

AIA CAD Layer Guidelines:

U.S. National CAD Standard Version 3

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Introduction

Overview

Virtually all vector-based CAD systems support the concept of layers. This function allows building design information to be organized in a systematic fashion, facilitates the visual display of the information on a computer screen, and allows the information to be efficiently converted to the conventional print media of drawings. Efficient use of layers can reduce document preparation time and improve document coordination. Organizing data by layers allows a single CAD file to contain a wealth of information about a building or facility. By turning selected layers on or off, data can be created, reviewed and edited according to a hierarchy that simulates the physical organization of building systems, the relative position of building elements, or the sequence of construction.

A Brief History of CAD Layer Guidelines

The American Institute of Architects published the first edition of *CAD Layer Guidelines* in 1990. The early success of the first edition and rapidly evolving technology resulted in the second edition being published in 1997. The most significant change between the first and second editions was the elimination of the “short” layer name format and the adoption of the long layer name format as a single standard. The second edition also included additional layer field codes for remodeling projects, added new discipline designations for interiors, telecommunications, and other disciplines, and improved the method of organizing drawing annotation.

In July 1997, the AIA agreed to incorporate *CAD Layer Guidelines* into the emerging *U.S. National CAD Standard* (U.S. NCS), a project of the National Institute of Building Sciences (NIBS). The AIA and NIBS were joined in that effort with the Construction Specifications Institute (CSI) and the (then-known) Tri-Service CADD/GIS Technology Center of the U.S. Army Corps of Engineers. CSI and Tri-Service agreed to incorporate their own publications into the U.S. NCS, the *Uniform Drawing System* and the *Plotting Guidelines*, respectively. These four

constituent publishers, as they came to be known, were joined by a number of building design and construction industry organizations in developing and publishing the U.S. NCS.

In March 1999, the U.S. National CAD Standard Project Committee formally accepted *CAD Layer Guidelines, Second Edition* (with minor amendments) as a constituent document of the *U.S. National CAD Standard, Version 1.0*, published in July 1999. The U.S. NCS Project Committee immediately set to work on publication of Version 2.0, which was published in 2002.

Considerable confusion resulted from the lack of “alignment” between the “**Second Edition**” of *CAD Layer Guidelines* and “**Version 1.0**” of the *U.S. National CAD Standard*. Because *CAD Layer Guidelines, Second Edition* was published before, and later incorporated into, the *U.S. National CAD Standard, Version 1.0*, this could not be avoided. With publication of the *U.S. National CAD Standard, Version 2.0*, this problem was corrected by giving the constituent document an entirely new name. For the first time, “AIA” became part of the title of the publication, and the numbered “editions” were abandoned. As a result, this publication is known as *AIA CAD Layer Guidelines: U.S. NCS Version 2.0*. No doubt some confusion will still arise between the *U.S. NCS Version 2.0* and the old *CAD Layer Guidelines, Second Edition*, but the problem should be resolved with the publication of the new U.S. NCS, Version 3.0.

Version 2

AIA CAD Layer Guidelines, version 2, was designed and formatted to match its companion document, CSI's Uniform Drawing System. It was also carefully coordinated with that document, so that the two function as a whole.

Additions and improvements to version 2 of *AIA CAD Layer Guidelines*:

- Incorporation of NCS v1 amendments, including the change from a four-character to a single character Status field.
- An expanded Layer Format that includes a two-character discipline designator and a second optional Minor Group.
- An expanded Drawing View Layer List for users with a need to organize data by drawing type rather than by building system.
- Expanded Layer Lists for Civil, Structural, Mechanical, Plumbing, and Telecommunications Disciplines.

- New Discipline Designators for Survey/Mapping, Geotechnical, Civil Works, Process, and Operations Disciplines.
- An entirely new Layer List for the Survey/Mapping Discipline.
- New Annotation Minor Groups, and a new “free agent” rule permitting Annotation Minor Groups to modify any Major Group.
- Clarification of the existing “free agent” rule, emphasizing that any reasonable combination of Discipline Designator, Major Group and Minor Group is permitted.
- New rules and a detailed Commentary to facilitate conformance with the ISO CAD Standard.

New in Version 3

Highlights of revisions and additions to Version 3 include the following:

- User-defined Minor Group field codes may now be four alphabetic and/or numeric characters (0–9) and/or “~”.
- Additions to the Process Layer List allow users to define layers by individual systems or groups of systems.
- Expanded the Landscape Layer List.
- New Major and Minor Groups added to the Equipment, Mechanical, and Interior Layer Lists.
- Equipment layer added to the Fire Protection Layer List.

Layer Name Format

Hierarchy of Data Fields

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

There are four defined layer name data fields: **Discipline Designator**, **Major Group**, two **Minor Groups**, and **Status**. The Discipline Designator and Major Group fields are mandatory. The Minor Group and Status fields are optional. Each data field is separated from adjacent fields by a dash (“-”) for clarity.

The complete U.S. NCS layer name format, showing the Discipline Designator, the Major Group, two Minor Groups, and the Status fields.

A	I	-	W	A	L	L	-	F	U	L	L	-	D	I	M	S	-	N
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Before You Begin

The U.S. NCS allows you to select from a number of format options for creating layer names. It is recommended that you select the options that you wish to use for layer names on a given project, and then apply the resulting format consistently for all layer names on that project.

Note that for *conceptual conformance* to ISO 13567, *Organization and Naming of Layers for CAD*, the layer name format and length must be the same for all layers on a given project. See “Commentary: U.S. NCS and ISO 13567” (p. 91) at the end of *AIA CAD Layer Guidelines* for detailed information about ISO conformance.

A typical layer name showing the required data fields only.

Note that only the mandatory discipline character is shown, creating a Level 1 Discipline Designator.

A - WALL

Discipline Designator, Level 1

The Discipline Designator denotes the category of subject matter contained on the specified layer. The Discipline Designator is a two-character field. The first character is the discipline character, and the second character is an optional modifier. The Discipline Designator is described in greater detail on page UDS-01.14. For a complete list of Discipline Designators, see Appendix A of UDS Module 1 beginning on page UDS-01.35.

LEVEL 1 DISCIPLINE DESIGNATORS

G	General
H	Hazardous Materials
V	Survey / Mapping
B	Geotechnical
W	Civil Works
C	Civil
L	Landscape
S	Structural
A	Architectural
I	Interiors
Q	Equipment
F	Fire Protection
P	Plumbing
D	Process
M	Mechanical
E	Electrical
T	Telecommunications
R	Resource
X	Other Disciplines
Z	Contractor / Shop Drawings
O	Operations

Discipline Designator, Level 2

The optional second character is used to further define the discipline character. As an example, the Level 2 Discipline Designators for Architectural are shown:

A typical layer name showing the required data fields only.

Note that the mandatory Level 1 discipline character is supplemented by the optional discipline modifier to create a Level 2 Discipline Designator.

A D - W A L L

Designator	Description	New
A	Architectural	
AS	Architectural Site	
AD	Architectural Demolition	
AE	Architectural Elements	
AI	Architectural Interiors	
AF	Architectural Finishes	
AG	Architectural Graphics	
AJ	User-Defined	●
AK	User-Defined	●

For a complete list of Discipline Designators, see Appendix A of UDS Module 1 beginning on page UDS-01.35.

Major Group

A typical layer name showing the required data fields only.

The mandatory Major Group field is highlighted:

A - WALL

A typical layer name showing one optional Minor Group field:

A - WALL - FULL

A typical layer name showing two optional Minor Group fields:

A - WALL - FULL - TEXT

The Major Group is a four-character field that identifies a major building system. The prescribed Major Group field codes (four-character abbreviations) shown on the Layer List are logically grouped with specific discipline designators. However, any Major Group may be combined with any prescribed Discipline Designator, provided that the definition of the Major Group remains unchanged. Therefore, any reasonable combination of the prescribed Discipline Designators and Major Groups is permitted.

NOTE: User-defined Major Group field codes are not permitted.

NOTE: For *conceptual conformance* to ISO 13567, *Organization and Naming of Layers for CAD*, the use of the Major Group “ANNO” is not permitted. See “Commentary: U.S. NCS and ISO 13567” (p. 91) at the end of *AIA CAD Layer Guidelines* for detailed information about ISO conformance.

Minor Group

This is an optional, four-character field to further define the Major Groups. For example, *A-WALL-FULL* denotes *Architectural, Wall, Full-height*. A second minor group may be used for still further delineation of the data contained on a layer. For example, *A-WALL-FULL-TEXT* indicates *Architectural, Wall, Full-height, Text*.

The prescribed Minor Group field codes (four-character abbreviations) shown on the Layer List are logically grouped with specific Major Groups. However, any Minor Group may be used to modify any Major Group, provided that the definition of the Minor Group remains unchanged. Therefore, any reasonable combination of the prescribed Major and Minor Groups is permitted.

