Centerline Lighting	18	CONTINUOUS	Civil_Airfield_Elec	
1637	V-LITE-RUNW-TDZN	Threshold lights	241	CONTINUOUS	Civil_Airfield_Elec	
1638	V-LITE-SIGN	Runway touchdown zone lights	11	CONTINUOUS	Civil_Airfield_Elec	
1639	V-LITE-SIGN-TWSN	Taxiway Guidance Sign	31	CONTINUOUS	Civil_Airfield_Elec	
1640	V-LITE-TAXI	Identifier tags, symbol modifier, and text	51	CONTINUOUS	Civil_Airfield_Elec	
1641	V-LITE-THRS	Flow direction arrows	71	CONTINUOUS	Civil_Airfield_Elec	
1642	V-NGAS-ABND	Abandoned piping	38	GAS	Civil_Uilities	
1643	V-NGAS-DEVC	Identifier tags, symbol modifier, and text	91	CONTINUOUS	Civil_Uilities	
1644	V-NGAS-DEVC-IDEN	Natural gas device	111	CONTINUOUS	Civil_Uilities	
1645	V-NGAS-FLOW	Flow direction arrows	137	CONTINUOUS	Civil_Uilities	
1646	V-NGAS-FTTG	Caps, crosses, and tees	157	CONTINUOUS	Civil_Uilities	
1647	V-NGAS-IDEN	Natural gas annotation	131	CONTINUOUS	Civil_Uilities	
1648	V-NGAS-MAIN	Main natural gas piping	177	CONTINUOUS	Civil_Uilities	
1649	V-NGAS-METR	Meters	197	CONTINUOUS	Civil_Uilities	
1650	V-NGAS-PITS-IDEN	Surface markers/signs	151	CONTINUOUS	Civil_Uilities	
1651	V-NGAS-PUMP	Compressor stations	72	CONTINUOUS	Civil_Uilities	
1652	V-NGAS-REDC	Reducing stations	92	CONTINUOUS	Civil_Uilities	
1653	V-NGAS-SERV	Service piping	237	CONTINUOUS	Civil_Uilities	
1654	V-NGAS-SIGN	Surface markers/signs	171	CONTINUOUS	Civil_Uilities	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
1655	V-NGAS-STNS-IDEN	Guying equipment identifier tags, symbol modifiers, and text	191	CONTINUOUS	Civil_Uilities	
1656	V-NGAS-VENT	Vent pits	231	CONTINUOUS	Civil_Uilities	
1657	V-NGAS-VLVE	Valve pits/boxes	1	CONTINUOUS	Civil_Uilities	
1658	V-OBST-AIRS	Airspace obstructions	132	CONTINUOUS	Civil_Site	
1659	V-OBST-AIRS-IDEN	Airspace obstruction annotation	21	CONTINUOUS	Civil_Site	
1660	V-OVRN-IDEN	Airfield overrun area - annotation	41	CONTINUOUS	Civil_Site	
1661	V-OVRN-OTLN	Airfield overrun area - outlines	152	CONTINUOUS	Civil_Site	
1662	V-OVRN-SHLD-MRKG	Overrun shoulder markings	239	CONTINUOUS	Civil_Site	
1663	V-POLE-GUYS	Guy equipment	61	CONTINUOUS	Civil_Uilities	
1664	V-POLE-GUYS-COMM	Guying equipment	81	CONTINUOUS	Civil_Uilities	
1665	V-POLE-GUYS-DGXE	Down Guy	27	CONTINUOUS	Civil_Uilities	
1666	V-POLE-GUYS-ELEC	Guying equipment	47	CONTINUOUS	Civil_Uilities	
1667	V-POLE-UTID-PIDE	Pole Identification Symbol	87	CONTINUOUS	Civil_Uilities	
1668	V-POLE-UTIL	Utility poles	107	CONTINUOUS	Civil_Uilities	
1669	V-PRIM-OVHD	Overhead electrical utility lines	127	ELEC1POP	Civil_Uilities	
1670	V-PRIM-UNDR	Underground electrical utility lines	147	ELEC1PUP	Civil_Uilities	
1671	V-PRIM-UNDR-IDEN	Manholes	121	CONTINUOUS	Civil_Uilities	
1672	V-PRKG-IDEN	Parking lot annotation	141	CONTINUOUS	Civil_Site	
1673	V-PRKG-OTLN	Parking lot outlines	172	CONTINUOUS	Civil_Site	
1674	V-PRKG-SIGN	Signs	161	CONTINUOUS	Civil_Site	
1675	V-PROF-ROAD	Roads	192	CONTINUOUS	Civil_General	
1676	V-PROP-ANNO	Property Information	221	CONTINUOUS	Civil_Site	
1677	V-PROP-BNDY	Property Frame	241	PROPLINE	Civil_Site	
1678	V-PROP-BRNG	Lease line (surveyed)	11	LEASELINE	Civil_Site	
1679	V-PROP-CNTY	County Line	133	PHANTOM	Civil_Site	
1680	V-PROP-ESMT	Government easements/property lines	187	HIDDEN2	Civil_Site	
1681	V-PROP-IDEN	Municipal Boundary	31	CONTINUOUS	Civil_Site	
1682	V-PROP-LA	Limited access line	153	LA	Civil_Site	
1683	V-PROP-LEAS	Quarter lines	212	DASHEDX2	Civil_Site	
1684	V-PROP-LINE	Property lines (existing recorded plats)	51	PROPLINE	Civil_Site	
1685	V-PROP-LUSE	Land Use Area	207	CONTINUOUS	Civil_Site	
1686	V-PROP-MUNI	Municipal Boundary	64	PHANTOM2	Civil_Site	
1687	V-PROP-QTRS	Quarter lines	58	DASHEDX2	Civil_Site	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
1688	V-PROP-RWAY	Right of ways	173	RW	Civil_Site	
1689	V-PROP-RWLA	Combined limited access and right of way line	193	LA-RW	Civil_Site	
1690	V-PROP-SECT	Section lines	227	DASHEDX2	Civil_Site	
1691	V-PROP-STAT	State Boundary	9	CONTINUOUS	Civil_Site	
1692	V-PROP-SXTS	Sixteenth lines (40 lines)	78	DASHEDX2	Civil_Site	
1693	V-PROP-TSHP	Township Line	213	PHANTOM	Civil_Site	
1694	V-PROP-ZONG	Zoning areas	233	DASHED	Civil_Site	
1695	V-PVMT-ASPH	Pavement pattern - asphalt	98	CONTINUOUS	Civil_Site	
1696	V-PVMT-CONC	Pavement pattern - concrete	247	CONTINUOUS	Civil_Site	
1697	V-PVMT-GRVL	Pavement pattern - gravel	118	CONTINUOUS	Civil_Site	
1698	V-PVMT-IDEN	Pavement annotation	71	CONTINUOUS	Civil_Site	
1699	V-PVMT-MRKG	Pavement markings and signs	29	CONTINUOUS	Civil_Site	
1700	V-PVMT-PATT	Pavement pattern	138	CONTINUOUS	Civil_Site	
1701	V-PVMT-ROAD	Roads, parking lots	232	CONTINUOUS	Civil_Site	
1702	V-RAIL-CNTR	Railroad track centerlines	17	CENTER2	Civil_Site	
1703	V-RAIL-CNTR-IDEN	Railroad track centerline annotation	37	CONTINUOUS	Civil_Site	
1704	V-RAIL-TRAK	Railroad tracks	91	TRACKS	Civil_Site	
1705	V-ROAD-ASPH	Road outlines - asphalt surface	2	CONTINUOUS	Civil_Site	
1706	V-ROAD-CNTR	Road centerlines	57	CENTER2	Civil_Site	
1707	V-ROAD-CNTR-IDEN	Road centerline annotation	77	CONTINUOUS	Civil_Site	
1708	V-ROAD-CONC	Road outlines - concrete surface	22	CONTINUOUS	Civil_Site	
1709	V-ROAD-GRVL	Road outlines - gravel surface	111	HIDDEN2	Civil_Site	
1710	V-ROAD-IDEN	Road, street, highway annotation	131	CONTINUOUS	Civil_Site	
1711	V-ROAD-OTLN	Road outlines	42	CONTINUOUS	Civil_Site	
1712	V-ROAD-SIGN	Signs	151	CONTINUOUS	Civil_Site	
1713	V-ROAD-UPVD	Road outlines - unpaved surface	171	HIDDEN2	Civil_Site	
1714	V-RUNW-BLST	Blast pad and stopway	69	CONTINUOUS	Civil_Site	
1715	V-RUNW-CNTR	Centerlines	97	CENTER2	Civil_Site	
1716	V-RUNW-CNTR-MRKG	Centerline markings	89	CONTINUOUS	Civil_Site	
1717	V-RUNW-DISP	Displaced threshold markings	109	CONTINUOUS	Civil_Site	
1718	V-RUNW-DIST	Fixed distance markings	129	CONTINUOUS	Civil_Site	
1719	V-RUNW-EDGE	Airfield runway edges	62	CONTINUOUS	Civil_Site	
1720	V-RUNW-IDEN	Airfield runway annotation	191	CONTINUOUS	Civil_Site	
1721	V-RUNW-SHLD	Shoulder markings	149	CONTINUOUS	Civil_Site	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
1722	V-RUNW-SIDE	Side stripes	169	CONTINUOUS	Civil_Site	
1723	V-RUNW-TDZM	Touchdown zone markings	231	CONTINUOUS	Civil_Site	
1724	V-RUNW-THRS	Threshold markings	1	CONTINUOUS	Civil_Site	
1725	V-SECD-OVHD	Overhead electrical utility lines	117	ELEC1POS	Civil_Uilities	
1726	V-SITE-EROS	Riprap, revetments/stone protection, breakwaters, dikes, etc.	101	CONTINUOUS	Civil_Site	
1727	V-SITE-EWAT	Water features	189	H2OLINE	Civil_Site	
1728	V-SITE-FENC	Fences and handrails	141	FENCELINE-1	Civil_Site	
1729	V-SITE-FENC-IDEN	Stairs and ramps annotation	161	CONTINUOUS	Civil_Site	
1730	V-SITE-IDEN	Existing feature identification	201	CONTINUOUS	Civil_Site	
1731	V-SITE-OTLN	Existing site features (play structures, bike racks, benches, etc.)	221	CONTINUOUS	Civil_Site	
1732	V-SITE-STRC	Structures (bridges, sheds, foundation pads, footings, etc.)	102	CONTINUOUS	Civil_Site	
1733	V-SITE-STRS	Stairs and ramps	11	CONTINUOUS	Civil_Site	
1734	V-SITE-VEGE	Existing treelines and vegetation	157	CONTINUOUS	Civil_Site	
1735	V-SITE-WALK	Walks, trails, and bicycle paths	51	HIDDEN2	Civil_Site	
1736	V-SITE-WATR	Surface water feature	229	H2OLINE	Civil_Site	
1737	V-SPCL-SYST	Special systems (UMCS, EMCS, CATV)	71	CONTINUOUS	Civil_Site	
1738	V-SPCL-SYST-DISH	Satelite Dish	91	CONTINUOUS	Civil_Site	
1739	V-SPCL-TRAF	Traffic signal identifier tags, symbol modifier, and text	111	CONTINUOUS	Civil_Site	
1740	V-SSWR-ABND	Abandoned piping	178	SAN	Civil_Uilities	
1741	V-SSWR-ANNO	Annotation	151	CONTINUOUS	Civil_Uilities	
1742	V-SSWR-DEVC	Grease traps, grit chambers, flumes, neutralizers, oil/water separators, ejectors, and valves	171	CONTINUOUS	Civil_Uilities	
1743	V-SSWR-DEVC-GRCH	Grit Chamber	191	CONTINUOUS	Civil_Uilities	
1744	V-SSWR-DEVC-IDEN	Caps and cleanouts	1	CONTINUOUS	Civil_Uilities	
1745	V-SSWR-DEVC-UNKN	Unknown Device	21	CONTINUOUS	Civil_Uilities	
1746	V-SSWR-FILT	Filtration beds	142	CONTINUOUS	Civil_Uilities	
1747	V-SSWR-FLOW	Flow direction arrows	177	CONTINUOUS	Civil_Uilities	
1748	V-SSWR-FTTG	Caps and cleanouts	197	CONTINUOUS	Civil_Uilities	
1749	V-SSWR-FTTG-CNOT	Cleanout	217	CONTINUOUS	Civil_Uilities	
1750	V-SSWR-IDEN	Stormsewer device annotation	61	CONTINUOUS	Civil_Uilities	
1751	V-SSWR-JBOX	Junction boxes and manholes	81	CONTINUOUS	Civil_Uilities	
1752	V-SSWR-PUMP	Booster pump stations	222	CONTINUOUS	Civil_Uilities	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
1753	V-SSWR-TANK	Septic tanks	67	HIDDEN2	Civil_Uilities	
1754	V-STRM-CULV	Culverts	11	HIDDEN2	Civil_Uilities	
1755	V-STRM-FTTG	Caps and cleanouts	167	CONTINUOUS	Civil_Uilities	
1756	V-STRM-HDWL	Headwalls and endwalls	72	CONTINUOUS	Civil_Uilities	
1757	V-STRM-INLT	Inlets (curb, surface, and catch basins)	207	CONTINUOUS	Civil_Uilities	
1758	V-STRM-MHOL	Manholes	37	CONTINUOUS	Civil_Uilities	
1759	V-STRM-PUMP	Pump stations	112	CONTINUOUS	Civil_Uilities	
1760	V-STRM-STRC-CULV	Culverts	117	HIDDEN2	Civil_Uilities	
1761	V-STRM-STRC-INLT	Inlet	137	CONTINUOUS	Civil_Uilities	
1762	V-STRM-SUBS	Subsurface drain piping	157	CONTINUOUS	Civil_Uilities	
1763	V-SURV-DATA	Control Grid	218	CONTINUOUS	Civil_Site	
1764	V-SURV-IDEN	Coordinate grid ticks and text	171	CONTINUOUS	Civil_Site	
1765	V-SURV-LINE	Survey, baseline, and control line	197	CENTER2	Civil_Site	
1766	V-TAXI-CNTR-IDEN	Centerline annotation	217	CONTINUOUS	Civil_Site	
1767	V-TAXI-CNTR-MRKG	Centerline markings	19	CONTINUOUS	Civil_Site	
1768	V-TAXI-EDGE	Edge markings	39	CONTINUOUS	Civil_Site	
1769	V-TAXI-HOLD	Holding lines	59	CONTINUOUS	Civil_Site	
1770	V-TAXI-IDEN	Taxiway - annotation	191	CONTINUOUS	Civil_Site	
1771	V-TAXI-OTLN	Taxiway - outlines	152	CONTINUOUS	Civil_Site	
1772	V-TAXI-SHLD	Shoulders with annotation	172	CONTINUOUS	Civil_Site	
1773	V-TOPO-BKLN	DTM breaklines	192	CONTINUOUS	Civil_Site	
1774	V-TOPO-DTMT	DTM triangles	8	CONTINUOUS	Civil_Site	
1775	V-TOPO-DTMT-SVPT	DTMT Point	28	CONTINUOUS	Civil_Site	
1776	V-TOPO-MAJR	Shorelines, land features, and references	80	SCONTOUR	Civil_Site	
1777	V-TRAN-PADM	Pad mounted transformers	1	CONTINUOUS	Civil_Uilities	
1778	V-TRAN-PADM-IDEN	Identifier tags, symbol modifier, and text	21	CONTINUOUS	Civil_Uilities	
1779	V-TRAN-PADM-RPMN	Existing Transformer Pad	41	CONTINUOUS	Civil_Uilities	
1780	V-TRAN-POLE	Pole mounted transformers	87	CONTINUOUS	Civil_Uilities	
1781	V-TRAN-POLE-XFPL	Existing Transformer Pole	107	CONTINUOUS	Civil_Uilities	
1782	V-UTIL-ELEC	Power lines, lights, telephone poles, communication lines	127	CONTINUOUS	Civil_Uilities	
1783	V-UTIL-ELEC-IDEN	Electrical and Telephone Text and Callouts	61	CONTINUOUS	Civil_Uilities	
1784	V-UTIL-GASB	Gas lines, features, and valves	147	CONTINUOUS	Civil_Uilities	
1785	V-UTIL-LINE	Utilities	187	CONTINUOUS	Civil_Uilities	
1786	V-UTIL-NGAS	Gas lines, features, and valves	207	CONTINUOUS	Civil_Uilities	

