

**Maryland Aviation Administration**

**Office of Design & Construction**

**CADD STANDARDS MANUAL**

**Version 4.0**

**August 2013**

## **PREFACE**

This standard is updated and maintained by the Maryland Aviation Administration (MAA), Office of Design and Construction, Division of Engineering. It is based on the U. S. National CAD Standard with adjustments necessary to meet MAA needs. These standards are intended to assist in the production of uniform engineering documents, and provide efficient and effective means for management and technical data control.

This standard provides:

- a) Drawing practices for the preparation of architectural, engineering and space allocation drawings.
- b) Definitions and examples of the types of facility drawings to be prepared by and for the MAA.
- c) Guidelines for the creation of title and index sheets for drawings.
- d) Numbering, coding and identification procedures for drawings, associated lists and documents referenced.
- e) Practices applicable to Computer Aided Design and Drafting (CADD).

Changes from the previous version of this standard focus on:

- a) Additional layer definitions required to support the needs of MAA's Runway Safety Area Program.
- b) Synchronization with updates to MAA's GIS Data Standard.
- c) Adherence with FAA Airports GIS Program requirements.
- d) Reference to MAA's policy with regard to the handling of Sensitive Security Information (SSI).
- e) Updated file and drawing naming conventions.
- f) Adding attribute information to features.
- g) Topological considerations for CADD data development.

This manual is a living document and MAA will update it to incorporate future engineering drawing practices. The users of this manual are encouraged to suggest revisions or additions to the manual.

**CADD Standards Manual  
for the Maryland Aviation Administration  
Version 4.0, August 2013**

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## **1.0 SCOPE**

This manual outlines the requirements for the delivery of Computer Aided Design and Drafting (CADD) data files and associated drawings files to the Maryland Aviation Administration (MAA) by its consultants. This manual establishes standard layers, title blocks, file names, line types and other conventions to be applied to all CADD files delivered to, used by, or developed by MAA. This manual does not define design and drafting procedures for consultants to follow when developing files that are compliant with this standard, but does provide requirements that must be met in the resulting product. This manual also covers standard naming, object properties, delivery format and plotting. Standard naming and delivery format will allow for efficient storage and retrieval of files. Standard layer naming facilitates sharing of information between drawings and better control of drawing objects. Standard object properties will help provide uniform appearance to CADD drawings. Standard plot settings will help overcome problems associated with producing similar looking plots from different plotters.

This document is made up of multiple parts, the first part up to and including Section 4.0 Drawing Requirements, addresses MAA's requirements for construction drawings, installation permits, building permits, and space allocation drawings. The second part, Section 5.0 addresses MAA's requirements specific to space allocation data.

Section 6.0 presents the requirements for Electronic Deliverables.

### **1.1 Standard Definition**

This standard prescribes general requirements for the preparation and revision of architectural, engineering and space allocation drawings that are prepared by and for the MAA.

MAA has implemented a series of standards, a spatial data repository, applications, policies, and procedures. This serves as a central catalog and repository for engineering information used by MAA. This data is used within applications as well as other MAA systems that require this type of data. It also provides a structured workflow and a means of cataloging, archiving and retrieving project documents and information.

### **1.2 Document Classification**

This standard shall apply, but not be limited, to the following drawing types regardless of source:

- a) Construction drawings for new and existing facilities
- b) Installation permit drawings
- c) Building permit drawings
- d) Space Allocation drawings
- e) Design, planning and record drawings

### **1.3 Manual Revisions**

Where MAA CADD Standards do not contain the required detail for the work to be performed by the consultant or sub-consultant, additions or revisions to the standards shall be transmitted by the consultant or sub-consultant to the MAA Project Engineer for approval. All issued addenda will become part of the project-specific CADD standards. This manual will be subject to revision in response to changes in technology and by the incorporation of changes to support consultant requirements at MAA's discretion.

### **1.4 Software Requirements**

The MAA requires that all CADD files be in AutoCAD DWG format, the version number to be specified by the MAA Project Engineer and selected from the Approved Software Lists provided in this section. The standards defined in this manual are specifically for AutoCAD environments. Consultants and sub-consultants that do not use AutoCAD are responsible for translating drawings into an AutoCAD DWG format prior to submittal. It is the consultant or sub-consultant's responsibility to ensure that there is no degradation of the accuracy or content of the data in this translation process.

#### ***1.4.1 Approved Software, CADD***

CADD data must be delivered in an AutoCAD DWG format that is compatible with AutoCAD Version 2010 or later versions as approved by MAA. MAA's preferred format is 2012.

#### ***1.4.2 Approved Software, CADD Vertical Products***

Consultants and sub-consultants may choose to use one or more of the following products that provide additional functionality for specific vertical markets, so long as the DWG drawings delivered comply with the AutoDesk version referenced in Section 1.4.1.

|                                |                            |                        |
|--------------------------------|----------------------------|------------------------|
| Autodesk Architectural Desktop | Autodesk Land Desktop      | Autodesk QuickCAD      |
| Autodesk Civil Design          | Autodesk Location Services | Autodesk Raster Design |
| Autodesk Civil Series          | Products                   |                        |
| Autodesk Field Survey          | Autodesk Map 3D            |                        |

## 2.0 APPLICABLE STANDARDS AND PUBLICATIONS

When generating CADD documents the following standards and publications should be referenced for guidance.

### 2.1 MAA Standards & Manuals

This manual is to be used in conjunction with:

- MAA's Design Standards Manual
- MAA's GIS Data Standard, which includes a crosswalk between approved CADD and GIS layers
- MAA GIS Data Standard – Utilities Supplement
- MAA Data Quality Standard
- MAA Data Security Standard
- MAA Naming, Identification & Addressing Standard
- MAA Data Security Standard
- MAA *AIRPortal*
  - AIRPortal provides access and reference to the most current MAA documentation.
  - The Designer's Tools Document Library provide access to the most current Standard Borders, Title Blocks and Index Sheets
  - From within the MAA internal network (intranet) the URL for AIRPortal is <http://airportal>
  - From the internet, the URL for AIRPortal is <https://www.airportal.maa.maryland.gov>

### 2.2 Government Documents

- NAS-SS-1000 Vol. 6 Facility Requirements for the National Airspace System
- FAA 7350.6 Location Identifiers
- FAA FSEP Facilities, Services and Equipment Profile Orders
- DOT Order 1360.6 Graphic Standards
- FAA Order 1000.15 Glossary
- FAA Order 7340.1 Contractions
- FAA AC 150/5300-16A “General Guidance and Specifications for Aeronautical Surveys: Establishment of Geodetic Control and Submission to the National Geodetic Survey”, Sept. 15, 2007
- FAA AC 150/5300-17C “Standards for Using Remote Sensing Technologies in Airport Surveys”, Sept. 30, 2011
- FAA AC 150/5300-18B “General Guidance and Specifications for Aeronautical Surveys: Airport Survey Data Collection and Geographic Information System Standards”, May 21, 2009

## 2.3 Commercial Documents

- ANSI/AWS A2.4 Symbols for Welding & Nondestructive Testing
- ANSI/AWS A3.0 Welding Terms and Definitions
- ANSI B1.1 Unified Screw Threads
- ANSI/IEEE 2.16 Reference Designations for Electrical and Electronics Parts and Equipment
- ANSI/IEEE 91 Graphic Symbols for Logic Functions
- ANSI Y1.1 Abbreviations for use on Drawings and Text
- ANSI Y14.1 Drawing Sheet Size and Format
- ANSI Y14.2 Line Conventions and Lettering
  - ANSI Y14.5 Dimensioning and Tolerance
  - ANSI Y14.6 Screw Thread Representation
  - ANSI Y14.7.1 Gear Drawing Standards - Part 1 for Spur, Helical, Double Helical and Rack
  - ANSI Y14.7.2 Gear and Spline Drawing Standards Part 2 - Bevel and Hypoid Gears
  - ANSI Y14.13 Mechanical Spring Representation
- ANSI Y14.15 Electrical and Electronics Diagrams
- ANSI Y14.15 Interconnection Diagrams
- ANSI Y14.17 Fluid Power Diagrams
- ANSI Y14.26.3 Dictionary of Terms for Computer-Aided Preparation of Product Definition Data
- ANSI Y32.2 Graphic Symbols for Electrical and Electronic Diagrams
- ANSI Y32.4 Graphic Symbols for Plumbing Fixture for Diagram used in Architecture & Building Construction
- ANSI Y 32.9 Graphic Symbols for Electrical Wiring and Layout Diagrams Used in Architecture and Building Construction United States National CAD Standard, Version 5
- ASME-Y14.38M ASME Drawing & Terminology Standards

## 2.4 Order of Precedence

In the event of conflict between the documents referenced in sections 2.2 and 2.3 and the contents of this manual, the contents of this manual shall be considered the superseding requirement.

### 3.0 GENERAL

#### 3.1 Drawing Definitions

The following sections define general A/E/C drawing types.

##### 3.1.1 Engineering Drawings

Engineering drawings are formal representations used to convey the physical and functional end product design and/or installation requirements of an item. They may include pictorial, graphical, schematic or textual presentations.

##### 3.1.2 Construction Drawings

Construction drawings are engineering drawings, which show the design of buildings, structures, or the related construction, and are normally associated with the architectural, construction and civil engineering operations. Construction drawings establish all the interrelated elements of the pertinent services, equipment, utilities, and other engineering skills.

##### 3.1.3 Installation Drawings

Installation drawings are engineering drawings, which show the installation requirements of equipment in facilities.

##### 3.1.4 Space Allocation Drawings

Space allocation drawings are used to provide an accurate record of existing space, identify tenants, square footages of occupancy.

#### 3.2 MAA AIRPortal Designer's Tools

As a consultant performing services for MAA, it is assumed that individuals providing engineering services for MAA have an account to AIRPortal, MAA's system of record. There are multiple applications and resources available through AIRPortal. One such resource is the Designer's Tools document library. In the Designer Tools library, consultants and sub-consultants have access to the most current resources to perform their services in order to prepare MAA-compliant products. Examples are:

- A/E/C CAD Standard Linetypes
- A/E/C CAD Standard Symbols
- Logos
- MAA Additional Topographic Symbols
- MAA CADD Manual
- MAA Signage Symbols
- Plot Styles (ctb)
- Standard Borders
- Standard Title Sheets
- Layer Template – X000-Geom.dwg

#### 3.3 Glossary

The following are definitions of terms used in this standard:

|                             |  |
|-----------------------------|--|
| <b>AutoCAD</b>              | AutoCAD is a full-featured CADD tool produced by Autodesk Inc. that handles both 2D and 3D (with additional add on) design. The native file format is DWG and it reads and writes DXF files. |
| <b>CADD</b>                 | Computer Aided Design & Drafting. Graphic software used by engineers and drafters to create and modify drawings in 2D and 3D.  |
| <b>Drawing Sheet Format</b> | The sheet boundary lines, and title block geometry used to record administrative   |

information about a CADD file.

|                            |  |
|----------------------------|--|
| <b>Drawing Sheet Sizes</b> | Standard sheet sizes are determined by the American National Standards Institute. Alphabetic characters name sheet sizes such as D, E, and F.  |
| <b>DWG</b>                 | AutoCAD's native CADD file format.   |
| <b>DXF</b>                 | AutoCAD drawing exchange format for CADD files.  |
| <b>Model File</b>          | Model files are to be used to describe the facility's physical layout and components. This includes the building's walls, doors, windows, structural system, mechanical system, etc. All model files are drawn at full size (1-to-1). Model files can be 2D or 3D.   |
| <b>Model Space</b>         | AutoCAD Model Space is where the user creates a 2D or 3D full size (1-to-1) drawing. Model file types are created in Model Space.  |
| <b>Paper Space</b>         | AutoCAD Paper Space is where the user organizes different layouts for the purpose of plotting to an appropriate drawing scale through the use of viewports.  |
| <b>Plot Stamp</b>          | Plots of CADD drawing files should include a plot stamp, which should include the file name and path, date, time and the user name.  |
| <b>Project Copy</b>        | A project copy drawing is part of the project copy process, which manages concurrent design updates to a single released drawing.  |
| <b>Raster</b>              | Digital image process producing lines made of rectangular dots. Examples of raster formats are TIFF, JPG, BMP, GIF, etc.   |
| <b>Reference File</b>      | A CADD software capability that allows vector or raster files to be attached to sheet files and displayed, plotted, and (in the case of reference design files) used for construction purposes. This capability is generally used as a project organization tool to segregate the sources of project drawing files. Additionally, it allows designers to share drawing information electronically. |
| <b>Revised Drawing</b>     | A drawing that has been revised or modified after submission.  |
| <b>Sheet File</b>          | Sheet files are to be used to assemble model files, text, title block and other information for plotting purposes. Each sheet file represents one plotted drawing. Generally, sheet files are plotted at 1-to-1 scale.   |
| <b>SSI</b>                 | Sensitive Security Information, as defined by the Code of Federal Regulations (49 CFR 1520)  |
| <b>TIFF</b>                | Tagged Image File Format, a raster graphics format.  |
| <b>Vector</b>              | Computer graphics comprised of mathematical representation of points, lines and other geometric entities.  |
| <b>Workflow</b>            | Automatic routing of documents to the users responsible for working on them.   |
| <b>2D</b>                  | Two Dimensional  |

|              |   |
|--------------|---|
| <b>3D</b>    | Three Dimensional                           |
| <b>A/E/C</b> | Architectural, Engineering and Construction |
| <b>AIA</b>   | American Institute of Architects            |
| <b>ANSI</b>  | American National Standards Institute       |
| <b>GIS</b>   | Geographical Information System             |
| <b>CD-R</b>  | Recordable Compact disk                     |

### **3.4 Glossary of Acronyms for Use in Airport Documents**

See Appendix 3 for additional aviation industry acronyms that should be used in drawings and documents submitted to MAA.

## 4.0 DRAWING REQUIREMENTS

### 4.1 Drawing Production

MAA requires that all CADD files be in AutoCAD DWG format in compliant with Section **1.4.1 Approved Software, CADD**. The standards defined in this manual are specifically for AutoCAD environments, for those consultants and sub-consultants who do not use AutoCAD, it is their responsibility to ensure that files translated to AutoCAD adhere to these standards and that the quality of the data is not degraded in the translation process before delivery.

#### 4.1.1 Drawing File Format

Electronic drawings shall be created and maintained in native AutoCAD vector file format (DWG). The following should be avoided:

- a) Translations between vector file formats (DWG and DGN).
- b) Delivery of Drawing Exchange Format (DXF) files, unless mandated by special requirement in this manual.
- c) Use of the following CADD entities: doughnuts, segments, solids and traces, point entities, custom fonts, patterns or line types or styles, special characters such as nested blocks, nested or circular Xrefs (reference files), infinite lines, and zero length lines.

All drawings shall be void of duplicate entities.

#### 4.1.2 Creation of CADD Files

All CADD drawing files should be created at full-scale (1-to-1). Drawing borders are referenced into paper space with insertion point 0, 0 and a scale of 1. Refer to Table 4-1, Scale Factor and Text Height Conversion Chart for standard engineering, architectural and mapping scale factors and text heights to be used in model space for full size drawings.

| Plotted Scale | Scale Factor | Plotted Text Height |        |         |         |
|---------------|--------------|---------------------|--------|---------|---------|
|               |              | 9.6"                | 12"    | 18"     | 24"     |
| 1/8"=1'-0"    | 96           | 9.6"                | 12"    | 18"     | 24"     |
| 3/16"= 1'-0"  | 64           | 6.4"                | 8"     | 12"     | 16"     |
| 1/4"=1'-0"    | 48           | 4.8"                | 6"     | 9"      | 12"     |
| 3/8"= 1'-0"   | 32           | 3.2"                | 4"     | 6"      | 8"      |
| 1/2"=1'-0"    | 24           | 2.4"                | 3"     | 4.5"    | 6"      |
| 3/4"=1'-0"    | 16           | 1.6"                | 2"     | 3"      | 4"      |
| 1"= 1'-0"     | 12           | 1.2"                | 1.5"   | 2.25"   | 3"      |
| 1 1/2"=1'-0"  | 8            | .8"                 | 1"     | 1.5"    | 2"      |
| 3"= 1'-0"     | 4            | .4"                 | .5"    | .75"    | 1"      |
| 6"= 1'-0"     | 2            | .2"                 | .25"   | .375"   | .5"     |
| 12"= 1'-0"    | 1            | .1"                 | .125"  | .1875"  | .25"    |
| 1"= 10'       | 120          | 1'                  | 1.25'  | 1.875'  | 2.5625' |
| 1"=20'-0"     | 240          | 2'                  | 2.5'   | 3.75'   | 5'      |
| 1"=25'-0"     | 300          | 2.5'                | 3.125' | 4.6875' | 6.26'   |
| 1"=30'-0"     | 360          | 3'                  | 3.75'  | 5.625'  | 7.5'    |
| 1"=50'-0"     | 600          | 5'                  | 6.25'  | 9.375'  | 12.5'   |
| 1"=100'-0"    | 1200         | 10'                 | 12.5'  | 18.75'  | 25.0'   |
| 1=10          | 10           | 1                   | 1.25   | 1.875   | 2.5     |
| 1=20          | 20           | 2                   | 2.5    | 3.75    | 5       |
| 1=30          | 30           | 3                   | 3.75   | 5.625   | 7.5     |

**Table 4-1, Scale Factor and Text Height Conversion Chart**

**4.1.2.1 Drawing Sheet Format**

MAA-approved drawing formats include common drawing features such as boundary geometry, title block data, filename, pathname, and title block geometry.

*The most current MAA-approved drawing formats, templates and seed files are stored in AIRPortal → Designer Tools. Consultants and sub-consultants have access to the most current resources to perform their services compliant with MAA’s current standards. Consultants are responsible to review what is on Designer Tools to ensure they are using the most current versions.*

**4.1.2.2 Drawing Size**

The MAA standard drawing size is ANSI D (22" X 34") full size and ANSI B (11" X 17") half size. Other sizes are allowed only as needed. Drawing sheet size and margins must follow the specifications shown in Table 4-2, Standard Drawing Sizes. These margins are configured in the Standard Borders. Apply ANSI Y14.1 for any information not provided in this standard, but required on drawing sheet size.

| Size Designation | Vertical | Horizontal | Margin     |          |       |
|------------------|----------|------------|------------|----------|-------|
|                  |          |            | Horizontal | Vertical |       |
|                  |          |            |            | Left     | Right |
| B                | 11"      | 17"        | 0.25"      | 0.75"    | 0.25" |
| D                | 22"      | 34"        | 0.50"      | 1.50"    | 0.50" |

**Table 4-2, Standard Drawing Sizes**

**4.1.2.3 Sizing Drawing Formats for Scaled Drawings**

Each feature shall be drawn in the CADD model file at full size (1 to 1). The data should be scaled to fit the desired paper size at the correct scale through a view port in paper space. This can be done in AutoCAD using the zoom command and entering *nXP* where *n* is the scale factor required and *XP* remains constant. Table 4-3 provides the necessary scale factors needed to calculate each reduced plot size.

| Plot Scale   | Drawing Area Size (H x W) * |                 | Scale Factor<br>nXP |
|--------------|-----------------------------|-----------------|---------------------|
|              | B (9.5" x 13.25")           | D (19" x 26.5") |                     |
| 1/8"=1'-0"   | 76' x 106'                  | 152' x 212'     | 0.0104XP            |
| 3/16"= 1'-0" | 50.7' x 70.7'               | 101.3' x 141.3' | 0.0156XP            |
| 1/4"=1'-0"   | 38' x 53'                   | 76' x 106'      | 0.0208XP            |
| 3/8"= 1'-0"  | 25' x 35'                   | 50.7' x 70.7'   | 0.0312XP            |
| 1/2"=1'-0"   | 19' x 26.5'                 | 38' x 53'       | 0.0416XP            |
| 3/4"=1'-0"   | 12.7' x 17.7'               | 25.3' x 35.3'   | 0.0625XP            |
| 1"= 1'-0"    | 9.5' x 13'                  | 19' x 26.5'     | 0.0833XP            |
| 1 1/2"=1'-0" | 6' x 8.9'                   | 12.7' x 17.7'   | 0.125XP             |
| 3"= 1'-0"    | 3' x 4.4'                   | 6.3' x 8.8'     | 0.25XP              |
| 6"=1'-0"     | 1.6' x 2.2'                 | 3.2' x 4.4'     | 0.50XP              |
| 12"=1'-0"    | 0.8' x 1.1'                 | 1.6' x 2.2'     | 1XP                 |
| 1"= 10'-0"   | 95' x 132.5'                | 190' x 265'     | 10XP                |
| 1"=20'-0"    | 190' x 265'                 | 380' x 530'     | 20XP                |

}

Architectural Units

}

Decimal Units

|            |               |               |       |
|------------|---------------|---------------|-------|
| 1"=25'-0"  | 237.5' x 331' | 475' x 662.5' | 25XP  |
| 1"=30'-0"  | 285' x 397.5' | 570' x 795'   | 30XP  |
| 1"=50'-0"  | 475' x 662.5' | 950' x 1325'  | 50XP  |
| 1"=100'-0" | 950' x 1325'  | 1900' x 2650' | 100XP |

\* NOTE: The area for the title block, notes, legend and key plan have been deducted from the sheet total area.

**Table 4-3, Sheet Sizes, Drawing Field, and Scale Factors Examples**

### 4.1.3 Borders

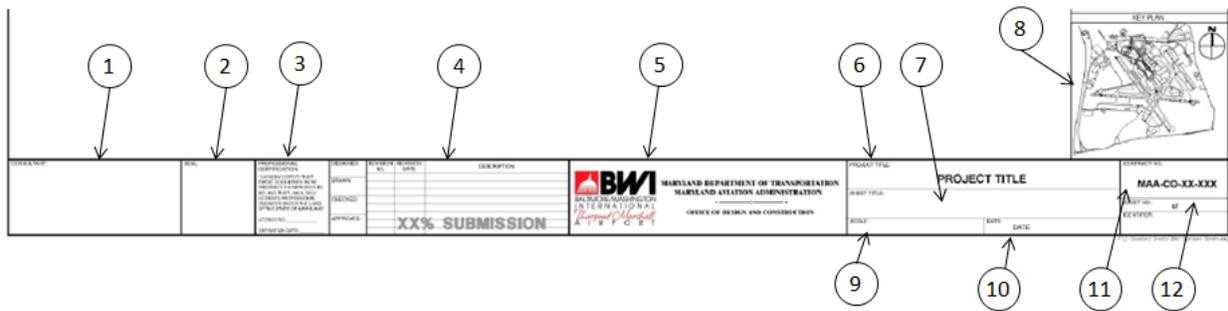
Figure 4-1 shows the standard MAA border at the time of this publication. Figure 4-1 shows the title block portion of the MAA border. The bubble call-outs in Figure 4-2 refer to Table 4-4, where each item is described. Consultants should use the standard border sheet that is available AIRPortal → Designer's Tools.

*The most current MAA-approved drawing formats, templates and seed files are stored in AIRPortal → Designer Tools. Consultants and sub-consultants have access to the most current resources to perform their services compliant with MAA's current standards. Consultants are responsible to review what is on Designer Tools to ensure they are using the most current versions.*

The standard border includes the following features:

- ◆ Border
- ◆ Title Block
- ◆ Consultant ID Block
- ◆ Drawing Field
- ◆ P.E. Stamp Box
- ◆ Notes
- ◆ Legend
- ◆ Key Plan
- ◆ Graphic Scales
- ◆ North Arrow
- ◆ Plot Stamp (Full path name, User name, Date, Time)

**Figure 4-1, Standard Border**



**Figure 4-2, Title Block**

The following statement must be placed on all sheets that contain SSI as defined in the Code of Federal Regulations (49 CFR 1520). This statement should be placed in the area above the drawing title shown as item 6 in Figure 4-2 above. Individuals preparing or handling SSI, are required to read and abide by the terms and conditions in Section 2.2 of MAA’s Design Standards, which define who can handle and how they should handle SSI.

*Warning: This document 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.*

All borders shall include the following information with the exception of the key plan, which applies to plan sheets only:

| Item | Block Description                   |
|------|-------------------------------------|
| 1    | Consultant Name and Address         |
| 2    | Initial Block                       |
| 3    | Engineers Stamp Block               |
| 4    | Revision Date and Description Block |
| 5    | Airport Logo and Name Block         |
| 6    | Project Title                       |
| 7    | Sheet Title                         |
| 8    | Key Plan                            |
| 9    | Scale                               |
| 10   | Date                                |
| 11   | Contract Number                     |
| 12   | Sheet Number                        |

**Table 4-4, Drawing Title Block Descriptions**

#### 4.1.4 Title Sheets

Figure 4-3 shows the standard title sheets for projects at both BWI and Martin State Airport (MTN). Consultants should use the standard title sheet that is available in AIRPortal → Designer’s Tools.

*The most current MAA-approved drawing formats, templates and seed files are stored in AIRPortal → Designer Tools. Consultants and sub-consultants have access to the most current resources to perform their services compliant with MAA’s current standards. Consultants are responsible to review what is on Designer Tools to ensure they are using the most current versions.*

**The following information will be included on all title/cover sheets:**

- Airport Logo and Name
- Maryland Department of Transportation
- Maryland Aviation Administration, Office of Design and Construction
- **MAA CONTRACT TITLE** (assigned by MAA )
- Contract No, MAA-CO-00-000 (assigned by MAA Office of Procurement)
- Submission Name (e.g. 30% Design, Bid Documents, Conformed, Record, etc.) and date
- Sensitive Security Information (SSI, as defined by 49 CFR 1520) statement as it appears below (if the document set contains SSI).
- Vicinity Map and Site Map. The site map should include gridlines that conform to the grid layout defined in the MAA Naming and Addressing Standard. The combined extent of the area covered by all sheets provided should be clearly indicated on the site map.
- Consultant Name Block and Stamp Block
- Signature Blocks Including Signature Line and Date Line for: Airport Security, Fire Marshall and MAA Division of Facilities Design
- Drawing Index
- Should additional space be required provide separate index sheet immediately behind cover sheet. The comment ‘(contains SSI)’ should be added after the title of any documents that contain SSI.

The following statement must be placed on the title sheet of drawing sets that contain SSI as defined in the Code of Federal Regulations (49 CFR 1520).

*Warning: This document 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.*

|  |  |   |  |   |  |
|--|--|---|--|---|--|
| <b>BALTIMORE/WASHINGTON INTERNATIONAL AIRPORT</b><br><b>MARYLAND DEPARTMENT OF TRANSPORTATION</b><br><b>MARYLAND AVIATION ADMINISTRATION</b><br><b>CHIEF ENGINEER</b><br>INSERT CONTRACT TITLE HERE<br>FOR BWI THURGOOD MARSHALL AIRPORT |  |   | CONTRACT NO. MAA-CO-XX-XXX                         |   |  |
| VICINITY MAP   | INDEX OF DRAWINGS  |   | SITE MAP   |   |  |
|  | <b>VOLUME 1 OF X</b><br>SHEET NO. 1    SHEET IDENTIFIER NO. 0001    DESCRIPTION: TITLE SHEET - VOLUME 1<br><br><b>VOLUME 2 OF X</b><br>SHEET NO. 201    SHEET IDENTIFIER NO. X    DESCRIPTION: TITLE SHEET - VOLUME 2<br><br><div style="border: 1px solid black; padding: 5px; text-align: center; color: red;">           Remove this box for Bid, Conformed and As-built Submissions         </div> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <b>XX% SUBMITTAL</b><br/> <b>NOT FOR CONSTRUCTION</b> </div> |   |  |   |  |
| MAA DIRECTOR OF AIRPORT SECURITY _____ DATE _____<br>CONSULTANT LOGO   | MAA FIRE MARSHAL _____ DATE _____<br>PROFESSIONAL CERTIFICATION: I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NUMBER _____ EXPIRATION DATE _____   | MAA OFFICE OF DESIGN AND CONSTRUCTION _____ DATE _____<br>OFFICE OF DESIGN AND CONSTRUCTION | DESIGN TEAM NO. XXXX<br>CONSTRUCTION TEAM NO. XXXX | SEE PERMIT NO. XX-SF-XXXX<br>BID NO. X-XX-XXXX-XXX<br><b>BID DOCUMENTS</b><br>SHEET NO. 1 of XX<br>CONTRACT: G0.01<br>DATE: MMMM DD, YYYY |  |

|   |   |   |  |   |  |
|---|---|---|--|---|--|
| <b>MARTIN STATE AIRPORT</b><br><b>MARYLAND DEPARTMENT OF TRANSPORTATION</b><br><b>MARYLAND AVIATION ADMINISTRATION</b><br><b>CHIEF ENGINEER</b><br>INSERT CONTRACT TITLE HERE<br>FOR MARTIN STATE AIRPORT |   |   | CONTRACT NO. MAA-CO-XX-XXX                         |   |  |
| VICINITY MAP  | INDEX OF DRAWINGS   |   | SITE MAP   |   |  |
|   | <b>VOLUME 1 OF X</b><br>SHEET NO. 1    SHEET IDENTIFIER NO. G0.01    DESCRIPTION: TITLE SHEET - VOLUME 1<br><br><b>VOLUME 2 OF X</b><br>SHEET NO. 201    SHEET IDENTIFIER NO. X    DESCRIPTION: TITLE SHEET - VOLUME 2<br><br><div style="border: 1px solid black; padding: 5px; text-align: center; color: red;">           Remove this box for Bid, Conformed and As-built Submissions         </div> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <b>XX% SUBMITTAL</b><br/> <b>NOT FOR CONSTRUCTION</b> </div> |   |  |   |  |
| MARTIN STATE FACILITIES MAINTENANCE _____ DATE _____<br>CONSULTANT LOGO   | MAA OFFICE OF DESIGN AND CONSTRUCTION _____ DATE _____<br>PROFESSIONAL CERTIFICATION: I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NUMBER _____ EXPIRATION DATE _____   | MARTIN STATE AIRPORT DIRECTOR _____ DATE _____<br>OFFICE OF DESIGN AND CONSTRUCTION | DESIGN TEAM NO. XXXX<br>CONSTRUCTION TEAM NO. XXXX | SEE PERMIT NO. XX-SF-XXXX<br>BID NO. X-XX-XXXX-XXX<br><b>BID DOCUMENTS</b><br>SHEET NO. 1 of XX<br>CONTRACT: G0.01<br>DATE: MMMM DD, YYYY |  |

**Figure 4-3, Title/Cover Sheet Layout Samples**

Modifications to the standard cover sheet and border require prior approval of the Office of Design and Construction.

#### 4.1.5 Drawing Numbering

The drawing sequence number for CADD drawing starts with an upper case letter specifying the discipline followed by a three digit sequential number, starting with 001 within each discipline code (i.e. C001, C002 ..., C00n; A001, A002 ... A00n). The discipline codes are listed below:

| Discipline Code | Discipline      | Discipline Code | Discipline          | Discipline Code | Discipline              |
|-----------------|-----------------|-----------------|---------------------|-----------------|-------------------------|
| A               | Architectural   | G               | General             | Q               | Equipment-Baggage       |
| C               | Civil           | H               | Hazardous materials | R               | Real estate/lease       |
| D               | Demolition      | I               | Interiors           | S               | Structural              |
| E               | Electrical      | L               | Landscaping         | T               | Telecommunication       |
| F               | Fire protection | M               | Mechanical          | V               | Surveying/mapping       |
|                 |                 | P               | Plumbing            | Z               | Contractor/shop drawing |

**Table 4-5, Drawing Number Discipline Codes**

#### 4.1.6 Arrangement of Drawings

The drawings in a construction drawing set are listed by discipline in Table 4-6, Construction Drawing Set.

##### 4.1.6.1 Construction Drawing Sets

The drawings in Table 4-6 are commonly used in identifying a complete set of drawings for the construction of a new facility. Drawing sets for the construction of facility modifications must consist of a subset of the drawings listed in this table. Demolition drawings may be submitted under the Demolition discipline or under another discipline. Construction drawing sets shall be arranged by discipline in the following order, although the exact placement of demolition drawings can vary by project.

| DISCIPLINE          | DRAWING CODE | DESCRIPTION  |
|---------------------|--------------|--|
| General             | G            | Cover, Index, Abbreviations, Symbols, Staging & Safety Plans |
| General             | G            | Security Plan  |
| Real Estate/Lease   | R            | Property Boundaries And Legal Descriptions                   |
| Civil               | C            | Demolition   |
| Civil               | C            | Legend   |
| Civil               | C            | Site   |
| Civil               | C            | Boring Log   |
| Civil               | C            | Under Slab Drainage  |
| Civil               | C            | Building Site Plan   |
| Civil               | C            | Grading Plan   |
| Civil               | C            | Utility Plan   |
| Civil               | C            | Details, Elevations And Sections                             |
| Civil               | C            | Site Improvements  |
| Civil               | C            | Layout, Grading, Draining and Landscaping                    |
| Civil               | C            | Structural Details   |
| Demolition          | D            | Removal of Existing Construction                             |
| Hazardous Materials | H            | Hazardous Materials  |
| Landscaping         | L            | Legend, Symbols and Abbreviations                            |
| Landscaping         | L            | Irrigation Plan  |

| <b>DISCIPLINE</b>       | <b>DRAWING CODE</b> | <b>DESCRIPTION</b>                      |
|-------------------------|---------------------|---|
| Landscaping             | L                   | Planting                                |
| Landscaping             | L                   | Irrigation and Planting Details         |
| Architectural           | A                   | Legend, Symbols and Abbreviations       |
| Architectural           | A                   | Floor Plan                              |
| Architectural           | A                   | Reflected Ceiling Plan                  |
| Architectural           | A                   | Roof Plan                               |
| Architectural           | A                   | Elevations                              |
| Architectural           | A                   | Sections                                |
| Architectural           | A                   | Details                                 |
| Architectural           | A                   | Millwork                                |
| Architectural           | A                   | Equipment                               |
| Architectural           | A                   | Furniture                               |
| Interiors               | I                   | Interior Building Elements              |
| Structural              | S                   | Legend, Symbols And Abbreviations       |
| Structural              | S                   | Structural Foundation Plan              |
| Structural              | S                   | Framing and Decking Plan                |
| Structural              | S                   | Roof Framing Plan                       |
| Structural              | S                   | Structural Details                      |
| Structural              | S                   | Structural Steel Grounding              |
| Structural              | S                   | Erection Drawings                       |
| Mechanical              | M                   | Legend, Symbols And Abbreviations       |
| Mechanical              | M                   | Equipment Schedule                      |
| Mechanical              | M                   | Elevations                              |
| Mechanical              | M                   | Generator and Fan Room Plan             |
| Mechanical              | M                   | Chiller Room Plan                       |
| Mechanical              | M                   | Mechanical Room Plan                    |
| Mechanical              | M                   | Roof Plan                               |
| Mechanical              | M                   | Sections and Details                    |
| Mechanical              | M                   | Details                                 |
| Mechanical              | M                   | Hot and Cold Piping Diagrams            |
| Mechanical              | M                   | Miscellaneous                           |
| Mechanical              | M                   | Steam Piping Systems                    |
| Mechanical - HVAC       | M                   | Under Floor Plan                        |
| Mechanical - HVAC       | M                   | Floor Plan (Room Area)                  |
| Mechanical - HVAC       | M                   | Ceiling Plan                            |
| Baggage Handling System | Q                   | General Notes, Legend and Abbreviations |
| Baggage Handling System | Q                   | Floor Plans                             |
| Baggage Handling System | Q                   | Enlarged Floor Plans                    |
| Baggage Handling System | Q                   | Sections                                |
| Baggage Handling System | Q                   | Details                                 |
| Baggage Handling System | Q                   | Controls                                |
| Plumbing                | P                   | Legend, Symbols and Abbreviations       |

| DISCIPLINE         | DRAWING CODE | DESCRIPTION                                    |
|--------------------|--------------|--|
| Plumbing           | P            | Foundation Plan                                |
| Plumbing           | P            | Piping Plan                                    |
| Plumbing           | P            | Riser Diagram                                  |
| Plumbing           | P            | Sanitary Riser Diagram                         |
| Plumbing           | P            | Storm Riser Diagram                            |
| Plumbing           | P            | Roof Drain System                              |
| Plumbing           | P            | Details  |
| Electrical         | E            | Electrical Demolition                          |
| Electrical         | E            | Legend, Symbols and Abbreviations              |
| Electrical         | E            | Single Line Diagrams                           |
| Electrical         | E            | First Floor Lighting Plan                      |
| Electrical         | E            | Power and Communications Plan                  |
| Electrical         | E            | Grounding Plan                                 |
| Electrical         | E            | Security Plan                                  |
| Electrical         | E            | Equipment                                      |
| Electrical         | E            | Motor Control Schematics                       |
| Electrical         | E            | Miscellaneous                                  |
| Electrical         | E            | Details  |
| Electrical         | E            | Panel Schedules                                |
| Electrical         | E            | Airfield Electrical Duct Bank Plan and Profile |
| Telecommunications | T            | Legend, Symbols And Abbreviations              |
| Telecommunications | T            | 1st Floor Communications Plan                  |
| Telecommunications | T            | Details  |
| Telecommunications | T            | Manhole and Cable Diagrams                     |
| Fire Protection    | F            | Legend, Symbols And Abbreviations              |
| Fire Protection    | F            | Sprinkler System                               |
| Fire Protection    | F            | Fire Pump Location Plan                        |
| Fire Protection    | F            | Alarm Systems                                  |
| Fire Protection    | F            | Fire Fighting Equipment                        |
| Fire Protection    | F            | Stand Pipe System                              |
| Z-Contractor       | Z            | Shop Drawings                                  |

**Table 4-6, Construction Drawing Set**

**4.1.7 Typical Sheets and Layouts for Construction Drawing Sets**

The following sections provide examples of drawing sheets that shall always be included in a drawing set.

**4.1.7.1 Cover Sheet**

See Figure 4-3, Title/Cover Sheet Layout Samples.

**4.1.7.2 Index Sheet**

The index sheet shows a continuation of the drawing list from the title sheet, if required, all abbreviations used in the document set and a legend depicting all existing and proposed symbols. Reference contracts pertaining to the active task document are to be included in the provided attributed block. The consultant or sub-consultant should contact MAA’s Office of Design and Construction to assist in identifying this list of reference contracts and to obtain copies of the documents from the reference contracts. A sample of each standard Index Sheet is available in AIRPortal → Designer’s Tools.

***The most current MAA-approved drawing formats, templates and seed files are stored in AIRPortal → Designer Tools. Consultants and sub-consultants have access to the most current***

*resources to perform their services compliant with MAA's current standards. Consultants are responsible to review what is on Designer Tools to ensure they are using the most current versions.*

An example index sheets is shown in Figure 4-4, Index Sheet. The columns shown are for illustration only and may be adjusted to accommodate more or less of one type of information.

| DRAWING LIST    |  | ABBREVIATIONS  |  | SYMBOLS LEGEND  |  |  |
|-----------------|--|--|--|---|--|--|
|                 |  |  |  |   |  |  |
|                 |  |  |  |   |  | REFERENCE CONTRACTS  |
|                 |  |  |  |   |  |  |
| CONSULTANT LOGO | <small>PROFESSIONAL CERTIFICATION</small><br><small>I HEREBY CERTIFY THAT</small><br><small>THESE DRAWINGS WERE</small><br><small>PREPARED BY ME OR UNDER MY</small><br><small>IMMEDIATE SUPERVISION AND</small><br><small>TO MY KNOWLEDGE THEY COMPLY</small><br><small>WITH ALL REQUIREMENTS OF THE</small><br><small>STATE OF MARYLAND.</small><br><small>LICENSE NO. _____</small><br><small>EXPIRES _____</small> | <small>DESIGNED</small><br><small>CHECKED</small><br><small>APPROVED</small> | <small>REVISION</small><br><small>NO.</small><br><small>DATE</small><br><small>DESCRIPTION</small> |  <small>MARYLAND DEPARTMENT OF TRANSPORTATION</small><br><small>MARYLAND AVIATION ADMINISTRATION</small><br><small>OFFICE OF DESIGN AND CONSTRUCTION</small> | <small>PROJECT TITLE</small><br><b>PROJECT TITLE</b><br><small>SHEET TITLE</small><br><small>SCALE</small> <small>DATE</small> <small>DATE</small> | <small>CONTRACT NO.</small><br><b>MAA-CO-XX-XXX</b><br><small>SHEET NO. of XX</small><br><small>DATE</small> |

**Figure 4-4, Index Sheet Example**

**4.1.7.3 Other Sheets**

MAA has developed standard General Notes sheets for airside and landside construction projects. These are available through the MAA Design Standards publication. The remainder of the drawing sheets are discipline specific. To provide an example of all such sheets is beyond the intent of this standard.

**4.1.8 MDOT/MAA Logo Art**

MAA provides the following logos in electronic format for use in CADD documents. These are accessible through **MAA AIRPortal → Designer's Tools**:

- MDOT/MAA Logo
- MAA Logo
- BWI Logo
- Martin State Airport Logo

#### 4.1.9 Layers

For layer naming conventions, MAA has adopted the *CADD LAYER GUIDELINES* of the National CAD Standard (NCS), Version 5. Layer names as defined by the NCS shall be used, in a manner that is consistent with their definitions. Additional layers required by MAA are listed in Appendix 1. No other layers shall be used without prior written permission from MAA.

##### **4.1.9.1 Sheet File Layer Assignment**

A sheet file is synonymous with a single sheet or page of a plotted CADD drawing file. A sheet file is a selected view or portion of referenced model files within a border sheet. The addition of sheet-specific information (e.g., text, dimensions, and symbols) completes the construction of the document. Table 4-7, Common Sheet File Layers, outlines layers that will be common in all sheet files in a set of construction drawings:

| <b>General Layer Names</b> | <b>General Layer Descriptions</b>  | <b>Color #</b> |
|----------------------------|--|----------------|
| G-ANNO-DIMS                | Dimensions and Leaders   | 5              |
| G-ANNO-IDEN                | Identification Tags: Floor Id. #s; Room #s; Door #s; hardware group; Window #s; Equipment Id. #s; Furniture #s; Tenant Identification; Area calculations; Occupant or employee names; Elevation Id. #s; Component Id. #s | 7              |
| G-ANNO-KEYN                | Key Notes  | 7              |
| G-ANNO-LEGN                | Legends  | 4              |
| G-ANNO-NOTE                | Notes  | 7              |
| G-ANNO-NPLT                | Construction Lines, non-plotting information   | 8              |
| G-ANNO-PATT                | Cross-hatching, patterns, poche  | 5              |
| G-ANNO-REDL                | Redline Annotations  | 10             |
| G-ANNO-REFR                | Reference Files  | 7              |
| G-ANNO-REVS                | Revisions  | 4              |
| G-ANNO-SCHD                | Schedules  | 7              |
| G-ANNO-SYMB                | Miscellaneous Symbols  | 4              |
| G-ANNO-TEXT                | Miscellaneous text and callouts with associated leaders  | 7              |
| G-ANNO-TITL                | Drawing Component Titles, Detail Titles, Section Titles, Elevations  | 3              |
| G-ANNO-TTLB                | Border and title block information   | 2              |

**Table 4-7, Common Sheet File Layers**

##### **4.1.9.2 Model File Layer Assignment**

A model file contains the physical components or features that make up a building, facility, or site (e.g., columns, walls, windows, ductwork, piping, etc.). To facilitate the setup of layers in model files in conformance with NCS guidelines, AutoCAD has included this layering standard in its software.

Once the discipline designator, major and minor categories have been chosen, the final portion of the layer name is the status. This describes to the user what the disposition is of the entities on that layer, and helps to determine if that layer should or should not be shown on a particular drawing sheet. MAA prefers to use a four-letter abbreviation to stay consistent with the Major and Minor group names, and provide a more intuitive description for the status. Below is a list of common status categories:

|      |  |
|------|--|
| PHS# | Phase of project (#=1-9)   |
| DEMO | Existing item to be demolished   |
| EXST | Existing item to remain  |
| FUTR | Future work  |
| MOVE | Existing item to be moved  |
| NEWW | New work   |
| TEMP | Temporary work   |
| NICN | Not in contract (not included in AutoCAD layer naming routine)               |
| RELO | Existing item to be relocated (not included in AutoCAD layer naming routine) |
| ABND | Abandoned item (not included in AutoCAD layer naming routine)                |

#### 4.1.10 Text Styles/Fonts

The MAA standard fonts include “out of the box” fonts that ship with every installment of *AutoCAD* as well as Windows true type fonts. Any font not meeting this criterion must be submitted to the MAA Project Engineer for approval and inclusion in the project specific standard *Font Library* (.shx or .ttf) file.

All *Text Styles* shall use the naming convention, (font name) (-) (text height in decimal equivalent of inches) e.g. *ROMANS.120*

#### 4.1.11 Text Justification

All annotation text shall be left justified.

#### 4.1.12 Text Heights and Colors

The following text heights and colors must be used on all drawings to ensure uniformity in the contract documents.

| ENTITY               | PLOTTED TEXT HEIGHT (IN INCHES) | COLOR      |
|----------------------|---------------------------------|------------|
| Titles               | 0.25                            | 3 (Green)  |
| Subtitles            | 0.175                           | 3 (Green)  |
| Normal Text          | 0.125 or 0.1                    | 2 (Yellow) |
| Notes, callouts etc. | 0.125 or 0.1                    | 2 (Yellow) |

**Table 4-8, Text Heights and Colors**

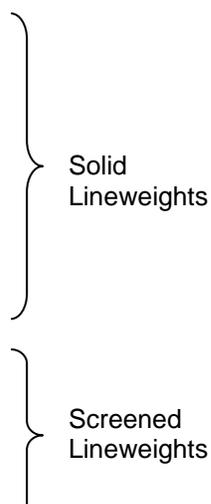
#### 4.1.13 Line Widths and Colors

In AutoCAD, each color represents a different line width when plotted. It is preferable to control the line widths in a drawing by assigning a specific color to the layer, instead of assigning a specific color to a single element/entity (line, polyline, arc, etc.). The color of a single element/entity should be set to “BYLAYER”, so the layer’s color setting can be used to globally change all elements/entities on that layer, both in the model files and sheet files.

Each "sheet file" submitted to the MAA, must be able to be plotted in monochrome and still be legible with distinctions between lines types and other symbology readily apparent. To achieve this, the MAA Standard Pen Settings in Table 4-9, MAA Standard Pen Settings, should be used. Pen widths are specified for only the AutoCAD index colors. Colors 1-9 plot as solid lines, and colors 250-254 plot as screened lines. There is a pen table for both full size drawings (B) and half-size drawings (D):

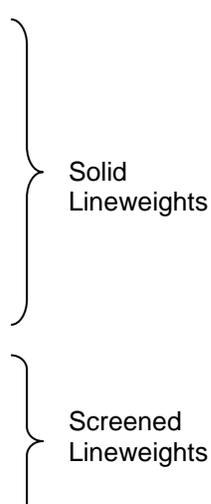
**MAA Full Size.ctb**

| AutoCAD Color No. | Plotted Pen Width in Inches | Plotted Color | Plotted Line Width   |
|-------------------|-----------------------------|---------------|--|
| 1                 | 0.010                       | Black         |  |
| 2                 | 0.012                       | Black         |  |
| 3                 | 0.014                       | Black         |  |
| 4                 | 0.020                       | Black         |  |
| 5                 | 0.024                       | Black         |  |
| 6                 | 0.031                       | Black         |  |
| 7                 | 0.007                       | Black         |  |
| 8                 | 0.005                       | Black         |  |
| 9                 | 0.047                       | Black         |  |
| 250               | 0.010                       | Dark Grey     |  |
| 251               | 0.010                       | Dark Grey     |  |
| 252               | 0.010                       | Medium Grey   |  |
| 253               | 0.010                       | Light Grey    |  |
| 254               | 0.010                       | Light Grey    |  |


  
 Solid Lineweights  
 Screened Lineweights

**MAA Half Size.ctb**

| AutoCAD Color No. | Plotted Pen Width in Inches | Plotted Color | Plotted Line Width   |
|-------------------|-----------------------------|---------------|--|
| 1                 | 0.005                       | Black         |    |
| 2                 | 0.006                       | Black         |    |
| 3                 | 0.007                       | Black         |  |
| 4                 | 0.010                       | Black         |  |
| 5                 | 0.012                       | Black         |  |
| 6                 | 0.015                       | Black         |  |
| 7                 | 0.004                       | Black         |  |
| 8                 | 0.003                       | Black         |  |
| 9                 | 0.024                       | Black         |  |
| 250               | 0.010                       | Dark Grey     |  |
| 251               | 0.010                       | Dark Grey     |  |
| 252               | 0.010                       | Medium Grey   |  |
| 253               | 0.010                       | Light Grey    |  |
| 254               | 0.010                       | Light Grey    |  |


  
 Solid Lineweights  
 Screened Lineweights

**Table 4-9, MAA Standard Pen Settings**

As an alternative to using the MAA Standard Pen Settings, the consultant may include one color-dependent plot style table (*CTB File*) called *PLOT.CTB*. This *CTB File* must define the pen number and pen width for all color numbers and be capable of producing monochrome plots for all submitted *Sheet Files*.

If the consultant does not submit a file named *PLOT.CTB*, along with the *Sheet Files*, it will be assumed that the files use the MAA standard plot settings listed above.

#### **4.1.14 Line Types**

The MAA standard linetypes include “out of the box” linetypes (these are linetypes that ship with every installment of AutoCAD) and linetypes defined in the NCS. Linetypes from the NCS are available on AIRPortal → Designer’s Tools.

***The most current MAA-approved drawing formats, templates and seed files are stored in AIRPortal → Designer Tools. Consultants and sub-consultants have access to the most current resources to perform their services compliant with MAA’s current standards. Consultants are responsible to review what is on Designer Tools to ensure they are using the most current versions.***

Follow the instructions carefully in the README file to install the files and load the linetypes correctly. Any new linetypes created by a consultant must be submitted to the MAA Project Engineer for approval and inclusion in the project specific standard linetype (.lin) file.

It is preferable to control the linetypes in a drawing by assigning a specific linetype to the layer, instead of assigning a specific linetype to a single element/entity (line, polyline, arc, etc.). The linetype of a single element/entity should be set to “BYLAYER”, so the layer’s linetype settings can be used to globally change all elements/entities on that layer, both in the model files and sheet files.

#### **4.1.15 Units**

The units for all A/E/C drawings shall be U.S. Survey Foot (1200/3937 meters), inches and fractions of an inch, with the smallest fraction normally being 1/8" or as decimals. Dimensions of less than a foot must be shown in inches or fractions of inches, or as decimals.

#### **4.1.16 Working Units, Coordinate Systems and Drawing Origins**

Units should be selected according to the discipline of the drawing, architectural (feet and inches), engineering (feet and tenths), or decimal. References to feet in this document are specifically to the U.S. Survey Foot (1200/3937 meters).

All topography and topography related design including structural and architectural building footprints shall be submitted to, maintained by, and provided by MAA in the Maryland Coordinate System of 1987, also referred to as Maryland State Plane. Following are the parameters of the Maryland Coordinate System of 1987:

|                      |   |
|----------------------|---|
| Map Projection:      | Lambert conic conformal projection of the geodetic reference system of 1980 |
| Horizontal Datum:    | NAD83 (2001)  |
| Latitude of Origin*: | 37°40' North latitude   |
| Central Meridian:    | 77°00' West longitude   |
| Standard Parallel 1: | 38°18' North latitude   |
| Standard Parallel 2: | 39°27' North latitude   |
| False Easting*:      | 400,000 meters  |
| False Northing*:     | 0 meters  |
| Latitude**:          | 37°34' 38.14264" N  |
| Longitude**:         | 81°31' 45.07877" W  |

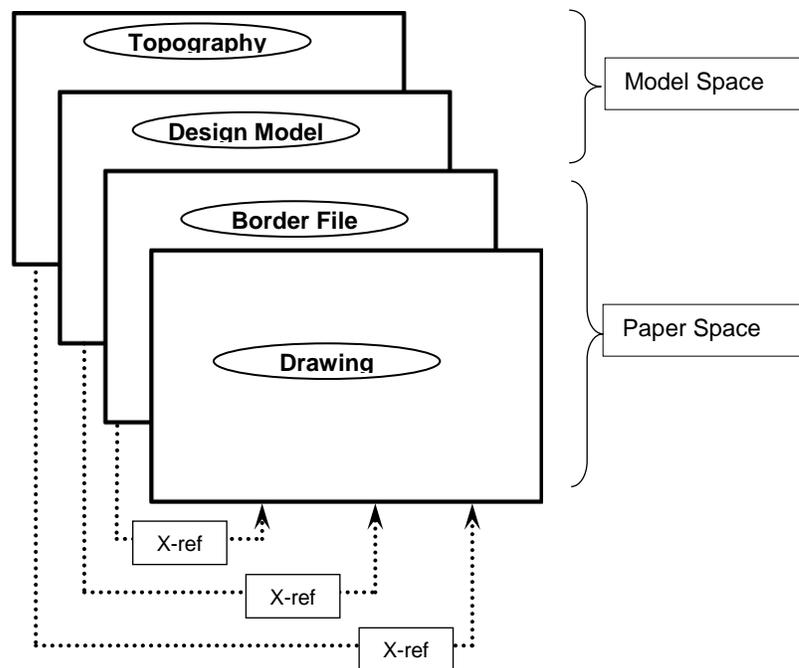
- \* at the 77th meridian
- \*\* at artificial origin (0,0)

Vertical spatial data shall be submitted to, maintained by, and provided by MAA based on the National Geodetic Vertical Datum of 1988 (NGVD88).

The lower left corner of all other drawings should be positioned at the Cartesian coordinate point of 0, 0, 0.

#### 4.1.17 Externally Referenced Files

Externally referenced files are related DWGs that are referenced to the current (aka host) DWG to provide additional content. Referenced files can include title/borders, base map information, or other details not included but related to the primary drawing. Figure 4-5, Externally Referenced Files Example, illustrates the concept of how a sheet file drawing is composed using model/design and informational xref files.



**Figure 4-5, Externally Referenced Files Example**

#### **4.1.17.1 Specific Use of AutoCAD Reference Files**

All files referenced in the host file shall be included in the final drawing package. AutoCAD users shall use the “Bind” option to make xrefs and their dependent objects a part of the current drawing. Nested or circular xref files are not allowed.

Reference files shall be added to all drawings using no saved paths. These paths do not include the drive letter and reflect the location of the reference file as it relates to the active file (the reference file should be in the same folder/directory as the active file).

Reference files shall be added on a specific layer and the prefix for that layer shall be "G-ANNO-REFR-" followed by the reference file name.

#### ***4.1.18 Patterning***

The patterns (hatching) to be used on MAA drawings include only “out of the box” hatch patterns; customized patterns must not be used.

#### ***4.1.19 Dimensioning***

Refer to the ANSI Y14.5M for additional dimensioning information not provided in this standard.

**The distance from the object for the first dimension is 1/2" and each additional dimension is 3/8" further apart. See Figure 4-6, Dimension Directions and Spacing Example, and Figure 4-7, Dimension and Extension Line Spacing Example for dimension examples.**

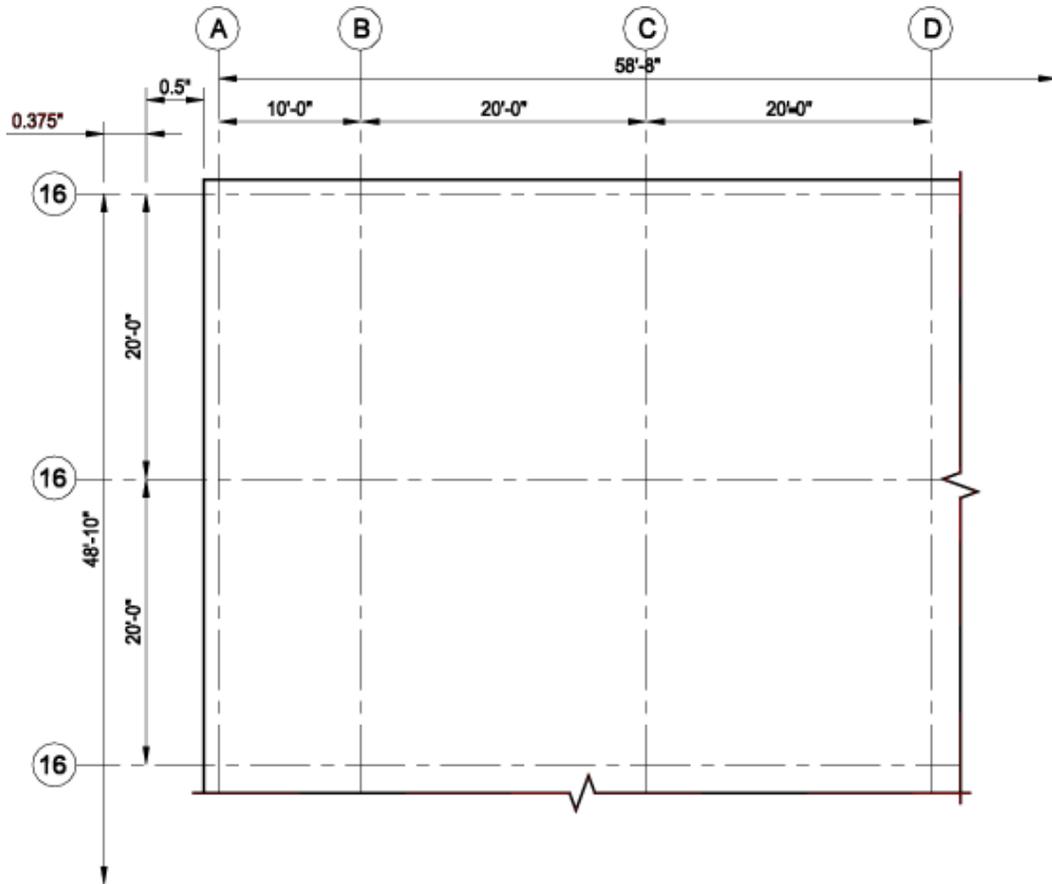


Figure 4-6, Dimension Directions and Spacing Example

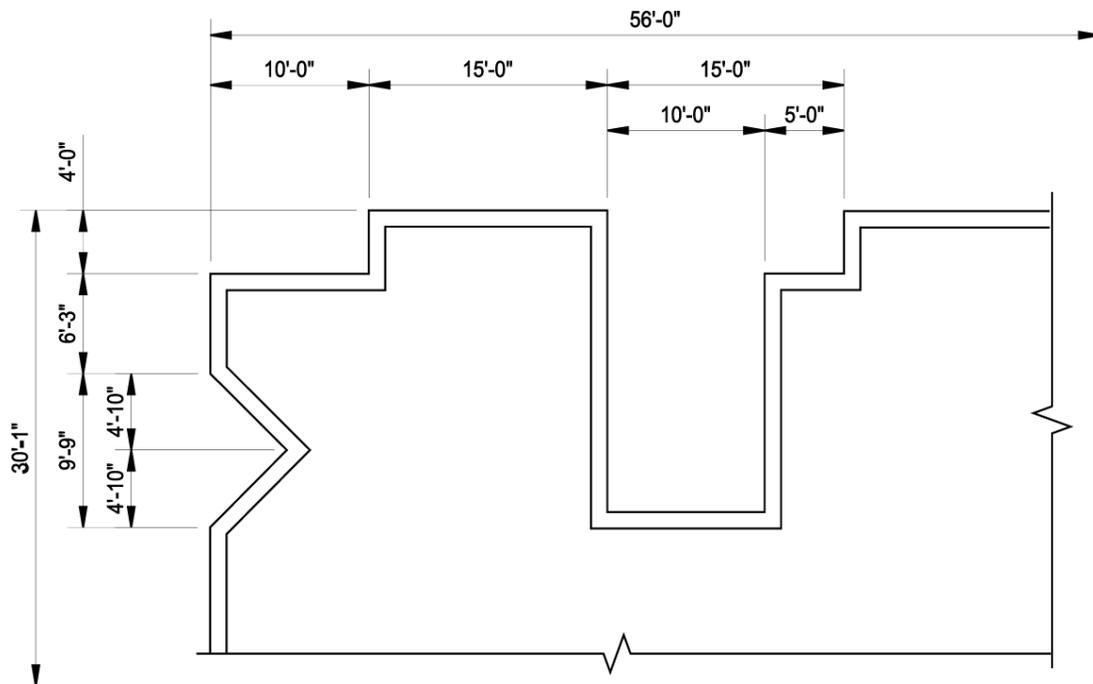


Figure 4-7, Dimension and Extension Line Spacing Example

#### **4.1.19.1 Dimension Text Size**

All dimensioning text must be placed into the dimension layer. The size of dimension text is the same as the drawing field text (no smaller than 1/10" height, with 1/8" being preferable).

