CADD STANDARDS

AUSTIN-BERGSTROM INTERNATIONAL AIRPORT

Revised

September 2014

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APPENDIX

1.0 CADD REQUIREMENTS

This section identifies the project CADD requirements, which govern design and construction projects at the AUSTIN-BERGSTROM INTERNATIONAL AIRPORT (ABIA). It will outline the submittal requirements, file naming convention, layering structure, and drawing format.
The purpose of this document is to establish a Computer Aided Drafting and Design (CADD) standard which will ensure consistent electronic data interchange and paper deliverables between ABIA and its consultants, contractors, and all government agencies, including Federal Aviation Administration (FAA). The standards will ensure that electronic data received from these sources can be easily integrated into the Department of Aviation's Geographic Information System (GIS) and the FAA's Airport-GIS program. These standards are not created to hinder productive design or drafting practices of consultants. Any and all exceptions to these standards must be submitted to and approved in writing by the ABIA Project Manager prior to incorporation into any drawings. The ABIA Project Manager will be the deciding entity in all negotiations of these standards. It is important to note that these standards are not static and will continue to be updated as needed.

ABIA CADD Standards is based on the United States National CAD Standard, Version 4.0, which may be purchased via the Internet from National Institute of Building Sciences (NIBS) at http://www.buildingsmartalliance.org/ncs/, A/E/C CADD Standards Release 3.0, and FAA Advisory Circular 150/5300-18B.

1.1 SUPPORTING FILES

This standard is supplemented by various electronic files, which contain drawing templates, linetypes files, color table (.ctb), title blocks and other support files. The consultant should contact the ABIA Project Manager to acquire all necessary support files necessary to complete a project.

1.2 DEPARTMENT OF AVIATION PROJECT SUBMITTAL REQUIREMENTS

►Adherence to the standards and requirements in this section is mandatory.

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1) Project Design Review Documents (preliminary, schematic, 30-100%)

Hard Copy *[Number of hardcopies to be determined by Aviation Project Manager]*

- Transmittal (with Department of Aviation project number) **[required].**
- Full size bluelines or Xerox® copies [**minimum of one copy required**]
- ½ size bluelines or Xerox® copies
- Preliminary Engineering Reports (PERs) and/or Project Manual Specifications

***Electronic Copy** [CD/DVD]*
- PERs and/or Project Manuals in Adobe Acrobat PDF and MS Word formats **[required]**
- CADD .dwg files of submitted drawings **[required]**
- CADD .dwg files converted to Adobe Acrobat PDF format **[required]**

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2) Project Issue for Bid/Construction or Permit Set/Documentation

Hard Copy *[Number of hardcopies to be determined by Aviation Project Manager]*

- Transmittal (with Department of Aviation project number) **[required]**
- Full size bluelines or Xerox® copies **[minimum of one copy required]**
- ½ size bluelines
- Project Manual Specifications

***Electronic Copy** [CD/DVD]*
- PERs and/or Project Manual Specifications in Adobe Acrobat PDF and MS Word formats **[required]**
- CADD .dwg files of submitted drawings **[required]**
- CADD .dwg files converted to Adobe Acrobat PDF format. **[required]**

Note: Bid/Permit drawings shall be submitted in a multi-page, TIFF & *uncompressed* PDF formats **[required].**

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3) Project Record Drawing Set/Documentation [all items required]

Hard Copy
- Transmittal (with Department of Aviation project number).
- Minimum of **1** full-size bluelines or Xerox® copies.
- The Electronic CADD drawing files submitted must match the hardcopy drawings submitted. Matching hardcopy means that files submitted may be plotted from their start up display or through a specifically named view. It should be noted the only information that will not be included within the electronic CADD file are signatures and registration/license stamps. Adherence to the standards and requirements in this section is mandatory.

***Electronic Copy**
- **CD #1**: CADD files of submitted record drawings in .dwg format
- **CD #2**: Reference file(s) of actual facility footprint and/or infrastructure that were added to the Airport campus

- **CD #3**: CADD .dwg files converted into multi-page Adobe Acrobat PDF format **and** individual TIFF format

***Note**: If file size permits, place all drawings onto one CD/DVD with each required deliverable in a dedicated folder.
Note: Consultant is required to incorporate contractor's red lines and provide a Record Drawing set.
Note: *"Record Drawing"* is to be notated in the revision block or stamped prominently on each page.
Note: The Electronic CADD drawing files submitted must match the hardcopy drawings submitted

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Protection of Sensitive Security Information (SSI)
Any documentation submitted to the Aviation Department that is deemed SSI must comply with the provisions described in 49 CFR 15 and 49 CFR 1520.13. Transmittals must also indicate the documentation/electronic files are classified as SSI.

1.2.1 QUALITY CONTROL (QC)

The Consultant is responsible for the quality control of their submissions. ABIA will visually and electronically check all submissions to verify compliance. ABIA has the right to reject and require correction of any required deliverables that do not meet requirements.

1.3 DRAWING FORMAT

All CAD files submitted to ABIA must be able to be manipulated using standard AutoCAD® drafting commands and procedures.

Drawings created with Revit®.rvt or other CAD software shall be converted to the latest version of Autodesk® AutoCAD® .dwg format. Attention should be taking to ensure drawing information, entities or data is not lost during the conversion or translation process.

1.3.1 Sheet Numbering & File Naming Conventions

The following guidelines are to be used for naming all CADD files associated with the AUSTIN-BERGSTROM INTERNATIONAL AIRPORT. File names are to be arranged by ABIA Project No., Discipline Code, Drawing Type and Sheet Number. The following is an example of the naming and sheet numbering convention.

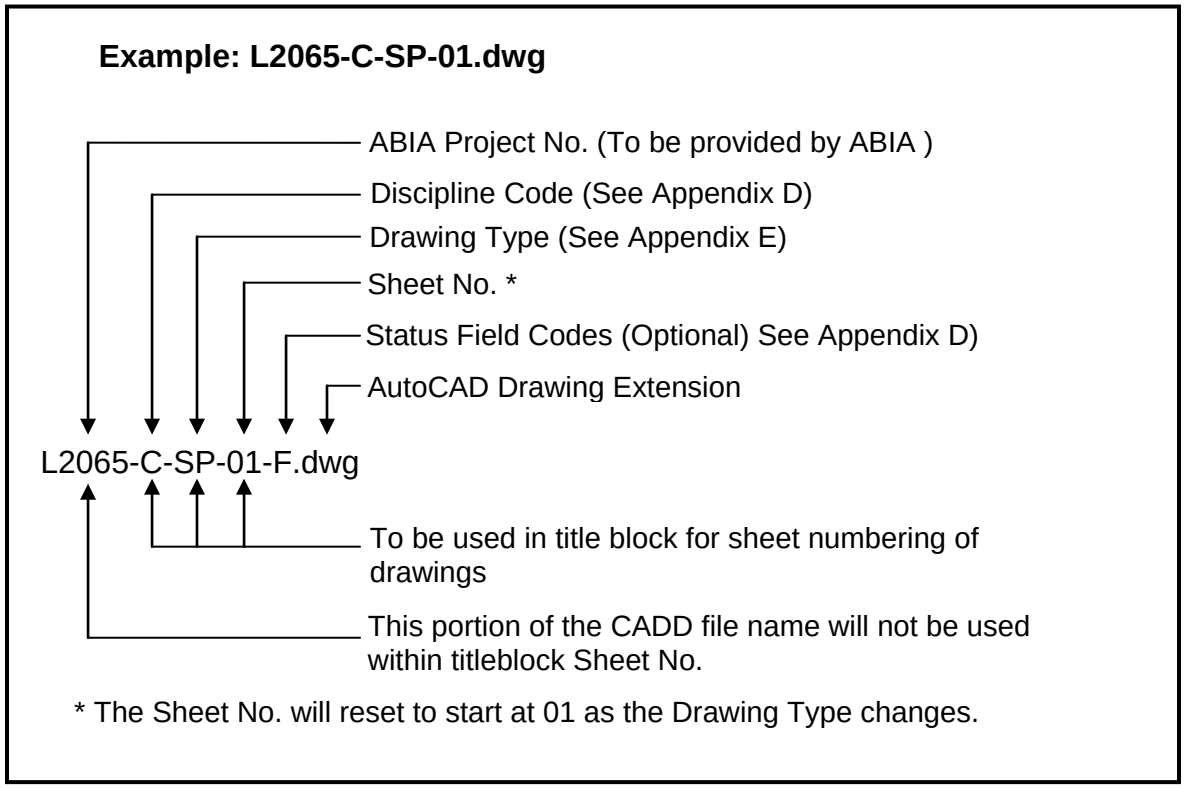


Figure 1: File Naming Convention

1.3.2 Layering

All drawings must conform to the ABIA predetermined layer structure. See Appendix F for predetermined layers and abbreviations. Layers not listed on the layering standards, but necessary for drawing production must follow the National CAD Standards V.4.0 layering standards.

Any exceptions to the predetermined layer structure must be submitted in writing and approved by the ABIA Project Manager.

Layer Naming Convention:

The following guidelines are to be used for naming all layers within all CADD drawing files associated with the Austin-Bergstrom International Airport. The layer naming convention is arranged by a one-character discipline code, a four character general abbreviation, a four character specific abbreviation, and an optional four character descriptive abbreviation or project number. All fields are to be separated by a hyphen. The following is an example of the layer naming convention.

Example: V-UTIL-WATR-IDEN

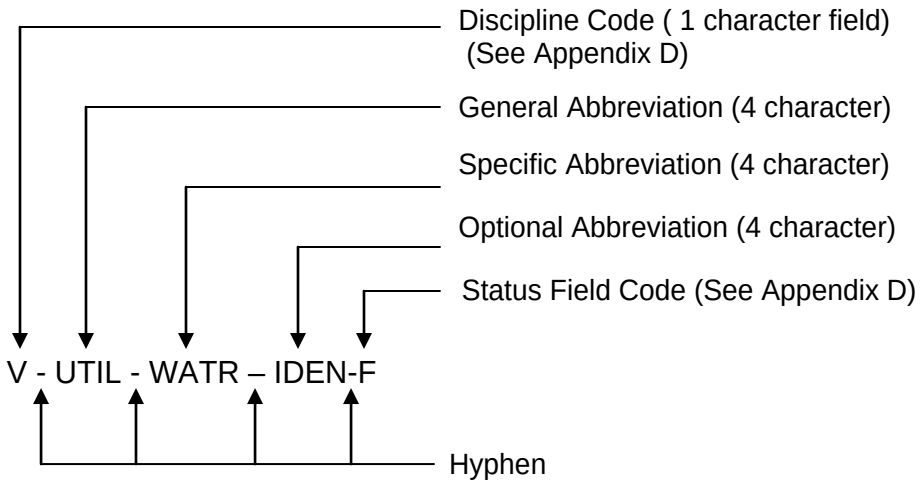


Figure 2: Layer Naming Convention

As-built layer shall use the above-mentioned guideline with an “RCRD” abbreviation added to the end of the layer name. Example: V-UTIL-WATR-RCRD.

Consultant shall incorporate Contractor’s “As-built” information to CADD drawing files per Section 1.2 – Note 2.

Note: For quick compliance of CADD Standards, ask for an ABIA’s drawing template. Then use AutoCAD’s “match properties”.

1) Creating New Layer Names:

New layers may be creating by following the National CAD Standards major/minor abbreviations. Provide a description of the layer in the Layer Manager description properties. See ABIA CAD Standards Section 1.3.2 Layering for layer name structure. A list of the new layers must be submitted to ABIA CAD staff for approval prior to use.

Layer Name Description Example:

New layer = C-TRAF-DEVC

Description= *TRAF: Traffic control device

(*Major Abbreviation)

1.3.3 Standard Symbols/Blocks

Symbols/blocks are single or multiple entities grouped together to create a single element and are not necessarily shown to true size or shape

Standard blocks will be supplied by ABIA as a supplement to this document upon request. These symbols/blocks are based on the National CAD Standards Version 4.0.

Blocks supplied with the ABIA CAD standards are sized for paperspace, user may scale as needed for plot scale. Annotative and dynamic blocks maybe be created and used within the drawing but should include the following suffix in the name structure to avoid conflict with non-annotative or non-dynamic blocks.

Example: A-DOR02_dyn (dynamic block)

A-DOR02_anno (annotative block)

Blocks shall be created on layer 0. Avoid use of nested blocks.

Existing symbols to be plotted at a maximum of .25mm (.010 in.) line weight.

Proposed symbols to be plotted at a minimum of .35mm (.014 in.) line weight.

For text size see Section 1.3.7.

1.3.4 Line Weights

Standard plot configuration files will be provided by ABIA as a supplement to this document upon request. Consultants will provide ABIA with a .ctb file named after the Project Number – example: T2000.ctb

1.3.5 Line Types

A standard line type file (ABIA.lin) will be provided by ABIA as a supplement to this document upon request.

Broken lines should be actual patterned lines, and not multiple line segments. For example, a dashed line should have two distinct end-points, not two end-points for each dash within a line. Line type scale (ltscale) will equal the number of AutoCAD units plotted per inch when plotting sheet.

1.3.6 Color

All entities are to be drawn color bylayer. It is the responsibility of the consultant to determine the color that best represents the designer's intent on the plot.

1.3.7 Text

1) Fonts

Only five text fonts are to be used; AutoCAD Romans, AutoCAD Romand, AutoCAD Romant, Times New Roman and Times New Roman Bold as supplied from AutoDesk with AutoCAD.

Table 1: Text Size

Units	Notes	Titles/Headings	Text & Dimensions
Decimal	0.125 (0.10 min.)	.1875 to .25	0.125 (0.10 min.)
Architectural	1/8” (3/32” min.)	3/16” to 1/4"	1/8” (3/32” min.)

All text shall be upper case and must be easily readable; no text will appear on a “B” size drawing smaller than .10 mm (3/32”), so as to accommodate clarity on photographically reduced half-size prints.

2) Annotative Properties

Annotative text, dimensions, multileaders and blocks are acceptable in ABIA project CAD drawings but must be created using a custom style name. Add project number prefix to designate annotative styles to avoid any risk of conflict with existing and standard styles.

Style Name Examples: .....L3195_Bold or L3195_A-FP-01

Note: Use only fonts listed in the ABIA CAD standards Section 1.3.7 (1) Fonts when creating annotative text, dimensions and multileader styles.

3) Miscellaneous Notes

Notes too long to be located at the detail shall be referred to by number and lettered in a column at the right side of the drawing. Multi-line text (mtext) shall be used where more than one line of text occurs.

4) Orientation

All lettering shall be done to facilitate reading from the bottom or right hand edge of the sheet.

1.3.8 Dimensions

1) The English Units (non-metric) of measurement shall be used. Civil drawings shall use the decimal unit type to show all measures in decimal feet and architectural drawings shall use architectural unit type to show all measures in feet and inches. Dimension styles in architectural and engineering (decimal) units shall be provided by ABIA.

2) The ABIA project coordinate control system (ABACS), contour designations and spot elevations shall contain whole number and decimal fractions of feet.

3) Dimension lines will not be broken for placement of dimension text.

4) To reduce the possibility of error due to changes or revisions, dimensions shall be shown in one location only on the drawing and referenced on other drawings or details as necessary for clarity. Dimension from base structural grid or site grid for overall dimension control. Larger scale drawings have precedence for dimension control and shall be developed accordingly.

5) Symbols for floor elevations and horizontal dimensions shall be shown on plan view only, unless the dimensioning cannot be made clear by this method. Vertical dimensions and elevations shall be shown on sections and elevations.

6) Basic vertical elevations of piping and equipment shall be designated by means of vertical dimensions above floor level or a given reference point instead of dimensions from other piping and structures.

7) Repetition of dimensions within a single sheet shall be avoided. Dimensions of lines crossing matchlines shall be repeated on the matching sheet so each will be complete. Details that are out of scale shall be under marked "NTS".

8) Dimensions shall be place in model space.

1.3.9 Drawing Templates

ABIA drawing templates supplied are generic in color and lineweight to allow the user to assign colors and lineweights to produce desired output. Submit a copy of the color-dependent plot style (.ctb) or the named plot style (.stb) with CAD drawing submittal.

1.3.10 Sheet Sets

Sheet sets are permitted. The DST file must be stored in the same folder as the sheet drawings; this allows the DST file to locate the sheets using relative path information. A copy of the sheet set data (DST) file must be submitted with the CAD drawing submittal.

1.3.11 Half-Size Sheet

Use of half-size sheets is not recommended unless approved by project manager.

1.3.12 Drawing Cleanup

Purge drawings of unreferenced blocks, layers, and linetypes. Delete objects outside drawing limits and zoom to drawing extents.

1.4 TITLE BLOCK AND COVER SHEET

1.4.1 ABIA Attributed Title Blocks

An 11”x17” and a 22”x34” attributed title blocks will be provided by the ABIA Project Manager as a supplement to this document. These title blocks must remain in these standard sizes, and appear in all CADD files corresponding to every plotted sheet. Title blocks shall be inserted into the CADD file, in paperspace at 0,0,0 and attributed information filled in. (See Appendix B)

1) Date

Drawing dates shall be CADD generated on all drawings. The date shall be listed in the following manner: (Day, Month, and Year) Example: 22MAR09

The months shall be abbreviated as follows:

JAN.....January
FEB.....February
MAR.....March
APR .....April
MAY.....May
JUN.....June
JUL .....July
AUG.....August
SEP .....September
OCT.....October
NOV.....November
DEC.....December

2) Consultants ID Block and Seal

A) Provide Company’s Name and or Logo on Consultants ID Block. (See Appendix B)

B) All Bid Documents (Final Submittal) and each issuance immediately after shall be sealed, signed and dated by a State of Texas Registered Professional Engineer, a State of Texas Registered Architect, or a State of Texas Registered Land Surveyor, as appropriate. (See Appendix B)

3) Drawing Title

The drawing title shall include no more than four lines.

A) Title shall agree with the drawing index.

B) Drawing title shall be CADD generated.

4) Sheet Drawing Numbers

A) The drawing sheet numbers shall be located in the lower right hand corner of the title block. (See Appendix B)

B) All drawing sheets in a package shall be consecutively numbered within each Drawing Type group.

C) See Section 1.3.1 Figure 1 for explanation of file naming & sheet numbering.

5) Site Key Map and Terminal Key Map

Site and Terminal key maps are included with their respective title block templates. Key Maps shall be shaded to reflect area shown on drawing. (See Appendix B)

6) Plot Stamp

Plot date stamp and file name vertically on the lower left corner of the titleblock. (See Appendix B)

1.4.2 Cover Sheet with Attributed Project ID Information

Standard ABIA cover sheets will be provided as a supplement to this document by the ABIA Project Manager. Cover sheets shall be inserted into the CADD file with an insertion point of 0,0,0. (See Appendix A)

1.5 DRAWING ORIENTATION

1.5.1 General

The CADD operator shall remember that the drawing is a means of communication and that it must be clear, legible, accurate and clean.

Drawings shall be oriented so that the stationing progresses from left (increase to the right) to print across the sheet. Any deviation requires written approval from the ABIA Project Manager.

1.5.2 Project Drawings

Drawing content shall be carefully organized so that the designer's intent can be easily understood. Related information shall be grouped together in an orderly arrangement.