Row No.	Layer Name	Description	Color	Line Type	Template	Layer in 2 Templates
1787	V-UTIL-SSWR	Sanitary lines and manholes	227	CONTINUOUS	Civil_Uilities	
1788	V-UTIL-STEM	Steam lines	247	CONTINUOUS	Civil_Uilities	
1789	V-UTIL-STRM	Storm sewer lines, culverts, manholes, and headwalls	17	CONTINUOUS	Civil_Uilities	
1790	V-UTIL-WATR	Water lines, hydrants, tanks	37	CONTINUOUS	Civil_Uilities	

APPENDIX E - STANDARD SYMBOLS

SYMBOL LIBRARY INDEX

DISCIPLINE	Symbol Library
Architectural	ARCH
Civil	CVLS
Electrical	ELEC
Fire Protection	FIRE
General	GENL
Geotechnical	GEOT
Hazardous Materials	HTRW
Interiors	INTR
Landscape	LAND
Mechanical	MECH
Plumbing	PLMB
Structural	STRU
Survey/Mapping	SURV
Telecommunications	COMM

APPENDIX E - STANDARD SYMBOLS

Symbol Name	Description
APKGGATE	Parking Automatic Gate
ARCPBW	Architectural Particleboard Woodwork
ASBDLS	Large Scale Asbestos Board
ASBDSS	Small Scale Asbestos Board
ATKTMACH	Parking Ticket Machine
BATHCO	Corner Bath
BATHEM	Emergency Bath
BATHFT	Foot Bath
BATHHA	Hydrotherapy Arm Bath
BATHHH	Hydrotherapy Hubbard Bath
BATHHL	Hydrotherapy Leg Bath
BATHIF	Infant Bath
BATHIN	Institutional Bath
BATHRC	Recessed Bath
BATHRR	Roll Rim Bath
BATHSZ	Sitz Bath
BATHWP	Whirlpool Bath
BDGGATE	Boarding Gate
BIDET	Watercloset Bidet
BIFLDDR48	Bifold Door - Double 48"
BIFLDDR60	Bifold Door - Double 60"
BIFLDDR72	Bifold Door - Double 72"
BIFLDDRL24	Bifold Door - Single (Left) 24"
BIFLDDRL30	Bifold Door - Single (Left) 30"
BIFLDDRL36	Bifold Door - Single (Left) 36"
BIFLDDRR24	Bifold Door - Single (Right) 24"
BIFLDDRR30	Bifold Door - Single (Right) 30"
BIFLDDRR36	Bifold Door - Single (Right) 36"
BRFACC	Brick Face on Common
BRFIRE	Fire Brick
BRKGL	Glazed Brick
BSSFLG	Bluestone / Slate / Soapstone / Flagging
CANWCT	Can Washer, Cabinet Type
CANWDT	Can Washer, Dish Type
CARPET	Carpet and Pad
CHEMANA	Chemical Analyzer
CMU	Masonry Unit
CMUBLK	Concrete Block, 8X8X16
CMUCOR	Concrete Block, 8X8X16 Corner
CMUEND	Concrete Block, 8X8X16 End
CMUGL	Glazed Concrete Block
CMUSTR	Concrete Block, 8X8X16 Str.
COILDR102	Coil-up Door - 102"
COILDR108	Coil-up Door - 108"
COILDR114	Coil-up Door - 114"
COILDR120	Coil-up Door - 120"
COILDR126	Coil-up Door - 126"
COILDR132	Coil-up Door - 132"
COILDR138	Coil-up Door - 138"
COILDR144	Coil-up Door - 144"
COILDR150	Coil-up Door - 150"

APPENDIX E - STANDARD SYMBOLS

Symbol Name	Description
COILDR156	Coil-up Door - 156"
COILDR162	Coil-up Door - 162"
COILDR168	Coil-up Door - 168"
COILDR174	Coil-up Door - 174"
COILDR180	Coil-up Door - 180"
COILDR186	Coil-up Door - 186"
COILDR192	Coil-up Door - 192"
COILDR30	Coil-up Door - 30"
COILDR36	Coil-up Door - 36"
COILDR42	Coil-up Door - 42"
COILDR48	Coil-up Door - 48"
COILDR54	Coil-up Door - 54"
COILDR60	Coil-up Door - 60"
COILDR66	Coil-up Door - 66"
COILDR72	Coil-up Door - 72"
COILDR84	Coil-up Door - 84"
COILDR90	Coil-up Door - 90"
COILDR96	Coil-up Door - 96"
CPLANK	Concrete Plank
DBLDR102	Double Door - 102"
DBLDR108	Double Door - 108"
DBLDR114	Double Door - 114"
DBLDR120	Double Door - 120"
DBLDR24	Double Door - 24"
DBLDR36	Double Door - 36"
DBLDR48	Double Door - 48"
DBLDR54	Double Door - 54"
DBLDR60	Double Door - 60"
DBLDR64	Double Door - 64"
DBLDR72	Double Door - 72"
DBLDR78	Double Door - 78"
DBLDR84	Double Door - 84"
DBLDR90	Double Door - 90"
DBLDR96	Double Door - 96"
DBLDRUNEVL60	Double Door - Uneven (Left) 60"
DBLDRUNEVL72	Double Door - Uneven (Left) 72"
DBLDRUNEVR60	Double Door - Uneven (Right) - 60"
DBLDRUNEVR72	Double Door - Uneven (Right) 72"
DFPROJ	Drinking Fountain, Projecting Type
DFRECS	Drinking Fountain, Recessed Type
DFSREC	Drinking Fountain, Semi-Recessed Type
DOORID	Door Opening Identifier
DOR18L	Left Door, 180 Degree Swing
DOR18R	Right Door, 180 Degree Swing
DORBFL	Left Bifold Door
DORBFR	Right Bifold Door
DORCPV	Door Center Pivot
DORCYL	Cylindrical Door
DORDBL	Left Double Door
DORDBR	Right Double Door
DORDEL	Left Double Egress Door

APPENDIX E - STANDARD SYMBOLS

Symbol Name	Description
DORDER	Right Double Egress Door
DORFSL	Left Single Full Swing Door
DORFSR	Right Single Full Swing Door
DOROVH	Overhead Door
DORPOC	Door Pocket
DORRUP	Roll Up Door
DORSHL	Left Single Hinged Door
DORSHR	Right Single Hinged Door
DORSLD	Sliding Door
DORSLS	Sliding Surface Door
DORSPL	Left Single Pivot Door
DORSPR	Right Single Pivot Door
DORUDL	Left Uneven Double Door
DORUDR	Right Uneven Dbl. Door
DSHWSH	Commercial Dishwasher
EQPMID	Equipment Identifier
FASTEN	Fastener
FLRRPL	Flooring, Resilient Plastic Laminate
FURCHH	Furring Channel Hat
FURCHN	Furring Channel
GLASLS	Large Scale Glass
GLASSS	Small Scale Glass
GLBLLS	Glass Block, Large Scale
GLBLSS	Glass Block, Small Scale
GLELEV	Glass Elevation
GPLANK	Gypsum Plank
GYPBLK	Gypsum Block
GYPPOM	Gypsum Plaster on Masonry
GYPPPB	Gypsum Plaster Particle Board
GYPSP	Gypsum Solid Plaster Partition
GYPWBD	Gypsum Wallboard Finishes
INFBSS	Small Scale Flexible Blanket Insulation
INLFLS	Large Scale Loose Fill Insulation
INS1RM	Insulation, Reflective Metal On 1 Side
INS2RM	Insulation, Reflective Curtain 2 Sides (Sm. Scale)
INSFOM	Spray Foam Insulation
INSTND	Insulation, Type Not Determined (Lg. Scale)
LAVBCK	Back Lavatory
LAVCOR	Corner Lavatory
LAVCOU	Lavatory in Counter
LAVDNT	Dental Lavatory
LAVHND	Handicapped Lavatory
LAVINT	Integral
LAVMDM	Med. Manicure Lavatory
LAVOVCT	Oval - Countertop
LAVPED	Pedestal
LAVRECCT	Rectangular - Countertop
LAVSLB	Slab Type Lavatory
LAVWM	Wall Mount
LINTEL	Concrete Beam Bond Lintel
MOPSK	Mop Sink