Refer to Table 4-1, Scale Factor and Text Height Conversion Chart for scaling factors and text height.

#### **4.1.19.2 Positioning Dimensions**

Figure 4-6, Dimension Directions and Spacing Example and Figure 4-7, Dimension and Extension Line Spacing Example. Refer to these figures for examples.

The following guidelines shall apply:

- Avoid crossing dimension lines.
- Centerlines may be extended and used as extension lines.
- Place longer dimensions outside of shorter ones.
- Do not cover dimensions with patterns in sectioned areas.
- Whenever possible, arrange dimensions so they can be read easily on one continuous line.
- Dimensions are always placed on the drawing so that the text may be read from the bottom or the right.
- Locate dimension lines so that they do not cross extension lines. If it is necessary to dimension at an angle, that angle should be in quadrant between the horizontal and vertical so text may be read between 0 and 90 degrees.
- All text must be located above or centered on the dimension lines.
- The location of text on the dimension line shall be consistent throughout the drawing set.
- Fractions must be located on one line with a space between the whole inch and fraction.
- Make fractions with a slant bar with numbers the same height as text, for example, 1/4".
- All dimension and extension lines shall be created using the "Color 1" line weight.
- Arrowheads and dimension text shall be created using the "Color 1" line weight.
- All text shall be left justified per standard drafting standards.

#### **4.1.19.3 Leaders**

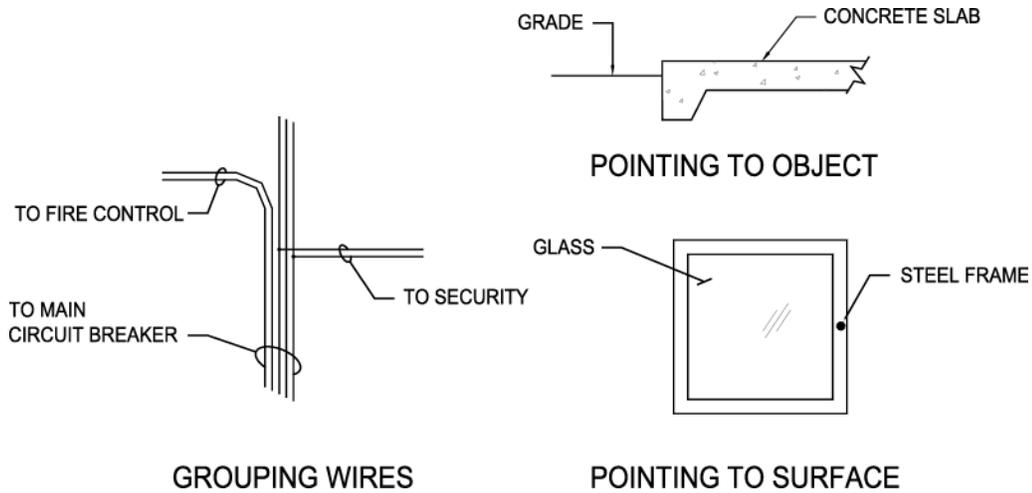
When a note or dimension cannot be placed close to an object, a leader may be used. A leader consists of a short horizontal line, an angled line and a terminator. When placing a leader to the left side of a note the horizontal line must be placed in line with the top of the note. If the leader is on the right side, the horizontal line is placed at the bottom of the note, see Figure 4-8, Placement of Leaders Example. When a leader points to an object, the angled line must terminate with an arrowhead at its first object line. When the information refers to (applies to, or points to) a surface of an object, use a small filled dot or tilde. When the information refers to a bundle or grouping of wires or cables, use a lasso. An example is shown in Figure 4-9, Typical Leaders Example.

All leader lines and arrowheads shall be created using the "Color 1" line weight.

THIS FIGURE SHOWS THE PLACEMENT OF LEADERS FOR ENGINEERING NOTES, VENDOR DESCRIPTIONS, OR OTHER EQUIPMENT CALL OUTS ON A DRAWING. LEADERS CAN BE LOCATED AT THE START OF THE NOTE OR AT THE END.

THIS FIGURE SHOWS THE PLACEMENT OF LEADERS FOR ENGINEERING NOTES, VENDOR DESCRIPTIONS, OR OTHER EQUIPMENT CALL OUTS ON A DRAWING. LEADERS CAN BE LOCATED AT THE START OF THE NOTE OR AT THE END.

**Figure 4-8, Placement of Leaders Example**



**Figure 4-9, Typical Leaders Example**

**4.1.19.4 Arrowheads**

Arrowheads denote termination of dimensions and leader lines and show direction. They must be filled, and must be the same size and style as the arrowheads used in other dimensions. Arrowhead size should be a 3:1 ratio for length to width, and in proportion to any associated text.

**4.1.20 Symbols**

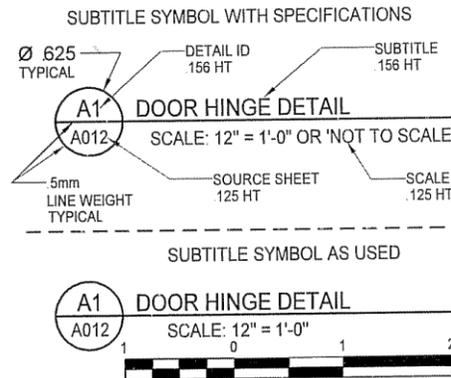
Symbols used in drawings should comply with the NCS or ANSI and all symbols used in a drawing must be indicated in a legend. Miscellaneous signage symbols and topographic symbols that are commonly used in preparing construction drawings for MAA projects are available in AIRPortal → Designer’s Tools.

*The most current MAA-approved drawing formats, templates and seed files are stored in AIRPortal → Designer Tools. Consultants and sub-consultants have access to the most current resources to perform their services compliant with MAA’s current standards. Consultants are responsible to review what is on Designer Tools to ensure they are using the most current versions.*

**4.1.21 Drawing Subtitles**

Subtitles must be used on drawings with more than one view or when sections or details are required for clarity and must also be used on drawings with a single view when title block information is inadequate and additional identification is required. Subtitles are always located below and centered on the view to which they apply, except for detail drawings where the title shall be located to the lower left.

Subtitles for plans, standard details, typical details, etc., which are not referenced in other views, consist of two lines. The first line shows the exact title of the view or detail and the second line indicates the scale of the view or detail, along with bar scale, see Figure 4-10, Standard Subtitle Annotation Example.



**Figure 4-10, Standard Subtitle Annotation Example**

#### **4.1.22 Sections and Details**

Sections must be drawn when additional clarification is warranted and details must be created whenever additional clarification is required and a section cannot readily be cut.

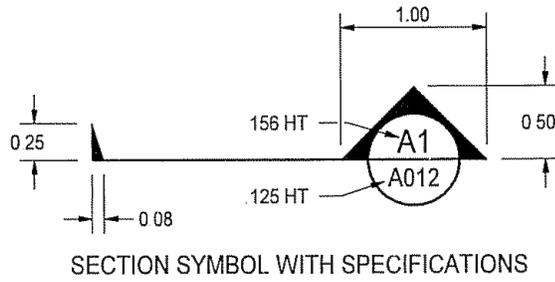
##### **4.1.22.1 Sections**

Sections must be drawn using the drafting standards shown in Figure 4-11, Standard Section Annotation Example. The three types of section indicators to be used are short sections, extended sections, and offset sections as shown in Figure 4-12, Section Types Example. All sections must be cut toward the top or left side of the drawing, except in unusual situations. In some cases, it may be necessary to cut a short section reading from the left, but this should be avoided if possible.

Sections must appear on the same drawing on which they are cut, if possible. If the section cannot be drawn on the same drawing, it must appear on a separate drawing reserved for sections. Under no circumstances are sections to be scattered indiscriminately throughout the set of drawings.

Section cuts shall be lettered in alphabetical order on each drawing. The letter in the top half of the circle marker must indicate the section letter. The alphanumeric number in the lower half of the circle marker must indicate the drawing on which the section is shown. Heavy dark lines located in the position where the section is cut must indicate the location of the cutting plane.

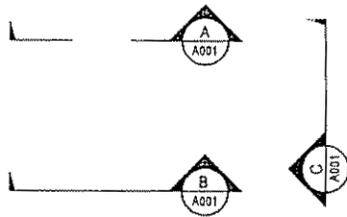
Offset sections may be used only when section clarity requires adjustment of a portion of the cutting plane. On all section cuts, the circle markers must be placed so they can be read from the direction of cut.



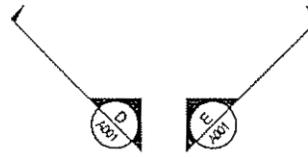
**Figure 4-11, Standard Section Annotation Example**

Figure 4-12, Section Types Example

SHORT SECTIONS

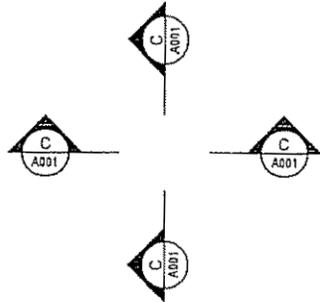


STANDARD

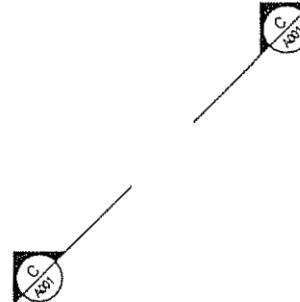


EXCEPTION

EXTENDED SECTIONS



STANDARD

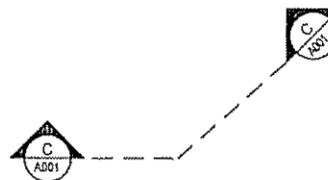


EXCEPTION

OFFSET SECTIONS



STANDARD

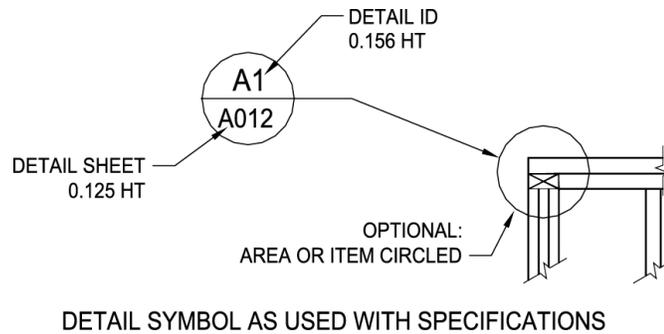


EXCEPTION

#### **4.1.22.2 Detail Drawings**

The detail must be a section, a plan view, an elevation, or an enlargement. Details must have an alphanumeric (e.g. A1) designation in the upper half of the circle marker. When details are intermixed with sections and it would be difficult to locate a lettered detail on a drawing, the details must be numbered consecutively with the sections. The alphanumeric number in the lower half of the circle marker must indicate the sheet number on which the details reside (see Figure 4-13, Standard Detail Symbol Example).

When a detail appears more than once on the same drawing, extend a line off the detail, abbreviate the word typical (TYP), and indicate the quantity in parentheses.



**Figure 4-13, Standard Detail Symbol Example**

#### **4.1.23 Revision of Drawings**

Changes to contract drawings must be clearly identified and tracked. The following sections outline the required methodologies for incorporating changes to the drawing set.

##### **4.1.23.1 Required Revisions**

Once a drawing has been approved and submitted as final, all subsequent changes shall be recorded as a revision.

##### **4.1.23.2 Revision Methods**

Revisions shall be made by the addition or deletion of information and the changes annotated on drawings.

##### **4.1.23.3 Drawing Practices**

When revising an existing drawing the most recently approved graphic symbols, abbreviations, layer naming requirements, and drawing practices, as documented in this standard, shall be used to incorporate changes or revisions.

##### **4.1.23.4 Identifying Revisions on Drawings**

All revisions shall be identified with a revision cloud and revision number within a triangle for addenda and a square for redline revisions. The revision number in the title block must correspond to the revision number in the drawing area where the change was made.

##### **4.1.23.5 Revision Locations**

The revision location is identified by the revision cloud and only additions or modifications are to be included within the revision cloud.

#### **4.1.23.6 Revision Numbers**

Revisions are to be identified by a sequential number starting at 1. Letters are not to be used for revision identification.

#### **4.1.23.7 Multiple Changes**

The same revision number shall identify all changes made to a drawing regardless of number of locations modified that are incorporated at the same time.

#### **4.1.23.8 Revision Block**

The revision block size and format shall conform to that in the standard border sheet provided. Only the five most current revisions shall be shown in the revision block and each revision shall be recorded in accordance with the following:

- a) The identifying number pertaining to the revision shall be entered in the “REV” column.
- b) The date the CADD file changes revision shall be entered in the “DATE” column.
- c) A brief description of the change shall be entered in the “DESCRIPTION” column.

#### **4.1.23.9 Redrawn or Replaced Drawings**

Drawings are redrawn when manual drawings are converted to CADD, when there are extensive changes to a CADD file. The new drawing shall contain a note referencing the superseded drawing. The note shall be located above the revision block on the new drawing stating: “THIS DRAWING SUPERSEDES DRAWING \_\_\_\_\_, REVISION\_\_\_, DATED\_\_\_\_\_.” Subsequent revisions to the new drawing shall start with the number 1, regardless of the revision number of the drawing being superseded. A note shall also be located above the revision block on the superseded drawing stating: “THIS DRAWING SUPERSEDED BY DRAWING \_\_\_\_\_, DATED \_\_\_\_\_.” The statements shall be in letters not less than .125 inches high.

### **4.1.24 Feature Drawing Rules**

Geometric features are objects in drawings that represent specific objects in the real world such as an airfield light, utility conduit, building outline, or property boundary.

#### **4.1.24.1 Allowable Geometry Types**

There are three basic types of geometry (i.e., points, lines, and polygons) that are permissible in CADD drawings provided to MAA. Only one geometry type is allowed on layers that contain geometric features, as opposed to annotation or dimension layers. Only one type of geometry should be present on a single layer. The following geometry type definitions are used in accordance with ISO 19107 and in compliance with the Open GIS Consortium Level 0 Profile of GML Version 3.

**Point:** a single location represented by X and Y (and in some cases Z) coordinates on a reference coordinate system, as shown below in Figure 4-14. Blocks can be used to symbolize point features so long as the block is placed on the appropriate layer for that type of feature. The insertion point of the block should be placed at the correct geographic location of the feature. If block are used an additional point drawing object should not also be placed at the feature’s location.



**Figure 4-14, Example of a Point Feature**

**Line:** straight line connections between two or more discrete locations represented by X and Y (and in some cases Z) coordinates on a reference coordinate system, as shown below in Figure 4-15. Note that line segments (i.e., a straight line connecting two points) and polylines (i.e., one or more connected line segments) are both included in this definition but that arcs (i.e., a curve joining two points) are not.



**Figure 4-15, Example of Line Features**

**Polygons:** A closed connection between three or more discrete locations represented by X and Y (and in some cases Z) coordinates on a reference coordinate system, as shown below in Figure 4-16. A closed polyline can also be used to represent a polygon.



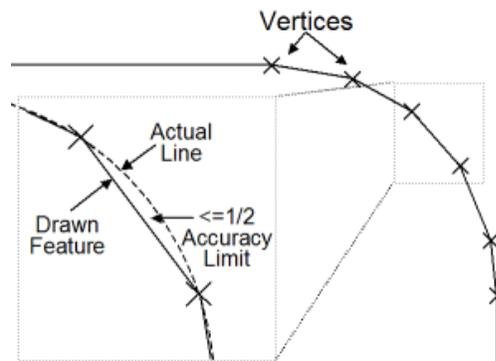
**Figure 4-16, Example of Polygon Features**

**Complex Geometry Types:** Arcs, circles, and ellipses should not be used to represent geographic features. These complex geometry types can be used in details, building faces, and other drawing components that are not intended to be represented in geographic space. This is intended to facilitate data exchange between software that processes these complex data types differently. These shapes may however be represented by polylines or polygons as appropriate. For example, if arcs are used in a CADD drawing, they must first be broken into a line with vertices placed at intervals that are sufficient to maintain the feature's accuracy requirements.

**4.1.24.2 Topology Rules**

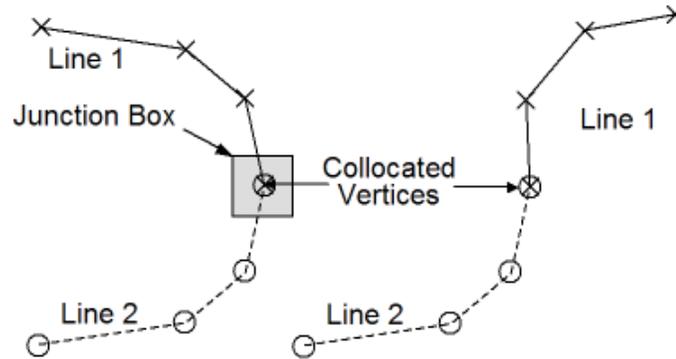
The placement of geometric features in juxtaposition to one another (i.e., next to, connected to, or on top of) is referred to as a topology. Topology rules establish requirements for the placement of features in relation to one another and in relation to features in other Feature Types. Unless stated otherwise, this standard requires the following topological rules:

**Line Feature Types:** Lines should contain one or more line segments with vertices placed at required intervals so the line feature does not stray from the actual feature by more than half the accuracy limit for that feature type, as shown below in Figure 4-17.



**Figure 4-17, Placement of Vertices Along a Curve**

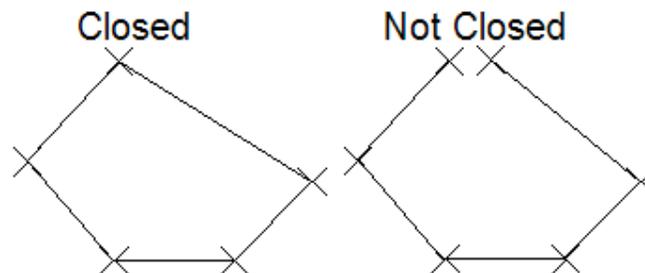
Lines should begin and end at vertices collocated (i.e., exactly at the same coordinate) with features (often point Feature Types) designed to join two or more linear features, as shown in Figure 4-18. An example is electrical conduit lines that are joined only at junction boxes and other similar point features. For lines not naturally joined by physical features (e.g., marking lines), beginning and ending nodes should be placed where an attribute or other property change occurs.



**Figure 4-18, Collocation of Line End Points**

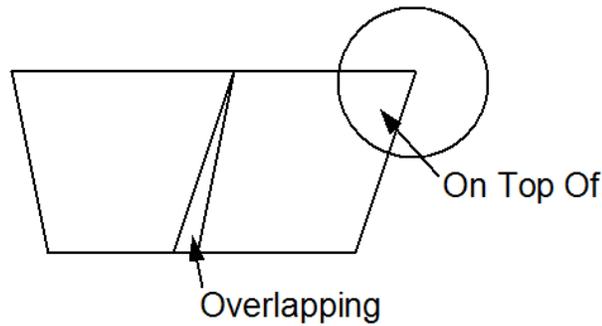
Lines should not fall short (i.e. have gaps) or extend beyond (i.e. have dangles) features they are intended to connect to. When lines are connected to features represented by blocks, the line should connect to the insertion point of the block and not to the outer edge of the block.

**Polygon Feature Types:** Polygons must always be closed, meaning all vertices must be shared by two adjacent line segments forming the edges of the polygon, as shown in Figure 4-19.



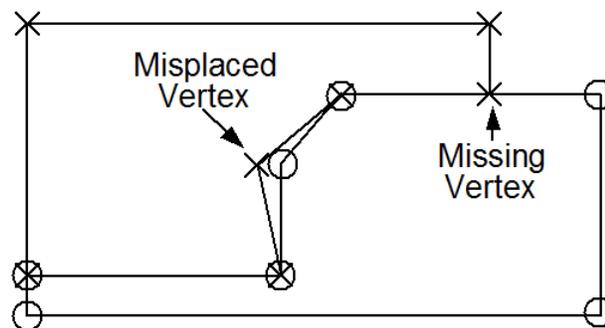
**Figure 4-19, Example of Closed and Unclosed Polygons**

Unless otherwise stated, polygons must not overlap other polygons on the same layer, as shown in Figure 4-20. This includes polygons placed on top of other polygons, as well as small overlapping splices because one or more vertices of adjacent sides are not matched. Polygons placed within (e.g., a 'doughnut hole') a larger polygon (e.g., the 'doughnut') which do not overlap are acceptable, because they describe a physically different space from the surrounding polygon.



**Figure 4-20, Examples of Overlapping Polygons**

Polygons must share vertices with adjacent polygons where the real-world features they represent are adjacent, as shown below in Figure 4-21. This rule applies to polygons in the same Feature Type as well as polygons of different but related Feature Types.



**Figure 4-21, Placement of Vertices of Adjacent Polygons**

#### **4.1.24.3 Layering of Features**

Features of the same type and geometry should be the only elements on any specific layer. Text and leaders relevant to feature on a layer should appear on a corresponding but different layer that complies with the layer naming conventions in this standard.

#### **4.1.24.6 Relationship Between GIS & CADD Layers**

MAA requires that CADD data be easily convertible into a GIS format to the extent feasible. To accommodate this exchange of data, a cross walk between CADD and GIS layers has been developed and can be found in Appendix 4.

#### **4.1.25 Feature Attribution**

In some cases, MAA requires that geometric features in CADD drawings include attributes such as size, material, and condition. These requirements will be defined in individual project statements of work. When MAA requires attributes, they should be attached to geometric objects in drawings via an object data table. If the same set of attributes are required for all features, a single object data table is preferred. Where possible, the attributes found in the object data table should align with attributes in MAA's GIS Data Standard for the corresponding GIS layer. For example, points or block symbols on the C-RUNW-ENDP layer, which corresponds to the RunwayEnd GIS layer per the CADD-GIS crosswalk, should include attributes for the runwayEndDesignator, thresholdType, and others. In some cases, the values that can be entered into these attributes will be bound to a domain list. For example, the attribute

thresholdType is bound to domain called CodeThresholdType, which allows the values of Normal or Displaced.

Note that the ability to define, enter and edit object data is limited to AutoCAD Map 3D or AutoCAD Civil 3D products. This software will be required to enter such values into DWGs where required by MAA.

## 4.2 File Naming

CADD file names should start with the volume identifier (i.e. V1, V2, etc.). Volumes come into play when a drawing set is divided in multiple packets or volumes. Omit field and underscore if all drawings are included in a single volume. Since submissions will be digital submissions effective with these standards, the use of the volume identifier will generally not be used.

Effective with this standard, the drawing sequence number will generally be the first field of the file name. The Sequence Number is a four-digit sheet sequence number designating the sequence order of the drawing in the drawing set. The number reflects the sheet sequence as shown in the index of sheets. Leading zeros are required (i.e. 0001, 0002, etc.). Immediately following the sheet sequence is the insert identifier. This is a single letter used for inserting additional drawings in an existing sequence. The insert identifier is followed by an underscore and then the sheet identifier. The sheet identifier is the sheet number as shown in the drawing title block (i.e. G0.0, E1.1, C1.0, etc). After the sheet identifier is another underscore and then the sheet title. The sheet title should be exactly as shown in the drawing title block. Special characters such as back and forward slashes, ampersands, and asterisks are not permitted. After the sheet title is the SSI identifier. Insert the letters SSI to identify drawings that contain security sensitive information and require special handling. Omit the SSI and preceding underscore if no SSI is present in the contract drawing. The last part of the file name is the format extension. This is the three letter application file type (i.e. dwg, dwf, pdf, etc.)



**Figure 4-22, File Naming Convention**

## 5.0 SPACE ALLOCATION DATA

### 5.1 Introduction

Space allocation data describes how interior and exterior space is used and by whom. This information is important for property management, emergency response, planning and many other critical airport functions. Space allocation data is often created and maintained using CADD software. Due to its unique nature and purpose, there are specific CADD requirements that pertain to this important type of data. These requirements are defined in this section.

### 5.2 Layer Naming

Space allocation data should be drawn on specific layers in CADD drawings. Specifically, the polygons which form space allocation boundaries should be drawn on the C-PROP-LEAS layer for exterior data and the A-PROP-LEAS layer for interior data. Following this standard sequence of discipline, major and minor codes, should be a dash (i.e. “-“) followed by TOOOUU where:

- T represents a one-letter code indicating whether the space is leasable or not. It has one of two values:

L = Leasable Space

N = Non-leasable Space

- OOO represents a three-character code identifying the occupant of the space. For airline tenants, the code is based on the International Air Transport Association (IATA) listing of airline codes. For non-airline tenants, an attempt has been made to create three letter codes that are an intuitive extrapolation of the tenants' names. A complete list of occupant codes for tenants can be found in Appendix 2 (Occupant Codes for Airline Tenants) and Occupant Codes for Other Tenants. These codes represent tenant, vacant space, or common (public) space. The \$ sign should be used as a placeholder when airline identifier codes consist of only two characters. Following are some examples:

\$US = US Airways (tenant)      VAC = vacant  
COM = common

- UU represent a two-letter code that describes the specific use of the space by the indicated occupant. A complete list of designation codes can be found in Appendix 2.

To illustrate the use of this convention, the layer name for a US Airways hold room would be A-PROP-LEAS-L\$USHR, where the L designates leasable space, the \$US indicates US Airways as the occupant, and the HR indicates the use as a hold room. Similarly, the layer name for an electrical room would be A-PROP-LEAS-NCOMUE.

### 5.3 Identification via Hatch Patterns

Space allocation CADD drawings shall utilize two hatch layers per tenant to segregate occupants according to space designation and specific use. The first hatch layer contains a solid hatch distinguishing the major types of space designations. The color of the solid hatch is controlled by-layer using the color number identified in Table 5-10. The second hatch layer contains the patterned hatch overlay subdividing the tenant's space according to the various uses. The patterned hatch is always color 251 and is on a separate layer from the solid hatch. The layer naming convention for the patterned hatches is to create a new layer for each tenant by appending ‘-H’ to the end of the layer name containing the solid hatch.

For example, layer A-PROP-LEAS-L\$UATC contains United Airlines solid hatching for ticket counters. Layer A-PROP-LEAS-L\$UATC-H contains the patterned hatch for the same space.

| LEGEND |                             |  |                           |  |                     |
|--------|-----------------------------|--|---------------------------|--|---------------------|
|        | AIRLINES COMMON USE         |  | FEDERAL SP LEASED         |  | PUBLIC CIRCULATION  |
|        | AIRLINES LEASED             |  | MAA OCCUPIED              |  | RESTROOMS           |
|        | AIRMALL                     |  | MAA SUPPORT               |  | UTILITIES           |
|        | CUTE JOINT USE              |  | MAA VACANT                |  |                     |
|        | FEDERAL SP UNLEASED         |  | MISC. TENANTS             |  |                     |
|        | AIRLINE VIP LOUNGE          |  | EDS/EDT                   |  | OFFICE RESTRICTED   |
|        | AIRMALL FOOD & BEVERAGE     |  | ELECTRICAL                |  | PUBLIC ELEVATOR     |
|        | AIRMALL RETAIL              |  | FIS                       |  | PUBLIC ESCALATOR    |
|        | BAGGAGE CLAIM               |  | HOLDROOM                  |  | PUBLIC STAIRS       |
|        | BAGGAGE MAKEUP              |  | KIOSK                     |  | RESTRICTED          |
|        | CIRCULATION                 |  | LOUNGE/MEETING RMS        |  | SECURITY CHECKPOINT |
|        | COMMUNICATION               |  | MECHANICAL                |  | TICKET COUNTER      |
|        | DEAD SPACE                  |  | OFFICE PUBLIC             |  | UNFINISHED          |
|        | DOOR NUMBER                 |  | LIGHTED ADVERTISING SIGNS |  | REMOVED JETWAYS     |
|        | VISUAL PAGING               |  | TERMINAL DIRECTORY        |  |                     |
|        | FLIGHT INFORMATION DISPLAYS |  | TELEPHONE                 |  |                     |

**Table 5-10, Space Allocation Hatching Guidelines**

### 5.4 Viewing Hatched Lease Areas

In some instances, the patterned hatch may be hidden beneath the solid hatch. In order to view the patterned hatches in both the AutoCAD drawings and in subsequent plots, use the *Bring to Front* or *Send to Back* commands found under *Tools* → *Display Order* in AutoCAD's pull-down menu on the patterned hatch or solid hatch, respectively. If you still cannot view the patterned hatch on top of the solid hatch, invoking the *Regen* command should solve the problem. If these steps do not give the correct view, use the *Send under Object* command found under the *Tools* → *Display Order* pull down menu command, and send the solid hatching under the layer A-wall-full.

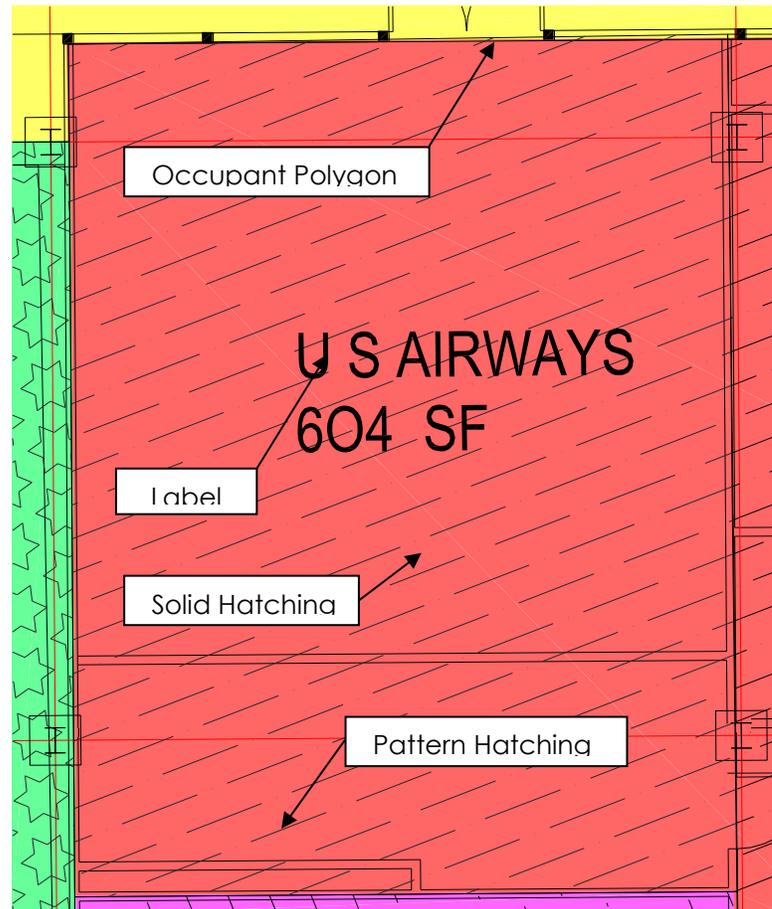
### 5.5 Occupant Identification via Polygons

Every occupant area, public area, and all other miscellaneous spaces in the Terminal Building are enclosed by an AutoCAD polygon. This *Occupant Polygon* is used for multiple purposes:

- 1) To facilitate the hatching of the area.
- 2) To permit listing the square footage via the AutoCAD *Area* → *Entity* command.

These *Occupant Polygons* do not surround individual rooms within the leased space, but rather they surround the entire tenant space as long as that tenant space is for the same use and at the same lease rate. For example, an airline's office space behind ticketing counters will be enclosed by one *Occupant Polygon* but will be separate from the *Occupant Polygon* surrounding the same airline's ticketing counters. The *Occupant Polygon* is generally not intended to be visible, but at times is turned on to enable visual differentiation between adjacent occupants. When plotting in color, the polygon appears as a thick, fuchsia border. When plotting in black and white, the polygon appears as a thick, phantom linestyle, gray line.

The lines that form occupant polygons should be placed on the inside face of exterior walls. For interior walls, the lines should be placed in the center of each interior wall where tenants occupy the space on either side. If MAA is using the adjacent space or it is unoccupied, the lines should be placed on the edge of the wall that is closest to the side occupied by the tenant. These guidelines establish the square footage quantities that will be calculated based on space allocation drawings (square footages in the lease agreement may vary).



**Figure 5-23, Example of Hatching, Polygons and Labels**

### **5.6 Labeling Terminal Spaces**

Within each *Occupant Polygon* mentioned in the previous section, an identifying label is provided. That label is defined as an AutoCAD attributed block. The information contained within this attribute block is the tenant name or type of space and the area in square feet, which that polygon encloses. Each label may be edited using the AutoCAD *DDATTE* or *ATE* command. A dialog box will appear with the various items of information, which can be edited for that label. Figure 5-23 illustrates the use of polylines, solid hatching, and pattern hatching to identify a lease space.

### **5.7 Attribute Blocks**

The architectural model also contains lease information that is not contained within the *Occupant Polygon*. This includes public telephones and lighted advertising signs. For these leaseholds, the layer naming convention defined in Section 4.1 holds, however, their representation in the AutoCAD drawing model is done through the use of editable attribute blocks. Editable attribute blocks are also used for a variety of non-leasable spaces and objects such as flight information displays, terminal directories, visual paging monitors, as well as for the representation of door identification numbers.

## 5.9 Externally Referenced Files

Space Allocation Drawings require that xref's be handled in a slightly different manner than normal engineering drawings by nature of their content, content manipulation and intended use. The following section outlines the requirements.

Each of the drawings in the space allocation drawing set, covers a portion of the Terminal Building floor space with some overlap between adjacent sheets. Every square foot of space has been documented. Each drawing contains an easy to follow key plan, which identifies the extent of coverage within the Terminal Building for that particular drawing. Each individual space allocation drawing sheet consists of a common border sheet (border-U.dwg or borderL.dwg) with specific title block information. The architectural information shown in each individual drawing is merely a graphical representation of the floor plan and is not editable within that drawing file. The architectural model is contained in a separate drawing file (bldg-up.dwg or bldg-lo.dwg) which is brought into each individual space allocation drawing as an *Xref* (external reference). Each individual drawing incorporates a group of Xrefs including the border file, a legend appropriate to that drawings orientation, and an architectural model (see Section 4.1.17). Therefore, all updates, corrections, or additions to the architectural features must be made in the appropriate Xref model.

## 5.10 Plotting

### 5.10.1 Layer Manager (*Express Tools*)

To simplify the process of plotting drawings, it is time-efficient to use the layer manager option under *Express* → *Layers* → *Layer Manager...* pull-down menu to create a *snapshot* of the information contained in the *Layer Properties Manager* dialog box. This resulting *Layer State* is to be restored in the architectural models bldg-up.dwg or bldg-lo.dwg, and not in the individual space allocation drawing sheet to be plotted. When plotting is desired, the appropriate *Layer State* is restored prior to saving and exiting the architectural model. No particular convention is used in naming *Layer States*. However, the names are intended to be intuitive. NOTE: Be sure to re-save all *Layer States* if any layers are added or changes are made to existing layers to ensure that plots set up through the Layer Manager reflect the correct information.

### 5.10.2 Default Layer Settings

Certain information within the space allocation drawings is typically not intended to be visible. Additional information may be added to the architectural model that, except in certain instances, is not displayed on the space allocation drawings. Table 5-11 lists the 13 layers that contain default settings. All layers are assumed to be on.

| <b>Layer</b>     | <b>Default Setting</b> |
|------------------|------------------------|
| A-COLS-DIM       | Frozen                 |
| A-COLS-OLD       | Frozen                 |
| A-FURN-OBSV      | Frozen                 |
| A-FURN-PLNT      | Frozen                 |
| A-ROOM-DIMS      | Frozen                 |
| A-ROOM-DIMS-MISC | Frozen                 |
| A-WALL-OBSV      | Frozen                 |
| L-COM-PT-N       | Frozen                 |
| N-COM-RR-H       | Frozen                 |
| N-MAA-FD         | Thawed                 |
| N-MAA-VP         | Thawed                 |
| N-MAA-DR         | Thawed                 |
| N-MAA-CP         | Thawed                 |

**Table 5-11, Layers with Default Setting**

These 13 individual layer settings are considered constant in any layer state defined via the Layer Manager, including those listed in Section 5.14.3.

### **5.10.3 Existing Layer States**

Existing *Layer States* include the following:

*NO\_HATCH*: Used for editing *Occupant Polygons* and floor plans, this configuration does not contain hatching.

*PRINTABLE-COLOR*: Used for plotting full color copies.

*PRINTABLE-B/W*: Used for plotting black-and-white copies.

*SQUARE\_FOOTAGE*: Used for determining and verifying square footage of lease space.

There has been no attempt to create *Layer States* that allow a multitude of management options.

It would be very cumbersome to attempt to cover all potential options a user may utilize.

A standard *Layer State* naming convention makes it easy to globally set the desired view. One example would be to save a *Layer State* configured to isolate an individual occupant. The layer naming convention is intended to allow the use of wildcards (\* and ?) to easily isolate tenants in the AutoCAD *Layer* command. The user is encouraged to create or delete *Layer States* deemed necessary to facilitate the viewing and editing of occupant information.

### **5.10.4 Plotting Individual Space Allocation Drawings**

Each individual space allocation drawing can be plotted in a variety of ways, depending on the intended use.

There are four primary uses anticipated:

- 1) Full Color, hatch patterns displayed, excluding *Occupant Polygons*.
- 2) Full Color, hatch patterns displayed, including *Occupant Polygons*.

- 3) Black-and-white, hatch patterns displayed, excluding *Occupant Polygons*.
- 4) Black-and-white, hatch patterns displayed, including *Occupant Polygons*.

The color plots will offer the clearest presentation in regards to differentiating tenant occupancy and are best plotted on bond paper. However, color plots can be expensive in large quantity. Therefore, black-and-white plots shall be plotted on reproducible paper when large quantities of prints are required for distribution.

Prior to opening and printing an individual space allocation drawing sheet, the user must restore the appropriate Layer and linetype property settings in the architectural model either manually or via the layer states defined in the 5.10.1 Layer Manager (Express Tools).

As previously mentioned, prior to opening and printing an individual sheet of a space allocation drawing, the user must restore the appropriate Layer and Line type property settings in the *Architectural Model Xref*, either manually or via the *Layer States* defined in 5.2.1 Layer Manager (Express Tools).

This is necessary because the AutoCAD variable *VisRetain* (see note below) for the space allocation drawings is set to 0. Therefore, the *Xref* files' *Layer States* will control the appearance of the final plots and not the individual sheets. Once settings are completed in the Architectural Model, save the drawing and:

- 1) Open the appropriate space allocation drawing.
- 2) Invoke the PLOT command.
- 3) Load the bwi-cl.ctb file (for color plots) or bwi.ctb (for black and white plots).
- 4) Choose the plot window using the circles in the bottom left and top right hand corner of the border sheet. Create a user-defined sheet size of 24" x 36" if necessary.
- 5) Choose OK.

**Note:**

The System Variable *VisRetain*: Controls the visibility, color, linetype, linewidth, and plot styles (if PSTYLEPOLICY is set to 0) of *Xref*-dependent layers; specifies whether nested xref path changes are saved.

When set to 0, the layer table as stored in the reference drawing (*Xref*) takes precedence. Changes made to *Xref*-dependent layers in the current drawing are valid in the current session only and are not saved with the drawing. When the current drawing is reopened, the layer table is reloaded from the reference drawing and the current drawing reflects those settings. The layer settings affected are On, Off, Freeze, Thaw, Color, Ltype, LWeight, and PStyle (if PSTYLEPOLICY is set to 0). This setting also specifies that changes made to the paths of nested *Xrefs* are for the current session only and are not saved with the drawing.

When set to 1 *Xref*-dependent layer changes made in the current drawing take precedence. Layer settings are saved with the current drawing's layer table and persist from session to session. Nested *Xref* path changes are saved with the current drawing and persist from session to session.

## 6.0 ELECTRONIC DELIVERABLES

### 6.1 General

MAA requires all submittals to be made electronically / digitally.

All CADD drawing files **MUST** be delivered in AutoCAD DWG and PDF. The DWG files **MUST** be created with the approved software from the list provided in Section 1.4 of this manual. Additionally, all DWG submittals must be made utilizing the *eTransmit* function within Autodesk products. Instructions appear later in this section.

All PDF files shall be created to allow printing but restrict editing by a third party. Each PDF should contain a single sheet drawing. Consultants will use the Contract Drawing File Name Format.

When submitting electronic contract documents to MAA, one sheet file representing each contract drawing shall be submitted in accordance with the MAA Design Standards. Each *sheet file* shall be ready to plot at full-size (1:1) in paper space. Layers must be controlled properly to reflect document's intended appearance. Use of drawing files with multiple layouts is permitted only in the case of cross sections.

#### 6.1.1 Delivery Media

Currently, DWGs and any related documents or files should be submitted on CD or DVD with the session closed to ensure maximum cross platform readability. Electronic delivery via a secure FTP site, on-line document repository, or other system must be approved by the MAA Project Engineer. All electronic deliverables must be virus free.

#### 6.1.2 Media Labeling

The submitted CD/DVD will include a cover and label with the following information:

- Construction Contract Title: *Insert Complete Contract Title*
- Construction Contract No.: *MAA-CO-XX-XXX (Insert Complete Contract Number)*
- Construction Task No.: *Insert if Applicable*
- Construction Contract Task Title: *Insert Complete Task Title (If Applicable)*
- Design Task Number: *Insert A/E Task Number*
- Airport Logo: *Insert BWI Marshall or MTN AIRPORT as Applicable*
- Consultant Logo: *Insert Consultant Logo*
- SSI Notice: *Insert SSI Warning Notice on all disks containing SSI*
- Submission Status: *Insert "Advertisement", "Addendum Number XX", "Conformed Documents", etc. as applicable*
- Date: *Insert MONTH, DAY, YEAR*
- CD/DVD Number *X of XX (Insert Data)*

For projects containing Sensitive Security Information (SSI), the A/E shall include SSI files on a separate CD. Media that contains SSI must include the following statement on the label:

**Sensitive Security Information**

*Warning: This media contains Sensitive Security Information that is controlled under 49 CFR 1520. No part of this record may be disclosed to persons without a need to know, as defined in CFR 1520, except with the written permission of the TSA Administrator, Washington, D.C.. 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.*

For projects containing SSI, the following “Notice” shall be included in place of each drawing on the CD containing the non-SSI files. The intent of the notice is to direct the user to the disk containing SSI.

*Revise Text as appropriate for content*

**Drawing No. XXXX or Specification Section No. XXXXXX**

**NOTICE: THIS DRAWING CONTAINS SENSITIVE SECURITY INFORMATION (SSI) THAT IS CONTROLLED UNDER 49 CFR 1520**

Requirements for viewing and handling SSI are contained in the Notice to Contractors that is provided in Volume 1 of the Technical Specifications that are provided on this CD.

All SSI information associated with this project, **including this drawing**, is provided on a separate CD that is clearly marked “Sensitive Security Information”. No part of this document may be released to persons without a need to know, as defined in CFR 1520, except with the written permission of the TSA Administrator, Washington, DC. Unauthorized release may result in civil penalty or other action. For U.S. Government agencies, public release is governed by 5 USC 522.

This requirement shall apply to CADD and non-CADD deliverables.

**6.1.3 Directory Structure**

Files shall be organized into the following folder and file structure for submittal to MAA. This folder and file structure shall be considered standard and the A/E shall not alter the folder names or add/delete folders without the written permission of the Engineering Document Manager. (Contact information for the Engineering Document Manager may be obtained upon request from the MAA Project Manager.) Document file names within the folder structure shall also be considered a standard with the exception of

the individual drawing names, which shall be developed in accordance with the drawing file naming convention contained in Section 4.2.

Basic Folder Structures for CD/DVD's:

Bid Documents CD/DVD's:

- 01\_Instructions to Bidders
- 02\_General Provisions
- 03\_Special Provisions
- 04\_Technical Specifications
- 05\_Bid Forms
- 06\_Contract Drawings - Individual Drawings
- 07\_Contract Drawings - Compiled Drawing Set
- 08\_Sensitive Security Information

The .pdf file of the specifications shall contain all sections of the specification combined into a single file with a hyperlinked Table of Contents.

If there is no SSI in the project, omit this section from the CD/DVD. If SSI is included in the project, submit this section on a separate CD/DVD.

Conformed Documents CD/DVD's:

- 04\_Technical Specifications\_Conformed
- 05\_Bid Forms\_Conformed
- 06\_Contract Drawings - Individual Drawings\_Conformed
- 07\_Contract Drawings - Compiled Drawing Set\_Conformed
- 08\_Sensitive Security Information\_Conformed
- 09\_Addenda

The .pdf file of the specifications shall contain all sections of the specification combined into a single file with a hyperlinked Table of Contents.

If there is no SSI in the project, omit this section from the CD/DVD. If SSI is included in the project, submit this section on a separate CD/DVD.

Specifications shall each be provided in two subfolders for a combined .pdf file and the MS WORD files. The .pdf files of the specifications shall contain all sections of the specification combined into a single file with a hyperlinked Table of Contents.

Record Document CD/DVD's:

- 04\_Technical Specifications\_Record
- 06\_Contract Drawings - Individual Drawings\_Record
- 07\_Contract Drawings - Compiled Drawing Set\_Record
- 08\_Sensitive Security Information\_Record
- 09\_Addenda\_Record
- 10\_Design Report\_Record

Drawings shall each be provided in two subfolders for a combined .pdf file and the CADD .dwg files.

If there is no SSI in the project, omit this section from the CD/DVD. If SSI is included in the project, submit this section on a separate CD/DVD.

**6.1.4 Electronic File Preparation**

In addition to submitting a bound DWG for each sheet that is included in the contract documents submittal, consultants shall deliver zip files containing the unbound DWGs and their related files. The eTransmit utility will be used to combine each AutoCAD file and its related support files such as raster images, external references, and fonts into a single zip file.

For the PDF version of contract drawings documentation submittals, each PDF file should contain only one contract drawing. The drawings should be organized and submitted in the proper sequence of the drawings set. Each file should follow the "Contract Drawing File Name Format" as defined in the DST and shown below.

### Standard Drawing Naming Format



**Volume Identifier:** 2 character field should contain “V1”, “V2”, etc. Used when drawing set is divided in multiple packets or “volumes”. Omit field and underscore if all drawings are included in one volume.

**Sheet Sequence:** 4-digit number starting with “0001.” Leading zeros are required. The number reflects the sheet sequence as shown in the Index of Sheets. Title Sheet is always “0001”. *(Note: When generating sequence number, title sheets are not always represented in the index of sheets.)*

**Insert Identifier:** Single letter characters used for inserting added drawings into an existing sequence. “A” is the first insertion. “B” is the second and so on, through “Z”. Where there are no inserted sheets, this field is omitted.

**Sheet Identifier:** Sheet number as shown in drawing title block. Follows existing CAD standards (Example: G0.0, E1.1, C1.0, etc.).

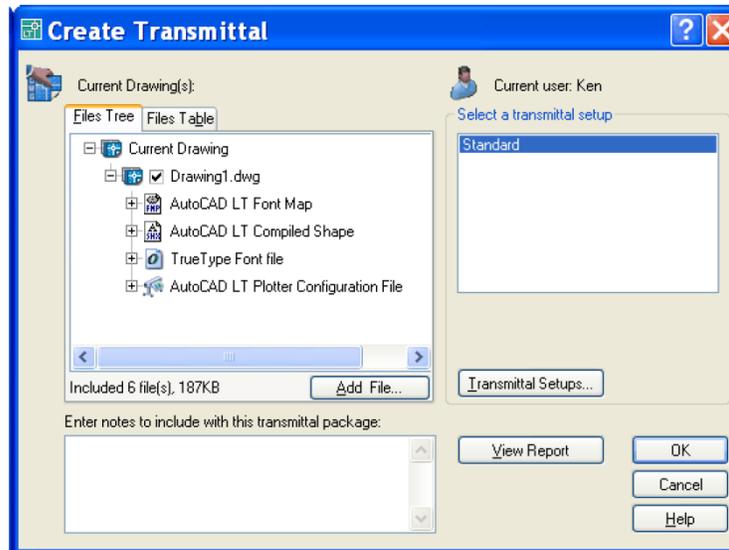
**Sheet Title:** Sheet title as shown as shown in drawing title block. Special characters such as “/”, “\”, “&”, “\*” etc. are not permitted.

**SSI Identifier:** Insert the letters “SSI” to identify drawings that contain Security Sensitive Information for special handling. Omit field and preceding underscore if no SSI data present.

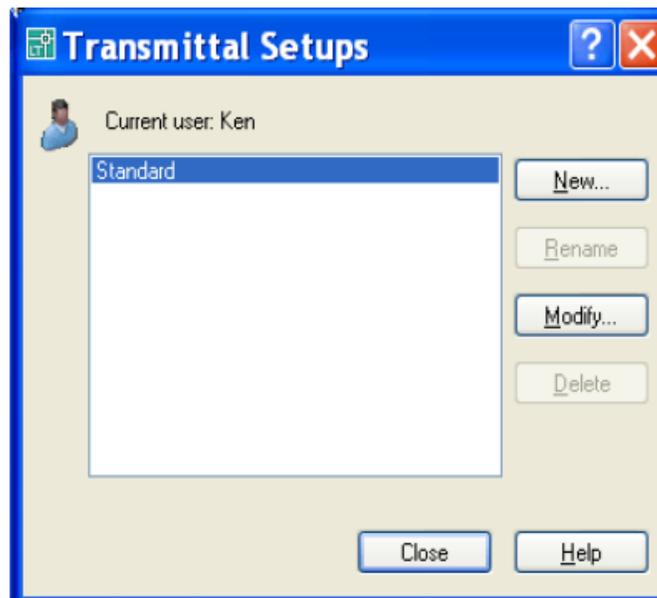
**Format Extension:** Application defined code (Example: dwg, dxf, pdf, etc.).

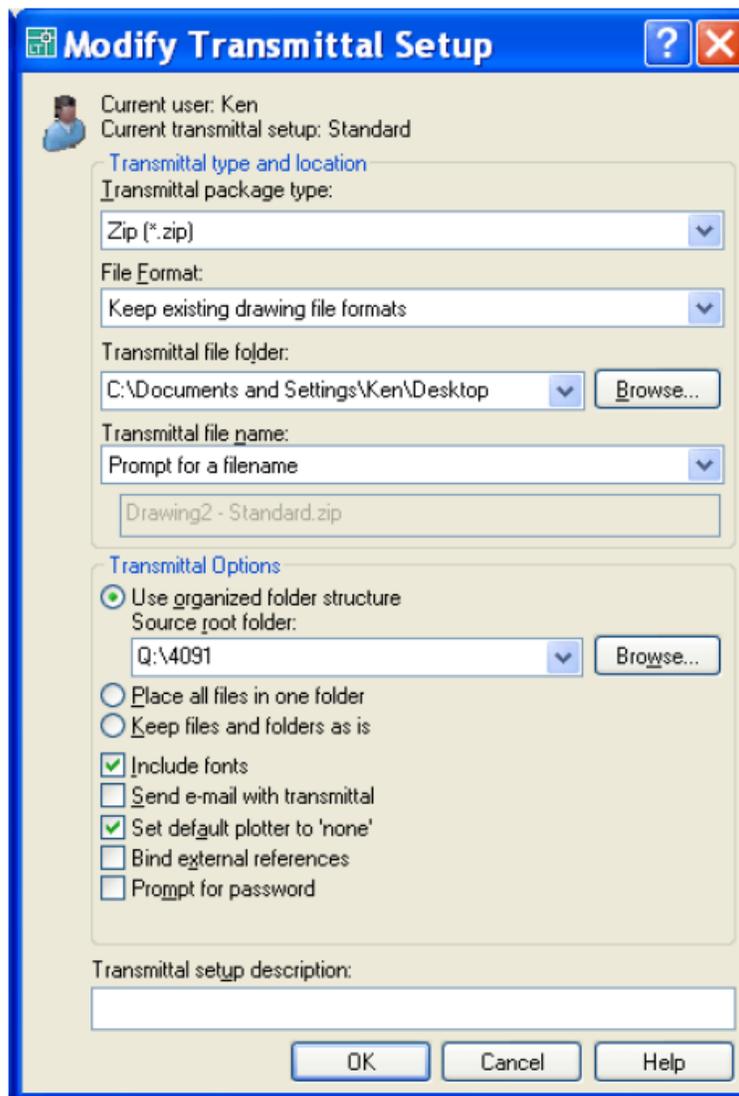
### 6.1.4.1 eTransmit Procedures

- a. With a drawing open, choose File > eTransmit
- b. In the Create Transmittal dialog box, click Transmittal Setups...



- c. In the Transmittal Setups dialog box, click Modify... to modify the Standard setup

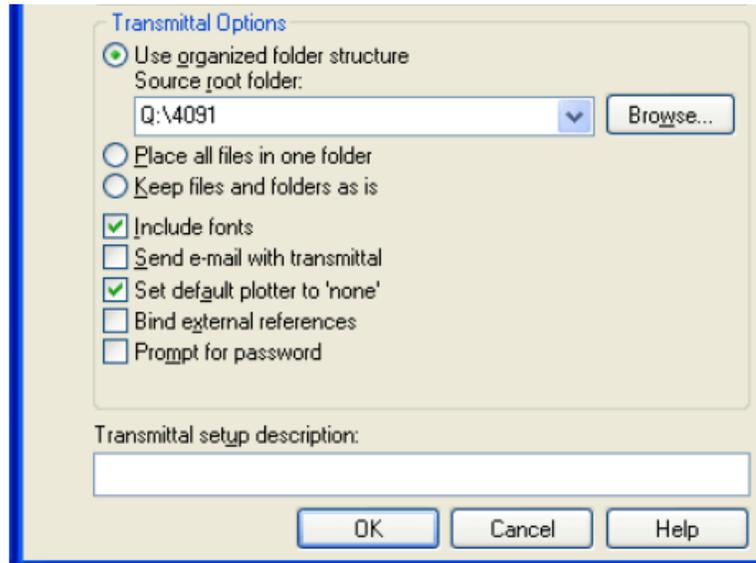




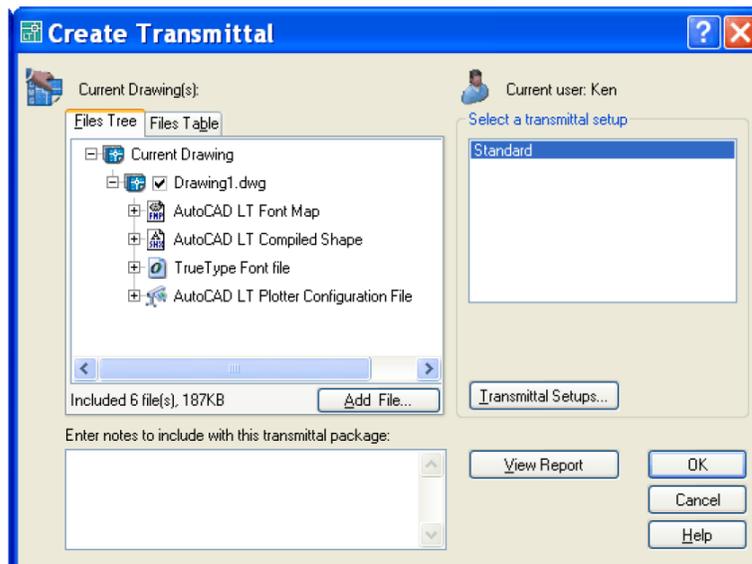
- d. In the top section of the Modify Transmittal Setup dialog box, set the Transmittal Type and Location information
  - i. In the Modify Transmittal Setup dialog box, choose a transmittal package type of .zip.
  - ii. Under File Format, choose 'Keep existing drawing file formats'. If the MAA Project Manager requires the file in an older version of AutoCAD, you can change this setting.
  - iii. Under Transmittal file folder, choose the file folder where the transmittal file will be generated.
  - iv. Set the Transmittal file name text box to 'Prompt for a filename'



- e. In the bottom section of the Modify Transmittal Setup dialog box, set the Transmittal Options
  - i. Under Transmittal Options, choose the ‘Use organized folder structure’ radio button and supply your Source root folder—wherever the project root tree structure resides on your server.
  - ii. Click the radio button next to ‘Place all files in one folder’
  - iii. Check the box next to ‘Include fonts’
  - iv. Check the box next to ‘Set default plotter to ‘none’’
  - v. Name your transmittal setup for future use
  - vi. Click OK



- f. In the Create Transmittal dialog box, ensure all necessary files are included. This includes fonts, xref files, ASCII files, etc. Click Add File... to add additional files.



- g. Click OK

- h. When prompted for a file name, enter a file name that conforms to the naming convention defined in Section 4.2

### **6.1.5 Documentation**

All drawing packages submitted to the MAA shall include, but not limited to, a transmittal letter containing the same information as on the external media label, and any special instructions for the restoring/transferring of files from the media.

### **6.1.6 Ownership**

A statement similar to the following should be included in each contract under which electronic drawings will be delivered:

*MAA shall have unlimited rights under this contract to all information and materials developed under this contract and furnished to the MAA and documentation thereof, reports and listings, and all other items pertaining to the work and services pursuant to this agreement including any copyright. Unlimited rights under this contract are rights to use, duplicate, or disclose data and information, in whole or part in any manner and for any purpose whatsoever without compensation to or approval from Contractor. The MAA will at all reasonable times have the right to inspect the work and will have access to and the rights to make copies of the above-mentioned items. All digital files and data, and other products generated under this contract shall become the property of the MAA.*

## **6.2 Quality Assurance**

This section lists the requirements for the inspection of drawings before they are submitted to MAA, and the engineering data quality assurance process that consultants and contractors must have in place

### **6.2.1 Responsibility for Quality**

The consultant is responsible for seeing that the electronic files are in compliance with MAA standards.

### **6.2.2 Quality Assurance Testing**

Quality assurance testing carried out by consultants and contractors should include examining files for entities placed in the proper layer or level, proper drawing and plot parameters, title block is filled out and set correctly, and the drawing is free of unwanted entities. Where specific spatial accuracy is required, additional checking to ensure the accuracy of the data being submitted is required. Where attribution is required, attributes will be complete and will contain appropriate values. Procedures that MAA will use for acceptance testing and a recommended for consultant and contractor quality assurance are detailed in the MAA Data Quality Standard.

### **6.2.3 Engineering Data Quality Assurance Process**

Unless otherwise specified in the contract or order, the contractor/supplier must have an effective quality assurance process for the detailed quality assurance and technical accuracy of all engineering drawings and associated lists to be supplied under the terms of the contract. The procedures of the quality assurance system shall assure the conformance of the engineering drawings and associated lists to the applicable contract provisions. The quality assurance system shall be documented, and subject to the approval of MAA's Contracting Officer.

# APPENDIX 1

|   |    |
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| Discipline Layer Naming .....                     | 2  |
| Common Discipline Designators.....                | 2  |
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| Common Status Categories .....                    | 7  |
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| Common Layer Names – Borings (B).....             | 12 |
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## Discipline Layer Naming

The layer name format is organized as a hierarchy. This arrangement allows users to select from a number of options for naming layers according to the level of detailed information desired. Layer names consist of distinct data fields separated from one another by dashes. A detailed list of abbreviations, or field codes, is prescribed to define the content of layers. Most field codes are mnemonic English abbreviations of construction terminology that are easy to remember.

Layer naming generally follows the *CADD LAYER GUIDELINES*, NCS Edition, published by the American Institute of Architects (AIA). There are five defined layer name data fields: Discipline Designator, Major Group, two Minor Groups, and Status. Each data field is separated from adjacent fields by a dash (“-”) for clarity. Below are guidelines for compiling a layer name, followed by a table of common layer names.