1.5.3 Coordinate Basis

All Civil drawings MUST be created using the Decimal System and ABIA Coordinate System (ABACS). (See Appendix C) All architectural plans shall use architectural units and shall reference three (3) key points to ABIA coordinate system (ABACS).

All horizontal data must be submitted referenced to the North American Datum of 1983 (NAD83).

All vertical data must be referenced to the North American Vertical Datum of 1988 (NAVD88).

1.5.4 Precision/Accuracy

In order to pass precise/accurate information to the field quickly, the ABIA CADD Department will be taking ABIA coordinates directly from drawings, so the drawings must be precise/accurate to the parameters outlined in the design criteria. All electronic drawings shall be created 1=1 (one-to-one) using real world dimensions and sizes. The utmost effort is to be taken to achieve the highest level of precision and accuracy to create and produce a drawing. The CADD drawings must reflect true design dimensioning and must NOT be graphic representations of the design. All drawings are to be scaled up or down only during the plot production or within paperspace viewports.

All drawings must be created and remain within ABIA coordinate system (ABACS).

1.5.5 Drawing Scale

Drawings must be created on CADD at a scale of 1 to 1 with plot scale adjustments made at plotting time. Plotted drawing scales shall be appropriate for the material to be presented and must be large enough and clearly indicated on the same drawing.

1.5.6 Scale Indications

Scale indications of each drawing or element shall be neatly displayed just below the graphic scale in the lower right hand corner of plan sheets. (See Appendix B)

Scale of detail drawings shall be indicated below the detail name.

1.5.7 North Arrow

The combined Project North/Universal Transverse Mercator (UTM) grid North Arrow as supplied by ABIA Project Manager shall be displayed in the lower right hand corner of plan sheets above the graphic scale and directed to the top of the drawing, unless previously approved in writing by ABIA Project Manager.

1.5.8 Match Line

Match lines shall be utilized where a portion of a drawing is continued on another sheet. Symbol for Match Line shall be an AutoCAD phantom line. Centered on and parallel to the length of the Match Line and the following wording shall appear:

"MATCH LINE - FOR CONTINUATION SEE SHEET NO. ____."

1.6 MATERIAL SCHEDULE REQUIREMENTS

All Design Consultants are required to submit their material schedules on plan sheets as required by contract. These are room schedules, door schedules, mechanical and electrical schedules, etc. The data generally contained within these schedules is a crucial part of the facility management system. It is not necessary to submit material schedules separate from CADD files.

1.7 EXTERNAL REFERENCE FILES

1) It is the Consultants responsibility to request, in writing, the latest reference files from the ABIA Project Manager.

2) ABIA xref files may be modified and returned only if they are renamed and new layers are created with project number prefixes.

REFERENCE FILE NAMING CONVENTION

The following guidelines are to be used for naming all reference files associated with the Austin-Bergstrom International Airport. The following is an example of the reference file naming convention.

Example: xL2065-C-SP.dwg

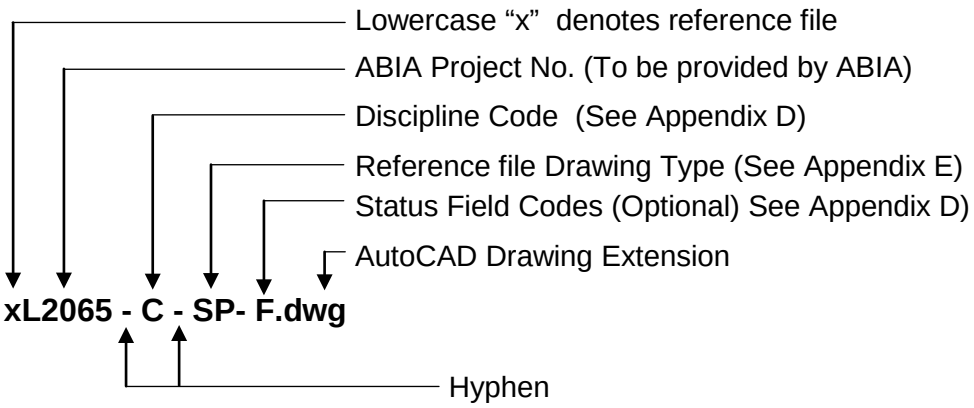


Figure 3: Reference Layer Naming Convention

3) Reference files should be stored in a sub-directory named XREF under a directory named after the ABIA Project No i.e. ...\L2065\XREF. References should always be attached without the drive specification, using relative path; i.e. .\xref\<file name>

4) Reference files supplied by ABIA Project Manager will be in the ABIA coordinate system (ABACS), with project North at AutoCAD default 90 and with a base point of 0,0,0. To attach the file into a working file attach at 0,0,0 with a scale factor of 1 (one) and rotation angle of 0 (zero). Do not bind external references to drawing.

5) External Reference Files (Xrefs) shall be created for all design levels and disciplines. See Appendix E for reference file drawing types.

1.8 DETAILS

1.8.1 Detail Limits

Identify details by enclosing the area on the plan to be clarified and connecting this enclosure with the detail symbol. The larger scale detail as developed shall include the entire area encircled on the smaller scale drawing. Detail as drawn shall not be encircled.

1.8.2 Detail Orientation

The orientation of the detail drawing shall be identical to that of the plan, elevation, etc., where it is identified. Wherever practical, details shall be drawn in the immediate vicinity of their identification symbols.

1.8.3 Identifying Symbols and Titles

All details shall be designated by numbers.

Wherever practical, details shall be listed consecutively, 1, 2, 3, etc., from left to right and from top to bottom on the sheet on which they are drawn.

1.9 DRAWING REVISIONS

1.9.1 Revisions to Preliminary Design Drawings

1) Changes made to Preliminary Design Drawings between formal issuances shall not be clouded, but the “Revision Description" shall be designated on each sheet title block, as described in Section 1.10.

1.9.2 Revisions to Pre-Bid Document Drawings (Revisions)

1) Areas on drawings where changes have occurred are to be “clouded”, and identified by their respective “Revision” number located in a triangle adjacent to the “cloud”.
2) Enter a brief “Revision” description to identify drawing change. The "No." column entry shall be the addendum number for that change.
3) Prior to the issuance of Bid Documents, all changes previously chronicled “Revision” shall be removed from all Pre-Bid Document drawings. (See Section 1.10.2)

1.9.3 Revisions to Post-Bid Document Drawings (Addendums)

Drawings revised after Bid Documents are issued, shall apply the following procedures:

1) Obtain drawing originals from the ABIA Project Manager.
2) Areas on drawings where changes have occurred are to be “clouded”, and identified by their respective “Addendum” number located in a triangle adjacent to the “cloud”.
3) All revised drawings, as well as Drawing Sheets listed on the Drawing Index shall be marked Addendum No. 1, 2, etc. as appropriate. Newly added sheets shall be added to the Drawings Index Sheet. (See Section 1.10)
4) Enter a brief “Addendum” description to identify drawing change. The "No." column entry shall be the addendum number for that change.
5) Where portions of a drawing shall be voided, the area to be voided shall be outlined and an "X" placed across the area voided. The word "VOID" shall be placed across the center of the "X". If an entire sheet is voided, an "X" shall be placed from corner to corner of the sheet and the word "VOID" at the center of the "X". Also, the word "VOID" shall be placed across the title block sheet number, and on the appropriate sheet on the index of drawings.

1.9.4 Description of Changes to Drawings

The Design Consultant shall prepare and provide to the ABIA Project Manager a written summary of the changes made to the drawings, if requested by Project Manager.

1.9.5 Transmittal

After document changes are completed, the following items shall be delivered to ABIA Project Manager, in accordance with Section 1.2.

(1) Summary of Changes to Drawings description

(2) Originals of Drawings being issued

(3) Revision List of Drawings being issued with Issuance Date referenced.

1.10 REVISION/addendum BLOCK (DESCRIPTION)

An entry in the revision/addendum block shall be provided to document each revision or addendum. (As shown in the standard title block see Appendix B.)

1.10.1 Drawing Issues

The following are examples of issuance descriptions to be used: "ISSUED FOR 30% REVIEW", ISSUED FOR 100% SUBMITTAL" or “ISSUED FOR BID”.

1.10.2 Bid and Post-Bid Revision

With the submittal of Bid Document Drawings all previous revision descriptions shall be deleted (“wiped clean”) from the drawings. The original Bid Document Drawings shall be provided to the ABIA Project Manager.

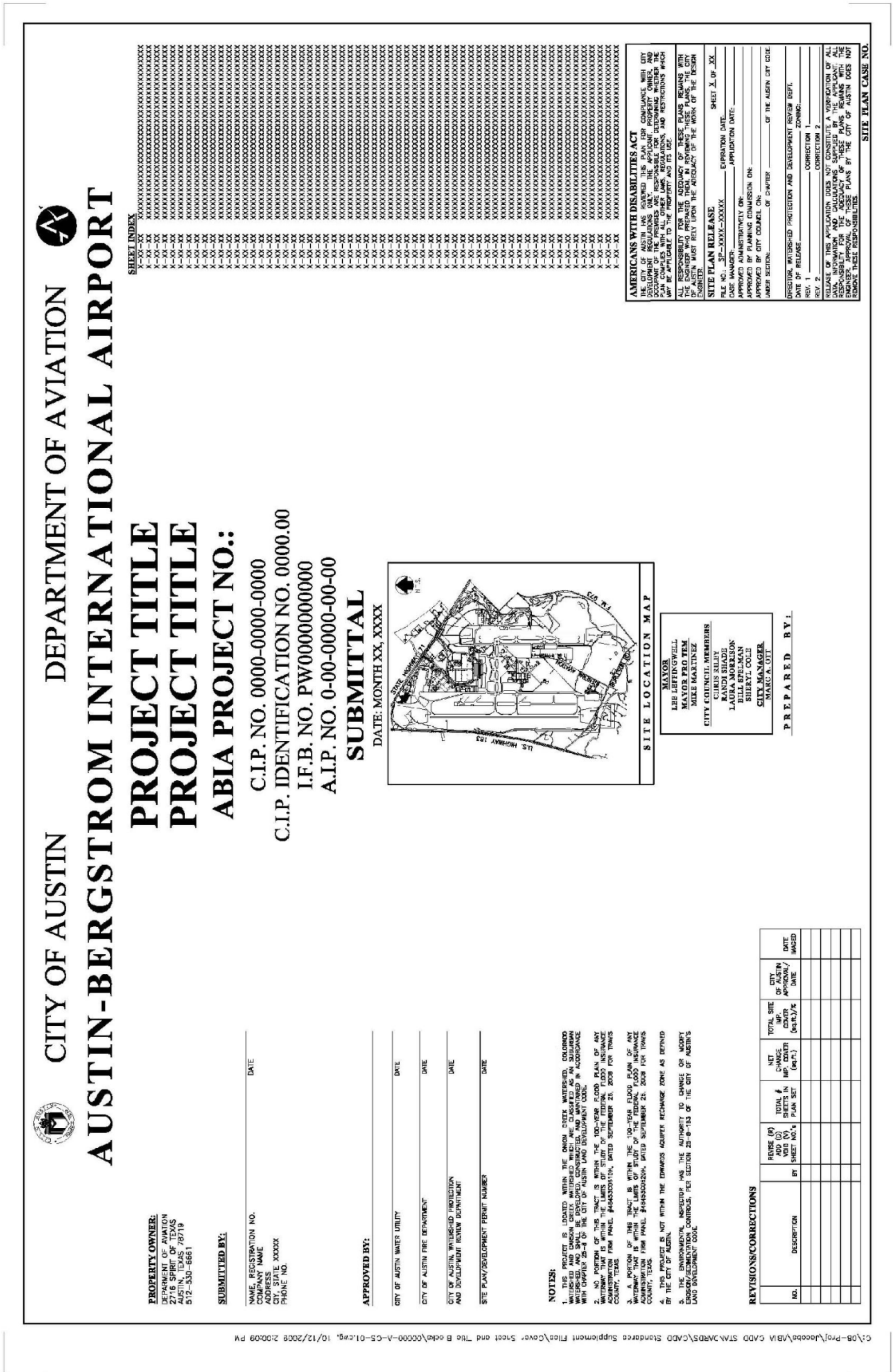
1.10.3 Indications

1) Each revision shall be dated with day, month and year as described in 1.4.1.

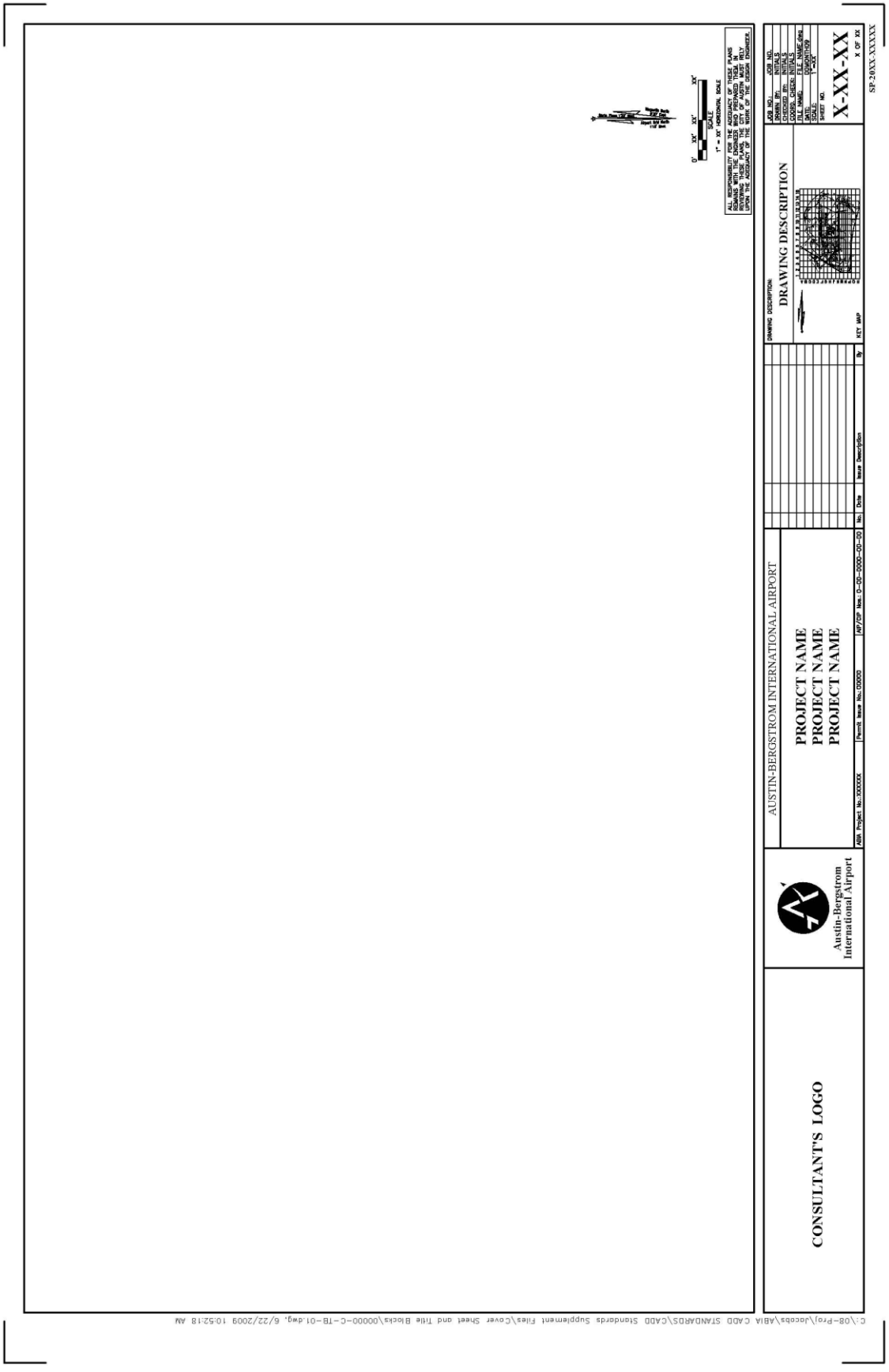
2) Initials of Project Architect/Engineer shall be entered in the Revision Block column, noted by “by”.

1.10.4 Number of Revision

When the number of revisions exceeds the number of revision spaces allowed on the standard title block, coordinate with the ABIA Project Manager to accommodate additional revisions.


CITY OF AUSTIN
DEPARTMENT OF AVIATION
AUSTIN-BERGSTROM INTERNATIONAL AIRPORT
PROJECT TITLE
PROJECT TITLE
ABIA PROJECT NO.:
C.I.P. NO. 0000-0000-0000
C.I.P. IDENTIFICATION NO. 0000.00
I.F.B. NO. PW0000000000
A.I.P. NO. 0-00-0000-00-00
SUBMITTAL
DATE: MONTH XX, XXXX
SITE LOCATION MAP
PREPARED BY:
PROPERTY OWNER:
SUBMITTED BY:
APPROVED BY:
NOTES:
REVISIONS/CORRECTIONS
SHEET INDEX
AMERICANS WITH DISABILITIES ACT
SITE PLAN RELEASE
SITE PLAN CASE NO.