APPENDIX E - STANDARD SYMBOLS

Symbol Name	Description
MOPSKCNR	Corner Mop Sink
MTLDTR	Metal Detector
MTLLPL	Metal Lath and Plaster
MTLSHT	Metal Sheet and all Metals (Small Scale)
ORISTB	Oriented Strand Board
OVHDDR10	Overhead Door - 10 ft
OVHDDR12	Overhead Door - 12 ft
OVHDDR14	Overhead Door - 14 ft
OVHDDR16	Overhead Door - 16 ft
OVHDDR8	Overhead Door - 8 ft
OVHDDR9	Overhead Door - 9 ft
PARTBD	Particleboard
PLASTC	Plastic Finishes
PLPLLS	Large Scale Plastic on Plywood
PLPLSS	Small Scale Plastic on Plywood
PLYWLS	Large Scale Plywood
PLYWSS	Small Scale Plywood
RBILS	Rigid Board on Interior Insulation, Large Scale
RBISLS	Insulation, Rigid Board as Sheathing (Lg. Scale)
RFDRN	Roof Drain
ROMID3	Room Identifier, 3 char.
ROMID4	Room Identifier, 4 char.
ROTDOR108	Rotating Door - 108" Diameter
ROTDOR120	Rotating Door - 120" Diameter
ROTDOR60	Rotating Door - 60" Diameter
ROTDOR72	Rotating Door - 72" Diameter
ROTDOR84	Rotating Door - 84" Diameter
ROTDOR96	Rotating Door - 96" Diameter
SDIRLD	Stair Direction Line Down
SDIRLU	Stair Direction Line Up
SGLDRL12	Single Door (Left) - 12"
SGLDRL18	Single Door (Left) - 18"
SGLDRL24	Single Door (Left) - 24"
SGLDRL27	Single Door (Left) - 27"
SGLDRL30	Single Door (Left) - 30"
SGLDRL32	Single Door (Left) - 32"
SGLDRL36	Single Door (Left) - 36"
SGLDRL40	Single Door (Left) - 40"
SGLDRL42	Single Door (Left) - 42"
SGLDRL44	Single Door (Left) - 44"
SGLDRL46	Single Door (Left) - 46"
SGLDRL48	Single Door (Left) - 48"
SGLDRL50	Single Door (Left) - 50"
SGLDRL52	Single Door (Left) - 52"
SGLDRL54	Single Door (Left) - 54"
SGLDRL56	Single Door (Left) - 56"
SGLDRL58	Single Door (Left) - 58"
SGLDRL60	Single Door (Left) - 60"
SGLDRR12	Single Door (Right) - 12"
SGLDRR18	Single Door (Right) - 18"
SGLDRR24	Single Door (Right) - 24"

APPENDIX E - STANDARD SYMBOLS

Symbol Name	Description
SGLDRR27	Single Door (Right) - 27"
SGLDRR30	Single Door (Right) - 30"
SGLDRR32	Single Door (Right) - 32"
SGLDRR36	Single Door (Right) - 36"
SGLDRR40	Single Door (Right) - 40"
SGLDRR42	Single Door (Right) - 42"
SGLDRR44	Single Door (Right) - 44"
SGLDRR46	Single Door (Right) - 46"
SGLDRR48	Single Door (Right) - 48"
SGLDRR50	Single Door (Right) - 50"
SGLDRR52	Single Door (Right) - 52"
SGLDRR54	Single Door (Right) - 54"
SGLDRR56	Single Door (Right) - 56"
SGLDRR58	Single Door (Right) - 58"
SGLDRR60	Single Door (Right) - 60"
SHWRCO	Corner Shower
SHWRHD	Shower Head
SHWROG	Shower Overhead Gang
SHWRPG	Shower Pedestal Gang
SHWRST	Shower Stall
SIGN	Wayfinding
SINKDBLCT	Double Bowl Countertop
SINKSCT	Single Bowl Countertop
SLDBLDRREC108	Recessed Sliding Door 108"
SLDBLDRREC120	Recessed Sliding Door 120"
SLDBLDRREC132	Recessed Sliding Door 132"
SLDBLDRREC144	Recessed Sliding Door 144"
SLDBLDRREC156	Recessed Sliding Door 156"
SLDBLDRREC72	Recessed Sliding Door 72"
SLDBLDRREC84	Recessed Sliding Door 84"
SLDBLDRREC96	Recessed Sliding Door 96"
SLDBLDRSURF108	Surface Mount Sliding Door 108"
SLDBLDRSURF120	Surface Mount Sliding Door 120"
SLDBLDRSURF132	Surface Mount Sliding Door 132"
SLDBLDRSURF144	Surface Mount Sliding Door 144"
SLDBLDRSURF156	Surface Mount Sliding Door 156"
SLDBLDRSURF72	Surface Mount Sliding Door 72"
SLDBLDRSURF84	Surface Mount Sliding Door 84"
SLDBLDRSURF96	Surface Mount Sliding Door 96"
SLDRREC36	Single Recessed Mount Sliding Door - 36"
SLDRREC42	Single Recessed Mount Sliding Door - 42"
SLDRREC48	Single Recessed Mount Sliding Door - 48"
SLDRREC54	Single Recessed Mount Sliding Door - 54"
SLDRREC60	Single Recessed Mount Sliding Door - 60"
SLDRREC66	Single Recessed Mount Sliding Door - 66"
SLDRREC72	Single Recessed Mount Sliding Door - 72"
SLDRREC78	Single Recessed Mount Sliding Door - 78"
SLDRSURF36	Single Surface Mount Sliding Door - 36"
SLDRSURF42	Single Surface Mount Sliding Door - 42"
SLDRSURF48	Single Surface Mount Sliding Door - 48"
SLDRSURF54	Single Surface Mount Sliding Door - 54"

APPENDIX E - STANDARD SYMBOLS

Symbol Name	Description
SLDRSURF60	Single Surface Mount Sliding Door - 60"
SLDRSURF66	Single Surface Mount Sliding Door - 66"
SLDRSURF72	Single Surface Mount Sliding Door - 72"
SLDRSURF78	Single Surface Mount Sliding Door - 78"
SLOPE	Direction of Line Slope
SNK2BD	Double Bowl Sink
SNK2CT	Two Compartment Sink
SNKCWT	Circular Wash Type Sink
SNKDSP	Sink Disposer
SNKFRC	Flushing Rim Clinical Sink
SNKGEN	General Sink
SNKKLR	Kitchen Sink
SNKLDB	Sink w/Left Drainboard
SNKLTR	Sink Laundry Tray
SNKSCW	Semi-Circular Wash Sink
SNKSLP	Slop-Type Sink
SNKSRV	Service Sink
SNKSSC	Surgeon Scrub Sink
STLCSS	Structural Clay Tile, Small Scale
SUSPNT	Suspension Tee
TC1FLS	Terra Cotta Glazed 1 Face (Large Scale)
TC2FSS	Terra Cotta Glazed 2 Faces (Small Scale)
TCHOLW	Hollow Terra Cotta
TCLS	Large Scale Terra Cotta
TCQLS	Terra Cotta Quarry
TCUGLS	Terra Cotta Unglazed (Large Scale)
TCVENR	Veneer Terra Cotta
THRSHD	Threshold
TILFSS	Small Scale Tile Facing
TILGSC	Glazed Structural Clay Tile Masonry
TILSFU	Tile Structural Floor Units
TLACOU	Acoustical Tile Finishes
TLCRLS	Ceramic Tile Finish Large Scale
TRAY1L	Single Laundry Tray
TRAY2L	Double Laundry Trays
TRSHRECEP	Trash Receptacle (Big Silver)
URFM	Floor Mounted
URNLCO	Corner Type Urinal
URNLPD	Pedestal Type Urinal
URNLST	Urinal Stall
URNLTR	Trough Type Urinal
URNLWH	Wall Hung Urinal
URWM	Wall Mounted
WALLID	Wall Type Identifier
WCELWH	Electric Wall Hung Water Cooler
WCFM	Floor Mounted
WCFVFO	FV Flr Outlet Watercloset
WCFVWH	FV WH Watercloset
WCINTTNK	Integral Tank
WCITNK	Integral Tank Watercloset
WCTANK	Tank Type Watercloset

APPENDIX E - STANDARD SYMBOLS

Symbol_Name	Description
WCTNKFM	Tank Floor Mounted
WCTNKWM	Tank Wall Mounted
WCWHTN	WH Tank Watercloset
WCWM	Wall Mounted
WDFLBD	Wood Floor Board
WDFNOS	Wood Finish on Studs
WDFRAM	Continuous Wood Framing
WDSHSD	Wood Shingles Siding
WFINSH	Wood Finish
WINAWN	Window Awning
WINBAY	Projected Bay Window
WINBOW	Projected Bow Window
WINBOX	Projected Box Window
WINDCI	Window Double Casement Inward Open
WINDCN	Windcone
WINDCO	Window Double Casement Outward Open
WINDH	Double Hung Window
WINFIX	Fixed 1 Foot Window
WINID	Window Identifier
WINJAL	Jalousie Window
WINOSL	Sliding Window Left Operating Sash
WINOSR	Sliding Window Right Operating Sash
WINPIV	Pivot Window
WINSCL	Window Single Casement Left Jamb Hinge
WINSCR	Window Single Casement Right Jamb Hinge
WINSH	Single Hung Window
WOODHB	Hardboard Wood
WSHRBP	Bedpan Washer
WTRPFF	Waterproofing Felt Flashing
XRAYEQ	X-Ray Equipment

APPENDIX E - STANDARD SYMBOLS

Symbol Name	Description
ACPNL	Access Control Panel
BIOACC	Biometric
CAMCM	Ceiling Mounted
CAMRM	Roof Mounted
CAMWM	Wall Mounted
CRACC	Card Reader
CVRTALRM	Panic Alarm
EMERDUR	Emergency Duress Unit
GRDROD	Grounding Rod
KPACC	Key Pad
MICPHN	Microphone
MONCRTCM	CRT - Ceiling Mounted
MONCRTCM	CRT - Ceiling Mounted
MONCRTCON	CRT - Console Mounted
MONCRTCON	CRT - Console Mounted
MONCRTWM	CRT - Wall Mounted
MONCRTWM	CRT - Wall Mounted
MONLCDCM	LCD - Ceiling Mounted
MONLCDCM	LCD Flat Screen - Ceiling Mounted
MONLCDCON	LCD - Console Mounted
MONLCDCON	LCD Flat Screen - Console Mounted
MONLCDWM	LCD - Wall Mounted
MONLCDWM	LCD Flat Screen - Wall Mounted
PAGETEL	Paging System Phone
PUBTEL	Public Pay Phone
RECDC	Data Communication Wall Receptacle
RECDCF	Data Communication Floor Receptacle
RECTDF	Telephone/Data Floor Receptacle
RECTDW	Telephone/Data Wall Receptacle
RECTEF	Telephone Floor Receptacle
RECTEL	Telephone Wall Recep.
SPKRCM	Ceiling Mounted
SPKRWM	Wall Mounted
TBOOTH	Telephone Booth

APPENDIX E - STANDARD SYMBOLS

Symbol_Name	Description
AIRFLD	Airfield Symbol
ARRPT	Parking Turn Arrow
ARRSD	Straight Direction Arrow
ARRST	Straight and Turn Arrow
BREAK	Break Line Symbol
BUOY	Buoy
CATBSN	Catch Basin
CATBSR	Round Catch Basin
CDHDR	Core Drill Hole Drilled
CDHUDR	Core Drill Hole Undrilled
CLNOUT	Cleanout
CNR90	Corner Solid 90
CNRSF	Corner Solid Flat
CNTLIN	Centerline Symbol
COGRAV	Center of Gravity
CULVEE	Culvert End
DBLARR	Dble Arrow Terminator
DRLHOL	Drill Hole
ECRD	Rock Dam Sediment Trap
ERSBD	Staw Bale Dam
ERSCTD	Sediment Ctrl Temp Div
ERSF	Silt Fence
ERSFRO	Silt Fence Rock Overflow
ERSOST	Stone Outlet Sed Trap
ERTGCE	Construction Entr Exit
FLARRL	Flow Arrow Left in 0 Pt.
FLARRR	Flow Arrow Right in 0 Pt.
FOMETR	Fuel Oil Meter
FOMHOL	Fuel Oil Manhole
FOALT	Fuel Oil Vault
GREASE	Grease Trap
GRITCH	Grit Chamber
GSMETR	Gas Meter
GSPLNT	Gas Plant
GSRECR	Gas Receiver
GSTRAP	Gas Trap
GSVALT	Gas Valve Vault
HEADWL	Headwall
HNDCAP	Handicap Chair Symbol
HORCPT	Horizontal Control Point
HOVCPT	Horiz. Vert. Control Point
HUREYE	Hurricane Eye
HYDRNT	Hydrant
INSHWY	Interstate Hwy Symbol
IWMETR	Industrial Waste Water Meter
IWMHOL	Industrial Waste Water Manhole
JNBX	Junction Box
MONWEL	Monitoring Well
PHOCPT	Photo Control Point
PIINFO	PI Information
PIVALV	Post Indicator Valve