Free software is available from *The CAD BIM Technology Center* website that works with AutoCAD, which allows users to choose the proper standard layer names from a list. The layer names are easily found by defining the discipline, the type of drawing you are creating, and the types of entities that will be placed on the layer. Software can be downloaded from <https://cadbim.usace.army.mil/CAD>. Note that the colors that are automatically assigned to the layers may not meet the MAA standard pen table, and may have to be adjusted.

### Common Discipline Designators

| <b>Discipline Designator</b> | <b>Discipline</b>   | <b>Discipline Designator</b> | <b>Discipline</b>       |
|------------------------------|---------------------|------------------------------|-------------------------|
| A                            | Architectural       | M                            | Mechanical              |
| C                            | Civil               | P                            | Plumbing                |
| D                            | Demolition          | Q                            | Equipment – Baggage     |
| E                            | Electrical          | R                            | Real Estate/Lease       |
| F                            | Fire Protection     | S                            | Structural              |
| G                            | General             | T                            | Telecommunications      |
| H                            | Hazardous Materials | V                            | Surveying/Mapping       |
| I                            | Interiors           | Z                            | Contractor/Shop Drawing |
| L                            | Landscaping         |                              |                         |

## Common Major and Minor Groups

A four-letter major group and either one or two four-letter minor groups follow the discipline designator in a layer name. Common major and minor groups are listed below:

|          |                            |
|----------|----------------------------|
| <b>A</b> |                            |
| ACID     | Industrial waste piping    |
| AERI     | Aerial                     |
| AFFF     | Aqueous film forming foam  |
| AFRZ     | Anti-freeze                |
| AIRF     | Airfield                   |
| AIRS     | Airspace, approach surface |
| ALGN     | Alignment                  |
| ALRM     | Alarm                      |
| ANNO     | Annotation                 |
| APRN     | Apron                      |
| AREA     | Area                       |
| <b>B</b> |                            |
| BAGS     | Baggage system information |
| BCNS     | Beacons                    |
| BEAM     | Beam                       |
| BELL     | Bell systems               |
| BLDG     | Building                   |
| BORE     | Bore                       |
| BORW     | Borrow                     |
| BRAC     | Brace                      |
| BRIN     | Brine                      |
| <b>C</b> |                            |
| CABL     | Cable                      |
| CATH     | Cathode                    |
| CATV     | Cable TV                   |
| CCTV     | Closed Circuit TV          |
| CHAN     | Channel                    |
| CHEM     | Chemical                   |
| CIRC     | Circuit                    |
| CLNG     | Ceiling                    |
| CLOK     | Clock systems              |
| CMPA     | Compressed air             |
| CNDW     | Condenser water            |
| CO2S     | Carbon Dioxide system      |
| COLS     | Columns                    |
| COMM     | Communications             |
| COND     | Condensate piping          |
| CONT     | Controls                   |
| CTRL     | Control panels             |
| CWTR     | Chilled water              |
| <b>D</b> |                            |
| DECK     | Deck                       |
| DECN     | Decontamination            |
| DETL     | Details                    |
| DIAG     | Diagram                    |
| DICT     | Central dictation          |
| DISC     | Discipline                 |
| DISP     | Displaced                  |

|          |   |
|----------|---|
| DOOR     | Door                                      |
| DOMW     | Domestic Water                            |
| DRED     | Dredge                                    |
| DUAL     | Dual                                      |
| DUCT     | Duct                                      |
| DUST     | Dust and fume collection                  |
|          |   |
| <b>E</b> |   |
| ELEC     | Electrical                                |
| ELEV     | Elevation                                 |
| EMER     | Emergency Systems                         |
| EMCS     | Emergency Monitoring Control System       |
| EQPM     | Equipment                                 |
| EXHS     | Exhaust                                   |
|          |   |
| <b>F</b> |   |
| FEAT     | Feature                                   |
| FIXT     | Fixture                                   |
| FLOR     | Floor                                     |
| FNDN     | Foundation                                |
| FUEL     | Fuel lines                                |
| FURN     | Furnishing                                |
|          |   |
| <b>G</b> |   |
| GLAZ     | Glazed                                    |
| GRAD     | Grade                                     |
| GRAT     | Grating                                   |
| GRDL     | Ground/grade level                        |
| GRID     | Grid                                      |
| GRND     | Ground                                    |
| GTHP     | Geothermal heat pump                      |
|          |   |
| <b>H</b> |   |
| HALN     | Halon                                     |
| HELI     | Heliport                                  |
| HTCW     | High temperature/chilled water            |
| HVAC     | Heating, ventilation and air conditioning |
| HWTR     | Hot water                                 |
| HYDR     | Hydraulics                                |
|          |   |
| <b>I</b> |   |
| IGAS     | Inert gas                                 |
| INDW     | Industrial waste                          |
| INSL     | Insulation                                |
| INTC     | Intercom/PA systems                       |
| IRRG     | Irrigation                                |
|          |   |
| <b>J</b> |   |
| JOIN     | Joints                                    |
| JOIS     | Joists                                    |
| JACK     | Jacks                                     |
|          |   |
| <b>K</b> |   |
|          |   |
| <b>L</b> |   |
| LGAS     | Liquid gas                                |
| LITE     | Lighting                                  |
| LSFT     | Life safety / egress requirements         |
| LTNG     | Lightning protection                      |

|          |                            |
|----------|----------------------------|
| LUBE     | Lubrication                |
|          |                            |
| <b>M</b> |                            |
| MACH     | Machinery                  |
| MATL     | Materials                  |
| METL     | Metal                      |
| MDGS     | Medical/Dental gas         |
| MNST     | Monitoring stations        |
|          |                            |
| <b>N</b> |                            |
| NGAS     | Natural gas                |
| NURS     | Nurse call/paging systems  |
|          |                            |
| <b>O</b> |                            |
| OPEN     | Opening                    |
| OVRRN    | Overrun                    |
|          |                            |
| <b>P</b> |                            |
| PADS     | Pads                       |
| PATT     | Pattern (hatching)         |
| PENE     | Penetrations               |
| PIPE     | Piping                     |
| PKNG     | Parking                    |
| PLAN     | Plan, blueprint            |
| PLNT     | Plants/vegetation          |
| POLE     | Utility pole               |
| POLL     | Pollution                  |
| POWR     | Power                      |
| PRIM     | Primary electrical cable   |
| PROC     | Process piping             |
| PROF     | Profile                    |
| PROP     | Property                   |
| PROT     | Protection                 |
| PVMT     | Pavement                   |
|          |                            |
| <b>Q</b> |                            |
|          |                            |
| <b>R</b> |                            |
| RAIL     | Railroad                   |
| RATE     | Rating                     |
| RCOV     | Recovery                   |
| REFG     | Refrigeration              |
| REIN     | Reinforcement              |
| ROAD     | Roadway                    |
| ROOF     | Roof                       |
| RUNW     | Runway                     |
| RWTR     | Raw water                  |
|          |                            |
| <b>S</b> |                            |
| SAFE     | Safety                     |
| SAMP     | Sample                     |
| SANR     | Sanitary                   |
| SEAP     | Seaplane                   |
| SECD     | Secondary electrical cable |
| SECT     | Section                    |
| SERT     | Security systems           |
| SITE     | Sitework                   |
| SLAB     | Slab                       |
| SOUN     | Sound systems              |

|          |                    |
|----------|--------------------|
| SPCL     | Special            |
| SPPT     | Support            |
|          |                    |
| <b>S</b> |                    |
| SPRN     | Sprinkler          |
| SSWR     | Sanitary sewer     |
| STAT     | Status             |
| STEM     | Steam              |
| STOR     | Storage            |
| STRC     | Structures         |
| STRM     | Storm sewers/drain |
| STRS     | Stairways          |
| SURV     | Survey             |
| SYST     | System             |
|          |                    |
| <b>T</b> |                    |
| TAXI     | Taxiway            |
| TOPO     | Topography         |
| TRAF     | Traffic            |
| TRUS     | Trusses            |
| TVAN     | TV antenna systems |
|          |                    |
| <b>U</b> |                    |
| UTIL     | Utilities          |
|          |                    |
| <b>V</b> |                    |
|          |                    |
| <b>W</b> |                    |
| WALL     | Wall               |
| WATR     | Water              |
|          |                    |
| <b>X</b> |                    |
|          |                    |
| <b>Y</b> |                    |
|          |                    |
| <b>Z</b> |                    |

## Common Status Categories

Once the discipline designator, major and minor categories have been chosen, the final portion of the layer name is the status. This describes to the user what the disposition is of the entities on that layer, and helps to determine if that layer should or should not be shown on a particular drawing sheet. Note that AutoCAD uses a single letter abbreviation for its status categories. MAA prefers to use a four-letter abbreviation to stay consistent with the Major and Minor group names, and provide a more intuitive description for the status. Below is a list of common status categories:

|      |  |
|------|--|
| PHS# | Phase of project (#=1-9)   |
| DEMO | Existing item to be demolished   |
| EXST | Existing item to remain  |
| FUTR | Future work  |
| MOVE | Existing item to be moved  |
| NEWW | New work   |
| TEMP | Temporary work   |
| NICN | Not in contract (not included in AutoCAD layer naming routine)               |
| RELO | Existing item to be relocated (not included in AutoCAD layer naming routine) |
| ABND | Abandoned item (not included in AutoCAD layer naming routine)                |

## Common Layer Names – Architectural (A)

| Discipline                        | Major | Minor1 | Minor2 | Status | Layer Description  |
|-----------------------------------|-------|--------|--------|--------|--|
| <b>GENERAL INFORMATION</b>        |       |        |        |        |  |
| A                                 | ANNO  | DIMS   |        |        | Witness/extension lines, dimension terminators, dimension text |
| A                                 | ANNO  | KEYN   |        |        | Reference keynotes with associated leaders                     |
| A                                 | ANNO  | NOTE   |        |        | General notes and general remarks                              |
| A                                 | ANNO  | NPLT   |        |        | Non-plotting graphic information                               |
| A                                 | ANNO  | PATT   |        |        | Miscellaneous patterning and hatching                          |
| A                                 | ANNO  | REFR   |        |        | Reference files  |
| A                                 | ANNO  | SYMB   |        |        | Miscellaneous symbols  |
| A                                 | ANNO  | TEXT   |        |        | Miscellaneous text and callouts with associated leaders        |
| <b>AREA INFORMATION</b>           |       |        |        |        |  |
| A                                 | AREA  | IDEN   |        |        | Room numbers, tenant identifications, area calculations        |
| A                                 | AREA  | LINE   |        |        | Architectural area calculation boundary lines                  |
| A                                 | AREA  | OCCP   |        |        | Occupant or employee names                                     |
| A                                 | AREA  | PATT   |        |        | Area cross hatching  |
| <b>BAGGAGE SYSTEM INFORMATION</b> |       |        |        |        |  |
| A                                 | BAGS  | CART   |        |        | Cart/Tug   |
| A                                 | BAGS  | CATW   |        |        | Catwalk  |
| A                                 | BAGS  | CLMD   |        |        | Claim Device   |
| A                                 | BAGS  | CONV   |        |        | Baggage Conveyor   |
| A                                 | BAGS  | CRBS   |        |        | Curbside Baggage Conveyor                                      |
| A                                 | BAGS  | CTRL   |        |        | Control  |
| A                                 | BAGS  | DIMM   |        |        | Dimension  |
| A                                 | BAGS  | DOOR   |        |        | Doors  |
| A                                 | BAGS  | ELEV   |        |        | Elevation  |
| A                                 | BAGS  | EQPM   |        |        | Equipment  |
| A                                 | BAGS  | ICNV   |        |        | Inbound Baggage Conveyor                                       |
| A                                 | BAGS  | IOSZ   |        |        | Inbound Oversized Baggage Conveyor                             |
| A                                 | BAGS  | MKUP   |        |        | Make-Up Device   |
| A                                 | BAGS  | MTCH   |        |        | Match Lines  |
| A                                 | BAGS  | NOTE   |        |        | Notes  |
| A                                 | BAGS  | OCNV   |        |        | Outbound Baggage Conveyor                                      |
| A                                 | BAGS  | OOSZ   |        |        | Outbound Oversized Baggage Conveyor                            |
| A                                 | BAGS  | RAIL   |        |        | Guardrail  |
| A                                 | BAGS  | ROWY   |        |        | Right-of-Way   |
| A                                 | BAGS  | SCDR   |        |        | Security Door  |
| A                                 | BAGS  | SCNU   |        |        | Screening Unit   |
| A                                 | BAGS  | TBLK   |        |        | Title Block  |
| A                                 | BAGS  | TCBC   |        |        | Ticket Counter Baggage Conveyor                                |
| A                                 | BAGS  | TEMP   |        |        | Temporary  |
| A                                 | BAGS  | TTRY   |        |        | Tilt-Tray Baggage System                                       |
| A                                 | BAGS  | VPRT   |        |        | View Port Layer for Paper Space                                |
| A                                 | BAGS  | XFER   |        |        | Transfer Baggage Conveyor                                      |
| A                                 | BAGS  | XRAY   |        |        | X-Ray Unit   |

| Discipline                 | Major | Minor1 | Minor2 | Status | Layer Description  |
|----------------------------|-------|--------|--------|--------|--|
| <b>CEILING INFORMATION</b> |       |        |        |        |  |
| A                          | CLNG  | ACCS   |        |        | Access panels  |
| A                          | CLNG  | CTLJ   |        |        | Ceiling control joints   |
| A                          | CLNG  | GRID   |        |        | Ceiling grid   |
| A                          | CLNG  | LEVL   |        |        | Level Changes  |
| A                          | CLNG  | OPEN   |        |        | Openings, ceiling/roof penetrations<br>(see also A-FLOR-OVHD in Model File Type: Floor Plan) |
| A                          | CLNG  | PATT   |        |        | Ceiling patterns   |
| A                          | CLNG  | REFL   |        |        | Reflective Ceiling   |
| A                          | CLNG  | SUSP   |        |        | Suspended elements, ceiling mounted specialties (e.g., clocks, fans, etc.)                   |
| A                          | CLNG  | TEES   |        |        | Main tees  |
| A                          | COLS  | ENCL   |        |        | Column enclosures/fire protection  |
| <b>DETAIL INFORMATION</b>  |       |        |        |        |  |
| A                          | DETL  | GRPH   |        |        | Graphics, gridlines, non-text items  |
| A                          | DETL  | INPD   |        |        | Inch-pound-specific dimensions and notes   |
| A                          | DETL  | METR   |        |        | Metric-specific dimensions and notes   |
| <b>DOORS</b>               |       |        |        |        |  |
| A                          | DOOR  | FULL   |        |        | Full height (to ceiling) door: swing and leaf  |
| A                          | DOOR  | IDEN   |        |        | Door number and symbol, hardware group, etc.   |
| A                          | DOOR  | PRHT   |        |        | Partial height door: swing and leaf  |
| A                          | DOOR  | SECR   |        |        | Security Door  |
| A                          | DOOR  | SYMB   |        |        | Miscellaneous door symbols (e.g., overhead, bifold, pocket, etc.)                            |
| <b>ELEVATIONS</b>          |       |        |        |        |  |
| A                          | ELEV  | CASE   |        |        | Wall-mounted casework  |
| A                          | ELEV  | FIXT   |        |        | Miscellaneous fixtures   |
| A                          | ELEV  | FNSH   |        |        | Finishes, woodwork, trim   |
| A                          | ELEV  | IDEN   |        |        | Component identification numbers   |
| A                          | ELEV  | OTLN   |        |        | Building outlines  |
| A                          | ELEV  | PATT   |        |        | Textures and hatch patterns  |
| A                          | ELEV  | PFIX   |        |        | Plumbing fixtures  |
| A                          | ELEV  | SIGN   |        |        | Signage  |
| <b>EQUIPMENT</b>           |       |        |        |        |  |
| A                          | EQPM  | ACCS   |        |        | Equipment access   |
| A                          | EQPM  | BELW   |        |        | Equipment below Floor  |
| A                          | EQPM  | CLRN   |        |        | Equipment clearance  |
| A                          | EQPM  | FIXD   |        |        | Fixed equipment  |
| A                          | EQPM  | IDEN   |        |        | Equipment identification numbers   |
| A                          | EQPM  | JETB   |        |        | Aircraft Jet bridge  |
| A                          | EQPM  | MOVE   |        |        | Moveable equipment   |
| A                          | EQPM  | NICN   |        |        | Not in contract equipment  |
| A                          | EQPM  | OVHD   |        |        | Overhead, ceiling mounted, or suspended equipment  |
| <b>FLOOR INFORMATION</b>   |       |        |        |        |  |
| A                          | FLOR  | CASE   |        |        | Casework (manufactured cabinets)   |
| A                          | FLOR  | ESCL   |        |        | Escalators   |
| A                          | FLOR  | EVTR   |        |        | Elevator cars and equipment  |
| A                          | FLOR  | EXPJ   |        |        | Expansion and Seismic Joints   |
| A                          | FLOR  | FIXT   |        |        | Floor mounted/Free standing miscellaneous fixtures   |

| Discipline                  | Major | Minor1 | Minor2 | Status | Layer Description   |
|-----------------------------|-------|--------|--------|--------|---|
| A                           | FLOR  | FURN   |        |        | Furniture Layers  |
| A                           | FLOR  | HRAL   |        |        | Stair and balcony handrails, guard rails                                    |
| A                           | FLOR  | IDEN   |        |        | Room name, space identification text  |
| A                           | FLOR  | LADR   |        |        | Ladders   |
| A                           | FLOR  | LEVL   |        |        | Level changes, shafts, ramps, pits, breaks in construction, and depressions |
| A                           | FLOR  | MOVS   |        |        | Moving sidewalks  |
| A                           | FLOR  | NUMB   |        |        | Room/space identification number and symbol                                 |
| A                           | FLOR  | OTLN   |        |        | Floor outline/perimeter/building footprint                                  |
| A                           | FLOR  | OTLN   | RPRM   |        | Room perimeter shape (Interior walls)                                       |
| A                           | FLOR  | OVHD   |        |        | Overhead items (skylights, overhangs etc.)                                  |
| A                           | FLOR  | PATT   |        |        | Paving, tile, carpet patterns   |
| A                           | FLOR  | RAIS   |        |        | Access (raised) flooring  |
| A                           | FLOR  | SIGN   |        |        | Signage   |
| A                           | FLOR  | SPCE   |        |        | Interior space not delineated by walls                                      |
| A                           | FLOR  | SPCL   |        |        | Architectural specialties (e.g., toilet room accessories, display cases)    |
| A                           | FLOR  | STRS   |        |        | Stair risers/treads   |
| A                           | FLOR  | TPTN   |        |        | Toilet partitions   |
| A                           | FLOR  | WDWK   |        |        | Architectural woodwork (field built cabinets and counters)                  |
| <b>WINDOWS</b>              |       |        |        |        |   |
| A                           | GLAZ  | FULL   |        |        | Full height glazed walls and partitions (see A-WALL-CWMG for curtain walls) |
| A                           | GLAZ  | IDEN   |        |        | Window number and symbol  |
| A                           | GLAZ  | PRHT   |        |        | Windows and partial height glazed partitions                                |
| A                           | GLAZ  | SILL   |        |        | Window sills  |
| <b>LIGHTING</b>             |       |        |        |        |   |
| A                           | LITE  | CLNG   |        |        | Specialty ceiling lights not shown on Electrical Lighting Plan              |
| <b>PROPERTY INFORMATION</b> |       |        |        |        |   |
| A                           | PROP  | LEAS   |        |        | Lease line (interior)   |
| <b>ROOFING INFORMATION</b>  |       |        |        |        |   |
| A                           | ROOF  | CRTS   |        |        | Crickets flow arrows flow info  |
| A                           | ROOF  | EXPJ   |        |        | Expansion joints  |
| A                           | ROOF  | GUTR   |        |        | Roof internal gutters   |
| A                           | ROOF  | HRAL   |        |        | Stair handrails, nosings, guard rails                                       |
| A                           | ROOF  | LEVL   |        |        | Level changes   |
| A                           | ROOF  | OPEN   |        |        | Roof Open Below ('X' line symbol)   |
| A                           | ROOF  | OTLN   |        |        | Roof perimeter/edge, roof geometry  |
| A                           | ROOF  | PATT   |        |        | Roof surface patterns, hatching   |
| A                           | ROOF  | RFDR   |        |        | Roof drains   |
| A                           | ROOF  | SPCL   |        |        | Roof specialties, accessories, access hatches, dormers                      |
| A                           | ROOF  | STRS   |        |        | Stair risers/treads, ladders  |
| A                           | ROOF  | WALK   |        |        | Roof walkways   |
| A                           | ROOF  | WALL   |        |        | Parapet walls and wall caps   |
| <b>SECTIONS</b>             |       |        |        |        |   |
| A                           | SECT  | IDEN   |        |        | Component identification numbers  |
| A                           | SECT  | MBND   |        |        | Material beyond section cut   |
| A                           | SECT  | MCUT   |        |        | Material cut by section   |
| A                           | SECT  | PATT   |        |        | Textures and hatch patterns   |

| Discipline   | Major | Minor1 | Minor2 | Status | Layer Description   |
|--------------|-------|--------|--------|--------|---|
| <b>WALLS</b> |       |        |        |        |   |
| A            | WALL  | CAVI   |        |        | Cavity wall lines   |
| A            | WALL  | CNTR   |        |        | Wall centerlines  |
| A            | WALL  | CWMG   |        |        | Curtain wall mullions and glass   |
| A            | WALL  | FIRE   |        |        | Fire wall designators (patterning)  |
| A            | WALL  | FULL   | EXTR   |        | Exterior full height walls  |
| A            | WALL  | FULL   | INTR   |        | Interior full height walls  |
| A            | WALL  | HEAD   |        |        | Door and window headers (appear on Reflected Ceiling Plan)                                    |
| A            | WALL  | IDEN   |        |        | Wall identification/type text or tags   |
| A            | WALL  | JAMB   |        |        | Door and window jambs (do not appear on Reflected Ceiling Plan)                               |
| A            | WALL  | MOVE   |        |        | Moveable walls/partitions   |
| A            | WALL  | PATT   |        |        | Wall insulation, hatching, and fill   |
| A            | WALL  | PRHT   |        |        | Partial height walls (do not appear on Reflected Ceiling Plan)                                |
| A            | WALL  | SPCL   |        |        | Wall-hung/attached specialties (e.g., fixtures, grab bars (incl. handicap), telephone booths) |

## Common Layer Names – Borings (B)

| Discipline                 | Major | Minor1 | Minor2 | Status | Description  |
|----------------------------|-------|--------|--------|--------|--|
| <b>GENERAL INFORMATION</b> |       |        |        |        |  |
| B                          | ANNO  | DIMS   |        |        | Witness/extension lines, dimension terminators, dimension text |
| B                          | ANNO  | KEYN   |        |        | Reference keynotes with associated leaders                     |
| B                          | ANNO  | NOTE   |        |        | General notes and general remarks                              |
| B                          | ANNO  | NPLT   |        |        | Non-plotting graphic information                               |
| B                          | ANNO  | PATT   |        |        | Miscellaneous patterning and hatching                          |
| B                          | ANNO  | REFR   |        |        | Reference files (AutoCAD users only, see Chapter 4)            |
| B                          | ANNO  | SYMB   |        |        | Miscellaneous symbols  |
| B                          | ANNO  | TEXT   |        |        | Miscellaneous text and callouts with associated leaders        |
| <b>GEOPHYSICAL BORINGS</b> |       |        |        |        |  |
| B                          | BORE  | ELEV   |        |        | Boring elevations  |
| B                          | BORE  | FDTA   |        |        | Field data   |
| B                          | BORE  | HOLE   |        |        | Bore/perc hole number  |
| B                          | BORE  | IDEN   |        |        | Component identification numbers                               |
| B                          | BORE  | LDTA   |        |        | Laboratory data  |
| B                          | BORE  | PATT   |        |        | Soil/rock patterns   |

## Common Layer Names – Civil (C)

| Discipline                 | Major | Minor1 | Minor2 | Status | Description  |
|----------------------------|-------|--------|--------|--------|--|
| <b>GENERAL INFORMATION</b> |       |        |        |        |  |
| C                          | ANNO  | DIMS   |        |        | Witness/extension lines, dimension terminators, dimension text |
| C                          | ANNO  | KEYN   |        |        | Reference keynotes with associated leaders                     |
| C                          | ANNO  | NOTE   |        |        | General notes and general remarks                              |
| C                          | ANNO  | NPLT   |        |        | Non-plotting graphic information                               |
| C                          | ANNO  | PATT   |        |        | Miscellaneous patterning and hatching                          |
| C                          | ANNO  | REFR   |        |        | Reference files (AutoCAD users only, see Chapter 4)            |
| C                          | ANNO  | SYMB   |        |        | Miscellaneous symbols  |
| C                          | ANNO  | TEXT   |        |        | Miscellaneous text and callouts with associated leaders        |
| <b>AIRFIELD</b>            |       |        |        |        |  |
| C                          | AIRF  | AHOA   |        |        | Air Operations Area  |
| C                          | AIRF  | AIDS   | CRIT   |        | Airfield Navigational Aid - Critical Area                      |
| C                          | AIRF  | AIDS   | OTHR   |        | Other airfield navigational aides                              |
| C                          | AIRF  | AIDS   | SITE   |        | Airfield Navigational Aid - Site                               |
| C                          | AIRF  | AIDS   | RADI   |        | Radio airfield navigational aides                              |
| C                          | AIRF  | AIDS   | ILS_   |        | Airfield Instrument Landing System                             |
| C                          | AIRF  | AIDS   | RADR   |        | Radar airfield navigational aides                              |
| C                          | AIRF  | AIDS   | COMM   |        | Communications airfield navigational aides                     |
| C                          | AIRF  | AIDS   | GPS_   |        | GPS airfield navigational aides                                |
| C                          | AIRF  | AIDS   | MCWV   |        | Microwave airfield navigational aides                          |
| C                          | AIRF  | AIDS   | WTHR   |        | Weather airfield navigational aides                            |
| C                          | AIRF  | AIDS   | RMTE   |        | Remote airfield navigational aides                             |
| C                          | AIRF  | AIDS   | SYST   |        | NAVAID system  |
| C                          | AIRF  | ARWY   |        |        | Airway   |
| C                          | AIRF  | DSRF   | BLDR   |        | Building Restriction Line                                      |
| C                          | AIRF  | DSRF   | RSA_   |        | Runway Safety Area   |
| C                          | AIRF  | DSRF   | RPZ_   |        | Runway Protection Zone   |
| C                          | AIRF  | DSRF   | OFA_   |        | Object Free Area   |
| C                          | AIRF  | DSRF   | OFZ_   |        | Object Free Zone   |
| C                          | AIRF  | DSRF   | POFA   |        | Precision Object Free Area                                     |
| C                          | AIRF  | DSRF   | KEYH   |        | Key holes  |
| C                          | AIRF  | DSRF   | NMOV   |        | Aircraft Non-Movement Area                                     |
| C                          | AIRF  | FAAR   |        |        | FAA Region   |
| C                          | AIRF  | FREQ   |        |        | Frequency Area   |
| C                          | AIRF  | GLCL   | PIPE   |        | Glycol pipes   |
| C                          | AIRF  | GLCL   | MHOL   |        | Glycol manholes  |
| C                          | AIRF  | GLCL   | BUBL   |        | Glycol bubble callout  |
| C                          | AIRF  | PAVE   |        |        | Airfield pavement section                                      |
| C                          | AIRF  | PROP   |        |        | Airport property   |
| C                          | AIRF  | SECR   | SIDA   |        | Security Identification Display Area                           |
| C                          | AIRF  | SECR   | SECA   |        | Airfield security area   |
| C                          | AIRF  | SECR   | STER   |        | Airfield sterile area  |
| C                          | AIRF  | SECR   | RSTR   |        | Military restricted access boundary                            |

| Discipline                              | Major | Minor1 | Minor2 | Status | Description                             |
|---|-------|--------|--------|--------|---|
| C                                       | AIRF  | TRKL   |        |        | Flight Track Line                       |
| C                                       | AIRF  | TRKP   |        |        | Flight Track Point                      |
| <b>AIRFIELD TRAFFIC AREAS</b>           |       |        |        |        |   |
| C                                       | TRAF  | IDEN   |        |        | Airfield traffic area annotation        |
| C                                       | TRAF  | TYP A  |        |        | Type A traffic area                     |
| C                                       | TRAF  | TYP B  |        |        | Type B traffic area                     |
| C                                       | TRAF  | TYP C  |        |        | Type C traffic area                     |
| <b>AIRSPACE</b>                         |       |        |        |        |   |
| C                                       | AIRS  | ISOC   |        |        | Approach surface isoclines              |
| C                                       | AIRS  | LNDM   |        |        | Landmark segment                        |
| C                                       | AIRS  | OBSC   |        |        | Airfield obstruction                    |
| C                                       | AIRS  | OBST   | LINE   |        | Airspace obstructions - Line            |
| C                                       | AIRS  | OBST   | PPNT   |        | Airspace obstructions - Point           |
| C                                       | AIRS  | OBST   | POLY   |        | Airspace obstructions - Polygon         |
| C                                       | AIRS  | OTHR   |        |        | Other airspace surfaces                 |
| C                                       | AIRS  | PART   | PRIM   |        | FAR Part 77 Primary Surface             |
| C                                       | AIRS  | PART   | HORZ   |        | FAR Part 77 Horizontal Surface          |
| C                                       | AIRS  | PART   | CONL   |        | FAR Part 77 Conical Surface             |
| C                                       | AIRS  | PART   | TRNS   |        | FAR Part 77 Transitional Surface        |
| C                                       | AIRS  | PART   | APRC   |        | FAR Part 77 Approach Surface            |
| C                                       | AIRS  | TERP   |        |        | TERPS surfaces                          |
| <b>ALIGNMENTS</b>                       |       |        |        |        |   |
| C                                       | ALGN  | DATA   |        |        | Alignment coordinates and curve data    |
| C                                       | ALGN  | LINE   |        |        | Alignments                              |
| C                                       | ALGN  | STAT   |        |        | Stationing and tick marks               |
| <b>APRONS</b>                           |       |        |        |        |   |
| C                                       | APRN  | ACPK   |        |        | Aircraft gate/stand parking area        |
| C                                       | APRN  | ANOM   |        |        | Aircraft non-movement area              |
| C                                       | APRN  | CNTR   |        |        | Centerlines                             |
| C                                       | APRN  | CNTR   | IDEN   |        | Centerline annotation                   |
| C                                       | APRN  | DEIC   |        |        | Aircraft Deicing Area                   |
| C                                       | APRN  | GRND   |        |        | Grounding points                        |
| C                                       | APRN  | HOLD   |        |        | Holding position markings               |
| C                                       | APRN  | IDEN   |        |        | Annotation                              |
| C                                       | APRN  | JOIN   |        |        | Apron joints                            |
| C                                       | APRN  | MOOR   |        |        | Mooring points                          |
| C                                       | APRN  | MRKG   |        |        | Apron markings                          |
| C                                       | APRN  | OTLN   |        |        | Airfield apron                          |
| C                                       | APRN  | SECU   |        |        | Security zone markings                  |
| C                                       | APRN  | SHLD   | MRKG   |        | Shoulder markings                       |
| C                                       | APRN  | SIGN   |        |        | Airfield signs on the apron             |
| <b>BUILDINGS AND PRIMARY STRUCTURES</b> |       |        |        |        |   |
| C                                       | BLDG  | IDEN   |        |        | Building and other structure annotation |
| C                                       | BLDG  | OTLN   |        |        | Buildings and other structures          |
| C                                       | BLDG  | OVHD   |        |        | Building overhang                       |

| Discipline                | Major | Minor1 | Minor2 | Status | Description   |
|---------------------------|-------|--------|--------|--------|---|
| C                         | BLDG  | PATT   |        |        | Building hatching and patterns  |
| <b>BORROW AREAS</b>       |       |        |        |        |   |
| C                         | BORW  | IDEN   |        |        | Borrow/Spoil area annotation  |
| C                         | BORW  | LINE   |        |        | Borrow/Spoil area   |
| <b>CHANNELS</b>           |       |        |        |        |   |
| C                         | CHAN  | AIDS   |        |        | Navigation aids and text  |
| C                         | CHAN  | CNTR   |        |        | Channel centerline and survey report lines  |
| C                         | CHAN  | CNTR   | IDEN   |        | Channel centerline and survey report lines - annotation   |
| C                         | CHAN  | DACL   |        |        | De-authorized channel limits, anchorages, etc.  |
| C                         | CHAN  | DACL   | IDEN   |        | De-authorized channel limits, anchorages, etc. - annotation   |
| C                         | CHAN  | IDEN   |        |        | Channel limits, anchorages, turning basins, disposal areas, etc. - annotation                                 |
| C                         | CHAN  | LIMIT  |        |        | Channel limits, anchorages, turning basins, disposal areas, etc.  |
| C                         | CHAN  | TURN   |        |        | Turning points  |
| <b>DETAIL INFORMATION</b> |       |        |        |        |   |
| C                         | DETL  | CONC   |        |        | Concrete  |
| C                         | DETL  | COVR   |        |        | Covers and fittings   |
| C                         | DETL  | ERTH   |        |        | Earth   |
| C                         | DETL  | FAST   |        |        | Fasteners   |
| C                         | DETL  | FENC   |        |        | Fencing   |
| C                         | DETL  | FENC   | SECU   |        | Security Fencing  |
| C                         | DETL  | FILL   |        |        | Fill  |
| C                         | DETL  | GENF   |        |        | General features (miscellaneous items)  |
| C                         | DETL  | GRPH   |        |        | Graphics, gridlines, non-text items   |
| C                         | DETL  | INPD   |        |        | Inch-pound-specific dimensions and notes  |
| C                         | DETL  | METR   |        |        | Metric-specific dimensions and notes  |
| C                         | DETL  | PAVE   |        |        | Pavements   |
| C                         | DETL  | PIPE   |        |        | Piping  |
| C                         | DETL  | SPCF   |        |        | Special features  |
| C                         | DETL  | STRC   |        |        | Structural metal  |
| C                         | DETL  | TANK   |        |        | Tanks   |
| C                         | DETL  | VLVE   |        |        | Valves and fittings   |
| <b>DITCHES</b>            |       |        |        |        |   |
| C                         | DTCH  | BOTD   |        |        | Bottom of ditch   |
| C                         | DTCH  | CNTR   |        |        | Centerline of ditch   |
| C                         | DTCH  | EWAT   |        |        | Edge of water   |
| C                         | DTCH  | IDEN   |        |        | Ditch annotator   |
| C                         | DTCH  | TOPD   |        |        | Top of ditch  |
| <b>DOMESTIC WATER</b>     |       |        |        |        |   |
| C                         | DOMW  | PIPE   |        | ABND   | Abandoned piping  |
| C                         | DOMW  | DEVC   |        |        | Connectors, faucets, reducers, regulators, vents, intake points, tanks, taps, backflow presenters, and valves |
| C                         | DOMW  | DEVC   | ANOD   |        | Anode   |
| C                         | DOMW  | DEVC   | ANOT   |        | Anode test station  |
| C                         | DOMW  | DEVC   | FIRE   |        | Fire connection pint other than hydrants  |
| C                         | DOMW  | DEVC   | INTK   |        | Intake point  |
| C                         | DOMW  | DEVC   | INTK   |        | The location where water is allowed into the water distribution system  |

| Discipline                               | Major | Minor1 | Minor2 | Status | Description  |
|--|-------|--------|--------|--------|--|
| C  | DOMW  | DEVC   | PIGL   |        | Pig launch point   |
| C  | DOMW  | DEVC   | PUMP   |        | Pump   |
| C  | DOMW  | DEVC   | RECT   |        | Rectifier  |
| C  | DOMW  | DEVC   | REGL   |        | Regulator, reducer   |
| C  | DOMW  | DEVC   | SMPL   |        | Sample location  |
| C  | DOMW  | DEVC   | TRET   |        | Treatment unit   |
| C  | DOMW  | FIRE   |        |        | Fire lines   |
| C  | DOMW  | FTTG   |        |        | Caps, cleanouts, crosses, and tees   |
| C  | DOMW  | HYDR   |        |        | Hydrants   |
| C  | DOMW  | IDEN   |        |        | Identifier tags, symbol modifier, and text   |
| C  | DOMW  | JBOX   |        |        | A box or small vault (usually concrete, brick, or cast iron) in water systems located below grade with above grade access where pipes intersect. Manhole also houses associated fittings, valves, meters, etc. |
| C  | DOMW  | MAIN   |        |        | Main domestic water piping   |
| C  | DOMW  | METR   |        |        | Meters   |
| C  | DOMW  | NHYD   |        |        | Non-potable hydrants/flushing hydrants   |
| C  | DOMW  | NPOT   |        |        | Non-potable water piping   |
| C  | DOMW  | PITS   | IDEN   |        | Identifier tags, symbol modifier, and text   |
| C  | DOMW  | PLNT   |        |        | A water treatment plant and all appurtenant equipment, buildings, and facilities relating to water treatment   |
| C  | DOMW  | PUMP   |        |        | Booster pump stations  |
| C  | DOMW  | REDC   |        |        | Pressure reducing stations   |
| C  | DOMW  | RSVR   |        |        | Reservoirs   |
| C  | DOMW  | RSVR   | IDEN   |        | Identifier tags, symbol modifier, and text   |
| C  | DOMW  | SERV   |        |        | Domestic water service piping  |
| C  | DOMW  | SIGN   |        |        | Surface markers/signs  |
| C  | DOMW  | SITE   |        |        | A water utility company or organization's certificated area of jurisdiction or responsibility as approved by a federal, state, or local utility regulatory authority   |
| C  | DOMW  | SRCE   |        |        | The point from which water is supplied for processing and distribution   |
| C  | DOMW  | STNS   | IDEN   |        | Identifier tags, symbol modifier, and text   |
| C  | DOMW  | TANK   |        |        | Water storage tanks  |
| C  | DOMW  | VENT   |        |        | Vent pits  |
| C  | DOMW  | VLVE   |        |        | Valve pits/vaults  |
| C  | DOMW  | WELL   |        |        | Water well houses  |
| <b>DREDGING</b>                          |       |        |        |        |  |
| C  | DRED  | LIMIT  |        |        | Dredge limit lines   |
| C  | DRED  | OHWM   |        |        | Ordinary high water marks  |
| <b>ELEVATIONS</b>                        |       |        |        |        |  |
| C  | ELEV  | FIXT   |        |        | Miscellaneous fixtures   |
| C  | ELEV  | IDEN   |        |        | Component identification numbers   |
| C  | ELEV  | OTLN   |        |        | Building outlines  |
| C  | ELEV  | PATT   |        |        | Textures and hatch patterns  |
| C  | ELEV  | SIGN   |        |        | Signage  |
| <b>EROSION AND SEDIMENTATION CONTROL</b> |       |        |        |        |  |
| C  | EROS  | CIPR   |        |        | Culvert inlet protection   |
| C  | EROS  | CNST   | ENTR   |        | Construction entrance  |
| C  | EROS  | DDIV   |        |        | Drainage divides   |
| C  | EROS  | DVDK   |        |        | Diversion dike   |

| Discipline            | Major | Minor1 | Minor2 | Status | Description   |
|-----------------------|-------|--------|--------|--------|---|
| C                     | EROS  | IDEN   |        |        | Erosion and sediment control annotation   |
| C                     | EROS  | INLT   | PROT   |        | Inlet protection  |
| C                     | EROS  | LOD    |        |        | Limit of Division   |
| C                     | EROS  | SILT   | FENC   |        | Silt fence  |
| C                     | EROS  | SILT   | TRAP   |        | Silt trap   |
| C                     | EROS  | SSLT   | FENC   |        | Super silt fence  |
| <b>LIQUID FUEL</b>    |       |        |        |        |   |
| C                     | FUEL  | PIPE   |        | ABND   | Abandoned piping  |
| C                     | FUEL  | DEFL   |        |        | Defueling piping  |
| C                     | FUEL  | DEVC   |        |        | Air eliminators, filter strainers, hydrant fill points, line vents, markers, oil/water separators, reducers, regulators, and valves |
| C                     | FUEL  | DEVC   | AIRE   |        | Air eliminator  |
| C                     | FUEL  | DEVC   | ANOD   |        | Anode   |
| C                     | FUEL  | DEVC   | ANOT   |        | Anode test station  |
| C                     | FUEL  | DEVC   | FILT   |        | Filter strainer point   |
| C                     | FUEL  | DEVC   | OILW   |        | Oil water separator   |
| C                     | FUEL  | DEVC   | PUMP   |        | Pump  |
| C                     | FUEL  | DEVC   | RECT   |        | Rectifier   |
| C                     | FUEL  | DEVC   | REDC   |        | Reducer   |
| C                     | FUEL  | DEVC   | SRCE   |        | Source point  |
| C                     | FUEL  | DEVC   | VLVE   |        | Valve   |
| C                     | FUEL  | FARM   |        |        | Fuel farm site  |
| C                     | FUEL  | FLOW   |        |        | Flow direction arrows   |
| C                     | FUEL  | FTTG   |        |        | Caps, crosses, and tees   |
| C                     | FUEL  | HYDR   |        |        | Hydrant control pits  |
| C                     | FUEL  | IDEN   |        |        | Identifier tags, symbol modifier, and text  |
| C                     | FUEL  | JBOX   |        |        | Junction boxes, manholes, handholes, test boxes   |
| C                     | FUEL  | MAIN   |        |        | Main fuel piping  |
| C                     | FUEL  | METR   |        |        | Meters  |
| C                     | FUEL  | REFN   |        |        | Refinery site   |
| C                     | FUEL  | PIPL   |        |        | Pipe line   |
| C                     | FUEL  | PIPS   |        |        | Pipeline segment line   |
| C                     | FUEL  | PITS   | IDEN   |        | Identifier tags, symbol modifier, and text  |
| C                     | FUEL  | PUMP   |        |        | Booster pump stations   |
| C                     | FUEL  | SERV   |        |        | Service piping  |
| C                     | FUEL  | STNS   | IDEN   |        | Identifier tags, symbol modifier, and text  |
| C                     | FUEL  | TANK   |        |        | Fuel tanks  |
| C                     | FUEL  | TRCH   |        |        | Fuel line trench  |
| C                     | FUEL  | VENT   |        |        | Vent pits   |
| C                     | FUEL  | VLVE   |        |        | Valve pits  |
| <b>GRADE LINEWORK</b> |       |        |        |        |   |
| C                     | GRAD  | EXST   |        |        | Existing grade, ground line   |
| C                     | GRAD  | FNSH   |        |        | Finished grade  |
| <b>GRID LINES</b>     |       |        |        |        |   |
| C                     | GRID  | FRAM   |        |        | Frame (bounding frame of an area referenced by a grid)  |
| C                     | GRID  | MAJR   |        |        | Major grid lines  |
| C                     | GRID  | MINR   |        |        | Minor grid lines  |

| Discipline                    | Major | Minor1 | Minor2 | Status | Description  |
|-------------------------------|-------|--------|--------|--------|--|
| C                             | GRID  | TEXT   |        |        | Border text, annotation  |
| <b>HELIPORTS</b>              |       |        |        |        |  |
| C                             | HELI  | BLST   |        |        | Helipad blast pad and stopway markings   |
| C                             | HELI  | CNTR   |        |        | Centerline   |
| C                             | HELI  | CNTR   | MRKG   |        | Centerline markings  |
| C                             | HELI  | DISP   |        |        | Displaced threshold markings   |
| C                             | HELI  | DIST   |        |        | Fixed distance markings  |
| C                             | HELI  | DSRF   |        |        | Helipad design surface   |
| C                             | HELI  | FATO   |        |        | Helipad FATO   |
| C                             | HELI  | IDEN   |        |        | Helipad numbers and letters  |
| C                             | HELI  | SHLD   |        |        | Shoulder   |
| C                             | HELI  | SIDE   |        |        | Side stripes   |
| C                             | HELI  | TDZM   |        |        | Touchdown zone markers   |
| C                             | HELI  | THRS   |        |        | Threshold markers  |
| C                             | HELI  | TLOF   |        |        | Helipad take off and landing area  |
| <b>INDUSTRIAL WASTE WATER</b> |       |        |        |        |  |
| C                             | INDW  | PIPE   |        | ABND   | Abandoned piping   |
| C                             | INDW  | DEVC   |        |        | Grit chambers, meters, flumes, neutralizers, oil/water separators, ejectors, tanks, and valves |
| C                             | INDW  | DEVC   | ANOD   |        | Anode  |
| C                             | INDW  | DEVC   | ANOT   |        | Anode test station   |
| C                             | INDW  | DEVC   | DISC   |        | Discharge point  |
| C                             | INDW  | DEVC   | GRIT   |        | Grit chamber   |
| C                             | INDW  | DEVC   | INLT   |        | Inlet  |
| C                             | INDW  | DEVC   | NEUT   |        | Neutralizer  |
| C                             | INDW  | DEVC   | PUMP   |        | Pump   |
| C                             | INDW  | DEVC   | RECT   |        | Rectifier  |
| C                             | INDW  | DEVC   | OILW   |        | Oil water separator  |
| C                             | INDW  | DEVC   | WFIT   |        | Waste fitting  |
| C                             | INDW  | FLOW   |        |        | Flow direction arrows  |
| C                             | INDW  | FTTG   |        |        | Caps and cleanouts   |
| C                             | INDW  | HEAD   | LINE   |        | Headwall line  |
| C                             | INDW  | HEAD   | PONT   |        | Headwall point   |
| C                             | INDW  | IDEN   |        |        | Identifier tags, symbol modifier, and text   |
| C                             | INDW  | JBOX   |        |        | Junction boxes and manholes  |
| C                             | INDW  | LAGN   |        |        | Lagoons  |
| C                             | INDW  | LIFT   |        |        | Lift stations  |
| C                             | INDW  | MAIN   |        |        | Main industrial waste water piping   |
| C                             | INDW  | METR   |        |        | Meters   |
| C                             | INDW  | PLNT   |        |        | Treatment plants   |
| C                             | INDW  | RSVR   | IDEN   |        | Identifier tags, symbol modifier, and text   |
| C                             | INDW  | SERV   |        |        | Industrial waste water service piping  |
| C                             | INDW  | SIGN   |        |        | Surface markers/signs  |
| C                             | INDW  | STNS   | IDEN   |        | Identifier tags, symbol modifier, and text   |
| <b>JOINTS</b>                 |       |        |        |        |  |
| C                             | JOIN  | CNSL   |        |        | Construction joints - longitudinal   |
| C                             | JOIN  | CNST   |        |        | Construction joints - transverse   |

| Discipline                                     | Major | Minor1 | Minor2 | Status | Description  |
|--|-------|--------|--------|--------|--|
| C  | JOIN  | CNTL   |        |        | Contraction joints - longitudinal  |
| C  | JOIN  | CNTT   |        |        | Contraction joints - transverse  |
| C  | JOIN  | EDGE   |        |        | Thickened edges  |
| C  | JOIN  | EXPN   |        |        | Expansion joints   |
| C  | JOIN  | IDEN   |        |        | Joint annotation   |
| <b>NATURAL GAS</b>                             |       |        |        |        |  |
| C  | NGAS  | PIPE   |        | ABND   | Abandoned piping   |
| C  | NGAS  | DEVC   |        |        | Hydrant fill points, lights, vents, markers, rectifiers, reducers, regulators, sources, tanks, drip pots, taps, and valves |
| C  | NGAS  | DEVC   | ANOD   |        | Anode  |
| C  | NGAS  | DEVC   | ANOT   |        | Anode test station   |
| C  | NGAS  | DEVC   | FILL   |        | Fill point   |
| C  | NGAS  | DEVC   | IDEN   |        | Identifier tags, symbol modifier, and text   |
| C  | NGAS  | DEVC   | LITE   |        | Light  |
| C  | NGAS  | DEVC   | PUMP   |        | Pump   |
| C  | NGAS  | DEVC   | RECT   |        | Rectifier  |
| C  | NGAS  | DEVC   | SRCE   |        | Source point   |
| C  | NGAS  | FLOW   |        |        | Flow direction arrows  |
| C  | NGAS  | FTTG   |        |        | Caps, crosses, and tees  |
| C  | NGAS  | IDEN   |        |        | Identifier tags, symbol modifier, and text   |
| C  | NGAS  | MAIN   |        |        | Main natural gas piping  |
| C  | NGAS  | METR   |        |        | Meters   |
| C  | NGAS  | PITS   | IDEN   |        | Identifier tags, symbol modifier, and text   |
| C  | NGAS  | PUMP   |        |        | Compressor stations  |
| C  | NGAS  | REDC   |        |        | Reducing stations  |
| C  | NGAS  | SERV   |        |        | Service piping   |
| C  | NGAS  | SIGN   |        |        | Surface markers/signs  |
| C  | NGAS  | STNS   | IDEN   |        | Identifier tags, symbol modifier, and text   |
| C  | NGAS  | VENT   |        |        | Vent pits  |
| C  | NGAS  | VLVE   |        |        | Valve pits/boxes   |
| <b>OVERRUN AREAS</b>                           |       |        |        |        |  |
| C  | OVRN  | CNTR   |        |        | Centerlines  |
| C  | OVRN  | CNTR   | IDEN   |        | Centerline annotation  |
| C  | OVRN  | IDEN   |        |        | Airfield overrun area - annotation   |
| C  | OVRN  | JOIN   |        |        | Airfield overrun joints  |
| C  | OVRN  | OTLN   |        |        | Airfield overrun area - outlines   |
| C  | OVRN  | SHLD   |        |        | Shoulder markings  |
| <b>PADS (arm / disarm / calibration, etc.)</b> |       |        |        |        |  |
| C  | PADS  | CNTR   |        |        | Centerlines  |
| C  | PADS  | CNTR   | IDEN   |        | Centerline annotation  |
| C  | PADS  | IDEN   |        |        | Pads - annotation  |
| C  | PADS  | OTLN   |        |        | Pad - outlines   |
| C  | PADS  | SHLD   |        |        | Shoulders with annotation  |
| <b>PARKING LOTS</b>                            |       |        |        |        |  |
| C  | PKNG  | CARS   |        |        | Graphic illustration of cars   |
| C  | PKNG  | CNTR   |        |        | Centerlines  |

| Discipline       | Major | Minor1 | Minor2 | Status | Description  |
|------------------|-------|--------|--------|--------|--|
| C                | PKNG  | CNTR   | IDEN   |        | Centerline annotation  |
| C                | PKNG  | CURB   |        |        | Curbs and gutters  |
| C                | PKNG  | DRAN   |        |        | Parking lot drainage slope indications                       |
| C                | PKNG  | EQPM   |        |        | Parking Equipment (I.e. booths, gates, etc.)                 |
| C                | PKNG  | FIXT   |        |        | Parking lot fixtures (e.g., wheel stops, parking meters)     |
| C                | PKNG  | IDEN   |        |        | Parking lot, minor road, and curb annotation                 |
| C                | PKNG  | ISLD   |        |        | Parking islands  |
| C                | PKNG  | MRKG   |        |        | Parking lot striping, handicapped symbols, pavement markings |
| C                | PKNG  | OTLN   |        |        | Parking lot outline  |
| C                | PKNG  | SIGN   |        |        | Parking lot signage  |
| C                | PKNG  | SBMP   |        |        | Speed bumps in parking areas                                 |
| <b>PROFILES</b>  |       |        |        |        |  |
| C                | PROF  | CUID   |        |        | Existing grade and grading cuts - annotation                 |
| C                | PROF  | FILL   |        |        | New work, grading fills                                      |
| C                | PROF  | INLT   |        |        | Curb and surface inlets, catch basins                        |
| C                | PROF  | MHOL   |        |        | Manholes   |
| C                | PROF  | PIPE   |        |        | Piping   |
| C                | PROF  | ROAD   |        |        | Roads  |
| <b>PROPERTY</b>  |       |        |        |        |  |
| C                | PROP  | CONS   |        |        | Construction limits/controls, staging area                   |
| C                | PROP  | ESMT   |        |        | Easements  |
| C                | PROP  | IDEN   |        |        | Property annotation  |
| C                | PROP  | LEAS   |        |        | Lease line (exterior / ground lease)                         |
| C                | PROP  | RWAY   |        |        | Right of ways  |
| <b>PAVEMENTS</b> |       |        |        |        |  |
| C                | PVMT  | ASPH   |        |        | Pavement pattern - asphalt                                   |
| C                | PVMT  | CONC   |        |        | Pavement pattern - concrete                                  |
| C                | PVMT  | GROV   |        |        | Pavement Grooving  |
| C                | PVMT  | GRVL   |        |        | Pavement pattern - gravel                                    |
| C                | PVMT  | IDEN   |        |        | Road, parking lot, railroad, airfield pavement annotation    |
| C                | PVMT  | MRKG   |        |        | Pavement markings  |
| C                | PVMT  | MRKG   | WHIT   |        | Roadway markings (white)                                     |
| C                | PVMT  | MRKG   | YELO   |        | Roadway markings (yellow)                                    |
| C                | PVMT  | PATT   |        |        | Joint patterns, text and dimensions                          |
| C                | PVMT  | ROAD   |        |        | Roads, parking lots, railroads, airfield pavements           |
| C                | PVMT  | SBMP   |        |        | Speed bumps on roadways                                      |
| C                | PVMT  | SIGN   |        |        | Other signs  |
| <b>RAILROADS</b> |       |        |        |        |  |
| C                | RAIL  | BRDG   |        |        | Railroad bridge area   |
| C                | RAIL  | BRDG   | CNTR   |        | Railroad bridge centerline                                   |
| C                | RAIL  | CNTR   |        |        | Centerlines  |
| C                | RAIL  | CNTR   | IDEN   |        | Centerline annotation  |
| C                | RAIL  | EQPM   |        |        | Railroad equipment (e.g., gates, signals)                    |
| C                | RAIL  | IDEN   |        |        | Railroad - annotation  |
| C                | RAIL  | TRAK   |        |        | Railroads  |
| C                | RAIL  | YARD   |        |        | Railroad Yard  |

| Discipline                      | Major | Minor1 | Minor2 | Status | Description   |
|---------------------------------|-------|--------|--------|--------|---|
| <b>ROADS, STREETS, HIGHWAYS</b> |       |        |        |        |   |
| C                               | ROAD  | ASPH   |        |        | Road outlines-asphalt surface                                 |
| C                               | ROAD  | CNTR   |        |        | Centerlines   |
| C                               | ROAD  | CNTR   | IDEN   |        | Centerline annotation   |
| C                               | ROAD  | CONC   |        |        | Road outlines-concrete surface                                |
| C                               | ROAD  | CURB   |        |        | Curbs   |
| C                               | ROAD  | DRIV   |        |        | Driveway edge of pavement                                     |
| C                               | ROAD  | DRIV   | CNTR   |        | Driveway centerline   |
| C                               | ROAD  | GRAL   |        |        | Guardrails  |
| C                               | ROAD  | GRVL   |        |        | Road outlines-gravel surface                                  |
| C                               | ROAD  | IDEN   |        |        | Road, curb, and guardrail annotation                          |
| C                               | ROAD  | MRKG   |        |        | Pavement markings   |
| C                               | ROAD  | SHLD   |        |        | Roadway shoulder  |
| C                               | ROAD  | SIGN   |        |        | Roadway signs   |
| C                               | ROAD  | UPVD   |        |        | Road outlines-unpaved   |
| <b>RUNWAYS</b>                  |       |        |        |        |   |
| C                               | RUNW  | ARST   |        |        | Runway Arresting Gear Location                                |
| C                               | RUNW  | ARST   |        |        | Runway arresting area   |
| C                               | RUNW  | BLST   |        |        | Runway blast pad  |
| C                               | RUNW  | CLRW   |        |        | Runway clearway   |
| C                               | RUNW  | CNTR   |        |        | Runway Centerline   |
| C                               | RUNW  | CNTR   | MRKG   |        | Centerline markings   |
| C                               | RUNW  | DISP   |        |        | Displaced threshold   |
| C                               | RUNW  | DIST   |        |        | Fixed distance markings                                       |
| C                               | RUNW  | EDGE   |        |        | Airfield runway edges   |
| C                               | RUNW  | ENDP   |        |        | Runway endpoint   |
| C                               | RUNW  | ENDP   | MRKG   |        | Runway label marking point                                    |
| C                               | RUNW  | IDEN   |        |        | Runway numbers and letters                                    |
| C                               | RUNW  | INTS   |        |        | Runway intersection   |
| C                               | RUNW  | LAHS   |        |        | Runway land and hold short area                               |
| C                               | RUNW  | SAFT   |        |        | Runway Safety Area  |
| C                               | RUNW  | SEGM   |        |        | Runway segment  |
| C                               | RUNW  | SHLD   |        |        | Shoulder markings   |
| C                               | RUNW  | SHLD   |        |        | Runway Shoulder   |
| C                               | RUNW  | SIDE   |        |        | Side stripes  |
| C                               | RUNW  | SIGN   |        |        | Airfield signs on the runway such as distance remaining signs |
| C                               | RUNW  | STWY   |        |        | Runway stopway markings                                       |
| C                               | RUNW  | TDZM   |        |        | Touchdown zone markers  |
| C                               | RUNW  | THRS   |        |        | Threshold markers   |
| <b>SEAPLANES</b>                |       |        |        |        |   |
| C                               | SEAP  | BUOY   |        |        | Seaplane navigation buoy                                      |
| C                               | SEAP  | DOCK   |        |        | Seaplane dock   |
| C                               | SEAP  | LNDA   |        |        | Seaplane landing area   |
| C                               | SEAP  | RAMP   | CNTR   |        | Seaplane ramp centerline                                      |
| C                               | SEAP  | RAMP   |        |        | Seaplane ramp site  |

| Discipline            | Major | Minor1 | Minor2 | Status | Description   |
|-----------------------|-------|--------|--------|--------|---|
| <b>SECTIONS</b>       |       |        |        |        |   |
| C                     | SECT  | IDEN   |        |        | Component identification numbers  |
| C                     | SECT  | MBND   |        |        | Material beyond section cut   |
| C                     | SECT  | MCUT   |        |        | Material cut by section   |
| C                     | SECT  | PATT   |        |        | Textures and hatch patterns   |
| <b>SITE FEATURES</b>  |       |        |        |        |   |
| C                     | SITE  | EROS   |        |        | Riprap, revetments/stone protection, breakwaters, dikes, jetties, and drains                  |
| C                     | SITE  | EROS   | IDEN   |        | Riprap, revetment/stone protection, breakwater, dike, jetty, and drain annotation             |
| C                     | SITE  | FENC   |        |        | Fences and handrails  |
| C                     | SITE  | FENC   | IDEN   |        | Fence, handrail, ramp, sign, and trail annotation   |
| C                     | SITE  | FENP   |        |        | Fence Posts   |
| C                     | SITE  | GATE   |        |        | Gates along fences or other barriers intended to restrict access                              |
| C                     | SITE  | IDEN   |        |        | Site improvement annotation   |
| C                     | SITE  | IMPR   |        |        | Site improvements (channel or levee features)   |
| C                     | SITE  | SECU   | CMRA   |        | Security camera locations outside of buildings  |
| C                     | SITE  | STRC   |        |        | Structures (bridges, sheds, foundation pads, footings, etc.)                                  |
| C                     | SITE  | STRS   |        |        | Stairs and ramps  |
| C                     | SITE  | WALK   |        |        | Walks, trails and bicycle paths   |
| <b>SANITARY SEWER</b> |       |        |        |        |   |
| C                     | SSWR  | PIPE   |        | ABND   | Abandoned piping  |
| C                     | SSWR  | DEVC   |        |        | Grease traps, grit chambers, flumes, neutralizers, oil/water separators, ejectors, and valves |
| C                     | SSWR  | DEVC   | ANOD   |        | Anode   |
| C                     | SSWR  | DEVC   | ANOT   |        | Anode test station  |
| C                     | SSWR  | DEVC   | DNWS   |        | Downspout point   |
| C                     | SSWR  | DEVC   | DSCH   |        | Discharge point   |
| C                     | SSWR  | DEVC   | GRIT   |        | Grit chamber  |
| C                     | SSWR  | DEVC   | GRSE   |        | Grease trap   |
| C                     | SSWR  | DEVC   | IDEN   |        | Identifier tags, symbol modifier, and text  |
| C                     | SSWR  | DEVC   | INLT   |        | inlet   |
| C                     | SSWR  | DEVC   | METR   |        | Meters  |
| C                     | SSWR  | DEVC   | NEUT   |        | Neutralizer   |
| C                     | SSWR  | DEVC   | OILW   |        | Oil water separator   |
| C                     | SSWR  | DEVC   | PUMP   |        | Pump  |
| C                     | SSWR  | DEVC   | RECT   |        | rectifier   |
| C                     | SSWR  | DEVC   | TRET   |        | Treatment unit  |
| C                     | SSWR  | DEVC   | VLVE   |        | valve   |
| C                     | SSWR  | FILT   |        |        | Filtration beds   |
| C                     | SSWR  | FILT   | IDEN   |        | Identifier tags, symbol modifier, and text  |
| C                     | SSWR  | FLOW   |        |        | Flow direction arrows   |
| C                     | SSWR  | FTTG   |        |        | Caps and cleanouts  |
| C                     | SSWR  | IDEN   |        |        | Identifier tags, symbol modifier, and text  |
| C                     | SSWR  | JBOX   |        |        | Junction boxes and manholes   |
| C                     | SSWR  | JBOX   | IDEN   |        | Identifier tags, symbol modifier, and text  |
| C                     | SSWR  | LAGN   |        |        | Lagoons   |
| C                     | SSWR  | LEAC   |        |        | Leach field   |
| C                     | SSWR  | LEAC   | LAGN   |        | Lagoon  |