APPENDIX B: TITLE BLOCK

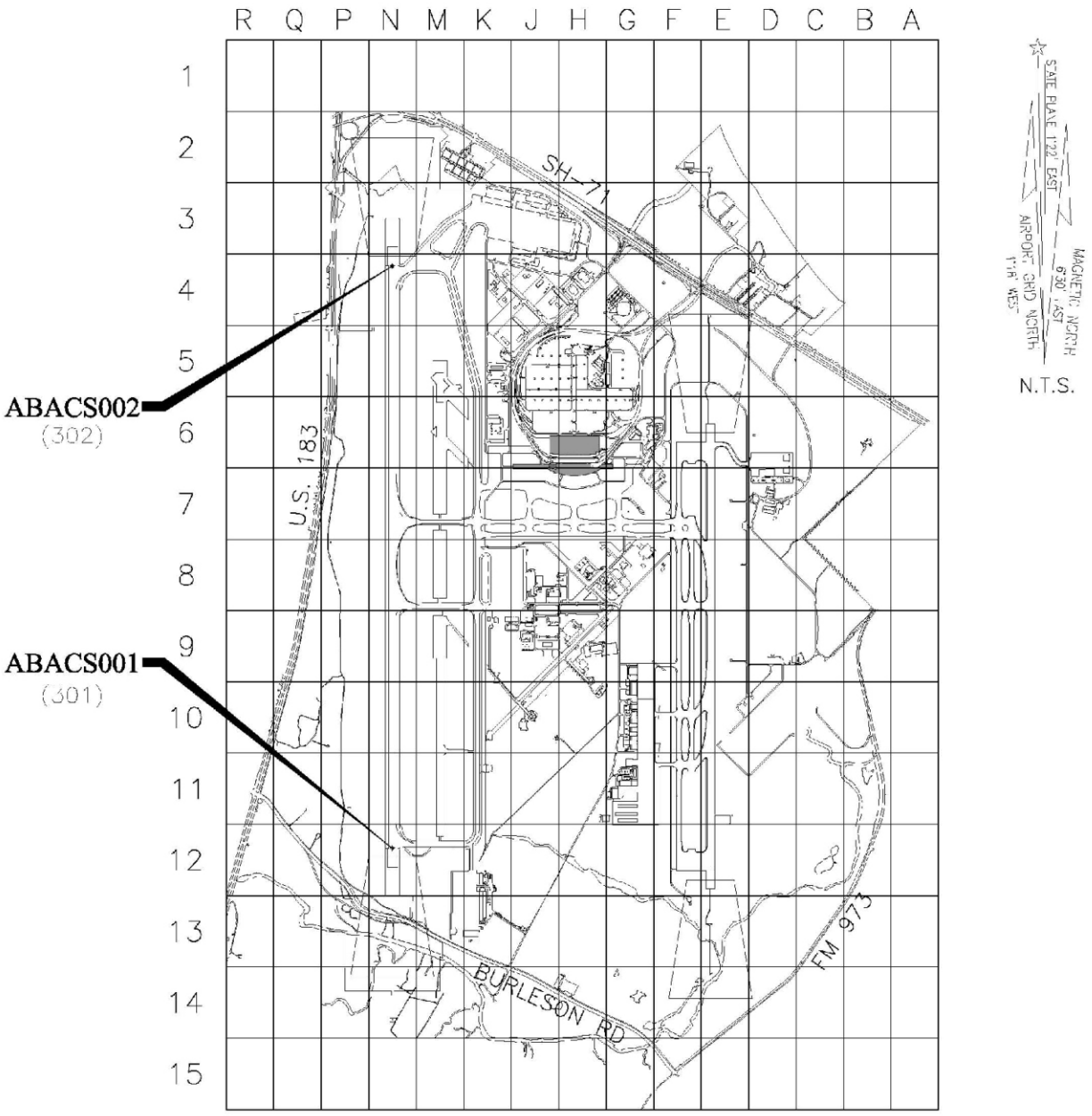


AUSTIN - BERGSTROM INTERNATIONAL AIRPORT COORDINATE SYSTEM (ABACS)

– OCTOBER 2009 –

ABACS001	
TEXAS STATE PLANE COORDINATES NAD–83, CENTRAL ZONE, GRID COORDINATES	
Y COORDINATE	10039194.744
X COORDINATE	3135381.169
ELEVATION	486.88
GEODETIC POSITION	
LATITUDE	30°10'47.8264"N
LONGITUDE	97°40'42.4897"W

ABACS002	
TEXAS STATE PLANE COORDINATES NAD–83, CENTRAL ZONE, GRID COORDINATES	
Y COORDINATE	10051429.057
X COORDINATE	3134807.761
ELEVATION	540.99
GEODETIC POSITION	
LATITUDE	30°12'49.0286"N
LONGITUDE	97°40'45.6956"W



APPENDIX E: DRAWING TYPE

A ..... Architectural
B ..... Geotechnical
C Civil
E.....Electrical
F.....Fire Protection
G .....General
H .....Hazardous Material/Environmental Concerns
I.....Interior
L.....Landscape
M.....Mechanical
O .....Operations/Maintenance/FM
P..... Plumbing
Q ..... Security
S.....Structural
T..... Telecommunication
V.....Surveys/Mapping
X..... Other Discipline

APPENDIX D: STATUS FIELD CODE

A .....Abandoned in place
D .....Existing to demolish
F..... Future work
N .....New work
R ..... Item to be relocated or moved
T..... Temporary work
V.....Vacated
X.....Not In contract

RCRD.....As-Built

APPENDIX E: DRAWING TYPE

CODE	DRAWING TYPE DESCRIPTION
3D	Isometric/3D
AB	As-Built
AC	Area Calculations/Occupancy Plan
AD	Airport Data
AF	Airfield Plan
AI	Aerial Image/Photograph
AL	Airfield Lighting Plan
AP	Airfield Pavement Marking Plan
AS	Airspace
BL	Boring Location Plan
BM	Base Map
BS	Boundary Survey
CP	Column Plan
CS	Cover Sheet
CT	Control Plan
DG	Diagram
DP	Demolition Plan
DT	Detail
EA	Easement
EC	Exterior Communication Systems Plan
EL	Elevation
EP	Enlarged Plan
ES	Erosion & Sedimentation Control Plan
EU	Electrical Utilities Plan
EV	Environmental Concerns
FA	Fire Alarm/Detection Plan
FD	Foundation Plan
FP	Floor Plan
FR	Framing Plan
FS	Fire Suppression Plan
FT	Furniture Plan
FU	Liquid Fuel Utilities Plan
GI	General Information
GS	Grounding System Plan
GP	Grading Plan
GR	Graphics & Exhibits
HA	HVAC Plan
HP	Hydrographic Survey
HT	HTCW Utilities Plan
IP	Irrigation Plan
IW	Industrial Waste Water Plan
JP	Joint Layout Plan
KP	Key Plan
LB	Boring Log

CODE	DRAWING TYPE DESCRIPTION
LG	Legend
LP	Landscape Plan
LT	Lighting Plan
LU	Land Use Plan
MD	Machine Design Plan
MP	Master Plan/Airport Layout Plan
MS	Miscellaneous Plan
NB	Non-Building Structures Plan
NG	Natural Gas Utilities Plan
PB	Project Boundary/Property Boundary
PC	Power & Communication Plan
PI	Piping Plan
PL	Project Location Map
PP	Pollution Prevention Plan
PR	Profile
PV	Pavement Plan & Striping Plan
PW	Power Plan
QP	Equipment Plan
RC	Reflected Ceiling Plan
RP	Roof Plan
SC	Section
SG	Signage Placement Plan
SH	Schedule
SI	Subsurface Investigation Plan
SK	Staking Plan
SM	Survey and Mapping Plan
SP	Site Plan/Layout Plan
SS	Special Systems Plan
ST	Storm Sewer Plan
TB	Title Block
TC	Traffic Control
TG	Topographic/DTM
TP	Telephone/Data Plan
TS	Transportation Site Plan
TX	Text
UP	Utility Plan
WP	Water Plan
WW	Wastewater Plan
XP	Existing Plan

APPENDIX F: DRAWING TYPE

ABBREVIATIONS		
ANNO	-	Annotation
DETL	-	Detail
GENF	-	General Feature
STAT	-	Construction Area State

Layers Applicable to all Disciple Codes

General Annotation (ANNO)

Layer Name	Layer Description	Linetype
*-ANNO-BORD	Border	
*-ANNO-CALC	Calculation	Continuous
*-ANNO-DIMS	Dimension Lines , Texts and Arrows	Continuous
*-ANNO-KEYN	Reference Keynotes/Text with Associated Leaders	Continuous
*-ANNO-LABL	Labels	Continuous
*-ANNO-LEGN	Legend and Schedule	Continuous
*-ANNO-MTCH	Matchlines	Phantom
*-ANNO-NOTE	General Notes	Continuous
*-ANNO-NPLT	Non-Plotting Graphic Information	Continuous
*-ANNO-REDL	Redlines	Continuous
*-ANNO-REFR	Reference Files	Continuous
*-ANNO-REVC	Revision Cloud	Continuous
*-ANNO-REVS	Revisions	Continuous
*-ANNO-SYMB	Miscellaneous Symbols	Continuous
*-ANNO-TABL	Table	Continuous
*-ANNO-TEXT -**	Misc. Text/Call-Outs with Associated Leaders	Continuous
*-ANNO-TITL	Drawing/Detail Title	Continuous
*-ANNO-TTBL	Title Block & Border	Continuous
*-ANNO-VIEW	Paperspace Viewport	Continuous

* Insert Discipline Code ** Insert BOLD, MEDM OR FINE for text weights

Detail (DETL)

Layer Name	Layer Description	Linetype
*-DETL-ANNO	Dimensions and Notes	Continuous
*-DETL-BORD	Detail Border	Continuous
*-DETL-GRPH	Graphics, Gridlines, Non-Text Items	Continuous
*-DETL-PATT	Textures and Hatch Patterns	Continuous

General Feature (GENF)

Layer Name	Layer Description	Linetype
*-GENF-DATA	General Feature - Data	Continuous

Construction Area State (STAT)

Layer Name	Layer Description	Linetype
*-STAT-ABND	Abandoned	Hidden
*-STAT-DEMO	Demolition	Hidden2
*-STAT-DEMO-PHS1	Demolition - Phase 1	Demoln

*-STAT-DEMO-PHS2	Demolition - Phase 2	Demoln
*-STAT-EXST	Existing To Remain	Hidden2
*-STAT-FUTR	Future Work	Continuous
*-STAT-MOVE	Items To Be Moved	Continuous
*-STAT-NEWW	New Work	Continuous
*-STAT-NICN	Not In Contract	Continuous
*-STAT-RELO	Relocated Items	Continuous
*-STAT-TEMP	Temporary Work	Continuous

ARCHITECTURAL ABBREVIATIONS

AREA	-	Area
BAGS	-	Baggage Handling Equipment
CLNG	-	Ceiling
DOOR	-	Doors
ELEV	-	Elevations
EQPM	-	Equipment
FLOR	-	Floor
FURN	-	Furniture
GLAZ	-	Windows
PROP	-	Property
ROOF	-	Roof
SECT	-	Sections
WALL	-	Walls

Area and Boundaries (AREA)

Layer Name	Layer Description	Linetype
A-AREA-IDEN	Room Number, Tenant Identification, Area Calculations	Continuous
A-AREA-LINE	Architectural Area Calculation Boundary Lines	Phantom2
A-AREA-OCCP	Occupant Or Employee Names	Continuous
A-AREA-PATT	Area Hatching	Continuous

Baggage Handling Equipment (BAGS)

Layer Name	Layer Description	Linetype
A-BAGS-CART	Baggage Cart/Tug	Continuous
A-BAGS-CATW	Maintenance Catwalk	Continuous
A-BAGS-CONV	Baggage Conveyor	Continuous
A-BAGS-CTRL	Control	Continuous
A-BAGS-DEVC	Baggage Devices/Equipment	Continuous
A-BAGS-DIMS	Dimension	Continuous
A-BAGS-DOOR	Doors	Continuous
A-BAGS-NOTE	General Notes	Continuous
A-BAGS-RWAY	Right-of-Way Striping	Dashed
A-BAGS-SCDR	Security Door	Continuous
A-BAGS-SCNU	Screening Unit / X-ray Unit	Continuous
A-BAGS-SYMB	Symbols	Continuous
A-BAGS-TEXT	Text	Continuous

Ceiling (CLNG)

Layer Name	Layer Description	Linetype
A-CLNG-ACCS	Access Panels	Dashed
A-CLNG-CTLJ	Ceiling Control Joints	Continuous
A-CLNG-GRID	Ceiling Grid	Center2
A-CLNG-LEVL	Level Changes	Dashed2
A-CLNG-OPEN	Openings, Ceiling or Roof Penetrations	Dashed2
A-CLNG-SUSP	Suspended or Ceiling Mounted Elements	Continuous

Doors (DOOR)

Layer Name	Layer Description	Linetype
A-DOOR-FIRE	Fire Rated Door	Continuous
A-DOOR-FULL	Full Height Door	Continuous
A-DOOR-IDEN	Door Number and Symbol, Hardware Group, Etc.	Continuous
A-DOOR-PRHT	Partial Height Door	Continuous
A-DOOR-SYMB	Misc. Door Symbols (e.g. Overhead, Bi-Fold, Pocket)	Continuous

Elevation (ELEV)

Layer Name	Layer Description	Linetype
A-ELEV-CSWK	Wall-Mounted Casework	Continuous
A-ELEV-DIMS	Dimension Lines, Text and Arrow	Continuous
A-ELEV-FIXT	Miscellaneous Fixtures	Continuous
A-ELEV-FNSH	Finishes, Woodwork and Trim	Continuous
A-ELEV-IDEN	Identification Numbers / Text	Continuous
A-ELEV-NOTE	General Notes	Continuous
A-ELEV-OTLN	Building Outlines	Continuous
A-ELEV-PATT	Textures and Hatch Patterns	Continuous
A-ELEV-SIGN	Signage	Continuous

Equipment (EQPM)

Layer Name	Description	Linetype
A-EQPM-ACCS	Equipment Access	Dashed
A-EQPM-BELW	Equipment Below Floor	Hidden
A-EQPM-COPY	Equipment – Copiers, Fax Machines, Office Equipment	Continuous
A-EQPM-IDEN	Equipment Identification Numbers	Continuous
A-EQPM-NICN	Not In Contract Equipment	Dashed2
A-EQPM-OVHD	Overhead, Ceiling Mounted and Suspended Equipment	Continuous
A-EQPM-SECU	Security Equipment	Continuous
A-EQPM-STOR	Storage Equipment	Continuous

Floor (FLOR)

Layer Name	Layer Description	Linetype
A-FLOR-CSWK	Casework (Manufactured Cabinets)	Continuous
A-FLOR-EVTR	Elevator Cars and Equipment	Continuous
A-FLOR-FIXT	Floor Mounted/Free Standing Fixtures (Plumbing)	Continuous
A-FLOR-HRAL	Handrails/Guard Rails	Continuous
A-FLOR-IDEN	Room Name, Space Identification	Continuous
A-FLOR-LEVL	Level Changes, Shafts, Ramps, Pits	Continuous
A-FLOR-OTLN	Floor and Building Outline (Building Footprint)	Continuous
A-FLOR-OTLN-RPRM	Room Perimeter Outline (Interior Walls)	Phantom2
A-FLOR-OVHD	Overhead Items (Skylights, Overhangs Etc.)	Dashed
A-FLOR-PATT	Paving, Tile, Carpet Patterns	Continuous
A-FLOR-RAIS	Access (Raised) Flooring	Continuous
A-FLOR-SIGN	Signage	Continuous
A-FLOR-STRS	Stair Risers/Treads, Escalators, Ladders	Continuous
A-FLOR-TPTN	Toilet Partitions	Continuous
A-FLOR-WDWK	Architectural Woodwork	Continuous

Furniture (FURN)

Layer Name	Layer Description	Linetype
A-FURN-ARTW	Artwork	Continuous
A-FURN-CSWK	Casework (Desks, Credenzas, Shelves, Etc.)	Continuous
AI-FURN-FLOR	Flooring (Carpet, Rugs, Etc.)	Continuous
A-FURN-FURN	Furnishings	Continuous
A-FURN-IDEN	Furniture Code Identification	Continuous
A-FURN-MISC	Miscellaneous Furniture	Continuous
A-FURN-PANL	Panels	Continuous
A-FURN-PLNT	Plants	Continuous
A-FURN-STOR	File Cabinets, Shelving, Storage Cabinets	Continuous

Windows (GLAZ)

Layer Name	Layer Description	Linetype
A-GLAZ-FULL	Full Height Glazed Walls and Windows	Continuous
A-GLAZ-IDEN	Window Number and Symbol	Continuous
A-GLAZ-PRHT	Windows and Partial Height Glazed Partitions	Continuous
A-GLAZ-SILL	Window Sills	Continuous

Property (PROP)

Layer Name	Layer Description	Linetype
A-PROP-LEAS	Lease Line (Interior)	Phantom2
A-PROP-LEAS-IDEN	Lease Identification	Continuous

Roof (ROOF)

Layer Name	Description	Linetype
A-ROOF-CRTS	Crickets Flow Arrows Flow Info	Continuous
A-ROOF-EXPJ	Expansion Joints	Continuous
A-ROOF-GUTR	Roof Gutters	Continuous
A-ROOF-HRAL	Stair Handrails and Guard Rails	Continuous
A-ROOF-LEVL	Level Changes	Dashed
A-ROOF-OPEN	Roof Open Below	Hidden
A-ROOF-OTLN	Roof Outline	Dashed
A-ROOF-PATT	Roof Textures and Hatch Patterns	Continuous
A-ROOF-RFDR	Roof Drains	Continuous
A-ROOF-SPCL	Roof Specialties, Accessories, Dormers, Canopy	Continuous
A-ROOF-STRS	Stair Risers/Treads, Ladders	Continuous
A-ROOF-WALK	Roof Walkways	Continuous
A-ROOF-WALL	Parapet Walls and Wall Caps	Continuous

Sections (SECT)

Layer Name	Description	Linetype
A-SECT-DETL	Section Cut Detail	Continuous
A-SECT-DIMS	Dimensions, Text and Arrows	Continuous
A-SECT-IDEN	Component Identification Numbers	Continuous
A-SECT-PATT	Textures and Hatch Patterns	Continuous
A-SECT-TEXT	Miscellaneous Text	Continuous

Wall (WALL)

Layer Name	Description	Linetype
A-WALL-CNTR	Wall Centerlines	Center
A-WALL-CWMG	Curtain Wall Mullions and Glass	Continuous
A-WALL-FIRE	Fire Wall Designators	Continuous
A-WALL-FULL-EXTR	Exterior Full Height Walls	Continuous
A-WALL-FULL-INTR	Interior Full Height Walls	Continuous
A-WALL-HEAD	Door and Window Headers	Continuous
A-WALL-IDEN	Wall Identification	Continuous
A-WALL-JAMB	Door and Window Jambs	Continuous
A-WALL-MOVE	Moveable Walls or Partitions	Continuous
A-WALL-PATT	Wall Textures and Hatch Patterns	Continuous
A-WALL-PRHT	Partial Height Walls	Continuous
A-WALL-SPCL	Wall-Hung/Attached Specialties	Continuous

CIVIL ABBREVIATIONS

ACFT	-	Aircraft
AFLD	-	Airfield
AIRF	-	Airfield
AIRS	-	Airspace
ALGN	-	Alignments
APRN	-	Apron
BLDG	-	Buildings and Structures
CEME	-	Cemetery
DETL	-	Detail
EROS	-	Erosion and Sedimentation
FUEL	-	Liquid Fuel
GRAD	-	Grade Line Work
GRID	-	Grid Lines
HELI	-	Heliports
INDW	-	Industrial Waste Water
NGAS	-	Natural Gas
OVRN	-	Overrun Areas
PADS	-	Pads
PKNG	-	Parking Lots
PROF	-	Profiles
PROP	-	Property
PVMT	-	Pavement
RAIL	-	Railroads
ROAD	-	Roads
RUNW	-	Runway
SECR	-	Security
SECU	-	Security
SITE	-	Site Improvement
SSWR	-	Sanitary Sewer (Wastewater)
STRC	-	Structures
STRM	-	Storm Sewer Drainage
TAXI	-	Taxiway
TOPO	-	Topography
TRAF	-	Traffic
WATR	-	Water

Aircraft (ACFT)

Layer Name	Description	Linetype
C-ACFT-IDEN	Aircraft Identification	Continuous
C-ACFT-SYMB	Graphic Illustration Of Aircraft	Continuous

Airfield (AIRF) (AFLD)