NOTE: User-defined Minor Group field codes are permitted. They must contain four alphabetic and/or numeric characters and/or “~”, and must be fully documented on the U.S. NCS Compliance Disclosure Statement for the project on which they are used.

NOTE: For *conceptual conformance* to ISO 13567, *Organization and Naming of Layers for CAD*, the use of certain Minor Group field codes is restricted. See “Commentary: U.S. NCS and ISO 13567” (p. 91) at the end of *AIA CAD Layer Guidelines* for detailed information about ISO conformance.

Status (Phase)

A typical layer name showing the location of the optional Status field:

A - WALL - FULL - TEXT - N

The status field is an optional single-character field that distinguishes the data contained on the layer according to the status of the work or the construction phase. The prescribed field codes for this field are as follows:

STATUS FIELD CODES	
N	New work
E	Existing to remain
D	Existing to demolish
F	Future work
T	Temporary work
M	Items to be moved
X	Not in contract
1-9	Phase numbers

Note that for *conceptual conformance* to ISO 13567, *Organization and Naming of Layers for CAD*, this field may be used to denote either “Status” OR “Phase,” but not BOTH. See “Commentary: U.S. NCS and ISO 13567” (p. 91) at the end of *AIA CAD Layer Guidelines* for detailed information about ISO conformance.

Drawing View Layer List

Drawing View Field Codes

The Drawing View field codes are specialized codes for layers that are organized primarily by drawing type, rather than by major building system. The field codes DETL, ELEV, and SECT may also be used as Minor Group field codes to modify a major building system.

For data sets that are organized by drawing type, an optional alphanumeric Minor Group field code, ANNN, is prescribed to further distinguish drawings within a single CAD file. This Minor Group may be used ONLY to modify the prescribed Drawing View Major Groups; it may not be used to modify any other Major Group. The format of ANNN is also prescribed. It must consist of a single alphabetic character followed by a three-digit number between 001 and 999. The definition of ANNN is not prescribed; it must be defined by the user. The definition must be documented on the U.S. NCS Compliance Disclosure Statement for the project on which it is used.

The Minor Group field codes MCUT, MBND, PATT, and IDEN may be used to modify any Major or Minor Group in the Layer List. The definitions of these prescribed field codes cannot be changed. See page CLG-8 for rules and options governing the use of field codes.

Drawing View Layer Names

Layer Name	Description	New
□□-DETL	Detail	
□□-ELEV	Elevation	
□□-SECT	Section	
□□-□□□□-ANNN	Drawing View Major Group: optional number (A = letter, NNN = number between 001 and 999)	
□□-□□□□-ANNN-MCUT	Drawing View Major Group: optional number: material cut by the view	
□□-□□□□-ANNN-MBND	Drawing View Major Group: optional number: material beyond cut	
□□-□□□□-ANNN-PATT	Drawing View Major Group: optional number: textures and hatch patterns	
□□-□□□□-ANNN-IDEN	Drawing View Major Group: optional number: component identification numbers	
□□-□□□□-ANNN-OTLN	Drawing View Major Group: optional number: outline of object drawn	

Annotation Layer List

Annotation Field Codes

Annotation consists of text, dimensions, notes, sheet borders, detail references and other elements on CAD drawings that do not represent physical aspects of a building. Use of the Major Group ANNO allows all annotation to be placed in a defined group of layers.

The Layer Names shown below provide examples for the use of Minor Group field codes for annotation. **These Minor Groups may be used to modify any Major or Minor Group in the Layer List.** See page CLG-8 for complete rules and options governing the use of Major and Minor Group field codes.

Annotation Layer Names

Layer Name	Description	New
□□-ANNO	Annotation	
□□-□□□□-BRNG	Bearings and distance labels (survey coordinates)	
□□-□□□□-DIMS	Dimensions	
□□-□□□□-IDEN	Identification tags	
□□-□□□□-KEYN	Keynotes	
□□-□□□□-LABL	Labels	
□□-□□□□-LEGN	Legends, symbol keys	
□□-□□□□-MARK	Markers, break marks, leaders	
□□-□□□□-MATC	Match lines	
□□-□□□□-NOTE	Notes	
□□-□□□□-NPLT	Non-plotting graphic information	

Layer Name	Description	New
□□-□□□□-RDME	Read-me layer (not plotted)	
□□-□□□□-REDL	Redlines	
□□-□□□□-REFR	Reference, external files	
□□-□□□□-REVC	Revision clouds	
□□-□□□□-REVS	Revisions	
□□-□□□□-SCHD	Schedules	
□□-□□□□-SYMB	Reference symbols	
□□-□□□□-TEXT	Text	
□□-□□□□-TABL	Data tables	
□□-□□□□-TITL	Drawing or detail titles	
□□-□□□□-TTLB	Border and title block	

General Layer List

General Field Codes

The Layer Names shown below provide examples for the use of Major and Minor Group field codes for this discipline. See page CLG-8 for complete rules and options governing the use of Major and Minor Group field codes.

General Layer List

Layer Name	Description	New
G□-ACCS	Access plan	
G□-CODE	Code compliance plan	
G□-EVAC	Evacuation plan	
G□-FIRE	Fire protection plan	
G□-PLAN	Key plan (floor plan)	
G□-SITE	Key plan (site plan)	

General Discipline Designators

Designator	Description	New
G	General	
GI	General Informational	
GC	General Contractual	
GR	General Resource	
GJ	User-Defined	
GK	User-Defined	

Hazardous Materials Layer List

Hazardous Materials Field Codes

The Layer Names shown below provide examples for the use of Major and Minor Group field codes for this discipline. See page CLG-8 for complete rules and options governing the use of Major and Minor Group field codes.

Hazardous Materials Layer List

Layer Name	Description	New
H□-PLAN	Key plan (floor plan)	
H□-SITE	Key plan (site plan)	

Hazardous Materials Discipline Designators

Designator	Description	New
H	Hazardous Materials	
HA	Asbestos	
HC	Chemicals	
HL	Lead	
HP	PCB	
HR	Refrigerants	
HJ	User-Defined	
HK	User-Defined	

Landscape Layer List

Landscape Field Codes

The Layer Names shown below provide examples for the use of Major and Minor Group field codes for this discipline. See page CLG-8 for complete rules and options governing the use of Major and Minor Group field codes.

Landscape Discipline Designators

Designator	Description	New
L	Landscape	
LD	Landscape Demolition	
LI	Landscape Irrigation	
LP	Landscape Planting	
LJ	User-Defined	
LK	User-Defined	

Landscape Layer List

Layer Name	Description	New
L□-ANNO	Annotation	●
L□-ANNO-ALIN	Annotation: alignment stationing	●
L□-ANNO-ALIN-LABL	Annotation: alignment stationing: labels	●
L□-ANNO-ALIN-INFO	Annotation: alignment stationing: information	●
L□-ANNO-CURV-LABL	Annotation: curve: labels	●
L□-ANNO-CURV-TABL	Annotation: curve: tables	●

Layer Name	Description	New
L□-ANNO-CURV-TABL-BRDR	Annotation: curve: tables: border	●
L□-ANNO-CURV-TABL-HEDR	Annotation: curve: tables: header	●
L□-ANNO-CURV-TABL-TEXT	Annotation: curve: tables: text	●
L□-ANNO-LINE-LABL	Annotation: line: labels	●
L□-ANNO-LINE-TABL	Annotation: line: tables	●

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Layer Name	Description	New
Landscape (continued)		
L□-ANNO-LINE-TABL-BRDR	Annotation: line: tables: border	●
L□-ANNO-LINE-TABL-HEDR	Annotation: line: tables: header	●
L□-ANNO-LINE-TABL-TEXT	Annotation: line: tables: text	●
L□-IRRG	Irrigation	
L□-IRRG-COVR	Irrigation: coverage	
L□-IRRG-DRIP	Irrigation: drip irrigation tubing	●
L□-IRRG-EQPM	Irrigation: equipment (pumps, valves, and controllers)	●
L□-IRRG-LTRL	Irrigation: lateral pipe	●
L□-IRRG-MAIN	Irrigation: mainline	●
L□-IRRG-PIPE	Irrigation: piping	
L□-IRRG-SLVE	Irrigation: pipe sleeve	●
L□-IRRG-SPKL	Irrigation: sprinklers (rotors, heads)	
L□-IRRG-VALV	Irrigation: valves*	●
L□-PLNT	Plant and landscape material	●
L□-PLNT-BEDS	Plant and landscape material: perennial and annual beds	●
L□-PLNT-BUSH	Plant and landscape material: bushes and shrubs	●
L□-PLNT-CONI	Plant and landscape material: coniferous trees	●
L□-PLNT-CTNR	Plant and landscape material: container or planter	●
L□-PLNT-EDGR	Plant and landscape material: planting bed edger	●