APPENDIX E - STANDARD SYMBOLS

Symbol_Name	Description
PMPSTA	Pump Station
RGVALV	Regulator Valve
RRSIGN	Rail Signal
RRSWTC	Rail Switch
SCNRH	Section Corner Hatched
SCNRO	Section Corner Open
SDMHOL	Storm Drainage Manhole
SHRUBC	Shrub, Coniferous
SHRUBD	Shrub, Deciduous
SIGN	Sign
SNMHOL	Sanitary Manhole
SNPVSL	Sanitary Pressure Vessel
SNVALT	Sanitary Valve Vault
SPOTEL	Ground Spot Elevation
SPTANK	Septic Tank
STHWY	State Highway Symbol
STMPIT	Steam Pit
SWAMP	Swamp
TIDEG	Tide Gage
TIRETR	Tire Treddle
TNKBG	Tank, Below Ground
TNKHAG	Tank, Horizontal Above Ground
TNKVAG	Tank, Vertical Above Ground
TRACR	Traffic Arm w/Card Reader
TRAMS	Traffic Arm,Mechanical Swing
TREEC	Tree, Coniferous
TREED	Tree, Deciduous
TREEG	Tree, Generic
USHWY	US Highway Symbol
VCDATA	Vertical Curve Data
VERCPT	Vertical Control Point
WAHHOL	Water Handhole
WAMETR	Water Meter
WAPLNT	Water Plant
WASOFT	Water Softener
WAVALT	Water Valve Vault

APPENDIX E - STANDARD SYMBOLS

Symbol Name	Description
1DIR	Direction Arrow
2DIR	Double Direction Arrow
2WAYMC	2-Way Radio Mic.
ACCBIO	Biometric Access Control
ACLLEL	Elevated Approach Lightbar
ACLLSF	Semiflush Approach Lightbar
AEDDEV	Automatic Electronic Defibrillator (A.E.D.)
AERROD	Aerial Rod
AFBCN	Airfield Beacon
ANNUN	Annunciator
ANNUNT	Local Control Annunciation Unit
ARREST	Lightning Arrestor
AUDIO	Audio
AUTOTRSW	Electric Automatic Transfer Switch
BARMKR	Barrier Marker
BATTERY	Battery
BEAM	Bi-Static Beam Sensor
BELL	Bell
BIORDR	Biometrics Access Ctrl.
BUTTON	Button
BUZZER	Buzzer
CAMFXD	Camera
CAMPTZ	Camera w/P/T/Zoom
CAPCTR	Capacitor
CARDRD	Card Reader
CBDOUT	Drawout Circuit Breaker
CBMCAS	Molded Case Circuit Breaker
CELLTX	Cellular Transmitter
CHIME	Chime
CKTID	Circuit ID Symbol
CLOCKW	Clock Outlet, Wall Mounted
CMHLN	New Communication Manhole
CMHLX	Existing Communication Manhole
CMPANL	Communication Panel
CPLTM	Circuit Line Terminator
CPREC2	Cathodic Protection Rectifier
CPSAN	Cathodic Protection Sacrificial Anode
CPTST	Cathodic Protection Test Station
CPU	Central Processing Unit
CRDRDR	Card Access Reader
CTRLPL	Control Panel
DBID	Ductbank ID Symbol
DGUYN	New Downguy
DGUYR	To Be Removed Downguy
DOROPN	Electric Door Opener
DORREV	Revolving Door
DSTMKR	Runway Distance Marker
DTHL	Displaced Threshold Light
DXFMR	Dry Type Transformer
EHLN	New Electrical Handhole
EHLX	Exist. Electrical Handhole

APPENDIX E - STANDARD SYMBOLS

Symbol Name	Description
ELBP1BCM	Single Bulb - Ceiling Mounted
ELBP1BWM	Single Bulb - Wall Mounted
ELBP1L	1 Lamp Emergency Light
ELBP2BCM	Two Bulb - Ceiling Mounted
ELBP2BWM	Two Bulb - Wall Mounted
ELBP2L	2 Lamp Emergency Light
ELBP3BCM	Three Bulb - Ceiling Mounted
ELBP3BWM	Three Bulb - Wall Mounted
ELBP3L	3 Lamp Emergency Light
ELLOCK	Electronic Lock
EMHLN	New Electrical Manhole
EMHLX	Exist. Electrical Mahole
EPBXN	New Electrical Pullbox
EPBXX	Exist. Electrical Pullbox
ERECPT	Emergency Receptacle
EXITCM	Ceiling Mounted
EXITCM	Ceiling Mtd. Exit Light
EXITDV	Exit Device
EXITLF	Exit Sign, Lighted Face
EXITWM	Wall Mounted
EXITWM	Wall Mounted Exit Sign Light
FAN	Ceiling Fan
FIBMOD	Fiber Optic Module
FIXSPB	Surface Pendant Battery Fixture
FIXSPQ	Surface Pendant Battery Quartz Restrike
FIXSPR	Surface Pendant Battery Receptacle
FIXWM	Wall Mounted Fixture
FIXWMB	Wall Mounted Battery Fixture
FL14WB	1 X 4 Wall Mounted Fixture w/Battery
FL14WM	1 X 4 Wall Mounted Fixture
FL1X4	1 X 4 Light Fixture
FL1X4B	1 X 4 Light Fixture w/Battery
FL1X4C	1 X 4 Light Fixture, Continuous
FL2X2	2 X 2 Light Fixture
FL2X2B	2 X 2 Light Fixture w/Battery
FL2X2C	2 X 2 Light Fixture, Continuous
FL2X4	2 X 4 Light Fixture
FL2X4B	2 X 4 Light Fixture w/Battery
FL2X4C	2 X 4 Light Fixture, Continuous
FLDPNL	Field Panel
FLTN	New Floodlight
FLTR	To Be Removed Floodlight
FLTX	Existing Floodlight
FUELSOSW	Fuel Shutoff Switch
FUSRAT	Fuse with Rating
GENRTR	Electric Generator
GENRTR	Generator
GLASBR	Glass Breakage Sensor
GRDROD	Grounding Rod
GROUND	Earth Ground
HAS1H	1 Hot Leg

APPENDIX E - STANDARD SYMBOLS

Symbol Name	Description
HAS1N	1 Neutral Leg
HAS1S	1 Switch Leg
HAS2H	2 Hot Legs
HAS2S	2 Switch Legs
HAS3HN	3 Hot, 1 Neutral Leg
HAS3MK	Hot/Neutral/Ground
HAS3S	3 Switch Legs
HAS4MK	2 Hot/Neutral/Ground
HAS5MK	3 Hot/Neutral/Ground
HASGND	1 Ground Leg
HEDASW	Aerial Service Weather Head
HLL	Hoverlane
HLLL	Hoverlane Limit Light
HPIL	Helipad Inset Light
HPPLEL	Elevated Helipad Perimeter Light
HPPLSF	Semiflush Helipad Perimeter Light
HRUN1	Home Run
HRUN2	Home Run
HRUN3	Home Run
INTCOM	Intercom
JNBX	Junction Box
JNBXWM	Wall Mtd. Junction Box
KEYBRD	Keyboard
KEYPAD	Keypad Device
KNR	Keyed Note Reference
KNRM	Keyed Note Reference
LEADER	Leader Line
LTPLN	New Light Pole
LTPLR	To Be Removed Light Pole
LTPLX	Existing Light Pole
MCCTR	Distribution Motor Control Center
MCPDP	Power Distribution Panel
METREL	Electrical Meter
MICROW	Outdoor Microwave
MONITR	Monitor
MOTDTRCM	Ceiling Mounted
MOTDTRWM	Wall Mounted
MOTION	Motion Detector
MOTRHP	Motor HP
OBSTRL	Obstruction Light
PAPI	PAPI Light Unit
PBFMC	Flush Mounted Panelboard Cabinet
PBFMC	Recessed Mount
PBSMC	Surface Mount
PBSMC	Surface Mounted Panelboard/Cabinet
PHOTO	Photoelectric Relay
POLEAR	Aerial Pole w/Guying
POLEID	Pole Ident. Symbol
PRINTR	Printer
PSHST1	One Pushbutton Station
PSHST2	Two Pushbutton Station

APPENDIX E - STANDARD SYMBOLS

Symbol Name	Description
PSHST3	Three Pushbutton Station
PWRDVC	Power System Device
PWRSPY	Power Supply
RCNC	Normally Closed Relay Contact
RCNO	Normally Open Relay Contact
RDRKPD	Card Reader w/Keypad
RECDER	Recorder
RECDFM	Floor Outlet, Double Flush Mounted
RECDSM	Double Surf Mount Floor Outlet
RECDUP	Duplex Receptacle
RECLOS	Recloser Aerial Automatic
RECPT2	Special Receptacle
RECQUA	Quadruplex Receptacle
RECRAN	Receptacle Range
RECSDP	Switched Duplex Receptacle
RECSFM	Floor Outlet, Single Flush Mounted
RECSIN	Single Receptacle
RECSNS	Single Receptacle with Switch
RECSPR	Special Purpose Receptacle
RECSSM	Single Surf Mount Floor Outlet
REIL	Reil Light Unit
RELAY	Relay
RELYOP	Relay OP Coil
RESHTR	Elec. Resistance Heater
RWCLL	Runway Center Light
RWEL	Runway End Light
RWLEL	Elevated Runway Edge Light
RWLSF	Semiflush Runway Edge Light
S3ABC	3 Three Way Switches
SABC	3 Single Switches
SCRDEV	Screening Device
SECSA	Security Screen w/Alarm
SECSW	Security Window Screen
SECTAA	Sectionalizer Aerial Auto
SENGV	Generic Volumetric Sensor
SENULS	Ultrasonic Sensor
SES	Service Entrance Section (SES)
SFL	Sequenced Flasher Light
SHREDR	Document Destroyer
SLLN	New Streetlight
SLLR	To Be Removed Streetlight
SLLX	Existing Streetlight
SLREG	Constant Current Transformer
SM	Motor Switch
SOUNDS	Sound System
STP14	1 X 4 Strip, Surface Pendant Recessed
STP14B	1 X 4 Strip, Surface Pendant Recessed w/Battery
STP18	1 X 8 Strip, Surface Pendant Recessed
STP18B	1 X 8 Strip, Surface Pendant Recessed w/Battery
SUBSTA	Substation
SWFLNC	Normally Closed Float Switch

APPENDIX E - STANDARD SYMBOLS

Symbol Name	Description
SWFLNO	Normally Open Float Switch
SWFNC	Normally Closed Flow Switch
SWFNO	Normally Open Flow Switch
SWFONC	Normally Closed Foot-Operated Switch
SWI2WY	Double Pole Switch
SWI3WY	Three Way Switch
SWI4WY	Four Way Switch
SWICB	Circuit Breaker
SWICHA	Auto. Monitor. Switch
SWICHM	Man. Operated Switch
SWIDIS	Disconnect Switch
SWIDM1	Dimmer
SWIDM2	Dimmer Switch
SWIDUR	Duress Switch
SWIFUS	Fused Switch
SWIKEY	Key-Operated Switch
SWILVM	Low Voltage Master Switch
SWITCH	Single Pole Switch
SWITIM	Timer Operated Switch
SWLAMP	Lamp Holder Pole Switch
SWLNC	Normally Closed Limit Switch
SWLNO	Normally Open Limit Switch
SWMULT	Multiposition Switch
SWPADN	New Switchpad
SWPADX	Existing Switchpad
SWPCM	Ceiling Mounted Pull Switch
SWPCOI	Pressure Switch-Close on Increase
SWPOOI	Pressure Switch-Open on Increase
SWSBRK	Single Break Switch
SWTANC	Normally Closed Temp Activated Switch
SWTANO	Normally Open Temp Activated Switch
SWTDNC	Normally Closed Time Delay Switch
SWTDNO	Normally Open Time Delay Switch
TARDR	Card Reader w/Time/Att.
TDZL	Touchdown Zone Light
TELEDL	Telephone Dialer
THINGE	Power Transfer Hinge
THL	Threshold Light
TOWER	Transmission Tower
Transmit Unit	
TRFARM	Traffic Arm.
TRFCLP	Vehicle Loop Detector
TRFSIG	Traffic Signal Mast Arm.
TRNSTL	Turnstile
TSCTRL	Traffic Signal Controller
TSHEAD	Traffic Signal Head
TSPBX	Traffic Signal Pullbox
TSPHS	Traffic Signal Phase #, Thru.
TSPHT	Traffic Signal Phase #, Turn.
TSTAT	Thermostat
TSVLDT	Traffic Signal Vehicle Loop Detector

APPENDIX E - STANDARD SYMBOLS

Symbol Name	Description
TVOUT	Television Outlet
TWCLL	Taxiway Centerline Light
TWELEL	Elevated Taxiway End Light
TWELSF	Semiflush Taxiway End Light
TWGSGN	Taxiway Guidance Sign
TWLEL	Elevated Taxiway Edge Light
TWLSF	Semiflush Taxiway Edge Light
UTPLN	New Pole
UTPLR	To Be Removed Pole
UTPLX	Existing Pole
VIDCR	Camera w/Card Reader
VIDCTL	Video Control Keyboard
VIDIC	Video Intercom
VIDICM	Video Intercom Master
VIDKPD	Camera w/Keypad
VIDMTN	Video Motion Detector
VIDMUX	Video Multiplexer
WINDCN	Windcone
WYECON	XFMR Wye Connection
WYEXGC	XFMR Grounded Connection
XFRPLN	New XFMR Pole
XFRPLR	To Be Removed XFMR Pole
XFRPLX	Existing XFMR Pole
XFRPMN	New XFMR Pad
XFRPMR	To Be Removed XFMR Pad
XFRPMX	Existing XFMR Pad
XMFRELEV	Transformer - Elevated
XMFRPFM	Transformer - Floor/Pad Mounted
XMFRVT	Transformer - Vault