Layer Name	Description	Linetype
C-AFLD-AIDS	Airfield Navigational Aid, Airfield Lighting System	Continuous
C-AFLD-PVMT	Airfield Pavement	Continuous
C-AFLD-IDEN	Airfield Identification	Continuous
C-AIRF-AHOA	Aircraft / Helicopter Operations Area	Continuous
C-AIRF-AIDS-CRIT	Airfield Navigational Aid - Critical Area	Hidden2
C-AIRF-AIDS-ILS	Airfield Instrument Landing System	Continuous
C-AIRF-AIDS-MCWV	Microwave Airfield Navigational Aides	Continuous
C-AIRF-AIDS-OTHR	Other Airfield Navigational Aides	Continuous
C-AIRF-AIDS-RADI	Radio Airfield Navigational Aides	Continuous
C-AIRF-AIDS-RADR	Radar Airfield Navigational Aides	Continuous
C-AIRF-AIDS-RMTE	Remote Airfield Navigational Aides	Continuous
C-AIRF-AIDS-SITE	Airfield Navigational Aid - Site	Continuous
C-AIRF-AIDS-WTHR	Weather Airfield Navigational Aides	Continuous
C-AIRF-DSRF-BLDR	Building Restriction Line	Hidden
C-AIRF-DSRF-KEYH	Key Holes	Continuous
C-AIRF-DSRF-NMOV	Aircraft Non-Movement Area	Continuous
C-AIRF-DSRF-OFA_	Object Free Area	Phantom
C-AIRF-DSRF-OFZ_	Object Free Zone	Phantom
C-AIRF-DSRF-POFA	Precision Object Free Area	Phantom
C-AIRF-DSRF-RPZ_	Runway Protection Zone	Phantom
C-AIRF-DSRF-RSA_	Runway Safety Area	Dashed
C-AIRF-FAAR	FAA Region	Continuous
C-AIRF-FREQ	Frequency Area	Continuous
C-AIRF-JETB	Airport Jetbridge	Continuous
C-AIRF-SECR-RSTR	Restricted Access Boundary	Continuous
C-AIRF-SECR-SECA	Airfield Security Area	Continuous
C-AIRF-SECR-SIDA	Security Identification Display Area	Fence2x
C-AFLD-SECR-STER	Airfield Sterile Area	Continuous

Airspace (AIRS)

Layer Name	Description	Linetype
C-AIRS-AAAS-APRC	Airport Airspace Analysis Survey – Approach Surfaces	Continuous
C-AIRS-AAAS-CONL	Airport Airspace Analysis Survey – Conical Surface	Continuous

C-AIRS-AAAS-HORZ	Airport Airspace Analysis Survey – Horizontal Surface	Continuous
C-AIRS-AAAS-PRIM	Airport Airspace Analysis Survey – Primary Surfaces	Continuous
C-AIRS-AAAS-TRNS	Airport Airspace Analysis Survey – Transitional Surfaces	Continuous
C-AIRS-AAAS-VERT	Airport Airspace Analysis Survey – Vertical Guidance Protection Surface	Continuous
C-AIRS-LNDM	Landmark Segment	Continuous
C-AIRS-OBST-LINE	Airspace Obstructions - Line	Continuous
C-AIRS-OBST-POLY	Airspace Obstructions - Polygon	Continuous
C-AIRS-OBST-PPNT	Airspace Obstructions - Point	Continuous
C-AIRS-OEIA	One Engine Inoperative Analysis	Continuous
C-AIRS-OTHR	Other Airspace Surfaces	Continuous
C-AIRS-PART-APRC	14 CFR Part 77 Approach Surface	Continuous
C-AIRS-PART-CONL	14 CFR Part 77 Conical Surface	Continuous
C-AIRS-PART-HORZ	14 CFR Part 77 Horizontal Surface	Continuous
C-AIRS-PART-PRIM	14 CFR Part 77 Primary Surface	Continuous
C-AIRS-PART-TRNS	14 CFR Part 77 Transitional Surface	Continuous
C-AIRS-TERP	Terminal Instrument Procedures	Continuous
C-AIRS-TERP-DEPT	Departure Analysis	Continuous

Alignments (ALGN)

Layer Name	Description	Linetype
C-ALGN-DATA	Alignment Coordinates and Curve Data	Continuous
C-ALGN-LINE	Alignments	Continuous

Apron (APRN)

Layer Name	Layer Description	Linetype
C-APRN-ABND	Apron Abandoned	Hidden
C-APRN-ACCS	Apron Access Road	Hidden
C-APRN-ACPK	Aircraft Gate/Stand Parking Area	Continuous
C-APRN-ANOM	Aircraft Non-Movement Area	Continuous
C-APRN-CNTR	Centerlines	Center2
C-APRN-CNTR -IDEN	Centerlines Identification	Continuous
C-APRN-DEIC	Aircraft Deicing Area	Continuous
C-APRN-HOLD	Holding Position Markings	Continuous
C-APRN-IDEN	Annotation	Continuous
C-APRN-JOIN	Apron Joints	Continuous
C-APRN-MRKG	Apron Markings	Continuous
C-APRN-OTLN	Airfield Apron - Outlines	Continuous
C-APRN-SECU	Security Zone Markings	Continuous
C-APRN-SHLD	Shoulder Stripes	Continuous

C-APRN-SIGN	Airfield Signs on the Apron	Continuous

Archaeological (ARCL)

Layer Name	Layer Description	Linetype
C-ARCL-IDEN	Archaeological Site Annotation/Identification	Continuous
C-ARCL-OTLN	Archaeological Site Outline	Continuous

Building and Structures (BLDG)

Layer Name	Layer Description	Linetype
C-BLDG-ANNO-DELV	Building and Other Structure Annotation (Del Valle)	Continuous
C-BLDG-ANNO-DOA	Building and Other Structure Annotation (Dept. Of Aviation)	Continuous
C-BLDG-IDEN	Building and Other Structure Identification	Continuous
C-BLDG-OTLN	Buildings and Other Structures Outline	Continuous
C-BLDG-PATT	Building Textures and Hatch Patterns	Continuous

Cable (CABL)

Layer Name	Layer Description	Linetype
C-CABL-ANNO	Fiber Optic Cable Annotation/Identification	Continuous
C-CABL-FIBR	Fiber Optic Cable	Continuous

Cemetery (CEME)

Layer Name	Layer Description	Linetype
C-CEME-ANNO	Cemetery Annotation/Identification	Continuous
C-CEME-FENC	Cemetery Fence	Fence2x

Detail (DETL)

Layer Name	Layer Description	Linetype
C-DETL-FENC	Fencing	FENCE
C-DETL-FENC-SECU	Security Fencing	FENCE
C-DETL-GRPH	Graphics, Grid Lines, Non-text items	Continuous
C-DETL-PATT	Detail pattern, hatching	Continuous
C-DETL-PAVE	Pavements	Continuous
C-DETL-TANK	Tanks	Continuous

Erosion and Sedimentation (EROS)

Layer Name	Layer Description	Linetype
C-EROS -IPRT	Erosion & Sedimentation Controls - Inlet Protection	Continuous
C-EROS -RRAP	Erosion & Sedimentation Controls - Riprap	Continuous
C-EROS -SILT	Erosion & Sedimentation Controls - Silt Fence	SILT
C-EROS -SCEC	Erosion & Sedimentation Controls - Stablized Construction Entrance Controls	Continuous

C-EROS -TPRT	Erosion & Sedimentation Controls - Tree Protection	TP
C-EROS -TFDC	Erosion & Sedimentation Controls - Triangular Filter Dike Controls	Continuous

Liquid Fuel (FUEL)

Layer Name	Layer Description	Linetype
C-FUEL-ABND	Abandoned Piping	LIQPET
C-FUEL-DEFL	Defueling Piping	Continuous
C-FUEL-DEVC	Hydrant Fill Points, Line Vents, Markers, Oil/Water Separators, Reducers, Regulators, and Valves	Continuous
C-FUEL-FTTG	Pipe Fittings (e.g. Caps, Crosses, and Tees)	Continuous
C-FUEL-HYDR	Hydrant Control Pits	Continuous
C-FUEL-IDEN	Identifier Tags, Symbol Modifier, and Text	Continuous
C-FUEL-JBOX	Junction Boxes, Manholes, Handholes, Test Boxes	Continuous
C-FUEL-MAIN	Main Fuel Piping	LIQPET
C-FUEL-METR	Meters	Continuous
C-FUEL-PITS-IDEN	Identifier Tags, Symbol Modifier, and Text	Continuous
C-FUEL-PUMP	Booster Pump Stations	Continuous
C-FUEL-SERV	Service Piping	LIQPET
C-FUEL-TANK	Fuel Tanks	Continuous
C-FUEL-TRCH	Fuel Line Trench	Continuous
C-FUEL-VENT	Vent Pits	Continuous
C-FUEL-VLVE	Valve Pits	Continuous

Grade Linework (GRAD)

Layer Name	Layer Description	Linetype
C-GRAD-EXST	Existing Grade, Existing Ground Line	Dashed
C-GRAD-FNSH	Finished Grade	Continuous

Grid Lines (GRID)

Layer Name	Layer Description	Linetype
C-GRID-FRAM	Frame (Bounding Frame Referenced by a Grid)	Continuous
C-GRID-MAJR	Major Grid Lines	Center2
C-GRID-MINR	Minor Grid Lines	Center2
C-GRID-TEXT	Grid Identification	Continuous

Heliports (HELI)

Layer Name	Layer Description	Linetype
C-HELI-BLST	Blast Pad and Stopway Markings	Continuous

C-HELI-CNTR-MARK	Centerline Markings	Center
C-HELI-DIST	Fixed Distance Markings	Continuous
C-HELI-DSFR	Helipad Design Surface	Phantom
C-HELI-IDEN	Heliport Numbers and Letters	Continuous
C-HELI-SHLD	Shoulder Markings	Continuous
C-HELI-SIDE	Side Stripes	Continuous
C-HELI-TDZM	Touchdown Zone Markers	Continuous
C-HELI-TLOF	Helipad Take Off and Landing Area	Continuous

Industrial Waste Water (INDW)

Layer Name	Layer Description	Linetype
C-INDW-ABND	Abandoned Piping	IWASTE
C-INDW-DEVC	Grit Chambers, Meters, Flumes, Neutralizers, Oil/Water Separators, Ejectors, Tanks, and Valves	Continuous
C-INDW-FTTG	Caps and Cleanouts	Continuous
C-INDW-IDEN	Identifier Tags, Symbol Modifier, and Text	Continuous
C-INDW-JBOX	Junction Boxes	Continuous
C-INDW-LIFT	Lift Stations	Continuous
C-INDW-MAIN	Main Industrial Waste Water Piping	IWASTE
C-INDW-MHOL	Industrial Waste Manhole	Continuous
C-INDW-PLNT	Treatment Plants	Continuous
C-INDW-SERV	Industrial Waste Water Service Piping	IWASTE
C-INDW-SIGN	Surface Markers/Signs	Continuous

Natural Gas (NGAS)

Layer Name	Layer Description	Linetype
C-NGAS-ABND	Abandoned Piping	NGAS
C-NGAS-DEVC	Hydrant Fill Points, Lights, Markers, Rectifiers, Reducers, Regulators, Sources, Tanks, Drip Pots, Taps, and Valves	Continuous
C-NGAS-DEVC-IDEN	Identifier Tags, Symbol Modifier, and Text	Continuous
C-NGAS-FTTG	Caps, Crosses, and Tees	Continuous
C-NGAS-IDEN	Identifier Tags, Symbol Modifier, and Text	Continuous
C-NGAS-MAIN	Main Natural Gas Piping	NGAS
C-NGAS-METR	Meters	Continuous
C-NGAS-PUMP	Compressor Stations	Continuous
C-NGAS-REDC	Reducing Stations	Continuous
C-NGAS-SERV	Service Piping	NGAS
C-NGAS-SIGN	Surface Markers/Signs	Continuous
C-NGAS-VENT	Vent Pits	Continuous
C-NGAS-VLVE	Valve Pits/Boxes	Continuous

Overrun Areas (OVRN)

Layer Name	Layer Description	Linetype
C-OVRN-CNTR	Centerlines	Center
C-OVRN-IDEN	Airfield Overrun Area - Annotation	Continuous
C-OVRN-OTLN	Airfield Overrun Area - Outlines	Continuous
C-OVRN-SHLD	Shoulder Markings	Continuous

Pads (PADS)

Layer Name	Layer Description	Linetype
C-PADS-CNTR	Centerlines	Center
C-PADS-IDEN	Pads - Annotation	Continuous
C-PADS-OTLN	Pad - Outlines	Continuous
C-PADS-SHLD	Shoulders With Annotation	Continuous

Parking Lots (PKNG)

Layer Name	Layer Description	Linetype
C-PKNG-CARS	Graphic Illustration Of Cars	Continuous
C-PKNG-CURB -*	Parking Lot Curbs and Gutters - (* Face, Back or GUTR)	Continuous
C-PKNG-EDGE-PVMT	Parking Edge of Pavement	Continuous
C-PKNG-EQPM	Parking Equipment (e.g. Booths, Gates, Etc.)	Continuous
C-PKNG-FIXT	Parking Lot Fixtures (e.g., Wheel Stops, Parking Meters)	Continuous
C-PKNG-IDEN	Parking Lot, Minor Road, and Curb Annotation	Continuous
C-PKNG-ISLD	Parking Islands	Continuous
C-PKNG-OTLN	Parking Lots	Continuous
C-PKNG-SIGN	Parking Lot Signs	Continuous
C-PKNG-STRP	Parking Lot Striping, Handicapped Symbols, Pavement Markings	Continuous

Profiles (PROF)

Layer Name	Layer Description	Linetype
C-PROF-ANNO	Existing Grade and Grading Cuts - Annotation	Continuous
C-PROF-GRAD	New Work, Grading Fills	Continuous
C-PROF-GRID	Profile Grid	Continuous
C-PROF-INLT	Curb and Surface Inlets, Catch Basins	Continuous
C-PROF-MHOL	Manholes	Continuous
C-PROF-LABL	Profile Elevation and Station Labels	Continuous
C-PROF-PIPE	Piping	Continuous
C-PROF-ROAD	Roads	Continuous

Property (PROP)

Layer Name	Layer Description	Linetype
C-PROP-BNDY	Property Boundary	PROPL

C-PROP-BRNG	Property – Bearing and Distance Annotation/Labels	PROPL
C-PROP-CONS	Construction Limits/Controls, Staging Area	LOC
C-PROP-ESMT	Easements	Dashed2
C-PROP-IDEN	Property Annotation	Continuous
C-PROP-LEAS	Lease Line (Exterior / Ground Lease)	Phantom2
C-PROP-LNDF	Landfill	Continuous
C-PROP-LUSE	Land Use Area	Phantom
C-PROP-PRCL	Parcel	LOC
C-PROP-PROP	Airport Property	PROPL
C-PROP-RWAY	Right Of Ways	ROW

Pavement (PVMT)

Layer Name	Layer Description	Linetype
C-PVMT-ASPH	Pavement Pattern - Asphalt	Continuous
C-PVMT-CONC	Pavement Pattern - Concrete	Continuous
C-PVMT-EDGE	Pavement Edge	Continuous
C-PVMT-GRVL	Pavement Pattern - Gravel	Continuous
C-PVMT-IDEN	Road, Parking Lot, Airfield Pavement Annotation	Continuous
C-PVMT-MRKG	Pavement Markings	Continuous
C-PVMT-MRKG-WHIT	Roadway Markings (White)	Continuous
C-PVMT-MRKG-YELO	Roadway Markings (Yellow)	Continuous
C-PVMT-PATT	Pavement Textures and Hatch Patterns	Continuous
C-PVMT-SIGN	Other Signs	Continuous

Railroad (RAIL)

Layer Name	Layer Description	Linetype
C-RAIL-CNTR	Centerlines	Center
C-RAIL-EQPM	Railroad Equipment (e.g., Gates, Signals)	Continuous
C-RAIL-IDEN	Railroad - Annotation	Continuous
C-RAIL-TRAK	Railroads Tracks	RAILRD
C-RAIL-YARD	Railroad Yard	Continuous

Roads (ROAD)

Layer Name	Layer Description	Linetype
C-ROAD-CNTR	Centerlines	Center
C-ROAD-CURB	Curbs (Face of Curb, Back of Curb, Top of Curb)	Continuous
C-ROAD-DRIV	Driveway Edge of Pavement	Continuous
C-ROAD-DRIV-CNTR	Driveway Centerline	Center
C-ROAD-ELVD	Elevated Road	Continuous
C-ROAD-GRAL	Guardrails	Continuous

C-ROAD-IDEN	Road Name, Curb and Guardrail Annotation	Continuous
C-ROAD-OTLN	Roads	Continuous
C-ROAD-POIN	Road Point	Continuous
C-ROAD-PVMT	Roadway Edge of Pavement	Continuous
C-ROAD-SIGN	Road Sign	Continuous

Runway (RUNW)

Layer Name	Layer Description	Linetype
C-RUNW-ARST	Runway Arresting Gear Location	Continuous
C-RUNW-ARST-AIDS-CRIT	Runway Arresting Gear Location	Continuous
C-RUNW-BLST	Blast Pad Markings	Continuous
C-RUNW-CLRW	Runway Clearway	Phantom
C-RUNW-CNTR	Centerline	Continuous
C-RUNW-CNTR-MARK	Centerline Markings	Continuous
C-RUNW-DISP	Displaced Threshold Markings	Continuous
C-RUNW-DIST	Fixed Distance Markings	Continuous
C-RUNW-EDGE	Airfield Runway Edges	Continuous
C-RUNW-ENDP	Runway Endpoint	Continuous
C-RUNW-IDEN-MARK	Runway Numbers and Letters	Continuous
C-RUNW-INTS	Runway Intersection	Continuous
C-RUNW-LAHS	Runway Land and Hold Short Area	Continuous
C-RUNW-NUMB	Runway Numbers and Letters	Continuous
C-RUNW-SAFT	Runway Safety Area	Dashed
C-RUNW-SEGM	Runway Element	Continuous
C-RUNW-SHLD	Shoulder Markings	Continuous
C-RUNW-SIDE	Side Stripes	Continuous
C-RUNW-SIGN	Airfield Signs on the Runway such as Distance Remaining Signs	Continuous
C-RUNW-STWY	Runway Stopway Markings	Continuous
C-RUNW-TDZM	Touchdown Zone Markers	Continuous
C-RUNW-THRS	Threshold Markers	Continuous

Security (SECR) (SECU)

Layer Name	Layer Description	Linetype
C-SECR-SECA	An Area of the Airport in which Security Measures Required by 49 CFR 1542.201	Dashed
C-SECU-EQPM	Security Equipment	Continuous
C-SECU-GATE	Security Gate	Continuous
C-SECU-FENC	Security Fencing	FENCE

Site Improvement (SITE)

Layer Name	Layer Description	Linetype
C-SITE-ENVR	Environmental Site	FENCE
C-SITE-FENC	Fences	FENCE
C-SITE-FENC-IDEN	Fence, Handrail, Ramp, Sign, and Trail Annotation	Continuous
C-SITE-GATE	Gates along Fences or other Barriers intended To Restrict Access	Continuous
C-SITE-GOLF	Golf Greens	Continuous
C-SITE-GOLF-PATH	Golf Pathway	Dashed
C-SITE-IDEN	Site Improvement Annotation	Continuous
C-SITE-LNDF	Landfill	FENCE2x
C-SITE-OTLN	Site Boundary Outline	Continuous
C-SITE-SECU	Security Camera Locations Outside of Buildings	Continuous
C-SITE-STRC	Miscellaneous Site Structures	Continuous
C-SITE-WALK	Walks, Trails and Bicycle Paths	Continuous

Sanitary Sewer/Wastewater (SSWR)