Layer Name	Description	New
Landscape (continued)		
L□-PLNT-EVGR	Plant and landscape material: evergreen trees - broadleaf	●
L□-PLNT-GRND	Plant and landscape material: ground covers	●
L□-PLNT-PALM	Plant and landscape material: palm trees	●
L□-PLNT-REMN	Plant and landscape material: material to remain	●
L□-PLNT-REMV	Plant and landscape material: material to be removed	●
L□-PLNT-SEED	Plant and landscape material: seeding areas	●
L□-PLNT-SHAD	Plant and landscape material: shadow area	●
L□-PLNT-SHRB	Plant and landscape material: shrub symbols	●
L□-PLNT-TREE	Plant and landscape material: trees	●
L□-PLNT-TURF	Plant and landscape material: lawn areas	●
L□-PLNT-PLTS	Plant and landscape material: planting plants	●
L□-PLNT-VINE	Plant and landscape material: vines	●
L□-SITE	Site improvements	
L□-SITE-BRDG	Site improvements: bridges (pedestrian)	●
L□-SITE-CURB	Site improvements: curbs	●
L□-SITE-CURB-BACK	Site improvements: curbs: back of curb	●

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Layer Name	Description	New
Landscape (continued)		
L□-SITE-CURB-FACE	Site improvements: curbs: face of curb	●
L□-SITE-DECK	Site improvements: raised decks (wood, typ.)	●
L□-SITE-FENC	Site improvements: fencing	●
L□-SITE-FENC-LINK	Site improvements: fencing: chain link	●
L□-SITE-FENC-LINK-04FT	Site improvements: fencing: chain link: four feet high	●
L□-SITE-FENC-LINK-06FT	Site improvements: fencing: chain link: six feet high	●
L□-SITE-FENC-PRVC	Site improvements: fencing: privacy fence	●
L□-SITE-FENC-WOOD	Site improvements: fencing: wood	●
L□-SITE-FURN	Site improvements: furnishings	
L□-SITE-PKNG	Site improvements: parking	●
L□-SITE-PKNG-STRP	Site improvements: parking: paint striping	●
L□-SITE-PLAY	Site improvements: play structures	
L□-SITE-PLAY-EQPM	Site improvements: play structures: equipment	●
L□-SITE-PLAY-ZONE	Site improvements: play structures: fall zones	●
L□-SITE-POOL	Site improvements: pools and spas	
L□-SITE-POOL-BACK	Site improvements: pools and spas: back of pool wall	●
L□-SITE-POOL-FACE	Site improvements: pools and spas: face of pool wall	●
L□-SITE-PVMT	Site improvements: pavement edge	●

Layer Name	Description	New
Landscape (continued)		
L□-SITE-PVMT-ASPH	Site improvements: pavement edge: asphalt	●
L□-SITE-PVMT-BRCK	Site improvements: pavement edge: brick	●
L□-SITE-PVMT-CONC	Site improvements: pavement edge: concrete	●
L□-SITE-PVMT-CONC-AGGR	Site improvements: pavement edge: concrete: exposed aggregate	●
L□-SITE-PVMT-GRAV	Site improvements: pavement edge: gravel	●
L□-SITE-PVMT-JNTC	Site improvements: pavement edge: control joint	●
L□-SITE-PVMT-JNTE	Site improvements: pavement edge: expansion joint (for concrete only)	●
L□-SITE-PVMT-PAVR	Site improvements: pavement edge: unit pavers	●
L□-SITE-PVMT-RAMP	Site improvements: pavement edge: accessible ramp	●
L□-SITE-PVMT-STEP	Site improvements: pavement edge: stair tread	●
L□-SITE-ROAD	Site improvements: edge of road line	●
L□-SITE-RPRP	Site improvements: riprap	●
L□-SITE-SPRT	Site improvements: sports fields	
L□-SITE-SPRT-EQPM	Site improvements: sports fields: equipment	●
L□-SITE-SPRT-PRIM	Site improvements: sports fields: perimeter	●
L□-SITE-STEP	Site improvements: steps	
L□-SITE-RTWL	Site improvements: retaining walls	
L□-SITE-TRAL	Site improvements: trail edge	●

Layer Name	Description	New
Landscape (continued)		
L□-SITE-TRAL-ASPH	Site improvements: trail edge: asphalt	●
L□-SITE-TRAL-CONC	Site improvements: trail edge: concrete	●
L□-SITE-TRAL-GRVL	Site improvements: trail edge: gravel	●
L□-SITE WALK	Site improvements: walks and steps	
L□-SITE WALL	Site improvements: walls	●
L□-SITE WEIR	Site improvements: pool weir	●
L□-TOPO	Proposed grading	●
L□-TOPO-DEPR	Proposed grading: depression	●
L□-TOPO-INDX	Proposed grading: index contour	●
L□-TOPO-INTR	Proposed grading: intermediate contours	●
L□-TOPO-LIMI	Proposed grading: limit of earthwork	●
L□-TOPO-SPOT	Proposed grading: spot elevations	●

Structural Layer List

Structural Field Codes

The Layer Names shown below provide examples for the use of Major and Minor Group field codes for this discipline. See page CLG-8 for complete rules and options governing the use of Major and Minor Group field codes.

Structural Layer List

Layer Name	Description	New
S□-BEAM	Beams	
S□-BEAM-ALUM	Beams: aluminum	
S□-BEAM-CONC	Beams: concrete	
S□-BEAM-STEL	Beams: steel	
S□-BEAM-WOOD	Beams: wood	
S□-BRAC	Bracing	
S□-BRAC-ALUM	Bracing: aluminum	
S□-BRAC-ALUM-HORZ	Bracing: aluminum: horizontal	

Structural Discipline Designators

Designator	Description	New
S	Structural	
SD	Structural Demolition	
SS	Structural Site	
SB	Structural Substructure	
SF	Structural Framing	
SJ	User-Defined	
SK	User-Defined	

Layer Name	Description	New
S□-BRAC-ALUM-VERT	Bracing: aluminum: vertical	
S□-BRAC-STEL	Bracing: steel	
S□-BRAC-STEL-HORZ	Bracing: steel: horizontal	
S□-BRAC-STEL-VERT	Bracing: steel: vertical	
S□-BRAC-WOOD	Bracing: wood	
S□-BRAC-WOOD-HORZ	Bracing: wood: horizontal	
S□-BRAC-WOOD-VERT	Bracing: wood: vertical	
S□-COLS	Columns	

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Layer Name	Description	New
Structural (continued)		
S□-COLS-ALUM	Columns: aluminum	
S□-COLS-CONC	Columns: concrete	
S□-COLS-STEL	Columns: steel	
S□-COLS-WOOD	Columns: wood	
S□-DECK	Structural deck	
S□-DECK-FLOR	Structural deck: floor	
S□-DECK-FLOR-OPNG	Structural deck: floor: openings	
S□-DECK-ROOF	Structural deck: roof	
S□-DECK-ROOF-OPNG	Structural deck: roof: openings	
S□-FNDN	Foundation	
S□-FNDN-FTNG	Foundation: footings	
S□-FNDN-GRBM	Foundation: grade beams	
S□-FNDN-PCAP	Foundation: pile caps	
S□-FNDN-PIER	Foundation: drilled piers	
S□-FNDN-PILE	Foundation: piles	
S□-FNDN-RBAR	Foundation: reinforcing	
S□-GRID	Column grid	
S□-GRID-EXTR	Column grid: exterior columns	
S□-GRID-INTR	Column grid: interior columns	
S□-JNTS	Joints	
S□-JNTS-CNTJ	Joints: construction	
S□-JNTS-CTLJ	Joints: control	
S□-JNTS-EXPJ	Joints: expansion	
S□-JOIS	Joists	
S□-JOIS-BRGX	Joists: bridging	
S□-PROP	Property lines	
S□-SLAB	Slab	

Layer Name	Description	New
Structural (continued)		
S□-SLAB-CONC	Slab: cast-in-place concrete	
S□-SLAB-OPNG	Slab: openings and depressions	
S□-SLAB-OPNX	Slab: opening indication ("x")	
S□-SLAB-EDGE	Slab: edge of slab	
S□-SLAB-STEL	Slab: steel slab	
S□-SLAB-WOOD	Slab: wood	
S□-STRS	Stairs	
S□-STRS-LADD	Stairs: ladders & ladder assemblies	
S□-TRUS	Trusses	
S□-WALL	Walls	
S□-WALL-CMUW	Walls: concrete masonry unit	
S□-WALL-CONC	Walls: cast-in-place concrete	
S□-WALL-MSNW	Walls: masonry	
S□-WALL-PCST	Walls: pre-cast concrete	
S□-WALL-SHEA	Walls: structural shear walls	
S□-WALL-STEL	Walls: steel stud	
S□-WALL-WOOD	Walls: wood	
S□-□□□□-ABLT	Any major group: anchor bolts	
S□-□□□□-METL	Any major group: misc. metals	
S□-□□□□-GRAT	Any major group: grates	
S□-□□□□-GRAT-OVHD	Any major group: grates: overhead	
S□-□□□□-RBAR	Any major group: reinforcing bar	
S□-□□□□-RBAR-BOT1	Any major group: reinforcing bar: bottom group 1	
S□-□□□□-RBAR-BOT2	Any major group: reinforcing bar: bottom group 2	

Layer Name	Description	New
Structural (continued)		
S□-□□□□-RBAR-TOP1	Any major group: reinforcing bar: top group 1	
S□-□□□□-RBAR-TOP2	Any major group: reinforcing bar: top group 2	

Architectural Layer List

Architectural Field Codes

The Layer Names shown below provide examples for the use of Major and Minor Group field codes for this discipline. See page CLG-8 for complete rules and options governing the use of Major and Minor Group field codes.