APPENDIX E - STANDARD SYMBOLS

Symbol Name	Description
1DIR	Direction Arrow
ABCEXT	ABC Type - Dry Chemical
ABORT	Abort Switch
ACCESS	Fire Department Access
AGSTCN	Agent Storage Container
AIRCOMPR	Air Compressor
ALMCOMBCM	Ceiling Mounted Audible with Integral Strobe
ALMCOMBWM	Wall Mounted Audible with Integral Strobe
AUDALMCM	Ceiling Mounted Audible Alarm
AUDALMWM	Wall Mounted Audible Alarm
BCEXT	BC Type - Dry Chemical
BELLFA	Bell (Gong)
BOILER	Boiler
CAEXT	Clean Agent or Halon
CHIMNY	Chimney
CO2AA	CO2 Automatically Actuated Extinguishing System
CO2EXT	Carbon Dioxide
CO2MA	CO2 Manually Actuated Extinguishing System
CODTR	Carbon Monoxide Detector - Wall Mount
CONSFS	Freestanding Siamese Fire Department Connection
CONSIDA	Siamese Fire Department Connection
CONSNG	Single Fire Department Connection
CPESR	Elevator Status/Recall
CPFAC	Fire Alarm Communicator
CPFCEP	Fire Alarm Control Panel
CPFSA	Fire System Annunciator
CPFTR	Fire Alarm Transponder or Transmitter
CPHCP	Halon Control Panel
CPHVA	Control Panel for HVAC
DCATAA	All-Type Fire Extinguisher, Automatically Actuated
DCATMA	All-Type Fire Extinguisher, Manually Actuated
DCEABC	Dry Chemical Extinguisher (ABC-Type)
DCEBC	Dry Chemical Extinguisher (BC-Type)
DCECO2	CO2 Extinguisher
DCEHLN	Halon or Clean Agent Extinguisher
DCLGAA	Dry Chemical System Auto Act. (Liquid, Gas, Elec. Fires)
DCLGMA	Dry Chemical System Man Act. (Liquid, Gas, Elec. Fires)
DMPBAR	Barometric Damper
DMPFIR	Fire Damper
DMPFS	Fire/Smoke Damper
DMPSMK	Smoke Damper
DRHOLD	Door Holder
DRHOLD	Magnetic Hold Open Device
DTFLAM	Flame Detector
DTFLOW	Flow Detector/Switch
DTGAS	Gas Detector
DTLEVL	Level Detector/Switch
DTPRES	Pressure Detector/ Switch
DTTAMP	Tamper Detector
ELBP1L	1-Lamp Emergency Light, Battery Powered
ELBP2L	2-Lamp Emergency Light, Battery Powered

APPENDIX E - STANDARD SYMBOLS

Symbol Name	Description
ELBP3L	3-Lamp Emergency Light, Battery Powered
EPSTA	Emergency Phone Station
ESCAPE	Fire Escape
EXFOAM	Foam Extinguisher
EXITCM	Ceiling Mounted Exit Sign Light
EXITLF	Exit Sign, Lighted Face
EXITWM	Wall Mounted Exit Sign Light
EXWATR	Water Extinguisher
FADA	Distributive Amplifier
FANDCT	Duct Fan
FANGEN	General Fan
FANWAL	Wall Fan
FAPB	Strobe Power Booster
FAPNL	Fire Alarm Panel
FDOR3	3-Hour Rated Fire Door in Wall
FDORL3	Wall w/<3-Hour Rated Door
FIREPUMP	Fire Pump
FOAMEXT	Foam
FPDRIV	Fire Pump w/Drives
FPFREE	Free Standing Test Header
FPTEST	Wall-Mtd. Test Header
FRR1HR	1-Hour Fire Resistance Rating
FRR2HR	2-Hour Fire Resistance Rating
FRR30M	30 Minute Fire Resistance Rating
FRR3HR	3-Hour Fire Resistance Rating
FRR45M	45 Minute Fire Resistance Rating
FRR4HR	4-Hour Fire Resistance Rating
FULLSS	Fully Sprinklered Space
HD	Heat Detector
HLNAA	Automatically Actuated Halon Extinguishing System
HLNMA	Manually Actuated Halon Extinguishing System
HOSECBTPED	Pedestal Mounted
HOSECBTREC	Wall Mounted - Recessed
HOSECBTSUR	Wall Mounted - Surface
HOSECS	Hose Station, Charged Standpipe
HOSEDS	Hose Station, Dry Standpipe
HRN1A	Horn w/Light, One Assembly
HRNMIN	Mini Horn
HRNSA	Horn w/Light, Separate Assembly
HRNSPK	Speaker/Horn (Electric Horn)
HTDTR	Heat Detector - Ceiling Mounted
HYDPR1	Private Hydrant, One-Hose Outlet
HYDPR2	Private Housed Hydrant, Two-Hose Outlets
HYDPU2	Public Hydrant, Two-Hose Outlets
HYDPUP	Public Hydrant, Two-Hose Outlets, Pumper Connection
HYDW2H	Wall Hydrant, Two-Hose Outlets
LITFAS	Light
MANSTA	Fire Alarm - Pull Station
MANSTA	Manual Station
METRFP	Meter
MNCHRG	Monitor Nozzle, Charged

APPENDIX E - STANDARD SYMBOLS

Symbol Name	Description
MNDRY	Monitor Nozzle, Dry
NONSS	Non-Sprinklered Space
PARTSS	Partially Sprinklered Space
PURGE	Manual Purge Control
RISER	Riser
RSCO2	CO2 Reel Station
RSDRYC	Dry Chemical Reel Station
RSFOAM	Foam Reel Station
SD –Smoke Detector	
SDTRCM	Smoke Detector - Ceiling Mounted
SDTRDM	Smoke Detector - Duct Mounted
SDTRWM	SMOKE DETECTOR - Wall MOUNTED
SDUCT	Smoke Detector for Duct
SHGARD	Sprinkler Head w/Guard
SHNUU	Nippled Up Upright Sprinkler Head
SHOUT	Outside Sprinkler Head
SHPEND	Pendent Sprinkler Head
SHPNND	Pendent Sprinkler Head, on Drop Nipple
SHSIDE	Sidewall Sprinkler Head
SHUPRT	Upright Sprinkler Head
SMKBAR	Smoke Barrier
SSNOZZ	Special Spray Nozzle
STRBCM	Ceiling Mounted Strobe
STRBWM	Wall Mounted Strobe
THRUST	Thrust Block
TNKBG	Tank, Below Ground
TNKHAG	Tank, Horizontal Above Ground
TNKVAG	Tank, Vertical Above Ground
VLVCHA	Alarm Check Valve
VLVCHK	Check Valve
VLVDEL	Deluge Valve
VLVDRY	Dry Pipe Valve
VLVIBF	Indicating Butterfly Valve
VLVKEY	Key-Operated Valve
VLVNON	Nonindicating Valve (Nonrising Stem)
VLVOSY	OS&Y Valve
VLVPI	Post Indicator Valve
VLVPIT	Valve in Pit
VLVPRE	Preaction Valve
VLVQOD	Dry Pipe Valve, w/Quick Opening Device
VLVTDS	Valve w/ Tamper Detector/Switch
VNTOPN	Ventilation Openings
WALARM	Water Motor Alarm
WATRSS	Water Spray System
WBDSMA	Water-Based Dry System Manually Actuated
WBDSSA	Water-Based Dry System Automatically Actuated
WBFSAA	Water-Based Foam System Automatically Actuated
WBFSMA	Water-Based Foam System Manually Actuated
WBWSAA	Water-Based Wet System, Automatically Actuated
WBWSMA	Water-Based Wet System, Manually Actuated

APPENDIX E - STANDARD SYMBOLS

Symbol Name	Description
BREAK	Break Line Symbol
CNTLIN	Centerline Symbol
COLLIN	Column Line/Grid Indicator
DBLARR	Double Arrow Terminator
DTLIND	Detail Indicator
KEYIND	Keynote Indicator
MAGNOR	Magnetic North Arrow
MATIND	Match Line Indicator
NORIND	North Indicator
NORNCS	North Indicator (NCS)
NORTH1	North Indicator
NORTH2	North Indicator
NOTIND	Note Indicator
REVID1	Revision Indicator, 1 Char
REVID2	Revision Indicator, 2 Char
S00001	Scale 1 : 1
S00005	Scale 1 : 5
S0000B	Scale 1" = 1"
S00010	Scale 1 : 10
S0001B	Scale 1" = 1'-0"
S0001G	Scale 1" = 1'-0"
S00020	Scale 1 : 20
S0003B	Scale 3" = 1'-0"
S0003G	Scale 3" = 1'-0"
S00050	Scale 1 : 50
S0005B	Scale 1" = 5'
S0005G	Scale 1" = 5'
S0006B	Scale 6" = 1'-0"
S0006G	Scale 6" = 1'-0"
S00100	Scale 1 : 100
S0010B	Scale 1" = 10'
S0010G	Scale 1" = 10'
S0012B	Scale 1/2" = 1'-0"
S0012G	Scale 1/2" = 1'-0"
S0014B	Scale 1/4" = 1'-0"
S0014G	Scale 1/4" = 1'-0"
S0015B	Scale 1-1/2" = 1'-0"
S0015G	Scale 1-1/2" = 1'-0"
S0016B	Scale 1/16" = 1'-0"
S0016G	Scale 1/16" = 1'-0"
S0018B	Scale 1/8" = 1'-0"
S0018G	Scale 1/8" = 1'-0"
S001KB	Scale 1:1000
S00200	Scale 1 : 200
S0020B	Scale 1" = 20'
S0020G	Scale 1" = 20'
S002KB	Scale 1:2000
S0030B	Scale 1" = 30'
S0030G	Scale 1" = 30'
S0034B	Scale 3/4" = 1'-0"
S0034G	Scale 3/4" = 1'-0"

APPENDIX E - STANDARD SYMBOLS

Symbol Name	Description
S0040B	Scale 1" = 40'
S0040G	Scale 1" = 40'
S00500	Scale 1 : 500
S0050B	Scale 1" = 50'
S0050G	Scale 1" = 50'
S005KB	Scale 1:5000
S0060B	Scale 1" = 60'
S0060G	Scale 1" = 60'
S0080B	Scale 1" = 80'
S0080G	Scale 1" = 80'
S01000	Scale 1 : 1000
S0100B	Scale 1" = 100'
S0100G	Scale 1" = 100'
S010KB	Scale 1 : 10000
S0150B	Scale 1" = 15'
S0150G	Scale 1" = 15'
S02000	Scale 1 : 2000
S0200B	Scale 1" = 200'
S0200G	Scale 1" = 200'
S0300B	Scale 1" = 300'
S0300G	Scale 1" = 300'
S0364B	Scale 3/64" = 1'-0"
S0364G	Scale 3/64" = 1'-0"
S0400B	Scale 1" = 400'
S0400G	Scale 1" = 400'
S05000	Scale 1 : 5000
S0500B	Scale 1" = 500'
S0500G	Scale 1" = 500'
S06000	Scale 1 : 6000
S0600B	Scale 1" = 600'
S0600G	Scale 1" = 600'
S10000	Scale 1 : 10000
S1000B	Scale 1" = 1000'
S1000G	Scale 1" = 1000'
S10K0B	Scale 1" = 10000'
S10K0G	Scale 1" = 10000'
S125KB	Scale 1 : 125000
S20000	Scale 1 : 20000
S2000B	Scale 1" = 2000'
S2000G	Scale 1" = 2000'
S4000B	Scale 1" = 4000'
S4000G	Scale 1" = 4000'
SECIN1	Section Indicator
SECIN2	Section Indicator
SECIN3	Section Indicator