| Discipline         | Major | Minor1 | Minor2 | Status | Description   |
|--------------------|-------|--------|--------|--------|---|
| C                  | SSWR  | LEAC   | SBED   |        | Sludge bed  |
| C                  | SSWR  | MAIN   |        |        | Sanitary sewer piping   |
| C                  | SSWR  | MHOL   |        |        | Sanitary sewer manholes   |
| C                  | SSWR  | NITF   |        |        | Nitrification drain fields  |
| C                  | SSWR  | PLNT   |        |        | Treatment plants  |
| C                  | SSWR  | PUMP   |        |        | Booster pump stations   |
| C                  | SSWR  | RSVR   | IDEN   |        | Identifier tags, symbol modifier, and text  |
| C                  | SSWR  | SERV   |        |        | Sanitary sewer service piping   |
| C                  | SSWR  | SIGN   |        |        | Surface markers/signs   |
| C                  | SSWR  | SITE   |        |        | A wastewater utility company or organization's certificated area of jurisdiction of responsibility as approved by a federal, state, or local utility regulatory authority |
| C                  | SSWR  | STNS   | IDEN   |        | Identifier tags, symbol modifier, and text  |
| C                  | SSWR  | TANK   |        |        | Septic tanks  |
| C                  | SSWR  | TANK   | DISP   |        | Disposal tanks  |
| C                  | SSWR  | TRET   |        |        | A wastewater treatment plant and all appurtenant equipment, buildings, and facilities relating to water treatment   |
| <b>STRUCTURES</b>  |       |        |        |        |   |
| C                  | STRC  | IDEN   |        |        | Bridges, piers, breakwaters, docks, floats, etc. - annotation   |
| C                  | STRC  | OTLN   |        |        | Bridges, piers, breakwaters, docks, floats, etc. - outlines   |
| C                  | STRC  | TOWR   |        |        | Tower   |
| <b>STORM SEWER</b> |       |        |        |        |   |
| C                  | STRM  | PIPE   |        | ABND   | Abandoned piping  |
| C                  | STRM  | AFFF   |        |        | AFFF lagoon/detention pond  |
| C                  | STRM  | CHUT   |        |        | Chutes and concrete erosion control structures  |
| C                  | STRM  | CULV   |        |        | Culverts  |
| C                  | STRM  | CULV   | CLIN   |        | Culvert centerline  |
| C                  | STRM  | CULV   | LINE   |        | Culvert line  |
| C                  | STRM  | DEVC   |        |        | Downspouts, flumes, oil/water separators, and flap gates  |
| C                  | STRM  | DRAN   | DIVL   |        | Drainage divide line  |
| C                  | STRM  | DRAN   | IDEN   |        | Identifier tags, symbol modifier, and text  |
| C                  | STRM  | DRAN   | LINE   |        | Open drainage line  |
| C                  | STRM  | EROS   |        |        | Erosion control (riprap)  |
| C                  | STRM  | FLOD   |        |        | Flood area  |
| C                  | STRM  | FLOW   |        |        | Flow direction arrows   |
| C                  | STRM  | FMON   |        |        | Flow monitoring station   |
| C                  | STRM  | FTTG   |        |        | Caps and cleanouts  |
| C                  | STRM  | HDWL   |        |        | Headwalls and endwalls  |
| C                  | STRM  | IDEN   |        |        | Identifier tags, symbol modifier, and text  |
| C                  | STRM  | INLT   |        |        | Inlets (curb, surface, and catch basins)  |
| C                  | STRM  | JBOX   |        |        | Junction  |
| C                  | STRM  | LAGN   |        |        | Lagoons, ponds, watersheds, and basins  |
| C                  | STRM  | LAGN   | BASN   |        | Drainage basin  |
| C                  | STRM  | LAGN   | OPEN   |        | Open drainage area  |
| C                  | STRM  | LAGN   | STIL   |        | Stilling basin  |
| C                  | STRM  | LAGN   | RPNT   |        | Reservoir point   |
| C                  | STRM  | MAIN   |        |        | Storm sewer piping  |

| Discipline        | Major | Minor1 | Minor2 | Status | Description  |
|-------------------|-------|--------|--------|--------|--|
| C                 | STRM  | MHOL   |        |        | Manholes   |
| C                 | STRM  | PUMP   |        |        | Pump stations  |
| C                 | STRM  | ROOF   |        |        | Roof drain line  |
| C                 | STRM  | RSVR   | IDEN   |        | Identifier tags, symbol modifier, and text   |
| C                 | STRM  | SERV   |        |        | Storm sewer service piping   |
| C                 | STRM  | SIGN   |        |        | Surface markers/signs  |
| C                 | STRM  | STAT   | PUMP   |        | Pump station   |
| C                 | STRM  | STNS   | IDEN   |        | Identifier tags, symbol modifier, and text   |
| C                 | STRM  | STRC   |        |        | Storm drainage, headwalls, inlets, manholes, culverts, and drainage structures             |
| C                 | STRM  | SUBS   |        |        | Subsurface drain piping  |
| <b>SURVEY</b>     |       |        |        |        |  |
| C                 | SURV  | DATA   |        |        | Survey data (benchmarks and horizontal control points or monuments)                        |
| C                 | SURV  | IDEN   |        |        | Survey, baseline, and control line annotation  |
| C                 | SURV  | LINE   |        |        | Survey, baseline, and control lines  |
| <b>TAXIWAYS</b>   |       |        |        |        |  |
| C                 | TAXI  | CNTR   |        |        | Taxiway centerline   |
| C                 | TAXI  | CNTR   | IDEN   |        | Centerline annotation  |
| C                 | TAXI  | CNTR   | MRKG   |        | Centerline markings  |
| C                 | TAXI  | EDGE   |        |        | Edge markings  |
| C                 | TAXI  | HOLD   |        |        | Holding lines  |
| C                 | TAXI  | IDEN   |        |        | Annotation   |
| C                 | TAXI  | INTS   |        |        | Taxiway intersection   |
| C                 | TAXI  | JOIN   |        |        | Taxiway joints   |
| C                 | TAXI  | OTLN   |        |        | Taxiway - outlines   |
| C                 | TAXI  | SHLD   |        |        | Shoulder transverse stripes  |
| C                 | TAXI  | SIGN   |        |        | Airfield signs on the taxiway such as taxiway designator, hold short and directional signs |
| <b>TOPOGRAPHY</b> |       |        |        |        |  |
| C                 | TOPO  | AUCO   |        |        | Noise Complaint  |
| C                 | TOPO  | AUST   |        |        | Noise Monitoring Station   |
| C                 | TOPO  | AUZN   |        |        | Noise Contour/Zone   |
| C                 | TOPO  | BKLN   |        |        | Breaklines   |
| C                 | TOPO  | BORE   |        |        | Boring locations   |
| C                 | TOPO  | COOR   |        |        | Coordinate grid ticks and text   |
| C                 | TOPO  | DTMP   |        |        | DTM points   |
| C                 | TOPO  | DTMT   |        |        | DTM triangles  |
| C                 | TOPO  | FLZN   |        |        | Flood Zone   |
| C                 | TOPO  | MAJR   |        |        | Major contours   |
| C                 | TOPO  | MAJR   | IDEN   |        | Major contours - annotation  |
| C                 | TOPO  | MINR   |        |        | Minor contours   |
| C                 | TOPO  | MINR   | IDEN   |        | Minor contours - annotation  |
| C                 | TOPO  | MINR   | ONEF   |        | Minor contours - One Foot Intervals  |
| C                 | TOPO  | MINR   | TWOF   |        | Minor contours - Two Foot Intervals  |
| C                 | TOPO  | RNYE   |        |        | Runway centerline elevation point  |
| C                 | TOPO  | RTWL   |        |        | Retaining wall   |
| C                 | TOPO  | SHOR   |        |        | Shorelines, land features, and references  |
| C                 | TOPO  | SHOR   |        |        | Shoreline  |

| Discipline               | Major | Minor1 | Minor2 | Status | Description                              |
|--------------------------|-------|--------|--------|--------|--|
| C                        | TOPO  | SLOP   |        |        | Cut/fill slopes                          |
| C                        | TOPO  | SLOP   | FILL   |        | Cut/fill slopes                          |
| C                        | TOPO  | SLOP   | IDEN   |        | Cut/fill slope, top/toe slope annotation |
| C                        | TOPO  | SLOP   | TOPT   |        | Top/toe slopes                           |
| C                        | TOPO  | SLTP   |        |        | Top/toe slopes                           |
| C                        | TOPO  | SOUN   |        |        | Soundings                                |
| C                        | TOPO  | SPOT   |        |        | Spot elevations                          |
| C                        | TOPO  | SPOT   | IDEN   |        | Spot elevations - annotation             |
| C                        | TOPO  | WATR   |        |        | Water area                               |
| <b>UTILITIES GENERAL</b> |       |        |        |        |  |
| C                        | UTIL  | AREA   |        |        | Utility area                             |
| C                        | UTIL  | COND   |        |        | Conduit centerline                       |
| C                        | UTIL  | DIST   |        |        | Energy distribution control facility     |
| C                        | UTIL  | SOLR   |        |        | Solar panel                              |
| C                        | UTIL  | TANK   |        |        | Tank                                     |
| C                        | UTIL  | TUNL   |        |        | Tunnel centerline                        |
| C                        | UTIL  | UDEF   |        |        | Undefined feature                        |
| C                        | UTIL  | UDOR   |        |        | Utility utilidor line                    |
| C                        | UTIL  | UNDL   |        |        | Undefined utility line                   |

## Common Layer Names – Electrical (E)

| Discipline                              | Major | Minor1 | Minor2 | Status | Description  |
|---|-------|--------|--------|--------|--|
| <b>GENERAL INFORMATION</b>              |       |        |        |        |  |
| E                                       | ANNO  | DIMS   |        |        | Witness/extension lines, dimension terminators, dimension text |
| E                                       | ANNO  | KEYN   |        |        | Reference keynotes with associated leaders                     |
| E                                       | ANNO  | NOTE   |        |        | General notes and general remarks                              |
| E                                       | ANNO  | NPLT   |        |        | Non-plotting graphic information                               |
| E                                       | ANNO  | PATT   |        |        | Miscellaneous patterning and hatching                          |
| E                                       | ANNO  | REFR   |        |        | Reference files (AutoCAD users only, see Chapter 4)            |
| E                                       | ANNO  | SYMB   |        |        | Miscellaneous symbols  |
| E                                       | ANNO  | TEXT   |        |        | Miscellaneous text and callouts with associated leaders        |
| <b>AIRFIELDS</b>                        |       |        |        |        |  |
| E                                       | AFLD  | CIRC   | CTRL   |        | Control and monitoring circuits                                |
| E                                       | AFLD  | CIRC   | MULT   |        | Multiple circuits  |
| E                                       | AFLD  | CIRC   | SERS   |        | Series circuits  |
| E                                       | AFLD  | VALT   |        |        | Airfield lighting vaults                                       |
| <b>ALARM SYSTEMS</b>                    |       |        |        |        |  |
| E                                       | ALRM  | EQPM   |        |        | Alarm system equipment   |
| E                                       | ALRM  | IDEN   |        |        | Identifier tags, symbol modifier, and text                     |
| E                                       | ALRM  | SYMB   |        |        | Miscellaneous alarm system symbols                             |
| <b>BEACONS</b>                          |       |        |        |        |  |
| E                                       | BCNS  | IDEN   |        |        | Identifier tags, symbol modifier, and text                     |
| E                                       | BCNS  | MISC   |        |        | Miscellaneous navaids - windcones and beacons                  |
| E                                       | BCNS  | STRB   |        |        | Strobe beacons   |
| <b>BELL SYSTEMS</b>                     |       |        |        |        |  |
| E                                       | BELL  | EQPM   |        |        | Bell system equipment  |
| E                                       | BELL  | IDEN   |        |        | Identifier tags, symbol modifier, and text                     |
| E                                       | BELL  | SYMB   |        |        | Bell system symbols  |
| <b>CABLE SYSTEMS</b>                    |       |        |        |        |  |
| E                                       | CABL  | COAX   |        |        | Coax cable   |
| E                                       | CABL  | FIBR   |        |        | Fiber optics cable   |
| E                                       | CABL  | IDEN   |        |        | Cable identifiers  |
| E                                       | CABL  | MULT   |        |        | Multi-conductor cable  |
| E                                       | CABL  | TRAY   |        |        | Cable trays and wireways                                       |
| <b>CATHODIC PROTECTION SYSTEM</b>       |       |        |        |        |  |
| E                                       | CATH  | ANOD   |        |        | Sacrificial anode system                                       |
| E                                       | CATH  | CURR   |        |        | Impress current system   |
| E                                       | CATH  | IDEN   |        |        | Identifier tags, symbol modifier, and text                     |
| E                                       | CATH  | TEST   |        |        | Test stations  |
| E                                       | CATV  | IDEN   |        |        | Identifier tags, symbol modifier, and text                     |
| E                                       | CATV  | SYMB   |        |        | Cable television system symbols                                |
| <b>CLOSED-CIRCUIT TELEVISION SYSTEM</b> |       |        |        |        |  |
| E                                       | CCTV  | IDEN   |        |        | Identifier tags, symbol modifier, and text                     |
| E                                       | CCTV  | SYMB   |        |        | Closed-circuit television system symbols                       |
| <b>CIRCUITS</b>                         |       |        |        |        |  |
| E                                       | CIRC  | CTRL   |        |        | Control and monitoring circuits                                |
| E                                       | CIRC  | IDEN   |        |        | Identifier tags, symbol modifier, and text                     |

| Discipline            | Major | Minor1 | Minor2 | Status | Description   |
|-----------------------|-------|--------|--------|--------|---|
| E                     | CIRC  | MULT   |        |        | Multiple circuits   |
| E                     | CIRC  | SERS   |        |        | Series circuits   |
| <b>CLOCK SYSTEMS</b>  |       |        |        |        |   |
| E                     | CLOK  | IDEN   |        |        | Identifier tags, symbol modifier, and text                              |
| E                     | CLOK  | SYMB   |        |        | Clock system symbols  |
| <b>COMMUNICATIONS</b> |       |        |        |        |   |
| E                     | COMM  | ACCS   |        |        | Access point  |
| E                     | COMM  | AIRP   |        |        | Air pipe line   |
| E                     | COMM  | COVR   |        |        | Access coverage area  |
| E                     | COMM  | DUCT   |        |        | Duct line   |
| E                     | COMM  | EQPM   |        |        | Other communications distribution equipment                             |
| E                     | COMM  | EQPM   | AIRP   |        | Air pressure device   |
| E                     | COMM  | EQPM   | AMPL   |        | Amplifier   |
| E                     | COMM  | EQPM   | ANTL   |        | Antenna line  |
| E                     | COMM  | EQPM   | ANTS   |        | Antenna site  |
| E                     | COMM  | EQPM   | ATTN   |        | Attenuator  |
| E                     | COMM  | EQPM   | BOTH   |        | Telephone booth site  |
| E                     | COMM  | EQPM   | CLAD   |        | Cable ladder  |
| E                     | COMM  | EQPM   | CRCK   |        | Cable rack line   |
| E                     | COMM  | EQPM   | DSPL   |        | Dbsplice site   |
| E                     | COMM  | EQPM   | GPLN   |        | Ground plane  |
| E                     | COMM  | EQPM   | GPNT   |        | Ground point  |
| E                     | COMM  | EQPM   | GWAV   |        | Ground wave   |
| E                     | COMM  | EQPM   | IMPD   |        | Impedance matching point  |
| E                     | COMM  | INET   | SITE   |        | Internet center site  |
| E                     | COMM  | EQPM   | PULB   |        | Pullbox site  |
| E                     | COMM  | EQPM   | RELY   |        | Relay station   |
| E                     | COMM  | EQPM   | RISR   |        | Riser   |
| E                     | COMM  | EQPM   | RPTR   |        | Repeater  |
| E                     | COMM  | EQPM   | SATE   |        | Satellite   |
| E                     | COMM  | EQPM   | SENS   |        | Sensor  |
| E                     | COMM  | EQPM   | SPKR   |        | Speaker   |
| E                     | COMM  | EQPM   | SPLC   |        | Splice  |
| E                     | COMM  | EQPM   | SPLT   |        | Splitter  |
| E                     | COMM  | EQPM   | TELE   |        | Telephone   |
| E                     | COMM  | EQPM   | TERM   |        | Terminator  |
| E                     | COMM  | EQPM   | TRML   |        | Terminal  |
| E                     | COMM  | EQPM   | TWIS   |        | Twisted pair line   |
| E                     | COMM  | HAND   |        |        | Handhole  |
| E                     | COMM  | JBOX   |        |        | Communication junction or pull boxes, man/handholes, pedestals, splices |
| E                     | COMM  | LCAP   |        |        | Load capacitor  |
| E                     | COMM  | LCOL   |        |        | Load coil   |
| E                     | COMM  | LINE   | CBRG   |        | Cable bridge line   |
| E                     | COMM  | LINE   | LOOP   |        | Service loop  |
| E                     | COMM  | LINE   | SEGL   |        | Segmented cable line  |
| E                     | COMM  | LINE   | SEGS   |        | Segmented cable site  |

| Discipline   | Major | Minor1 | Minor2 | Status | Description   |
|--|-------|--------|--------|--------|---|
| E  | COMM  | LOSL   |        |        | Line of sight line  |
| E  | COMM  | MCNV   |        |        | Media converter   |
| E  | COMM  | MHOL   |        |        | Manhole site  |
| E  | COMM  | MHOP   |        |        | Multihop polygon area   |
| E  | COMM  | NETS   |        |        | Network systems site  |
| E  | COMM  | OVHD   |        |        | Overhead communications/telephone lines   |
| E  | COMM  | OVHD   | IDEN   |        | Identifier tags, symbol modifier and text   |
| E  | COMM  | PATH   | SITE   |        | Path node site  |
| E  | COMM  | PATH   | SLIN   |        | Path segment line   |
| E  | COMM  | PEDS   |        |        | Pedestal site   |
| E  | COMM  | RADI   |        |        | Radio   |
| E  | COMM  | RADI   | RCVR   |        | Radio receiver site   |
| E  | COMM  | RADI   | TRNS   |        | Radio transmitter site  |
| E  | COMM  | RADR   |        |        | Radar site  |
| E  | COMM  | SIGN   |        |        | Marker  |
| E  | COMM  | UNDR   |        |        | Underground communications/telephone lines  |
| E  | COMM  | UNDR   | IDEN   |        | Identifier tags, symbol modifier and text   |
| E  | COMM  | VALT   |        |        | Communications vault site   |
| E  | COMM  | VIDS   |        |        | Video site  |
| E  | COMM  | VOIC   |        |        | Voice switch site   |
| E  | COMM  | VSIT   |        |        | Vertical site   |
| E  | COMM  | WAVG   |        |        | Waveguide line  |
| <b>DETAIL INFORMATION</b>  |       |        |        |        |   |
| E  | DETL  | GRPH   |        |        | Graphics, gridlines, non-text items   |
| E  | DETL  | INPD   |        |        | Inch-pound-specific dimensions and notes  |
| E  | DETL  | METR   |        |        | Metric-specific dimensions and notes  |
| <b>DIAGRAM INFORMATION</b>   |       |        |        |        |   |
| E  | DIAG  | GRPH   |        |        | Graphics, gridlines, non-text items   |
| E  | DIAG  | IDEN   |        |        | Identifier tags, symbol modifier and text   |
| E  | DIAG  | INPD   |        |        | Inch-pound-specific dimensions and notes  |
| E  | DIAG  | METR   |        |        | Metric-specific dimensions and notes  |
| <b>CENTRAL DICTATION SYSTEMS</b>   |       |        |        |        |   |
| E  | DICT  | IDEN   |        |        | Identifier tags, symbol modifier, and text  |
| E  | DICT  | SYMB   |        |        | Central dictation system symbols  |
| E  | DISC  | INFO   |        |        | Clearances and working space information (NEC code, etc.)   |
| <b>UNDERGROUND DUCTBANKS (to be used when multiple systems are in one ductbank system)</b> |       |        |        |        |   |
| E  | DUCT  | MULT   |        |        | Ductbank  |
| E  | DUCT  | MULT   | IDEN   |        | Identifier tags, symbol modifier and text   |
| <b>ELECTRIC</b>  |       |        |        |        |   |
| E  | ELEC  | DEVC   |        |        | Capacitors, voltage regulators, motors, buses, generators, meters, grounds, and markers                       |
| E  | ELEC  | JBOX   |        |        | Junction boxes, pull boxes, manholes, handholes, pedestals, splices   |
| E  | ELEC  | SUBS   |        |        | Other substation equipment  |
| E  | ELEC  | SWCH   |        |        | Fuse cutouts, pole mounted switches, circuit breakers, gang operated disconnects, reclosers, cubicle switches |
| E  | ELEC  | VALT   |        |        | Vaults  |
| <b>ENERGY MONITORING CONTROL SYSTEMS</b>   |       |        |        |        |   |

| Discipline               | Major | Minor1 | Minor2 | Status | Description   |
|--------------------------|-------|--------|--------|--------|---|
| E                        | EMCS  | EQPM   |        |        | Energy monitoring control system equipment  |
| E                        | EMCS  | EQPM   | DUCT   |        | Ductbank line   |
| E                        | EMCS  | EQPM   | JBOX   |        | Junction  |
| E                        | EMCS  | EQPM   | SIGN   |        | Marker  |
| E                        | EMCS  | IDEN   |        |        | Identifier tags, symbol modifier, and text  |
| E                        | EMCS  | SYMB   |        |        | Energy monitoring control system symbols  |
| E                        | EMER  | EMER   |        |        | Emergency systems equipment   |
| <b>FLOOR INFORMATION</b> |       |        |        |        |   |
| E                        | FLOR  | IDEN   |        |        | Room name, space identification text (copied from Architectural - Floor Plan model file)        |
| E                        | FLOR  | NUMB   |        |        | Room/space identification number and symbol (copied from Architectural - Floor Plan model file) |
| <b>GROUND SYSTEM</b>     |       |        |        |        |   |
| E                        | GRND  | CIRC   |        |        | Circuits  |
| E                        | GRND  | DIAG   |        |        | Ground system diagram   |
| E                        | GRND  | EQUI   |        |        | Equipotential ground system   |
| E                        | GRND  | REFR   |        |        | Reference ground system   |
| <b>INTERCOM SYSTEM</b>   |       |        |        |        |   |
| E                        | INTC  | IDEN   |        |        | Identifier tags, symbol modifier, and text  |
| E                        | INTC  | SYMB   |        |        | Intercom/PA system symbols  |
| <b>LIGHTING</b>          |       |        |        |        |   |
| E                        | LITE  | APPR   |        |        | Approach lights   |
| E                        | LITE  | APRN   |        |        | Apron Lighting  |
| E                        | LITE  | CIRC   |        |        | Lighting circuits (including crosslines and homeruns)   |
| E                        | LITE  | CIRC   | NUMB   |        | Lighting circuit numbers (e.g., panel/circuit number, wire/conduit size)                        |
| E                        | LITE  | CLNG   |        |        | Ceiling mounted (surface/pendant) fixtures  |
| E                        | LITE  | CONS   |        |        | Constant Current Regulators   |
| E                        | LITE  | DIST   |        |        | Distance and arresting gear markers and lights  |
| E                        | LITE  | EMER   |        |        | Emergency fixtures (outline of light (if ceiling mounted) should go on E-LITE-CLNG)             |
| E                        | LITE  | EXIT   |        |        | Exit fixtures (outline of light (if ceiling mounted) should go on E-LITE-CLNG)                  |
| E                        | LITE  | EXTR   |        |        | Exterior lights   |
| E                        | LITE  | EXTR   | IDEN   |        | Identifier tags, symbol modifier, and text  |
| E                        | LITE  | FLOR   |        |        | Floor mounted fixtures (e.g., stage)  |
| E                        | LITE  | IDEN   |        |        | Light fixture identifier tags   |
| E                        | LITE  | JBOX   |        |        | Junction boxes  |
| E                        | LITE  | LANE   |        |        | Hoverlane, taxilane, and helipad lights   |
| E                        | LITE  | OBST   |        |        | Obstruction lights  |
| E                        | LITE  | PANL   |        |        | Main distribution panels, switchboards, lighting panels   |
| E                        | LITE  | RNWX   | GARD   |        | Runway guard lights   |
| E                        | LITE  | ROOF   |        |        | Roof lighting   |
| E                        | LITE  | RUNW   | EDGE   |        | Runway edge lights  |
| E                        | LITE  | RUNW   | TDZN   |        | Runway Touchdown Zone lights  |
| E                        | LITE  | RUNW   | CNTR   |        | Runway Centerline lights  |
| E                        | LITE  | RUNW   | DTGS   |        | Runway Distance to go lights  |
| E                        | LITE  | SIGN   |        |        | Taxiway guidance signs  |
| E                        | LITE  | SPCL   |        |        | Special fixtures  |

| Discipline                         | Major | Minor1 | Minor2 | Status | Description   |
|------------------------------------|-------|--------|--------|--------|---|
| E                                  | LITE  | SWCH   |        |        | Lighting contactors, photoelectric controls, low-voltage lighting controls, etc.  |
| E                                  | LITE  | TAXI   | CNTL   |        | Taxiway centerline lights   |
| E                                  | LITE  | TAXI   | EDGE   |        | Taxiway edge lights   |
| E                                  | LITE  | THRS   |        |        | Threshold lights  |
| E                                  | LITE  | WALL   |        |        | Wall mounted fixtures   |
| <b>LIGHTNING PROTECTION SYSTEM</b> |       |        |        |        |   |
| E                                  | LTNG  | COND   |        |        | Lightning protection conductors   |
| E                                  | LTNG  | TERM   |        |        | Lightning protection terminals  |
| <b>NURSE CALL / PAGING SYSTEMS</b> |       |        |        |        |   |
| E                                  | NURS  | IDEN   |        |        | Identifier tags, symbol modifier, and text  |
| E                                  | NURS  | SYMB   |        |        | Nurse call/paging system symbols  |
| <b>POLES</b>                       |       |        |        |        |   |
| E                                  | POLE  | GUYS   |        |        | Guying equipment  |
| E                                  | POLE  | GUYS   | IDEN   |        | Guying equipment identifier tags, symbol modifiers, and text  |
| E                                  | POLE  | IDEN   |        |        | Utility pole identifier tags, symbol modifier, and text   |
| E                                  | POLE  | UTIL   |        |        | Utility poles   |
| <b>POWER</b>                       |       |        |        |        |   |
| E                                  | POWR  | BUSW   |        |        | Busways and wireways  |
| E                                  | POWR  | CABL   |        |        | Cable trays   |
| E                                  | POWR  | CIRC   |        |        | Power circuits (including crosslines and homeruns)  |
| E                                  | POWR  | CIRC   | NUMB   |        | Power circuit numbers (e.g., panel/circuit number, wire/conduit size)   |
| E                                  | POWR  | CLNG   |        |        | Ceiling outlets (receptacles and switches)  |
| E                                  | POWR  | FEED   |        |        | Feeders   |
| E                                  | POWR  | GENR   |        |        | Generators and auxiliary equipment  |
| E                                  | POWR  | JBOX   |        |        | Junction boxes  |
| E                                  | POWR  | MOTR   |        |        | Motors and utilization equipment  |
| E                                  | POWR  | PANL   |        |        | Panelboards, switchboards, MCC, unit substations  |
| E                                  | POWR  | POLE   | COND   |        | Utility pole conduit  |
| E                                  | POWR  | POLE   | GUYP   |        | Utility pole guy point  |
| E                                  | POWR  | SUBS   |        |        | Other substation equipment  |
| E                                  | POWR  | SWCH   |        |        | Fuse cutouts, motor starters, contactors, pole mounted switches, circuit breakers, gang operated disconnects, reclosers, cubicle switches |
| E                                  | POWR  | URAC   |        |        | Underfloor raceways   |
| E                                  | POWR  | XFMR   | PADM   |        | Pad mounted transformers  |
| E                                  | POWR  | XFMR   | POLE   |        | Pole mounted transformers   |
| E                                  | POWR  | WALL   |        |        | Wall/floor outlets (receptacles and switches)   |
| <b>PRIMARY ELECTRICAL CABLES</b>   |       |        |        |        |   |
| E                                  | PRIM  | OVHD   |        |        | Overhead electrical utility lines   |
| E                                  | PRIM  | OVHD   | IDEN   |        | Identifier tags, symbol modifier, and text  |
| E                                  | PRIM  | UNDR   |        |        | Underground electrical utility lines  |
| E                                  | PRIM  | UNDR   | IDEN   |        | Identifier tags, symbol modifier, and text  |
| <b>SECONDARY ELECTRICAL CABLES</b> |       |        |        |        |   |
| E                                  | POWR  | CAPC   |        |        | Capacitor   |
| E                                  | POWR  | HBLT   |        |        | Head bolt outlet  |
| E                                  | POWR  | METR   |        |        | Meter   |
| E                                  | POWR  | PEDS   |        |        | Pedestal  |
| E                                  | POWR  | REGL   |        |        | Regulator   |

| Discipline                | Major | Minor1 | Minor2 | Status | Description   |
|---------------------------|-------|--------|--------|--------|---|
| E                         | POWR  | RISR   |        |        | Riser   |
| E                         | POWR  | SIGN   |        |        | Marker  |
| E                         | POWR  | SITE   |        |        | Utility electric utility site   |
| E                         | POWR  | SPLC   |        |        | Splice  |
| E                         | SECD  | OVHD   |        |        | Overhead electrical utility lines   |
| E                         | SECD  | OVHD   | IDEN   |        | Identifier tags, symbol modifier, and text  |
| E                         | SECD  | UNDR   |        |        | Underground electrical utility lines  |
| E                         | SECD  | UNDR   | IDEN   |        | Identifier tags, symbol modifier, and text  |
| <b>SECURITY SYSTEMS</b>   |       |        |        |        |   |
| E                         | SERT  | ACCS   |        |        | Access control system symbols   |
| E                         | SERT  | BURD   |        |        | Buried sensors  |
| E                         | SERT  | CLNG   |        |        | Ceiling mounted sensors   |
| E                         | SERT  | FLOR   |        |        | Floor mounted sensors   |
| E                         | SERT  | IDEN   |        |        | Identifier tags, symbol modifier, and text  |
| E                         | SERT  | UNDR   |        |        | Buried sensors  |
| E                         | SERT  | WALL   |        |        | Wall mounted sensors  |
| <b>SOUND / PA SYSTEMS</b> |       |        |        |        |   |
| E                         | SOUN  | IDEN   |        |        | Identifier tags, symbol modifier, and text  |
| E                         | SOUN  | SYMB   |        |        | Sound system symbols  |
| <b>SPECIAL SYSTEMS</b>    |       |        |        |        |   |
| E                         | SPCL  | IDEN   |        |        | Special systems (UMCS, EMCS, CATV, etc.) identifier tags, symbol modifier, and text |
| E                         | SPCL  | JBOX   |        |        | Junction boxes  |
| E                         | SPCL  | PANL   |        |        | Panelboards, backing boards, patch panel racks                                      |
| E                         | SPCL  | SRFS   |        |        | Surface Sensor System   |
| E                         | SPCL  | SYST   |        |        | Special systems (UMCS, EMCS, CATV, etc.)  |
| E                         | SPCL  | TRAF   |        |        | Traffic signal system   |
| E                         | SPCL  | TRAF   | IDEN   |        | Traffic signal identifier tags, symbol modifier, and text                           |
| <b>TV ANTENNA SYSTEMS</b> |       |        |        |        |   |
| E                         | TVAN  | IDEN   |        |        | Identifier tags, symbol modifier, and text  |
| E                         | TVAN  | SYMB   |        |        | TV antenna system symbols   |

**Common Layer Names – Fire Protection (F)**

| Discipline   | Major | Minor1 | Minor2 | Status | Description   |
|--|-------|--------|--------|--------|---|
| <b>AQUEOUS FILM FORMING FOAM SYSTEM</b>                            |       |        |        |        |   |
| F  | AFFF  | EQPM   |        |        | Equipment   |
| F  | AFFF  | PIPE   |        |        | Piping  |
| <b>ALARM SYSTEM</b>  |       |        |        |        |   |
| F  | ALRM  | DTCT   |        |        | Smoke/heat/other detectors  |
| F  | ALRM  | INDC   |        |        | Indicating appliances   |
| F  | ALRM  | MANL   |        |        | Manual fire alarm pull stations   |
| F  | ALRM  | PHON   |        |        | Fire service or emergency telephone stations  |
| <b>GENERAL INFORMATION</b>   |       |        |        |        |   |
| F  | ANNO  | DIMS   |        |        | Witness/extension lines, dimension terminators, dimension text                                  |
| F  | ANNO  | KEYN   |        |        | Reference keynotes with associated leaders  |
| F  | ANNO  | NOTE   |        |        | General notes and general remarks   |
| F  | ANNO  | NPLT   |        |        | Non-plotting graphic information  |
| F  | ANNO  | PATT   |        |        | Miscellaneous patterning and hatching   |
| F  | ANNO  | REFR   |        |        | Reference files (AutoCAD users only, see Chapter 4)   |
| F  | ANNO  | SYMB   |        |        | Miscellaneous symbols   |
| F  | ANNO  | TEXT   |        |        | Miscellaneous text and callouts with associated leaders   |
| <b>CO2 SPRINKLER SYSTEM</b>  |       |        |        |        |   |
| F  | CO2S  | EQPM   |        |        | Equipment   |
| F  | CO2S  | PIPE   |        |        | CO2 piping or CO2 discharge nozzle piping   |
| <b>CONTROL PANELS</b>  |       |        |        |        |   |
| F  | CTRL  | PANL   |        |        | Control panels  |
| <b>DETAIL INFORMATION</b>  |       |        |        |        |   |
| F  | DETL  | GRPH   |        |        | Graphics, gridlines, non-text items   |
| F  | DETL  | INPD   |        |        | Inch-pound-specific dimensions and notes  |
| F  | DETL  | METR   |        |        | Metric-specific dimensions and notes  |
| <b>FLOOR INFORMATION</b>   |       |        |        |        |   |
| F  | FLOR  | IDEN   |        |        | Room name, space identification text (copied from Architectural - Floor Plan model file)        |
| F  | FLOR  | NUMB   |        |        | Room/space identification number and symbol (copied from Architectural - Floor Plan model file) |
| <b>HALON SYSTEM</b>  |       |        |        |        |   |
| F  | HALN  | EQPM   |        |        | Halon equipment   |
| F  | HALN  | PIPE   |        |        | Halon piping  |
| <b>INERT GAS</b>   |       |        |        |        |   |
| F  | IGAS  | EQPM   |        |        | Inert gas equipment   |
| F  | IGAS  | PIPE   |        |        | Inert gas piping  |
| <b>LIGHTING</b>  |       |        |        |        |   |
| F  | LITE  | EMER   |        |        | Emergency fixtures  |
| F  | LITE  | EXIT   |        |        | Exit fixtures   |
| <b>EGRESS REQUIREMENTS</b>   |       |        |        |        |   |
| F  | LSFT  | EGRE   |        |        | Egress requirements designator  |
| F  | LSFT  | OCCP   |        |        | Occupant load for egress capacity   |
| F  | LSFT  | TRVL   |        |        | Maximum travel distances  |
| <b>FIRE PROTECTION / SUPPRESSION / ALARM / DETECTION EQUIPMENT</b> |       |        |        |        |   |

| Discipline                            | Major | Minor1 | Minor2 | Status | Description                                       |
|---------------------------------------|-------|--------|--------|--------|---|
| F                                     | PROT  | CABN   |        |        | Fire hose cabinets                                |
| F                                     | PROT  | EXTN   |        |        | Fire extinguishers and fire extinguisher cabinets |
| F                                     | PROT  | HOSE   |        |        | Fire hoses  |
| <b>FIRE RATINGS</b>                   |       |        |        |        |   |
| F                                     | RATE  | DOOR   |        |        | Door fire ratings                                 |
| F                                     | RATE  | WALL   |        |        | Wall fire ratings                                 |
| <b>SMOKE / PRESSURIZATION CONTROL</b> |       |        |        |        |   |
| F                                     | SMOK  | DAMP   |        |        | Dampers   |
| <b>SPRINKLER SYSTEM</b>               |       |        |        |        |   |
| F                                     | SPRN  | CLHD   |        |        | Sprinkler - ceiling heads                         |
| F                                     | SPRN  | COMB   |        |        | Combination system                                |
| F                                     | SPRN  | OTHD   |        |        | Sprinkler - other heads                           |
| F                                     | SPRN  | OTHR   |        |        | Sprinkler - other                                 |
| F                                     | SPRN  | PEND   |        |        | Sprinkler - pendant                               |
| F                                     | SPRN  | PIPE   |        |        | Sprinkler piping                                  |
| F                                     | SPRN  | STAN   |        |        | Standpipe system                                  |
| <b>WATER SUPPLY AND DISTRIBUTION</b>  |       |        |        |        |   |
| F                                     | WATR  | CONN   |        |        | Fire department connections                       |
| F                                     | WATR  | HYDR   |        |        | Hydrants  |
| F                                     | WATR  | PIPE   |        |        | Piping  |
| F                                     | WATR  | PUMP   |        |        | Fire pumps  |

## Common Layer Names – Geotechnical (G)

| Discipline                 | Major | Minor1 | Minor2 | Status | Description   |
|----------------------------|-------|--------|--------|--------|---|
| <b>GENERAL INFORMATION</b> |       |        |        |        |   |
| G                          | ANNO  | NPLT   |        |        | Non-plotting graphic information                        |
| G                          | ANNO  | PATT   |        |        | Miscellaneous patterning and hatching                   |
| G                          | ANNO  | REFR   |        |        | Reference files (AutoCAD users only, see Chapter 4)     |
| G                          | ANNO  | SYMB   |        |        | Miscellaneous symbols                                   |
| G                          | ANNO  | TEXT   |        |        | Miscellaneous text and callouts with associated leaders |
| G                          | ANNO  | TTLB   |        |        | Border and title block linework                         |
| <b>GRIDS</b>               |       |        |        |        |   |
| G                          | GRID  | EXTR   |        |        | Column grid outside building                            |
| G                          | GRID  | IDEN   |        |        | Column grid tags  |
| <b>PLAN / OUTLINE</b>      |       |        |        |        |   |
| G                          | PLAN  | OTLN   |        |        | Floor outline/perimeter/building footprint              |
| <b>SITE INFORMATION</b>    |       |        |        |        |   |
| G                          | SITE  | OTLN   |        |        | Site plan - key map                                     |

## Common Layer Names – Hazardous Materials (H)

| Discipline                 | Major | Minor1 | Minor2 | Status | Description  |
|----------------------------|-------|--------|--------|--------|--|
| <b>GENERAL INFORMATION</b> |       |        |        |        |  |
| H                          | ANNO  | DIMS   |        |        | Witness/extension lines, dimension terminators, dimension text |
| H                          | ANNO  | KEYN   |        |        | Reference keynotes with associated leaders                     |
| H                          | ANNO  | NPLT   |        |        | Non-plotting graphic information                               |
| H                          | ANNO  | PATT   |        |        | Miscellaneous patterning                                       |
| H                          | ANNO  | SYMB   |        |        | Reference bubbles, matchlines and breaklines                   |
| H                          | ANNO  | TEXT   |        |        | Detail title text, text and associated leaders, notes          |
| <b>BUILDINGS</b>           |       |        |        |        |  |
| H                          | BLDG  | IDEN   |        |        | Annotation   |
| H                          | BLDG  | OTLN   |        |        | Command posts, information centers                             |
| <b>DECONTAMINATION</b>     |       |        |        |        |  |
| H                          | DECN  | EQPM   |        |        | Decontamination equipment                                      |
| H                          | DECN  | IDEN   |        |        | Annotation   |
| <b>DETAIL INFORMATION</b>  |       |        |        |        |  |
| H                          | DETL  | GRPH   |        |        | Graphics, gridlines, non-text items                            |
| H                          | DETL  | INPD   |        |        | Inch-pound-specific dimensions and notes                       |
| H                          | DETL  | METR   |        |        | Metric-specific dimensions and notes                           |
| <b>DISPOSAL AREAS</b>      |       |        |        |        |  |
| H                          | DISP  | HAZW   |        |        | Hazardous waste  |
| H                          | DISP  | IDEN   |        |        | Annotation   |
| H                          | DISP  | MUNT   |        |        | Munitions  |
| H                          | DISP  | TANK   |        |        | Spill containment tanks  |
| <b>FIXTURES</b>            |       |        |        |        |  |
| H                          | FIXT  | EYEW   |        |        | Emergency eyewashes  |
| H                          | FIXT  | SHOW   |        |        | Emergency showers  |
| <b>MONITORING SYSTEMS</b>  |       |        |        |        |  |
| H                          | MNST  | AIRQ   |        |        | Air quality  |
| H                          | MNST  | GWTR   |        |        | Ground water   |
| H                          | MNST  | IDEN   |        |        | Annotation   |
| H                          | MNST  | LAND   |        |        | Landfill gas   |
| H                          | MNST  | SOIL   |        |        | Soil gas   |
| H                          | MNST  | SWTR   |        |        | Surface water  |
| <b>POLLUTION AREAS</b>     |       |        |        |        |  |
| H                          | POLL  | CONC   |        |        | Polluted area of concern                                       |
| H                          | POLL  | IDEN   |        |        | Annotation   |
| H                          | POLL  | ORIG   |        |        | Point of pollution origin                                      |
| H                          | POLL  | POTN   |        |        | Potential spill, emission, or release source                   |
| <b>SAMPLE POINTS</b>       |       |        |        |        |  |
| H                          | SAMP  | AIRS   |        |        | Air samples  |
| H                          | SAMP  | BIOL   |        |        | Biological samples   |
| H                          | SAMP  | GWTR   |        |        | Ground water samples   |
| H                          | SAMP  | IDEN   |        |        | Annotation   |
| H                          | SAMP  | MAGN   |        |        | Magnetometer location points                                   |

| Discipline                | Major | Minor1 | Minor2 | Status | Description                      |
|---------------------------|-------|--------|--------|--------|----------------------------------|
| H                         | SAMP  | SEDI   |        |        | Sediment samples                 |
| H                         | SAMP  | SOIL   |        |        | Soil samples                     |
| H                         | SAMP  | SOLI   |        |        | Solid material samples           |
| H                         | SAMP  | SWTR   |        |        | Surface water samples            |
| H                         | SAMP  | WAST   |        |        | Waste samples                    |
| <b>SECTIONS</b>           |       |        |        |        |                                  |
| H                         | SECT  | IDEN   |        |        | Component identification numbers |
| H                         | SECT  | MBND   |        |        | Material beyond section cut      |
| H                         | SECT  | MCUT   |        |        | Material cut by section          |
| H                         | SECT  | PATT   |        |        | Textures and hatch patterns      |
| <b>STORAGE FACILITIES</b> |       |        |        |        |                                  |
| H                         | STOR  | HAZM   |        |        | Hazardous materials              |
| H                         | STOR  | HAZW   |        |        | Hazardous waste                  |
| H                         | STOR  | IDEN   |        |        | Annotation                       |

## Common Layer Names – Interiors (I)

| Discipline                          | Major | Minor1 | Minor2 | Status | Description   |
|-------------------------------------|-------|--------|--------|--------|---|
| <b>GENERAL INFORMATION</b>          |       |        |        |        |   |
| I                                   | ANNO  | DIMS   |        |        | Witness/extension lines, dimension terminators, dimension text                                |
| I                                   | ANNO  | KEYN   |        |        | Reference keynotes with associated leaders  |
| I                                   | ANNO  | NOTE   |        |        | General notes and general remarks   |
| I                                   | ANNO  | NPLT   |        |        | Non-plotting graphic information  |
| I                                   | ANNO  | PATT   |        |        | Miscellaneous patterning  |
| I                                   | ANNO  | SYMB   |        |        | Reference bubbles, matchlines and breaklines  |
| I                                   | ANNO  | TEXT   |        |        | Detail title text, text and associated leaders, notes   |
| <b>DETAIL INFORMATION</b>           |       |        |        |        |   |
| I                                   | DETL  | GRPH   |        |        | Graphics, gridlines, non-text items   |
| I                                   | DETL  | INPD   |        |        | Inch-pound-specific dimensions and notes  |
| I                                   | DETL  | METR   |        |        | Metric-specific dimensions and notes  |
| <b>ELEVATIONS</b>                   |       |        |        |        |   |
| I                                   | ELEV  | CASE   |        |        | Wall mounted casework   |
| I                                   | ELEV  | FIXT   |        |        | Miscellaneous fixtures  |
| I                                   | ELEV  | FNSH   |        |        | Finishes, woodwork and trim   |
| I                                   | ELEV  | IDEN   |        |        | Component identification numbers  |
| I                                   | ELEV  | PATT   |        |        | Textures and hatch patterns   |
| I                                   | ELEV  | PFIX   |        |        | Plumbing fixtures in elevation  |
| I                                   | ELEV  | SIGN   |        |        | Signage   |
| <b>EQUIPMENT</b>                    |       |        |        |        |   |
| I                                   | EQPM  | ACCS   |        |        | Equipment access  |
| I                                   | EQPM  | CHLD   |        |        | Child development (play toys, teaching rugs, play forms)                                      |
| I                                   | EQPM  | COPY   |        |        | Copiers, fax machines, office equipment   |
| I                                   | EQPM  | FIXD   |        |        | Fixed equipment   |
| I                                   | EQPM  | IDEN   |        |        | Equipment identification numbers  |
| I                                   | EQPM  | MEDI   |        |        | Medical (exam beds, dental chairs, etc.)  |
| I                                   | EQPM  | MOVE   |        |        | Moveable equipment  |
| I                                   | EQPM  | NICN   |        |        | Not in contract equipment   |
| I                                   | EQPM  | OVHD   |        |        | Overhead, ceiling mounted, and suspended equipment  |
| I                                   | EQPM  | STOR   |        |        | Storage equipment   |
| <b>FLOORING ITEMS AND MATERIALS</b> |       |        |        |        |   |
| I                                   | FLOR  | SIGN   |        |        | Signage   |
| <b>FURNISHINGS</b>                  |       |        |        |        |   |
| I                                   | FURN  | ACCS   |        |        | Accessories (vestibule mats, partitions, draperies, clocks, trashcans, lecturns, lamps, etc.) |
| I                                   | FURN  | ADPC   |        |        | Automated Data Processing Components  |
| I                                   | FURN  | ARTW   |        |        | Artwork   |
| I                                   | FURN  | CASE   |        |        | Case goods (desks, credenzas, beds, dressers, nightstands, wardrobes, etc.)                   |
| I                                   | FURN  | FLOR   |        |        | Flooring (carpet, rugs, etc.)   |
| I                                   | FURN  | FREE   |        |        | Free-standing furnishings (desks, beds, tables, dressers, credenzas, case goods)              |
| I                                   | FURN  | GRID   |        |        | Planning grid/modular outline   |
| I                                   | FURN  | IDEN   |        |        | Furniture code identification   |
| I                                   | FURN  | MISC   |        |        | Miscellaneous furniture   |

| Discipline              | Major | Minor1 | Minor2 | Status | Description  |
|-------------------------|-------|--------|--------|--------|--|
| I                       | FURN  | PLNT   |        |        | Plants   |
| I                       | FURN  | SEAT   |        |        | Chairs, sofas, etc.  |
| I                       | FURN  | STOR   |        |        | File cabinets, high density storage, shelving, storage cabinets          |
| <b>SYSTEM FURNITURE</b> |       |        |        |        |  |
| I                       | SYST  | BIDS   |        |        | Baggage information display system equipment used in an airport terminal |
| I                       | SYST  | CUTE   |        |        | Common use terminal equipment in an airport terminal                     |
| I                       | SYST  | FIDS   |        |        | Flight information display system equipment used in an airport terminal  |
| I                       | SYST  | FURN   |        |        | Furniture  |
| I                       | SYST  | IDEN   |        |        | Code identification  |
| I                       | SYST  | LITE   |        |        | Lighting components  |
| I                       | SYST  | PATT   |        |        | Patterns   |
| I                       | SYST  | PNLS   |        |        | Panels   |
| I                       | SYST  | POWR   |        |        | Power, communication components  |
| I                       | SYST  | SECU   | CMRA   |        | Security camera locations inside buildings                               |
| I                       | SYST  | STOR   |        |        | Storage components   |
| I                       | SYST  | WALL   |        |        | Systems furniture partition walls  |
| I                       | SYST  | WKSF   |        |        | Work surface components  |

## Common Layer Names – Landscaping (L)

| Discipline                            | Major | Minor1 | Minor2 | Status | Description  |
|---------------------------------------|-------|--------|--------|--------|--|
| <b>GENERAL INFORMATION</b>            |       |        |        |        |  |
| L                                     | ANNO  | DIMS   |        |        | Witness/extension lines, dimension terminators, dimension text |
| L                                     | ANNO  | KEYN   |        |        | Reference keynotes with associated leaders                     |
| L                                     | ANNO  | NOTE   |        |        | General notes and general remarks                              |
| L                                     | ANNO  | NPLT   |        |        | Non-plotting graphic information                               |
| L                                     | ANNO  | PATT   |        |        | Miscellaneous patterning                                       |
| L                                     | ANNO  | SYMB   |        |        | Reference bubbles, matchlines and breaklines                   |
| L                                     | ANNO  | TEXT   |        |        | Detail title text, text and associated leaders, notes          |
| <b>DETAIL INFORMATION</b>             |       |        |        |        |  |
| L                                     | DETL  | CABS   |        |        | Cabinets, enclosures   |
| L                                     | DETL  | CONC   |        |        | Concrete   |
| L                                     | DETL  | ERTH   |        |        | Earth  |
| L                                     | DETL  | FENC   |        |        | Fencing  |
| L                                     | DETL  | FILL   |        |        | Fill/cover material  |
| L                                     | DETL  | FURN   |        |        | Furniture, furnishings   |
| L                                     | DETL  | GATE   |        |        | Gate   |
| L                                     | DETL  | GENF   |        |        | General features (miscellaneous items)                         |
| L                                     | DETL  | GRAS   |        |        | Grass, sod   |
| L                                     | DETL  | GRPH   |        |        | Graphics, gridlines, non-text items                            |
| L                                     | DETL  | INPD   |        |        | Inch-pound-specific dimensions and notes                       |
| L                                     | DETL  | METR   |        |        | Metric-specific dimensions and notes                           |
| L                                     | DETL  | STRC   |        |        | Structural metal, supports                                     |
| L                                     | DETL  | TKST   |        |        | Tank Site  |
| L                                     | DETL  | VEGI   |        |        | Planting details   |
| L                                     | DETL  | VLVE   |        |        | Valves, fittings   |
| L                                     | DETL  | WIRE   |        |        | Wiring   |
| <b>IRRIGATION SYSTEM</b>              |       |        |        |        |  |
| L                                     | IRRG  | COVR   |        |        | Irrigation coverage, spray distribution patterns               |
| L                                     | IRRG  | EQPM   |        |        | Equipment (e.g., controllers, valves, RPBPs, etc.)             |
| L                                     | IRRG  | HEAD   |        |        | Irrigation heads, bubblers, and drip irrigation emitters       |
| L                                     | IRRG  | IDEN   |        |        | Annotation   |
| L                                     | IRRG  | PIPE   |        |        | Piping   |
| L                                     | IRRG  | SPKL   |        |        | Sprinklers   |
| <b>PLANT AND LANDSCAPING MATERIAL</b> |       |        |        |        |  |
| L                                     | PLNT  | BEDS   |        |        | Planting beds  |
| L                                     | PLNT  | BUSH   |        |        | Bushes and shrubs (e.g., evergreen, deciduous)                 |
| L                                     | PLNT  | BUSH   | LINE   |        | Bush and shrub line  |
| L                                     | PLNT  | CTNR   |        |        | Containers or planters   |
| L                                     | PLNT  | GRND   |        |        | Groundcover and vines  |
| L                                     | PLNT  | IDEN   |        |        | Annotation   |
| L                                     | PLNT  | MLCH   |        |        | Mulches - organic and inorganic                                |
| L                                     | PLNT  | PLTS   |        |        | Planting plants (e.g., ornamental annuals and perennials)      |
| L                                     | PLNT  | SHAD   |        |        | Shadow areas   |

| Discipline               | Major | Minor1 | Minor2 | Status | Description                              |
|--------------------------|-------|--------|--------|--------|--|
| L                        | PLNT  | SPRG   |        |        | Sprigs                                   |
| L                        | PLNT  | TREE   |        |        | Trees (e.g., evergreen, deciduous, etc.) |
| L                        | PLNT  | TREE   | LINE   |        | Tree line                                |
| L                        | PLNT  | TURF   |        |        | Lawn areas (turving limits)              |
| <b>SITE IMPROVEMENTS</b> |       |        |        |        |  |
| L                        | SITE  | BRDG   |        |        | Bridges                                  |
| L                        | SITE  | DECK   |        |        | Decks                                    |
| L                        | SITE  | FENC   |        |        | Fencing                                  |
| L                        | SITE  | FURN   |        |        | Furnishings                              |
| L                        | SITE  | GATE   |        |        | Gate                                     |
| L                        | SITE  | IDEN   |        |        | Annotation                               |
| L                        | SITE  | PLAY   |        |        | Play structures                          |
| L                        | SITE  | POOL   |        |        | Pools and spas                           |
| L                        | SITE  | ROCK   |        |        | Boulders and cobble                      |
| L                        | SITE  | RTWL   |        |        | Retaining walls                          |
| L                        | SITE  | SPRT   |        |        | Sports fields                            |
| L                        | SITE  | TUNL   |        |        | Tunnels                                  |
| L                        | SITE  | WALK   |        |        | Walks and steps                          |