Architectural Layer List

Layer Name	Description	New
A□-□□□□-FNSH	Any major group: finishes	
A□-□□□□-CASE	Any major group: casework	
A□-□□□□-FIXT	Any major group: plumbing fixtures	
A□-□□□□-GRID	Any major group: grid	
A□-□□□□-SIGN	Any major group: signs	

Architectural Discipline Designators

Designator	Description	New
A	Architectural	
AS	Architectural Site	
AD	Architectural Demolition	
AE	Architectural Elements	
AI	Architectural Interiors	
AF	Architectural Finishes	
AG	Architectural Graphics	
AJ	User-Defined	
AK	User-Defined	

Layer Name	Description	New
A□-AREA	Area	
A□-AREA-OCCP	Area: occupant or employee names	
A□-CLNG	Ceiling	
A□-CLNG-ACCS	Ceiling: access	
A□-CLNG-OPEN	Ceiling: openings	

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Layer Name	Description	New
Architectural (continued)		
A□-CLNG-TEES	Ceiling: main tees	
A□-CLNG-SUSP	Ceiling: suspended elements	
A□-COLS	Columns	
A□-CONV	Conveying systems	
A□-DOOR	Doors	
A□-DOOR-FULL	Doors: full-height (swing and leaf)	
A□-DOOR-PRHT	Doors: partial height (swing and leaf)	
A□-EQPM	Equipment	
A□-EQPM-ACCS	Equipment: access	
A□-EQPM-FIXD	Equipment: fixed equipment	
A□-EQPM-MOVE	Equipment: moveable equipment	
A□-EQPM-NICN	Equipment: not in contract	
A□-EQPM-OVHD	Equipment: overhead	
A□-FLOR	Floor	
A□-FLOR-CASE	Floor: casework	
A□-FLOR-EVTR	Floor: elevator cars and equipment	
A□-FLOR-HRAL	Floor: handrails, guard rails	
A□-FLOR-LEVL	Floor: level changes, ramps, pits, depressions	
A□-FLOR-OTLN	Floor: outline	
A□-FLOR-OVHD	Floor: overhead (objects above)	
A□-FLOR-RAIS	Floor: raised	
A□-FLOR-RISR	Floor: stair risers	
A□-FLOR-SIGN	Floor: signs	
A□-FLOR-SPCL	Floor: specialties (toilet room accessories, display cases)	
A□-FLOR-STRS	Floor: stair treads, escalators, ladders	
A□-FLOR-TPTN	Floor: toilet partitions	

Layer Name	Description	New
Architectural (continued)		
A□-FLOR-WDWK	Floor: architectural woodwork	
A□-FURN	Furnishings	
A□-FURN-FILE	Furnishings: file cabinets	
A□-FURN-FIXD	Furnishings: fixed in place	
A□-FURN-FREE	Furnishings: freestanding	
A□-FURN-PLNT	Furnishings: plants	
A□-FURN-PNLS	Furnishings: system panels	
A□-FURN-SEAT	Furnishings: seating	
A□-FURN-STOR	Furnishings: system storage components	
A□-FURN-WKSF	Furnishings: system work surface components	
A□-GLAZ	Glazing	
A□-GLAZ-FULL	Glazing: full-height	
A□-GLAZ-PRHT	Glazing: partial-height	
A□-GLAZ-SILL	Glazing: window sills	
A□-HVAC	HVAC	
A□-HVAC-SDFF	HVAC: supply diffusers	
A□-HVAC-RDFF	HVAC: return air diffusers	
A□-LITE	Lighting fixtures	
A□-ROOF	Roof	
A□-ROOF-HRAL	Roof: handrails	
A□-ROOF-LEVL	Roof: level changes	
A□-ROOF-OTLN	Roof: outline	
A□-ROOF-RISR	Roof: stair risers	
A□-ROOF-STRS	Roof: stair treads, ladders	
A□-WALL	Walls	
A□-WALL-CAVI	Walls: cavity	

Layer Name	Description	New
Architectural (continued)		
A□-WALL-CNTR	Walls: centerline	
A□-WALL-FIRE	Walls: fire wall	
A□-WALL-FULL	Walls: full-height	
A□-WALL-HEAD	Walls: door and window headers	
A□-WALL-JAMB	Walls: door and window jambs	
A□-WALL-MOVE	Walls: moveable partitions	
A□-WALL-PRHT	Walls: partial-height	
A□-WALL-PATT	Walls: texture or hatch patterns	

Interiors Layer List

Interiors Field Codes

The Layer Names shown below provide examples for the use of Major and Minor Group field codes for this discipline. See page CLG-8 for complete rules and options governing the use of Major and Minor Group field codes.

Interiors Layer List

Layer Name	Description	New
I□-□□□□-FIXT	Any major group: plumbing fixtures	
I□-□□□□-GRID	Any major group: grid	
I□-□□□□-SIGN	Any major group: signs	
I□-AREA	Area	
I□-AREA-OCCP	Area: occupant or employee names	
I□-CASE	Casework	
I□-CLNG	Ceiling	

Interiors Discipline Designators

Designator	Description	New
I	Interior	
ID	Interior Demolition	
IN	Interior Design	
IF	Interior Furnishings	
IG	Interior Graphics	
IJ	User-Defined	
IK	User-Defined	

Layer Name	Description	New
I□-CLNG-ACCS	Ceiling: access	
I□-CLNG-OPEN	Ceiling: openings	
I□-CLNG-SUSP	Ceiling: suspended elements	
I□-CLNG-TEES	Ceiling: main tees	
I□-COLS	Columns	
I□-DOOR	Doors	
I□-DOOR-FULL	Doors: full-height	

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Layer Name	Description	New
Interiors (continued)		
I□-DOOR-PRHT	Doors: partial height	
I□-EQPM	Equipment	
I□-EQPM-ACCS	Equipment: access	
I□-EQPM-FIXD	Equipment: fixed equipment	
I□-EQPM-MOVE	Equipment: moveable equipment	
I□-EQPM-NICN	Equipment: not in contract	
I□-EQPM-OVHD	Equipment: overhead	
I□-EQPM-STOR	Equipment: storage	
I□-FLOR	Floor	
I□-FLOR-EVTR	Floor: elevator cars and equipment	
I□-FLOR-FIXT	Floor: plumbing fixtures	
I□-FLOR-HRAL	Floor: handrails, guard rails	
I□-FLOR-LEVL	Floor: level changes, ramps, pits, depressions	
I□-FLOR-OTLN	Floor: outline	
I□-FLOR-OVHD	Floor: overhead (objects above)	
I□-FLOR-RAIS	Floor: raised	
I□-FLOR-RISR	Floor: stair risers	
I□-FLOR-SIGN	Floor: signs	
I□-FLOR-STRS	Floor: stair treads, escalators, ladders	
I□-FLOR-SPCL	Floor: architectural specialties (toilet room accessories, display cases)	
I□-FLOR-TPTN	Floor: toilet partitions	
I□-FLOR-WDWK	Floor: architectural woodwork	
I□-FNSH	Finishes	●
I□-FURN	Furnishings	
I□-FURN-FILE	Furnishings: file cabinets	
I□-FURN-FREE	Furnishings: freestanding	

Layer Name	Description	New
Interiors (continued)		
I□-FURN-PLNT	Furnishings: plants	
I□-FURN-PNLS	Furnishings: system panels	
I□-FURN-SEAT	Furnishings: seating	
I□-FURN-STOR	Furnishings: system storage components	
I□-FURN-WKSF	Furnishings: system work surface components	
I□-GLAZ	Glazing	
I□-GLAZ-FULL	Glazing: full-height	
I□-GLAZ-PRHT	Glazing: partial-height	
I□-GLAZ-SILL	Glazing: window sills	
I□-HVAC	HVAC	
I□-HVAC-SDFF	HVAC: supply diffusers	
I□-HVAC-RDFF	HVAC: return air diffusers	
I□-MILL	Millwork	●
I□-PRTN	Partitions	●
I□-PRTN-FULL	Partitions: full-height	●
I□-PRTN-PRHT	Partitions: partial-height	●
I□-PRTN-MOVE	Partitions: moveable partitions	●
I□-PRTN-HEAD	Partitions: door and window headers	●
I□-PRTN-JAMB	Partitions: door and window jambs	●
I□-PRTN-FIRE	Partitions: fire wall	●

Fire Protection Layer List

Fire Protection Field Codes

The Layer Names shown below provide examples for the use of Major and Minor Group field codes for this discipline. See page CLG-8 for complete rules and options governing the use of Major and Minor Group field codes.