APPENDIX E - STANDARD SYMBOLS

Symbol Name	Description
ANCHOL	Angle Cored Hole (Arrow=Dir)
ANTICL	Anticline
BHHNUM	Backhoe Hole Number
BOLOGR	Boring Log Refusal
BORLOG	Boring Log Sheet
CCHNUM	Concrete Core Hole Number
CDRDSH	Consolidated-Drained Direct Shear
CONDRA	Consolidated Drained
CONSOL	Consolidation
CONTST	Consolidation Test
CONUDR	Consolidated Undrained
CPNHOL	Cone Penetrometer Hole
CUDRTT	Consolidated-Undrained Triaxial Test
DSCHIC	Boring w/Inclinometer
DSCHOL	Drive Sampled (SPT) and Cored
DSCHPT	Drive Sampled (SPT) and Cored Hyd. Pressure Tested
DSCHPZ	Drive Sampled (SPT) and Cored w/Piezometer
DSCPZT	Drive Sampled (SPT) and Cored Hyd Test Piezometer
DSHOL	Drive Sample (SPT) Hole
DSHPZ	Disturbed Sample Boring w/Piezometer
FBLCK1	Fault Block Movement 1
FBLCK2	Fault Block Movement 2
FDRAIN	Foundation Drain
HAHNUM	Hand Auger Hole Number
HANGF1	High Angle Fault 1
HANGF2	High Angle Fault 2
HDHNUM	Hand Dug Hole Number
HEXAGN	Hexagon Symbol
HOLNUM	Hole Number, Elevation, Offset
HRZBED	Horizontal Beds
ICCSNG	Inclinometer Casing
MOISTC	Moisture Content
NSAHOL	Nonsampled Area of Hole
OBShOL	Piezometer or Observation Hole
OPBLOG	Open Boring Log
PAHNUM	Power Auger Hole Number
PIEZOM	Piezometer
PROPEX	Proposed Exploration
PTHNUM	Perc Test Hole Number
PZABD	Abandoned Piezometer
PZUNIT	Piezometer Sensing Unit
RDHNUM	Rotary Drill Hole Number
RFWELL	Relief Well
RSLASH	Refusal Slashes
SAMPLE	Sample
SDIJNT	Strike Dip of Inclined Joint
SQUARE	Square Symbol
STKLNG	Sticklog Legend
STKLOG	Sticklog
STRKDP	Strike Dip
STRKVJ	Strike of Vertical Joint

APPENDIX E - STANDARD SYMBOLS

Symbol Name	Description
STRKVP	Strike w/Vertical Dip
SYNCLN	Syncline
TPIOB	Test Pit in Overburden
TRIANG	Triangle Symbol
TSTHOL	Test Hole Symbol
TTIOB	Test Trench in Overburden
UCCELL	Uplift Cell
UCONUD	Unconsolidated Undrained
UCONUT	Unconsolidated-Undrained Triaxial Test
UDENIS	Undisturbed Denison or Push
UDUNPZ	Undisturbed Sample Boring Piezometer
ULIMIT	Unsatisfactory Limit
VCHHPT	Vertical Core Hole Hyd. Pressure Tested
VCHOL	Vertical Core Hole
VHNUM	Vibracore Hole Number
WASHBR	Washbored
WBHNUM	Wash Boring Hole Number
WLEVDL	Water Level Date Left
WTRLEV	Water Level

APPENDIX E - STANDARD SYMBOLS

Symbol Name	Description
AIRQST	Air Quality Monitoring Station
AIRSMP	Air Sample Location
BIOSMP	Biological Sample Location
EGDECN	Equip. Decontamination
EGONST	Onsite Command Post
EGSITE	Site Information Center
EGWASH	Washdown Water Tank
EHZMSA	Hazmat Storage Location
EHZMSB	Hazmat Storage Building
EHZMSR	Hazmat Storage Room
EHZMSV	Hazmat Storage Vault
EHZWSA	Hazwaste Storage Location
EHZWSB	Hazwaste Storage Building
EHZWSR	Hazwaste Storage Room
EHZWSV	Hazwaste Storage Vault
EMGSHW	Emergency Shower
EPOLLS	Pollution Source Site
EYEWAS	Emergency Eyewash
GWTQST	Groundwater Quality Monitoring Station
LANGAS	Landfill Gas Monitor Probe
MAGLOC	Magnetometer Det. Locat
MATSMP	Solid Material Sample Location
PRLLOC	Potential Release Location
RESTR	Restricted Access
SEDSMP	Sediment Sample Location
SOLGAS	Soil Gas Monitoring Probe
SOLSMP	Soil Sample Location
SPLRES	Spill Response
SPLTNK	Spill Containment Tank
SURSMP	Surface Water Sample LocD
SWTQST	Surface Water Quality Monitoring Station
WASSMP	Waste Sample Location
WATSMP	Groundwater Sample LocD

APPENDIX E - STANDARD SYMBOLS

Symbol_Name	Description
ABLLBD	Bulletin Board
ACOSTM	Costumer
ACURTN	Curtain
ADDCAB	Double Door Cabinet
AEAS30	Easel, 30W (Hidden)
AMAG15	Magazine Rack, 15W X 3D
AMAGLT	Magnifying Light
APLANT	Artificial Plant
APRJSC	Projection Screen, Ceiling-Mounted
ASTCAB	Storage Cabinet
D65CLR	Desk 65 Comp LR
D65CRR	Desk 65 Comp RR
D7230L	L.H. Single Pedestal Desk, 72W X 30D (2)
D7230R	R.H. Single Pedestal Desk, 72W X 30D (2)
DPFF	Desk, Double File Pedestal
DPFL	Desk, Left Pedestal
DPFR	Desk Return Pedestal File
DSC1	Desk, Study Carrel, Single
ECGAME	Freestanding Computer Game
ECOMCN	Comsec Container
EDRYER	Dryer
EPINBL	Pinball Machine
ERFRG	Refrigerator
ETV	Television
EVEND	Vending Machine
EWASHM	Washing Machine
F4DL	Lateral File Cab-4 Drawer
FC3618	Storage Cabinet, 36W X 18D
FE7422	Equip. Shelving, 74W X 22D, Barracks
FV1833	Vertical File, 18W X 33D
GHNDCP	Universal Handicap Symbol
GIDIR	Directory
GIID	Identification Sign
GIIS1	Identification Sign w/1 Slot
GIIS2	Identification Sign w/2 Slots
GIPIC1	Pictogram 1
GIPIC2	Pictogram 2
GMAN	Man Symbol for Restroom Signage
GWOMAN	Woman Symbol for Restroom Signage
MFMATL	Furniture Material List
MFSCHD	Furniture Schedule
MFSYMB	Furniture Symbol
MNORTH	North Arrow
MRSCHD	Room Finish Schedule
MSSCHD	Signage Schedule
SDMGT	Management Chair w/Arms 24W X 22D
SDSEC	Secretarial Chair w/out Arms, 23W X 22D
SDTASK	Task Chair
SGANG	Gang Seating w/Table
SSOF37	Sofa Chair, 37W X 34D
SSOF63	2 Cushion Sofa, 63W X 34D

APPENDIX E - STANDARD SYMBOLS

Symbol_Name	Description
SSOF82	3 Cushion Sofa, 82.5W X 34D
STAB24	Chair Tablet Arm, 24W X 24D
T42SQ	Table, 42SQ w/ Armless Chairs
TMS30	Mailsort Table 16 OH Slots 30W
TPOOL	Pool Table
TROUND	Round Table
W7230L	Workstation L Unit LR
W7230R	Workstation L Unit RR
WCPDSK	Desk, Computer
WFLIPR	Flipper Door Unit
WLIGHT	Workstation Light
WPED	Workstation Pedestal

APPENDIX E - STANDARD SYMBOLS

Symbol_Name	Description
SHRUBC	Shrub, Coniferous
SHRUBD	Shrub, Deciduous
TREEC	Tree, Coniferous
TREED	Tree, Deciduous
TREEG	Tree, Generic

APPENDIX E - STANDARD SYMBOLS

Symbol_Name	Description
ACCDOR	Duct Access Door
AGUIDE	Alignment Guide
AIRELM	Air Eliminator
AIRIN	Air In
AIRSEP	Air Separator
ANCHRI	Anchor
AVENTA	Automatic Air Vent
AVENTM	Manual Air Vent
BALLJT	Ball Joint
BUSHSC	Bushing
CAPSC	Cap
CAPTUB	Capillary Tube
CDRND	Round Ceiling Diffuser
CDSQR	Square Ceiling Diffuser
CFM2X3	Airflow CFM
CFM2X4	Airflow CFM
CFM3X4	Airflow CFM
CO2DTR	Carbon Dioxide Detector - Wall mount
COCKSC	Cock
CREDESC	Concentric Reducer
CRSRSC	Cross
CUPJNT	Coupling Joint
DCTHTR	Electric Duct Heater
DMPEOC	Electric Operated Damper Control
DMPFIR	Fire Damper
DMPFS	Fire Smoke Damper
DMPPOD	Pneumatic Damper
DMPSMK	Smoke Damper
DPRSD	Duct Pressure Class Down
DPRSH	Duct Pressure Class Horiz
DPRSL	Duct Pressure Class Left
DPRSR	Duct Pressure Class Right
DPRSU	Duct Pressure Class Up
DPRSV	Duct Pressure Class Vert
DRIER	Drier
EEQ2X2	Electrical Equipment 2X2 Mark
EEQ2X3	Electrical Equipment 2X3 Mark
EEQ2X4	Electrical Equipment 2X4 Mark
EEQ3X2	Electrical Equipment 3X2 Mark
EEQ3X3	Electrical Equipment 3X3 Mark
EEQ3X4	Electrical Equipment 3X4 Mark
EL45SC	45 Degree Elbow
EL90SC	90 Degree Elbow
ELBSC	Base Elbow
ELDBSC	Double Branch Elbow
ELLRSC	Long Radius Elbow
ELODSC	Side Outlet Elbow, Outlet Down
ELOUSC	Side Outlet Elbow, Outlet Up
ELSTRT	Street Elbow
ELTDSC	Turned Down Elbow
ELTUSC	Turned Up Elbow

APPENDIX E - STANDARD SYMBOLS

Symbol_Name	Description
EREDSC	Eccentric Reducer
EXPJNT	Expansion Joint
FANERV	Exhaust Roof Vent Fan
FANLRV	Louvered Roof Vent Fan
FANSRV	Intake Roof Vent Fan
FLBLND	Blind Flange
FLOW2	Air Flow Direction Arrow
FLRPEN	Iso. Floor Penetration
FLXCON	Flexible Connector
GAUGE	Gauge
GRILEX	Exhaust Grille
GRILSU	Supply Grille
HANGRD	Hanger Rod
HANGSP	Hanger Spring
HSENS	Humidity Sensor
HSTAT	Humidistat
LNDIFF	Linear Diffuser
LOOP_L	Left Dimension Loop
LOOP_R	Right Dimension Loop
LOUOPN	Door or Wall Louver Opening
O2DTR	Oxygen Detector - Wall Mount
PIDROP	Pitch or Pipe Drop
PIRISE	Pitch or Pipe Rise
PLGBFL	Bull Plug, Flanged
PLGPSC	Pipe Plug
PRGGCO	Pressure Gage and Cock
PSDIFF	Pump Suction Diffuser
PUMP	Pump
PUMPP	Pump (Schematic)
PUMPS	In-Line Pump
SCALET	Scale Trap
SLEEVE	Sleeve
STGLAS	Sight Glass
STRAIN	Strainer
STRBLO	Blow Off Strainer
SUPOUT	Supply Outlet (Wall Supply)
TDSSC	Double Sweep Tee
THERM	Thermometer
THERMW	Thermometer Well
THHRB	Thermostat, Remote Bulb
THHSC	Thermostat, Self Contained (HVAC)
THLPRS	Thermostat, Low Pressure
THMCP	Thermostat, Microprocessor
THPELE	Thermostat, Electric
THPPNE	Thermostat, Pneumatic
TMPSEN	Temperature Sensor
TODSC	Tee, Outlet Down
TOUSC	Tee, Outlet Up
TRAPFL	Float Trap
TRAPFT	Float and Thermostatic Trap
TRAPST	Steam Trap

APPENDIX E - STANDARD SYMBOLS

Symbol Name	Description
TRAPTB	Thermostatic Blast Trap
TSODSC	Tee, Side Outlet, Outlet Down
TSOUSC	Tee, Side Outlet, Outlet Up
TSSSC	Straight Size Tee
TSSWSC	Single Sweep Tee
UNIOSC	Union
UNKNDTRCM	Unknown - Detector (Ceiling Mounted)
UNKNDTRDM	Unknown - Detector (Duct Mounted)
UNKNDTRWM	Unknown - Detector (Wall Mounted)
VA3WAM	3-Way Air Motor Controlled Valve
VA3WEM	3-Way Electric Motor Controlled Valve
VA3WM	3-Way Manual Valve
VAAHOS	Angle Hose Valve
VABALL	Ball Valve
VABFLY	Butterfly Valve
VACWR	Condenser Water Regulating Valve
VADISC	Diaphragm Valve
VAEMTR	Valve Actuator Electric Motor
VAESOL	Valve Actuator Electric Solenoid
VAFLSC	Float Valve
VAGAMC	Air Motor Controlled Gate Valve
VAGLAM	Air Motor Controlled Globe Valve
VAGLE	Angle Globe Valve
VAGLSE	Globe Valve
VAGSE	Angle Gate Valve
VAGSP	Angle Gate Valve
VAGTSE	Gate Valve
VAHASC	Hose Angle Valve
VAHGLS	Hose Globe Valve
VAHGSC	Hose Gate Valve
VALSSC	Lock Shield Valve
VAMAGS	Magnetic Stop Valve
VAMNNS	Valve Actuator Manual Nonrising Stem
VAMOGS	Motor Operated Gate Valve
VAMOLS	Motor Operated Globe Valve
VAMOSY	Valve Actuator Manual Outside Stem & Yoke
VANEED	Needle Valve
VAPLUG	Plug Valve
VAPMTD	Valve Actuator Pneumatic Motor Diaphragm
VAPRED	Pressure Reducing Valve
VAPRRD	Pressure Reducing Valve
VAQOSC	Quick Opening Valve
VARELF	Relief or Safety Valve
VASCE	Angle Globe Valve
VASCP	Angle Globe Valve
VASFSC	Safety Valve
VASGCH	Swing Gate Check Valve
VASNAP	Snap Action Valve
VASOLN	Solenoid Valve
VASPCH	Spring Check Valve
VASTSC	Gate Valve