Layer Name	Layer Description	Linetype
C-SSWR-ABND	Abandoned Wastewater Piping	WWL
C-SSWR-DEVC	Grease Traps, Grit Chambers, Flumes, Neutralizers, Oil/Water Separators, Ejectors, and Valves	Continuous
C-SSWR-DEVC-IDEN	Identifier Tags, Symbol Modifier, and Text	Continuous
C-SSWR-FILT	Filtration Beds	Continuous
C-SSWR-FILT-IDEN	Identifier Tags, Symbol Modifier, and Text	Continuous
C-SSWR-FTTG	Caps and Cleanouts	Continuous
C-SSWR-FORC	Force Main	FM
C-SSWR-IDEN	Identifier Tags, Symbol Modifier, and Text	Continuous
C-SSWR-INST	Sanitary Sewer: Instrumentation (meters, valves, etc.)	Continuous
C-SSWR-JBOX	Junction Boxes	Continuous
C-SSWR-JBOX-IDEN	Identifier Tags, Symbol Modifier, and Text	Continuous
C-SSWR-MAIN	Sanitary Sewer (Wastewater) Piping	WWL
C-SSWR-MHOL	Sanitary Sewer (Wastewater) Manhole	Continuous
C-SSWR-NITF	Nitrification Drain Fields	Continuous
C-SSWR-PLNT	Treatment Plants	Continuous
C-SSWR-PUMP	Booster Pump Stations	Continuous
C-SSWR-SERV	Sanitary Sewer Service (Wastewater) Piping	WWL
C-SSWR-SIGN	Surface Markers/Signs	Continuous
C-SSWR-TANK	Septic Tanks	Continuous

Structures (STRC)

Layer Name	Layer Description	Linetype
C-STRC-IDEN	Structure Annotation	Continuous
C-STRC-OTLN	Structure Outlines	Continuous
C-STRC-TOWR	Tower	Continuous

Solar Panel (SOLR)

Layer Name	Layer Description	Linetype
C-SOLR-PANL	Solar Panel	Continuous

Storm Sewer Drainage (STRM)

Layer Name	Layer Description	Linetype
C-STRM-ABND	Abandoned Piping	STRM
C-STRM-CHAN	Storm Water Channel	Continuous
C-STRM-CHUT	Chutes and Concrete Erosion Control Structures	Continuous
C-STRM-CULV	Culverts	Hidden2
C-STRM-DEVC	Downspouts, Flumes, Oil/Water Separators, and Flap Gates	Continuous
C-STRM-DRAN-IDEN	Identifier Tags, Symbol Modifier, and Text	Continuous
C-STRM-FLOW	Flow Direction Arrows	Continuous
C-STRM-FMON	Flow Monitoring Station	Continuous
C-STRM-FTTG	Caps and Cleanouts	Continuous
C-STRM-HDWL	Headwalls and Endwalls	Continuous
C-STRM-IDEN	Identifier Tags, Symbol Modifier, and Text	Continuous
C-STRM-INLT	Inlets (Curb, Surface, and Catch Basins)	Continuous
C-STRM-MAIN	Storm Sewer Piping	STRM
C-STRM-MHOL	Manholes	Continuous
C-STRM-POND	Detention Pond	Continuous
C-STRM-PUMP	Pump Stations	Continuous
C-STRM-RFDR	Roof Drain	Continuous
C-STRM-SERV	Storm Sewer Service Piping	STRM
C-STRM-SIGN	Surface Markers/Signs	Continuous
C-STRM-STRC	Storm Drainage, Headwalls, Inlets, Manholes, Culverts, and Drainage Structures	Continuous
C-STRM-SUBS	Subsurface Drain Piping	STRM

Taxiway (TAXI)

Layer Name	Layer Description	Linetype
C-TAXI-CNTR	Taxiway Centerline	Continuous
C-TAXI-CNTR-MARK	Taxiway Centerline Markings	Continuous
C-TAXI-EDGE	Edge Markings	Continuous
C-TAXI-HOLD	Holding Lines	Continuous

C-TAXI-IDEN	Annotation	Continuous
C-TAXI-INTS	Taxiway Intersections	Continuous
C-TAXI-JOIN	Taxiway Joints	Continuous
C-TAXI-OTLN	Taxiway - Outlines	Continuous
C-TAXI-SHLD	Shoulder Stripe Markings	Continuous
C-TAXI-SIGN	Taxiway Signs	Continuous

Topography (TOPO)

Layer Name	Layer Description	Linetype
C-TOPO-AUCO	Noise Complaint	Continuous
C-TOPO-AUST	Noise Monitoring Station	Continuous
C-TOPO-AUZN	Noise Contour/Zone	Continuous
C-TOPO-BKLN	Breaklines	Hidden2
C-TOPO-BORE	Boring Locations	Continuous
C-TOPO-BORE -IDEN	Boring Location Identification	Continuous
C-TOPO-BORE -PATT	Boring Pattern, Hatching	Continuous
C-TOPO-COOR	Coordinate Grid Ticks and Text	Continuous
C-TOPO-DTMP	DTM Points	Continuous
C-TOPO-DTCH-CNTR	Ditch Centerline	Divide
C-TOPO-DTMT	DTM Triangles	Continuous
C-TOPO-FLZN	Flood Zone / Flood Plain	Dashed
C-TOPO-MAJR	Major Contours	Dashed
C-TOPO-MAJR-IDEN	Major Contours - Annotation	Continuous
C-TOPO-MINR	Minor Contours	Dashed
C-TOPO-MINR-IDEN	Minor Contours - Annotation	Continuous
C-TOPO-MINR-ONEF	Minor Contours (One Foot Contours)	Dashed
C-TOPO-MINR-TWOF	Minor Contours (Two Foot Contours)	Dashed
C-TOPO-RNYE	Runway Centerline Elevation Point	Continuous
C-TOPO-RTWL	Retaining Wall	Continuous
C-TOPO-SLTP	Top/Toe Slopes	Hidden
C-TOPO-SPOT	Spot Elevations	Continuous

Traffic (TRAF)

Layer Name	Layer Description	Linetype
C-TRAF-CTRL	Traffic Control	Continuous
C-TRAF-FLOW	Traffic Flow – Directional Arrows	Continuous
C-TRAF-NOTE	Traffic Control Notes	Continuous
C-TRAF-SYMB	Traffic Control Symbols (Blocks)	Continuous

C-TRAF-TEXT	Traffic Control Text	Continuous

Water (WATR)

Layer Name	Layer Description	Linetype
C-WATR-ABND	Abandoned Piping	WATERL
C-WATR-DEVC	Connectors, Faucets, Reducers, Regulators, Vents, Tanks, Taps, Backflow Preventers, and Valves	Continuous
C-WATR-FIRE	Fire Lines	FIRE
C-WATR-FTTG	Caps, Cleanouts, Crosses, and Tees	Continuous
C-WATR-HYDR	Hydrants	Continuous
C-WATR-IDEN	Identifier Tags, Symbol Modifier, and Text	Continuous
C-WATR-INST	Water supply: Instrumentation (meters, valves, etc.)	Continuous
C-WATR-MAIN	Main Domestic Water Piping	WATERL
C-WATR-METR	Meters	Continuous
C-WATR-MHOL	Manhole/Handhole	Continuous
C-WATR-NHYD	Non-Potable Hydrants/Flushing Hydrants	Continuous
C-WATR-NPOT	Non-Potable Water Piping	NONPOT
C-WATR-PUMP	Booster Pump Stations	Continuous
C-WATR-REDC	Pressure Reducing Stations	Continuous
C-WATR-SERV	Domestic Water Service Piping	WATERL
C-WATR-SIGN	Surface Markers/Signs	Continuous
C-WATR-TANK	Water Storage Tanks	Continuous
C-WATR-VENT	Vent Pits	Continuous
C-WATR-VLVE	Valve Pits/Vaults	Continuous

ELECTRICAL ABBREVIATIONS

AIRF	-	Airfield
CABL	-	Cable System
CATH	-	Cathodic Protection System
CIRC	-	Circuits
CLOK	-	Clock
COMM	-	Communications
CONT	-	Control
DUCT	-	Underground Duct Bank
ELEC	-	Electrical Support Equipment
GRND	-	Ground System
LITE	-	Lights
POLE	-	Utility Poles
POWR	-	Power
PRIM	-	Primary Electrical Cables
SECD	-	Secondary Electrical Cables
SERT	-	Security Systems
SPCL	-	Special Systems
TRAN	-	Transformers

Airfield (AIRF)

Layer Name	Layer Description	Linetype
E-AIRF-DEVC	Capacitors, Voltage Regulators, Motors, Buses, Generators, Meters, Grounds, and Markers	Continuous
E-AIRF-DUCT	Ductbanks	Continuous
E-AIRF-JBOX	Junction Boxes, Pull Boxes, Manholes, Handholes, Pedestals	Continuous
E-AIRF-VALT	Airfield Lighting Vaults	Continuous

Cable System (CABL)

Layer Name	Layer Description	Linetype
E-CABL-COAX	Coax Cable	Continuous
E-CABL-FIBR	Fiber Optics Cable	FIBOPT
E-CABL-FIBR-OVHD	Fiber Optics - Overhead	FO_OH
E-CABL-FIBR-UNDR	Fiber Optics Cable - Underground	FO_UG
E-CABL-IDEN	Cable Identifiers	Continuous
E-CABL-MULT	Multi-Conductor Cable	Continuous
E-CABL-TRAY	Cable Trays and Wireways	Continuous

Cathodic Protection System (CATH)

Layer Name	Layer Description	Linetype
E-CATH-ANOD	Sacrificial Anode System	Continuous
E-CATH-CURR	Impress Current System	Continuous
E-CATH-IDEN	Identifier Tags, Symbol Modifier, and Text	Continuous
E-CATH-TEST	Test Stations	Continuous

Circuits (CIRC)

Layer Name	Layer Description	Linetype
E-CIRC-CTRL	Control and Monitoring Circuits	Hidden
E-CIRC-IDEN	Identifier Tags, Symbol Modifier, and Text	Continuous
E-CIRC-MULT	Multiple Circuits	Hidden
E-CIRC-SERS	Series Circuits	Hidden

Clock (CLOK)

Layer Name	Layer Description	Linetype
E-CLOK-EQPM	Clock Equipment	Continuous

Communications (COMM)

Layer Name	Layer Description	Linetype
E-COMM-EQPM	Other Communications Distribution Equipment	Continuous
E-COMM-JBOX	Junction Boxes, Pull Boxes, Handholes, Pedestals	Continuous

E-COMM-MHOL	Communication Manholes	Continuous
E-COMM-OVHD	Overhead Communications/Telephone Lines	C_OH
E-COMM-OVHD-IDEN	Identifier Tags, Symbol Modifier and Text	Continuous
E-COMM-UNDR	Underground Communications/Telephone Lines	C_UG
E-COMM-UNDR-IDEN	Identifier Tags, Symbol Modifier and Text	Continuous
E-COMM-VALT	Communications Vault	Continuous

Control (CONT)

Layer Name	Layer Description	Linetype
E-CONT-DEVC	Control Devices	Continuous

Underground Duct Bank (DUCT)

Layer Name	Layer Description	Linetype
E-DUCT-MULT	Ductbank	Continuous
E-DUCT-MULT-IDEN	Identifier Tags, Symbol Modifier and Text	Continuous

Electric Support Equipment (ELEC)

Layer Name	Layer Description	Linetype
E-ELEC-DEVC	Capacitors, Voltage Regulators, Motors, Buses, Generators, Meters, Grounds, and Markers	Continuous
E-ELEC-JBOX	Junction Boxes, Pull Boxes, Manholes, Handholes, Pedestals, Splices	Continuous
E-ELEC-SUBS	Other Substation Equipment	Continuous
E-ELEC-SWCH	Fuse Cutouts, Pole Mounted Switches, Circuit Breakers, Gang Operated Disconnects, Reclosers, Cubicle Switches	Continuous
E-ELEC-VALT	Vaults	Continuous

Ground System (GRND)

Layer Name	Layer Description	Linetype
E-GRND-CIRC	Circuits	Hidden2
E-GRND-EQUI	Equipotential Ground System	Continuous
E-GRND-REFR	Reference Ground System	Continuous

Lights (LITE)

Layer Name	Layer Description	Linetype
E-LITE-APPR	Approach Lights	Continuous
E-LITE-APRN	Apron Lighting	Continuous
E-LITE-CIRC	Lighting Circuits	Hidden
E-LITE-CIRC-NUMB	Lighting Circuit Numbers (e.g., Panel/Circuit Number, Wire/Conduit Size)	Continuous
E-LITE-CLNG	Ceiling Mounted (Surface/Pendant) Fixtures	Continuous
E-LITE-DIST	Distance and Arresting Gear Markers and Lights	Continuous

E-LITE-EMER	Emergency Fixtures	Continuous
E-LITE-EXIT	Exit Fixtures	Continuous
E-LITE-EXTR	Exterior Lights	Continuous
E-LITE-EXTR-IDEN	Identifier Tags, Symbol Modifier, and Text	Continuous
E-LITE-IDEN	Light Fixture Identifier Tags	Continuous
E-LITE-JBOX	Junction Boxes	Continuous
E-LITE-LANE	Hoverlane, Taxilane, and Helipad Lights	Continuous
E-LITE-OBST	Obstruction Lights	Continuous
E-LITE-PANL	Main Distribution Panels, Switchboards, Lighting Panels	Continuous
E-LITE-RUNW-CNTL	Runway Centerline Lights	Center2
E-LITE-RUNW-DTGS	Runway Distance To Go Lights	Continuous
E-LITE-RUNW-EDGE	Runway Edge Lights	Continuous
E-LITE-RNWY-GARD	Runway Guard Lights	Continuous
E-LITE-RUNW-TDZN	Runway Touchdown Zone Lights	Continuous
E-LITE-SIGN	Taxiway Guidance Signs	Continuous
E-LITE-SPCL	Special Fixtures	Continuous
E-LITE-SWCH	Lighting Contactors, Photoelectric Controls, Low-Voltage Lighting Controls, Etc.	Continuous
E-LITE-TAXI-CNTL	Taxiway Centerline Lights	Center2
E-LITE-TAXI-EDGE	Taxiway Edge Lights	Continuous
E-LITE-TAXI-INTS	Taxiway Intersection Lights	Continuous
E-LITE-THRS	Threshold Lights	Continuous
E-LITE-WALL	Wall Mounted Fixtures	Continuous

Utility Poles (POLE)

Layer Name	Layer Description	Linetype
E-POLE-GUYS	Guying Equipment	Continuous
E-POLE-IDEN	Utility Pole Identifier Tags, Symbol Modifier, and Text	Continuous
E-POLE-UTIL	Utility Poles	Continuous

Power (POWR)

Layer Name	Layer Description	Linetype
E-POWR-BUSW	Busways and Wireways	Continuous
E-POWR-CABL	Cable Trays	Continuous
E-POWR-CIRC	Power Circuits (Including Crosslines and Homeruns)	Hidden2
E-POWR-CIRC-NUMB	Power Circuit Numbers (e.g., Panel/Circuit Number, Wire/Conduit Size)	Continuous
E-POWR-CLNG	Ceiling Outlets (Receptacles and Switches)	Continuous
E-POWR-DEVC	Miscellaneous Power Devices	Continuous
E-POWR-EQPM	Miscellaneous Power Equipment	Continuous
E-POWR-FEED	Feeder	Continuous

E-POWR-GENR	Generators and Auxiliary Equipment	Continuous
E-POWR-INST	Power: Instrumentation (meters, valves, etc.)	Continuous
E-POWR-JBOX	Junction Boxes	Continuous
E-POWR-MOTR	Motors and Utilization Equipment	Continuous
E-POWR-PANL	Panelboards, Switchboards, MCC, Unit Substations	Continuous
E-POWR-SWCH	Disconnect Switches, Motor Starters, Contactors, Etc.	Continuous
E-POWR-URAC	Underfloor Raceways	Hidden2
E-POWR-WALL	Wall/Floor Outlets (Receptacles and Switches)	Continuous

Primary Electrical Cables (PRIM)

Layer Name	Layer Description	Linetype
E-PRIM-OVHD	Overhead Electrical Utility Lines	E_OH
E-PRIM-OVHD-IDEN	Identifier Tags, Symbol Modifier, and Text	Continuous
E-PRIM-UNDR	Underground Electrical Utility Lines	E_UG
E-PRIM-UNDR-IDEN	Identifier Tags, Symbol Modifier, and Text	Continuous

Secondary Electrical Cables (SECD)

Layer Name	Layer Description	Linetype
E-SECD-OVHD	Overhead Electrical Utility Lines	E_OH
E-SECD-OVHD-IDEN	Identifier Tags, Symbol Modifier, and Text	Continuous
E-SECD-UNDR	Underground Electrical Utility Lines	E_UG
E-SECD-UNDR-IDEN	Identifier Tags, Symbol Modifier, and Text	Continuous

Security Systems (SERT)

Layer Name	Layer Description	Linetype
E-SERT-BURD	Buried Sensors	Continuous
E-SERT-IDEN	Identifier Tags, Symbol Modifier, and Text	Continuous
E-SERT-UNDR	Buried Sensors	Continuous

Special Systems (SPCL)

Layer Name	Layer Description	Linetype
E-SPCL-IDEN	Special Systems (e.g., UMCS, EMCS, CATV, Etc.) Identifier Tags, Symbol Modifier, and Text	Continuous
E-SPCL-JBOX	Junction Boxes	Continuous
E-SPCL-PANL	Panelboards, Backing Boards, Patch Panel Racks	Continuous
E-SPCL-SRFS	Surface Sensor System	Continuous
E-SPCL-SYST-	Special Systems (e.g., UMCS, EMCS, CATV, CCTV, Alarms, Bell, Etc.)	CATV / CCTV / FALARM
E-SPCL-TRAF	Traffic Signal System	Continuous
E-SPCL-TRAF-IDEN	Traffic Signal Identifier Tags, Symbol Modifier, and Text	Continuous

Transformers (TRAN)

Layer Name	Layer Description	Linetype
E-TRAN-PADM	Pad Mounted Transformers	Continuous
E-TRAN-PADM-IDEN	Identifier Tags, Symbol Modifier, and Text	Continuous
E-TRAN-POLE	Pole Mounted Transformers	Continuous
E-TRAN-POLE-IDEN	Identifier Tags, Symbol Modifier, and Text	Continuous

FIRE PROTECTION ABBREVIATIONS

AFFF	-	Aqueous Film Forming Foam System
ALRM	-	Fire Alarm / Detection Equipment
CO2S	-	CO2 Sprinkler System
CTRL	-	Control Panels
HALN	-	Halon System
IGAS	-	Inert Gas
LITE	-	Lights
LSFT	-	Life Safety
PROT	-	Fire Protection / Suppression Equipment
SPKL	-	Sprinkler System
WATR	-	Water Supply and Distribution

Aqueous Film Forming Foam System (AFFF)

Layer Name	Layer Description	Linetype
F-AFFF-EQPM	Equipment	Continuous
F-AFFF-PIPE	Piping	Hidden2

Fire Alarm / Detection Equipment (ALRM)