Fire Protection Layer List

Layer Name	Description	New
F□-AFFF	Aqueous film-forming foam system	
F□-AFFF-EQPM	Aqueous film-forming foam system: equipment	
F□-AFFF-PIPE	Aqueous film-forming foam system: piping	
F□-CO2S	CO2 system	
F□-CO2S-EQPM	CO2 system: equipment	
F□-CO2S-PIPE	CO2 system: piping	
F□-HALN	Halon	
F□-HALN-EQPM	Halon: equipment	

Fire Protection Discipline Designators

Designator	Description	New
F	Fire Protection	
FA	Fire Detection and Alarm	
FX	Fire Suppression	
FJ	User-Defined	
FK	User-Defined	

Layer Name	Description	New
F□-HALN-PIPE	Halon: piping	
F□-IGAS	Inert gas	
F□-IGAS-EQPM	Inert gas: equipment	
F□-IGAS-PIPE	Inert gas: piping	
F□-PROT	Fire protection system	
F□-PROT-ALRM	Fire protection system: alarm	
F□-PROT-EQPM	Fire protection system: equipment	
F□-PROT-SMOK	Fire protection system: smoke detector / heat sensors	
F□-PROT-STAN	Fire protection system: standpipe	

Layer Name	Description	New
Fire Protection (continued)		
F□-SPRN	Sprinkler system	
F□-SPRN-CLHD	Sprinkler system: ceiling heads	
F□-SPRN-EQPM	Sprinkler system: equipment	●
F□-SPRN-OTHD	Sprinkler system: other heads	
F□-SPRN-PIPE	Sprinkler system: piping	
F□-SPRN-STAN	Sprinkler system: standpipe	

Plumbing Layer List

Plumbing Field Codes

The Layer Names shown below provide examples for the use of Major and Minor Group field codes for this discipline. See page CLG-8 for complete rules and options governing the use of Major and Minor Group field codes.

Plumbing Layer List

Layer Name	Description	New
P□-ACID	Acid waste systems	
P□-ACID-EQPM	Acid waste systems: equipment	●
P□-ACID-PIPE	Acid waste systems: piping	
P□-ACID-VENT	Acid waste systems: vents	●
P□-DOMW	Domestic water systems	

Plumbing Discipline Designators

Designator	Description	New
P	Plumbing	
PS	Plumbing Site	
PD	Plumbing Demolition	
PP	Plumbing Piping	
PQ	Plumbing Equipment	
PL	Plumbing	
PJ	User-Defined	
PK	User-Defined	

Layer Name	Description	New
P□-DOMW-CPIP	Domestic water systems: cold water piping	
P□-DOMW-EQPM	Domestic water systems: equipment	
P□-DOMW-HPIP	Domestic water systems: hot water piping	
P□-DOMW-RISR	Domestic water systems: hot and cold water risers	

Layer Name	Description	New
Plumbing (continued)		
P□-DOMW-RPIP	Domestic water systems: hot water recirculation piping	
P□-MDGS	Medical gas	
P□-MDGS-CAIR	Medical gas: compressed air	
P□-MDGS-EQPM	Medical gas: equipment	
P□-MDGS-NITG	Medical gas: nitrogen	
P□-MDGS-NOXG	Medical gas: nitrous oxide	
P□-MDGS-OXYG	Medical gas: pure O2	
P□-MDGS-PIPE	Medical gas: piping	
P□-MDGS-SAIR	Medical gas: scavenge air	
P□-MDGS-VACU	Medical gas: medical vacuum	
P□-SANR	Sanitary drainage systems	
P□-SANR-PIPE	Sanitary drainage systems: piping	
P□-SANR-FIXT	Sanitary drainage systems: plumbing fixtures	
P□-SANR-FLDR	Sanitary drainage systems: floor drains	
P□-SANR-RISR	Sanitary drainage systems: risers	
P□-SANR-EQPM	Sanitary drainage systems: equipment	
P□-SANR-VENT	Sanitary drainage systems: vent piping	●
P□-STRM	Storm drainage systems	●
P□-STRM-PIPE	Storm drainage systems: piping	●
P□-STRM-RISR	Storm drainage systems: risers	●
P□-STRM-RFDR	Storm drainage systems: roof drains	●

Mechanical Layer List

Mechanical Field Codes

The Layer Names shown below provide examples for the use of Major and Minor Group field codes for this discipline. See page CLG-8 for complete rules and options governing the use of Major and Minor Group field codes.

Mechanical Discipline Designators

Designator	Description	New
M	Mechanical	
MS	Mechanical Site	
MD	Mechanical Demolition	
MH	Mechanical HVAC	
MP	Mechanical Piping	
MI	Mechanical Instrumentation	
MJ	User-Defined	
MK	User-Defined	

Mechanical Layer List

Layer Name	Description	New
M□-ANNO	Annotation	●
M□-ANNO-DLTA	Annotation: revision delta	●
M□-ANNO-TTLB	Annotation: titleblock	●
M□-ANNO-TTLB-PROS	Annotation: titleblock: date/time/file name stamp	●
M□-BRIN	Brine systems	

Layer Name	Description	New
M□-BRIN-EQPM	Brine systems: equipment	
M□-BRIN-PIPE	Brine systems: piping	
M□-CHIM	Chimneys and stacks	
M□-CMPA	Compressed / processed air systems	
M□-CMPA-ANNO	Compressed / processed air systems: annotation	●

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Layer Name	Description	New
Mechanical (continued)		
M□-CMPA-EQPM	Compressed air systems: equipment	●
M□-CMPA-PIPE	Compressed air systems: piping	
M□-CMPA-PEQP	Compressed air systems: process equipment	
M□-CMPA-PPIP	Compressed air systems: process piping	
M□-CNDW	Condenser water systems	
M□-CNDW-ANNO	Condenser water systems: annotation	●
M□-CNDW-CONP	Condenser water systems: condensate piping	●
M□-CNDW-EQPM	Condenser water systems: equipment	
M□-CNDW-PIPE	Condenser water systems: piping	●
M□-CNDW-RETN	Condenser water systems: return	●
M□-CNDW-RETN-PIPE	Condenser water systems: return: piping	●
M□-CNDW-RETN-SKCH	Condenser water systems: return: sketch	●
M□-CNDW-SUPP	Condenser water systems: supply	●
M□-CNDW-SUPP-PIPE	Condenser water systems: supply: piping	●
M□-CNDW-SUPP-SKCH	Condenser water systems: supply: sketch	●
M□-CNDW-SYMB	Condenser water systems: symbol	●
M□-CONT	Controls and instrumentation	
M□-CONT-THER	Controls and instrumentation: thermostats	
M□-CONT-WIRE	Controls and instrumentation: low voltage wiring	
M□-CWTR	Chilled water systems	

Layer Name	Description	New
Mechanical (continued)		
M□-CWTR-ANNO	Chilled water systems: annotation	●
M□-CWTR-CONP	Chilled water systems: condensate piping	●
M□-CWTR-PIPE	Chilled water systems: piping	
M□-CWTR-EQPM	Chilled water systems: equipment	
M□-CWTR-RETN	Chilled water systems: return	●
M□-CWTR-RETN-PIPE	Chilled water systems: return: piping	●
M□-CWTR-RETN-SKCH	Chilled water systems: return: sketch	●
M□-CWTR-SUPP	Chilled water systems: supply	●
M□-CWTR-SUPP-PIPE	Chilled water systems: supply: piping	●
M□-CWTR-SUPP-SKCH	Chilled water systems: supply: sketch	●
M□-CWTR-SYMB	Chilled water systems: symbols	●
M□-DOMW	Domestic water systems	●
M□-DOMW-ANNO	Domestic water systems: annotation	●
M□-DOMW-MKUP	Domestic water systems: make-up water	●
M□-DUAL	Dual temperature systems	●
M□-DUAL-ANNO	Dual temperature systems: annotation	●
M□-DUAL-RETN	Dual temperature systems: return	●
M□-DUAL-RETN-PIPE	Dual temperature systems: return: piping	●
M□-DUAL-RETN-SKCH	Dual temperature systems: return: sketch	●
M□-DUAL-SUPP	Dual temperature systems: supply	●
M□-DUAL-SUPP-PIPE	Dual temperature systems: supply: piping	●
M□-DUAL-SUPP-SKCH	Dual temperature systems: supply: sketch	●