## Common Layer Names – Mechanical (M)

| Discipline                       | Major | Minor1 | Minor2 | Status | Description  |
|----------------------------------|-------|--------|--------|--------|--|
| <b>INDUSTRIAL WASTE PIPING</b>   |       |        |        |        |  |
| M                                | ACID  | EQPM   |        |        | Acid, alkaline, and oil waste equipment                        |
| M                                | ACID  | PIPE   |        |        | Acid, alkaline, and oil waste piping                           |
| M                                | ACID  | VENT   |        |        | Acid, alkaline, and oil waste vent piping                      |
| <b>ANTI-FREEZE</b>               |       |        |        |        |  |
| M                                | AFRZ  | PIPE   |        |        | Anti-freeze piping   |
| M                                | AFRZ  | WAST   |        |        | Waste anti-freeze piping                                       |
| <b>ALIGNMENTS</b>                |       |        |        |        |  |
| M                                | ALGN  | DATA   |        |        | Alignment coordinates and curve data                           |
| M                                | ALGN  | LINE   |        |        | Alignments   |
| M                                | ALGN  | STAT   |        |        | Alignment stationing and tick marks                            |
| <b>GENERAL INFORMATION</b>       |       |        |        |        |  |
| M                                | ANNO  | DIMS   |        |        | Witness/extension lines, dimension terminators, dimension text |
| M                                | ANNO  | KEYN   |        |        | Reference keynotes with associated leaders                     |
| M                                | ANNO  | NOTE   |        |        | General notes and general remarks                              |
| M                                | ANNO  | NPLT   |        |        | Non-plotting graphic information                               |
| M                                | ANNO  | PATT   |        |        | Miscellaneous patterning and hatching                          |
| M                                | ANNO  | REFR   |        |        | Reference files (AutoCAD users only, see Chapter 4)            |
| M                                | ANNO  | SYMB   |        |        | Miscellaneous symbols  |
| M                                | ANNO  | TEXT   |        |        | Miscellaneous text and callouts with associated leaders        |
| <b>BRINE SYSTEM</b>              |       |        |        |        |  |
| M                                | BRIN  | EQPM   |        |        | Brine system equipment   |
| M                                | BRIN  | PIPE   |        |        | Brine system piping  |
| <b>CHEMICAL TREATMENT SYSTEM</b> |       |        |        |        |  |
| M                                | CHEM  | EQPM   |        |        | Equipment  |
| M                                | CHEM  | PIPE   |        |        | Piping (includes fittings, valves)                             |
| <b>COMPRESSED AIR</b>            |       |        |        |        |  |
| M                                | CMPA  | EQPM   | AIRD   |        | Air drain separator point                                      |
| M                                | CMPA  | EQPM   | VLVP   |        | Valve point  |
| M                                | CMPA  | EQPM   | VLVE   |        | Valve  |
| M                                | CMPA  | FTTG   |        |        | Fitting  |
| M                                | CMPA  | TANK   |        |        | Tank   |
| <b>CONDENSER WATER SYSTEM</b>    |       |        |        |        |  |
| M                                | CNDW  | EQPM   |        |        | Condenser water equipment                                      |
| M                                | CNDW  | PIPE   |        |        | Condenser water piping   |
| M                                | COND  | PIPE   |        |        | Condensate piping (includes fittings, valves)                  |
| M                                | CONT  | THER   |        |        | Thermostats, controls, instrumentation, and sensors            |
| M                                | CONT  | WIRE   |        |        | Low voltage wiring   |
| <b>CHILLED WATER SYSTEM</b>      |       |        |        |        |  |
| M                                | CWTR  | EQPM   |        |        | Equipment  |
| M                                | CWTR  | PIPE   |        |        | Piping (includes fittings, valves)                             |
| <b>DETAIL INFORMATION</b>        |       |        |        |        |  |
| M                                | DETL  | ACCS   |        |        | Accessories  |

| Discipline                              | Major | Minor1 | Minor2 | Status | Description  |
|---|-------|--------|--------|--------|--|
| M                                       | DETL  | BOIL   |        |        | Boilers  |
| M                                       | DETL  | CABS   |        |        | Cabinets   |
| M                                       | DETL  | COIL   |        |        | Coils and fin tubes  |
| M                                       | DETL  | DUCT   |        |        | Ducts  |
| M                                       | DETL  | EQPT   |        |        | Equipment and fixtures   |
| M                                       | DETL  | FANS   |        |        | Fans   |
| M                                       | DETL  | GENF   |        |        | General features (miscellaneous items)   |
| M                                       | DETL  | GRLS   |        |        | Grilles and louvers  |
| M                                       | DETL  | GRPH   |        |        | Graphics, gridlines, non-text items  |
| M                                       | DETL  | INPD   |        |        | Inch-pound-specific dimensions and notes   |
| M                                       | DETL  | INSL   |        |        | Insulation and coverings   |
| M                                       | DETL  | METR   |        |        | Metric-specific dimensions and notes   |
| M                                       | DETL  | MOTR   |        |        | Motors   |
| M                                       | DETL  | PIPE   |        |        | Piping   |
| M                                       | DETL  | PUMP   |        |        | Pumps and compressors  |
| M                                       | DETL  | STRC   |        |        | Structural support features  |
| M                                       | DETL  | TANK   |        |        | Tanks  |
| M                                       | DETL  | TRAP   |        |        | Traps and drains   |
| M                                       | DETL  | VENT   |        |        | Vents  |
| M                                       | DETL  | VLVE   |        |        | Valves and fittings  |
| M                                       | DETL  | WIRE   |        |        | Electrical wiring  |
| <b>DIAGRAM INFORMATION</b>              |       |        |        |        |  |
| M                                       | DIAG  | GRPH   |        |        | Graphics, gridlines, non-text items  |
| M                                       | DIAG  | INPD   |        |        | Inch-pound-specific dimensions and notes   |
| M                                       | DIAG  | METR   |        |        | Metric-specific dimensions and notes   |
| <b>OTHER DISCIPLINE</b>                 |       |        |        |        |  |
| M                                       | DISC  | INFO   |        |        | Clearances and working space information   |
| <b>DUAL TEMPERATURE SYSTEM</b>          |       |        |        |        |  |
| M                                       | DUAL  | EQPM   |        |        | Equipment  |
| M                                       | DUAL  | PIPE   |        |        | Piping (includes fittings, valves)   |
| <b>DUST AND FUME COLLECTION SYSTEMS</b> |       |        |        |        |  |
| M                                       | DUST  | DUCT   |        |        | Dust and fume ductwork   |
| M                                       | DUST  | EQPM   |        |        | Dust and fume collection equipment   |
| <b>ELEVATIONS</b>                       |       |        |        |        |  |
| M                                       | ELEV  | FIXT   |        |        | Miscellaneous fixtures   |
| M                                       | ELEV  | IDEN   |        |        | Component identification numbers   |
| M                                       | ELEV  | OTLN   |        |        | Building outlines  |
| M                                       | ELEV  | PATT   |        |        | Textures and hatch patterns  |
| M                                       | ELEV  | PFIX   |        |        | Plumbing fixtures  |
| <b>EXHAUST AIR SYSTEM</b>               |       |        |        |        |  |
| M                                       | EXHS  | CDFE   |        |        | Exhaust air ceiling registers and grilles  |
| M                                       | EXHS  | DUCT   |        |        | Exhaust ductwork   |
| M                                       | EXHS  | EQPM   |        |        | Equipment  |
| <b>FLOOR INFORMATION</b>                |       |        |        |        |  |
| M                                       | FLOR  | IDEN   |        |        | Room name, space identification text (copied from Architectural - Floor Plan model file) |
| M                                       | FLOR  | NUMB   |        |        | Room/space identification number and symbol (copied from Architectural -                 |

| Discipline                                     | Major | Minor1 | Minor2 | Status | Description   |
|--|-------|--------|--------|--------|---|
|  |       |        |        |        | Floor Plan model file)  |
| <b>GEOHERMAL HEAT PUMP SYSTEM</b>              |       |        |        |        |   |
| M  | GTHP  | EQPM   |        |        | Equipment   |
| M  | GTHP  | PIPE   |        |        | Piping (includes fittings, valves)  |
| <b>GLYCOL SYSTEM</b>                           |       |        |        |        |   |
| M  | GLYC  | CULV   | LINE   |        | Culvert line  |
| M  | GLYC  | CULV   | SITE   |        | Culvert site  |
| M  | GLYC  | DRAN   | BASN   |        | Deicing drainage basin  |
| M  | GLYC  | DRAN   | DIVD   |        | Deicing drainage divide   |
| M  | GLYC  | EQPM   | COUT   |        | Clean out   |
| M  | GLYC  | EQPM   | DSCH   |        | Discharge point   |
| M  | GLYC  | EQPM   | FLOW   |        | Flow control point  |
| M  | GLYC  | EQPM   | INLT   |        | inlet   |
| M  | GLYC  | EQPM   | LIFT   |        | Lift station  |
| M  | GLYC  | EQPM   | PUMP   |        | pump  |
| M  | GLYC  | EQPM   | VLVE   |        | Valve   |
| M  | GLYC  | FTTG   |        |        | Fitting   |
| M  | GLYC  | JBOX   |        |        | Junction  |
| M  | GLYC  | RESV   |        |        | Reservoir point   |
| M  | GLYC  | REVR   |        |        | Recovery point  |
| M  | GLYC  | SIGN   |        |        | Marker  |
| M  | GLYC  | STAT   | PUMP   |        | Pump station  |
| M  | GLYC  | TANK   |        |        | Tank  |
| M  | GLYC  | VALT   |        |        | Vault   |
| <b>HIGH TEMPERATURE / CHILLED WATER SYSTEM</b> |       |        |        |        |   |
| M  | HTCW  | PIPE   |        | ABND   | Abandoned piping  |
| M  | HTCW  | CHLL   |        |        | Main chilled water piping   |
| M  | HTCW  | CHLP   |        |        | Chilled water plant   |
| M  | HTCW  | CHLS   |        |        | Chilled water service piping  |
| M  | HTCW  | DEVC   |        |        | Rigid anchors, anchor guides, rectifiers, reducers, markers, meters, pumps, regulators, tanks, and valves |
| M  | HTCW  | FLOW   |        |        | Flow direction arrows   |
| M  | HTCW  | FTTG   |        |        | Caps and flanges  |
| M  | HTCW  | HTPL   |        |        | Main high temperature piping  |
| M  | HTCW  | HTPP   |        |        | High temperature water plant  |
| M  | HTCW  | HTPS   |        |        | High temperature service piping   |
| M  | HTCW  | IDEN   |        |        | Identifier tags, symbol modifier, and text  |
| M  | HTCW  | JBOX   |        |        | Junction boxes, manholes, handholes, test boxes   |
| M  | HTCW  | LTPL   |        |        | Main low temperature piping   |
| M  | HTCW  | LTPS   |        |        | Low temperature service piping  |
| M  | HTCW  | PITS   |        |        | Valve pits/vaults, steam pits   |
| M  | HTCW  | PLNT   | IDEN   |        | Identifier tags, symbol modifier, and text  |
| M  | HTCW  | PUMP   |        |        | Pump stations   |
| M  | HTCW  | RTRN   |        |        | Return for all HTCW lines   |
| M  | HTCW  | STML   |        |        | Main steam piping   |
| M  | HTCW  | STMS   |        |        | Steam service piping  |
| M  | HTCW  | STNS   | IDEN   |        | Identifier tags, symbol modifier, and text  |

| Discipline                                 | Major | Minor1 | Minor2 | Status | Description  |
|--|-------|--------|--------|--------|--|
| <b>HVAC SYSTEM</b>                         |       |        |        |        |  |
| M  | HVAC  | ACCS   |        |        | Equipment access doors                               |
| M  | HVAC  | CDFD   |        |        | Ceiling diffusers, registers, and grilles            |
| M  | HVAC  | DAMP   |        |        | Fire and smoke dampers                               |
| M  | HVAC  | EQPM   |        |        | Air system equipment                                 |
| M  | HVAC  | EQPM   | ANCH   |        | Anchor point   |
| M  | HVAC  | EQPM   | ANOD   |        | Anode  |
| M  | HVAC  | EQPM   | ANOT   |        | Anode test station                                   |
| M  | HVAC  | EQPM   | PUMP   |        | Pump   |
| M  | HVAC  | EQPM   | RECT   |        | Rectifier  |
| M  | HVAC  | EQPM   | REGL   |        | Regulator  |
| M  | HVAC  | EQPM   | VLVE   |        | Valve  |
| M  | HVAC  | FDFD   |        |        | Floor diffusers, registers, and grilles              |
| M  | HVAC  | FTTG   |        |        | Fitting  |
| M  | HVAC  | IDEN   |        |        | Duct sizes   |
| M  | HVAC  | JBOX   |        |        | Junction   |
| M  | HVAC  | METR   |        |        | Meters   |
| M  | HVAC  | RETN   |        |        | Return ductwork                                      |
| M  | HVAC  | ROOF   |        |        | Roof mounted HVAC equipment                          |
| M  | HVAC  | SIGN   |        |        | Marker   |
| M  | HVAC  | SUPP   |        |        | Supply ductwork                                      |
| M  | HVAC  | TAGS   |        |        | Diffuser/register/grille tags and air flow arrows    |
| M  | HVAC  | WDFD   |        |        | Wall diffusers, registers, and grilles               |
| <b>HOT WATER HEATING SYSTEM</b>            |       |        |        |        |  |
| M  | HWTR  | EQPM   |        |        | Equipment  |
| M  | HWTR  | PIPE   |        |        | Piping (includes fittings, valves)                   |
| <b>HYDRAULIC SYSTEMS</b>                   |       |        |        |        |  |
| M  | HYDR  | EQPM   |        |        | Hydraulic system equipment                           |
| M  | HYDR  | PIPE   |        |        | Hydraulic system piping                              |
| <b>INSULATING (TRANSFORMER) OIL SYSTEM</b> |       |        |        |        |  |
| M  | INSL  | EQPM   |        |        | Insulating oil equipment                             |
| M  | INSL  | PIPE   |        |        | Insulating oil piping                                |
| <b>LUBRICATION OIL</b>                     |       |        |        |        |  |
| M  | LUBE  | EQPM   |        |        | Lubrication oil equipment                            |
| M  | LUBE  | PIPE   |        |        | Lubrication oil piping                               |
| <b>MACHINE DESIGN</b>                      |       |        |        |        |  |
| M  | MACH  | BASE   |        |        | Machinery bases                                      |
| M  | MACH  | COMP   |        |        | Miscellaneous machinery parts and components         |
| M  | MACH  | EXST   |        |        | Existing machinery                                   |
| M  | MACH  | FAST   |        |        | Fasteners, nuts, and bolts                           |
| M  | MACH  | LROT   |        |        | Large rotating machinery (turbine and pump outlines) |
| M  | MACH  | MOTR   |        |        | Machinery motors                                     |
| M  | MATL  | CRAN   |        |        | Bridge cranes, jib cranes, and monorails             |
| M  | MATL  | HOIS   |        |        | Hoists and hooks                                     |
| M  | MATL  | LIFT   |        |        | Miscellaneous lifting equipment                      |
| <b>PENETRATIONS</b>                        |       |        |        |        |  |

| Discipline                    | Major | Minor1 | Minor2 | Status | Description                        |
|-------------------------------|-------|--------|--------|--------|------------------------------------|
| M                             | PENE  | FLOR   |        |        | Floor penetrations                 |
| M                             | PENE  | ROOF   |        |        | Roof penetrations                  |
| <b>PROCESS PIPING</b>         |       |        |        |        |                                    |
| M                             | PROC  | EQPM   |        |        | Equipment                          |
| M                             | PROC  | PIPE   |        |        | Process piping                     |
| <b>ENERGY RECOVERY SYSTEM</b> |       |        |        |        |                                    |
| M                             | RCOV  | EQPM   |        |        | Equipment                          |
| M                             | RCOV  | PIPE   |        |        | Piping (includes fittings, valves) |
| <b>REFRIDGERATION SYSTEM</b>  |       |        |        |        |                                    |
| M                             | REFG  | EQPM   |        |        | Equipment                          |
| M                             | REFG  | PIPE   |        |        | Piping (includes fittings, valves) |
| <b>RAW WATER PIPING</b>       |       |        |        |        |                                    |
| M                             | RWTR  | EQPM   |        |        | Raw water equipment                |
| M                             | RWTR  | PIPE   |        |        | Raw water piping                   |
| <b>SECTIONS</b>               |       |        |        |        |                                    |
| M                             | SECT  | IDEN   |        |        | Component identification numbers   |
| M                             | SECT  | MBND   |        |        | Material beyond section cut        |
| M                             | SECT  | MCUT   |        |        | Material cut by section            |
| M                             | SECT  | PATT   |        |        | Textures and hatch patterns        |
| <b>STEAM SYSTEM</b>           |       |        |        |        |                                    |
| M                             | STEM  | EQPM   |        |        | Equipment                          |
| M                             | STEM  | PIPE   |        |        | Steam piping                       |

## Common Layer Names – Plumbing (P)

| Discipline                  | Major | Minor1 | Minor2 | Status | Description   |
|-----------------------------|-------|--------|--------|--------|---|
| <b>GENERAL INFORMATION</b>  |       |        |        |        |   |
| P                           | ANNO  | DIMS   |        |        | Witness/extension lines, dimension terminators, dimension text                                  |
| P                           | ANNO  | KEYN   |        |        | Reference keynotes with associated leaders  |
| P                           | ANNO  | NOTE   |        |        | General notes and general remarks   |
| P                           | ANNO  | NPLT   |        |        | Non-plotting graphic information  |
| P                           | ANNO  | PATT   |        |        | Miscellaneous patterning and hatching   |
| P                           | ANNO  | REFR   |        |        | Reference files (AutoCAD users only, see Chapter 4)   |
| P                           | ANNO  | SYMB   |        |        | Reference bubbles, matchlines and breaklines  |
| P                           | ANNO  | TEXT   |        |        | Detail title text, text and associated leaders, notes   |
| <b>COMPRESSED AIR</b>       |       |        |        |        |   |
| P                           | CPMA  | EQPM   |        |        | Equipment   |
| P                           | CPMA  | PIPE   |        |        | Piping  |
| <b>DETAIL INFORMATION</b>   |       |        |        |        |   |
| P                           | DETL  | GRPH   |        |        | Graphics, gridlines, non-text items   |
| P                           | DETL  | INPD   |        |        | Inch-pound-specific dimensions and notes  |
| P                           | DETL  | METR   |        |        | Metric-specific dimensions and notes  |
| <b>DIAGRAM INFORMATION</b>  |       |        |        |        |   |
| P                           | DIAG  | GRPH   |        |        | Graphics, gridlines, non-text items   |
| P                           | DIAG  | INPD   |        |        | Inch-pound-specific dimensions and notes  |
| P                           | DIAG  | METR   |        |        | Metric-specific dimensions and notes  |
| <b>OTHER DISCIPLINE</b>     |       |        |        |        |   |
| P                           | DISC  | INFO   |        |        | Information and notes for other disciplines   |
| <b>DOMESTIC WATER</b>       |       |        |        |        |   |
| P                           | DOMW  | ACCS   |        |        | Equipment access doors  |
| P                           | DOMW  | CPIP   |        |        | Domestic cold water piping  |
| P                           | DOMW  | EQPM   |        |        | Hot and cold water equipment  |
| P                           | DOMW  | FPIP   |        |        | Domestic filtered water piping  |
| P                           | DOMW  | HPIP   |        |        | Domestic hot water piping   |
| P                           | DOMW  | RISR   |        |        | Domestic hot and cold water risers  |
| P                           | DOMW  | RPIP   |        |        | Domestic hot water recirculation piping   |
| <b>FLOOR INFORMATION</b>    |       |        |        |        |   |
| P                           | FLOR  | IDEN   |        |        | Room name, space identification text (copied from Architectural - Floor Plan model file)        |
| P                           | FLOR  | NUMB   |        |        | Room/space identification number and symbol (copied from Architectural - Floor Plan model file) |
| <b>LIQUID FUEL</b>          |       |        |        |        |   |
| P                           | FUEL  | EQPM   |        |        | Equipment   |
| P                           | FUEL  | FGAS   |        |        | Fuel gas piping   |
| P                           | FUEL  | FOIL   |        |        | Fuel oil piping   |
| P                           | FUEL  | NGAS   |        |        | Natural gas piping  |
| <b>LIQUID GAS</b>           |       |        |        |        |   |
| P                           | LGAS  | EQPM   |        |        | Equipment   |
| P                           | LGAS  | PIPE   |        |        | Piping  |
| <b>MEDICAL / DENTAL GAS</b> |       |        |        |        |   |

| Discipline                   | Major | Minor1 | Minor2 | Status | Description  |
|------------------------------|-------|--------|--------|--------|--|
| P                            | MDGS  | EQPM   |        |        | Medical/Dental Gas Equipment                         |
| P                            | MDGS  | PIPE   |        |        | Medical/Dental Gas Piping                            |
| <b>PENETRATIONS</b>          |       |        |        |        |  |
| P                            | PENE  | FLOR   |        |        | Floor penetrations                                   |
| P                            | PENE  | ROOF   |        |        | Roof penetrations                                    |
| <b>SANITARY DRAINAGE</b>     |       |        |        |        |  |
| P                            | SANR  | COND   |        |        | Sanitary Condensate piping                           |
| P                            | SANR  | EQPM   |        |        | Sanitary Equipment (e.g., sand/oil/water separators) |
| P                            | SANR  | FIXT   |        |        | Sanitary Plumbing fixtures                           |
| P                            | SANR  | FLDR   |        |        | Sanitary Floor drains, sinks, and cleanouts          |
| P                            | SANR  | PIPE   |        |        | Sanitary Piping                                      |
| P                            | SANR  | RISR   |        |        | Sanitary risers                                      |
| P                            | SANR  | VENT   |        |        | Sanitary Vent piping                                 |
| <b>STORM DRAINAGE SYSTEM</b> |       |        |        |        |  |
| P                            | STRM  | PIPE   |        |        | Storm drain piping                                   |
| P                            | STRM  | RFDR   |        |        | Roof drains  |
| P                            | STRM  | RISR   |        |        | Storm drain risers                                   |

## Common Layer Names – Structural (S)

| Discipline                 | Major | Minor1 | Minor2 | Status | Description   |
|----------------------------|-------|--------|--------|--------|---|
| <b>GENERAL INFORMATION</b> |       |        |        |        |   |
| S                          | ANNO  | DIMS   |        |        | Witness/extension lines, dimension terminators, dimension text, welding symbols |
| S                          | ANNO  | KEYN   |        |        | Reference keynotes with associated leaders                                      |
| S                          | ANNO  | NOTE   |        |        | General notes and general remarks   |
| S                          | ANNO  | NPLT   |        |        | Non-plotting graphic information  |
| S                          | ANNO  | PATT   |        |        | Miscellaneous patterning and hatching   |
| S                          | ANNO  | REFR   |        |        | Reference files (AutoCAD users only, see Chapter 4)                             |
| S                          | ANNO  | SYMB   |        |        | Reference bubbles, matchlines and breaklines                                    |
| S                          | ANNO  | TEXT   |        |        | Miscellaneous text and callouts with associated leaders                         |
| <b>BEAMS</b>               |       |        |        |        |   |
| S                          | BEAM  | CNTR   |        |        | Beam centerlines  |
| S                          | BEAM  | PRIM   |        |        | Primary beams, girders  |
| S                          | BEAM  | SECD   |        |        | Secondary beams, girders  |
| <b>BRACING</b>             |       |        |        |        |   |
| S                          | BRAC  | LATL   |        |        | Lateral bracing   |
| S                          | BRAC  | SHEA   |        |        | Shear walls   |
| S                          | BRAC  | VERT   |        |        | Vertical bracing  |
| <b>COLUMNS</b>             |       |        |        |        |   |
| S                          | COLS  | CNTR   |        |        | Column centerlines/working lines  |
| S                          | COLS  | MSC1   |        |        | Miscellaneous columns (Type 1)  |
| S                          | COLS  | MSC2   |        |        | Miscellaneous columns (Type 2)  |
| S                          | COLS  | MSC3   |        |        | Miscellaneous columns (Type 3)  |
| S                          | COLS  | MSC4   |        |        | Miscellaneous columns (Type 4)  |
| S                          | COLS  | PRIM   |        |        | Primary columns   |
| S                          | COLS  | SCND   |        |        | Secondary columns   |
| <b>DECKING</b>             |       |        |        |        |   |
| S                          | DECK  | FLOR   |        |        | Floor deck  |
| S                          | DECK  | OPEN   |        |        | Openings and penetrations   |
| S                          | DECK  | RBAR   |        |        | Deck/slab reinforcing   |
| S                          | DECK  | ROOF   |        |        | Roof deck   |
| <b>DETAIL INFORMATION</b>  |       |        |        |        |   |
| S                          | DETL  | GRPH   |        |        | Graphics, gridlines, non-text items   |
| S                          | DETL  | INPD   |        |        | Inch-pound-specific dimensions and notes  |
| S                          | DETL  | METR   |        |        | Metric-specific dimensions and notes  |
| <b>FEATURES</b>            |       |        |        |        |   |
| S                          | FEAT  | CMUW   |        |        | CMU outline (no patterning)   |
| S                          | FEAT  | CNTR   |        |        | Feature centerlines   |
| S                          | FEAT  | CONC   |        |        | Concrete outline (no patterning)  |
| S                          | FEAT  | GENL   |        |        | General features (miscellaneous items)  |
| S                          | FEAT  | WOOD   |        |        | Wood outline (no patterning)  |
| <b>FOUNDATIONS</b>         |       |        |        |        |   |
| S                          | FNDN  | CNTR   |        |        | Beam centerlines  |
| S                          | FNDN  | FTNG   |        |        | Footings  |

| Discipline             | Major | Minor1 | Minor2 | Status | Description  |
|------------------------|-------|--------|--------|--------|--|
| S                      | FNDN  | GRBM   |        |        | Grade beams  |
| S                      | FNDN  | PEDS   |        |        | Column pedestals   |
| S                      | FNDN  | PILE   |        |        | Piles (steel sheet, concrete, wood), piers, caisson piers, drilled piers |
| S                      | FNDN  | RBAR   |        |        | Foundation reinforcing   |
| <b>GRATING</b>         |       |        |        |        |  |
| S                      | GRAT  | ELEV   |        |        | Elevated grating (catwalks)  |
| S                      | GRAT  | FLOR   |        |        | Floor grating  |
| S                      | GRAT  | SUBS   |        |        | Subsurface grating   |
| <b>GRADE LINES</b>     |       |        |        |        |  |
| S                      | GRDL  | EXGL   |        |        | Existing ground  |
| S                      | GRDL  | FNGR   |        |        | Finished grade   |
| S                      | GRDL  | WATR   |        |        | Water surface  |
| <b>GRIDS</b>           |       |        |        |        |  |
| S                      | GRID  | HORZ   |        |        | Primary grid lines (horizontal)  |
| S                      | GRID  | IDEN   |        |        | Column I.D. tags   |
| S                      | GRID  | MSC    |        |        | Miscellaneous grid lines (Type 1)  |
| S                      | GRID  | MSC2   |        |        | Miscellaneous grid lines (Type 2)  |
| S                      | GRID  | MSC3   |        |        | Miscellaneous grid lines (Type 3)  |
| S                      | GRID  | MSC4   |        |        | Miscellaneous grid lines (Type 4)  |
| S                      | GRID  | VERT   |        |        | Primary grid lines (vertical)  |
| <b>JOINTS</b>          |       |        |        |        |  |
| S                      | JOIN  | CNST   |        |        | Construction joints  |
| S                      | JOIN  | CTRL   |        |        | Control/expansion joints   |
| <b>JOISTS</b>          |       |        |        |        |  |
| S                      | JOIS  | BRDG   |        |        | Bridging   |
| S                      | JOIS  | PRIM   |        |        | Primary joists   |
| S                      | JOIS  | SECD   |        |        | Secondary joists   |
| <b>METAL</b>           |       |        |        |        |  |
| S                      | METL  | MISC   |        |        | Miscellaneous metal  |
| <b>OPENINGS</b>        |       |        |        |        |  |
| S                      | OPEN  | MISC   |        |        | Openings and penetrations  |
| <b>PADS</b>            |       |        |        |        |  |
| S                      | PADS  | EQPM   |        |        | Equipment pads   |
| <b>PIPING</b>          |       |        |        |        |  |
| S                      | PIPE  | GATE   |        |        | Gates (flap gates, sluice gates, other)                                  |
| S                      | PIPE  | MISC   |        |        | Miscellaneous piping/culverts  |
| S                      | PIPE  | TRSH   |        |        | Trash racks  |
| <b>REINFORCEMENT</b>   |       |        |        |        |  |
| S                      | REIN  | RBAR   |        |        | Rebar, welded wire mesh  |
| <b>SAFETY FEATURES</b> |       |        |        |        |  |
| S                      | SAFE  | FENC   |        |        | Fencing  |
| S                      | SAFE  | HRAL   |        |        | Handrails  |
| <b>SECTIONS</b>        |       |        |        |        |  |
| S                      | SECT  | CMUW   |        |        | CMU outline (no patterning)  |
| S                      | SECT  | CNTR   |        |        | Centerlines  |
| S                      | SECT  | CONC   |        |        | Concrete outline (no patterning)   |

| Discipline       | Major | Minor1 | Minor2 | Status | Description  |
|------------------|-------|--------|--------|--------|--|
| S                | SECT  | FNGR   |        |        | Finished grade                                       |
| S                | SECT  | GENF   |        |        | General features (miscellaneous items)               |
| S                | SECT  | JOIN   |        |        | Joint materials (e.g., felt), vapor barrier, other   |
| S                | SECT  | MISC   |        |        | Miscellaneous fasteners, anchor bolts, supports      |
| S                | SECT  | PRIM   |        |        | Primary beams/girders outlines                       |
| S                | SECT  | RBAR   |        |        | Rebar, welded wire mesh                              |
| S                | SECT  | SHPS   |        |        | Miscellaneous shapes, plates                         |
| S                | SECT  | STLS   |        |        | Wide flange shapes, plates, open web joists, decking |
| S                | SECT  | WOOD   |        |        | Wood outline (no patterning)                         |
| <b>SLABS</b>     |       |        |        |        |  |
| S                | SLAB  | EDGE   |        |        | Edge of slab   |
| S                | SLAB  | OPEN   |        |        | Openings and penetrations                            |
| S                | SLAB  | RBAR   |        |        | Slab reinforcing                                     |
| <b>SUPPORTS</b>  |       |        |        |        |  |
| S                | SPPT  | MISC   |        |        | Miscellaneous fasteners, anchor bolts, supports      |
| S                | SPPT  | SHPS   |        |        | Miscellaneous shapes, plates                         |
| <b>STAIRWAYS</b> |       |        |        |        |  |
| S                | STRS  | FRAM   |        |        | Stair/elevator framing                               |
| S                | STRS  | LADD   |        |        | Ladders, ladder handrails, safety guard, grab bars   |
| S                | STRS  | RBAR   |        |        | Stair reinforcing                                    |
| <b>TRUSSES</b>   |       |        |        |        |  |
| S                | TRUS  | PRIM   |        |        | Primary trusses                                      |
| S                | TRUS  | SECD   |        |        | Secondary trusses                                    |
| <b>WALLS</b>     |       |        |        |        |  |
| S                | WALL  | CONC   |        |        | Concrete walls                                       |
| S                | WALL  | HBAR   |        |        | Horizontal/secondary reinforcement                   |
| S                | WALL  | LOAD   |        |        | Load bearing CMU walls                               |
| S                | WALL  | NONL   |        |        | Non-load bearing CMU walls                           |
| S                | WALL  | OPEN   |        |        | Openings and penetrations                            |
| S                | WALL  | OTLN   |        |        | Wall outline   |
| S                | WALL  | PCST   |        |        | Precast walls  |
| S                | WALL  | RBAR   |        |        | Wall reinforcing                                     |
| S                | WALL  | STUD   |        |        | Stud walls   |
| S                | WALL  | VBAR   |        |        | Vertical/primary reinforcement                       |

## Common Layer Names - Telecommunications (T)

| Discipline                          | Major | Minor1 | Minor2 | Status | Description  |
|-------------------------------------|-------|--------|--------|--------|--|
| <b>ALARM SYSTEMS</b>                |       |        |        |        |  |
| T                                   | ALRM  | EQPM   | SECU   |        | Security Alarm Equipment                                       |
| T                                   | ALRM  | IDEN   |        |        | Identifier tags, symbol modifier, and text                     |
| T                                   | ALRM  | SYST   |        |        | Miscellaneous alarm system symbols                             |
| <b>GENERAL INFORMATION</b>          |       |        |        |        |  |
| T                                   | ANNO  | DIMS   |        |        | Witness/extension lines, dimension terminators, dimension text |
| T                                   | ANNO  | KEYN   |        |        | Reference keynotes with associated leaders                     |
| T                                   | ANNO  | NOTE   |        |        | General notes and general remarks                              |
| T                                   | ANNO  | NPLT   |        |        | Non-plotting graphic information                               |
| T                                   | ANNO  | PATT   |        |        | Miscellaneous patterning and hatching                          |
| T                                   | ANNO  | REFR   |        |        | Reference files (AutoCAD users only, see Chapter 4)            |
| T                                   | ANNO  | SYMB   |        |        | Miscellaneous symbols  |
| T                                   | ANNO  | TEXT   |        |        | Miscellaneous text and callouts with associated leaders        |
| <b>CABLE SYSTEMS</b>                |       |        |        |        |  |
| T                                   | CABL  | COAX   |        |        | Coax cable   |
| T                                   | CABL  | FIBR   |        |        | Fiber optics cable   |
| T                                   | CABL  | IDEN   |        |        | Cable identifiers  |
| T                                   | CABL  | MULT   |        |        | Multi-conductor cable  |
| T                                   | CABL  | TRAY   |        |        | Cable trays and wireways                                       |
| <b>CLOCK SYSTEMS</b>                |       |        |        |        |  |
| T                                   | CLOK  | IDEN   |        |        | Identifier tags, symbol modifier, and text                     |
| T                                   | CLOK  | SYST   |        |        | Clock system symbols   |
| <b>COMMUNICATIONS</b>               |       |        |        |        |  |
| T                                   | COMM  | ANTN   |        |        | Telecommunications antennae                                    |
| T                                   | COMM  | APSY   |        |        | Audio paging system  |
| T                                   | COMM  | ATMS   |        |        | Advanced traffic management system                             |
| T                                   | COMM  | AVID   |        |        | Automatic vehicle identification system                        |
| T                                   | COMM  | BIDS   |        |        | Baggage information display system                             |
| T                                   | COMM  | FIDS   |        |        | Flight information display system                              |
| T                                   | COMM  | GIDS   |        |        | Gate information display system                                |
| T                                   | COMM  | JBOX   |        |        | Junction boxes   |
| T                                   | COMM  | PMRC   |        |        | Parking management and revenue control                         |
| T                                   | COMM  | VPSY   |        |        | Visual paging system   |
| <b>DIAGRAM INFORMATION</b>          |       |        |        |        |  |
| T                                   | DIAG  | GRPH   |        |        | Graphics, gridlines, non-text items                            |
| T                                   | DIAG  | IDEN   |        |        | Identifier tags, symbol modifier and text                      |
| T                                   | DIAG  | INPD   |        |        | Inch-pound-specific dimensions and notes                       |
| T                                   | DIAG  | METR   |        |        | Metric-specific dimensions and notes                           |
| <b>OTHER DISCIPLINE INFORMATION</b> |       |        |        |        |  |
| T                                   | DISC  | INFO   |        |        | Information and notes for other disciplines                    |
| <b>EQUIPMENT</b>                    |       |        |        |        |  |
| T                                   | EQPM  | COMB   |        |        | Distribution equipment for both copper and fiber optics        |
| T                                   | EQPM  | COPP   |        |        | Distribution equipment for copper                              |

| Discipline                | Major | Minor1 | Minor2 | Status | Description   |
|---------------------------|-------|--------|--------|--------|---|
| T                         | EQPM  | FIBR   |        |        | Distribution equipment for fiber optic  |
| T                         | EQPM  | OTHR   |        |        | Other telecommunications equipment  |
| T                         | EQPM  | RELA   |        |        | Relays, resistors, capacitors, and inducers   |
| <b>FLOOR INFORMATION</b>  |       |        |        |        |   |
| T                         | FLOR  | IDEN   |        |        | Room name, space identification text (copied from Architectural - Floor Plan model file)        |
| T                         | FLOR  | NUMB   |        |        | Room/space identification number and symbol (copied from Architectural - Floor Plan model file) |
| <b>JACKS</b>              |       |        |        |        |   |
| T                         | JACK  | COMB   |        |        | Combination telephone and data/LAN jacks  |
| T                         | JACK  | DATA   |        |        | Data/LAN jacks  |
| T                         | JACK  | IDEN   |        |        | Identifier tags, symbol modifier, and text  |
| T                         | JACK  | PHON   |        |        | Telephone jacks   |
| <b>NURSE CALL SYSTEMS</b> |       |        |        |        |   |
| T                         | NURS  | IDEN   |        |        | Identifier tags, symbol modifier, and text  |
| T                         | NURS  | SYST   |        |        | Nurse call system symbols   |
| <b>SOUND SYSTEMS</b>      |       |        |        |        |   |
| T                         | SOUN  | IDEN   |        |        | Identifier tags, symbol modifier, and text  |
| T                         | SOUN  | SYST   |        |        | Sound system symbols  |

## Common Layer Names – Survey (V)

| Discipline                 | Major | Minor1 | Minor2 | Status | Description   |
|----------------------------|-------|--------|--------|--------|---|
| <b>GENERAL INFORMATION</b> |       |        |        |        |   |
| V                          | ANNO  | DIMS   |        |        | Witness/extension lines, dimension terminators, dimension text                          |
| V                          | ANNO  | KEYN   |        |        | Reference keynotes with associated leaders  |
| V                          | ANNO  | NOTE   |        |        | General notes and general remarks   |
| V                          | ANNO  | NPLT   |        |        | Non-plotting graphic information  |
| V                          | ANNO  | PATT   |        |        | Miscellaneous patterning and hatching   |
| V                          | ANNO  | REFR   |        |        | Reference files (AutoCAD users only, see Chapter 4)                                     |
| V                          | ANNO  | SYMB   |        |        | Miscellaneous symbols   |
| V                          | ANNO  | TEXT   |        |        | Miscellaneous text and callouts with associated leaders                                 |
| <b>AERIAL SURVEY</b>       |       |        |        |        |   |
| V                          | AERI  | BNDY   |        |        | Aerial photography boundaries   |
| V                          | AERI  | INDX   |        |        | Aerial photo index  |
| V                          | AERI  | PATH   |        |        | Aerial flight lines/paths   |
| <b>AIFIELD</b>             |       |        |        |        |   |
| V                          | AIRF  | BCNS   | IDEN   |        | Identifier tags, symbol modifiers, and text   |
| V                          | AIRF  | BCNS   | MISC   |        | Miscellaneous navaids-windcones and beacons   |
| V                          | AIRF  | BCNS   | STRB   |        | Strobe beacons  |
| V                          | AIRF  | CIRC   | CTRL   |        | Control and monitoring circuits   |
| V                          | AIRF  | CIRC   | IDEN   |        | Circuit identifier tags, symbol modifier, and text                                      |
| V                          | AIRF  | CIRC   | MULT   |        | Multiple circuits   |
| V                          | AIRF  | CIRC   | SERS   |        | Series circuits   |
| V                          | AIRF  | DEVC   |        |        | Capacitors, voltage regulators, motors, buses, generators, meters, grounds, and markers |
| V                          | AIRF  | DUCT   |        |        | Ductbanks   |
| V                          | AIRF  | IDEN   |        |        | Airfield annotation   |
| V                          | AIRF  | JBOX   |        |        | Junction boxes, pull boxes, manholes, handholes, pedestals, splices                     |
| V                          | AIRF  | LITE   | APPR   |        | Approach lights   |
| V                          | AIRF  | LITE   | DIST   |        | Distance and arresting gear markers   |
| V                          | AIRF  | LITE   | LANE   |        | Hoverlane, taxilane and helipad lights  |
| V                          | AIRF  | LITE   | OBST   |        | Obstruction lights  |
| V                          | AIRF  | LITE   | RUNW   |        | Runway lights   |
| V                          | AIRF  | LITE   | SIGN   |        | Taxiway guidance signs  |
| V                          | AIRF  | LITE   | TAXI   |        | Taxiway lights  |
| V                          | AIRF  | LITE   | THRS   |        | Threshold lights  |
| V                          | AIRF  | VALT   |        |        | Airfield lighting vaults  |
| <b>ALIGNMENTS</b>          |       |        |        |        |   |
| V                          | ALGN  | DATA   |        |        | Alignment coordinates and curve data  |
| V                          | ALGN  | LINE   |        |        | Alignments  |
| V                          | ALGN  | MRKG   |        |        | Alignment tick marks  |
| V                          | ALGN  | STAT   |        |        | Alignment stationing and tick marks   |
| <b>BUILDINGS</b>           |       |        |        |        |   |
| V                          | BLDG  | IDEN   |        |        | Building and other structure annotation   |
| V                          | BLDG  | OTLN   |        |        | Buildings and other structures outline  |
| V                          | BLDG  | OVHD   |        |        | Building overhangs  |

| Discipline                        | Major | Minor1 | Minor2 | Status | Description   |
|-----------------------------------|-------|--------|--------|--------|---|
| <b>CATHODIC PROTECTION SYSTEM</b> |       |        |        |        |   |
| V                                 | CATH  | ANOD   |        |        | Sacrificial anode system  |
| V                                 | CATH  | CURR   |        |        | Impress current system  |
| V                                 | CATH  | IDEN   |        |        | Identifier tags, symbol modifier, and text  |
| V                                 | CATH  | TEST   |        |        | Test stations   |
| <b>CHANNELS</b>                   |       |        |        |        |   |
| V                                 | CHAN  | AIDS   |        |        | Navigation aids and text  |
| V                                 | CHAN  | CNTR   |        |        | Channel centerline and survey report lines  |
| V                                 | CHAN  | CNTR   | IDEN   |        | Channel centerline and survey report lines - annotation   |
| V                                 | CHAN  | DACL   |        |        | De-authorized channel limits, anchorages, etc.  |
| V                                 | CHAN  | DACL   | IDEN   |        | De-authorized channel limits, anchorages, etc. - annotation   |
| V                                 | CHAN  | IDEN   |        |        | Channel limits, anchorages, turning basins, disposal areas, etc. - annotation                                 |
| V                                 | CHAN  | LIMT   |        |        | Channel limits, anchorages, turning basins, disposal areas, etc.  |
| <b>CIRCUITS</b>                   |       |        |        |        |   |
| V                                 | CIRC  | CTRL   |        |        | Control and monitoring circuits   |
| V                                 | CIRC  | IDEN   |        |        | Identifier tags, symbol modifier, and text  |
| V                                 | CIRC  | MULT   |        |        | Multiple circuits   |
| V                                 | CIRC  | SERS   |        |        | Series circuits   |
| <b>COMMUNICATIONS</b>             |       |        |        |        |   |
| V                                 | COMM  | EQPM   |        |        | Other communications distribution equipment   |
| V                                 | COMM  | JBOX   |        |        | Communication junction boxes, pull boxes, manholes, handholes, pedestals, splices                             |
| V                                 | COMM  | OVHD   |        |        | Overhead communications/telephone lines   |
| V                                 | COMM  | OVHD   | IDEN   |        | Identifier tags, symbol modifier and text   |
| V                                 | COMM  | UNDR   |        |        | Underground communications/telephone lines  |
| V                                 | COMM  | UNDR   | IDEN   |        | Identifier tags, symbol modifier and text   |
| V                                 | COMM  | VALT   |        |        | Communications vault  |
| <b>CONTROL</b>                    |       |        |        |        |   |
| V                                 | CTRL  | BMRK   |        |        | Benchmarks  |
| V                                 | CTRL  | GRID   |        |        | Grid  |
| V                                 | CTRL  | HCPT   |        |        | Horizontal control points   |
| V                                 | CTRL  | IDEN   |        |        | Control point annotator   |
| V                                 | CTRL  | TRAV   |        |        | Traverse points   |
| V                                 | CTRL  | VCPT   |        |        | Vertical control points   |
| <b>DITCHES</b>                    |       |        |        |        |   |
| V                                 | DTCH  | BOTD   |        |        | Bottom of ditch   |
| V                                 | DTCH  | CNTR   |        |        | Centerline of ditch   |
| V                                 | DTCH  | EWAT   |        |        | Edge of water   |
| V                                 | DTCH  | IDEN   |        |        | Ditch annotator   |
| V                                 | DTCH  | TOPD   |        |        | Top of ditch  |
| <b>DOMESTIC WATER</b>             |       |        |        |        |   |
| V                                 | DOMW  | PIPE   |        | ABND   | Abandoned piping  |
| V                                 | DOMW  | DEVC   |        |        | Connectors, faucets, reducers, regulators, vents, intake points, tanks, taps, backflow preventers, and valves |
| V                                 | DOMW  | FIRE   |        |        | Fire lines  |
| V                                 | DOMW  | FTTG   |        |        | Caps, cleanouts, crosses, and tees  |
| V                                 | DOMW  | HYDR   |        |        | Hydrants  |

| Discipline         | Major | Minor1 | Minor2 | Status | Description   |
|--------------------|-------|--------|--------|--------|---|
| V                  | DOMW  | IDEN   |        |        | Identifier tags, symbol modifier, and text  |
| V                  | DOMW  | MAIN   |        |        | Main domestic water piping  |
| V                  | DOMW  | METR   |        |        | Meters  |
| V                  | DOMW  | NHYD   |        |        | Non-potable hydrants/flushing hydrants  |
| V                  | DOMW  | NPOT   |        |        | Non-potable water piping  |
| V                  | DOMW  | PITS   | IDEN   |        | Identifier tags, symbol modifier, and text  |
| V                  | DOMW  | PUMP   |        |        | Booster pump stations   |
| V                  | DOMW  | REDC   |        |        | Pressure reducing stations  |
| V                  | DOMW  | RSVR   |        |        | Reservoirs  |
| V                  | DOMW  | RSVR   | IDEN   |        | Identifier tags, symbol modifier, and text  |
| V                  | DOMW  | SERV   |        |        | Domestic water service piping   |
| V                  | DOMW  | SIGN   |        |        | Surface markers/signs   |
| V                  | DOMW  | STNS   | IDEN   |        | Identifier tags, symbol modifier, and text  |
| V                  | DOMW  | TANK   |        |        | Water storage tanks   |
| V                  | DOMW  | VENT   |        |        | Vent pits   |
| V                  | DOMW  | VLVE   |        |        | Valve pits/vaults   |
| V                  | DOMW  | WELL   |        |        | Water well houses   |
| <b>DUCTBANKS</b>   |       |        |        |        |   |
| V                  | DUCT  | MULT   |        |        | Ductbank  |
| V                  | DUCT  | MULT   | IDEN   |        | Identifier tags, symbol modifier and text   |
| <b>ELECTRICAL</b>  |       |        |        |        |   |
| V                  | ELEC  | DEVC   |        |        | Capacitors, voltage regulators, motors, buses, generators, meters, grounds, and markers   |
| V                  | ELEC  | JBOX   |        |        | Junction boxes, pull boxes, manholes, handholes, pedestals, splices   |
| V                  | ELEC  | SUBS   |        |        | Other substation equipment  |
| V                  | ELEC  | SWCH   |        |        | Fuse cutouts, pole mounted switches, circuit breakers, gang operated disconnects, reclosers, cubicle switches                       |
| V                  | ELEC  | VALT   |        |        | Vaults  |
| <b>LIQUID FUEL</b> |       |        |        |        |   |
| V                  | FUEL  | PIPE   |        | ABND   | Abandoned piping  |
| V                  | FUEL  | DEFL   |        |        | Defueling piping  |
| V                  | FUEL  | DEVC   |        |        | Air eliminators, filter strainers, hydrant fill points, line vents, markers, oil/water separators, reducers, regulators, and valves |
| V                  | FUEL  | FLOW   |        |        | Flow direction arrows   |
| V                  | FUEL  | FTTG   |        |        | Caps, crosses, and tees   |
| V                  | FUEL  | HYDR   |        |        | Hydrant control pits  |
| V                  | FUEL  | IDEN   |        |        | Identifier tags, symbol modifier, and text  |
| V                  | FUEL  | JBOX   |        |        | Junction boxes, manholes, handholes, test boxes   |
| V                  | FUEL  | MAIN   |        |        | Main fuel piping  |
| V                  | FUEL  | METR   |        |        | Meters  |
| V                  | FUEL  | PITS   | IDEN   |        | Identifier tags, symbol modifier, and text  |
| V                  | FUEL  | PUMP   |        |        | Booster pump stations   |
| V                  | FUEL  | SERV   |        |        | Service piping  |
| V                  | FUEL  | STNS   | IDEN   |        | Identifier tags, symbol modifier, and text  |
| V                  | FUEL  | TANK   |        |        | Fuel tanks  |
| V                  | FUEL  | TRCH   |        |        | Fuel line trench  |
| V                  | FUEL  | VENT   |        |        | Vent pits   |

| Discipline                              | Major | Minor1 | Minor2 | Status | Description   |
|---|-------|--------|--------|--------|---|
| V                                       | FUEL  | VLVE   |        |        | Valve pits  |
| <b>GRADE LINEWORK</b>                   |       |        |        |        |   |
| V                                       | GRAD  | EXST   |        |        | Existing grade, ground line   |
| V                                       | GRAD  | FNSH   |        |        | Finished grade  |
| V                                       | GRID  | FRAM   |        |        | Frame   |
| V                                       | GRID  | MAJR   |        |        | Major grid lines  |
| V                                       | GRID  | MINR   |        |        | Minor grid lines  |
| V                                       | GRID  | TEXT   |        |        | Border text, annotation   |
| V                                       | GTHP  | EQPM   |        |        | Equipment   |
| V                                       | GTHP  | PIPE   |        |        | Piping (includes fittings, valves)  |
| <b>HIGH TEMPERATURE / CHILLED WATER</b> |       |        |        |        |   |
| V                                       | HTCW  | PIPE   |        | ABND   | Abandoned piping  |
| V                                       | HTCW  | CHLL   |        |        | Main chilled water piping   |
| V                                       | HTCW  | CHLP   |        |        | Chilled water plant   |
| V                                       | HTCW  | CHLS   |        |        | Chilled water service piping  |
| V                                       | HTCW  | DEVC   |        |        | Rigid anchors, anchor guides, rectifiers, reducers, markers, meters, pumps, regulators, tanks, and valves |
| V                                       | HTCW  | FLOW   |        |        | Flow direction arrows   |
| V                                       | HTCW  | FTTG   |        |        | Caps and flanges  |
| V                                       | HTCW  | HTPL   |        |        | Main high temperature piping  |
| V                                       | HTCW  | HTPP   |        |        | High temperature water plant  |
| V                                       | HTCW  | HTPS   |        |        | High temperature service piping   |
| V                                       | HTCW  | IDEN   |        |        | Identifier tags, symbol modifier, and text  |
| V                                       | HTCW  | JBOX   |        |        | Junction boxes, manholes, handholes, test boxes   |
| V                                       | HTCW  | LTPL   |        |        | Main low temperature piping   |
| V                                       | HTCW  | LTPS   |        |        | Low temperature service piping  |
| V                                       | HTCW  | PITS   |        |        | Valve pits/vaults, steam pits   |
| V                                       | HTCW  | PLNT   | IDEN   |        | Identifier tags, symbol modifier, and text  |
| V                                       | HTCW  | PUMP   |        |        | Pump stations   |
| V                                       | HTCW  | RTRN   |        |        | Return for all HTCW lines   |
| V                                       | HTCW  | STML   |        |        | Main steam piping   |
| V                                       | HTCW  | STMS   |        |        | Steam service piping  |
| V                                       | HTCW  | STNS   | IDEN   |        | Identifier tags, symbol modifier, and text  |
| <b>INDUSTRIAL WASTE</b>                 |       |        |        |        |   |
| V                                       | INDW  | PIPE   |        | ABND   | Abandoned piping  |
| V                                       | INDW  | DEVC   |        |        | Grit chambers, meters, flumes, neutralizers, oil/water separators, ejectors, tanks, and valves            |
| V                                       | INDW  | FLOW   |        |        | Flow direction arrows   |
| V                                       | INDW  | FTTG   |        |        | Caps and cleanouts  |
| V                                       | INDW  | IDEN   |        |        | Identifier tags, symbol modifier, and text  |
| V                                       | INDW  | JBOX   |        |        | Junction boxes and manholes   |
| V                                       | INDW  | LAGN   |        |        | Lagoons   |
| V                                       | INDW  | LIFT   |        |        | Lift stations   |
| V                                       | INDW  | MAIN   |        |        | Main industrial waste water piping  |
| V                                       | INDW  | PLNT   |        |        | Treatment plants  |
| V                                       | INDW  | RSVR   | IDEN   |        | Identifier tags, symbol modifier, and text  |
| V                                       | INDW  | SERV   |        |        | Industrial waste water service piping   |

| Discipline                       | Major | Minor1 | Minor2 | Status | Description  |
|----------------------------------|-------|--------|--------|--------|--|
| V                                | INDW  | SIGN   |        |        | Surface markers/signs  |
| V                                | INDW  | STNS   | IDEN   |        | Identifier tags, symbol modifier, and text   |
| <b>LIGHTS</b>                    |       |        |        |        |  |
| V                                | LITE  | APPR   |        |        | Approach lights  |
| V                                | LITE  | DIST   |        |        | Distance and arresting gear markers  |
| V                                | LITE  | FIXT   |        |        | Exterior Lights  |
| V                                | LITE  | FIXT   | IDEN   |        | Identifier tags, symbol modifier, and text   |
| V                                | LITE  | LANE   |        |        | Hoverlane, taxilane, and helipad lights  |
| V                                | LITE  | OBST   |        |        | Obstruction lights   |
| V                                | LITE  | RUNW   |        |        | Runway lights  |
| V                                | LITE  | RUNW   | TDZN   |        | Runway Touchdown Zone lights   |
| V                                | LITE  | RUNW   | CNTL   |        | Runway Centerline lights   |
| V                                | LITE  | SIGN   |        |        | Taxiway guidance signs   |
| V                                | LITE  | TAXI   |        |        | Taxiway lights   |
| V                                | LITE  | THRS   |        |        | Threshold lights   |
| <b>NATURAL GAS</b>               |       |        |        |        |  |
| V                                | NGAS  | PIPE   |        | ABND   | Abandoned piping   |
| V                                | NGAS  | DEVC   |        |        | Hydrant fill points, lights, vents, markers, rectifiers, reducers, regulators, sources, tanks, drip pots, taps, and valves |
| V                                | NGAS  | DEVC   | IDEN   |        | Identifier tags, symbol modifier, and text   |
| V                                | NGAS  | FLOW   |        |        | Flow direction arrows  |
| V                                | NGAS  | FTTG   |        |        | Caps, crosses, and tees  |
| V                                | NGAS  | IDEN   |        |        | Identifier tags, symbol modifier, and text   |
| V                                | NGAS  | MAIN   |        |        | Main natural gas piping  |
| V                                | NGAS  | METR   |        |        | Meters   |
| V                                | NGAS  | PITS   | IDEN   |        | Identifier tags, symbol modifier, and text   |
| V                                | NGAS  | PUMP   |        |        | Compressor stations  |
| V                                | NGAS  | REDC   |        |        | Reducing stations  |
| V                                | NGAS  | SERV   |        |        | Service piping   |
| V                                | NGAS  | SIGN   |        |        | Surface markers/signs  |
| V                                | NGAS  | STNS   | IDEN   |        | Identifier tags, symbol modifier, and text   |
| V                                | NGAS  | VENT   |        |        | Vent pits  |
| V                                | NGAS  | VLVE   |        |        | Valve pits/boxes   |
| <b>POLES</b>                     |       |        |        |        |  |
| V                                | POLE  | GUYS   |        |        | Guying equipment   |
| V                                | POLE  | GUYS   | IDEN   |        | Guying equipment identifier tags, symbol modifiers, and text   |
| V                                | POLE  | IDEN   |        |        | Utility pole identifier tags, symbol modifier, and text  |
| V                                | POLE  | UTIL   |        |        | Utility poles  |
| <b>POWER</b>                     |       |        |        |        |  |
| V                                | POWR  | XFMR   | PADM   |        | Pad mounted transformers   |
| V                                | POWR  | XFMR   | POLM   |        | Pole mounted transformers  |
| <b>PRIMARY ELECTRICAL CABLES</b> |       |        |        |        |  |
| V                                | PRIM  | OVHD   |        |        | Overhead electrical utility lines  |
| V                                | PRIM  | OVHD   | IDEN   |        | Identifier tags, symbol modifier, and text   |
| V                                | PRIM  | UNDR   |        |        | Underground electrical utility lines   |
| V                                | PRIM  | UNDR   | IDEN   |        | Identifier tags, symbol modifier, and text   |
| <b>PROFILES</b>                  |       |        |        |        |  |

| Discipline                         | Major | Minor1 | Minor2 | Status | Description   |
|------------------------------------|-------|--------|--------|--------|---|
| V                                  | PROF  | CUID   |        |        | Existing grade and grading cuts - annotation              |
| V                                  | PROF  | FILL   |        |        | New work, grading fills                                   |
| V                                  | PROF  | INLT   |        |        | Curb and surface inlets, catch basins                     |
| V                                  | PROF  | MHOL   |        |        | Manholes  |
| V                                  | PROF  | PIPE   |        |        | Piping  |
| V                                  | PROF  | ROAD   |        |        | Roads   |
| <b>PROPERTY</b>                    |       |        |        |        |   |
| V                                  | PROP  | BRNG   |        |        | Bearings and distance labels                              |
| V                                  | PROP  | CNTY   |        |        | County Boundary   |
| V                                  | PROP  | ESMT   |        |        | Government easements/property lines                       |
| V                                  | PROP  | IDEN   |        |        | Property annotation                                       |
| V                                  | PROP  | LEAS   |        |        | Lease line (surveyed)                                     |
| V                                  | PROP  | LINE   |        |        | Property lines (Existing recorded plats)                  |
| V                                  | PROP  | LUSE   |        |        | Land Use Area   |
| V                                  | PROP  | MUNI   |        |        | Municipal Boundary  |
| V                                  | PROP  | QTRS   |        |        | Quarter lines   |
| V                                  | PROP  | RWAY   |        |        | Right of ways   |
| V                                  | PROP  | SECT   |        |        | Section lines   |
| V                                  | PROP  | STAT   |        |        | State Boundary  |
| V                                  | PROP  | SXTS   |        |        | Sixteenth lines (40 lines)                                |
| V                                  | PROP  | ZONG   |        |        | Zoning Areas  |
| <b>PAVEMENT</b>                    |       |        |        |        |   |
| V                                  | PVMT  | IDEN   |        |        | Road, parking lot, railroad, airfield pavement annotation |
| V                                  | PVMT  | MRKG   |        |        | Pavement markings   |
| V                                  | PVMT  | PATT   |        |        | Joint patterns, text and dimensions                       |
| V                                  | PVMT  | ROAD   |        |        | Roads, parking lots, railroads, airfield pavements        |
| <b>ROADS, STREETS AND HIGHWAYS</b> |       |        |        |        |   |
| V                                  | ROAD  | ASPH   |        |        | Road outlines-asphalt surface                             |
| V                                  | ROAD  | CNTR   |        |        | Road centerlines  |
| V                                  | ROAD  | CNTR   |        |        | Road centerlines annotator                                |
| V                                  | ROAD  | CONC   |        |        | Road outlines-concrete surface                            |
| V                                  | ROAD  | CURB   |        |        | Curbs and gutters   |
| V                                  | ROAD  | GRAL   |        |        | Guard rails   |
| V                                  | ROAD  | GRVL   |        |        | Road outlines-gravel surface                              |
| V                                  | ROAD  | IDEN   |        |        | Road, street, highway annotator                           |
| V                                  | ROAD  | MRKG   |        |        | Pavement markings   |
| V                                  | ROAD  | OTLN   |        |        | Road outlines   |
| V                                  | ROAD  | PATT   |        |        | Joint patterns, text and dimensions                       |
| V                                  | ROAD  | SHLD   |        |        | Roadway shoulders   |
| V                                  | ROAD  | SIGN   |        |        | Signs   |
| V                                  | ROAD  | UPVD   |        |        | Road outlines-unpaved surface                             |
| <b>RUNWAYS</b>                     |       |        |        |        |   |
| V                                  | RUNW  | BLST   | MRKG   |        | Blast pad markings  |
| V                                  | RUNW  | CNTR   | MRKG   |        | Centerline markings                                       |
| V                                  | RUNW  | DISP   | MRKG   |        | Displaced threshold markings                              |
| V                                  | RUNW  | DIST   | MRKG   |        | Fixed distance markings                                   |

| Discipline                         | Major | Minor1 | Minor2 | Status | Description   |
|------------------------------------|-------|--------|--------|--------|---|
| V                                  | RUNW  | EDGE   | MRKG   |        | Edge markings   |
| V                                  | RUNW  | IDEN   | MRKG   |        | Runway identifier markings  |
| V                                  | RUNW  | SHLD   | MRKG   |        | Shoulder markings   |
| V                                  | RUNW  | TDZM   | MRKG   |        | Touchdown zone markers  |
| V                                  | RUNW  | THRS   | MRKG   |        | Threshold markers   |
| <b>SECONDARY ELECTRICAL CABLES</b> |       |        |        |        |   |
| V                                  | SECD  | OVHD   |        |        | Overhead electrical utility lines   |
| V                                  | SECD  | OVHD   | IDEN   |        | Identifier tags, symbol modifier, and text  |
| V                                  | SECD  | UNDR   |        |        | Underground electrical utility lines  |
| V                                  | SECD  | UNDR   | IDEN   |        | Identifier tags, symbol modifier, and text  |
| <b>SECTIONS</b>                    |       |        |        |        |   |
| V                                  | SECT  | IDEN   |        |        | Component identification numbers  |
| V                                  | SECT  | MBND   |        |        | Material beyond section cut   |
| V                                  | SECT  | MCUT   |        |        | Material cut by section   |
| V                                  | SECT  | PATT   |        |        | Textures and hatch patterns   |
| <b>SITE FEATURES</b>               |       |        |        |        |   |
| V                                  | SITE  | EROS   |        |        | Riprap, revetments/stone protection, breakwaters, dikes, jetties, and drains                  |
| V                                  | SITE  | EWAT   |        |        | Water features  |
| V                                  | SITE  | FENC   |        |        | Fences and handrails  |
| V                                  | SITE  | FENC   | IDEN   |        | Fence, handrail, ramp, and trail annotation   |
| V                                  | SITE  | IDEN   |        |        | Existing site feature/structure annotation  |
| V                                  | SITE  | OTLN   |        |        | Existing site features (play structures, bike racks, benches, recreational equipment)         |
| V                                  | SITE  | STRC   |        |        | Structures (bridges, sheds, foundation pads, footings, etc.)                                  |
| V                                  | SITE  | STRS   |        |        | Stairs and ramps  |
| V                                  | SITE  | VEGE   |        |        | Existing treelines and vegetation   |
| V                                  | SITE  | WALK   |        |        | Walks, trails, and bicycle paths  |
| V                                  | SITE  | WATR   |        |        | Water features  |
| <b>SPECIAL SYSTEMS</b>             |       |        |        |        |   |
| V                                  | SPCL  | IDEN   |        |        | Special systems (UMCS, EMCS, CATV, etc.) identifier tags, symbol modifier, and text           |
| V                                  | SPCL  | SYST   |        |        | Special systems (UMCS, EMCS, CATV, etc.)  |
| V                                  | SPCL  | TRAF   |        |        | Traffic signal system   |
| V                                  | SPCL  | TRAF   | IDEN   |        | Traffic signal identifier tags, symbol modifier, and text                                     |
| <b>SANITARY SEWER</b>              |       |        |        |        |   |
| V                                  | SSWR  | PIPE   |        | ABND   | Abandoned piping  |
| V                                  | SSWR  | DEVC   |        |        | Grease traps, grit chambers, flumes, neutralizers, oil/water separators, ejectors, and valves |
| V                                  | SSWR  | DEVC   | IDEN   |        | Identifier tags, symbol modifier, and text  |
| V                                  | SSWR  | FILT   |        |        | Filtration beds   |
| V                                  | SSWR  | FILT   | IDEN   |        | Identifier tags, symbol modifier, and text  |
| V                                  | SSWR  | FLOW   |        |        | Flow direction arrows   |
| V                                  | SSWR  | FTTG   |        |        | Caps and cleanouts  |
| V                                  | SSWR  | IDEN   |        |        | Identifier tags, symbol modifier, and text  |
| V                                  | SSWR  | MHOL   |        |        | Manholes  |
| V                                  | SSWR  | MHOL   | IDEN   |        | Identifier tags, symbol modifier, and text  |
| V                                  | SSWR  | JBOX   |        |        | Junction boxes  |

| Discipline         | Major | Minor1 | Minor2 | Status | Description   |
|--------------------|-------|--------|--------|--------|---|
| V                  | SSWR  | JBOX   | IDEN   |        | Identifier tags, symbol modifier, and text                          |
| V                  | SSWR  | LAGN   |        |        | Lagoons   |
| V                  | SSWR  | LEAC   |        |        | Leach field   |
| V                  | SSWR  | MAIN   |        |        | Sanitary sewer piping   |
| V                  | SSWR  | NITF   |        |        | Nitrification drain fields  |
| V                  | SSWR  | PLNT   |        |        | Treatment plants  |
| V                  | SSWR  | PUMP   |        |        | Booster pump stations   |
| V                  | SSWR  | RSVR   | IDEN   |        | Identifier tags, symbol modifier, and text                          |
| V                  | SSWR  | SERV   |        |        | Sanitary sewer service piping                                       |
| V                  | SSWR  | SIGN   |        |        | Surface markers/signs   |
| V                  | SSWR  | STNS   | IDEN   |        | Identifier tags, symbol modifier, and text                          |
| V                  | SSWR  | TANK   |        |        | Septic tanks  |
| <b>STRUCTURES</b>  |       |        |        |        |   |
| V                  | STRC  | IDEN   |        |        | Bridges, piers, breakwaters, docks, floats, etc. - annotation       |
| V                  | STRC  | OTLN   |        |        | Bridges, piers, breakwaters, docks, floats, etc. - outlines         |
| V                  | STRC  | TOWR   |        |        | Tower   |
| <b>STORM SEWER</b> |       |        |        |        |   |
| V                  | STRM  | PIPE   |        | ABND   | Abandoned piping  |
| V                  | STRM  | AFFF   |        |        | AFFF lagoon/detention pond  |
| V                  | STRM  | CHUT   |        |        | Chutes and concrete erosion control structures                      |
| V                  | STRM  | CULV   |        |        | Culverts  |
| V                  | STRM  | DEVC   |        |        | Downspouts, flumes, oil/water separators, and flap gates            |
| V                  | STRM  | DRAN   | IDEN   |        | Identifier tags, symbol modifier, and text                          |
| V                  | STRM  | EROS   |        |        | Erosion control (riprap)  |
| V                  | STRM  | FLOW   |        |        | Flow direction arrows   |
| V                  | STRM  | FMON   |        |        | Flow monitoring station   |
| V                  | STRM  | FTTG   |        |        | Caps and cleanouts  |
| V                  | STRM  | HDWL   |        |        | Headwalls and endwalls  |
| V                  | STRM  | IDEN   |        |        | Identifier tags, symbol modifier, and text                          |
| V                  | STRM  | INLT   |        |        | Inlets (curb, surface, and catch basins)                            |
| V                  | STRM  | LAGN   |        |        | Lagoons, ponds, watersheds, and basins                              |
| V                  | STRM  | MAIN   |        |        | Storm sewer piping  |
| V                  | STRM  | MHOL   |        |        | Manholes  |
| V                  | STRM  | PUMP   |        |        | Pump stations   |
| V                  | STRM  | ROOF   |        |        | Roof drain line   |
| V                  | STRM  | RSVR   | IDEN   |        | Identifier tags, symbol modifier, and text                          |
| V                  | STRM  | SERV   |        |        | Storm sewer service piping  |
| V                  | STRM  | SIGN   |        |        | Surface markers/signs   |
| V                  | STRM  | STNS   | IDEN   |        | Identifier tags, symbol modifier, and text                          |
| V                  | STRM  | SUBS   |        |        | Subsurface drain piping   |
| <b>SURVEY</b>      |       |        |        |        |   |
| V                  | SURV  | DATA   |        |        | Survey data (benchmarks and horizontal control points or monuments) |
| V                  | SURV  | IDEN   |        |        | Survey, baseline, and control line annotation                       |
| V                  | SURV  | LINE   |        |        | Survey, baseline, and control line                                  |
| V                  | SURV  | SYMB   |        |        | Survey line symbol  |
| <b>TAXIWAYS</b>    |       |        |        |        |   |

| Discipline        | Major | Minor1 | Minor2 | Status | Description   |
|-------------------|-------|--------|--------|--------|---|
| V                 | TAXI  | CNTR   |        |        | Centerlines   |
| V                 | TAXI  | CNTR   | IDEN   |        | Centerline annotatior                                     |
| V                 | TAXI  | CNTR   | MRKG   |        | Centerline markings                                       |
| V                 | TAXI  | EDGE   |        |        | Edge markings   |
| V                 | TAXI  | HOLD   |        |        | Hold lines  |
| V                 | TAXI  | IDEN   |        |        | Taxiway-annotatior  |
| V                 | TAXI  | OTLN   |        |        | Taxiway outlines  |
| V                 | TAXI  | SHLD   |        |        | Taxiway shoulder  |
| <b>TOPOGRAPHY</b> |       |        |        |        |   |
| V                 | TOPO  | BKLN   |        |        | Breaklines  |
| V                 | TOPO  | BORE   |        |        | Boring locations  |
| V                 | TOPO  | COOR   |        |        | Coordinate grid ticks and text                            |
| V                 | TOPO  | DTCH   |        |        | Ditches and swales  |
| V                 | TOPO  | DTMP   |        |        | DTM points  |
| V                 | TOPO  | DTMT   |        |        | DTM triangles   |
| V                 | TOPO  | MAJR   |        |        | Major contours  |
| V                 | TOPO  | MAJR   | IDEN   |        | Major contours - annotation                               |
| V                 | TOPO  | MINR   |        |        | Minor contours  |
| V                 | TOPO  | MINR   | IDEN   |        | Minor contours - annotation                               |
| V                 | TOPO  | SHOR   |        |        | Shorelines, land features, and references                 |
| V                 | TOPO  | SLOP   | TOPT   |        | Top/toe slopes  |
| V                 | TOPO  | SOUN   |        |        | Soundings   |
| V                 | TOPO  | SPEC   |        |        | Species Site  |
| V                 | TOPO  | SPOT   |        |        | Spot elevations   |
| V                 | TOPO  | WETL   |        |        | Wetland   |
| <b>UTILITIES</b>  |       |        |        |        |   |
| V                 | UTIL  | ELEC   |        |        | Power lines, lights, telephone poles, communication lines |
| V                 | UTIL  | ELEC   | IDEN   |        | Power/communication annotation                            |
| V                 | UTIL  | IDEN   |        |        | Utility annotation  |
| V                 | UTIL  | LINE   |        |        | Utilities   |
| V                 | UTIL  | NGAS   |        |        | Gas lines, features, and valves                           |
| V                 | UTIL  | NGAS   | IDEN   |        | Gas annotation  |
| V                 | UTIL  | SSWR   |        |        | Sanitary lines and manholes                               |
| V                 | UTIL  | SSWR   | IDEN   |        | Sanitary annotation                                       |
| V                 | UTIL  | STEM   |        |        | Steam lines   |
| V                 | UTIL  | STRM   |        |        | Storm sewer lines, culverts, manholes, and headwalls      |
| V                 | UTIL  | STRM   | IDEN   |        | Storm sewer annotation                                    |
| V                 | UTIL  | WATR   |        |        | Water lines, hydrants, tanks                              |
| V                 | UTIL  | WATR   | IDEN   |        | Water annotation  |