Layer Name	Layer Description	Linetype
F-ALRM-DEVC	Fire Alarm Devices	Continuous
F-ALRM-INDC	Indicating Appliances	Continuous
F-ALRM-LINE	Fire Alarm Line	FALARM
F-ALRM-MANL	Manual Fire Alarm Pull Stations	Continuous
F-ALRM-PHON	Fire Service Or Emergency Telephone Stations	Continuous

CO2 Sprinkler System (CO2S)

Layer Name	Layer Description	Linetype
F-CO2S-EQPM	Equipment	Continuous
F-CO2S-PIPE	CO2 Piping Or CO2 Discharge Nozzle Piping	Hidden2

Control Panels (CNTL)

Layer Name	Layer Description	Linetype
F-CTRL-PANL	Control Panels	Continuous

Halon System (HALN)

Layer Name	Layer Description	Linetype
F-HALN-EQPM	Halon Equipment	Continuous
F-HALN-PIPE	Halon Piping	Hidden2

Inert Gas (IGAS)

Layer Name	Layer Description	Linetype
F-IGAS-EQPM	Inert Gas Equipment	Continuous
F-IGAS-PIPE	Inert Gas Piping	Hidden2

Lights (LITE)

Layer Name	Layer Description	Linetype
F-LITE-EMER	Emergency Fixtures	Continuous
F-LITE-EXIT	Exit Fixtures	Continuous

Life Safety (LSFT)

Layer Name	Layer Description	Linetype
F-LSFT-EGRE	Egress Requirements Designator	Continuous
F-LSFT-OCCP	Occupant Load For Egress Capacity	Continuous

Fire Protection / Suppression Equipment (PROT)

Layer Name	Layer Description	Linetype
F-PROT-ALRM	Fire Alarm	Continuous
F-PROT-EXTI	Fire Extinguishers	Continuous
F-PROT-EQPM	Fire Equipment	Continuous
F-PROT-HOSE	Fire Hoses and Fire Hose/ Extinguisher Cabinets	Continuous

Sprinkler System (SPKL)

Layer Name	Layer Description	Linetype
F-SPKL-PIPE	Sprinkler Piping	SPRINK
F-SPKL-SYMB	Sprinkler Symbols (Blocks)	Continuous

Water Supply and Distribution (WATR)

Layer Name	Layer Description	Linetype
F-WATR-CONN	Fire Department Connections	Continuous
F-WATR-HYDR	Hydrants	Continuous
F-WATR-PIPE	Fire Line/Fire Water Piping	FIRE
F-WATR-PUMP	Fire Pumps	Continuous

GENERAL ABBREVIATIONS		
ANNO	-	Annotation
GENR	-	General
GRID	-	Grid Lines
PLAN	-	Floor Outline or Building Footprint
SITE	-	Site
XREF	-	Reference File

General Annotation (ANNO)

Layer Name	Layer Description	Linetype
*-ANNO-DIMS	Dimension Lines , Texts and Arrows	Continuous
*-ANNO-KEYM	Key Map	Continuous
*-ANNO-KEYN	Reference Keynotes/Text with Associated Leaders	Continuous
*-ANNO-LABL	Drawing Labels	Continuous
*-ANNO-LEGN	Legend and Schedule	Continuous
*-ANNO-MTCH	Matchlines	Phantom
*-ANNO-NOTE	General Notes	Continuous
*-ANNO-NPLT	Non-Plotting Graphic Information	Continuous
*-ANNO-REDL	Redlines	Continuous
*-ANNO-REFR	Reference File	Continuous
*-ANNO-REVS	Revisions	Continuous
*-ANNO-SYMB	Miscellaneous Symbols	Continuous
*-ANNO-TEXT -**	Misc. Text/Call-Outs with Associated Leaders	Continuous
*-ANNO-TITL	Drawing or Detail Titles	Continuous
*-ANNO-TTBL	Title Block	Continuous
*-ANNO-VIEW	Paperspace Viewport	Continuous

* Insert Discipline ** Insert BOLD, MEDM OR FINE for text weights

Grid Lines (GRID)

Layer Name	Layer Description	Linetype
G-GRID-EXTR	Column Grid Outside Building	Center
G-GRID-IDEN	Column Grid Tags	Continuous
G-GRID-LINE	Grid Lines - Miscellaneous	Continuous/Center

HAZARDOUS MATERIALS ABBREVIATIONS		
BLDG	-	Buildings and Other Structures
DECN	-	Decontamination
DISP	-	Disposal Area
FIXT	-	Emergency Fixtures
MNST	-	Monitoring Station
POLL	-	Pollution Area
SAMP	-	Sample Points
STOR	-	Storage Facilities

Buildings and Other Structures (BLDG)

Layer Name	Layer Description	Linetype
H-BLDG-OTLN	Command Post, Information Center	Continuous

Decontamination (DECN)

Layer Name	Layer Description	Linetype
H-DECN-EQPM	Decontamination Equipment	Continuous
H-DECN-IDEN	Annotation	Continuous

Disposal Area (DISP)

Layer Name	Layer Description	Linetype
H-DISP-IDEN	Annotation	Continuous
H-DISP-TANK	Spill Containment Tanks	Continuous

Emergency Fixtures (FIXT)

Layer Name	Layer Description	Linetype
H-FIXT-EYEW	Emergency Eyewashes	Continuous
H-FIXT-SHOW	Emergency Showers	Continuous

Monitoring Station (MNST)

Layer Name	Layer Description	Linetype
H-MNST-AIRS	Air Monitoring Station	Continuous
H-MNST-GWTR	Ground Water Monitoring Station	Continuous
H-MNST-IDEN	Monitoring Station Annotation	Continuous
H-MNST-NGAS	Natural Gas Monitoring Station	Continuous
H-MNST-SWTR	Surface Water Monitoring Station	Continuous

Pollution Area (POLL)

Layer Name	Layer Description	Linetype
H-POLL-CONC	Polluted Area Of Concern	Continuous
H-POLL-IDEN	Annotation	Continuous
H-POLL-ORIG	Point Of Pollution Origin	Continuous
H-POLL-POTN	Potential Spill, Emission, Or Release Source	Continuous

Sample Points (SAMP)

Layer Name	Layer Description	Linetype
H-SAMP-AIRS	Air Samples	Continuous
H-SAMP-BIOL	Biological Samples	Continuous
H-SAMP-GWTR	Ground Water Samples	Continuous
H-SAMP-IDEN	Annotation	Continuous

H-SAMP-SEDI	Sediment Samples	Continuous
H-SAMP-SOIL	Soil Samples	Continuous
H-SAMP-SOLI	Solid Material Samples	Continuous
H-SAMP-SWTR	Surface Water Samples	Continuous
H-SAMP-WAST	Waste Samples	Continuous

Storage Facilities (STOR)

Layer Name	Layer Description	Linetype
H-STOR-HAZM	Hazardous Materials	Continuous
H-STOR-HAZW	Hazardous Waste	Continuous
H-STOR-IDEN	Annotation	Continuous

LANDSCAPE ABBREVIATIONS		
DETL	-	Detail
IRRG	-	Irrigation System
PLNT	-	Plants
SITE	-	Site

Detail (DETL)

Layer Name	Layer Description	Linetype
L-DETL-CONC	Concrete	Continuous
L-DETL-ERTH	Earth	Continuous
L-DETL-FENC	Fencing	FENCE
L-DETL-FURN	Furniture, Furnishings	Continuous
L-DETL-GATE	Gate	Continuous
L-DETL-GENF	General Features (Miscellaneous Items)	Continuous
L-DETL-GRAS	Grass, Sod	Continuous
L-DETL-STRC	Structural Metal, Supports	Continuous
L-DETL-TKST	Tank Site	Continuous
L-DETL-VLVE	Valve Fitting	Continuous
L-DETL-WIRE	Wiring	Hidden2

Irrigation System (IRRG)

Layer Name	Layer Description	Linetype
L-IRRG-COVR	Irrigation Coverage, Spray Distribution Patterns	Continuous
L-IRRG-EQPM	Equipment (e.g., Controllers, Valves, Etc.)	Continuous
L-IRRG-HEAD	Irrigation Heads, Bubblers, and Drip Irrigation Emitters	Continuous
L-IRRG-IDEN	Annotation	Continuous
L-IRRG-PIPE	Piping	Hidden2
L-IRRG-SPKL	Sprinklers	Continuous
L-IRRG-VLVE	Irrigation Valve	Continuous

Plants (PLNT)

Layer Name	Layer Description	Linetype
L-PLNT-BEDS	Planting Beds	Continuous
L-PLNT-BUSH	Bushes and Shrubs (e.g., Evergreen, Deciduous)	Continuous
L-PLNT-BUSH-LINE	Bush and Shrub Line	Continuous
L-PLNT-CTNR	Containers Or Planters	Continuous
L-PLNT-GRND	Groundcover and Vines	Continuous
L-PLNT-IDEN	Annotation	Continuous
L-PLNT-MLCH	Mulches - Organic and Inorganic	Continuous
L-PLNT-PLTS	Planting Plants (e.g., Ornamental Annuals and Perennials)	Continuous
L-PLNT-SHAD	Shadow Areas	Continuous
L-PLNT-SPRG	Sprigs	Continuous
L-PLNT-TREE	Trees	Continuous
L-PLNT-TREE-LINE	Tree Line	Continuous
L-PLNT-TURF	Lawn Areas (Turf Limits)	Continuous

Site (SITE)

Layer Name	Layer Description	Linetype
L-SITE-BRDG	Bridges	Continuous
L-SITE-DECK	Deck	FENCE
L-SITE-FENC	Fencing	FENCE
L-SITE-GATE	Gate	Continuous
L-SITE-IDEN	Annotation	Continuous
L-SITE-POOL	Pools and Spas	Continuous
L-SITE-ROCK	Rocks, Boulders or Cobblestones	Continuous
L-SITE-TUNL	Tunnels	Continuous
L-SITE-WALK	Walks and Steps	Continuous

MECHANICAL ABBREVIATIONS

ACID	-	Industrial Waste Piping
AFRZ	-	Anti-Freeze
BRIN	-	Brine System
CHEM	-	Chemical Treatment System
CNDW	-	Condenser Water System
COND	-	Condensate
CONT	-	Controls
CWTR	-	Chilled Water System
DETL	-	Detail
DUAL	-	Dual Temperature System
DUST	-	Dust and Fume Collection Systems
ELEV	-	Elevations
EXHS	-	Exhaust
GTHP	-	Geothermal Heat Pump System
HTCW	-	HTCW Utilities
HVAC	-	Heating, Ventilation and Air Conditioning
HWTR	-	Hot Water Heating System
HYDR	-	Hydraulic
INSL	-	Insulating (Transformer) Oil
LUBE	-	Lubrication Oil
MACH	-	Machine Design
MATL	-	Material Handling
PROC	-	Process Piping
RCOV	-	Energy Recovery System
REFG	-	Refrigeration System
RWTR	-	Raw Water Piping
STEM	-	Steam

Industrial Waste Piping (ACID)

Layer Name	Layer Description	Linetype
M-ACID-EQPM	Acid, Alkaline, and Oil Waste Equipment	Continuous
M-ACID-PIPE	Acid, Alkaline, and Oil Waste Piping	ACIDWS
M-ACID-VENT	Acid, Alkaline, and Oil Waste Vent Piping	Continuous

Anti-Freeze (AFRZ)

Layer Name	Layer Description	Linetype
M-AFRZ-PIPE	Anti-Freeze Piping	Hidden
M-AFRZ-WAST	Waste Anti-Freeze Piping	Continuous

Brine System (BRIN)

Layer Name	Layer Description	Linetype
M-BRIN-EQPM	Brine System Equipment	Continuous
M-BRIN-PIPE	Brine System Piping	BRINES

Chemical Treatment System (CHEM)

Layer Name	Layer Description	Linetype
M-CHEM-EQPM	Equipment	Continuous
M-CHEM-PIPE	Piping (Includes Fittings, Valves)	Hidden2

Condenser Water System (CNDW)

Layer Name	Layer Description	Linetype
M-CNDW-EQPM	Condenser Water Equipment	Continuous
M-CNDW-PIPE	Condenser Water Piping	CNDW

Condensate (COND)

Layer Name	Layer Description	Linetype
M-COND-PIPE	Condensate Piping (Includes Fittings, Valves)	COND

Controls (CONT)

Layer Name	Layer Description	Linetype
M-CONT-THER	Thermostats, Controls, Instrumentation, and Sensors	Continuous
M-CONT-WIRE	Low Voltage Wiring	Hidden

Chilled Water System (CWTR)

Layer Name	Layer Description	Linetype
M-CWTR-EQPM	Equipment	Continuous
M-CWTR-PIPE	Piping (Includes Fittings, Valves)	CLDWTR

Detail (DETL)

Layer Name	Layer Description	Linetype
M-DETL-BOIL	Boilers	Continuous
M-DETL-CABS	Cabinets	Continuous
M-DETL-COIL	Coils and Fin Tubes	Continuous
M-DETL-DUCT	Ducts	Continuous
M-DETL-EQPM	Equipment and Fixtures	Continuous
M-DETL-FANS	Fans	Continuous
M-DETL-GENF	General Features (Miscellaneous Items)	Continuous
M-DETL-PIPE	Piping	Continuous
M-DETL-PUMP	Pumps and Compressors	Continuous
M-DETL-TANK	Tanks	Continuous
M-DETL-TRAP	Traps and Drains	Continuous
M-DETL-VENT	Vents	Continuous
M-DETL-VLVE	Valves and Fittings	Continuous

Dual Temperature System (DUAL)

Layer Name	Layer Description	Linetype
M-DUAL-EQPM	Equipment	Continuous
M-DUAL-PIPE	Piping (Includes Fittings, Valves)	Dashed

Dust and Fume Collection Systems (DUST)

Layer Name	Layer Description	Linetype
M-DUST-DUCT	Dust and Fume Ductwork	Continuous
M-DUST-EQPM	Dust and Fume Collection Equipment	Continuous

Elevations (ELEV)

Layer Name	Layer Description	Linetype
M-ELEV-FIXT	Miscellaneous Fixtures	Continuous
M-ELEV-IDEN	Component Identification Numbers	Continuous
M-ELEV-OTLN	Building Outlines	Continuous

Exhaust (EXHS)

Layer Name	Layer Description	Linetype
M-EXHS-CDFF	Exhaust Air Ceiling Registers and Grilles	Continuous
M-EXHS-DUCT	Exhaust Ductwork	Continuous
M-EXHS-EQPM	Equipment	Continuous

Geothermal Heat Pump System (GTHP)

Layer Name	Layer Description	Linetype
M-GTHP-EQPM	Equipment	Continuous
M-GTHP-PIPE	Piping (Includes Fittings, Valves)	Continuous

HTCW Utilities (HTCW)

Layer Name	Layer Description	Linetype
M-HTCW-ABND	Abandoned Piping	Continuous
M-HTCW-CHLL	Main Chilled Water Piping	CHWTRL
M-HTCW-CHLP	Chilled Water Plant	Continuous
M-HTCW-CHLS	Chilled Water Service Piping	CHWTRL
M-HTCW-DEVC	Rigid Anchors, Anchor Guides, Rectifiers, Reducers, Markers, Meters, Pumps, Regulators, Tanks, and Valves	Continuous
M-HTCW-FLOW	Flow Direction Arrows	Continuous
M-HTCW-FTTG	Caps and Flanges Fittings	Continuous
M-HTCW-HTPL	Main High Temperature Piping	Continuous
M-HTCW-HTPP	High Temperature Water Plant	Continuous
M-HTCW-HTPS	High Temperature Service Piping	Continuous
M-HTCW-IDEN	Identifier Tags, Symbol Modifier, and Text	Continuous
M-HTCW-JBOX	Junction Boxes, Manholes, Handholes, Test Boxes	Continuous
M-HTCW-LTPL	Main Low Temperature Piping	Continuous
M-HTCW-LTPS	Low Temperature Service Piping	Continuous
M-HTCW-PITS	Valve Pits/Vaults, Steam Pits	Continuous
M-HTCW-PLNT-IDEN	Identifier Tags, Symbol Modifier, and Text	Continuous
M-HTCW-PUMP	Pump Stations	Continuous
M-HTCW-RTRN	Return For All HTCW Lines	Continuous
M-HTCW-STML	Main Steam Piping	STEAM
M-HTCW-STMS	Steam Service Piping	STEAM
M-HTCW-STNS-IDEN	Identifier Tags, Symbol Modifier, and Text	Continuous

Heating, Ventilation and Air Conditioning (HVAC)

Layer Name	Layer Description	Linetype
M-HVAC-ACCS	Equipment Access Doors	Continuous
M-HVAC-CDFF	Ceiling Diffusers, Registers, and Grilles	Continuous
M-HVAC-DMPR	Damper Controls	Continuous
M-HVAC-EQPM	Air System Equipment	Continuous

M-HVAC-FDFF	Floor Diffusers, Registers, and Grilles	Continuous
M-HVAC-PIPE	HVAC Piping and Piping Instrumentation	Continuous
M-HVAC-RETN	Return Ductwork	Continuous
M-HVAC-ROOF	Roof Mounted HVAC Equipment	Continuous
M-HVAC-SUPP	Supply Ductwork	Continuous
M-HVAC-TAGS	Diffuser/Register/Grille Tags and Air Flow Arrows	Continuous
M-HVAC-WDFF	Wall Diffusers, Registers, and Grilles	Continuous

Hot Water Heating System (HWTR)

Layer Name	Layer Description	Linetype
M-HWTR-EQPM	Equipment	Continuous
M-HWTR-PIPE	Piping (Includes Fittings, Valves)	HWTR

Hydraulic (HYDR)

Layer Name	Layer Description	Linetype
M-HYDR-EQPM	Hydraulic System Equipment	Continuous
M-HYDR-PIPE	Hydraulic System Piping	Continuous

Insulating (Transformer) Oil (INSL)

Layer Name	Layer Description	Linetype
M-INSL-EQPM	Insulating Oil Equipment	Continuous
M-INSL-PIPE	Insulating Oil Piping	Continuous

Lubrication Oil (LUBE)

Layer Name	Layer Description	Linetype
M-LUBE-EQPM	Lubrication Oil Equipment	Continuous
M-LUBE-PIPE	Lubrication Oil Piping	Continuous

Machine Design (MACH)

Layer Name	Layer Description	Linetype
M-MACH-BASE	Machinery Bases	Continuous

Material Handling (MATL)

Layer Name	Layer Description	Linetype
M-MATL-CRAN	Bridge Cranes, Jib Cranes, and Monorails	Continuous

Process Piping (PROC)

Layer Name	Layer Description	Linetype
M-PROC-EQPM	Equipment	Continuous
M-PROC-PIPE	Process Piping	Continuous

Energy Recovery System (RCOV)

Layer Name	Layer Description	Linetype
M-RCOV-EQPM	Equipment	Continuous
M-RCOV-PIPE	Piping (Includes Fittings, Valves)	Continuous

Refrigeration System (REFG)

Layer Name	Layer Description	Linetype
M-REFG-EQPM	Equipment	Continuous
M-REFG-PIPE	Piping (Includes Fittings, Valves)	REFRD

Raw Water Piping (RWTR)

Layer Name	Layer Description	Linetype
M-RWTR-EQPM	Raw Water Equipment	Continuous
M-RWTR-PIPE	Raw Water Piping	Continuous

STEAM (STEM)