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Layer Name	Description	New
Mechanical (continued)		
M□-DUAL-SYMB	Dual temperature systems: symbols	●
M□-DUST	Dust and fume collection systems	
M□-DUST-DUCT	Dust and fume collection systems: ductwork	
M□-DUST-EQPM	Dust and fume collection systems: equipment	
M□-ELHT	Electric heat	
M□-ELHT-EQPM	Electric heat: equipment	
M□-ENER	Energy management systems	
M□-ENER-EQPM	Energy management systems: equipment	
M□-ENER-WIRE	Energy management systems: wiring	
M□-EXHS	Exhaust system	
M□-EXHS-CDFD	Exhaust system: ceiling diffusers	
M□-EXHS-DUCT	Exhaust system: ductwork	
M□-EXHS-EQPM	Exhaust system: equipment	
M□-EXHS-RFEQ	Exhaust system: rooftop equipment	
M□-FUEL	Fuel systems	
M□-FUEL-EQPM	Fuel systems: equipment	
M□-FUEL-GGEP	Fuel systems: gas general piping	
M□-FUEL-GGEP-ANNO	Fuel systems: gas general piping: annotation	●
M□-FUEL-GGEP-HPIP	Fuel systems: gas general piping: high pressure	●
M□-FUEL-GGEP-LPIP	Fuel systems: gas general piping: low pressure	●
M□-FUEL-GGEP-LQPG	Fuel systems: gas general piping: liquid petroleum gas	●

Layer Name	Description	New
Mechanical (continued)		
M□-FUEL-GGEP-MPIP	Fuel systems: gas general piping: medium pressure	●
M□-FUEL-GPRP	Fuel systems: gas process piping	
M□-FUEL-OPRP	Fuel systems: oil process piping	
M□-FUEL-OGEP	Fuel systems: oil general piping	
M□-FUEL-OGEP-ANNO	Fuel systems: oil general piping: annotation	●
M□-FUEL-OGEP-DISC	Fuel systems: oil general piping: discharge	●
M□-FUEL-OGEP-FLLW	Fuel systems: oil general piping: flow	●
M□-FUEL-OGEP-GAGE	Fuel systems: oil general piping: gauge	●
M□-FUEL-OGEP-RETN	Fuel systems: oil general piping: return	●
M□-FUEL-OGEP-SUPP	Fuel systems: oil general piping: supply	●
M□-FUEL-OGEP-VENT	Fuel systems: oil general piping: vent	●
M□-FUEL-RPIP	Fuel systems: return piping	●
M□-FUEL-SPIP	Fuel systems: supply piping	●
M□-FUME	Fume hood	
M□-FUME-DUCT	Fume hood: exhaust ductwork	●
M□-FUME-EQPM	Fume hood: equipment	
M□-GLYC	Glycol systems	●
M□-GLYC-ANNO	Glycol systems: annotation	●
M□-GLYC-RETN	Glycol systems: return	●
M□-GLYC-RETN-PIPE	Glycol systems: return: piping	●
M□-GLYC-RETN-SKCH	Glycol systems: return: sketch	●
M□-GLYC-SUPP	Glycol systems: supply	●

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Layer Name	Description	New
Mechanical (continued)		
M□-GLYC-SUPP-PIPE	Glycol systems: supply: piping	●
M□-GLYC-SUPP-SKCH	Glycol systems: supply: sketch	●
M□-GLYC-SYMB	Glycol systems: symbol	●
M□-HOTW	Hot water heating system	
M□-HOTW-ANNO	Hot water heating system: annotation	●
M□-HOTW-EQPM	Hot water heating system: equipment	
M□-HOTW-PIPE	Hot water heating system: piping	
M□-HOTW-RETN	Hot water heating system: return	●
M□-HOTW-RETN-PIPE	Hot water heating system: return: piping	●
M□-HOTW-RETN: SKCH	Hot water heating system: return: sketch	●
M□-HOTW-SUPP	Hot water heating system: supply	●
M□-HOTW-SUPP-PIPE	Hot water heating system: supply: piping	●
M□-HOTW-SUPP-SKCH	Hot water heating system: supply: sketch	●
M□-HOTW-SYMB	Hot water heating system: symbol	●
M□-HVAC	HVAC systems	
M□-HVAC-ANNO	HVAC systems: annotation	●
M□-HVAC-BOXD	HVAC systems: mixing box, dual duct	●
M□-HVAC-BOXS	HVAC systems: mixing box, single duct	●
M□-HVAC-CDFF	HVAC systems: ceiling diffusers	
M□-HVAC-CLDA	HVAC systems: cold air	●
M□-HVAC-CLDA-ANNO	HVAC systems: cold air: annotation	●
M□-HVAC-CLDA-DUCT	HVAC systems: cold air: ductwork	●

Layer Name	Description	New
Mechanical (continued)		
M□-HVAC-CLDA-EQPM	HVAC systems: cold air: ductwork equipment	●
M□-HVAC-CLDA-RSCH	HVAC systems: cold air: sketch line round or oval duct	●
M□-HVAC-CLDA-SECT	HVAC systems: cold air: ductwork section	●
M□-HVAC-CLDA-SIZE	HVAC systems: cold air: ductwork size	●
M□-HVAC-CLDA-SSCH	HVAC systems: cold air: sketch line rectangular duct	●
M□-HVAC-DMPR	HVAC systems: fire, smoke, volume damper	●
M□-HVAC-DOOR	HVAC systems: equipment doors	
M□-HVAC-EFAN	HVAC systems: equipment with electric fans	●
M□-HVAC-EPDU	HVAC systems: equipment with piping, ductwork and electricity	●
M□-HVAC-EPIP	HVAC systems: equipment with piping and electricity	●
M□-HVAC-EQPM	HVAC systems: equipment	
M□-HVAC-EXHS	HVAC systems: exhaust air	●
M□-HVAC-EXHS-ANNO	HVAC systems: exhaust air: annotation	●
M□-HVAC-EXHS-DUCT	HVAC systems: exhaust air: ductwork	●
M□-HVAC-EXHS-EQPM	HVAC systems: exhaust air: ductwork equipment	●
M□-HVAC-EXHS-GRIL	HVAC systems: exhaust air: grilles	●
M□-HVAC-EXHS-RSCH	HVAC systems: exhaust air: sketch line round or oval duct	●

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Layer Name	Description	New
Mechanical (continued)		
M□-HVAC-EXHS-SECT	HVAC systems: exhaust air: ductwork section	●
M□-HVAC-EXHS-SIZE	HVAC systems: exhaust air: ductwork size	●
M□-HVAC-EXHS-SSCH	HVAC systems: exhaust air: sketch line rectangular duct	●
M□-HVAC-HOTA	HVAC systems: hot air	●
M□-HVAC-HOTA-ANNO	HVAC systems: hot air: annotation	●
M□-HVAC-HOTA-DUCT	HVAC systems: hot air: ductwork	●
M□-HVAC-HOTA-EQPM	HVAC systems: hot air: ductwork equipment	●
M□-HVAC-HOTA-RSCH	HVAC systems: hot air: sketch line round or oval duct	●
M□-HVAC-HOTA-SECT	HVAC systems: hot air: ductwork section	●
M□-HVAC-HOTA-SIZE	HVAC systems: hot air: ductwork size	●
M□-HVAC-HOTA-SSCH	HVAC systems: hot air: sketch line rectangular duct	●
M□-HVAC-IDEN	HVAC systems: identification tags	●
M□-HVAC-ODFF	HVAC systems: other diffusers	
M□-HVAC-PIPE	HVAC systems: piping	●
M□-HVAC-RDFF	HVAC systems: return air diffusers	
M□-HVAC-RDFF-IDEN	HVAC systems: return air diffusers: identification tags	●
M□-HVAC-RETN	HVAC systems: return ductwork	
M□-HVAC-RETN-ANNO	HVAC systems: return ductwork: annotation	●
M□-HVAC-RETN-DUCT	HVAC systems: return ductwork: ductwork	●