## APPENDIX 2

|   |    |
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### Airline Name and Codes

| 3 Digit Code | 2 Digit Code | Name                           | Ticketing Code |
|--------------|--------------|--------------------------------|----------------|
|              | 6M           | 40-MILE AIR                    |                |
|              | VY           | A.C.E.                         |                |
|              |              | A.S. NORVING                   |                |
|              |              | AARON AIRLINES PTY             |                |
|              | SM           | ABERDEEN AIRWAYS               | 731            |
|              | GB           | ABX AIR (CARGO)                | 832            |
|              | VX           | ACES                           | 137            |
|              | XQ           | ACTION AIRLINES                | 410            |
|              | ZY           | ADALBANAIR                     | 121            |
|              | IN           | ADIRONDACK AIRLINES            |                |
|              | JP           | ADRIA AIRWAYS                  | 165            |
| REA          | RE           | AER ARANN                      | 684            |
| EIN          | EI           | AER LINGUS                     | 053            |
|              |              | AEREOS SERVICIOS DE TRANSPORTE | 278            |
|              | DU           | AERIAL TRANSIT COMPANY(CARGO)  | 892            |
|              | JR           | AERO CALIFORNIA                | 078            |
|              | DF           | AERO COACH AVIATION INT        | 868            |
|              | 2G           | AERO DYNAMICS (CARGO)          |                |
|              |              | AERO EJECUTIVOS                | 681            |
|              | YP           | AERO LLOYD                     | 633            |
|              |              | AERO SERVICIOS                 | 243            |
|              |              | AERO TRANSPORTES PANAMENOS     | 155            |
|              | QA           | AEROCARIBE                     | 723            |
|              |              | AEROCHAGO AIRLINES             | 198            |
|              | 3Q           | AEROCHASQUI                    | 298            |
|              |              | AEROCOZUMEL                    | 686            |
| AFL          | SU           | AEROFLOT                       | 555            |
|              | FP           | AEROLEASING S.A.               |                |
| ARG          | AR           | AEROLINEAS ARGENTINAS          | 044            |
|              | YU           | AEROLINEAS DOMINICANAS         |                |
|              | VG           | AEROLINEAS EL SALVADOR (CARGO) | 680            |
|              |              | AEROLINEAS URUGUAYAS           | 966            |
|              | BQ           | AEROMAR (CARGO)                | 926            |
|              | AM           | AEROMEXICO                     | 139            |
|              |              | AEROMONTERREY                  | 722            |
|              | XX           | AERONAVES DEL PERU (CARGO)     | 624            |
|              | RL           | AERONICA                       | 127            |
|              | PO           | AEROPELICAN AIR SERVICES       |                |
|              | WL           | AEROPERLAS                     |                |
|              | PL           | AEROPERU                       | 210            |
|              | 6P           | AEROPUMA, S.A. (CARGO)         |                |
|              | AW           | AEROQUETZAL                    | 291            |
|              | XU           | AEROVIAS (CARGO)               | 316            |
|              |              | AEROVIAS COLOMBIANAS (CARGO)   | 158            |
|              |              | AFFRETAIR (PRIVATE) (CARGO)    | 292            |
|              |              | AFRICAN INTERNATIONAL AIRWAYS  | 648            |
|              | ZI           | AIGLE AZUR                     |                |
| AMM          | DP           | AIR 2000                       |                |
|              | RK           | AIR AFRIQUE                    | 092            |
| DAH          | AH           | AIR ALGERIE                    | 124            |
|              | 3J           | AIR ALLIANCE                   | 188            |

| 3 Digit Code | 2 Digit Code | Name                         | Ticketing Code |
|--------------|--------------|------------------------------|----------------|
|              | 4L           | AIR ALMA                     | 248            |
|              |              | AIR ALPHA                    |                |
|              |              | AIR AQUITAINE                |                |
|              | FQ           | AIR ARUBA                    | 276            |
|              | 9A           | AIR ATLANTIC LTD.            |                |
| AAG          | ES           | AIR ATLANTIQUE               |                |
|              | OU           | AIR ATONABEE/CITY EXPRESS    | 253            |
|              | AX           | AIR AURORA (CARGO)           | 386            |
|              | ZX           | AIR B.C.                     | 742            |
|              | AJ           | AIR BELGIUM                  |                |
|              | KF           | AIR BOTNIA                   |                |
|              | BP           | AIR BOTSWANA                 | 636            |
|              |              | AIR BRASIL                   | 853            |
|              |              | AIR BRIDGE CARRIERS (CARGO)  | 912            |
|              | VH           | AIR BURKINA                  | 226            |
|              | PB           | AIR BURUNDI                  | 919            |
|              | TY           | AIR CALEDONIE                | 190            |
|              | SB           | AIR CALEDONIE INTERNATIONAL  | 063            |
| ACA          | AC           | AIR CANADA                   | 014            |
|              | XC           | AIR CARIBBEAN                | 918            |
|              | SF           | AIR CHARTER                  |                |
|              |              | AIR CHARTER (CHARTER)        |                |
|              |              | AIR CHARTER SYSTEMS          | 272            |
| CCA          | CA           | AIR CHINA                    | 999            |
|              | CE           | AIR CITY S.A.                |                |
| CNB          |              | AIR COLUMBUS                 |                |
|              | OR           | AIR COMORES                  | 687            |
|              | YN           | AIR CREEBEC                  | 219            |
|              | DJ           | AIR DJIBOUTI                 | 611            |
|              | EN           | AIR DOLOMITI                 |                |
|              | RQ           | AIR ENGIADINA                | 834            |
|              |              | AIR ENTERPRISE INTERNATIONAL |                |
| AEA          | AE           | AIR EUROPA                   | 803            |
|              | UX           | AIR EUROPA (AIR ESPANA S.A.) |                |
|              | BS           | AIR EXCHANGE (CARGO)         | 595            |
|              | VJ           | AIR EXEL                     | 900            |
|              | DN           | AIR EXEL (BELGIQUE)          |                |
|              | NE           | AIR EXEL (UK) LTD.           |                |
|              | GS           | AIR FOYLE                    |                |
| AFR          | AF           | AIR FRANCE                   | 057            |
| FUA          |              | AIR FUTURA                   |                |
|              | GN           | AIR GABON                    | 185            |
|              | IV           | AIR GAMBIA                   |                |
|              | OG           | AIR GUADELOUPE               | 937            |
|              | GI           | AIR GUINEE                   | 093            |
|              | ID           | AIR GUYANE                   | 694            |
|              |              | AIR HAITI (CARGO)            | 623            |
|              | GG           | AIR HOLLAND B.V              |                |
| AHK          |              | AIR HONG KONG (CARGO)        | 152            |
|              | OX           | AIR HUDIK                    |                |
| AIC          | AI           | AIR INDIA                    | 098            |
|              | 9J           | AIR INTEGRA                  |                |
|              | IT           | AIR INTER                    | 279            |
|              | 3H           | AIR INUIT                    |                |

| 3 Digit Code | 2 Digit Code | Name                        | Ticketing Code |
|--------------|--------------|-----------------------------|----------------|
|              | VU           | AIR IVOIRE                  | 084            |
|              | JM           | AIR JAMAICA                 |                |
|              | YH           | AIR JET                     |                |
|              | UV           | AIR KANGAROO ISLAND         |                |
|              | QP           | AIR KENYA AVIATION          |                |
|              |              | AIR KOREA CO. LTD.          |                |
| AIS          | UE           | AIR L.A.                    | 396            |
| ALK          | UL           | AIR LANKA                   | 603            |
|              | VD           | AIR LIBERTE                 | 718            |
|              | FU           | AIR LITTORAL                | 659            |
|              | MD           | AIR MADAGASCAR              | 258            |
|              | QM           | AIR MALAWI                  | 167            |
| KMC          |              | AIR MALTA                   |                |
| AMC          | KM           | AIR MALTA                   | 643            |
|              | 7N           | AIR MANITOBA                | 268            |
|              | NN           | AIR MARTINIQUE              | 606            |
|              | MR           | AIR MAURITANIE              | 174            |
| MAU          | MK           | AIR MAURITIUS               | 239            |
|              |              | AIR MERCURY INT (CARGO)     |                |
|              | ZV           | AIR MIDWEST                 | 471            |
|              |              | AIR MOLOKAI                 | 437            |
|              | OM           | AIR MONGOL                  | 289            |
|              | QE           | AIR MOOREA                  | 067            |
|              | SW           | AIR NAMIBIA                 | 186            |
|              |              | AIR NATIONAL                | 417            |
|              | ON           | AIR NAURU                   | 123            |
|              | LW           | AIR NEVADA                  | 568            |
|              | NZ           | AIR NEW ZEALAND             | 086            |
|              | DB           | AIR NIAGARA (CARGO)         | 296            |
|              | EL           | AIR NIPPON                  |                |
|              | PX           | AIR NIUGINI                 | 656            |
|              | 4N           | AIR NORTH                   | 287            |
|              | HS           | AIR NORTH INTERNATIONAL LTD | 935            |
|              | QK           | AIR NOVA                    | 983            |
|              | GX           | AIR ONTARIO                 | 368            |
|              | QN           | AIR OUTRE MER               | 676            |
|              | FJ           | AIR PACIFIC                 | 260            |
|              | GZ           | AIR RAROTONGA               | 755            |
|              | UZ           | AIR RESORTS AIRLINES        |                |
|              | UU           | AIR REUNION                 | 760            |
|              | ZJ           | AIR ROUTING                 |                |
|              | RY           | AIR RWANDA                  | 178            |
|              | 5W           | AIR SAN JUAN CHARTAIR       | 529            |
|              | 7W           | AIR SASK AVIATION           |                |
|              | QR           | AIR SATELLITE               |                |
|              | 9V           | AIR SCHEFFERVILLE           |                |
|              | UJ           | AIR SEDONA                  |                |
|              | DS           | AIR SENEGAL                 | 223            |
| SEY          | HM           | AIR SEYCHELLES              | 061            |
|              | 4D           | AIR SINAI                   | 903            |
|              | WV           | AIR SOUTH                   | 399            |
|              | NY           | AIR ST. VINCENT             |                |
|              | OJ           | AIR ST.BARTHELEMY           | 981            |
|              | PJ           | AIR ST.PIERRE               | 638            |

| 3 Digit Code | 2 Digit Code | Name                            | Ticketing Code |
|--------------|--------------|---------------------------------|----------------|
|              |              | AIR STORD                       |                |
|              | YI           | AIR SUNSHINE                    | 806            |
|              | GK           | AIR SWAZI (CARGO)               | 097            |
|              | VT           | AIR TAHITI                      | 135            |
| ATC          | TC           | AIR TANZANIA CORPORATION        | 197            |
|              | HT           | AIR TCHAD                       | 095            |
|              | CS           | AIR TORONTO                     | 777            |
|              |              | AIR TRANSAT (CHARTER)           |                |
|              | TF           | AIR TRANSPORT PYRENEES          | 655            |
|              |              | AIR TRANSPORT SCHIPHOL          |                |
|              | VK           | AIR TUNGARU CORP                | 715            |
|              | QW           | AIR TURKS & CAICOS              | 254            |
| UKL          | UK           | AIR UK                          | 130            |
| LEI          |              | AIR UK LEISURE                  |                |
|              | NF           | AIR VANUATU                     | 218            |
|              | 6V           | AIR VEGAS                       |                |
|              | VM           | AIR VENDEE                      | 982            |
|              |              | AIR VIA BULGARIAN AIRWAYS       | 699            |
|              | 8K           | AIR VITKOVICE                   |                |
|              | ZW           | AIR WISCONSIN                   | 303            |
| AZR          | QC           | AIR ZAIRE                       | 207            |
|              | UM           | AIR ZIMBABWE CORPORATION        | 168            |
|              | ZF           | AIRBORNE OF SWEDEN              |                |
|              | 4C           | AIRES                           |                |
|              | XL           | AIR-GLACIERS                    |                |
|              | FL           | AIRLEC                          |                |
|              |              | AIR-LIFT INTERNATIONAL (CARGO)  |                |
|              | CW           | AIRLINE OF THE MARSHALL ISLAND  | 778            |
|              | IP           | AIRLINES OF TASMANIA            |                |
|              |              | AIRPAC AIRLINES (CARGO)         | 856            |
|              | 5S           | AIRSPEED AVIATION               |                |
| AIH          |              | AIRTOURS INTERNATIONAL          |                |
|              | 3N           | AIRVANTAGE (CARGO)              |                |
|              | HO           | AIRWAYS INTERNATIONAL           | 372            |
| AWD          |              | AIRWORLD                        |                |
|              | 6L           | AKLAK AIR                       | 709            |
|              |              | ALAS DE TRANSPORTES INT (CARGO) | 791            |
|              | AS           | ALASKA AIRLINES                 | 027            |
|              | 6D           | ALASKA ISLAND AIR               |                |
|              | 2L           | ALBERNI AIRWAYS                 |                |
|              |              | ALIADRIATICA                    |                |
|              | AZ           | ALITALIA                        | 055            |
|              | TO           | ALKAN AIR                       | 751            |
| ANA          | NH           | ALL NIPPON AIRWAYS              | 205            |
|              |              | ALL SEASONS AIR PACIFIC         | 525            |
|              |              | ALLEGHENY COMMUTER AIRLINES     | 358            |
|              | 3A           | ALLIANCE AIRLINES               | 317            |
|              | QQ           | ALLIED AIRLINES INC             | 446            |
|              | LM           | ALM                             | 119            |
|              | AQ           | ALOHA AIRLINES                  | 327            |
|              | WP           | ALOHA ISLANDAIR                 | 347            |
| LPN          |              | ALPENAIR (CHARTER)              |                |
|              | 7V           | ALPHA AIR                       | 895            |
|              | 5A           | ALPINE AVIATION                 | 511            |

| 3 Digit Code | 2 Digit Code | Name                           | Ticketing Code |
|--------------|--------------|--------------------------------|----------------|
|              | AL           | ALSAIR S.A                     |                |
|              | DY           | ALYEMDA-DEMOCRATIC YEMEN AIR   | 607            |
| AMY          |              | AMBASSADOR                     |                |
| AWA          | HP           | AMERICA WEST AIRLINES          | 401            |
| AAL          | AA           | AMERICAN AIRLINES              | 001            |
| AMT          | TZ           | AMERICAN TRANS AIR INC         | 366            |
|              |              | AMERIJET INTERNATIONAL (CARGO) | 810            |
|              |              | AMTRAK                         | 554            |
|              | OB           | ANDALUCIA INTERNATIONAL AIRWAY |                |
|              | ED           | ANDES AIRLINE (CARGO)          | 215            |
|              |              | ANGLO AIRLINES                 |                |
|              | VF           | ANGLO ROMANIAN AIRLINE         |                |
|              |              | ANSETT AIR FREIGHT             | 964            |
| AAA          | AN           | ANSETT AUSTRALIA AIRLINES      | 090            |
|              | WX           | ANSETT EXPRESS                 | 187            |
|              | ZQ           | ANSETT NEW ZEALAND             | 941            |
|              | MV           | ANSETT W.A.                    | 181            |
|              |              | ANSETT WORLDWIDE AVIATION      | 757            |
|              | 7P           | APA INTERNATIONAL AIR          | 917            |
|              | VZ           | AQUATIC AIRWAYS                |                |
|              | 5F           | ARCTIC CIRCLE AIR              |                |
| FGA          | FG           | ARIANA AFGHAN AIRLINES         | 255            |
|              | XA           | ARINC                          | 545            |
|              | OQ           | ARIZONA PACIFIC AIRWAYS        | 503            |
|              | IZ           | ARKIA ISRAEL AIRLINES          | 238            |
|              | JW           | ARROW AIR (CARGO)              | 404            |
|              | UH           | ARUBAIR N.V.                   |                |
|              | OZ           | ASIANA AIRLINES                | 988            |
|              | AP           | ASPEN AIRWAYS                  |                |
|              |              | ASTRO AIR INTERNATIONAL        | 769            |
|              | 9T           | ATHABASKA AIRWAYS              | 909            |
|              | BM           | ATI-AERO TRANSPORTI ITALIANI   |                |
|              |              | ATLANTIC AIR TRANSPORT         |                |
|              |              | ATLANTIC AIRLINES              | 336            |
|              | RC           | ATLANTIC AIRWAYS, FAROE ISLES  | 767            |
|              |              | ATLANTIC ISLAND AIR            |                |
|              | EV           | ATLANTIC SOUTHEAST AIRLINES    | 862            |
|              | PT           | ATLAS AIR SERVICE              |                |
|              | BH           | AUGUSTA AIRWAYS                |                |
| AUR          | GR           | AURIGNY AIR SERVICES           | 924            |
|              | NO           | AUS-AIR                        |                |
|              | AU           | AUSTRAL                        | 143            |
|              | IM           | AUSTRALIA-ASIA AIRLINES        |                |
|              | TN           | AUSTRALIAN AIRLINES            | 102            |
|              | SO           | AUSTRIAN AIR SERVICES          |                |
| AVA          | OS           | AUSTRIAN AIRLINES              | 257            |
|              |              | AUSTRIAN AIRTRANSPORT          | 663            |
|              | CG           | AVAIKI AIR                     |                |
|              | VE           | AVENSA                         | 128            |
|              | JZ           | AVIA AB                        | 752            |
|              | 5T           | AVIACION DEL NOROESTE          | 661            |
|              | AO           | AVIACO                         | 110            |
|              |              | AVIAEXPRESS AIRLINES           | 732            |
|              | 5V           | AVIAIR AVIATION                |                |

| 3 Digit Code | 2 Digit Code | Name                           | Ticketing Code |
|--------------|--------------|--------------------------------|----------------|
|              | AV           | AVIANCA COLOMBIA               | 134            |
|              | RD           | AVIANOVA                       |                |
|              | GU           | AVIATECA                       | 240            |
|              |              | AVIOGENEX                      |                |
|              | 2B           | B. AIRWAYS (CARGO)             | 817            |
|              |              | B0-S-AIRE AIRLINES             | 871            |
| BHS          | UP           | BAHAMASAIR                     | 111            |
|              | 8B           | BAKER AVIATION                 |                |
|              |              | BALAIR                         | 290            |
| LAZ          | LZ           | BALKAN BULGARIAN AIRLINES      | 196            |
|              | BT           | BALTIA AIR LINES               |                |
|              | TI           | BALTIC INTERNATIONAL AIRLINES  |                |
|              | PG           | BANGKOK AIRWAYS CO             | 829            |
|              |              | BANKAIR (CARGO)                |                |
|              | QO           | BAR HARBOR AIRLINES            | 473            |
|              | 6Q           | BARROW AIR                     |                |
|              | 6B           | BAXTER AVIATION                |                |
| BYU          | DD           | BAYU INDONESIA AIR             |                |
|              | JV           | BEARSKIN LAKE AIR SERVICE      | 632            |
|              |              | BELIZE AIR INT (CARGO)         | 986            |
|              | LL           | BELL AIR                       |                |
|              | 5B           | BELLAIR                        |                |
|              | CH           | BEMIDJI AIRLINES               | 872            |
|              | 8E           | BERING AIR                     |                |
|              | WZ           | BERLIN EUROPEAN U.K.           | 758            |
|              | GQ           | BIG SKY AIRLINES               | 387            |
| BBC          | BG           | BIMAN BANGLADESH AIRLINES      | 997            |
|              | NT           | BINTER CANARIES                |                |
|              |              | BIRGENAIR CHARTER GROUP        |                |
|              | VB           | BIRMINGHAM EUROPEAN AIRWAYS    | 702            |
|              |              | BLACKHAWK (CARGO)              | 536            |
|              | BV           | BOPAIR                         | 928            |
|              | 3B           | BORINQUEN AIR (CARGO)          | 433            |
|              | BO           | BOURAQ INDONESIA AIRLINES      | 666            |
|              | BU           | BRAATHENS S.A.F.E              | 154            |
|              |              | BRANIFF INTERNATIONAL A/L      | 577            |
|              | JJ           | BRASIL CENTRAL LINHA AEREA REG |                |
| DZH          | DB           | BRIT AIR                       | 750            |
| BAL          | BY           | BRITANNIA AIRWAYS              | 754            |
| BAF          |              | BRITISH AIR FERRIES LTD        |                |
| BAW          | BA           | BRITISH AIRWAYS                | 125            |
|              | RX           | BRITISH INDEPENDENT AIRWAYS    |                |
| BIH          | UR           | BRITISH INT HELICOPTERS        |                |
| BMA          | BD           | BRITISH MIDLAND AIRWAYS        | 236            |
| BWL          | VF           | BRITISH WORLD AIRLINES         | 762            |
|              |              | BRITT AIRWAYS                  | 565            |
|              | BC           | BRYMON AVIATION                | 657            |
|              | FR           | BURLINGTON AIR EXPRESS         | 934            |
|              | II           | BUSINESS AIR                   |                |
|              |              | BUSINESS AIR TRAVEL            | 664            |
|              | HQ           | BUSINESS EXPRESS               | 357            |
|              | DR           | BUSINESS FLIGHT OF SCANDINAVIA | 244            |
|              | CT           | C.A.V.E                        |                |
|              |              | CAICOS CARIBBEAN AIR. (CARGO)  |                |

| 3 Digit Code | 2 Digit Code | Name                            | Ticketing Code |
|--------------|--------------|---------------------------------|----------------|
| CKT          | KT           | CALEDONIAN AIRWAYS              |                |
|              | MO           | CALM AIR INT                    | 622            |
|              | 3C           | CAMAI AIR                       | 451            |
|              | UY           | CAMEROON AIRLINES               | 604            |
| CMM          |              | CANADA 3000                     |                |
| CDN          |              | CANADIAN AIRLINES INT           | 018            |
|              | 4A           | CANADIAN EAGLE AIRLINES         |                |
|              | KG           | CANAFRICA TRANSPORTES AEREOS    |                |
|              |              | CANAIR (CARGO)                  |                |
|              | 9K           | CAPE AIR                        | 306            |
|              | 6C           | CAPE SMYTHE AIR SERVICE         | 879            |
|              |              | CARGO AIRLINES                  | 700            |
|              | CV           | CARGOLUX AIRLINES (CARGO)       | 172            |
|              | OW           | CARGOSUR (CARGO)                |                |
|              |              | CARIBBEAN AIR CARGO (CARGO)     | 749            |
|              |              | CARIBBEAN AIRWAYS               |                |
|              | KW           | CARNIVAL AIR LINES              | 521            |
|              | CX           | CATHAY PACIFIC AIRWAYS          | 160            |
|              | KX           | CAYMAN AIRWAYS                  | 378            |
|              |              | CAYUGA AIR (CARGO)              | 402            |
|              |              | CC AIR (US AIR COMMUTER)        | 354            |
| CNA          |              | CENTENIAL AIRLINES              |                |
|              | GW           | CENTRAL AMERICAN AIRLINES       | 712            |
|              | 9M           | CENTRAL MOUNTAIN AIR            | 634            |
|              | BK           | CHALK'S/PARADISE ISLAND AIRWAY  | 522            |
|              |              | CHALLENGE AIR CARGO (CARGO)     | 307            |
|              |              | CHANNEL EXPRESS(AIR SER)(CARGO) |                |
|              | NK           | CHARTER ONE                     | 487            |
|              |              | CHAUTAUQUA AIRLINES             | 363            |
|              |              | CHICAGO AIR TAXI                | 439            |
|              |              | CHILCOTIN-CARIBO AVIATION       | 116            |
| CAL          | CI           | CHINA AIRLINES                  | 297            |
|              | MU           | CHINA EASTERN AIRLINES          | 781            |
|              |              | CHINA GENERAL AVIATION          |                |
|              | CJ           | CHINA NORTHERN AIRLINES         | 782            |
|              | WH           | CHINA NORTHWEST AIRLINES        | 783            |
|              | CZ           | CHINA SOUTHERN AIRLINES         | 784            |
|              | SZ           | CHINA SOUTHWEST AIRLINES        | 785            |
|              | JS           | CHOSONMINHANG KOREAN AIRWAYS    | 120            |
|              | SX           | CHRISTMAN AIR SYSTEM            | 509            |
|              | QI           | CIMBER AIR A/S                  | 647            |
|              |              | CIRCLE AIR FREIGHT              |                |
|              | CC           | CISKEI INTERNATIONAL            | 222            |
|              | BX           | COAST AIR                       | 970            |
|              | DQ           | COASTAL AIR TRANSPORT           | 457            |
|              |              | COASTAL AIRWAYS                 | 819            |
|              | LQ           | COHLMIA AVIATION (CARGO)        |                |
|              | 7C           | COLUMBIA PACIFIC AIRLINES       |                |
|              | OH           | COMAIR                          | 886            |
|              | MN           | COMMERCIAL AIRWAYS              | 161            |
|              | XK           | COMPAGNIE CORSE MEDITERRANEE    | 146            |
| CFP          | CF           | COMPANIA DE AVIACION FAUCETT    | 163            |
| MXA          | MX           | COMPANIA MEXICANA               | 132            |
|              | YM           | COMPASS AIRLINES                | 612            |

| 3 Digit Code | 2 Digit Code | Name                               | Ticketing Code |
|--------------|--------------|------------------------------------|----------------|
|              |              | CONNECTAIR CHARTERS                |                |
|              | 4S           | CONNER AIR LINES                   | 575            |
|              | 5C           | CONQUEST AIRLINES                  | 355            |
|              | DD           | CONTI-FLUG                         |                |
| COA          | CO           | CONTINENTAL AIRLINES               | 005            |
|              | KC           | COOK ISLANDS INTERNATIONAL         |                |
|              | KO           | COOK STRAIT SKYFERRY               |                |
|              | CM           | COPA-COMPANIA PANAMENA DE AVCN     | 230            |
|              |              | CORDOBA AIR CARGO                  | 660            |
|              |              | CORPORATE AIR (CARGO)              |                |
|              |              | CROATIA AIRLINES                   |                |
|              | LX           | CROSSAIR                           | 724            |
|              |              | CROWN AIRWAYS                      | 501            |
|              | SC           | CRUZEIRO DO SUL                    | 049            |
| CSA          | OK           | CSA CZECHOSLOVAK AIRLINES          | 064            |
|              | CU           | CUBANA                             | 136            |
| CYP          | CY           | CYPRUS AIRWAYS                     | 048            |
|              | YK           | CYPRUS TURKISH AIRLINES            | 056            |
|              |              | DAIRO AIR SERVICES (CARGO)         | 761            |
|              | DX           | DANAIR A/S                         | 609            |
|              | DA           | DAN-AIR SERVICES                   | 062            |
|              | 2D           | DAWN AIR                           | 551            |
|              | 9D           | DELTA AIR CHARTER                  | 689            |
| DAL          | DL           | DELTA AIR LINES                    | 006            |
|              | DI           | DELTA AIR REGIONAL FLUGVERKEHR     | 944            |
| DLH          | LH           | DEUTSCHE LUFTHANSA AG.             | 220            |
|              | ER           | DHL AIRWAYS                        | 423            |
|              | UO           | DIRECT AIR                         | 418            |
|              | DH           | DISCOVERY AIRWAYS                  | 438            |
|              | DW           | DLT DEUTSCHE LUFTVERK.             | 683            |
|              | YU           | DOMINAIR                           | 725            |
|              | DO           | DOMINICANA                         | 113            |
|              | DZ           | DOUGLAS AIRWAYS                    | 275            |
|              | KA           | DRAGONAIR                          | 043            |
|              | KB           | DRUK AIR                           | 787            |
|              | 8D           | DULLES EXPRESS                     | 506            |
|              | QG           | DYNAMIC AIR                        |                |
|              | EX           | EAGLE AVIATION                     |                |
|              | XZ           | EASTAIR (ICELAND)                  |                |
|              | UN           | EASTERN AUSTRALIA AIRLINES         |                |
|              | EW           | EAST-WEST AIRLINES                 | 088            |
|              | EU           | ECUATORIANA                        | 341            |
|              | 3D           | EDGARTOWN AIR                      |                |
|              | MS           | EGYPTAIR                           | 077            |
|              | LY           | EL AL ISRAEL AIRLINES              | 114            |
|              | EB           | EMERY WORLDWIDE (CARGO)            |                |
|              | EK           | EMIRATES                           | 176            |
|              | EM           | EMPIRE AIRLINES                    | 464            |
|              | BE           | ENTERPRISE AIRLINES                | 409            |
|              |              | ENVIROSALES CORPORATION            | 959            |
|              | 3P           | EQUATOR AIRLINES                   |                |
|              | GJ           | EQUATORIAL INT AIR OF SAO TOME 980 |                |
|              | 7H           | ERA AVIATION                       | 808            |
| ETH          | ET           | ETHIOPIAN AIRLINES                 | 071            |

| 3 Digit Code | 2 Digit Code | Name                           | Ticketing Code |
|--------------|--------------|--------------------------------|----------------|
|              | RN           | EURALAIR INTERNATIONAL         | 836            |
|              | YQ           | EURO AIR HELICOPTER SERVICE AB |                |
|              | EE           | EURO BERLIN                    | 770            |
| ECA          |              | EUROCYPRAIR                    |                |
| EUC          |              | EURO-CYPRIA (CHARTER)          |                |
| EEZ          |              | EUROFLY                        |                |
|              |              | EUROFLY (CHARTER)              |                |
|              | EY           | EUROPE AERO SERVICE            | 546            |
|              |              | EUROPEAN EXPEDITE              | 256            |
|              |              | EUROWORLD                      | 844            |
|              | BR           | EVA AIR                        |                |
|              | OT           | EVERGREEN HELICOPTERS ALASKA   |                |
| EXC          | EQ           | EXCALIBUR AIRWAYS              |                |
|              | AD           | EXEC EXPRESS                   | 504            |
|              | NA           | EXECUTIVE AIR CHARTER          |                |
|              | FX           | EXPRESS AIR                    | 569            |
|              | 9E           | EXPRESS AIRLINES               | 430            |
|              |              | EXPRESS ONE INTERNATIONAL INC  |                |
|              | IH           | FALCON CARGO AB.               | 759            |
|              | EF           | FAR EASTERN AIR TRANSPORT      | 265            |
|              | UD           | FAST AIR CARRIER (CARGO)       | 726            |
| FDX          | FM           | FEDERAL EXPRESS CORP. (CARGO)  | 023            |
|              | PC           | FIJI AIR                       | 677            |
| FIN          | AY           | FINNAIR                        | 105            |
|              | FA           | FINNAVIATION                   |                |
|              | 7F           | FIRST AIR                      | 245            |
|              | 9R           | FLAGSHIP EXPRESS SERV (CARGO)  | 359            |
|              | FK           | FLAMENCO AIRWAYS               | 580            |
|              | IX           | FLANDRE AIR                    | 972            |
|              | VV           | FLEXAIR                        |                |
|              | EC           | FLIGHT LINE                    | 452            |
|              | YC           | FLIGHT WEST AIRLINES           | 060            |
|              | GM           | FLITESTAR                      | 805            |
|              |              | FLORIDA EXPRESS                | 456            |
|              | OP           | FLYING BOAT                    | 370            |
|              | FT           | FLYING TIGER LINE (CARGO)      |                |
|              | GE           | FOSHING AIRLINES               |                |
|              |              | FOUR STAR AIR CARGO (CARGO)    | 861            |
|              | ZU           | FREEDOM AIR                    | 221            |
|              | 3F           | FRESH AIR CORP. (CARGO)        | 815            |
|              | WR           | FRIENDLY ISLANDS AIRWAYS       | 971            |
|              | SI           | FRIESENFLUG                    | SI             |
|              | 4F           | FRONTIER AIR                   | 233            |
|              | 2F           | FRONTIER FLYING SERVICE        | 517            |
|              | GO           | GAMBIA AIR SHUTTLE             | 216            |
|              | CK           | GAMBIA AIRWAYS                 | 866            |
| GIA          | GA           | GARUDA INDONESIAN AIRWAYS      | 126            |
|              |              | GAS AIR CARGO                  | 271            |
|              |              | GATEWAY PACE AVIATION          | 807            |
| GBL          | GT           | GB AIRWAYS                     | 171            |
|              | GP           | GEMINI (CARGO)                 | 625            |
| GHA          | GH           | GHANA AIRWAYS CORPORATION      | 237            |
|              | 9C           | GILL AVIATION                  | 786            |
|              | DC           | GOLDEN AIR COMMUTER            |                |

| 3 Digit Code | 2 Digit Code | Name                          | Ticketing Code |
|--------------|--------------|-------------------------------|----------------|
|              |              | GOLDEN STAR AIR CARGO         |                |
|              | LK           | GOLDFIELDS AIR SERVICES       |                |
|              | 8G           | GP EXPRESS AIRLINES INC.      | 825            |
|              | QD           | GRAND AIRWAYS                 | 475            |
|              | YE           | GRAND CANYON AIRLINES         | 374            |
|              |              | GREAT BARRIER AIRLINES        |                |
|              |              | GREAT CHINA AIRLINES          |                |
|              | ZK           | GREAT LAKES AVIATION          | 846            |
| GRN          | WK           | GREEN AIR (CHARTER)           |                |
|              | GL           | GREENLANDAIR (GRONLANDSFLY)   | 631            |
| GFA          | GF           | GULF AIR                      | 072            |
|              | XF           | GULF FLITE CENTER             | 383            |
|              | 3M           | GULFSTREAM INTERNATIONAL A/L  | 449            |
|              | GY           | GUYANA AIRWAYS CORPORATION    | 206            |
|              | 7A           | HAINES AIRWAYS                |                |
|              |              | HAITI AIR FREIGHT INTERNAT.   | 671            |
|              |              | HAITI NATIONAL AIRLINES       | 284            |
|              | TV           | HAITI TRANS AIR               | 362            |
|              | WD           | HAITIAN AVIATION LINE         | 851            |
| HAS          | HX           | HAMBURG AIRLINES              | 099            |
|              | VN           | HANG KHONG VIETNAM            | 738            |
|              | 4H           | HANNA'S AIR SALTSRING         |                |
|              | 8H           | HARBOR AIR SERVICE            | 458            |
|              | HG           | HARBOR AIRLINES               | 495            |
|              | HA           | HAWAIIAN AIRLINES             | 173            |
|              | ZL           | HAZELTON AIRLINES             |                |
|              |              | HEAVYLIFT CARGO AIRL. (CARGO) |                |
|              | YO           | HELI AIR MONACO               | 747            |
|              | OI           | HELI TRANSPORT                | 764            |
|              | MY           | HELIFRANCE                    |                |
|              | IU           | HELIFRANS AIR SERVICE         | 860            |
|              | CN           | HELIJET                       |                |
|              | JB           | HELIJET AIRWAYS               | 613            |
|              |              | HENSON AVIATION               | 531            |
|              | 2E           | HERMANS/MARKAIR EXPRESS       | 325            |
|              |              | HEX'AIR                       | 848            |
|              | ZS           | HISPANIOLA AIRWAYS (CARGO)    | 263            |
|              | HJ           | HOLMSTROEM AIR AB             |                |
|              |              | HONDURAS INTERCARGO AIRLINE   | 669            |
|              | QX           | HORIZON AIRLINES              | 481            |
| ABR          | AK           | HUNTING CARGO AIRLINES        |                |
|              |              | HUTCHAIR                      | 863            |
|              | HZ           | HUTCHINSON AIR (CARGO)        |                |
|              |              | I.L.P.O/ARUBA CARGO (CARGO)   | 564            |
| IBE          | IB           | IBERIA                        | 075            |
| ICE          | FI           | ICELANDAIR FLUGLEIDIR         | 108            |
|              | LS           | ILIAMNA AIR TAXI              |                |
|              | IC           | INDIAN AIRLINES               | 058            |
|              | ND           | INTAIR                        | 330            |
| IEA          |              | INTER EUROPEAN AIRWAYS        |                |
|              |              | INTERAMERICANA DE AVIACION    | 601            |
|              | RS           | INTERCONTINENTAL DE AVIACION  |                |
|              | IF           | INTERFLUG                     | 107            |
|              |              | INTER-ISLAND AIR              | 882            |

| 3 Digit Code | 2 Digit Code | Name                           | Ticketing Code |
|--------------|--------------|--------------------------------|----------------|
|              |              | INTERNACIONAL DE AVIACION      | 420            |
|              | IQ           | INTEROT AIR SERVICES           | 614            |
|              |              | IPEC AVIATION (CARGO)          | 717            |
| IRA          | IR           | IRAN AIR                       | 096            |
|              | IA           | IRAQI AIRWAYS                  | 073            |
|              | 4M           | ISLAND AIR                     |                |
|              | AK           | ISLAND AIR, SA                 |                |
|              | IS           | ISLAND AIRLINES                |                |
|              | 2S           | ISLAND EXPRESS                 |                |
|              | 2N           | ISLANDER AIR/AIR NEWARK        |                |
|              | WC           | ISLENA AIRLINES                | 282            |
|              | FW           | ISLES OF SCILLY SKYBUS         |                |
|              | IL           | ISTANBUL AIRLINES              |                |
| ITJ          |              | ITALJET (CHARTER)              |                |
|              | LN           | JAMAHIRIYA LIBYAN ARAB AIRLINE | 148            |
|              |              | JAMAICA AIR FREIGHTERS         | 605            |
|              |              | JANAIR (CARGO)                 | 462            |
|              | JN           | JAPAN AIR COMMUTER             |                |
| JAL          | JL           | JAPAN AIR LINES                | 131            |
|              | JD           | JAPAN AIR SYSTEM               | 234            |
|              | EG           | JAPAN ASIA AIRWAYS             | 688            |
|              | JT           | JARO INTERNATIONAL             |                |
| JAT          | JU           | JAT YUGOSLAV AIRLINES          | 115            |
| JEA          | JY           | JERSEY EUROPEAN AIRWAYS        | 267            |
|              | JX           | JES AIR                        | 691            |
|              |              | JET AIRWAYS                    |                |
|              | 9W           | JET AIRWAYS (INDIA) LTD        |                |
|              |              | JET ALSACE                     | 716            |
|              |              | JET EXECUTIVE INTERNATIONAL    | 310            |
|              | JI           | JET EXPRESS                    | 878            |
|              | 8J           | JETALL                         | 662            |
|              | DK           | KAMPUCHEA AIRLINES             |                |
|              | KR           | KARAIR                         | 261            |
|              | 6K           | KEEWATIN AIR                   | 157            |
|              | KD           | KENDELL AIRLINES               | 678            |
|              | 5K           | KENMORE AIR                    |                |
|              | 4K           | KENN BOREK AIR                 | 652            |
|              | KQ           | KENYA AIRWAYS                  | 706            |
|              | 6S           | KETCHIKAN AIR SERVICE          | 469            |
|              | HE           | KEYSTONE AIR SERVICE           | 921            |
|              |              | KING ISLAND AIRLINES           |                |
|              | 2K           | KITTY HAWK AIRWAYS (CARGO)     | 352            |
|              | KL           | KLM CITYHOPPER (KLM COMMUTER)  |                |
| KLM          | KL           | KLM ROYAL DUTCH AIRLINES       | 074            |
| KAL          | KE           | KOREAN AIR                     | 180            |
|              | 2Y           | KOYUKON AIR                    |                |
| KAC          | KU           | KUWAIT AIRWAYS                 | 229            |
|              | KH           | KYRNAIR                        |                |
|              | JF           | L.A.B. FLYING SERVICE          | 510            |
|              | 7J           | L.A.P.S.A                      | 213            |
| LAB          |              | LAB AIRLINES                   |                |
|              | WJ           | LABRADOR AIRWAYS               | 927            |
|              | LR           | LACSA                          | 133            |
|              | LD           | LADE (LINEAS AER DEL ESTADO)   | 177            |

| 3 Digit Code | 2 Digit Code | Name                          | Ticketing Code |
|--------------|--------------|-------------------------------|----------------|
|              | UC           | LADECO                        | 145            |
|              |              | LAKE UNION AIR                | 461            |
|              | 7L           | LAKE UNION AIR SERVICE        | 461            |
|              | TM           | LAM-LINHAS AEREAS MOCAMBIQUE  | 068            |
|              | LA           | LAN-CHILE                     | 045            |
|              | QV           | LAO AVIATION                  | 627            |
|              | PZ           | LAP(LINEAS AEREAS PARAGUAYAS) | 705            |
|              | MJ           | LAPA                          | 069            |
|              | TH           | LAR TRANSREGIONAL             | 259            |
|              | 7K           | LARRY'S FLYING SERVICE        |                |
|              | TQ           | LAS VEGAS AIRWAYS             | 540            |
|              | NG           | LAUDA AIR                     | 231            |
|              | LV           | LAV LINEA AERO VENEZOLANA     | 046            |
|              | QL           | LESOTHO AIRWAYS               | 721            |
|              | 4X           | L'EXPRESS AIRLINES            | 534            |
|              | LI           | LIAT                          | 140            |
|              | QB           | LIGNES AERIENNES INTER-QUEBEC | 968            |
|              | GC           | LINA CONGO                    | 246            |
|              | RT           | LINCOLN AIRLINES              |                |
|              | LC           | LINEAS AER DEL CARIBE (CARGO) | 029            |
|              | LF           | LINJEFLYG                     | 247            |
|              | JK           | LINK AIRWAYS                  |                |
|              | LE           | LINK AIRWAYS (SOUTH AFRICA)   | 600            |
|              |              | LINK AMERICA (CARGO)          | 474            |
| LAL          | TE           | LITHUANIAN AIRLINES           |                |
| LLB          | LB           | LLOYD AEREO BOLIVIANO         | 051            |
| LOG          | LC           | LOGANAIR                      | 122            |
|              |              | LOKEN AVIATION INC            |                |
|              | YL           | LONG ISLAND AIRLINES LTD      | 443            |
| LOT          | LO           | LOT POLISH AIRLINES           | 080            |
|              | L2           | LOVE AIR                      |                |
|              | LT           | LTU INTERNATIONAL AIRWAYS     | 266            |
| LTE          |              | LUFTANSA TRANS ESPANA         |                |
|              | LG           | LUXAIR LUXEMBOURG AIRLINES    | 149            |
|              | CD           | M.K. AIRLINES                 |                |
|              | 3R           | MACAIR                        | 812            |
|              | MT           | MACKNIGHT AIRLINES            |                |
| DMA          | DM           | MAERSK AIR (DANISH AIRLINES)  | 349            |
|              | 2J           | MAJESTIC AIRLINES (CARGO)     |                |
|              |              | MAKUNG AIRLINES               |                |
| MAS          | MH           | MALAYSIA AIRLINES             | 232            |
| MAH          | MA           | MALEV HUNGARIAN AIRLINES      | 182            |
|              | FH           | MALI AIRWAYS                  |                |
|              | HB           | MALI-TINBOUCTOU AIR SERVICE   | 679            |
|              | 6E           | MALMO AVIATION                | 984            |
| MXE          | JE           | MANX AIRLINES INC.            | 916            |
|              | BF           | MARKAIR                       | 478            |
|              | MP           | MARTINAIR HOLLAND NV          |                |
|              | MW           | MAYA AIRWAYS                  |                |
|              | IG           | MERIDIANA                     | 191            |
|              | MZ           | MERPATI NUSANTARA AIRLINES    | 621            |
|              | YV           | MESA AIRLINES                 | 533            |
|              | XJ           | MESABA AIRLINES               | 582            |
|              |              | METAVIA AIRLINES              | 873            |

| 3 Digit Code | 2 Digit Code | Name                           | Ticketing Code |
|--------------|--------------|--------------------------------|----------------|
|              |              | METHOW AVIATION                | 519            |
|              | HY           | METRO AIRLINES                 | 380            |
|              |              | METRO AIRLINES NORTHEAST       | 450            |
|              |              | METRO EXPRESS                  | 887            |
|              | FY           | METROFLIGHT AIRLINES           |                |
|              | MG           | MGM GRAND AIR                  | 558            |
|              |              | MICHIGAN PENINSULA AIRWAYS     | 574            |
| MEA          | ME           | MIDDLE EAST AIRLINES           | 076            |
|              | ML           | MIDWAY AIRLINES                | 557            |
|              | WV           | MIDWEST AVIATION               | 896            |
|              | YX           | MIDWEST EXPRESS AIRLINES       | 453            |
|              |              | MILLON AIR (CARGO)             | 034            |
|              | IW           | MINERVE                        | 646            |
|              |              | MISR. OVERSEAS AIRWAYS (CARGO) | 931            |
|              | FS           | MISSIONARY AVIATION FELLOWSHIP |                |
|              | ZO           | MOHAWK AIRLINES                | 390            |
| MON          | ZB           | MONARCH AIRLINES               | 974            |
|              |              | MONTAIR FLIGHT SERVICE         | 319            |
| MNT          |              | MONTERRAT AIRWAYS              |                |
|              | NM           | MOUNT COOK LINE OF NEW ZEALAND | 445            |
|              | ZR           | MUK AIR                        | 796            |
|              | UB           | MYANMA AIRWAYS CORPORATION     | 209            |
|              | JO           | N.V LUCHTVAARTMAATSCHAPPIJ TWN |                |
|              | NJ           | NAMAKWALAND LUGDIENS           |                |
|              | DV           | NANTUCKET AIRLINES             |                |
|              |              | NASA SOYUZ AVIATION (CARGO)    |                |
|              | 8N           | NASHVILLE EAGLE                |                |
|              | HC           | NASKE AIR                      |                |
| NXA          | NX           | NATIONAIR CANADA               | 151            |
|              | YJ           | NATIONAL AIRLINES              |                |
|              | 9L           | NATIONAL CAPITAL AIRWAYS       | 426            |
|              | XV           | NATURE ISLAND EXPRESS          |                |
|              | EJ           | NEW ENGLAND AIRLINES           | 367            |
|              | HD           | NEW YORK HELICOPTER CORP       | 814            |
|              | WA           | NEWAIR                         | 797            |
|              |              | NEWFOUNDLAND/LABRADOR AIR TRAN | 645            |
|              | NS           | NFD LUFTVERKEHRS               | 104            |
| NGA          | WT           | NIGERIA AIRWAYS                | 087            |
|              | KZ           | NIPPON CARGO AIRLINES          | 933            |
|              | FN           | NIUE AIRLINES                  |                |
|              | HN           | NLM DUTCH AIRLINES             | 195            |
|              | HK           | NOBLE AIR                      |                |
|              |              | NORCANAIR                      |                |
|              | JH           | NORDESTA LINHAS AER REG        |                |
|              | EO           | NORDIC & SWEDEN AIRWAYS        | 650            |
|              | UI           | NORLANDAIR (ICELAND)           |                |
|              | NR           | NORONTAIR                      | 066            |
|              | NC           | NORSKAIR                       | 665            |
|              |              | NORTH CROSS AIRWAYS            |                |
|              | 5N           | NORTHCOAST EXECUTIVE AIRLINES  | 497            |
|              | 2V           | NORTHEAST EXPRESS REGIONAL     | 463            |
|              |              | NORTHERN AIR CARGO (CARGO)     | 345            |
|              | RU           | NORTHERN COMMUTER AIRLINES     |                |
| NWA          | NW           | NORTHWEST AIRLINES             | 012            |

| 3 Digit Code | 2 Digit Code | Name                           | Ticketing Code |
|--------------|--------------|--------------------------------|----------------|
|              | NV           | NORTHWEST TERRITORIAL AIRWAYS  | 668            |
|              | 3E           | NORTHWESTERN AIR LEASE         |                |
|              | HW           | NORTH-WRIGHT AIR               |                |
|              | JA           | NORWAY AIRLINES                |                |
|              | 6N           | NUNASI-NORTHLAND AIRLINES      |                |
|              | LP           | NYGE-AERO                      |                |
| AAN          |              | OASIS INTERNATIONAL AIRLINES   |                |
|              | 5H           | ODIN AIR                       |                |
|              | 4B           | OLSON AIR SERVICE              |                |
|              | OL           | OLT OSTFRIESISCHE LUFTRANSPORT | 704            |
| OAL          | OA           | OLYMPIC AIRWAYS                | 050            |
|              | WY           | OMAN AVIATION SERVICES         | 910            |
|              | 9X           | ONTARIO EXPRESS                | 940            |
|              | VQ           | OXLEY AIRLINES                 |                |
|              | RI           | P.T MANDALA AIRLINES           |                |
|              |              | PACIFIC AIRLINES               |                |
|              | PQ           | PACIFIC COAST AIRLINES         | 561            |
|              | 8P           | PACIFIC COASTAL AIRLINES       | 905            |
|              | 2W           | PACIFIC MIDLAND AIRLINES       | 763            |
| PIA          | PK           | PAKISTAN INT AIRLINE           | 214            |
| PAF          |              | PANAF AIRWAYS (CHARTER)        |                |
|              |              | PANAMA AIRWAYS                 | 421            |
|              | PV           | PANORAMA AIR                   | 311            |
|              | HI           | PAPILLON AIRWAYS               | 563            |
| PGT          |              | PEGASUS AIRLINES               |                |
|              | 9P           | PELANGI AIR                    |                |
|              | PD           | PEM AIR                        | 329            |
|              | KS           | PENINSULA AIRWAYS              | 339            |
|              |              | PENNSYLVANIA AIRLINES          | 395            |
|              | 4P           | PEOPLES AIR                    | 906            |
|              | UW           | PERIMETER AIRLINES             | 711            |
| PAL          | PR           | PHILIPPINE AIRLINES            | 079            |
|              | NP           | PICCOLO AIRLINES               |                |
|              | PU           | PLUNA URUGUAYIAN AIRLINES      | 286            |
|              | WO           | POLARWING                      |                |
|              | PH           | POLYNESIAN AIRLINES            | 162            |
|              | NI           | PORTUGALIA                     | 685            |
|              | 2P           | PRAIRIE FLYING SERVICE         | 094            |
|              | RP           | PRECISION AIRLINES             | 544            |
|              |              | PREMIERE AIRLINES              | 350            |
|              |              | PRIME AIR                      | 514            |
|              | FB           | PROMAIR AUSTRALIA              |                |
|              | YS           | PROTEUS                        |                |
|              | AG           | PROVINCIAL AIRWAYS             | 967            |
|              | PE           | PROVINCIAL AIR SERVICES        |                |
|              | 5P           | PTARMIGAN AIRWAYS              | 697            |
| QFA          | QF           | QANTAS AIRWAYS                 | 081            |
|              |              | QUEBEC AVIATION                | 911            |
|              | QJ           | QUEENSLAND PACIFIC AIRLINES    |                |
|              | QH           | QWESTAIR                       |                |
|              |              | RACE CARGO AIRLINES            | 765            |
|              | 4R           | RAVEN AIR                      |                |
|              | 7R           | REDWING AIRWAYS                | 594            |
|              | RV           | REEVE ALEUTIAN AIRWAYS         | 338            |

| 3 Digit Code | 2 Digit Code | Name                           | Ticketing Code |
|--------------|--------------|--------------------------------|----------------|
|              | 7S           | REGION AIR                     |                |
|              |              | RENTA-JET FLUGDIENST           |                |
|              |              | RFG-REGIONALFLUG               | 637            |
|              | WE           | RHEINTALFLUG SEEWALD           | 915            |
|              | 6R           | RICHARDS AVIATION (CARGO)      | 552            |
|              | SL           | RIO-SUL SERVICOS AEREOS REGION | 293            |
|              | IK           | ROADAIR FEEDER SERVICE         |                |
|              | JC           | ROCKY MOUNTAIN AIRWAYS         | 428            |
|              | ZD           | ROSS AVIATION                  |                |
|              | WI           | ROTTNEST AIRBUS                |                |
|              | 5R           | ROVER AIRWAYS (CARGO)          | 376            |
|              | RR           | ROYAL AIR FORCE                |                |
|              | AT           | ROYAL AIR MAROC                | 147            |
|              | BI           | ROYAL BRUNEI AIRLINES          | 672            |
| RJA          | RJ           | ROYAL JORDANIAN AIRLINE        | 512            |
| RNA          | RA           | ROYAL NEPAL AIRLINES           | 285            |
|              | ZC           | ROYAL SWAZI NATIONAL AIRWAYS   | 141            |
|              |              | RWL-LUFTFAHRT GMBH & CO        | 801            |
|              | XY           | RYAN AIR (ALASKA)              | 251            |
| RYR          | FR           | RYANAIR                        | 224            |
|              |              | S.A.R. AVIONS TAXIS            |                |
|              | ZG           | SABAIR AIRLINES                |                |
| SAB          | SN           | SABENA WORLD AIRLINES          | 082            |
|              |              | SABER AVIATION (CARGO)         | 854            |
|              | 9S           | SABOURIN LAKE AIRWAYS          |                |
|              | EH           | SAETA                          | 156            |
|              | KP           | SAFAIR                         | 103            |
|              | SH           | SAHSA                          | 274            |
|              | 8S           | SALAIR (CARGO)                 | 477            |
|              | YD           | SALAIR AB                      | 947            |
|              | TS           | SAMOA AVIATION                 |                |
|              | WB           | SAN                            | 739            |
|              | BB           | SANSA                          | 907            |
|              | UF           | SARO AIRLINES                  |                |
|              | SP           | SATA AIA ACORES                | 737            |
|              | ZT           | SATENA                         |                |
| SVA          | SV           | SAUDI ARABIAN                  | 065            |
| SAS          | SK           | SCANDINAVIAN AIRLINES          | 117            |
|              | SY           | SCANJET                        |                |
|              | YR           | SCENIC AIRLINES                | 398            |
|              | ZM           | SCIBE AIRLIFT                  | 939            |
|              | WW           | SCOTTISH EUROPEAN AIRWAYS      | 626            |
|              |              | SEAGREEN AIR TRANSPORT         | 308            |
|              | RW           | SEAIR PACIFIC                  |                |
|              | XT           | SECTOR AIRLINES (CARGO)        | 987            |
|              |              | SERVICE AERIEN FRANCAIS        |                |
|              | 8L           | SERVICIO AEREO LEO LOPEZ       |                |
|              | 2Z           | SERVICIOS AEREOS LITORAL       | 642            |
|              |              | SERVICIOS DE CARGA AEREA       | 641            |
|              | VC           | SERVIVENSA                     | 985            |
|              | SS           | SHABAIR                        |                |
|              | NL           | SHAHEEN AIR INTERNATIONAL      | 740            |
|              | 3S           | SHUSWAP FLIGHT CENTRE          |                |
|              |              | SIERRA PACIFIC AIRLINES        |                |