APPENDIX E - STANDARD SYMBOLS

Symbol_Name	Description
VASWSC	Straight Way Check Valve
VATPR	Temperature Pressure Relief Valve

APPENDIX E - STANDARD SYMBOLS

Symbol Name	Description
AIRCOMPR	Air Compressor
BOILER	Boiler
CAPSC	Cap
COFM	Cleanout
DRNFUN	Open Drain Funnel
EL45SC	45 Degree Elbow
EL90SC	90 Degree Elbow
ELBSC	Base Elbow
ELDBSC	Double Branch Elbow
ELLRSC	Long Radius Elbow
ELODSC	Side Outlet Elbow, Outlet Down
ELOUSC	Side Outlet Elbow, Outlet Up
ELSTRT	Street Elbow
ELTDSC	Turned Down Elbow
ELTUSC	Turned Up Elbow
EWCWM	Electric Water Cooler
FCO	Floor Cleanout
FDCO	Floor Drain with Cleanout
FDDT	Floor Drain with Deep Trap
FDNT	Floor Drain with No Trap
FDTP	Floor Drain with Trap Prime
FDTRP	Floor Drain
FDWT	Floor Drain with Trap
FLBLND	Blind Flange
FLOW3	Flow Arrow
FLRPEN	Iso. Floor Penetration
GAUGE	Gauge
GRSTRP	Grease Trap
HANGRD	Hanger Rod
HANGSP	Hanger Spring
HTEX	Heat Exchanger
ISOEWC	Isometric EWC
ISOLAV	Isometric Lavatories
ISOMOP	Isometric Mop Sink
ISOUR1	Isometric Wall Mounted Urinals
ISOWC1	Isometric Floor Mounted Water Closet
ISOWC2	Isometric Wall Mounted Water Closet
LOOP	Left Dimension Loop
LOOPR	Right Dimension Loop
PLGBFL	Bull Plug, Flanged
PLGPSC	Pipe Plug
PRGGCO	Press. Gauge and Cock
PUMP	Pump
PUMP	Pump
PUMPP	Pump (Schematic)
PUMPS	In-Line Pump
RPBFP	Backflow Preventer
SLEEVE	Sleeve
STGLAS	Sight Glass
STRAIN	Strainer
STRBLO	Blow Off Strainer

APPENDIX E - STANDARD SYMBOLS

Symbol Name	Description
TDSSC	Double Sweep Tee
THERM	Thermometer
TRAPST	Steam Trap
TSODSC	Tee, Side Outlet, Outlet Down
TSOUSC	Tee, Side Outlet, Outlet Up
TSSSC	Straight Size Tee
TSSWSC	Single Sweep Tee
UNIOSC	Union
VA3WAM	3-Way Air Motor Controlled Valve
VA3WEM	3-Way Electric Motor Controlled Valve
VA3WM	3-Way Manual Valve
VAAHOS	Angle Hose Valve
VABALL	Ball Valve
VABFLY	Butterfly Valve
VACWR	Condenser Water Regulating Valve
VADISC	Diaphragm Valve
VAEMTR	Valve Actuator Electric Motor
VAESOL	Valve Actuator Electric Solenoid
VAGAMC	Air Motor Controlled Gate Valve
VAGLAM	Air Motor Controlled Globe Valve
VAGLE	Angle Globe Valve (Elevation)
VAGLSE	Globe Valve
VAGSE	Angle Gate Valve, (Elevation)
VAGSP	Angle Gate Valve (Plan)
VAGTSE	Gate Valve
VAHASC	Hose Angle Valve
VAHGLS	Hose Globe Valve
VAHGSC	Hose Gate Valve
VALSSC	Lock Shield Valve
VAMAGS	Magnetic Stop Valve
VAMNNS	Valve Actuator Manual Nonrising Stem
VAMOGS	Motor Operated Gate Valve
VAMOLS	Motor Operated Globe Valve
VAMOSY	Valve Actuator Manual Outside Stem & Yoke
VANEED	Needle Valve
VAPLUG	Plug Valve
VAPMTD	Valve Actuator Pneumatic Motor Diaphragm
VAPRED	Pressure Reducing Valve
VAPRRD	Pressure Reducing Valve
VAQOSC	Quick Opening Valve
VARELF	Relief or Safety Valve
VASCE	Angle Globe Valve (Elevation)
VASCP	Angle Globe Valve (Plan)
VASFSC	Safety Valve
VASGCH	Swing Gate Check Valve
VASNAP	Snap Action Valve
VASOLN	Solenoid Valve
VASPCH	Spring Check Valve
VASTSC	Gate Elbow
VASWSC	Straight Way Check Valve
VATPR	Temperature Pressure Relief Valve

APPENDIX E - STANDARD SYMBOLS

Symbol_Name	Description
VLVCHK	Check Valve
WFWM	Water Fountain
WTRFLTR	Water Filtration Package
WTRHTR	Water Heater
WTRSFR	Water Softener

APPENDIX E - STANDARD SYMBOLS

Symbol_Name	Description
4FRB	4" Flat Ribbed Waterstop
6FRBHD	6" Flat Ribbed Waterstop, Heavy Duty
6FRBLW	6" Flat Ribbed Waterstop, Light Weight
6RCBHD	6" Ribbed Waterstop with Center Bulb, Heavy Duty
6RCBLW	6" Ribbed Waterstop with Center Bulb, Light Weight
9FLBHD	9" Flat Ribbed Waterstop Heavy Duty
9FRBLW	9" Flat Ribbed Waterstop Light Weight
9RCBHD	9" Ribbed Waterstop with Center Bulb, Heavy Duty
9RCBLW	9" Ribbed Waterstop with
ANBOLT	Anchor Bolt
AZLBF	Foster Connection AZ LBF
AZLBM	Foster Conn. AZ LBM
BOX	Box Pile
CMUFL	Fluted Concrete Block, 8 X 8 X 16
CMURIB	Ribbed Concrete Block, 8 X 8 X 16
CMUSF	Split Face Concrete Block, 8 X 8 X 16
CMUSTR	Structural Concrete Block, 8 X 8 X 16
CNTLIN	Centerline Symbol
COLLIN	Column Line/Grid Ind.
JSTBR1	Joist Bar, Single Line
JSTBR2	Joist Bar, Single Line
PLATE	Plate Symbol
PLZ23	PLZ23 Sheet Piling
PLZ25	PLZ25 Sheet Piling
PS275	PS27.5 Sheet Pile
PS31	PS31 Sheet Pile
PSA23	PSA23 Sheet Pile
PZ22	PZ22 Sheet Pile
PZ27	PZ27 Sheet Pile
PZ35	PZ35 Sheet Pile
PZ40	PZ40 Sheet Pile
PZBBSM	Foster Conn. HPile
PZBULL	Foster Conn. Bullhead
PZCBM	Foster Conn. CBM
PZJOKR	Foster Conn. Joker
PZWOM	Foster Conn. PZ WOM
RC230	RC230 Sheet Pile Conn
RC231	RC231 Sheet Pile Conn
SS803	Foster Superloc 1540
SS805	Foster Cap 1550 1540
SS806	Foster Superloc 1560
SS807	Foster Cap 1560
SS808	Foster Superloc 1550
SS809	Foster 180 90 Connector
SS810	Foster Superwale
ZB_27	Foster Angle Fab Corner
ZC270	PZ22 PZ27 L Connection
ZC271	PZ22 PZ27 L Connection
ZC272	PZ22 PZ27 L Connection
ZC273	PZ22 PZ27 L Connection
ZC274	PZ22 PZ27 L Connection

APPENDIX E - STANDARD SYMBOLS

Symbol_Name	Description
ZC275	PZ22 PZ27 L Connection
ZC276	PZ22 PZ27 L Connection
ZC277	PZ22 PZ27 L Connection
ZC278	PZ22 PZ27 L Connection
ZC279	PZ22 PZ27 L Connection
ZC350	PZ35 PZ40 L Connection
ZC351	PZ35 PZ40 L Connection
ZC352	PZ35 PZ40 L Connection
ZC353	PZ35 PZ40 L Connection
ZC354	PZ35 PZ40 L Connection
ZC355	PZ35 PZ40 L Connection
ZC356	PZ35 PZ40 L Connection
ZC357	PZ35 PZ40 L Connection
ZC358	PZ35 PZ40 L Connection
ZC359	PZ35 PZ40 L Connection
ZT270	PZ22 PZ27 T Connection
ZT271	PZ22 PZ27 T Connection
ZT350	PZ35 PZ40 T Connection
ZT351	PZ35 PZ40 T Connection
ZX270	PZ22 PZ27 Cross Conn
ZX350	PZ35 PZ40 Cross Conn

APPENDIX E - STANDARD SYMBOLS

Symbol Name	Description
ACLLEL	Elevated Approach Lightbar
ACLLSF	Semiflush Approach Lightbar
AERO	Seaplane Anchorage Buoy
AFBCN	Airfield Beacon
AIRFLD	Airfield Symbol
ANCHR1	Anchorage Large Vessel
ANCHR2	Anchorage Large Vessel
ANCHR3	Anchorage Small Vessel
ANCHR4	Anchorage Small Vessel
ANCHR5	Anchorage Small Vessel
ANCHRB	Anchor Berth
ARROW	Arrow Terminator
BAR1	Barrel Buoy
BAR1C	Barrel Buoy, Indicate Color
BAR2	Barrel Buoy
BARD	Barrel Buoy, Diagonal Stripe
BARLT1	Barrel Buoy, Lighted
BARLT2	Barrel Buoy, Lighted
BARMKR	Barrier Marker
BARV	Barrel Buoy, Vertical Stripe
BARVT	Barrel Buoy, Vertical Stripe, w/Topmark
BCN1	General Beacon
BCN2	General Beacon
BCN3	General Beacon
BCN4	General Beacon
BCN5	General Beacon
BCNBY1	Buoyant Beacon
BCNBY2	Buoyant Beacon
BCNLT1	Lighted Beacon
BCNLT2	Lighted Beacon
BCNLT3	Lighted Beacon
BCNRES	Resilient Beacon
BCNTG1	Telegraphic Mooring Beacon
BCNTG2	Telegraphic Mooring Beacon
BCNTP1	Telephonic Mooring Beacon
BCNTP2	Telephonic Mooring Beacon
BCNTR1	Triangular Beacon
BCNTR2	Triangular Beacon
BM	Bench Mark
BMALT	Bench Mark Alternate
BNDMRK	Boundary Mark
BREAK	Break Line Symbol
BYANCH	Anchorage Buoy
BYBELB	Bell Barrel Buoy
BYBELP	Bell Pillar Buoy
BYCHEC	Checkered Buoy
BYCOMP	Compass Adjustment Buoy
BYEXPL	Explosive Anchorage Buoy
BYFISH	Fish Trap Buoy
BYGONB	Gong Barrel Buoy
BYGONP	Gong Pillar Buoy

APPENDIX E - STANDARD SYMBOLS

Symbol Name	Description
BYJUNC	Junction Buoy
BYPOS	Position of Buoy
BYQUAR	Quarantine Buoy
BYWAV1	Wave Actuated Bell Buoy
BYWAV2	Wave Actuated Bell Buoy
BYWHIB	Whistle Barrel Buoy
BYWHIP	Whistle Pillar Buoy
CABCNZ	Cable Crossing Zone
CABDIS	Disused Submarine Cable
CABLAN	Cable Landing Beacon
CABLE	Submarine Cable
CABLE1	Submarine Cable Area
CABLE2	Submarine Cable Area
CABPWR	Submarine Power Area
CAIRN1	Cairn
CAIRN2	Cairn
CAIRN3	Cairn
CAIRN4	Cairn
CAN1	Can Buoy
CAN2	Can Buoy
CANWT	White Can Buoy w/Topmark
CATBSN	Catch Basin
CATBSR	Round Catch Basin
CDHDR	Core Drill Hole Drilled
CDHUDR	Core Drill Hole Undrilled
CGRES1	Coast Guard Rescue Station
CGRES2	Coast Guard Rescue Station
CGRES3	Coast Guard Rescue Station
CKTID	Circuit ID Symbol
CLNOUT	Cleanout
CMHLX	Existing Communication Manhole
CNR90	Corner Solid 90
CNRSF	Corner Solid Flat
CNTLIN	Centerline Symbol
COAST1	Coast Guard Station
COAST2	Coast Guard Station
COAST3	Coast Guard Station
COAST4	Coast Guard Station
CULVEE	Culvert End Symbol
DBID	Ductbank ID Symbol
DBLARR	Double Arrow Terminator
DGUYX	Down Guy
DISPLT	Disused Platform
DNGPB	Lighted Danger Pillar Buoy
DNGRK	Danger Underwater Rocks Depth Unknown
DNGRK1	Danger Underwater Rocks Depth Unknown
DNGSB	Lighted Danger Spar Buoy
DOLPHN	Dolphin
DSTMKR	Runway Distance Marker
DSWTCH	Distribution Switch
DTHL	Displace Threshold Light