Layer Name	Description	New
Mechanical (continued)		
M□-HVAC-RETN-EQPM	HVAC systems: return ductwork: equipment	●
M□-HVAC-RETN-RSCH	HVAC systems: return ductwork: sketch line round or oval duct	●
M□-HVAC-RETN-SECT	HVAC systems: return ductwork: ductwork section	●
M□-HVAC-RETN-SIZE	HVAC systems: return ductwork: ductwork size	●
M□-HVAC-RETN-SSCH	HVAC systems: return ductwork: sketch line rectangular duct	●
M□-HVAC-SUPP	HVAC systems: supply ductwork	
M□-HVAC-SUPP-ANNO	HVAC systems: supply ductwork: annotation	●
M□-HVAC-SUPP-DUCT	HVAC systems: supply ductwork: ductwork	●
M□-HVAC-SUPP-EQPM	HVAC systems: supply ductwork: equipment	●
M□-HVAC-SUPP-RSCH	HVAC systems: supply ductwork: sketch line round or oval duct	●
M□-HVAC-SUPP-SECT	HVAC systems: supply ductwork: ductwork section	●
M□-HVAC-SUPP-SIZE	HVAC systems: supply ductwork: ductwork size	●
M□-HVAC-SUPP-SSCH	HVAC systems: supply ductwork: sketch line rectangular duct	●
M□-HVAC-SDFF	HVAC systems: supply diffusers	
M□-HVAC-SDFF-IDEN	HVAC systems: supply diffusers: identification tags	●
M□-LGAS	Laboratory gas systems	

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Layer Name	Description	New
Mechanical (continued)		
M□-LGAS-EQPM	Laboratory gas systems: equipment	
M□-LGAS-PIPE	Laboratory gas systems: piping	
M□-MACH	Machine shop	
M□-MDGS	Medical gas	
M□-MDGS-CAIR	Medical gas: compressed air	
M□-MDGS-EQPM	Medical gas: equipment	
M□-MDGS-NITG	Medical gas: nitrogen	
M□-MDGS-NOXG	Medical gas: nitrous oxide	
M□-MDGS-OXYG	Medical gas: pure O2	
M□-MDGS-PIPE	Medical gas: piping	
M□-MDGS-SAIR	Medical gas: scavenge air	
M□-MDGS-VACU	Medical gas: medical vacuum	
M□-MKUP	Make-up air systems	
M□-MKUP-CDFF	Make-up air systems: ceiling diffusers	
M□-MKUP-DUCT	Make-up air systems: supply ducts	
M□-MKUP-EQPM	Make-up air systems: equipment	
M□-MPIP	Miscellaneous piping systems	●
M□-MPIP-ANNO	Miscellaneous piping systems: annotation	●
M□-MPIP-IDEN	Miscellaneous piping systems: identification tags	●
M□-MPIP-PIPE	Miscellaneous piping systems: piping	●
M□-MPIP-SYMB	Miscellaneous piping systems: symbols	●
M□-NGAS	Natural gas systems	
M□-NGAS-EQPM	Natural gas systems: equipment	
M□-NGAS-PIPE	Natural gas systems: piping	

Layer Name	Description	New
Mechanical (continued)		
M□-PROC	Process systems	
M□-PROC-EQPM	Process systems: equipment	
M□-PROC-PIPE	Process systems: piping	
M□-RAIR	Relief air systems	
M□-RCOV	Energy recovery systems	
M□-RCOV-EQPM	Energy recovery systems: equipment	
M□-RCOV-PIPE	Energy recovery systems: piping	
M□-REFG	Refrigeration systems	
M□-REFG-ANNO	Refrigeration systems: annotation	●
M□-REFG-DISC	Refrigeration systems: discharge	●
M□-REFG-EQPM	Refrigeration systems: equipment	
M□-REFG-PIPE	Refrigeration systems: piping	
M□-REFG-RETN	Refrigeration systems: return	●
M□-REFG-SUPP	Refrigeration systems: supply	●
M□-SMOK	Smoke extraction systems	
M□-SMOK-CDFF	Smoke extraction systems: ceiling diffusers	
M□-SMOK-DUCT	Smoke extraction systems: duct	
M□-SMOK-EQPM	Smoke extraction systems: equipment	
M□-SPCL	Special systems	
M□-SPCL-EQPM	Special systems: equipment	
M□-SPCL-PIPE	Special systems: piping	
M□-STEM	Steam systems	
M□-STEM-ANNO	Steam systems: annotation	●
M□-STEM-BLBD	Steam systems: boiler blow down piping	●

Layer Name	Description	New
Mechanical (continued)		
M□-STEM-BLBD-PIPE	Steam systems: boiler blow down piping: piping	●
M□-STEM-CONP	Steam systems: condensate piping	
M□-STEM-CONP-PIPE	Steam systems: condensate piping: piping	●
M□-STEM-CONP-SKCH	Steam systems: condensate piping: sketch	●
M□-STEM-EQPM	Steam systems: equipment	
M□-STEM-HPIP	Steam systems: high-pressure steam piping	
M□-STEM-HPIP-PIPE	Steam systems: high-pressure steam piping: piping	●
M□-STEM-HPIP-SKCH	Steam systems: high-pressure steam piping: sketch	●
M□-STEM-LPIP	Steam systems: low-pressure steam piping	
M□-STEM-LPIP-PIPE	Steam systems: low-pressure steam piping: piping	●
M□-STEM-LPIP-SKCH	Steam systems: low-pressure steam piping: sketch	●
M□-STEM-MPIP	Steam systems: medium-pressure steam piping	
M□-STEM-MPIP-PIPE	Steam systems: medium-pressure steam piping: piping	●
M□-STEM-MPIP-SKCH	Steam systems: medium-pressure steam piping: sketch	●
M□-STEM-SYMB	Steam systems: symbols	●
M□-TEST	Test equipment	

Electrical Layer List

Electrical Field Codes

The Layer Names shown below provide examples for the use of Major and Minor Group field codes for this discipline. See page CLG-8 for complete rules and options governing the use of Major and Minor Group field codes.

Electrical Layer List

Layer Name	Description	New
E□-□□□□-1LIN	Any major group: one-line diagrams	
E□-□□□□-RISR	Any major group: riser diagram	
E□-ALRM	Alarm system	
E□-AUXL	Auxiliary systems	

Electrical Discipline Designators

Designator	Description	New
E	Electrical	
ES	Electrical Site	
ED	Electrical Demolition	
EP	Electrical Power	
EL	Electrical Lighting	
EI	Electrical Instrumentation	
ET	Electrical Telecommunications	
EY	Electrical Auxiliary Systems	
EJ	User-Defined	
EK	User-Defined	

Layer Name	Description	New
E□-BELL	Bell system	
E□-CABL	Cable system	●
E□-CABL-ANNO	Cable system: annotation	●
E□-CABL-ANNO-KEYN	Cable system: annotation: keynotes	●

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Layer Name	Description	New
Electrical (continued)		
E□-CABL-ANNO-NOTE	Cable system: annotation: notes	●
E□-CABL-COAX	Cable system: coax cable	●
E□-CABL-FIBR	Cable system: fiber optics cable	●
E□-CABL-MULT	Cable system: multi-conductor cable	●
E□-CABL-REVC	Cable system: revision clouds	●
E□-CABL-REVS	Cable system: revisions	●
E□-CABL-TRAY	Cable system: cabletray and wireways	●
E□-CCTV	Closed-circuit TV	
E□-CLOK	Clock system	
E□-CLOK-ANNO	Clock system: annotation	●
E□-CLOK-ANNO-KEYN	Clock system: annotation: keynotes	●
E□-CLOK-ANNO-NOTE	Clock system: annotation: notes	●
E□-CLOK-CIRC	Clock system: circuits	●
E□-CLOK-CLNG	Clock system: ceiling-mounted	●
E□-CLOK-CNMB	Clock system: circuit numbers	●
E□-CLOK-EQPM	Clock system: equipment	●
E□-CLOK-FLOR	Clock system: floor-mounted	●
E□-CLOK-IDEN	Clock system: identification and text	●
E□-CLOK-REVC	Clock system: revision clouds	●
E□-CLOK-REVS	Clock system: revisions	●
E□-CLOK-WALL	Clock system: wall-mounted	●
E□-COMM	Telephone, communication outlets	
E□-COMM-ANNO	Telephone, communication outlets: annotation	●
E□-COMM-ANNO-KEYN	Telephone, communication outlets: annotation: keynotes	●

Layer Name	Description	New
Electrical (continued)		
E□-COMM-ANNO-NOTE	Telephone, communication outlets: annotation: notes	●
E□-COMM-CIRC	Telephone, communication outlets: circuits	●
E□-COMM-CLNG	Telephone, communication outlets: ceiling-mounted	●
E□-COMM-CNMB	Telephone, communication outlets: circuit numbers	●
E□-COMM-EQPM	Telephone, communication outlets: equipment	●
E□-COMM-IDEN	Telephone, communication outlets: identification and text	●
E□-COMM-REVC	Telephone, communication outlets: revision clouds	●
E□-COMM-REVS	Telephone, communication outlets: revisions	●
E□-COMM-WALL	Telephone, communication outlets: wall-mounted	●
E□-CTRL	Control systems	
E□-CTRL-DEVC	Control systems: devices	
E□-CTRL-WIRE	Control systems: wiring	
E□-DATA	Data outlets	
E□-DATA-ANNO	Data outlets: annotation	●
E□-DATA-ANNO-KEYN	Data outlets: annotation: keynotes	●
E□-DATA-ANNO-NOTE	Data outlets: annotation: notes	●
E□-DATA-CIRC	Data outlets: circuits	●
E□-DATA-CLNG	Data outlets: ceiling-mounted	●
E□-DATA-CNMB	Data outlets: circuit numbers	●
E□-DATA-EQPM	Data outlets: equipment	●