Layer Name	Layer Description	Linetype
M-STEM-EQPM	Equipment	Continuous
M-STEM-PIPE	Steam Piping	STEAM

PLUMBING ABBREVIATIONS		
CMPA	-	Compressed Air
FUEL	-	Liquid Fuel
SANR	-	Sanitary Drainage Piping
STRM	-	Storm Sewer

Compressed Air (CMPA)

Layer Name	Layer Description	Linetype
P-CMPA-EQPM	Equipment	Continuous
P-CMPA-PIPE	Piping	CMPAIR

Liquid Fuel (FUEL)

Layer Name	Layer Description	Linetype
P-FUEL-EQPM	Equipment	Continuous
P-FUEL-FGAS	Fuel Gas Piping	FGAS
P-FUEL-FOIL	Fuel Oil Piping	FUELOF
P-FUEL-NGAS	Natural Gas Piping	NGAS

Sanitary Drainage Piping (SANR)

Layer Name	Layer Description	Linetype
P-SANR-COND	Condensate Piping	Continuous
P-SANR-EQPM	Equipment (e.g., Sand/Oil/Water Separators)	Continuous
P-SANR-FIXT	Plumbing Fixtures	Continuous
P-SANR-FLDR	Floor Drains, Sinks, and Cleanouts	Continuous
P-SANR-PIPE	Piping	Continuous
P-SANR-RISR	Sanitary Risers	Continuous
P-SANR-VENT	Vent Piping	Continuous

Storm Sewer (STRM)

Layer Name	Layer Description	Linetype
P-STRM-PIPE	Storm Drain Piping	STRM
P-STRM-RFDR	Roof Drains	Continuous

STRUCTURAL ABBREVIATIONS		
BEAM	-	Beam
BRAC	-	Bracing
COLS	-	Columns
DECK	-	Deck
FNDN	-	Foundation
GRAT	-	Grating
GRID	-	Grid Lines
JOIN	-	Joints
JOIS	-	Joists
REIN	-	Reinforcing
SAFE	-	Safety Barriers
SLAB	-	Slabs
SPPT	-	Miscellaneous Supports
STRS	-	Stairs and Elevators
TRUS	-	Trusses
WALL	-	Walls

Beam (BEAM)

Layer Name	Layer Description	Linetype
S-BEAM-CNTR	Beam Centerlines	Center
S-BEAM-PRIM	Primary Beams, Girders	Continuous
S-BEAM-SECD	Secondary Beams, Girders	Continuous

Bracing (BRAC)

Layer Name	Layer Description	Linetype
S-BRAC-LATL	Lateral Bracing	Continuous
S-BRAC-VERT	Vertical Bracing	Continuous

Columns (COLS)

Layer Name	Layer Description	Linetype
S-COLS-CNTR	Column Centerlines/Working Lines	Center
S-COLS-MISC	Miscellaneous Columns	Continuous
S-COLS-MSC1	Miscellaneous Columns (Type 1)	Continuous
S-COLS-PRIM	Primary Columns	Continuous

Deck (DECK)

Layer Name	Layer Description	Linetype
S-DECK-FLOR	Floor Deck	Continuous
S-DECK-ROOF	Roof Deck	Continuous

Foundation (FNDN)

Layer Name	Layer Description	Linetype
S-FNDN-CNTR	Beam Centerlines	Center
S-FNDN-FTNG	Footings	Continuous
S-FNDN-GRBM	Grade Beams	Hidden
S-FNDN-PILE	Piles (Steel Sheet, Concrete, Wood), Piers, Caisson Piers, Drilled Piers	Continuous
S-FNDN-RBAR	Foundation Reinforcing	Continuous

Grating (GRAT)

Layer Name	Layer Description	Linetype
S-GRAT-ELEV	Elevated Grating (Catwalks)	Continuous
S-GRAT-FLOR	Floor Grating	Continuous
S-GRAT-SUBS	Subsurface Grating	Continuous

Grid Lines (GRID)

Layer Name	Layer Description	Linetype
S-GRID-EXTR	Exterior Column Grid	Continuous
S-GRID-HORZ	Grid Lines (Horizontal)	Center
S-GRID-IDEN	Column Grid I.D. Tags	Continuous
S-GRID-INTR	Interior Column Grid	Continuous
S-GRID-MISC	Miscellaneous Grid Lines	Continuous
S-GRID-MSC1	Miscellaneous Grid Lines (Type 1)	Continuous
S-GRID-VERT	Grid Lines (Vertical)	Center

Joints (JOIN)

Layer Name	Layer Description	Linetype
S-JOIN-CNST	Construction Joints	Continuous
S-JOIN-CTRL	Control/Expansion Joints	Continuous

Joists (JOIS)

Layer Name	Layer Description	Linetype
S-JOIS-BRDG	Bridging	Continuous
S-JOIS-PRIM	Primary Joists	Continuous
S-JOIS-SECD	Secondary Joists	Continuous

Reinforcing (REIN)

Layer Name	Layer Description	Linetype
S-REIN-RBAR	Rebar, Welded Wire Mesh	Continuous

Safety Barriers (SAFE)

Layer Name	Layer Description	Linetype
S-SAFE-FENC	Fencing	FENCE
S-SAFE-HRAL	Handrails	Continuous

Slabs (SLAB)

Layer Name	Layer Description	Linetype
S-SLAB-EDGE	Edge Of Slab	Continuous
S-SLAB-JOIN	Slab Control Joints	Continuous
S-SLAB-OPEN	Openings and Penetrations	Continuous
S-SLAB-RBAR	Slab Reinforcing	Continuous

Miscellaneous Supports (SPPT)

Layer Name	Layer Description	Linetype
S-SPPT-MISC	Miscellaneous Fasteners, Anchor Bolts, Supports	Continuous
S-SPPT-SHPS	Miscellaneous Shapes, Plates	Continuous

Stairs and Elevators (STRS)

Layer Name	Layer Description	Linetype
S-STRS-FRAM	Stair/Elevator Framing	Continuous
S-STRS-LADD	Ladders, Ladder Handrails, Safety Guard, Grab Bars	Continuous

Trusses (TRUS)

Layer Name	Layer Description	Linetype
S-TRUS-PRIM	Primary Trusses	Continuous
S-TRUS-SECD	Secondary Trusses	Continuous

Walls (WALL)

Layer Name	Layer Description	Linetype
S-WALL-CONC	Concrete Walls	Continuous
S-WALL-LOAD	Load Bearing CMU Walls	Continuous
S-WALL-NONL	Non-Load Bearing CMU Walls	Continuous
S-WALL-OPEN	Openings and Penetrations	Continuous
S-WALL-OTLN	Wall Outline	Continuous
S-WALL-RBAR	Wall Reinforcing	Continuous
S-WALL-STUD	Stud Walls	Continuous

TELECOMMUNICATION ABBREVIATIONS		
CABL	-	Cable System
CLOK	-	Clock System
COMM	-	Communications
CNTL	-	Control
EQPM	-	Equipment
JACK	-	Jacks
SERT	-	Security

Cable System (CABL)

Layer Name	Layer Description	Linetype
T-CABL-COAX	Coax Cable	Continuous
T-CABL-FIBR-	Fiber Optics Cable (Underground or Overhead)	FIBOPT
T-CABL-FIBR-OVHD	Fiber Optics Cable - Overhead	FO_OH
T-CABL-FIBR-UNDR	Fiber Optics Cable - Underground	FO_UG
T-CABL-IDEN	Cable Identifiers	Continuous
T-CABL-MULT	Multi-Conductor Cable	Continuous
T-CABL-TRAY	Cable Trays and Wireways	Continuous

Clock System (CLOK)

Layer Name	Layer Description	Linetype
T-CLOK-IDEN	Identifier Tags, Symbol Modifier, and Text	Continuous
T-CLOK-SYST	Clock System Symbols	Continuous

Communication (COMM)

Layer Name	Layer Description	Linetype
T-COMM-ANTN	Telecommunications Antenna	Continuous
T-COMM-APSY	Audio Paging System	Continuous
T-COMM-ATMS	Advanced Traffic Management System	Continuous
T-COMM-AVID	Automatic Vehicle Identification System	Continuous
T-COMM-BIDS	Baggage Information Display System	Continuous
T-COMM-EQPM	Communication equipment, i.e. Pay Phone	Continuous
T-COMM-FIDS	Flight Information Display System	Continuous
T-COMM-GISY	Gate Information System	Continuous
T-COMM-JBOX	Junction Boxes	Continuous
T-COMM-PMRC	Parking Management and Revenue Control	Continuous
T-COMM-VALT	Communication Vault	Continuous
T-COMM-VPSY	Visual Paging System	Continuous

Control (CNTL)

Layer Name	Layer Description	Linetype
T-CNTL-PANL	Control Panel	Continuous

Equipment (EQPM)

Layer Name	Layer Description	Linetype
T-EQPM-COPP	Distribution Equipment For Copper	Continuous
T-EQPM-FIBR	Distribution Equipment For Fiber Optic	Continuous
T-EQPM-OTHR	Other Telecommunications Equipment	Continuous

Jacks (JACK)

Layer Name	Layer Description	Linetype
T-JACK-COMB	Combination Telephone and Data/LAN Jacks	Continuous
T-JACK-DATA	Data/LAN Jacks	Continuous
T-JACK-IDEN	Identifier Tags, Symbol Modifier, and Text	Continuous
T-JACK-PHON	Telephone Jacks	Continuous

Security (SERT)

Layer Name	Layer Description	Linetype
T-SERT-ALRM	Security Alarm	Continuous
T-SERT-EQPM	Security Equipment	Continuous

SURVEYING/MAPPING ABBREVIATIONS		
AERI	-	Aerial Survey
AIRF	-	Airfield
ALGN	-	Alignments
BLDG	-	Buildings
CATH	-	Cathodic Protection System
CIRC	-	Circuits
COMM	-	Communications
CNTL	-	Control
DUCT	-	Underground Duct
ELEC	-	Electrical Support Equipment
EROS	-	Erosion and Sedimentation
FUEL	-	Liquid Fuel
GRAD	-	Grade Linework
GRID	-	Grid Lines
GTHP	-	Geothermal Heat Pump System
HTCW	-	HTCW Utilities
INDW	-	Industrial Waste Water
LITE	-	Lights
NGAS	-	Natural Gas
POLE	-	Utility Poles
PRIM	-	Primary Electrical Cables
PROF	-	Profile
PROP	-	Property
PVMT	-	Pavements
SECD	-	Secondary Electrical Cables
SITE	-	Site
SPCL	-	Special Systems
SSWR	-	Sanitary Sewer/Wastewater
STRC	-	Structures
STRM	-	Storm Sewer
SURV	-	Survey Lines
TOPO	-	Topography
TRAN	-	Transformers
UTIL	-	Utilities
WATR	-	Domestic Water

Aerial Survey (AERI)

Layer Name	Layer Description	Linetype
V-AERI-BNDY	Aerial Photography Boundaries	Continuous
V-AERI-IMAG	Aerial Photo Imagery	Continuous
V-AERI-INDX	Aerial Photo Index	Continuous

Airfield (AIRF)

Layer Name	Layer Description	Linetype
V-AIRF-DEVC	Capacitors, Voltage Regulators, Motors, Buses, Generators, Meters, Grounds, and Markers	Continuous
V-AIRF-DUCT	Ductbanks	Continuous
V-AIRF-JBOX	Junction Boxes, Pull Boxes, Manholes, Handholes, Pedestals, Splices	Continuous

Alignments (ALGN)

Layer Name	Layer Description	Linetype
V-ALGN-DATA	Alignment Coordinates and Curve Data	Continuous
V-ALGN-LINE	Alignments	Continuous
V-ALGN-STAT	Alignment Stationing and Tick Marks	Continuous

Buildings (BLDG)

Layer Name	Layer Description	Linetype
V-BLDG-IDEN	Building and Other Structure Annotation	Continuous
V-BLDG-OTLN	Buildings and Other Structures	Continuous

Cathodic Protection System (CATH)

Layer Name	Layer Description	Linetype
V-CATH-ANOD	Sacrificial Anode System	Continuous
V-CATH-CURR	Impress Current System	Continuous
V-CATH-IDEN	Identifier Tags, Symbol Modifier, and Text	Continuous
V-CATH-TEST	Test Stations	Continuous

Circuits (CIRC)

Layer Name	Layer Description	Linetype
V-CIRC-CTRL	Control and Monitoring Circuits	Hidden
V-CIRC-IDEN	Identifier Tags, Symbol Modifier, and Text	Continuous
V-CIRC-MULT	Multiple Circuits	Hidden
V-CIRC-SERS	Series Circuits	Hidden

Communications (COMM)

Layer Name	Layer Description	Linetype

V-COMM-EQPM	Other Communications Distribution Equipment	Continuous
V-COMM-JBOX	Communication Junction Boxes, Pull Boxes, Manholes, Handholes, Pedestals, Splices	Continuous
V-COMM-OVHD	Overhead Communications/Telephone Lines	COM_OH
V-COMM-OVHD-IDEN	Identifier Tags, Symbol Modifier and Text	Continuous
V-COMM-UNDR	Underground Communications/Telephone Lines	COM_UG
V-COMM-UNDR-IDEN	Identifier Tags, Symbol Modifier and Text	Continuous
V-COMM-VALT	Communications Vault	Continuous

Underground Duct (DUCT)

Layer Name	Layer Description	Linetype
V-DUCT-MULT	Ductbank	Continuous
V-DUCT-MULT-IDEN	Identifier Tags, Symbol Modifier and Text	Continuous

Electric Support Equipment (ELEC)

Layer Name	Layer Description	Linetype
V-ELEC-DEVC	Capacitors, Voltage Regulators, Motors, Buses, Generators, Meters, Grounds, and Markers	Continuous
V-ELEC-JBOX	Junction Boxes, Pull Boxes, Handholes, Pedestals, Splices	Continuous
V-ELEC-MHOL	Electrical Manholes	Continuous
V-ELEC-SUBS	Other Substation Equipment	Continuous
V-ELEC-SWCH	Pole Mounted Switches, Circuit Breakers, Gang Operated Disconnects, Reclosers, Cubicle Switches	Continuous
V-ELEC-VALT	Vaults	Continuous

Erosion and Sedimentation (EROS)

Layer Name	Layer Description	Linetype
V-EROS-RRAP	Erosion & Sedimentation Controls - Riprap	Continuous
V-EROS-SILT	Erosion & Sedimentation Controls - Silt Fence	SILT
V-EROS-TPRT	Erosion & Sedimentation Controls - Tree Protection	TP

Liquid Fuel (FUEL)

Layer Name	Layer Description	Linetype
V-FUEL-ABND	Abandoned Piping	FUELOF
V-FUEL-DEFL	Defueling Piping	FUELOF
V-FUEL-DEVC	Air Eliminators, Filter Strainers, Hydrant Fill Points, Line Vents, Markers, Oil/Water Separators, Reducers, Regulators, and Valves	Continuous
V-FUEL-FTTG	Caps, Crosses, and Tees	Continuous
V-FUEL-HYDR	Hydrant Control Pits	Continuous
V-FUEL-IDEN	Identifier Tags, Symbol Modifier, and Text	Continuous
V-FUEL-JBOX	Junction Boxes, Manholes, Handholes, Test Boxes	Continuous
V-FUEL-MAIN	Main Fuel Piping	FUELOF

V-FUEL-METR	Meters	Continuous
V-FUEL-PUMP	Booster Pump Stations	Continuous
V-FUEL-SERV	Service Piping	FUEL
V-FUEL-TANK	Fuel Tanks	Continuous
V-FUEL-TRCH	Fuel Line Trench	Continuous
V-FUEL-VENT	Vent Pits	Continuous
V-FUEL-VLVE	Valve Pits	Continuous

Grade Linework (GRAD)

Layer Name	Layer Description	Linetype
V-GRAD-EXST	Existing Grade, Ground Line	Dashed
V-GRAD-FNSH	Finished Grade	Continuous

Grid Lines (GRID)

Layer Name	Layer Description	Linetype
V-GRID-FRAM	Frame	Continuous
V-GRID-MAJR	Major Grid Lines	Center
V-GRID-MINR	Minor Grid Lines	Center
V-GRID-IDEN	Identification, Border Text, Annotation	Continuous

Geothermal Heat Pump System (GTHP)

Layer Name	Layer Description	Linetype
V-GTHP-EQPM	Equipment	Continuous
V-GTHP-PIPE	Piping (Includes Fittings, Valves)	Dashed

HTWC Utilities (HTCW)

Layer Name	Layer Description	Linetype
V-HTCW-ABND	Abandoned Piping	Continuous
V-HTCW-CHLL	Main Chilled Water Piping	CHWTRL
V-HTCW-CHLP	Chilled Water Plant	Continuous
V-HTCW-CHLS	Chilled Water Service Piping	CHWTRL
V-HTCW-DEVC	Rigid Anchors, Anchor Guides, Rectifiers, Reducers, Markers, Meters, Pumps, Regulators, Tanks, and Valves	Continuous
V-HTCW-FLOW	Flow Direction Arrows	Continuous
V-HTCW-FTTG	Caps and Flanges	Continuous
V-HTCW-HTPL	Main High Temperature Piping	Continuous
V-HTCW-HTPP	High Temperature Water Plant	Continuous
V-HTCW-HTPS	High Temperature Service Piping	Continuous
V-HTCW-IDEN	Identifier Tags, Symbol Modifier, and Text	Continuous
V-HTCW-JBOX	Junction Boxes, Manholes, Handholes, Test Boxes	Continuous

V-HTCW-LTPL	Main Low Temperature Piping	Continuous
V-HTCW-LTPS	Low Temperature Service Piping	Continuous
V-HTCW-PITS	Valve Pits/Vaults, Steam Pits	Continuous
V-HTCW-PUMP	Pump Stations	Continuous
V-HTCW-RTRN	Return For All HTCW Lines	Continuous
V-HTCW-STML	Main Steam Piping	STEAM
V-HTCW-STMS	Steam Service Piping	STEAM

Industrial Waste Water (INDW)

Layer Name	Layer Description	Linetype
V-INDW-ABND	Abandoned Piping	IWASTE
V-INDW-DEVC	Grit Chambers, Meters, Flumes, Neutralizers, Oil/Water Separators, Ejectors, Tanks, and Valves	Continuous
V-INDW-FTTG	Caps and Cleanouts	Continuous
V-INDW-IDEN	Identifier Tags, Symbol Modifier, and Text	Continuous
V-INDW-JBOX	Junction Boxes and Manholes	Continuous
V-INDW-LIFT	Lift Stations	Continuous
V-INDW-MAIN	Main Industrial Waste Water Piping	IWASTE
V-INDW-PLNT	Treatment Plants	Continuous
V-INDW-SERV	Industrial Waste Water Service Piping	IWASTE

Lights (LITE)

Layer Name	Layer Description	Linetype
V-LITE-APPR	Approach Lights	Continuous
V-LITE-DIST	Distance and Arresting Gear Markers	Continuous
V-LITE-FIXT	Exterior Lights	Continuous
V-LITE-FIXT-IDEN	Identifier Tags, Symbol Modifier, and Text	Continuous
V-LITE-LANE	Hoverlane, Taxilane, and Helipad Lights	Continuous
V-LITE-OBST	Obstruction Lights	Continuous
V-LITE-RUNW	Runway Lights	Continuous
V-LITE-RUNW-CNTL	Runway Centerline Lights	Center
V-LITE-RUNW-TDZN	Runway Touchdown Zone Lights	Continuous
V-LITE-SIGN	Taxiway Guidance Signs	Continuous
V-LITE-TAXI	Taxiway Lights	Continuous
V-LITE-THRS	Threshold Lights	Continuous