APPENDIX E - STANDARD SYMBOLS

Symbol_Name	Description
ECRD	Rock Dam Sediment Trap
EHHLX	Existing Electrical Handhole
EMHLX	Existing Electrical Manhole
EPBXX	Existing Electrical Pullbox
ERSBD	Straw Bale Dam
ERSCTD	Sediment Ctrl Temp Div
ERSF	Silt Fence
ERSFRO	Silt Fence Rock Overflow
ERSOLST	Stone Outlet Sed. Trap
ERTGCE	Constr. Entrance Exit
FIXPNT	Fixed Point
FLARRL	Flow Arrow Left in 0 Pt.
FLARRR	Flow Arrow Right in 0 Pt.
FLDGAT	Flood Gate
FOG	Fog Signal
FOGBCN	Fog Signal Beacon
FOGBY	Fog Signal Buoy
FOGLS	Fog Signal Light Ship
FOGLSM	Fog Signal Light Ship, Manned
FOMETR	Fuel Oil Meter
FOMHOL	Fuel Oil Manhole
FOVALT	Fuel Oil Vault
GREASE	Grease Trap
GRITCH	Grit Chamber
GSMETR	Gas Meter
GSMHOL	Gas Manhole
GSPLNT	Gas Plant
GSRECR	Gas Receiver
GSTRAP	Gas Trap
GSVALT	Gas Valve Vault
HEADWL	Headwall
HLL	Hoverlane Light
HLLL	Hoverlane Limit Light
HORCPT	Horizontal Control Point
HOVCPT	Horiz. Vert. Control Point
HPIL	Helipad Inset Light
HPPLEL	Elevated Helipad Perimeter Light
HPPLSF	Semiflush Helipad Perimeter Light
HUREYE	Hurricane Eye
HYDRNT	Hydrant
INSHWY	Interstate Hwy. Symbol
INSTBY	Oil Gas Installation Buoy
IPC	Iron Pin and Cap
IWMETR	Industrial Waste Water Meter
IWMHOL	Industrial Waste Manhole
JETTY	Jetty
JNBX	Junction Box
KELP	Kelp/Seaweed
LANBY1	Lanby Superbuoy Navaid
LANBY2	Lanby Superbuoy Navaid
LATBCN	Lattice Beacon

APPENDIX E - STANDARD SYMBOLS

Symbol Name	Description
LIFEBT	Lifeboat Station
LIFEM1	Lifeboat at Mooring
LIFEM2	Lifeboat at Mooring
LIMIT	Limit of Safety Zone
LITSV1	Floating Light
LITSV2	Floating Light
LOOKTR	Lookout Watch Station
LTART	Articulated Light
LTBEAC	Lighted Beacon
LTBY	Lighted Buoy
LTBYBB	Lighted Black Barrel Buoy
LTFLD	Floodlight
LTFLT	Float Light
LTFLT1	Float Light IALA
LTFLT2	Float Light IALA
LTHOU1	Lighthouse
LTHOU2	Lighthouse
LTMAJ1	Major Floating Light
LTMAJ2	Major Floating Light
LTMARK	Lighted Marker
LTMIN2	Minor Floating Light
LTPLT1	Lighted Platform
LTPLT2	Lighted Platform
LTPLX	Existing Light Pole
LTSH1	Lighted Vessel Lightship
LTSH2	Lighted Vessel Lightship
LTSH3	Lighted Vessel Lightship
LTOW2	Lighted Beacon Tower
LTVES2	Unmanned Light Vessel
MARINA	Boat Harbor Marina
MARKGD	Green Day Marker
MARKRD	Red Day Marker
MEAST	Lighted East Marker Buoy
MNORTH	North Arrow
MONWEL	Monitoring Well
MORB	Mooring Buoy
MORBBB	Black Mooring Barrel Buoy
MORBBW	White Mooring Barrel Buoy
MORBCW	White Mooring Can Buoy
MORTWR	Mooring Tower
MOTRHP	Motor
MSOUTH	Lighted South Marker Buoy
MWEST	Lighted West Marker Buoy
NOTICE	Notice Board
NUN1	Nun Buoy
NUN2	Nun Buoy
NUNBT	Black Nun Buoy w/Topmark
NUNWT	White Nun Buoy w/Topmark
OBS	Obstruction
OBSSPT	Observation Spot
OBSTRL	Obstruction Light

APPENDIX E - STANDARD SYMBOLS

Symbol_Name	Description
ODAS	ODAS Data Collection Buoy
OUTB	Outfall Marking Buoy
PAPI	PAPI Light Unit
PHOCPT	Photo Control Point
PIINFO	PI Information
PIL1	Pillar Buoy
PIL2	Pillar Buoy
PILLT	Lighted Pillar Buoy
PILM	Multicolored Pillar Buoy
PILOT	Boarding Place
PILOT1	Pilot Office
PILOT2	Pilot Office
PILV	Vertical Stripe Pillar Buoy
PILVT	Vertical Stripe Pillar Buoy w/Topmark
PIPDIS	Disused Pipeline Pipe
PIPE	Water Sewer Outfall Intake
PIPE1	Oil Gas Pipeline
PIPE2	Oil Gas Pipeline
PIPES1	Oil Gas Pipeline Area
PIPES2	Oil Gas Pipeline Area
PIVALV	Post Indicator Valve
PLAT1	Prod Platform Oil Derrick
PLAT2	Prod Platform Oil Derrick
PLAT3	Prod Platform Oil Derrick
PMPSTA	Pump Station
POLE1	Pole Stake Perch
POLE3	Pole Stake Perch
POLEAR	Aerial Pole w/Guying
POLEID	Pole Identification Symbo
POLEP	Port Hand Stake Pole
POLES	Starboard Hand Stake Pole
PRIVB	Private Barrel Buoy
RADAR	Radar Station or Beacon
RADAR1	Floating Radar Beacon
RADAR2	Floating Radar Beacon
RADAR3	Floating Radar Beacon
RADAR4	Floating Radar Beacon
RADIO	General Radio Beacon
RADRF1	Radar Reflector or Feature
RADRF2	Radar Reflector or Feature
RANGEX	Range Extension
REEF	Coral Reef, Large Icon
REEF1	Coral Reef, Small Icon
REFUG1	Refuge Beacon
REFUG2	Refuge Beacon
REIL	Reil Light Unit
RESCUE	Rescue Station
RESPLT	Observation Research Platform
RGVALV	Regulator Valve
RSTAR	Range Star
RVMMOP	Open River Mile Marker

APPENDIX E - STANDARD SYMBOLS

Symbol Name	Description
RVMMSO	Solid River Mile Marker
RWCLL	Runway Centerline Light
RWEL	Runway End Light
RWLEL	Elevated Runway Edge Light
RWLSF	Semiflush Runway Edge Light
SAFE1	Lighted Safe Water Mark
SAFE2	Lighted Safe Water Mark
SAFE3	Lighted Safe Water Mark
SCNRH	Section Corner Hatched
SCNRO	Section Corner Open
SCNRTO	Section Corner T Open
SDM	Surface Displ. Monument
SDMHOL	Storm Drainage Manhole
SECCUT	Typical Section Cut
SFL	Sequenced Flasher Light
SHRUBC	Shrub, Coniferous
SIGBRG	Bridge Light Inc Traffic
SIGN	Sign
SIGNWS	National Weather Service Station
SIGSHO	Sub Signal Connect Shore
SIGST1	General Signal Station
SIGST2	General Signal Station
SIGSTP	Port Control Signal Station
SIGSUB	Submarine Signal
SIRLH1	Siren at Lighthouse
SIRLH2	Siren at Lighthouse
SLARRL	Slope Arrow w/ Enter Data Field
SLARRR	Slope Arrow w/ Enter Data Field
SLLX	Existing Street Light Luminaire
SLREG	Constant Current Transformer
SNMETR	Sanitary Meter
SNMHOL	Sanitary Manhole
SNPVSL	Sanitary Pressure Vessel
SNVALT	Sanitary Valve Vault
SP	Survey Pedestal
SPAR1	Spar Buoy Spindle Buoy
SPAR2	Spar Buoy Spindle Buoy
SPARB	Black Spar Buoy
SPARBT	Black Spar Buoy w/Topmark
SPARWT	White Spar Buoy w/Topmark
SPH1	Spherical Buoy
SPH2	Spherical Buoy
SPHD	Diagonal Stripe Spherical Buoy
SPHV	Vertical Stripe Spherical Buoy
SPHW	White Spherical Buoy
SPILE	Submerged Piling
SPILE1	Submerged Piles
SPILES	Submerged Piles
SPILEX	Submerged Pile w/Position
SPOST	Submerged Post
SPOSTX	Submerged Post w/Position

APPENDIX E - STANDARD SYMBOLS

Symbol Name	Description
SPTANK	Septic Tank
SSLSTA	Sanitary Sewer Lift Station
STAKE	Stake Perch
STAKEX	Stake w/Position
STHWY	State Highway Symbol
STMPIT	Steam Pit
STUMPS	Submerged Stumps
SUBSTA	Substation
SUPER	Super Buoy
SUWEL2	Suspended Well, Depth Unknown
SUWEL3	Suspended Well, Depth Unknown
SUWELY	Suspended Well, Depth Known
SWAMP	Swamp
SWELB1	Submerged Well w/Buoy
SWELB2	Submerged Well w/Buoy
SWELL5	Submerged Prod Well
SWPADX	Existing Switch Pad
TDZL	Touchdown Zone Light
TELBBB	Black Telegraphic Barrel Buoy
THL	Threshold Light
TIDEG	Tide Gage
TIDSTF	Tide Staff
TIRETR	Tire Treddle
TNKBG	Tank, Below Ground
TNKHAG	Tank, Horizontal Above Ground
TNKVAG	Tank, Vertical Above Ground
TOW1	Beacon Tower
TOW2	Beacon Tower
TOW3	Beacon Tower
TOWB	Black Beacon Tower
TOWBT1	Black Beacon Tower w/Topmark
TOWBT2	Black Beacon Tower w/Topmark
TOWER	Transmission Tower
TOWW	White Beacon Tower
TOWWT1	White Beacon Tower w/Topmark
TOWWT2	White Beacon Tower w/Topmark
TREEC	Tree, Coniferous
TREED	Tree, Deciduous
TREEG	Tree, Generic
TRFSIG	Traffic Signal Mast Arm
TRIPNT	Triangulation Point
TRVALT	Transformer Vault
TSCTRL	Traffic Signal Controller
TSHEAD	Traffic Signal Head
TSPBX	Traffic Signal Pullbox
TSPHS	Traffic Signal Phase No., Thru
TSPHT	Traffic Signal Phase No., Turn
TSVLDT	Traffic Signal Vehicle Loop Detector
TWCLL	Taxiway Centerline Light
TWELEL	Elevated Taxiway End Light
TWELSF	Semiflush Taxiway End Light

APPENDIX E - STANDARD SYMBOLS

Symbol Name	Description
TWGSGN	Taxiway Guidance Sign4
TWLEL	Elevated Taxiway Edge Light
TWLSF	Semiflush Taxiway Edge Light
USHWY	US Highway Symbol
UTPLX	Existing Pole
VCDATA	Vertical Curve Data
vCNRNF	Corner Not Found
VERCPT	Vertical Control Point
WAHHOL	Water Handhole
WAMETR	Water Meter
WAPLNT	Water Plant
WASOFT	Water Softener
WAVALT	Water Valve Vault
WEIR	Weir
WELL1	Wellhead, Above Water
WELL3	Wellhead, Above Water
WINDCN	Windcone
WITHYP	Port Hand Withy
WITHYS	Starboard Hand Withy
WRECK	Wreck, Not Dangerous
WRKDNG	Wreck, Danger Depth Unknown
WRKEXP	Wreck, Partly Exposed
XFRPLX	Existing Transformer Pole
XFRPMX	Existing Transformer Pad