| 3 Digit Code | 2 Digit Code | Name                           | Ticketing Code |
|--------------|--------------|--------------------------------|----------------|
|              |              | SIGI AIR CARGO COMPANY         | 714            |
|              | MI           | SILKAIR                        |                |
|              | MQ           | SIMMONS AIRLINES               |                |
|              | 7B           | SIMPSON AIR                    | 166            |
|              | SQ           | SINGAPORE AIRLINES             | 618            |
|              | 5U           | SKAGWAY AIR SERVICE            |                |
|              | OO           | SKY WEST AIRLINES              | 302            |
|              | 9F           | SKYCRAFT AIR TRANSPORT         | 973            |
|              | 8M           | SKYMASTER                      | 581            |
|              | YT           | SKYWEST AIRLINES               | 674            |
|              | HU           | SLOV-AIR                       |                |
|              | MM           | SOCIEDAD AERONAUTICA MEDELLIN  | 334            |
|              | IE           | SOLOMON ISLANDS AIRLINES       | 193            |
|              | HH           | SOMALI AIRLINES                | 089            |
| SAA          | SA           | SOUTH AFRICAN AIRWAYS          | 083            |
|              | XE           | SOUTH CENTRAL AIR              | 301            |
|              | SG           | SOUTHEAST AIRLINES LIMITED     |                |
|              |              | SOUTHERN AIR                   |                |
|              | SJ           | SOUTHERN AIR TRANSPORT (CARGO) | 351            |
|              | NU           | SOUTHWEST AIRLINES (JAPAN)     | 353            |
|              | WN           | SOUTHWEST AIRLINES (U.S.A.)    | 526            |
| SPP          |              | SPAN AIR                       |                |
|              | YW           | STATESWEST AIRLINES            | 454            |
|              | NB           | STERLING AIRWAYS               | 194            |
| SAY          | CB           | SUCKLING AIRWAYS               | 969            |
|              | SD           | SUDAN AIRWAYS                  | 200            |
|              |              | SULTAN AIR (CHARTER)           |                |
|              |              | SUMO AIRLINES (CARGO)          | 541            |
|              | VL           | SUN PACIFIC AIRLINES           |                |
|              | EZ           | SUN-AIR OF SCANDINAVIA         |                |
| SMB          |              | SUNBEAM AIRLINE (CHARTER)      |                |
|              | PI           | SUNFLOWER AIRLINES             | 252            |
|              | OC           | SUNSHINE AVIATION              | 938            |
|              | OF           | SUNSTATE AIRLINES              | 620            |
|              | PY           | SURINAM AIRWAYS                | 192            |
|              | JG           | SWEDAIR                        | 616            |
| SWR          | SR           | SWISSAIR TRANSPORT COMPANY     | 085            |
|              | FD           | SYDNEY AIRLINES                |                |
|              | RB           | SYRIAN ARAB AIRLINES           | 070            |
|              | EQ           | T.A.M.E.                       | 269            |
|              | DT           | TAAG ANGOLA AIRLINES           | 118            |
|              | TA           | TACA INTERNATIONAL AIRLINES    | 202            |
|              | CQ           | TAHITI CONQUEST AIRLINES       |                |
|              |              | TAIWAN AIRLINES COMPANY        | 710            |
|              | GV           | TALAIR                         | 447            |
|              | KK           | TAM                            |                |
|              | QT           | TAMPA AIRLINES (CARGO)         | 729            |
|              | TX           | TAN AIRLINES                   | 208            |
|              | 4E           | TANANA AIR SERVICE             |                |
| TAP          | TP           | TAP AIR PORTUGAL               | 047            |
|              | 9Q           | TAQUAN AIR SERVICE             |                |
|              | RO           | TAROM ROMANIAN AIR TRANSPORT   | 281            |
|              | TJ           | TAS AIRWAYS S.P.A              | 667            |
|              | 3K           | TATONDUK AIR SERVICE           |                |

| 3 Digit Code | 2 Digit Code | Name                           | Ticketing Code |
|--------------|--------------|--------------------------------|----------------|
|              | QS           | TATRA AIR                      | 904            |
|              |              | TEDDY AIR                      |                |
|              | CL           | TEMPLEHOF AIRWAYS U.S.A.       | 175            |
|              | KN           | TEMSCO HELICOPTERS             | 876            |
|              | TG           | THAI AIRWAYS INTERNATIONAL     | 217            |
|              | LU           | THERON AIRWAYS                 |                |
| TRS          |              | TIA                            |                |
|              |              | TIKAL JETS (CARGO)             | 489            |
|              |              | TIME AIR SWEDEN                |                |
|              |              | TNT SAVA S.A.                  | 849            |
|              | AB           | TORRES AIR                     |                |
| TUR          |              | TOUR EUROPE (CHARTER)          |                |
| TOW          | NC           | TOWER AIR                      | 305            |
|              |              | TPI INTER. AIRWAYS (CARGO)     | 587            |
|              |              | TRANS AIR                      | 499            |
|              |              | TRANS ARABIAN AIR TRANS(CARGO) |                |
|              | YB           | TRANS CONTINENTAL A/L (CARGO)  | 837            |
|              | 7T           | TRANS COTE                     |                |
| TEI          |              | TRANS EUROPEAN AIR (CHARTER)   |                |
|              |              | TRANS EUROPEAN AIRWAYS (CHART) |                |
|              | JQ           | TRANS JAMAICAN AIRLINES        | 100            |
|              | TL           | TRANS MEDITERRAREAN AIR(CARGO) | 270            |
|              | 4Q           | TRANS NORTH AVIATION           |                |
|              | 9N           | TRANS STATES AIRLINES          | 414            |
| TWA          | TW           | TRANS WORLD AIRLINES           | 015            |
|              |              | TRANS-AIR-LINK (CARGO)         | 348            |
| TRA          | HV           | TRANSAVIA AIRLINES             | 979            |
|              | TD           | TRANSAVIO                      |                |
|              | TR           | TRANSBRASIL S/A LINHAS AEREAS  | 653            |
|              |              | TRANSCARGO (CARGO)             | 978            |
|              | KV           | TRANSKEI AIRWAYS               | 264            |
|              | IO           | TRANSPORT AERIEN TRANS EXPORT  | 153            |
|              | IJ           | TRANSPORT AERIEN TRANSREGIONAL | 936            |
|              |              | TRANSPORT AIR CENTRE           | 203            |
|              | VR           | TRANSPORTES AEREOS CABO VERDE  | 696            |
|              | GD           | TRANSPORTES AEREOS EJECUTIVOS  | 838            |
|              | VW           | TRANSPORTES AEROMAR            | 942            |
|              | YZ           | TRANSPORTES DE GUINE BISSAU    | 241            |
|              | 8T           | TRAVELAIR                      |                |
|              | BW           | TRINIDAD & TOBAGO BWIA INT     | 106            |
|              | PM           | TROPIC AIR                     |                |
|              | BN           | TROPICAL SEA AIRLINES          | 922            |
|              | TB           | TRUMP SHUTTLE                  | 857            |
|              | UG           | TUNINTER                       |                |
|              | TU           | TUNIS AIR                      | 199            |
|              | TT           | TUNISAVIA                      | 720            |
|              |              | TURK HAVA TASIMACILIGI         | 929            |
|              | TK           | TURKISH AIRLINES               | 235            |
|              | KT           | TURTLE AIRWAYS                 |                |
|              | 6T           | TYEE AIRWAYS                   |                |
|              | VO           | TYROLEAN AIRWAYS               | 734            |
| UGA          | QU           | UGANDA AIRLINES CORPORATION    | 673            |
|              | PS           | UKRAINE INTERNATIONAL AIRLINES |                |
| UAL          | UA           | UNITED AIRLINES                | 016            |

| 3 Digit Code | 2 Digit Code | Name                          | Ticketing Code |
|--------------|--------------|-------------------------------|----------------|
|              | 5X           | UNITED PARCEL SERVICE (CARGO) | 406            |
|              | 9U           | UNIVERSAL AIRLINES (CARGO)    | 598            |
|              |              | US EXPRESS (CARGO)            |                |
|              | US           | USAIR                         | 037            |
|              | UT           | UTA                           | 142            |
|              |              | VALLEY AIR SERVICES INC       | 482            |
|              | J7           | Valuejet                      |                |
|              | 5J           | VALUJET                       |                |
| BRG          | RG           | VARIG BRAZILIAN AIRLINES      | 042            |
|              | VP           | VASP                          | 343            |
|              | PF           | VAYUDOOT                      | 925            |
| VIA          | VA           | VENEZUELAN INTL AIRWAYS       | 164            |
|              | VI           | VIEQUES AIR LINK              | 381            |
|              | ZP           | VIRGIN AIR                    | 315            |
| VIR          | VS           | VIRGIN ATLANTIC AIRWAYS       | 932            |
|              | FV           | VIVA AIR                      | 728            |
|              | 4V           | VOYAGEUR AIRWAYS              | 908            |
|              | 3V           | WAGLISLA AIR                  |                |
|              | XW           | WALKERS CAY AIRLINE           | 360            |
|              |              | WALLISAIR                     |                |
|              | 4W           | WARBELOW'S AIR VENTURES       |                |
|              | KY           | WATERWINGS AIRWAYS (TE ANAU)  | 914            |
|              | KJ           | WEST AIR EXECUTIVE            |                |
|              | 3L           | WEST ISLE AIR                 |                |
|              | OE           | WESTAIR COMMUTER AIRLINES     | 460            |
|              | WS           | WESTATES AIRLINES             | 573            |
|              | MB           | WESTERN AIRLINES              |                |
|              | FO           | WESTERN NEW SOUTH WALES AIR   |                |
|              |              | WESTPAC AIRLINES (CARGO)      |                |
|              | WF           | WIDEROE'S FLYVESELSKAP        | 701            |
|              | 8F           | WILBURS FLIGHT OPERATIONS     | 442            |
|              | 6W           | WILDERNESS AIRLINE (1975)     |                |
|              | WM           | WINDWARD ISLANDS AIRWAYS      | 295            |
|              | WQ           | WINGS AIRWAYS                 | 842            |
|              | SE           | WINGS OF ALASKA               | 397            |
|              | RM           | WINGS WEST AIRLINES           |                |
|              |              | WORLD AIRWAYS (CHARTER)       |                |
|              | WG           | WORLDWAYS CANADA LTD          |                |
|              | 8R           | WRA                           | 393            |
|              |              | WRANGLER AVIATION (CARGO)     | 490            |
|              | 8V           | WRIGHT AIR SERVICE            |                |
|              | MF           | XIAMEN AIRLINES               |                |
|              | XO           | XINJIANG AIRLINES             |                |
|              | ST           | YANDA AIRLINES                |                |
| IYE          | IY           | YEMEN AIRWAYS                 | 635            |
|              | 9Y           | YUTANA AIRLINES               |                |
|              | 4Y           | YUTE AIR ALASKA               | 476            |
| ZAC          | QZ           | ZAMBIA AIRWAYS                | 169            |
|              |              | ZANTOP INT AIRLINES (CARGO)   | 391            |
|              | ZA           | ZAS AIRLINES OF EGYPT         | 708            |
|              | OD           | ZULIANA DE AVIACION (CARGO)   | 822            |

## Occupant Codes for Airline Tenants

The \$ symbol is used as a placeholder in order to conform to the aforementioned layering convention.

| Airline                | Y - designation |
|------------------------|-----------------|
| Air Ghana              | \$GH            |
| Air Jamaica            | \$JM            |
| Aer Lingus             | \$EI            |
| Air Mobility Command   | \$MC            |
| Air Ontario/Air Canada | \$AC            |
| American Airlines      | \$AA            |
| America West           | \$HP            |
| British Airways        | \$BA            |
| Continental Airlines   | \$CO            |
| Delta Airlines         | \$DL            |
| Frontier Airlines      | \$F9            |
| Icelandair             | \$FI            |
| Northwest Airlines     | \$NW            |
| Pro Air                | \$P9            |
| Ryan Int'l Airlines    | \$XY            |
| Trans World Airlines   | \$TW            |
| United Airlines        | \$UA            |
| US Airways             | \$US            |
| MetroJet               | USM             |
| Southwest Airlines     | L\$WN           |

## Occupant Codes for Other Tenants

Baltimore/Washington International Airport lessees and their corresponding layer codes.

| Y - designation | Company                                 |
|-----------------|---|
| AEX             | A-1 Express                             |
| AGR             | United States Department of Agriculture |
| ALA             | Alamo Rent-a-Car                        |
| ARC             | Arinc                                   |
| AVS             | Avis Car Rental                         |
| BUD             | Budget Car Rental                       |
| CEX             | Currency Exchange                       |
| M               | CH<br>Chimes                            |
| D               | CM<br>Celebrate Maryland                |
|                 | CUS<br>U.S. Customs                     |
|                 | DEA<br>Drug Enforcement Agency          |
|                 | DOL<br>Dollar Car Rental                |
|                 | DUT<br>Duty Free                        |
| A               | MA<br>Federal Aviation Administration   |
|                 | GLO<br>Globe Airport Security           |
|                 | HNT<br>Huntleigh                        |
|                 | HTZ<br>Host International, Inc.         |
|                 | INS<br>Herb Car Rental                  |

| Y - designation | Company                                  |
|-----------------|--|
| HST             | Immigration and Naturalization Service   |
| ITS             | International Total Services, Inc.       |
| LHD             | Lockheed                                 |
| MAA             | Maryland Aviation Administration         |
| MAA             | Millar Elevator (MAA)                    |
| MAS             | Service Master                           |
| MTA             | Maryland Transportation Authority Police |
| NAT             | National Car Rental                      |
| PHS             | Public Health Service                    |
| SIG             | Signature Flight Support, Inc.           |
| SKY             | Sky Sites                                |
| SMT             | SmarteCarte                              |
| SUS             | Super Shuttle                            |
| TRX             | Travelex                                 |
| TRA             | Travelers Aid Society                    |
| USM             | U.S. Mail                                |
| USO             | USO                                      |
| VAC             | Vacant                                   |
| WAC             | Wackenhut Security Services              |

## Usage Codes for Layering Convention

| Z-Designation | Description                  | Patterned Hatch   | Scale/Angle |
|---------------|------------------------------|-------------------|-------------|
| DR            | Directory                    | -none-            | -           |
| FB            | Food and beverages (retail)  | CROSS             | 96/0°       |
| FD            | flight information directory | - none -          | -           |
| HR            | holdroom                     | DASH              | 00/45°      |
| LS            | lighted sign                 | - none -          | -           |
| MS            | Merchandising space (retail) | STARS             | 50/0°       |
| ON            | office, no public            | ANS136            | 100/0°      |
| OP            | office, public access        | ANS133            | 100/90°     |
| PM            | Public meeting/lounge        | ACRD.IS014W100    | 3/315°      |
| PS            | public stairs                | ANS134            | 50/90°      |
| PL            | public elevator              | - none -          | -           |
| PE            | public escalator             | SACNCR            | 200/90°     |
| PC            | public corridor              | - none -          | -           |
| PC            | restricted corridor          | ANGLE             | 60/45°      |
| PT            | public telephones            | - none -          | -           |
| RR            | restroom                     | AN S132           | 50/90°      |
| SF            | special, finished            | - matches usage - |             |
| SU            | special, unfinished          | ANS138            | 120/0°      |
| SC            | security checkpoint          | ANS137            | 150/0°      |
| SS            | Special, storage             | ANS138            | 120/0°      |
| TC            | ticket counter               | ANS131            | 100/0°      |
| UM            | utility, mechanical          | SQUARE            | 100/0°      |
| UE            | utility, electrical          | ZIGZAG            | 100/0°      |
| UT            | utility, telecommunications  | TRIANG            | 100/90°     |
| VP            | visual paging                | - none -          |             |

# APPENDIX 3

## Glossary of Acronyms for Use in Airport Documents

| -A-   |   |
|---|---|
| A/C -Aircraft   | ARINC -Aeronautical Radio, Inc.                         |
| A/H -Altitude/Height                                    | A/G -Air to Ground                                      |
| AAF -Army Air Field                                     | AAC -Mike Monroney Aeronautical Center                  |
| AAP -Advanced Automation Program                        | AAI -Arrival Aircraft Interval                          |
| ABDIS -Automated Data Interchange System Service B      | AAR -Airport Acceptance Rate                            |
| ACAS -Aircraft Collision Avoidance System               | ACAIS -Air Carrier Activity Information System          |
| ACCT -Accounting Records                                | ACC -Area Control Center                                |
| ACDO -Air Carrier District Office                       | ACD -Automatic Call Distributor                         |
| ACFO -Aircraft Certification Field Office               | ACF -Area Control Facility                              |
| ACID -Aircraft Identification                           | ACFT -Aircraft  |
| ACLT -Actual Landing Time Calculated                    | ACLS -Automatic Carrier Landing System                  |
| ADA -Air Defense Area                                   | ACO -Aircraft Certification Office                      |
| ADAS -AWOS Data Acquisition System                      | ADAP -Airport Development Aid Program                   |
| ADDA -Administrative Data                               | ADCCP -Advanced Data Communications Control Procedure   |
| ADI -Automatic De-Ice and Inhibitor                     | ADF -Automatic Direction Finding                        |
| ADIZ -Air Defense Identification Zone                   | ADIN -AUTODIN Service                                   |
| ADLY -Arrival Delay                                     | ADL -Aeronautical Data-Link                             |
| ADP -Automated Data Processing                          | ADO -Airline Dispatch Office                            |
| ADSIM -Airfield Delay Simulation Model                  | ADS -Automatic Dependent Surveillance                   |
| ADTN -Administrative Data Transmission Network          | ADSY -Administrative Equipment Systems                  |
| ADVO -Administrative Voice                              | ADTN2000 -Administrative Data Transmission Network 2000 |
| AEIS - Airport Engineering Information System           | AEG -Aircraft Evaluation Group                          |
| AERA -Automated En-Route Air Traffic Control            | AEX -Automated Execution                                |
| AF -Airway Facilities                                   | AFB -Air Force Base                                     |
| AFIS -Automated Flight Inspection System                | AFP -Area Flight Plan                                   |
| AFRES -Air Force Reserve Station                        | AFS -Airways Facilities Sector                          |
| AFSFO -AFS Field Office                                 | AFSFU -AFS Field Unit                                   |
| AFSOU -AFS Field Office Unit (Standard is AFSFOU)       | AFSS -Automated Flight Service Station                  |
| AFTN -Automated Fixed Telecommunications Network        | AGL -Above Ground Level                                 |
| AID -Airport Information Desk                           | AIG -Airbus Industries Group                            |
| AIM -Airman's Information Manual                        | AIP -Airport Improvement Plan                           |
| AIRMET -Airmen's Meteorological Information             | AIRNET -Airport Network Simulation Model                |
| AIS -Aeronautical Information Service                   | AIT -Automated Information Transfer                     |
| ALP -Airport Layout Plan                                | ALS -Approach Lighting System                           |
| ALSF1 -ALS with Sequenced Flashers I                    | ALSF2 -ALS with Sequenced Flashers II                   |
| ALSIP -Approach Lighting System Improvement Plan        | ALTRV -Altitude Reservation                             |
| AMASS -Airport Movement Area Safety System              | AMCC -ACF/ARTCC Maintenance Control Center              |
| AMOS -Automated Meteorological Observation Station      | AMP -ARINC Message Processor (OR) Airport Master Plan   |
| AMVER -Automated Mutual Assistance Vessel Rescue System | ANC -Alternate Network Connectivity                     |
| ANG -Air National Guard                                 | ANGB -Air National Guard Base                           |
| ANMS -Automated Network Monitoring System               | ANSI -American National Standards Group                 |
| AP -Acquisition Plan                                    | APP -Approach   |
| APS -Airport Planning Standard                          | AQAFO -Aeronautical Quality Assurance Field Office      |
| ARAC -Army Radar Approach Control (AAF)                 | ARAC -Aviation Rulemaking Advisory Committee            |
| ARCTR -FAA Aeronautical Center or Academy               | ARF -Airport Reservation Function                       |
|   |   |
| ARLNO -Airline Office ARO -Airport Reservation Office   | AWS -Air Weather Station                                |
| ARO -Airport Reservation Office                         | ARP -Airport Reference Point                            |
| ARSA -Airport Service Radar Area                        | ARSR -Air Route Surveillance Radar                      |
| ARTCC -Air Route Traffic Control Centre                 | ARTS -Automated Radar Terminal System                   |

|   |  |
|---|--|
| ASAS -Aviation Safety Analysis System                                 | ASC -AUTODIN Switching Center                                  |
| ASCP -Aviation System Capacity Plan                                   | ASD -Aircraft Situation Display                                |
| ASDA -Accelerate - Stop Distance Available                            | ASLAR -Aircraft Surge Launch And Recovery                      |
| ASM -Available Seat Mile  | ASP -Arrival Sequencing Program                                |
| ASOS -Automatic Surface Observation System                            | ASQP -Airline Service Quality Performance                      |
| ASR -Airport Surveillance Radar                                       | ASTA -Airport Surface Traffic Automation                       |
| ASV -Airline Schedule Vendor  | AT -Air Traffic  |
| ATA -Air Transport Association of America                             | ATAS -Airspace and Traffic Advisory Service                    |
| ATCAA -Air Traffic Control Assigned Airspace                          | AT&T -American Telephone and Telegraph                         |
| AT&T ASDC -AT&T Agency Service Delivery Center                        | AT&T CSA -AT&T Customer Support Associate                      |
| ATC -Air Traffic Control  | ATCBI -Air Traffic Control Beacon Indicator                    |
| ATCCC -Air Traffic Control Command Center                             | ATCO -Air Taxi Commercial Operator                             |
| ATCRB -Air Traffic Control Radar Beacon                               | ATCRBS -Air Traffic Control Radar Beacon System                |
| ATSCC -Air Traffic Control Systems Command Center                     | ATCT -Airport Traffic Control Tower                            |
| ATIS -Automated Terminal Information Service                          | ATISR -ATIS Recorder   |
| ATM -Air Traffic Management   | ATM -Asynchronous Transfer Mode                                |
| ATMS -Advanced Traffic Management System                              | ATN -Aeronautical Telecommunications Network                   |
| ATODN -AUTODIN Terminal (FUS)   | ATOVN -AUOTVON (Facility)                                      |
| ATOMS -Air Traffic Operations Management System                       | ATS -Air Traffic Service                                       |
| ATSCCP -ATS Contingency Command Post                                  | ATTIS -AT&T Information Systems                                |
| AUTODIN -DoD Automatic Digital Network                                | AUTOVON -DoD Automatic Voice Network                           |
| AVON -AUTOVON Service   | AVN -Aviation Standards National Field Office, Oklahoma City   |
| AWIS -Airport Weather Information                                     | AWOS -Automated Weather Observation System                     |
| AWP -Aviation Weather Processor                                       | AWPG -Aviation Weather Products Generator                      |
| <b>-B-</b>  |  |
| BANS-BRITE Alphanumeric System  | BART -Billing Analysis Reporting Tool (GSA software tool)      |
| BASIC -Basic Contract Observing Station                               | BASOP -Military Base Operations                                |
| BCA -Benefit/Cost Analysis  | BCR -Benefit/Cost Ratio  |
| BDAT -Digitized Beacon Data   | BMP -Best Management Practices                                 |
| BOC -Bell Operating Company   | bps -bits per second   |
| BRI -Basic Rate Interface   | BRITE -Bright Radar Indicator Terminal Equipment               |
| BRL -Building Restriction Line  | BUEC -Back-up Emergency Communications                         |
| BUECE -Back-up Emergency Communications Equipment                     |  |
| <b>-C-</b>  |  |
| CAA -Civil Aviation Authority   | CAB -Civil Aeronautics Board                                   |
| CARF -Central Altitude Reservation Facility                           | CASFO -Civil Aviation Security Office                          |
| CAT -Category   | CAT -Clear - Air Turbulence                                    |
| CAU -Crypto Ancillary Unit  | CBI -Computer Based Instruction                                |
| CCC -Communications Command Center                                    | CCCC -Staff Communications                                     |
| CCCH -Central Computer Complex Host                                   | CC&O -Customer Cost and Obligation                             |
| CCSD -Command Communications Service Designator                       | CCS7-NI -Communication Channel Signal-7 - Network Interconnect |
| CCU -Central Control Unit   | CD -Common Digitizer   |
| CDR -Cost Detail Report   | CDT -Controlled Departure Time                                 |
| CDTI -Cockpit Display of Traffic Information                          | CENTX -Central Telephone Exchange                              |
| CEQ -Council on Environmental Quality                                 | CERAP -Central Radar Approach                                  |
| CFC -Central Flow Control   | CFCF -Central Flow Control Facility                            |
| CFCS -Central Flow Control Service                                    | CFWP -Central Flow Weather Processor                           |
| CFWU -Central Flow Weather Unit                                       | CGAS -Coast Guard Air Station                                  |
| CLC -Course Line Computer   | CLIN -Contract Line Item                                       |
| CLT -Calculated Landing Time  | CM -Commercial Service Airport                                 |
| CNMPS -Canadian Minimum Navigation Performance Specification Airspace | CNS -Consolidated NOTAM System                                 |
| CNSP -Consolidated NOTAM System Processor                             | CO -Central Office   |
| COE -U.S. Army Corps of Engineers                                     | COMCO -Command Communications Outlet                           |
| CONUS -Continental United States                                      | CORP -Private Corporation other than ARINC or MITRE            |
| CPE -Customer Premise Equipment                                       | CPMIS -Consolidated Personnel Management Information System    |
| CRA -Conflict Resolution Advisory                                     | CRDA -Converging Runway Display Aid                            |
| CRT -Cathode Ray Tube   | CSA -Communications Service Authorization                      |

|   |  |
|---|--|
| CSIS -Centralized Storm Information System                      | CSO -Customer Service Office                             |
| CSR -Communications Service Request                             | CSS -Central Site System                                 |
| CTA -Controlled Time of Arrival                                 | CTA -Control Area  |
| CTA/FIR -Control Area/Flight Information Region                 | CTAF -Common Traffic Advisory Frequency                  |
| CTAS -Center - Tracon Automation System                         | CTMA -Center Traffic Management Advisor                  |
| CUPS -Consolidated Uniform Payroll System                       | CVFR -Controlled Visual Flight Rules                     |
| CVTS -Compressed Video Transmission Service                     | CW -Continuous Wave                                      |
| CWSU -Central Weather Service Unit                              | CWY -Clearway  |
| <b>-D-</b>  |  |
| DA-Direct Access  | DA -Decision Altitude/Decision Height                    |
| DA -Descent Advisor   | DABBS -DITCO Automated Bulletin Board System             |
| DAIR -Direct Altitude and Identity Readout                      | DAR -Designated Agency Representative                    |
| DARC -Direct Access Radar Channel                               | dBA -Decibels A-weighted                                 |
| DBCRC -Defense Base Closure and Realignment Commission          | DBMS -Data Base Management System                        |
| DBRITE -Digital Bright Radar Indicator Tower Equipment          | DCA -Defense Communications Agency                       |
| DCAA -Dual Call, Automatic Answer Device                        | DCCU -Data Communications Control Unit                   |
| DCE -Data Communications Equipment                              | DDA -Dedicated Digital Access                            |
| DDD -Direct Distance Dialing                                    | DDM -Difference in Depth of Modulation                   |
| DDS -Digital Data Service                                       | DEA -Drug Enforcement Agency                             |
| DEDS -Data Entry and Display System                             | DEIS -Draft Environmental Impact Statement               |
| DEP -Departure  | DEWIZ -Distance Early Warning Identification Zone        |
| DF -Direction Finder  | DFAX -Digital Facsimile                                  |
| DFI -Direction Finding Indicator                                | DGPS -Differential Global Positioning Satellite (System) |
| DH -Decision Height   | DID -Direct Inward Dial                                  |
| DIP -Drop and Insert Point                                      | DIRF -Direction Finding                                  |
| DITCO -Defense Information Technology Contracting Office Agency | DME -Distance Measuring Equipment                        |
| DME/P -Precision Distance Measuring Equipment                   | DMN -Data Multiplexing Network                           |
| DNL -Day-Night Equivalent Sound Level (Also called Ldn)         | DOD -Direct Outward Dial                                 |
| DoD -Department of Defense                                      | DOI -Department of Interior                              |
| DOS -Department of State  | DOT -Department of Transportation                        |
| DOTS -Dynamic Ocean Tracking System                             | DOTCC -Department of Transportation Computer Center      |
| DSCS -Digital Satellite Compression Service                     | DSUA -Dynamic Special Use Airspace                       |
| DTS -Dedicated Transmission Service                             | DUAT -Direct User Access Terminal                        |
| DVFR -Defense Visual Flight Rules                               | DVFR -Day Visual Flight Rules                            |
| DVOR -Doppler Very High Frequency Omni-Directional Range        | DYSIM -Dynamic Simulator                                 |
| <b>-E-</b>  |  |
| E-MSAW -En-Route Automated Minimum Safe Altitude Warning        | EARTS -En Route Automated Radar Tracking System          |
| ECOM -En Route Communications                                   | ECVFP -Expanded Charted Visual Flight Procedures         |
| EDCT -Expedite Departure Path                                   | EFAS -En Route Flight Advisory Service                   |
| EFC -Expect Further Clearance                                   | EFIS -Electronic Flight Information Systems              |
| EIAF -Expanded Inward Access Features                           | EIS - Environmental Impact Statement                     |
| ELT -Emergency Locator Transmitter                              | ELWRT -Electrowriter                                     |
| EMPS -En Route Maintenance Processor System                     | ENAV -En Route Navigational Aids                         |
| EPA -Environmental Protection Agency                            | EPS -Engineered Performance Standards                    |
| EOF -Emergency Operating Facility                               | EPSS -Enhanced Packet Switched Service                   |
| ERAD -En Route Broadband Radar                                  | ESEC -En Route Broadband Secondary Radar                 |
| ESP -En Route Spacing Program                                   | ESYS -En Route Equipment Systems                         |
| ESF -Extended Superframe Format                                 | ETA -Estimated Time of Arrival                           |
| ETE -Estimated Time En Route                                    | ETG -Enhanced Target Generator                           |
| ETMS -Enhanced Traffic Management System                        | ETN -Electronic Telecommunications Network               |
| EVAS -Enhanced Vortex Advisory System                           | EVCS -Emergency Voice Communications System              |
| <b>-F-</b>  |  |
| FAA-Federal Aviation Administration                             | F&E -Facility and Equipment                              |
| FAAAC -FAA Aeronautical Center                                  | FAACIS -FAA Communications Information System            |
| FAATC -FAA Technical Center                                     | FAC -Facility  |
| FAF -Final Approach Fix   | FAP -Final Approach Point                                |
| FAPM -FTS2000 Associate Program Manager                         | FAR -Federal Aviation Regulation                         |

|   |   |
|---|---|
| FAATSAT -FAA Telecommunications Satellite       | FAST -Final Approach Spacing Tool                                   |
| FAX -Facsimile Equipment                        | FBO -Fixed Base Operator  |
| FBS -Fall Back Switch                           | FCC -Federal Communications Commission                              |
| FCLT -Freeze Calculated Landing Time            | FCOM -FSS Radio Voice Communications                                |
| FCPU -Facility Central Processing Unit          | FDAT -Flight Data Entry and Printout (FDEP) and Flight Data Service |
| FDE -Flight Data Entry                          | FDEP -Flight Data Entry and Printout                                |
| FDIO -Flight Data Input/Output                  | FDIOC -Flight Data Input/Output Center                              |
| FDIOR -Flight Data Input/Output Remote          | FDM -Frequency Division Multiplexing                                |
| FDP -Flight Data Processing                     | FED -Federal  |
| FEIS -Final Environmental Impact Statement      | FEP -Front End Processor  |
| FFAC -From Facility                             | FIFO -Flight Inspection Field Office                                |
| FIG -Flight Inspection Group                    | FINO -Flight Inspection National Field Office                       |
| FIPS -Federal Information Publication Standard  | FIR -Flight Information Region                                      |
| FIRE -Fire Station                              | FIRMR -Federal Information Resource Management Regulation           |
| FL -Flight Level                                | FLOWSIM -Traffic Flow Planning Simulation                           |
| FMA -Final Monitor Aid                          | FMF -Facility Master File   |
| FMIS -FTS2000 Management Information System     | FMS -Flight management System                                       |
| FNMS -FTS2000 Network Management System         | FOIA -Freedom Of Information Act                                    |
| FP -Flight Plan                                 | FRC -Request Full Route Clearance                                   |
| FSAS -Flight Service Automation System          | FSDO -Flight Standards District Office                              |
| FSDPS -Flight Service Data Processing System    | FSEP -Facility/Service/Equipment Profile                            |
| FSP -Flight Strip Printer                       | FSPD -Freeze Speed Parameter  |
| FSS -Flight Service Station                     | FSSA -Flight Service Station Automated Service                      |
| FSTS -Federal Secure Telephone Service          | FSYS -Flight Service Station Equipment Systems                      |
| FTS -Federal Telecommunications System          | FTS2000 -Federal Telecommunications System 2000                     |
| FUS -Functional Units or Systems                | FWCS -Flight Watch Control Station                                  |
| <b>-G-</b>                                      |   |
| GA-General Aviation                             | GAA -General Aviation Activity                                      |
| GAAA -General Aviation Activity and Avionics    | GADO -General Aviation District Office                              |
| GCA -Ground Control Approach                    | GNAS -General National Airspace System                              |
| GNSS -Global Navigation Satellite System        | GOES -Geostationary Operational Environmental Satellite             |
| GOESF -GOES Feed Point                          | GOEST -GOES Terminal Equipment                                      |
| GPS -Global Positioning Satellite               | GPWS -Ground Proximity Warning System                               |
| GRADE -Graphical Airspace Design Environment    | GS -Glide Slope Indicator   |
| GSA -General Services Administration            |   |
| <b>-H-</b>                                      |   |
| H-Non-Directional Radio Homing Beacon (NDB)     | HAA -Height Above Airport   |
| HAL -Height Above Landing                       | HARS -High Altitude Route System                                    |
| HAT -Height Above Touchdown                     | HAZMAT -Hazardous Materials   |
| HCAP -High Capacity Carriers                    | HLDC -High Level Data Link Control                                  |
| HDME -NDB with Distance Measuring Equipment     | HDQ -FAA Headquarters   |
| HELI -Heliport                                  | HF -High Frequency  |
| HH -NDB, 2kw or More                            | HI-EFAS -High Altitude EFAS   |
| HOV -High Occupancy Vehicle                     | HSI -Horizontal Situation Indicators                                |
| HUD -Housing and Urban Development              | HWAS -Hazardous In-Flight Weather Advisory                          |
| Hz -HERTZ                                       |   |
| <b>-I-</b>                                      |   |
| IA-Indirect Access                              | IAF -Initial Approach Fix   |
| I/AFSS -International AFSS                      | IAP -Instrument Approach Procedures                                 |
| IAPA -Instrument Approach Procedures Automation | IBM -International Business Machines                                |
| IBP -International Boundary Point               | IBR -Intermediate Bit Rate  |
| ICAO -International Civil Aviation Organization | ICSS -International Communications Switching Systems                |
| IDAT -Interfacility Data                        | IF -Intermediate Fix  |
| IFCP -Interfacility Communications Processor    | IFDS -Interfacility Data System                                     |
| IFEA -In-Flight Emergency Assistance            | IFO -International Field Office                                     |
| IFR -Instrument Flight Rules                    | IFSS -International Flight Service Station                          |
| ILS -Instrument Landing System                  | IM -Inner Marker  |
| IMC -Instrument Meteorological Conditions       | INM -Integrated Noise Model   |

|   |  |
|---|--|
| INS -Inertial Navigation System                                     | IRMP -Information Resources Management Plan                      |
| ISDN -Integrated Services Digital Network                           | ISMLS -Interim Standard Microwave Landing System                 |
| ITI -Interactive Terminal Interface                                 | IVRS -Interim Voice Response System                              |
| IW -Inside Wiring   |  |
| <b>-J-</b>  |  |
| <b>-K-</b>  |  |
| Kbps-Kilobits Per Second  | KHz -Kilohertz   |
| KVDT -Keyboard Video Display Terminal                               |  |
| <b>-L-</b>  |  |
| LAA-Local Airport Advisory  | LAAS -Low Altitude Alert System                                  |
| LABS -Leased A B Service  | LABSC -LABS GS-200 Computer                                      |
| LABSR -LABS Remote Equipment  | LABSW -LABS Switch System  |
| LAHSO -Land and Hold Short Operation                                | LAN -Local Area Network  |
| LATA -Local Access and Transport Area                               | LAWRS -Limited Aviation Weather Reporting System                 |
| LCF -Local Control Facility   | LCN -Local Communications Network                                |
| LDA -Localizer Directional Aid                                      | LDA -Landing Directional Aid                                     |
| LDIN -Lead-in Lights  | LEC -Local Exchange Carrier                                      |
| LF -Low Frequency   | LINCS -Leased Interfacility NAS Communications System            |
| LIS -Logistics and Inventory System                                 | LLWAS -Low Level Wind Shear Alert System                         |
| LM/MS -Low/Medium Frequency   | LMM -Locator Middle Marker                                       |
| LMS -LORAN Monitor Site   | LOC -Localizer   |
| LOCID -Location Identifier  | LOI -Letter of Intent  |
| LOM -Compass Locator at Outer Marker                                | LORAN -Long Range Aid to Navigation                              |
| LRCO -Limited Remote Communications Outlet                          | LRNAV -Long Range Navigation                                     |
| LRR -Long Range Radar   |  |
| <b>-M-</b>  |  |
| FAA-Maximum Authorized Altitude                                     | MALS -Medium Intensity Approach Lighting System                  |
| MALSF -MALS with Sequenced Flashers                                 | MALSR -MALS with Runway Alignment Indicator Lights               |
| MAP -Modified Access Pricing  | MAP -Military Airport Program                                    |
| MAP -Missed Approach Point  | MAP -Maintenance Automation Program                              |
| Mbps -Megabits Per Second   | MCA -Minimum Crossing Altitude                                   |
| MCAS -Marine Corps Air Station                                      | MCC -Maintenance Control Center                                  |
| MCL -Middle Compass Locator   | MCS -Maintenance and Control System                              |
| MDA -Minimum Descent Altitude                                       | MDT -Maintenance Data Terminal                                   |
| MEA -Minimum En Route Altitude                                      | METI -Meteorological Information                                 |
| MF -Middle Frequency  | MFJ -Modified Final Judgement                                    |
| MFT -Meter Fix Crossing Time/Slot Time                              | MHA -Minimum Holding Altitude                                    |
| MHz -Megahertz  | MIA -Minimum IFR Altitudes                                       |
| MIDO -Manufacturing Inspection District Office                      | MIS -Meteorological Impact Statement                             |
| MISC -Miscellaneous   | MISO -Manufacturing Inspection Satellite Office                  |
| MIT -Miles In Trail   | MITRE -Mitre Corporation   |
| MLS -Microwave Landing System                                       | MM -Middle Marker  |
| MMC -Maintenance Monitoring Console                                 | MMS -Maintenance Monitoring System                               |
| MNPS -Minimum Navigation Performance Specification                  | MNPSA -Minimum Navigation Performance Specifications<br>Airspace |
| MOA -Memorandum of Agreement  | MOA -Military Operations Area                                    |
| MOCA -Minimum Obstruction Clearance Altitude                        | MODE C -Altitude-Encoded Beacon Reply                            |
| MODE C -Altitude Reporting Mode of Secondary Radar                  | MODE S -Mode Select Beacon System                                |
| MOU -Memorandum of Understanding                                    | MPO -Metropolitan Planning Organization                          |
| MPS -Maintenance Processor Subsystem (OR) Master Plan<br>Supplement | MRA -Minimum Reception Altitude                                  |
| MRC -Monthly Recurring Charge                                       | MSA -Minimum Safe Altitude                                       |
| MSAW -Minimum Safe Altitude Warning                                 | MSL -Mean Sea Level  |
| MSN -Message Switching Network                                      | MTCS -Modular Terminal Communications System                     |
| MTI -Moving Target Indicator  | MUX -Multiplexer   |
| MVA -Minimum Vectoring Altitude                                     | MVFR -Marginal Visual Flight Rules                               |
| <b>-N-</b>  |  |
| NAAQS-National Ambient Air Quality Standards                        | NADA -NADIN Concentrator   |
| NADIN -National Airspace Data Interchange Network                   | NADSW -NADIN Switches  |

|  |   |
|--|---|
| NAILS -National Airspace Integrated Logistics Support            | NAMS -NADIN IA  |
| NAPRS -National Airspace Performance Reporting System            | NAS -National Airspace System or Naval Air Station    |
| NASDC -National Aviation Safety Data                             | NASP -National Airspace System Plan                   |
| NASPAC -National Airspace System Performance Analysis Capability | NATCO -National Communications Switching Center       |
| NAVAID -Navigation Aid   | NAVMN -Navigation Monitor and Control                 |
| NAWAU -National Aviation Weather Advisory Unit                   | NAWPF -National Aviation Weather Processing Facility  |
| NCAR -National Center for Atmospheric Research; Boulder, CO      | NCF -National Control Facility                        |
| NCIU -NEXRAD Communications Interface Unit                       | NCS -National Communications System                   |
| NDB -Non-Directional Radio Homing Beacon                         | NDNB -NADIN II  |
| NEPA -National Environmental Policy Act                          | NEXRAD -Next Generation Weather Radar                 |
| NFAX -National Facsimile Service                                 | NFDC -National Flight Data Center                     |
| NFIS -NAS Facilities Information System                          | NI -Network Interface                                 |
| NICS -National Interfacility Communications System               | NPIAS -National Plan of Integrated Airport Systems    |
| NM -Nautical Mile  | NMAC -Near Mid Air Collision                          |
| NMC -National Meteorological Center                              | NMCE -Network Monitoring and Control Equipment        |
| NMCS -Network Monitoring and Control System                      | NOAA -National Oceanic and Atmospheric Administration |
| NOC -Notice Of Completion  | NOTAM -Notice to Airmen                               |
| NPDES -National Pollutant Discharge Elimination System           | NPIAS -National Plan of Integrated Airport Systems    |
| NRC -Non-Recurring Charge  | NRCS -National Radio Communications Systems           |
| NSAP -National Service Assurance Plan                            | NSSFC -National Severe Storms Forecast Center         |
| NSSL -National Severe Storms Laboratory; Norman, OK              | NTAP -Notices To Airmen Publication                   |
| NTP -National Transportation Policy                              | NTSB -National Transportation Safety Board            |
| NTZ -No Transgression Zone                                       | NWS -National Weather Service                         |
| NWSR -NWS Weather Excluding NXRD                                 | NSWRH -NWS Regional Headquarters                      |
| NXRD -Advanced Weather Radar System                              |   |
| <b>-O-</b>   |   |
| OAG-Official Airline Guide                                       | OALT -Operational Acceptable Level of Traffic         |
| OAW -Off-airway Weather Station                                  | ODAL -Omni directional Approach Lighting System       |
| ODAPS -Oceanic Display and Processing Station                    | OFA -Object Free Area                                 |
| OFDPS -Offshore Flight Data Processing System                    | OFT -Outer Fix Time                                   |
| OFZ -Obstacle Free Zone  | OM -Outer Marker                                      |
| OMB -Office of Management and Budget                             | ONER -Oceanic Navigational Error Report               |
| OPLT -Operational Acceptable Level of Traffic                    | OPSW -Operational Switch                              |
| OPX -Off Premises Exchange                                       | ORD -Operational Readiness Demonstration              |
| OTR -Oceanic Transition Route                                    | OTS -Organized Track System                           |
| <b>-P-</b>   |   |
| PABX-Private Automated Branch Exchange                           | PAD -Packet Assembler/Disassembler                    |
| PAM -Peripheral Adapter Module                                   | PAPI -Precision Approach Path Indicator               |
| PAR -Precision Approach Radar                                    | PAR -Preferential Arrival Route                       |
| PATWAS -Pilots Automatic Telephone Weather Answering Service     | PBCT -Proposed Boundary Crossing Time                 |
| PBRF -Pilot Briefing   | PBX -Private Branch Exchange                          |
| PCA -Positive Control Airspace                                   | PCM -Pulse Code Modulation                            |
| PDAR -Preferential Arrival And Departure Route                   | PDC -Pre-Departure Clearance                          |
| PDC -Program Designator Code                                     | PDR -Preferential Departure Route                     |
| PDN -Public Data Network   | PFC -Passenger Facility Charge                        |
| PHONE -Telephone   | PIC -Principal Interexchange Carrier                  |
| PIDP -Programmable Indicator Data Processor                      | PIREP -Pilot Weather Report                           |
| PMS -Program Management System                                   | POLIC -Police Station                                 |
| POP -Point Of Presence   | POT -Point Of Termination                             |
| PPIMS -Personal Property Information Management System           | PR -Primary Commercial Service Airport                |
| PRI -Primary Rate Interface                                      | PRM -Precision Runway Monitor                         |
| PSDN -Public Switched Data Network                               | PSN -Packet Switched Network                          |
| PSS -Packet Switched Service                                     | PSTN -Public Switched Telephone Network               |
| PUB -Publication   | PUP -Principal User Processor                         |
| PVC -Permanent Virtual Circuit                                   | PVD -Plan View Display                                |
| <b>-Q-</b>   |   |
| <b>-R-</b>   |   |

|  |   |
|--|---|
| RAIL-Runway Alignment Indicator Lights   | RAPCO -Radar Approach Control (USAF)                        |
| RAPCON -Radar Approach Control   | RATCC -Radar Air Traffic Control Center                     |
| RATCF -Radar Air Traffic Control Facility (USN)                                | RBC -Rotating Beam Ceilometer                               |
| RBDPE -Radar Beacon Data Processing Equipment                                  | RBSS -Radar Bomb Scoring Squadron                           |
| RCAG -Remote Communications Air/Ground   | RCC -Rescue Coordination Center                             |
| RCF -Remote Communication Facility   | RCCC -Regional Communications Control Centers               |
| RCIU -Remote Control Interface Unit  | RCL -Radio Communications Link                              |
| RCLR -RCL Repeater   | RCLT -RCL Terminal  |
| RCO -Remote Communications Outlet  | RCU -Remote Control Unit                                    |
| RDAT -Digitized Radar Data   | RDP -Radar Data Processing                                  |
| RDSIM -Runway Delay Simulation Model   | REIL -Runway End Identification Lights                      |
| RF -Radio Frequency  | RL -General Aviation Reliever Airport                       |
| RMCC -Remote Monitor Control Center  | RMCF -Remote Monitor Control Facility                       |
| RML -Radio Microwave Link  | RMLR -RML Repeater  |
| RMLT -RML Terminal   | RMM -Remote Maintenance Monitoring                          |
| RMMS -Remote Maintenance Monitoring System                                     | RMS -Remote Monitoring Subsystem                            |
| RMSC -Remote Monitoring Subsystem Concentrator                                 | RNAV -Area Navigation                                       |
| RNP -Required Navigation Performance   | ROD -Record of Decision                                     |
| ROSA -Report of Service Activity   | ROT -Runway Occupancy Time                                  |
| RP -Restoration Priority   | RPC -Restoration Priority Code                              |
| RPG -Radar Processing Group  | RPZ -Runway Protection Zone                                 |
| RRH -Remote Reading Hygrothermometer   | RRHS -Remote Reading Hydrometer                             |
| RRWDS -Remote Radar Weather Display  | RRWSS -RWDS Sensor Site                                     |
| RSS -Remote Speaking System  | RT -Remote Transmitter                                      |
| RT & BTL -Radar Tracking And Beacon Tracking Level                             | RTAD -Remote Tower Alphanumeric Display                     |
| RTCA -Radio Technical Commission for Aeronautics                               | RTR -Remote Transmitter/Receiver                            |
| RTRD -Remote Tower Radar Display   | RVR -Runway Visual Range                                    |
| RW -Runway   | RWDS -Same as RRWDS   |
| RWP -Realtime Weather Processor  |   |
| -S-  |   |
| S/S - Sector Suite   | SAC -Strategic Air Command                                  |
| SAFI -Semi Automatic Flight Inspection   | SALS -Short Approach Lighting System                        |
| SATCOM -Satellite Communications   | SAWRS -Supplementary Aviation Weather Reporting System      |
| SCC -System Command Center   | SCVTS -Switched Compressed Video Telecommunications Service |
| SDF -Simplified Direction Finding  | SDF -Software Defined Network                               |
| SDIS -Switched Digital Integrated Service                                      | SDP -Service Delivery Point                                 |
| SDS -Switched Data Service   | SEL -Single Event Level                                     |
| SELF -Simplified Short Approach Lighting System With Sequenced Flashing Lights | SFAR-38 -Special Federal Aviation Regulation 38             |
| SHPO -State Historic Preservation Officer                                      | SIC -Service Initiation Charge                              |
| SID -Station Identifier  | SID -Standard Instrument Departure                          |
| SIGMET -Significant Meteorological Information                                 | SIMMOD -Airport and Airspace Simulation Model               |
| SIP -State Implementation Plan   | SM -Statute Miles   |
| SMGC -Surface Movement Guidance and Control                                    | SMPS -Sector Maintenance Processor Subsystem                |
| SMS -Simulation Modeling System  | SNR -Signal-to-Noise Ratio, also: S/N                       |
| SOC -Service Oversight Center  | SOIR -Simultaneous Operations On Intersecting Runways       |
| SOIWR -Simultaneous Operations on Intersecting Wet Runways                     | SRAP -Sensor Receiver and Processor                         |
| SSALF -SSALS with Sequenced Flashers   | SSALR -Simplified Short Approach Lighting System            |
| SSB -Single Side Band  | STAR -Standard Terminal Arrival Route                       |
| STD -Standard  | STMUX -Statistical Data Multiplexer                         |
| STOL -Short Takeoff and Landing  | SURPIC -Surface Picture                                     |
| SVCA -Service A  | SVCB -Service B   |
| SVCC -Service C  | SVCO -Service O   |
| SVFO -Interphone Service F (A)   | SVFB -Interphone Service F (B)                              |
| SVFC -Interphone Service F (C)   | SVFD -Interphone Service F (D)                              |
| SVFR -Special Visual Flight Rules  |   |
| -T-  |   |
| TIMUX-T1 Multiplexer   | TAAS -Terminal Advance Automation System                    |
| TACAN -Tactical Aircraft Control and Navigation                                | TACR -TACAN at VOR, TACAN only                              |

|   |  |
|---|--|
| TAF -Terminal Area Forecast   | TARS -Terminal Automated Radar Service   |
| TAS -True Air Speed   | TATCA -Terminal Air Traffic Control Automation                                       |
| TAVT -Terminal Airspace Visualization Tool  | TCA -Traffic Control Airport or Tower Control Airport                                |
| TCA -Terminal Control Area  | TCACCIS -Transportation Coordinator Automated Command and Control Information System |
| TCAS -Traffic Alert And Collision Avoidance System                                    | TCC -DOT Transportation Computer Center  |
| TCCC -Tower Control Computer Complex  | TCE -Tone Control Equipment  |
| TCLT -Tentative Calculated Landing Time   | TCO -Telecommunications Certification Officer  |
| TCOM -Terminal Communications   | TCS -Tower Communications System   |
| TDLS -Tower Data-Link Services  | TDMUX -Time Division Data Multiplexer  |
| TDWR -Terminal Doppler Weather Radar  | TELCO -Telephone Company   |
| TELEMS -Telecommunications Management System  | TERPS -Terminal Instrument Procedures  |
| TFAC -To Facility   | TH -Threshold  |
| TIMS -Telecommunications Information Management System                                | TIPS -Terminal Information Processing System   |
| TL -Taxilane  | TMA -Traffic Management Advisor  |
| TMC -Traffic Management Coordinator   | TMC/MC -Traffic Management Coordinator/Military Coordinator                          |
| TMCC -Terminal Information Processing System  | TMCC -Traffic Management Computer Complex  |
| TMF -Traffic Management Facility  | TML -Television Microwave Link   |
| TMLI -Television Microwave Link Indicator   | TMLR -Television Microwave Link Repeater   |
| TMLT -Television Microwave Link Terminal  | TM&O -Telecommunications Management and Operations                                   |
| TMP -Traffic Management Processor   | TMS -Traffic Management System   |
| TMSPS -Traffic Management Specialists   | TMU -Traffic Management Unit   |
| TODA -Takeoff Distance Available  | TOF -Time Of Flight  |
| TOFMS -Time of Flight Mass Spectrometer   | TOPS -Telecommunications Ordering and Pricing System (GSA software tool)             |
| TORA -Take-off Run Available  | TNAV -Terminal Navigational Aids   |
| TR -Telecommunications Request  | TRACAB -Terminal Radar Approach Control in Tower Cab                                 |
| TRACON -Terminal Radar Approach Control Facility                                      | TRAD -Terminal Radar Service   |
| TRNG -Training  | TSA -Taxiway Safety Area   |
| TSEC -Terminal Secondary Radar Service  | TSP -Telecommunications Service Priority   |
| TSR -Telecommunications Service Request   | TSYS -Terminal Equipment Systems   |
| TTMA -TRACON Traffic Management Advisor   | TTY -Teletype  |
| TVOR -Terminal VHF Omnidirectional Range  | TW -Taxiway  |
| TWEB -Transcribed Weather Broadcast TW -Tower (non-controlled)                        | TY -Type (FAACIS)  |
| -U-   |  |
| UAS -Uniform Accounting System  | UHF -Ultra High Frequency  |
| URA -Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 | USAF -United States Air Force  |
| USOC -Uniform Service Order Code  |  |
| -V-   |  |
| VASI -Visual Approach Slope Indicator   | VDME -VOR with Distance Measuring Equipment  |
| VF -Voice Frequency   | VFR -Visual Flight Rules   |
| VHF -Very High Frequency  | VLF -Very Low Frequency  |
| VMC -Visual Meteorological Conditions   | VNAV -Visual Navigational Aids   |
| VNTSC -Volpe National Transportation System Center                                    | VON -Virtual On-net  |
| VOR -VHF Omnidirectional Range  | VOR/DME -VHF Omnidirectional Range/Distance Measuring Equipment                      |
| VORTAC -VOR collocated with TACAN   | VOT -VOR Test Facility   |
| VRS -Voice Recording System   | VSCS -Voice Switching and Control System   |
| VTA -Vertex Time of Arrival   | VTAC -VOR collocated with TACAN  |
| VTOL -Vertical Takeoff and Landing  | VTS -Voice Telecommunications System   |
| -W-   |  |
| WAAS -Wide Area Augmentation System   | WAN -Wide Area Network   |
| WC -Work Center   | WCP -Weather Communications Processor  |
| WECO -Western Electric Company  | WESCOM -Western Electric Satellite Communications                                    |
| WMSC -Weather Message Switching Center  | WMSCR -Weather Message Switching Center Replacement                                  |
| WSCMO -Weather Service Contract Meteorological Observatory                            | WSFO -Weather Service Forecast Office  |
| WSMO -Weather Service Meteorological Observatory                                      | WSO -Weather Service Office  |

|                  |             |
|------------------|-------------|
| WTHR - "Weather" | WX -Weather |
|                  | -X-         |
|                  | -Y-         |
|                  | -Z-         |

## APPENDIX 4

### CADD to GIS Crosswalk

This appendix lists CADD layers defined in MAA’s CADD Standards Manual, Version 4.0 and their associated GIS layers. The CADD layers are ordered by category (i.e. Airfield, Airspace, Environmental, etc.) and then by CADD layer name. The first character of the CADD layer name, which indicates the discipline, has been replaced with an asterisk (“\*”) meaning that any discipline code applies. CADD layers that are not relevant for GIS are excluded from this appendix.