Natural Gas (NGAS)

Layer Name	Layer Description	Linetype
V-NGAS-ABND	Natural Gas Abandoned Piping	NGAS

V-NGAS-DEVC	Natural Gas Hydrant Fill Points, Lights, Vents, Markers, Rectifiers, Reducers, Regulators, Sources, Tanks, Drip Pots, Taps, and Valves	Continuous
V-NGAS-FTTG	Natural Gas Caps, Crosses, and Tees	Continuous
V-NGAS-IDEN	Natural Gas Identifier Tags, Symbol Modifier, and Text	Continuous
V-NGAS-INST	Natural Gas: Instrumentation (meters, valves, etc.)	Continuous
V-NGAS-MAIN	Natural Gas Main Natural Gas Piping	NGAS
V-NGAS-METR	Natural Gas Meters	Continuous
V-NGAS-PUMP	Natural Gas Compressor Stations	Continuous
V-NGAS-REDC	Natural Gas Reducing Stations	Continuous
V-NGAS-SERV	Natural Gas Service Piping	NGAS
V-NGAS-SIGN	Natural Gas Surface Markers/Signs	Continuous
V-NGAS-VENT	Natural Gas Vent Pits	Continuous
V-NGAS-VLVE	Natural Gas Valve Pits/Boxes	Continuous

Utility Poles (POLE)

Layer Name	Layer Description	Linetype
V-POLE-GUYS	Guying Equipment, Guy Wire	Continuous
V-POLE-GUYS-IDEN	Guying Equipment Identifier, Symbol Modifiers, and Text	Continuous
V-POLE-IDEN	Utility Pole Identifier Tags, Symbol Modifier, and Text	Continuous
V-POLE-UTIL	Utility Poles	Continuous

Primary Electrical Cables (PRIM)

Layer Name	Layer Description	Linetype
V-PRIM-OVHD	Overhead Electrical Utility Lines	E_OH
V-PRIM-OVHD-IDEN	Identifier Tags, Symbol Modifier, and Text	Continuous
V-PRIM-UNDR	Underground Electrical Utility Lines	E_UG
V-PRIM-UNDR-IDEN	Identifier Tags, Symbol Modifier, and Text	Continuous

Profile (PROF)

Layer Name	Layer Description	Linetype
V-PROF-EXST	Existing Grade	Dashed
V-PROF-INLT	Curb and Surface Inlets, Catch Basins	Continuous
V-PROF-MHOL	Manholes	Continuous
V-PROF-NEWW	New Work, Grading Fills	Continuous
V-PROF-PIPE	Piping	Continuous
V-PROF-ROAD	Roads	Continuous
V-PROF-STAN	Stationing Text and Elevation Text	Continuous
V-PROF-TEXT	Profile Text and Callouts	Continuous

Property (PROP)

Layer Name	Layer Description	Linetype
V-PROP-AIRF-LINE	Property Lines (Existing Recorded Plats)	PROPL
V-PROP-BRNG	Bearings and Distance Labels	Continuous
V-PROP-CITY	City Boundary	Dot2
V-PROP-CNTY	County Boundary	Continuous
V-PROP-ESMT	Government Easements/Property Lines	Dashed2
V-PROP-IDEN	Property Annotation	Continuous
V-PROP-LEAS	Lease Line (Surveyed)	Continuous
V-PROP-LINE	Property Lines (Existing Recorded Plats)	PROPL
V-PROP-LUSE	Land Use Area	Phantom
V-PROP-MUNI	Municipal Boundary	Continuous
V-PROP-RWAY	Right Of Ways	ROW
V-PROP-STAT	State Boundary	Continuous
V-PROP-ZONG	Zoning Areas	Continuous

Pavements (PVMT)

Layer Name	Layer Description	Linetype
V-PVMT-IDEN	Road, Parking Lot, Airfield Pavement Annotation	Continuous
V-PVMT-MRKG	Pavement Markings	Continuous
V-PVMT-PATT	Pavement Textures and Hatch Patterns	Continuous
V-PVMT-ROAD	Roads, Parking Lots, Airfield Pavements	Continuous

Secondary Electrical Cables (SECD)

Layer Name	Layer Description	Linetype
V-SECD-OVHD	Overhead Electrical Utility Lines	E_OH
V-SECD-OVHD-IDEN	Identifier Tags, Symbol Modifier, and Text	Continuous
V-SECD-UNDR	Underground Electrical Utility Lines	E_UG
V-SECD-UNDR-IDEN	Identifier Tags, Symbol Modifier, and Text	Continuous

Site (SITE)

Layer Name	Layer Description	Linetype
V-SITE-EWAT	Water Features	Continuous
V-SITE-FEAT	Miscellaneous Site Features, i.e. Trash cans, Signs	Continuous
V-SITE-FENC	Fences	FENCE
V-SITE-FENC-IDEN	Fence, Handrail, Ramp, and Trail Annotation	Continuous
V-SITE-IDEN	Existing Site Feature/Structure Annotation	Continuous
V-SITE-OTLN	Existing Site Features (Play Structures, Bike Racks, Benches, Recreational Equipment)	Continuous
V-SITE-STRC	Structures (Bridges, Sheds, Foundation Pads, Etc.)	Continuous

V-SITE-STRS	Stairs and Ramps	Continuous
V-SITE-VEGE	Existing Treelines and Vegetation	Continuous
V-SITE-WALK	Walks, Trails, and Bicycle Paths	Continuous
V-SITE-WATR	Water Features	Continuous

Special Systems (SPCL)

Layer Name	Layer Description	Linetype
V-SPCL-IDEN	Special Systems (UMCS, EMCS, CATV, Etc.) Identifier Tags, Symbol Modifier, and Text	Continuous
V-SPCL-SYST	Special Systems (UMCS, EMCS, CATV, CCTV, Etc.)	CATV / CCTV
V-SPCL-TRAF	Traffic Signal System	Continuous
V-SPCL-TRAF-IDEN	Traffic Signal Identifier Tags, Symbol Modifier, and Text	Continuous

Sanitary Sewer/Wastewater (SSWR)

Layer Name	Layer Description	Linetype
V-SSWR-ABND	Abandoned Piping	WWL
V-SSWR-DEVC	Grease Traps, Grit Chambers, Flumes, Neutralizers, Oil/Water Separators, Ejectors, and Valves	Continuous
V-SSWR-DEVC-IDEN	Identifier Tags, Symbol Modifier, and Text	Continuous
V-SSWR-FILT	Filtration Beds	Continuous
V-SSWR-FILT-IDEN	Identifier Tags, Symbol Modifier, and Text	Continuous
V-SSWR-FLOW	Flow Direction Arrows	Continuous
V-SSWR-FTTG	Caps and Cleanouts	Continuous
V-SSWR-IDEN	Identifier Tags, Symbol Modifier, and Text	Continuous
V-SSWR-INST	Sanitary Sewer: Instrumentation (meters, valves, etc.)	Continuous
V-SSWR-JBOX	Junction Boxes and Manholes	Continuous
V-SSWR-JBOX-IDEN	Identifier Tags, Symbol Modifier, and Text	Continuous
V-SSWR-MAIN	Sanitary Sewer Piping	WWL
V-SSWR-PLNT	Treatment Plants	Continuous
V-SSWR-PUMP	Booster Pump Stations	Continuous
V-SSWR-SERV	Sanitary Sewer Service Piping	WWL
V-SSWR-SIGN	Surface Markers/Signs	Continuous
V-SSWR-TANK	Septic Tanks	Continuous

Structures (STRC)

Layer Name	Layer Description	Linetype
V-STRC-OTLN	Bridges, Piers Breakwater, Docks, Floats, Etc.	Continuous
V-STRC-TOWR	Tower	Continuous

Storm Sewer (STRM)

Layer Name	Layer Description	Linetype

V-STRM-ABND	Abandoned Piping	STRM
V-STRM-AFFF	AFFF Lagoon/Detention Pond	Continuous
V-STRM-CHUT	Chutes and Concrete Erosion Control Structures	Continuous
V-STRM-CULV	Culverts	Continuous
V-STRM-DEVC	Downspouts, Flumes, Oil/Water Separators, Flap Gates	Continuous
V-STRM-DRAN-IDEN	Identifier Tags, Symbol Modifier, and Text	Continuous
V-STRM-FLOW	Flow Direction Arrows	Continuous
V-STRM-FMON	Flow Monitoring Station	Continuous
V-STRM-FTTG	Caps and Cleanouts	Continuous
V-STRM-HDWL	Headwalls and Endwalls	Continuous
V-STRM-IDEN	Identifier Tags, Symbol Modifier, and Text	Continuous
V-STRM-INLT	Inlets (Curb, Surface, and Catch Basins)	Continuous
V-STRM-MAIN	Storm Sewer Piping	STRM
V-STRM-MHOL	Manholes	Continuous
V-STRM-POND	Ponds, Watersheds, and Basins	Continuous
V-STRM-PUMP	Pump Stations	Continuous
V-STRM-SERV	Storm Sewer Service Piping	STRM
V-STRM-SIGN	Surface Markers/Signs	Continuous
V-STRM-SUBS	Subsurface Drain Piping	STRM

Survey Lines (SURV)

Layer Name	Layer Description	Linetype
V-SURV-DATA	Survey Data (Benchmarks and Horizontal Control Points Or Monuments)	Continuous
V-SURV-DATA-CTPT	Survey Data (Benchmarks and Horizontal Control Points Or Monuments)	Continuous
V-SURV-IDEN	Survey, Baseline, and Control Line Annotation	Continuous
V-SURV-LINE	Survey, Baseline, and Control Line	Phantom

Topography (TOPO)

Layer Name	Layer Description	Linetype
V-TOPO-BKLN	Breaklines	Hidden
V-TOPO-BORE	Boring Locations	Continuous
V-TOPO-BORE -IDEN	Bore Hole Identification	Continuous
V-TOPO-BORE -PATT	Boring Pattern	Continuous
V-TOPO-COOR	Coordinate Grid Ticks and Text	Continuous
V-TOPO-CREK	Creek	Divide
V-TOPO-DTCH	Ditches and Swales	Divide
V-TOPO-DTMP	DTM Points	Continuous
V-TOPO-DTMT	DTM Triangles	Continuous
V-TOPO-MAJR	Major Contours	Dashed

V-TOPO-MAJR-IDEN	Major Contours - Annotation	Continuous
V-TOPO-MINR	Minor Contours	Dashed
V-TOPO-MINR-IDEN	Minor Contours - Annotation	Continuous
V-TOPO-SLOP-TOPT	Top/Toe Slopes	Continuous
V-TOPO-SPEC	Species Site	Continuous
V-TOPO-SPOT	Spot Elevations	Continuous
V-TOPO-WETL	Wetland	Continuous

Transformers (TRAN)

Layer Name	Layer Description	Linetype
V-TRAN-PADM	Pad Mounted Transformers	Continuous
V-TRAN-PADM-IDEN	Identifier Tags, Symbol Modifier, and Text	Continuous
V-TRAN-POLE	Pole Mounted Transformers	Continuous
V-TRAN-POLE-IDEN	Identifier Tags, Symbol Modifier, and Text	Continuous

Utilities (UTIL)

Layer Name	Layer Description	Linetype
V-UTIL-ELEC-IDEN	Power/Communication Annotation	Continuous
V-UTIL-ELEC -OVHD	Overhead Power Lines, Lights, Telephone Lines, Communication Lines	E_OH
V-UTIL-ELEC-SYMB	Power/Communication Symbology (Blocks; e.g. Poles, Guywires, Manholes)	Continuous
V-UTIL-ELEC -UNDR	Underground Power Lines, Lights, Telephone Lines, Communication Lines	E_UG
V-UTIL-IDEN	Utility Annotation	Continuous
V-UTIL-LINE	Utilities	Continuous
V-UTIL-MRKR-*	Utility Marker (* = Utility, i.e. water, elec., gas)	Continuous
V-UTIL-NGAS	Gas Lines	NGAS
V-UTIL-NGAS-IDEN	Gas Annotation	Continuous
V-UTIL-NGAS-SYMB	Gas Symbology (Blocks; e.g. , Features, and Valves)	Continuous
V-UTIL-SSWR	Sanitary Sewer Lines (Wastewater Lines)	WWL
V-UTIL-SSWR-IDEN	Sanitary Sewer (Wastewater) Annotation	Continuous
V-UTIL-SSWR-SYMB	Sanitary Sewer (Wastewater) Symbology (Blocks; e.g. Manholes, Cleanouts)	Continuous
V-UTIL-STEM	Steam Lines and Annotation	STEAM
V-UTIL-STRM	Storm Sewer Lines	STRM
V-UTIL-STRM-IDEN	Storm Sewer Annotation	Continuous
V-UTIL-STRM-SYMB	Storm Sewer S Symbology (Blocks; e.g. Culverts, Manholes, and Headwalls	Continuous
V-UTIL-COMM-	Telecommunication Lines /Telephone Line (Overhead or Underground)	TC_OH / TC_UG
V-UTIL-COMM-IDEN	Telecommunication Line/ Telephone Line Identification/Annotation	Continuous
V-UTIL-COMM-SYMB	Telecommunication Line / Telephone Line Symbology (Blocks; e.g. Manholes, Meters and Junction Box)	Continuous

V-UTIL-WATR	Water Line Mains	WATERL
V-UTIL-WATR-IDEN	Water Line Identification/Annotation	Continuous
V-UTIL-WATR-SYMB	Water Line Symbology (Blocks; e.g. Manholes, Water Meters and Valves)	Continuous

Water (WATR)

Layer Name	Layer Description	Linetype
V-WATR-ABND	Abandoned Piping	WATERL
V-WATR-DEVC	Connectors, Faucets, Reducers, Regulators, Vents, Tanks, Taps, Backflow Preventers, and Valves	Continuous
V-WATR-FIRE	Fire Lines	FIRE
V-WATR-FTTG	Caps, Cleanouts, Crosses, and Tees	Continuous
V-WATR-HYDR	Hydrants	Continuous
V-WATR-IDEN	Identifier Tags, Symbol Modifier, and Text	Continuous
V-WATR-INST	Water supply: Instrumentation (meters, valves, etc.)	Continuous
V-WATR-MAIN	Main Domestic Water Piping	WATERL
V-WATR-METR	Meters	Continuous
V-WATR-NHYD	Non-Potable Hydrants/Flushing Hydrants	Continuous
V-WATR-NPOT	Non-Potable Water Piping	WATERL
V-WATR-PUMP	Booster Pump Stations	Continuous
V-WATR-REDC	Pressure Reducing Stations	Continuous
V-WATR-SERV	Domestic Water Service Piping	WATERL
V-WATR-SIGN	Surface Markers/Signs	Continuous
V-WATR-TANK	Water Storage Tanks	Continuous
V-WATR-VENT	Vent Pits	Continuous

Trademarks

CONSULTANT'S CADD SUPPORT PACKAGE

AUSTIN-BERGSTROM INTERNATIONAL AIRPORT

September 2014

Department of Aviation **City of Austin**

TABLE OF CONTENTS

1.0 OVERVIEW

This document is a supplement to the "**ABIA CADD Standards**" document and outlines the contents of the Consultant's CADD Support Package CD-ROM. The goal of these standards is to maintain quality data and to ensure that electronic data received from these sources can be easily integrated into the Department of Aviation's Geographic Information System (GIS) and the FAA's Airport-GIS program. These standards are not created to hinder productive design or drafting practices of consultants and are not intended to provide instructions on how to use AutoCAD.

ABIA CADD Standards is based on the United States National CAD Standard, Version 4.0, which may be purchased via the Internet from National Institute of Building Sciences (NIBS) at http://www.buildingsmartalliance.org/ncs/, A/E/C CADD Standards Release 3.0, and FAA Advisory Circular 150/5300-18B.

1.1 AIRPORT STANDARDS

The Consultant's Support Package includes the following directory folders:

- Blocks
- CADD Standards Documents
- Cover Sheets and Title Blocks
- Color Tables
- Dimensions
- Drawing Standards Check Files
- Drawing Templates
- Line Styles

1.1.1 Blocks

Blocks are created from single or multiple grouped entities to form a single element. ABIA Blocks in .dwg format are grouped in the following 12 folders. This folder also contains a .pdf file illustrating each block.

ABIA - Aircraft
ABIA - Airfield
ABIA - Architectural
ABIA - Civil
ABIA - Electrical
ABIA - Fire Protection
ABIA - General
ABIA - Hazardous
ABIA - Mechanical
ABIA - Safety & Security
ABIA - Survey
ABIA - Telecommunication

1.1.2 CADD Standards Documents

The CADD Standards Document folder contains ABIA CADD Standards Document as well as this supplemental document.

1.1.3 Color Tables

This folder contains the two ABIA color tables (.ctb).

1.1.4 Cover Sheets and Title Block

sThis folder contains two Cover Sheets drawing files, one in architectural units and one in decimal units (for site drawings) and two title block drawings also in architectural and decimal units. These title blocks are attributed to assist in easily populating data fields.

1.1.5 Dimensions Styles

The dimension folder contains two .dim files (arch.dim and civil.dim). These files contain various dimension style scales, which can be imported in to the drawing.

1.1.6 Drawing Standards Check Files

This folder contains ABIA CAD Standards (.dws) files for each discipline code listed in the ABIA CADD Standards – Appendix D.

1.1.7 Drawing Templates Files

This folder contains templates with predefined layers, fonts, line types and dimension styles for each discipline code as well as one file containing **all** the predefined layers of each discipline in ABIA-AEC.dwt.

1.1.8 Line Styles

The Lines Styles folder contains the line style file ABIA.line and a Readme.txt file for instruction and procedures for installing these line styles, as shown in Appendix A of this document.
This directory also contains a .pdf and .dwg file showing the line style symbology.

APPENDIX A

CTY OF AUSTIN - DEPARTMENT OF AVIATION
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These line styles are based on:
National CAD Standards 4.0
A/E/C CADD Standards Release 3.0
And Custom ABIA line styles.

AutoCAD Linetype Definition file

Installing ABIA Line Styles:

1. Find the following files in the Line Styles folder in the ABIA Consultants Package.

   ABIA.lin - Contains the ABIA CADD Standard ACAD line styles.
   ABIA.mln - Contains ABIA CADD Standard ACAD multi-line line styles.
   ABIA.shx - Contains the shapes necessary for the line styles to appear correctly.

2. Copy the above-mentioned files into the ..\AutoCAD 200?\Support\ folder

   Example: C:\Program Files\AutoCAD 201?\Support\

3. Start AutoCAD.

4. Create a new drawing or open an existing drawing.

   (Note: These line styles have already been added to ABIA's template drawing files)

5. Create a new text style using the Romans.shx font. Name the font style Romans. Leave the height set to 0.00. "Do not enter a value for the height."

   (An error will occur if the Romans text style has not been created.)

6. Load the ABIA.lin line style.