| CADD Layer Name  | Category | Feature Class              | Geometry |
|------------------|----------|----------------------------|----------|
| *-AFLD-AHOA      | Airfield | AirOperationsArea          | Polygon  |
| *-AFLD-DSRF-BLDR | Airfield | RunwayHelipadDesignSurface | Polygon  |
| *-AFLD-DSRF-KEYH | Airfield | RunwayHelipadDesignSurface | Polygon  |
| *-AFLD-DSRF-NMOV | Airfield | RunwayHelipadDesignSurface | Polygon  |
| *-AFLD-DSRF-OFA_ | Airfield | RunwayHelipadDesignSurface | Polygon  |
| *-AFLD-DSRF-OFZ_ | Airfield | RunwayHelipadDesignSurface | Polygon  |
| *-AFLD-DSRF-POFA | Airfield | RunwayHelipadDesignSurface | Polygon  |
| *-AFLD-DSRF-RPZ_ | Airfield | RunwayHelipadDesignSurface | Polygon  |
| *-AFLD-DSRF-RSA_ | Airfield | RunwayHelipadDesignSurface | Polygon  |
| *-AFLD-FREQ      | Airfield | FrequencyArea              | Polygon  |
| *-AFLD-LITE-APPR | Airfield | AirfieldLight              | Point    |
| *-AFLD-LITE-DIST | Airfield | AirfieldLight              | Point    |
| *-AFLD-LITE-LANE | Airfield | AirfieldLight              | Point    |
| *-AFLD-LITE-OBST | Airfield | AirfieldLight              | Point    |
| *-AFLD-LITE-RUNW | Airfield | AirfieldLight              | Point    |
| *-AFLD-LITE-SIGN | Airfield | AirfieldLight              | Point    |
| *-AFLD-LITE-TAXI | Airfield | AirfieldLight              | Point    |
| *-AFLD-LITE-THRS | Airfield | AirfieldLight              | Point    |
| *-AFLD-SECR-RSTR | Airfield | RestrictedAccessBoundary   | Line     |
| *-APRN-ACPK-BRDG | Airfield | PassengerLoadingBridge     | Polygon  |
| *-APRN-ANOM      | Airfield | AircraftNonMovementArea    | Line     |
| *-APRN-CNTR      | Airfield | MarkingLine                | Line     |
| *-APRN-DEIC      | Airfield | DeicingArea                | Polygon  |
| *-APRN-GRND      | Airfield | Apron                      | Polygon  |
| *-APRN-HOLD      | Airfield | MarkingLine                | Line     |
| *-APRN-MRKG      | Airfield | MarkingLine                | Line     |
| *-APRN-OTLN      | Airfield | Apron                      | Polygon  |
| *-APRN-SECU      | Airfield | MarkingLine                | Line     |
| *-APRN-SHLD      | Airfield | MarkingLine                | Line     |
| *-APRN-SHLD-MRKG | Airfield | MarkingLine                | Line     |

| <b>CADD Layer Name</b> | <b>Category</b> | <b>Feature Class</b>       | <b>Geometry</b> |
|------------------------|-----------------|----------------------------|-----------------|
| *-APRN-SIGN            | Airfield        | AirportSign                | Point           |
| *-ELEV-SIGN            | Airfield        | AirportSign                | Point           |
| *-EQPM-JETB            | Airfield        | PassengerLoadingBridge     | Polygon         |
| *-FLOR-SIGN            | Airfield        | AirportSign                | Point           |
| *-HELI-BLST            | Airfield        | MarkingLine                | Line            |
| *-HELI-CNTR-MARK       | Airfield        | MarkingLine                | Line            |
| *-HELI-DIST            | Airfield        | MarkingLine                | Line            |
| *-HELI-DSRF            | Airfield        | RunwayHelipadDesignSurface | Polygon         |
| *-HELI-IDEN            | Airfield        | MarkingArea                | Polygon         |
| *-HELI-SHLD            | Airfield        | Shoulder                   | Polygon         |
| *-HELI-SIDE            | Airfield        | MarkingLine                | Line            |
| *-HELI-TDZM            | Airfield        | MarkingArea                | Polygon         |
| *-HELI-TLOF            | Airfield        | TouchdownLiftOff           | Polygon         |
| *-LITE-DIST            | Airfield        | AirportSign                | Point           |
| *-LITE-SIGN            | Airfield        | AirportSign                | Point           |
| *-OVRN-CNTR            | Airfield        | MarkingLine                | Line            |
| *-OVRN-IDEN            | Airfield        | RunwayHelipadDesignSurface | Polygon         |
| *-OVRN-OTLN            | Airfield        | RunwayHelipadDesignSurface | Polygon         |
| *-OVRN-SHLD-MRKG       | Airfield        | MarkingLine                | Line            |
| *-PADS-CNTR            | Airfield        | MarkingLine                | Line            |
| *-PADS-OTLN            | Airfield        | MarkingLine                | Line            |
| *-PADS-SHLD            | Airfield        | Shoulder                   | Polygon         |
| *-PRKG-SIGN            | Airfield        | AirportSign                | Point           |
| *-PVMT-MRKG            | Airfield        | MarkingLine                | Line            |
| *-PVMT-MRKG-WHIT       | Airfield        | MarkingLine                | Line            |
| *-PVMT-MRKG-YELO       | Airfield        | MarkingLine                | Line            |
| *-ROAD-SIGN            | Airfield        | AirportSign                | Point           |
| *-RUNW-ARST            | Airfield        | RunwayArrestingArea        | Polygon         |
| *-RUNW-BLST            | Airfield        | RunwayBlastPad             | Polygon         |
| *-RUNW-CLRW            | Airfield        | RunwayHelipadDesignSurface | Polygon         |
| *-RUNW-CNTR            | Airfield        | RunwayCenterline           | Line            |
| *-RUNW-CNTR-MARK       | Airfield        | MarkingLine                | Line            |
| *-RUNW-CNTR-MRKG       | Airfield        | MarkingArea                | Polygon         |
| *-RUNW-DISP            | Airfield        | MarkingArea                | Polygon         |
| *-RUNW-DIST            | Airfield        | MarkingArea                | Polygon         |
| *-RUNW-EDGE            | Airfield        | Runway                     | Polygon         |
| *-RUNW-ENDP            | Airfield        | RunwayEnd                  | Point           |
| *-RUNW-ENDP-MARK       | Airfield        | RunwayLabel                | Point           |
| *-RUNW-IDEN            | Airfield        | MarkingArea                | Polygon         |
| *-RUNW-LAHS            | Airfield        | RunwayLAHSO                | Line            |

| <b>CADD Layer Name</b> | <b>Category</b> | <b>Feature Class</b>     | <b>Geometry</b> |
|------------------------|-----------------|--------------------------|-----------------|
| *-RUNW-SAFT            | Airfield        | RunwaySafetyAreaBoundary | Polygon         |
| *-RUNW-SEGM            | Airfield        | RunwayElement            | Polygon         |
| *-RUNW-SHLD            | Airfield        | MarkingLine              | Line            |
| *-RUNW-SIDE            | Airfield        | MarkingArea              | Polygon         |
| *-RUNW-SIGN            | Airfield        | AirportSign              | Point           |
| *-RUNW-STWY            | Airfield        | Stopway                  | Polygon         |
| *-RUNW-TDZM            | Airfield        | MarkingArea              | Polygon         |
| *-RUNW-THRS            | Airfield        | MarkingArea              | Polygon         |
| *-SIGN-EXTN            | Airfield        | AirportSign              | Point           |
| *-SIGN-FRMG            | Airfield        | AirportSign              | Point           |
| *-SIGN-GAGE            | Airfield        | AirportSign              | Point           |
| *-SIGN-PANL            | Airfield        | AirportSign              | Point           |
| *-SIGN-SPRT            | Airfield        | AirportSign              | Point           |
| *-SPCL-TRAF            | Airfield        | AirportSign              | Point           |
| *-TAXI-CNTR-MARK       | Airfield        | MarkingLine              | Line            |
| *-TAXI-CNTR-MRKG       | Airfield        | MarkingLine              | Line            |
| *-TAXI-EDGE            | Airfield        | MarkingLine              | Line            |
| *-TAXI-HOLD            | Airfield        | TaxiwayHoldingPosition   | Line            |
| *-TAXI-INTS            | Airfield        | TaxiwayIntersection      | Polygon         |
| *-TAXI-OTLN            | Airfield        | TaxiwayElement           | Polygon         |
| *-TAXI-SHLD            | Airfield        | MarkingLine              | Line            |
| *-TAXI-SIGN            | Airfield        | AirportSign              | Point           |
| *-AIRS-LNDM            | Airspace        | LandmarkSegment          | Line            |
| *-AIRS-OBSC            | Airspace        | Obstacle                 | Point           |
| *-AIRS-OBST-LINE       | Airspace        | ObstructionArea          | Polygon         |
| *-AIRS-OBST-POLY       | Airspace        | ObstructionArea          | Polygon         |
| *-AIRS-OBST-PPNT       | Airspace        | Obstacle                 | Point           |
| *-AIRS-OTHR            | Airspace        | ObstructionIdSurface     | Polygon         |
| *-AIRS-PART-APRC       | Airspace        | ObstructionIdSurface     | Polygon         |
| *-AIRS-PART-CONL       | Airspace        | ObstructionIdSurface     | Polygon         |
| *-AIRS-PART-HORZ       | Airspace        | ObstructionIdSurface     | Polygon         |
| *-AIRS-PART-PRIM       | Airspace        | ObstructionIdSurface     | Polygon         |
| *-AIRS-PART-TRNS       | Airspace        | ObstructionIdSurface     | Polygon         |
| *-AIRS-TERP            | Airspace        | ObstructionIdSurface     | Polygon         |
| *-OBST-AIRS            | Airspace        | Obstacle                 | Point           |
| *-AFLD-FAAR            | Cadastral       | FaaRegionArea            | Polygon         |
| *-AFLD-PROP            | Cadastral       | AirportBoundary          | Polygon         |
| *-PROP-CNTY            | Cadastral       | County                   | Polygon         |
| *-PROP-ESMT            | Cadastral       | EasementsAndRightsofWay  | Polygon         |
| *-PROP-LEAS            | Cadastral       | LeaseZone                | Polygon         |

| <b>CADD Layer Name</b> | <b>Category</b> | <b>Feature Class</b>    | <b>Geometry</b> |
|------------------------|-----------------|-------------------------|-----------------|
| *-PROP-LINE            | Cadastral       | Parcel                  | Polygon         |
| *-PROP-LUSE            | Cadastral       | LandUse                 | Polygon         |
| *-PROP-LUSE-FUTR       | Cadastral       | LandUse                 | Polygon         |
| *-PROP-MUNI            | Cadastral       | Municipality            | Polygon         |
| *-PROP-QTRS            | Cadastral       | Parcel                  | Polygon         |
| *-PROP-RWAY            | Cadastral       | EasementsAndRightsofWay | Polygon         |
| *-PROP-RWAY-ACQU       | Cadastral       | EasementsAndRightsofWay | Polygon         |
| *-PROP-SECT            | Cadastral       | Parcel                  | Polygon         |
| *-PROP-STAT            | Cadastral       | State                   | Polygon         |
| *-PROP-SXTS            | Cadastral       | Parcel                  | Polygon         |
| *-PROP-ZONG            | Cadastral       | Zoning                  | Polygon         |
| *-BORE-CONE            | Environmental   | SampleCollectionPoint   | Point           |
| *-BORE-GENL-LOCN       | Environmental   | SampleCollectionPoint   | Point           |
| *-BORE-GPRO-LOCN       | Environmental   | SampleCollectionPoint   | Point           |
| *-BORE-HOLE            | Environmental   | SampleCollectionPoint   | Point           |
| *-BORE-LINE            | Environmental   | SampleCollectionPoint   | Point           |
| *-BORE-PUSH            | Environmental   | SampleCollectionPoint   | Point           |
| *-BORE-STRK            | Environmental   | SampleCollectionPoint   | Point           |
| *-BORE-UNDS-LOCN       | Environmental   | SampleCollectionPoint   | Point           |
| *-BORE-VCOR-LOCN       | Environmental   | SampleCollectionPoint   | Point           |
| *-BORW-IDEN            | Environmental   | FaunaHazardArea         | Polygon         |
| *-BORW-LINE            | Environmental   | FaunaHazardArea         | Polygon         |
| *-CHAN-BANK-TOP~       | Environmental   | Shoreline               | Polygon         |
| *-CHAN-DACL            | Environmental   | Shoreline               | Polygon         |
| *-CHAN-DACL-IDEN       | Environmental   | Shoreline               | Polygon         |
| *-CHAN-LIMIT           | Environmental   | Shoreline               | Polygon         |
| *-CHAN-LIMIT-IDEN      | Environmental   | Shoreline               | Polygon         |
| *-DRED-OHWM            | Environmental   | Shoreline               | Polygon         |
| *-ECCO-BURR            | Environmental   | FaunaHazardArea         | Polygon         |
| *-ECCO-DENS            | Environmental   | FaunaHazardArea         | Polygon         |
| *-ECCO-GATR            | Environmental   | FaunaHazardArea         | Polygon         |
| *-ECCO-HUMK            | Environmental   | FaunaHazardArea         | Polygon         |
| *-ECCO-NEST            | Environmental   | FaunaHazardArea         | Polygon         |
| *-ECCO-PRCH            | Environmental   | FaunaHazardArea         | Polygon         |
| *-FLHA-025Y            | Environmental   | FloodZone               | Polygon         |
| *-FLHA-050Y            | Environmental   | FloodZone               | Polygon         |
| *-FLHA-100Y            | Environmental   | FloodZone               | Polygon         |
| *-FLHA-200Y            | Environmental   | FloodZone               | Polygon         |
| *-FLHA-500Y            | Environmental   | FloodZone               | Polygon         |
| *-FLHA-IDEN            | Environmental   | FloodZone               | Polygon         |

| <b>CADD Layer Name</b> | <b>Category</b> | <b>Feature Class</b>           | <b>Geometry</b> |
|------------------------|-----------------|--------------------------------|-----------------|
| *-MNST-AIRQ            | Environmental   | SampleCollectionPoint          | Point           |
| *-MNST-GWTR            | Environmental   | Shoreline                      | Polygon         |
| *-MNST-SWTR            | Environmental   | Shoreline                      | Polygon         |
| *-PLNT-BEDS            | Environmental   | ForestStandArea                | Polygon         |
| *-PLNT-BUSH            | Environmental   | ForestStandArea                | Polygon         |
| *-PLNT-BUSH-LINE       | Environmental   | ForestStandArea                | Polygon         |
| *-PLNT-CTNR            | Environmental   | FloraSpeciesSite               | Point           |
| *-PLNT-GRND            | Environmental   | ForestStandArea                | Polygon         |
| *-PLNT-MLCH            | Environmental   | ForestStandArea                | Polygon         |
| *-PLNT-PLTS            | Environmental   | FloraSpeciesSite               | Point           |
| *-PLNT-SPRG            | Environmental   | ForestStandArea                | Polygon         |
| *-PLNT-TREE            | Environmental   | FloraSpeciesSite               | Point           |
| *-PLNT-TREE-LINE       | Environmental   | ForestStandArea                | Polygon         |
| *-PLNT-TURF            | Environmental   | ForestStandArea                | Polygon         |
| *-POLL-CONC            | Environmental   | EnvironmentalContaminationArea | Polygon         |
| *-POLL-POTN            | Environmental   | EnvironmentalContaminationArea | Polygon         |
| *-RIVR-BANK-TOP~       | Environmental   | Shoreline                      | Polygon         |
| *-RIVR-EDGE            | Environmental   | Shoreline                      | Polygon         |
| *-SAMP-AIRS            | Environmental   | SampleCollectionPoint          | Point           |
| *-SAMP-AUGR            | Environmental   | SampleCollectionPoint          | Point           |
| *-SAMP-BIOL            | Environmental   | SampleCollectionPoint          | Point           |
| *-SAMP-CORE            | Environmental   | SampleCollectionPoint          | Point           |
| *-SAMP-DRVE            | Environmental   | SampleCollectionPoint          | Point           |
| *-SAMP-GRAB            | Environmental   | SampleCollectionPoint          | Point           |
| *-SAMP-GWTR            | Environmental   | SampleCollectionPoint          | Point           |
| *-SAMP-IDEN            | Environmental   | SampleCollectionPoint          | Point           |
| *-SAMP-MAGN            | Environmental   | SampleCollectionPoint          | Point           |
| *-SAMP-PERC            | Environmental   | SampleCollectionPoint          | Point           |
| *-SAMP-PITS            | Environmental   | SampleCollectionPoint          | Point           |
| *-SAMP-SEDI            | Environmental   | SampleCollectionPoint          | Point           |
| *-SAMP-SOIL            | Environmental   | SampleCollectionPoint          | Point           |
| *-SAMP-SOLI            | Environmental   | SampleCollectionPoint          | Point           |
| *-SAMP-SWTR            | Environmental   | SampleCollectionPoint          | Point           |
| *-SAMP-VERT            | Environmental   | SampleCollectionPoint          | Point           |
| *-SAMP-WASH            | Environmental   | SampleCollectionPoint          | Point           |
| *-SAMP-WAST            | Environmental   | SampleCollectionPoint          | Point           |
| *-SITE-EWAT            | Environmental   | Shoreline                      | Polygon         |
| *-SITE-VEGE            | Environmental   | ForestStandArea                | Polygon         |
| *-SITE-VEGE-AREA       | Environmental   | ForestStandArea                | Polygon         |
| *-SITE-VEGE-HZRD       | Environmental   | FaunaHazardArea                | Polygon         |

| <b>CADD Layer Name</b> | <b>Category</b> | <b>Feature Class</b>  | <b>Geometry</b> |
|------------------------|-----------------|-----------------------|-----------------|
| *-SITE-VEGE-PONT       | Environmental   | FloraSpeciesSite      | Point           |
| *-SITE-WATR            | Environmental   | Shoreline             | Polygon         |
| *-STOR-HAZM            | Environmental   | HazMatStorageSite     | Point           |
| *-STOR-HAZW            | Environmental   | HazMatStorageSite     | Point           |
| *-TOPO-AUCO            | Environmental   | NoiseIncident         | Point           |
| *-TOPO-AUST            | Environmental   | NoiseMonitoringPoint  | Point           |
| *-TOPO-AUZN            | Environmental   | NoiseContour          | Polygon         |
| *-TOPO-BORE            | Environmental   | SampleCollectionPoint | Point           |
| *-TOPO-FLZN            | Environmental   | FloodZone             | Polygon         |
| *-TOPO-SHOR            | Environmental   | Shoreline             | Polygon         |
| *-TOPO-SPEC            | Environmental   | FaunaHazardArea       | Polygon         |
| *-TOPO-WATR            | Environmental   | Shoreline             | Polygon         |
| *-TOPO-WETL            | Environmental   | Wetland               | Polygon         |
| *-WELL-ASR~            | Environmental   | SampleCollectionPoint | Point           |
| *-WELL-MONT            | Environmental   | SampleCollectionPoint | Point           |
| *-WELL-PIZO            | Environmental   | SampleCollectionPoint | Point           |
| *-WETL-BOGS            | Environmental   | Wetland               | Polygon         |
| *-WETL-FENS            | Environmental   | Wetland               | Polygon         |
| *-WETL-MRSH            | Environmental   | Wetland               | Polygon         |
| *-WETL-MRSH-SALT       | Environmental   | Wetland               | Polygon         |
| *-WETL-MRSH-TIDL       | Environmental   | Wetland               | Polygon         |
| *-WETL-PCSN            | Environmental   | Wetland               | Polygon         |
| *-WETL-PHOL            | Environmental   | Wetland               | Polygon         |
| *-WETL-RPRN            | Environmental   | Wetland               | Polygon         |
| *-WETL-SLGH            | Environmental   | Wetland               | Polygon         |
| *-WETL-SWMP            | Environmental   | Wetland               | Polygon         |
| *-AERI-BNDY            | Geodetic        | ImageArea             | Polygon         |
| *-AERI-PHOT            | Geodetic        | ImageArea             | Polygon         |
| *-AERI-PNPT            | Geodetic        | ImageArea             | Polygon         |
| *-CTRL-BMRK            | Geodetic        | AirportControlPoint   | Point           |
| *-CTRL-GRID            | Geodetic        | CoordinateGridCell    | Polygon         |
| *-CTRL-HCPT            | Geodetic        | AirportControlPoint   | Point           |
| *-CTRL-HVPT            | Geodetic        | AirportControlPoint   | Point           |
| *-CTRL-TRAV            | Geodetic        | AirportControlPoint   | Point           |
| *-CTRL-VCPT            | Geodetic        | AirportControlPoint   | Point           |
| *-DETL-GRPH            | Geodetic        | CoordinateGridCell    | Polygon         |
| *-GRAD-AFTR            | Geodetic        | ElevationContour      | Line            |
| *-GRAD-EXST            | Geodetic        | ElevationContour      | Line            |
| *-GRAD-EXST-BASE       | Geodetic        | ElevationContour      | Line            |
| *-GRAD-EXST-SYR1       | Geodetic        | ElevationContour      | Line            |

| <b>CADD Layer Name</b> | <b>Category</b> | <b>Feature Class</b> | <b>Geometry</b> |
|------------------------|-----------------|----------------------|-----------------|
| *-GRAD-EXST-SYR2       | Geodetic        | ElevationContour     | Line            |
| *-GRAD-EXST-SYR3       | Geodetic        | ElevationContour     | Line            |
| *-GRAD-EXST-SYR4       | Geodetic        | ElevationContour     | Line            |
| *-GRAD-FNSH            | Geodetic        | ElevationContour     | Line            |
| *-GRAD-PRED            | Geodetic        | ElevationContour     | Line            |
| *-GRAD-SCLN            | Geodetic        | ElevationContour     | Line            |
| *-GRID-COOR            | Geodetic        | CoordinateGridCell   | Polygon         |
| *-GRID-COOR-IDEN       | Geodetic        | CoordinateGridCell   | Polygon         |
| *-GRID-EXTR            | Geodetic        | CoordinateGridCell   | Polygon         |
| *-GRID-FRAM            | Geodetic        | CoordinateGridCell   | Polygon         |
| *-GRID-HORZ            | Geodetic        | CoordinateGridCell   | Polygon         |
| *-GRID-IDEN            | Geodetic        | CoordinateGridCell   | Polygon         |
| *-GRID-INTR            | Geodetic        | CoordinateGridCell   | Polygon         |
| *-GRID-MAJR            | Geodetic        | CoordinateGridCell   | Polygon         |
| *-GRID-MINR            | Geodetic        | CoordinateGridCell   | Polygon         |
| *-GRID-VERT            | Geodetic        | CoordinateGridCell   | Polygon         |
| *-IMAG-BDRY-QUAD       | Geodetic        | ImageArea            | Polygon         |
| *-PROJ-LALO-COOR       | Geodetic        | CoordinateGridCell   | Polygon         |
| *-PROJ-STAT-COOR       | Geodetic        | CoordinateGridCell   | Polygon         |
| *-SURV-DATA            | Geodetic        | AirportControlPoint  | Point           |
| *-TOPO-BKLN            | Geodetic        | ElevationContour     | Line            |
| *-TOPO-COOR            | Geodetic        | CoordinateGridCell   | Polygon         |
| *-TOPO-COOR-LALO       | Geodetic        | CoordinateGridCell   | Polygon         |
| *-TOPO-COOR-STAT       | Geodetic        | CoordinateGridCell   | Polygon         |
| *-TOPO-DTMP            | Geodetic        | ElevationContour     | Line            |
| *-TOPO-DTMT            | Geodetic        | ElevationContour     | Line            |
| *-TOPO-MAJR            | Geodetic        | ElevationContour     | Line            |
| *-TOPO-MAJR-IDEN       | Geodetic        | ElevationContour     | Line            |
| *-TOPO-MINR            | Geodetic        | ElevationContour     | Line            |
| *-TOPO-MINR-IDEN       | Geodetic        | ElevationContour     | Line            |
| *-TOPO-MINR-ONEF       | Geodetic        | ElevationContour     | Line            |
| *-TOPO-MINR-TWOF       | Geodetic        | ElevationContour     | Line            |
| *-TOPO-RNYE            | Geodetic        | AirportControlPoint  | Point           |
| *-TOPO-SLOP-FILL       | Geodetic        | ElevationContour     | Line            |
| *-TOPO-SLOP-IDEN       | Geodetic        | ElevationContour     | Line            |
| *-TOPO-SLOP-TOPT       | Geodetic        | ElevationContour     | Line            |
| *-TOPO-SOUN            | Geodetic        | ElevationContour     | Line            |
| *-TOPO-SPOT            | Geodetic        | AirportControlPoint  | Point           |
| *-TOPO-SPOT-BLDG       | Geodetic        | AirportControlPoint  | Point           |
| *-WATR-SURF            | Geodetic        | ElevationContour     | Line            |

| <b>CADD Layer Name</b> | <b>Category</b> | <b>Feature Class</b> | <b>Geometry</b> |
|------------------------|-----------------|----------------------|-----------------|
| *-ACCS-EVTR            | Interior        | Elevator             | Polygon         |
| *-ACCS-STRS            | Interior        | Stair                | Polygon         |
| *-ACCS-STRS-FRMG       | Interior        | Stair                | Polygon         |
| *-ALRM-EQPM-SECU       | Interior        | Door                 | Line            |
| *-BAGS-CARR            | Interior        | BaggageCarousel      | Polygon         |
| *-BAGS-CVRI            | Interior        | BaggageConveyor      | Polygon         |
| *-BAGS-CVRO            | Interior        | BaggageConveyor      | Polygon         |
| *-COLS-CNTR            | Interior        | BuildingColumn       | Polygon         |
| *-COLS-ENCL            | Interior        | BuildingColumn       | Polygon         |
| *-COLS-POST            | Interior        | BuildingColumn       | Polygon         |
| *-COLS-PRIM            | Interior        | BuildingColumn       | Polygon         |
| *-COLS-RBAR            | Interior        | BuildingColumn       | Polygon         |
| *-COLS-SECD            | Interior        | BuildingColumn       | Polygon         |
| *-DOOR-FULL            | Interior        | Door                 | Line            |
| *-DOOR-PRHT            | Interior        | Door                 | Line            |
| *-DOOR-SECR            | Interior        | Door                 | Line            |
| *-FLOR-ECSL            | Interior        | Escalator            | Polygon         |
| *-FLOR-EVTR            | Interior        | Elevator             | Polygon         |
| *-FLOR-HRAL            | Interior        | Stair                | Polygon         |
| *-FLOR-LEVL            | Interior        | Floor                | Polygon         |
| *-FLOR-MWLK            | Interior        | MovingSidewalk       | Polygon         |
| *-FLOR-OTLN            | Interior        | Floor                | Polygon         |
| *-FLOR-OTLN-RPRM       | Interior        | Room                 | Polygon         |
| *-FLOR-SPCE            | Interior        | Space                | Polygon         |
| *-FLOR-STRS            | Interior        | Stair                | Polygon         |
| *-FNDN-ANCH            | Interior        | Wall                 | Line            |
| *-FNDN-CNTR            | Interior        | Wall                 | Line            |
| *-FNDN-FTNG            | Interior        | BuildingColumn       | Polygon         |
| *-FNDN-GRBM            | Interior        | Wall                 | Line            |
| *-FNDN-PEDS            | Interior        | BuildingColumn       | Polygon         |
| *-FNDN-PILE            | Interior        | BuildingColumn       | Polygon         |
| *-FURN-ACCS            | Interior        | Furnishing           | Point           |
| *-FURN-ADPC            | Interior        | Furnishing           | Point           |
| *-FURN-ARTW            | Interior        | Furnishing           | Point           |
| *-FURN-FLOR            | Interior        | Furnishing           | Point           |
| *-FURN-FREE            | Interior        | Furnishing           | Point           |
| *-FURN-GRID            | Interior        | Furnishing           | Point           |
| *-FURN-IDEN            | Interior        | Furnishing           | Point           |
| *-FURN-PLNT            | Interior        | Furnishing           | Point           |
| *-FURN-SEAT            | Interior        | Furnishing           | Point           |

| <b>CADD Layer Name</b> | <b>Category</b>   | <b>Feature Class</b> | <b>Geometry</b> |
|------------------------|-------------------|----------------------|-----------------|
| *-FURN-STOR            | Interior          | Furnishing           | Point           |
| *-GLAZ-FULL            | Interior          | Window               | Line            |
| *-GLAZ-PRHT            | Interior          | Window               | Line            |
| *-GLAZ-SILL            | Interior          | Window               | Line            |
| *-HVAC-ACCS            | Interior          | Door                 | Line            |
| *-OTLN-FLOR            | Interior          | Floor                | Polygon         |
| *-OTLN-OPNG            | Interior          | Door                 | Line            |
| *-OTLN-ROOF            | Interior          | Floor                | Polygon         |
| *-PENE-WALL            | Interior          | Wall                 | Line            |
| *-SITE-STRS            | Interior          | Stair                | Polygon         |
| *-WALL-ABUT            | Interior          | Wall                 | Line            |
| *-WALL-CAVI            | Interior          | Wall                 | Line            |
| *-WALL-CELL            | Interior          | Wall                 | Line            |
| *-WALL-CNTR            | Interior          | Wall                 | Line            |
| *-WALL-COFF            | Interior          | Wall                 | Line            |
| *-WALL-CURT            | Interior          | Wall                 | Line            |
| *-WALL-CWMG            | Interior          | Wall                 | Line            |
| *-WALL-FULL            | Interior          | Wall                 | Line            |
| *-WALL-FULL-EXTR       | Interior          | Wall                 | Line            |
| *-WALL-FULL-INTR       | Interior          | Wall                 | Line            |
| *-WALL-GARD            | Interior          | Wall                 | Line            |
| *-WALL-HEAD            | Interior          | Wall                 | Line            |
| *-WALL-JAMB            | Interior          | Wall                 | Line            |
| *-WALL-LOAD            | Interior          | Wall                 | Line            |
| *-WALL-MONO            | Interior          | Wall                 | Line            |
| *-WALL-MOVE            | Interior          | Wall                 | Line            |
| *-WALL-MSE~            | Interior          | Wall                 | Line            |
| *-WALL-NONL            | Interior          | Wall                 | Line            |
| *-WALL-OPEN-LVRS       | Interior          | Wall                 | Line            |
| *-WALL-PCST            | Interior          | Wall                 | Line            |
| *-WALL-PRHT            | Interior          | Wall                 | Line            |
| *-WALL-RBAR            | Interior          | Wall                 | Line            |
| *-WALL-RTWL            | Interior          | Wall                 | Line            |
| *-WALL-SHEA            | Interior          | Wall                 | Line            |
| *-WALL-SPCL            | Interior          | Wall                 | Line            |
| *-WALL-STUD            | Interior          | Wall                 | Line            |
| *-AFLD-AIDS-COMM       | Navigational Aids | NavaidEquipment      | Point           |
| *-AFLD-AIDS-CRIT       | Navigational Aids | NavaidEquipment      | Point           |
| *-AFLD-AIDS-GPS_       | Navigational Aids | NavaidEquipment      | Point           |
| *-AFLD-AIDS-ILS_       | Navigational Aids | NavaidEquipment      | Point           |

| <b>CADD Layer Name</b> | <b>Category</b>   | <b>Feature Class</b>   | <b>Geometry</b> |
|------------------------|-------------------|------------------------|-----------------|
| *-AFLD-AIDS-MCWW       | Navigational Aids | NavaidEquipment        | Point           |
| *-AFLD-AIDS-OTHR       | Navigational Aids | NavaidEquipment        | Point           |
| *-AFLD-AIDS-RADI       | Navigational Aids | NavaidEquipment        | Point           |
| *-AFLD-AIDS-RADR       | Navigational Aids | NavaidEquipment        | Point           |
| *-AFLD-AIDS-RMTE       | Navigational Aids | NavaidEquipment        | Point           |
| *-AFLD-AIDS-SITE       | Navigational Aids | NavaidEquipment        | Point           |
| *-AFLD-AIDS-SYST       | Navigational Aids | NavaidEquipment        | Point           |
| *-AFLD-AIDS-WTHR       | Navigational Aids | NavaidEquipment        | Point           |
| *-AFLD-BCNS-IDEN       | Navigational Aids | NavaidEquipment        | Point           |
| *-AFLD-BCNS-MISC       | Navigational Aids | NavaidEquipment        | Point           |
| *-AFLD-BCNS-STRB       | Navigational Aids | NavaidEquipment        | Point           |
| *-SEAP-BUOY            | SeaPlane          | NavigationBuoy         | Point           |
| *-SEAP-RAMP            | SeaPlane          | SeaplaneRampSite       | Polygon         |
| *-SEAP-RAMP-CNTR       | SeaPlane          | SeaplaneRampCenterline | Line            |
| *-SIGN-BUOY            | SeaPlane          | NavigationBuoy         | Point           |
| *-AFLD-SECR-SECA       | Security          | SecurityArea           | Polygon         |
| *-AFLD-SECR-SIDA       | Security          | SecurityIdDisplayArea  | Polygon         |
| *-AFLD-SECR-STER       | Security          | SterileArea            | Polygon         |
| *-CCTV-EQPM            | Security          | SurveillanceCamera     | Point           |
| *-BLDG-DECK            | Structures        | Building               | Polygon         |
| *-BLDG-DOCK            | Structures        | Building               | Polygon         |
| *-BLDG-OTLN            | Structures        | Building               | Polygon         |
| *-BLDG-OVHD            | Structures        | Building               | Polygon         |
| *-BLDG-PRCH            | Structures        | Building               | Polygon         |
| *-DECK-FLOR            | Structures        | Building               | Polygon         |
| *-DECK-ROOF            | Structures        | Building               | Polygon         |
| *-DETL-FENC-SECU       | Structures        | Fence                  | Line            |
| *-DETL-GATE            | Structures        | Gate                   | Line            |
| *-ELEV-OTLN            | Structures        | Building               | Polygon         |
| *-EXST-BLDG            | Structures        | Building               | Polygon         |
| *-GATE-AXIS            | Structures        | Gate                   | Line            |
| *-GATE-MISC            | Structures        | Gate                   | Line            |
| *-OTLN-BLDG            | Structures        | Building               | Polygon         |
| *-OTLN-STRC            | Structures        | Building               | Polygon         |
| *-PLAN-OTLN            | Structures        | Building               | Polygon         |
| *-PROP-CONS            | Structures        | ConstructionArea       | Polygon         |
| *-SAFE-FENC            | Structures        | Fence                  | Line            |
| *-SITE-FENC            | Structures        | Fence                  | Line            |
| *-SITE-GATE            | Structures        | Gate                   | Line            |
| *-SITE-OTLN            | Structures        | ConstructionArea       | Polygon         |

| <b>CADD Layer Name</b> | <b>Category</b>          | <b>Feature Class</b>        | <b>Geometry</b> |
|------------------------|--------------------------|-----------------------------|-----------------|
| *-STRC-TOWR            | Structures               | Tower                       | Point           |
| *-ACCS-TUNL            | Surface Transportation   | Tunnel                      | Polygon         |
| *-BRDG-BEAR            | Surface Transportation   | Bridge                      | Polygon         |
| *-BRDG-CNTR            | Surface Transportation   | Bridge                      | Polygon         |
| *-BRDG-CURB            | Surface Transportation   | Sidewalk                    | Polygon         |
| *-BRDG-DECK            | Surface Transportation   | Bridge                      | Polygon         |
| *-BRDG-OTLN            | Surface Transportation   | Bridge                      | Polygon         |
| *-FNDN-TUNL            | Surface Transportation   | Tunnel                      | Polygon         |
| *-GATE-WALK            | Surface Transportation   | Sidewalk                    | Polygon         |
| *-MATL-CRAN            | Surface Transportation   | Bridge                      | Polygon         |
| *-PRKG-OTLN            | Surface Transportation   | ParkingLot                  | Polygon         |
| *-RAIL-BRDG            | Surface Transportation   | Bridge                      | Polygon         |
| *-RAIL-BRDG-CNTR       | Surface Transportation   | RailroadCenterline          | Line            |
| *-RAIL-CNTR            | Surface Transportation   | RailroadCenterline          | Line            |
| *-RAIL-TRAK            | Surface Transportation   | RailroadCenterline          | Line            |
| *-RAIL-YARD            | Surface Transportation   | RailroadYard                | Polygon         |
| *-ROAD-ASPH            | Surface Transportation   | RoadSegment                 | Polygon         |
| *-ROAD-CNTR            | Surface Transportation   | RoadCenterline              | Line            |
| *-ROAD-CONC            | Surface Transportation   | RoadSegment                 | Polygon         |
| *-ROAD-CURB            | Surface Transportation   | RoadSegment                 | Polygon         |
| *-ROAD-DRIV            | Surface Transportation   | DrivewayArea                | Polygon         |
| *-ROAD-DRIV-CNTR       | Surface Transportation   | DrivewayCenterline          | Line            |
| *-ROAD-GRVL            | Surface Transportation   | RoadSegment                 | Polygon         |
| *-ROAD-OTLN            | Surface Transportation   | RoadSegment                 | Polygon         |
| *-ROAD-POIN            | Surface Transportation   | RoadPoint                   | Point           |
| *-ROAD-SHLD            | Surface Transportation   | RoadSegment                 | Polygon         |
| *-ROAD-UPVD            | Surface Transportation   | RoadSegment                 | Polygon         |
| *-SITE-BRDG            | Surface Transportation   | Bridge                      | Polygon         |
| *-SITE-STRC            | Surface Transportation   | Bridge                      | Polygon         |
| *-SITE-TUNL            | Surface Transportation   | Tunnel                      | Polygon         |
| *-SITE-WALK            | Surface Transportation   | Sidewalk                    | Polygon         |
| *-CMPA-AIRD            | Utilities Air            | CompressedAirDrainSeparator | Point           |
| *-CMPA-FTTG            | Utilities Air            | CompressedAirFitting        | Point           |
| *-CMPA-PIPE            | Utilities Air            | CompressedAirPipeLine       | Line            |
| *-CMPA-VLVE            | Utilities Air            | CompressedAirValve          | Point           |
| *-CMPA-VLVP            | Utilities Air            | CompressedAirValvePit       | Point           |
| *-COMM-ACCS            | Utilities Communications | CommAccessPoint             | Point           |
| *-COMM-AIRP            | Utilities Communications | CommAirLine                 | Line            |
| *-COMM-AMPL            | Utilities Communications | CommAmplifier               | Point           |
| *-COMM-ANTL            | Utilities Communications | CommAntennaLine             | Line            |

| <b>CADD Layer Name</b> | <b>Category</b>          | <b>Feature Class</b>       | <b>Geometry</b> |
|------------------------|--------------------------|----------------------------|-----------------|
| *-COMM-ANTS            | Utilities Communications | CommAntenna                | Point           |
| *-COMM-APDP            | Utilities Communications | CommAirPressureDevice      | Point           |
| *-COMM-ATTN            | Utilities Communications | CommAttenuator             | Point           |
| *-COMM-BOTH            | Utilities Communications | CommTelephoneBooth         | Point           |
| *-COMM-CABL-CBRL       | Utilities Communications | CommCableBridgeLine        | Line            |
| *-COMM-CABL-CLAD       | Utilities Communications | CommCableLadder            | Point           |
| *-COMM-CABL-COAX       | Utilities Communications | CommCoaxialLine            | Line            |
| *-COMM-CABL-CRCK       | Utilities Communications | CommCableRackLine          | Line            |
| *-COMM-CABL-TRAY       | Utilities Communications | CommCableTrayLine          | Line            |
| *-COMM-CABL-TRGH       | Utilities Communications | CommCableTroughLine        | Line            |
| *-COMM-COVR            | Utilities Communications | CommAccessCoverageArea     | Polygon         |
| *-COMM-DSPL            | Utilities Communications | CommDbsplice               | Point           |
| *-COMM-DUCT            | Utilities Communications | CommDuctbank               | Line            |
| *-COMM-DVPT            | Utilities Communications | CommDevice                 | Point           |
| *-COMM-EQPT            | Utilities Communications | CommEquipment              | Point           |
| *-COMM-FIBR            | Utilities Communications | CommFiberopticLine         | Line            |
| *-COMM-GPNT            | Utilities Communications | CommGroundPoint            | Point           |
| *-COMM-GPPA            | Utilities Communications | CommGroundplaneArea        | Polygon         |
| *-COMM-GWAV            | Utilities Communications | CommGroundwaveArea         | Polygon         |
| *-COMM-IMPD            | Utilities Communications | CommImpedanceMatchingPoint | Point           |
| *-COMM-INET            | Utilities Communications | CommInternetCenter         | Point           |
| *-COMM-JBOX            | Utilities Communications | CommJunction               | Point           |
| *-COMM-LCAP            | Utilities Communications | CommLoadCapacitor          | Point           |
| *-COMM-LCOL            | Utilities Communications | CommLoadCoilPoint          | Point           |
| *-COMM-LOOP            | Utilities Communications | CommServiceLoopPoint       | Point           |
| *-COMM-LOSL            | Utilities Communications | CommLineOfSightLine        | Line            |
| *-COMM-MCNV            | Utilities Communications | CommMediaConverter         | Point           |
| *-COMM-MHOP            | Utilities Communications | CommMultihopArea           | Polygon         |
| *-COMM-NETS            | Utilities Communications | CommNetworkSystemsSite     | Point           |
| *-COMM-OTCL            | Utilities Communications | CommOtherCable             | Line            |
| *-COMM-PATH            | Utilities Communications | CommPathNode               | Point           |
| *-COMM-PEDS            | Utilities Communications | CommPedestal               | Point           |
| *-COMM-PULB            | Utilities Communications | CommPullbox                | Point           |
| *-COMM-RADP            | Utilities Communications | CommRadio                  | Point           |
| *-COMM-RADR            | Utilities Communications | CommRadarSite              | Point           |
| *-COMM-RDRS            | Utilities Communications | CommRadioReceiver          | Point           |
| *-COMM-RDTS            | Utilities Communications | CommRadioTransmitter       | Point           |
| *-COMM-RELY            | Utilities Communications | CommRelayStation           | Point           |
| *-COMM-RISR            | Utilities Communications | CommRiser                  | Point           |
| *-COMM-RPTR            | Utilities Communications | CommRepeater               | Point           |

| <b>CADD Layer Name</b> | <b>Category</b>          | <b>Feature Class</b>     | <b>Geometry</b> |
|------------------------|--------------------------|--------------------------|-----------------|
| *-COMM-SATP            | Utilities Communications | CommSatellitePoint       | Point           |
| *-COMM-SEGL            | Utilities Communications | CommSegmentedCable       | Line            |
| *-COMM-SEGS            | Utilities Communications | CommSegmentedCable       | Line            |
| *-COMM-SENS            | Utilities Communications | CommSensor               | Point           |
| *-COMM-SIGN            | Utilities Communications | CommElectronicMarker     | Point           |
| *-COMM-SLIN            | Utilities Communications | CommPathSegmentLine      | Line            |
| *-COMM-SPKR            | Utilities Communications | CommSpeaker              | Point           |
| *-COMM-SPLC            | Utilities Communications | CommSplice               | Point           |
| *-COMM-SPLT            | Utilities Communications | CommSplitter             | Point           |
| *-COMM-TELE            | Utilities Communications | CommTelephone            | Point           |
| *-COMM-TERM            | Utilities Communications | CommTerminator           | Point           |
| *-COMM-TRML            | Utilities Communications | CommTerminal             | Point           |
| *-COMM-TWIS            | Utilities Communications | CommTwistedPairLine      | Line            |
| *-COMM-VALT            | Utilities Communications | CommVaultSite            | Point           |
| *-COMM-VIDS            | Utilities Communications | CommVideoSite            | Point           |
| *-COMM-VOIC            | Utilities Communications | CommVoiceSwitch          | Point           |
| *-COMM-VSIT            | Utilities Communications | CommVerticalSite         | Point           |
| *-COMM-WAVG            | Utilities Communications | CommWaveguideLine        | Line            |
| *-GLYC-CLVL            | Utilities Deicing        | DeicingCulvertCenterline | Line            |
| *-GLYC-CLVS            | Utilities Deicing        | DeicingCulvertEnd        | Point           |
| *-GLYC-COUT            | Utilities Deicing        | DeicingLineCleanOut      | Point           |
| *-GLYC-DBAS            | Utilities Deicing        | DeicingDrainageBasin     | Polygon         |
| *-GLYC-DDIV            | Utilities Deicing        | DeicingDrainageDivide    | Line            |
| *-GLYC-DSCH            | Utilities Deicing        | DeicingDischargePoint    | Point           |
| *-GLYC-FLOW            | Utilities Deicing        | DeicingFlowControlPoint  | Point           |
| *-GLYC-FTTG            | Utilities Deicing        | DeicingFitting           | Point           |
| *-GLYC-INLT            | Utilities Deicing        | DeicingInlet             | Point           |
| *-GLYC-JBOX            | Utilities Deicing        | DeicingJunction          | Point           |
| *-GLYC-LIFT            | Utilities Deicing        | DeicingLiftStation       | Point           |
| *-GLYC-LINE            | Utilities Deicing        | DeicingLine              | Line            |
| *-GLYC-MARK            | Utilities Deicing        | DeicingMarker            | Point           |
| *-GLYC-PUMP            | Utilities Deicing        | DeicingPump              | Point           |
| *-GLYC-RESV            | Utilities Deicing        | DeicingReservoir         | Point           |
| *-GLYC-REVR            | Utilities Deicing        | DeicingGlycolRecoveryPit | Point           |
| *-GLYC-STAT            | Utilities Deicing        | DeicingPumpStation       | Point           |
| *-GLYC-TANK            | Utilities Deicing        | DeicingTank              | Point           |
| *-GLYC-VALT            | Utilities Deicing        | DeicingVault             | Point           |
| *-GLYC-VLVE            | Utilities Deicing        | DeicingValve             | Point           |
| *-ELEC-BLIN            | Utilities Electrical     | ElectricalBusLine        | Line            |
| *-ELEC-CAPP            | Utilities Electrical     | ElectricalCapacitor      | Point           |

| <b>CADD Layer Name</b> | <b>Category</b>      | <b>Feature Class</b>             | <b>Geometry</b> |
|------------------------|----------------------|----------------------------------|-----------------|
| *-ELEC-CLIN            | Utilities Electrical | ElectricalCable                  | Line            |
| *-ELEC-DUCT            | Utilities Electrical | ElectricalDuctbank               | Line            |
| *-ELEC-GENP            | Utilities Electrical | ElectricalGenerator              | Point           |
| *-ELEC-GRPT            | Utilities Electrical | ElectricalGround                 | Point           |
| *-ELEC-HBLT            | Utilities Electrical | ElectricalHeadBoltOutlet         | Point           |
| *-ELEC-JBOX            | Utilities Electrical | ElectricalPedestal               | Point           |
| *-ELEC-LITE            | Utilities Electrical | ElectricalLight                  | Point           |
| *-ELEC-METR            | Utilities Electrical | ElectricalMeter                  | Point           |
| *-ELEC-MKPT            | Utilities Electrical | ElectricalMarker                 | Point           |
| *-ELEC-MTPT            | Utilities Electrical | ElectricalMotor                  | Point           |
| *-ELEC-PEDS            | Utilities Electrical | ElectricalPedestal               | Point           |
| *-ELEC-REGP            | Utilities Electrical | ElectricalRegulator              | Point           |
| *-ELEC-RISR            | Utilities Electrical | ElectricalRiser                  | Point           |
| *-ELEC-SITE            | Utilities Electrical | ElectricalUtilitySite            | Point           |
| *-ELEC-SPLC            | Utilities Electrical | ElectricalSplice                 | Point           |
| *-ELEC-SUBS            | Utilities Electrical | ElectricalSubstation             | Polygon         |
| *-ELEC-SWCH            | Utilities Electrical | ElectricalSwitch                 | Point           |
| *-ELEC-TRBP            | Utilities Electrical | ElectricalTransformerBank        | Point           |
| *-ELEC-VALT            | Utilities Electrical | ElectricalTransformerVault       | Point           |
| *-POLE-GUYL            | Utilities Electrical | ElectricalPoleGuyLine            | Line            |
| *-POLE-GUYP            | Utilities Electrical | ElectricalPoleGuyConnectionPoint | Point           |
| *-POLE-TOWS            | Utilities Electrical | ElectricalPoleTower              | Point           |
| *-EMCS-CABL            | Utilities EMCS       | EnergyCtrlMonCable               | Line            |
| *-EMCS-DUCT            | Utilities EMCS       | EnergyCtrlMonDuctbank            | Line            |
| *-EMCS-DVPT            | Utilities EMCS       | EnergyCtrlMonDevice              | Point           |
| *-EMCS-JBOX            | Utilities EMCS       | EnergyCtrlMonJunction            | Point           |
| *-EMCS-SIGN            | Utilities EMCS       | EnergyCtrlMonMarker              | Point           |
| *-FUEL-AEPT            | Utilities Fuel       | FuelAirEliminator                | Point           |
| *-FUEL-ANOD            | Utilities Fuel       | FuelAnode                        | Point           |
| *-FUEL-ANOT            | Utilities Fuel       | FuelAnodeTestStation             | Point           |
| *-FUEL-FILT            | Utilities Fuel       | FuelFilterStrainer               | Point           |
| *-FUEL-FTTG            | Utilities Fuel       | FuelFitting                      | Point           |
| *-FUEL-HYDR            | Utilities Fuel       | FuelHydrant                      | Point           |
| *-FUEL-JBOX            | Utilities Fuel       | FuelJunction                     | Point           |
| *-FUEL-MAIN            | Utilities Fuel       | FuelLine                         | Line            |
| *-FUEL-METR            | Utilities Fuel       | FuelMeter                        | Point           |
| *-FUEL-MKPT            | Utilities Fuel       | FuelMarker                       | Point           |
| *-FUEL-OILW            | Utilities Fuel       | FuelOilWaterSeparator            | Point           |
| *-FUEL-PBSP            | Utilities Fuel       | FuelPumpBoosterStation           | Point           |
| *-FUEL-PIPL            | Utilities Fuel       | FuelTransPipeline                | Line            |

| <b>CADD Layer Name</b> | <b>Category</b> | <b>Feature Class</b>         | <b>Geometry</b> |
|------------------------|-----------------|------------------------------|-----------------|
| *-FUEL-PIPS            | Utilities Fuel  | FuelTransPipelineSegmentLine | Line            |
| *-FUEL-PUMP            | Utilities Fuel  | FuelPump                     | Point           |
| *-FUEL-RECT            | Utilities Fuel  | FuelRectifier                | Point           |
| *-FUEL-REDC            | Utilities Fuel  | FuelRegulatorReducer         | Point           |
| *-FUEL-REFN            | Utilities Fuel  | FuelTransRefinery            | Point           |
| *-FUEL-SRCE            | Utilities Fuel  | FuelSource                   | Point           |
| *-FUEL-TANK            | Utilities Fuel  | FuelTank                     | Point           |
| *-FUEL-VLVE            | Utilities Fuel  | FuelValve                    | Point           |
| *-NGAS-ANOD            | Utilities Gas   | GasAnode                     | Point           |
| *-NGAS-ANOT            | Utilities Gas   | GasAnodeTestStation          | Point           |
| *-NGAS-FILL            | Utilities Gas   | GasFillPoint                 | Point           |
| *-NGAS-FTTG            | Utilities Gas   | GasFitting                   | Point           |
| *-NGAS-GASL            | Utilities Gas   | GasLine                      | Line            |
| *-NGAS-JBOX            | Utilities Gas   | GasJunction                  | Point           |
| *-NGAS-LITE            | Utilities Gas   | GasLight                     | Point           |
| *-NGAS-MARK            | Utilities Gas   | GasMarker                    | Point           |
| *-NGAS-METR            | Utilities Gas   | GasMeter                     | Point           |
| *-NGAS-MHOL            | Utilities Gas   | GasJunction                  | Point           |
| *-NGAS-PMPS            | Utilities Gas   | GasPumpStation               | Point           |
| *-NGAS-PUMP            | Utilities Gas   | GasPump                      | Point           |
| *-NGAS-RECT            | Utilities Gas   | GasRectifier                 | Point           |
| *-NGAS-REDC            | Utilities Gas   | GasReducer                   | Point           |
| *-NGAS-SITE            | Utilities Gas   | GasJunction                  | Point           |
| *-NGAS-SRCE            | Utilities Gas   | GasSource                    | Point           |
| *-NGAS-TANK            | Utilities Gas   | GasTank                      | Point           |
| *-NGAS-VLVE            | Utilities Gas   | GasValve                     | Point           |
| *-HVAC-ANCH            | Utilities HCS   | HeatCoolAnchorPoint          | Point           |
| *-HVAC-ANOD            | Utilities HCS   | HeatCoolAnode                | Point           |
| *-HVAC-ANOT            | Utilities HCS   | HeatCoolAnodeTestStation     | Point           |
| *-HVAC-FTTG            | Utilities HCS   | HeatCoolFitting              | Point           |
| *-HVAC-HCPA            | Utilities HCS   | HeatCoolPlantArea            | Polygon         |
| *-HVAC-JBOX            | Utilities HCS   | HeatCoolJunction             | Point           |
| *-HVAC-LINE            | Utilities HCS   | HeatCoolLine                 | Line            |
| *-HVAC-METR            | Utilities HCS   | HeatCoolMeter                | Point           |
| *-HVAC-PUMP            | Utilities HCS   | HeatCoolPump                 | Point           |
| *-HVAC-RECT            | Utilities HCS   | HeatCoolRectifier            | Point           |
| *-HVAC-REGL            | Utilities HCS   | HeatCoolRegulator            | Point           |
| *-HVAC-SIGN            | Utilities HCS   | HeatCoolMarker               | Point           |
| *-HVAC-VALT            | Utilities HCS   | HeatCoolVault                | Polygon         |
| *-HVAC-VLVE            | Utilities HCS   | HeatCoolValve                | Point           |

| <b>CADD Layer Name</b> | <b>Category</b>            | <b>Feature Class</b>          | <b>Geometry</b> |
|------------------------|----------------------------|-------------------------------|-----------------|
| *-INDW-ANOD            | Utilities Industrial Waste | IndustrialWasteAnode          | Point           |
| *-INDW-ANOT            | Utilities Industrial Waste | IndustrialWasteAnodeTestSta   | Point           |
| *-INDW-DISC            | Utilities Industrial Waste | IndustrialWasteDischargePoint | Point           |
| *-INDW-EJEC            | Utilities Industrial Waste | IndustrialWastePumpstnEjector | Point           |
| *-INDW-FTTG            | Utilities Industrial Waste | IndustrialWasteFitting        | Point           |
| *-INDW-GRIT            | Utilities Industrial Waste | IndustrialWasteGritChamber    | Point           |
| *-INDW-HWLN            | Utilities Industrial Waste | IndustrialWasteHeadwallLine   | Line            |
| *-INDW-HWPT            | Utilities Industrial Waste | IndustrialWasteHeadwallPoint  | Point           |
| *-INDW-INLT            | Utilities Industrial Waste | IndustrialWasteInlet          | Point           |
| *-INDW-JBOX            | Utilities Industrial Waste | IndustrialWasteJunction       | Point           |
| *-INDW-LAGN            | Utilities Industrial Waste | IndustrialWasteLagoon         | Polygon         |
| *-INDW-MAIN            | Utilities Industrial Waste | IndustrialWasteLine           | Line            |
| *-INDW-METR            | Utilities Industrial Waste | IndustrialWasteMeter          | Point           |
| *-INDW-NEUT            | Utilities Industrial Waste | IndustrialWasteNeutralizer    | Point           |
| *-INDW-OILW            | Utilities Industrial Waste | IndustrialWasteOilWatSep      | Point           |
| *-INDW-PLNT            | Utilities Industrial Waste | IndustrialWasteTreatmentPlant | Polygon         |
| *-INDW-PUMP            | Utilities Industrial Waste | IndustrialWastePump           | Point           |
| *-INDW-RECT            | Utilities Industrial Waste | IndustrialWasteRectPoint      | Point           |
| *-INDW-SERV            | Utilities Industrial Waste | IndustrialWasteLine           | Line            |
| *-INDW-SIGN            | Utilities Industrial Waste | IndustrialWasteMarker         | Point           |
| *-INDW-STOR            | Utilities Industrial Waste | IndustrialWasteStorageArea    | Polygon         |
| *-INDW-TANK            | Utilities Industrial Waste | IndustrialWasteTank           | Point           |
| *-INDW-VLVE            | Utilities Industrial Waste | IndustrialWasteValve          | Point           |
| *-STRM-BASN            | Utilities Storm            | StormDrainageBasin            | Polygon         |
| *-STRM-CPTR            | Utilities Storm            | StormCeptor                   | Point           |
| *-STRM-DISC            | Utilities Storm            | StormDischargePoint           | Point           |
| *-STRM-DIVL            | Utilities Storm            | StormDrainageDivideLine       | Line            |
| *-STRM-DWNS            | Utilities Storm            | StormDownspout                | Point           |
| *-STRM-FLCD            | Utilities Storm            | StormFlowControlDevice        | Point           |
| *-STRM-FLTR            | Utilities Storm            | StormFilter                   | Point           |
| *-STRM-FTTG            | Utilities Storm            | StormFitting                  | Point           |
| *-STRM-GATE            | Utilities Storm            | StormGate                     | Point           |
| *-STRM-HDWL            | Utilities Storm            | StormHeadwallLine             | Line            |
| *-STRM-HDWP            | Utilities Storm            | StormHeadwallPoint            | Point           |
| *-STRM-INLT            | Utilities Storm            | StormInlet                    | Point           |
| *-STRM-JBOX            | Utilities Storm            | StormJunction                 | Point           |
| *-STRM-LINE            | Utilities Storm            | StormLine                     | Line            |
| *-STRM-MARK            | Utilities Storm            | StormMarker                   | Point           |
| *-STRM-MHOL            | Utilities Storm            | StormJunction                 | Point           |
| *-STRM-OILW            | Utilities Storm            | StormOilWaterSeparator        | Point           |

| <b>CADD Layer Name</b> | <b>Category</b>      | <b>Feature Class</b>          | <b>Geometry</b> |
|------------------------|----------------------|-------------------------------|-----------------|
| *-STRM-OPEN            | Utilities Storm      | StormOpenDrainageArea         | Polygon         |
| *-STRM-OWDV            | Utilities Storm      | StormOWSDiversionVault        | Polygon         |
| *-STRM-PSTA            | Utilities Storm      | StormPumpStation              | Point           |
| *-STRM-PUMP            | Utilities Storm      | StormPump                     | Point           |
| *-STRM-RPNT            | Utilities Storm      | StormReservoir                | Point           |
| *-STRM-STIL            | Utilities Storm      | StormStillingBasin            | Point           |
| *-STRM-TRDL            | Utilities Storm      | StormTrenchDrainLine          | Line            |
| *-STRM-VLVE            | Utilities Storm      | StormValve                    | Point           |
| *-SSWR-ANOD            | Utilities Wastewater | WastewaterAnode               | Point           |
| *-SSWR-ANOT            | Utilities Wastewater | WastewaterAnodeTestStation    | Point           |
| *-SSWR-DFLD            | Utilities Wastewater | WastewaterDrainField          | Polygon         |
| *-SSWR-DSCH            | Utilities Wastewater | WastewaterDischargePoint      | Point           |
| *-SSWR-DWNS            | Utilities Wastewater | WastewaterDownspout           | Point           |
| *-SSWR-EJEC            | Utilities Wastewater | WastewaterPumpEjectorStation  | Point           |
| *-SSWR-FLTR            | Utilities Wastewater | WastewaterFiltrationBed       | Polygon         |
| *-SSWR-FTTG            | Utilities Wastewater | WastewaterFitting             | Point           |
| *-SSWR-GRIT            | Utilities Wastewater | WastewaterGritChamber         | Point           |
| *-SSWR-GRSE            | Utilities Wastewater | WastewaterGreaseTrap          | Point           |
| *-SSWR-INLT            | Utilities Wastewater | WastewaterInlet               | Point           |
| *-SSWR-JBOX            | Utilities Wastewater | WastewaterJunction            | Point           |
| *-SSWR-LAGN            | Utilities Wastewater | WastewaterLagoon              | Polygon         |
| *-SSWR-METR            | Utilities Wastewater | WastewaterMeter               | Point           |
| *-SSWR-MHOL            | Utilities Wastewater | WastewaterJunction            | Point           |
| *-SSWR-NEUT            | Utilities Wastewater | WastewaterNeutralizer         | Point           |
| *-SSWR-OILW            | Utilities Wastewater | WastewaterOilWaterSeparator   | Point           |
| *-SSWR-PIPE            | Utilities Wastewater | WastewaterLine                | Line            |
| *-SSWR-PLNT            | Utilities Wastewater | WastewaterTreatmentPlant      | Polygon         |
| *-SSWR-PUMP            | Utilities Wastewater | WastewaterPump                | Point           |
| *-SSWR-RECT            | Utilities Wastewater | WastewaterRectifier           | Point           |
| *-SSWR-SBED            | Utilities Wastewater | WastewaterSludgeBed           | Polygon         |
| *-SSWR-SERV            | Utilities Wastewater | WastewaterLine                | Line            |
| *-SSWR-SIGN            | Utilities Wastewater | WastewaterMarker              | Point           |
| *-SSWR-TANK            | Utilities Wastewater | WastewaterDisposalTank        | Point           |
| *-SSWR-TRET            | Utilities Wastewater | WastewaterTreatmentUnit       | Point           |
| *-SSWR-VLVE            | Utilities Wastewater | WastewaterValve               | Point           |
| *-DOMW-ANOD            | Utilities Water      | WaterAnode                    | Point           |
| *-DOMW-ANOT            | Utilities Water      | WaterAnodeTestStation         | Point           |
| *-DOMW-DWSP            | Utilities Water      | WaterDrinkingWaterSamplePoint | Point           |
| *-DOMW-FCPT            | Utilities Water      | WaterFireConnectionPoint      | Point           |
| *-DOMW-FTTG            | Utilities Water      | WaterFitting                  | Point           |

| <b>CADD Layer Name</b> | <b>Category</b> | <b>Feature Class</b>         | <b>Geometry</b> |
|------------------------|-----------------|------------------------------|-----------------|
| *-DOMW-HYDR            | Utilities Water | WaterHydrant                 | Point           |
| *-DOMW-INTL            | Utilities Water | WaterIntakeLine              | Line            |
| *-DOMW-INTP            | Utilities Water | WaterIntake                  | Point           |
| *-DOMW-JBOX            | Utilities Water | WaterJunction                | Point           |
| *-DOMW-MAIN            | Utilities Water | WaterLine                    | Line            |
| *-DOMW-METR            | Utilities Water | WaterMeter                   | Point           |
| *-DOMW-MHOL            | Utilities Water | WaterJunction                | Point           |
| *-DOMW-PIGP            | Utilities Water | WaterPigLaunchPoint          | Point           |
| *-DOMW-PLNT            | Utilities Water | WaterTreatmentPlant          | Polygon         |
| *-DOMW-PSTA            | Utilities Water | WaterPumpStation             | Polygon         |
| *-DOMW-PUMP            | Utilities Water | WaterPump                    | Point           |
| *-DOMW-RECT            | Utilities Water | WaterRectifier               | Point           |
| *-DOMW-REDC            | Utilities Water | WaterPressureReducingStation | Point           |
| *-DOMW-RSVR            | Utilities Water | WaterReservoirArea           | Polygon         |
| *-DOMW-SERV            | Utilities Water | WaterLine                    | Line            |
| *-DOMW-SIGN            | Utilities Water | WaterMarker                  | Point           |
| *-DOMW-SRCE            | Utilities Water | WaterSourceSite              | Point           |
| *-DOMW-TANK            | Utilities Water | WaterTank                    | Point           |
| *-DOMW-TRET            | Utilities Water | WaterTreatmentUnit           | Polygon         |
| *-DOMW-VENT            | Utilities Water | WaterVent                    | Point           |
| *-DOMW-VLVE            | Utilities Water | WaterValve                   | Point           |