Layer Name	Description	New
Electrical (continued)		
E□-DATA-FLOR	Data outlets: floor-mounted	●
E□-DATA-IDEN	Data outlets: identification and text	●
E□-DATA-REVC	Data outlets: revision clouds	●
E□-DATA-REVS	Data outlets: revisions	●
E□-DATA-WALL	Data outlets: wall-mounted	●
E□-DIAG	Diagrams	●
E□-DIAG-ANNO	Diagrams: annotation	●
E□-DIAG-ANNO-KEYN	Diagrams: annotation: keynotes	●
E□-DIAG-ANNO-NOTE	Diagrams: annotation: notes	●
E□-DIAG-BKRS	Diagrams: breakers	●
E□-DIAG-BUSS	Diagrams: bus duct	●
E□-DIAG-ENCL	Diagrams: equipment enclosures	●
E□-DIAG-EQPM	Diagrams: equipment	●
E□-DIAG-FEED	Diagrams: feeders	●
E□-DIAG-FLOR	Diagrams: floor lines	●
E□-DIAG-GRND	Diagrams: grounding	●
E□-DIAG-REVC	Diagrams: revision clouds	●
E□-DIAG-REVS	Diagrams: revisions	●
E□-DIAG-SWCH	Diagrams: switches	●
E□-DIAG-XFMR	Diagrams: transformers	●
E□-DICT	Central dictation system	
E□-DICT-ANNO	Central dictation system: annotation	●
E□-DICT-ANNO-KEYN	Central dictation system: annotation: keynotes	●
E□-DICT-ANNO-NOTE	Central dictation system: annotation: notes	●
E□-DICT-CIRC	Central dictation system: circuits	●

Layer Name	Description	New
Electrical (continued)		
E□-DICT-CLNG	Central dictation system: ceiling-mounted	●
E□-DICT-CNMB	Central dictation system: circuit numbers	●
E□-DICT-EQPM	Central dictation system: equipment	●
E□-DICT-IDEN	Central dictation system: identification and text	●
E□-DICT-REVC	Central dictation system: revision clouds	●
E□-DICT-REVS	Central dictation system: revisions	●
E□-DICT-WALL	Central dictation system: wall-mounted	●
E□-FIRE	Fire alarm, fire extinguishers	
E□-FIRE-ANNO	Fire alarm, fire extinguishers: annotation	●
E□-FIRE-ANNO-KEYN	Fire alarm, fire extinguishers: annotation: keynotes	●
E□-FIRE-ANNO-NOTE	Fire alarm, fire extinguishers: annotation: notes	●
E□-FIRE-CIRC	Fire alarm, fire extinguishers: circuits	●
E□-FIRE-CLNG	Fire alarm, fire extinguishers: ceiling-mounted	●
E□-FIRE-CNMB	Fire alarm, fire extinguishers: circuit numbers	●
E□-FIRE-EQPM	Fire alarm, fire extinguishers: equipment	●
E□-FIRE-IDEN	Fire alarm, fire extinguishers: identification and text	●
E□-FIRE-REVC	Fire alarm, fire extinguishers: revision clouds	●

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Layer Name	Description	New
Electrical (continued)		
E□-FIRE-REVS	Fire alarm, fire extinguishers: revisions	●
E□-FIRE-WALL	Fire alarm, fire extinguishers: wall-mounted	●
E□-GRND	Ground system	
E□-GRND-ANNO	Ground system: annotation	●
E□-GRND-ANNO-KEYN	Ground system: annotation: keynotes	●
E□-GRND-ANNO-NOTE	Ground system: annotation: notes	●
E□-GRND-CIRC	Ground system: circuits	
E□-GRND-CLNG	Ground system: ceiling-mounted	●
E□-GRND-CNMB	Ground system: circuit numbers	●
E□-GRND-DIAG	Ground system: diagram	
E□-GRND-EQPM	Ground system: equipment	●
E□-GRND-IDEN	Ground system: identification and text	●
E□-GRND-REFR	Ground system: reference	
E□-GRND-REVC	Ground system: revision clouds	●
E□-GRND-REVS	Ground system: revisions	●
E□-GRND-WALL	Ground system: wall-mounted	●
E□-GRND-EQUI	Ground system: equipotential	
E□-INST	Instrumentation system	●
E□-INST-ANNO	Instrumentation system: annotation	●
E□-INST-ANNO-KEYN	Instrumentation system: annotation: keynotes	●
E□-INST-ANNO-NOTE	Instrumentation system: annotation: notes	●
E□-INST-CIRC	Instrumentation system: circuits	●
E□-INST-CLNG	Instrumentation system: ceiling-mounted	●

Layer Name	Description	New
Electrical (continued)		
E□-INST-CNMB	Instrumentation system: circuit numbers	●
E□-INST-EQPM	Instrumentation system: equipment	●
E□-INST-IDEN	Instrumentation system: identification and text	●
E□-INST-REVC	Instrumentation system: revision clouds	●
E□-INST-REVS	Instrumentation system: revisions	●
E□-INST-WALL	Instrumentation system: wall-mounted	●
E□-INTC	Intercom system	
E□-LEGN	Legend of symbols	
E□-LITE	Lighting	
E□-LITE-ANNO	Lighting: annotation	●
E□-LITE-ANNO-KEYN	Lighting: annotation: keynotes	●
E□-LITE-ANNO-NOTE	Lighting: annotation: notes	●
E□-LITE-CIRC	Lighting: circuits	
E□-LITE-CIRC-CRIT	Lighting: circuits: critical	●
E□-LITE-CIRC-EMER	Lighting: circuits: emergency	●
E□-LITE-CIRC-NUMB	Lighting: circuits: numbers	
E□-LITE-CLNG	Lighting: ceiling-mounted	
E□-LITE-CLNG-CRIT	Lighting: ceiling-mounted: critical	●
E□-LITE-CLNG-EMER	Lighting: ceiling-mounted: emergency	●
E□-LITE-CLNG-EXIT	Lighting: ceiling-mounted: exit	●
E□-LITE-CNMB	Lighting: circuit numbers	●
E□-LITE-CNMB-CRIT	Lighting: circuit numbers: critical	●
E□-LITE-CNMB-EMER	Lighting: circuit numbers: emergency	●
E□-LITE-EMER	Lighting: emergency	
E□-LITE-EQPM	Lighting: equipment	●

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Layer Name	Description	New
Electrical (continued)		
E□-LITE-EQPM-CRIT	Lighting: equipment: critical	●
E□-LITE-EQPM-EMER	Lighting: equipment: emergency	●
E□-LITE-EXIT	Lighting: exit	
E□-LITE-EXTR	Lighting: exterior and site	
E□-LITE-FLOR	Lighting: floor-mounted	
E□-LITE-OTLN	Lighting: outline for background	
E□-LITE-SPCL	Lighting: special	
E□-LITE-REVC	Lighting: revision clouds	●
E□-LITE-REVS	Lighting: revisions	●
E□-LITE-ROOF	Lighting: roof lighting	
E□-LITE-WALL	Lighting: wall-mounted	
E□-LITE-WALL-CRIT	Lighting: wall-mounted: critical	●
E□-LITE-WALL-EMER	Lighting: wall-mounted: emergency	●
E□-LITE-WALL-EXIT	Lighting: wall-mounted: exit	●
E□-LITE-SWCH	Lighting: switches	
E□-LITE-SWCH-CRIT	Lighting: switches: critical	●
E□-LITE-SWCH-EMER	Lighting: switches: emergency	●
E□-LITE-IDEN	Lighting: identification and text	
E□-LITE-IDEN-CRIT	Lighting: identification and text: critical	●
E□-LITE-IDEN-EMER	Lighting: identification and text: emergency	●
E□-LITE-JBOX	Lighting: junction box	
E□-LTNG	Lightning protection system	
E□-LTNG-ANNO	Lightning protection system: annotation	●
E□-LTNG-ANNO-KEYN	Lightning protection system: annotation: keynotes	●

Layer Name	Description	New
Electrical (continued)		
E□-LTNG-ANNO-NOTE	Lightning protection system: annotation: notes	●
E□-LTNG-CIRC	Lightning protection system: circuits	●
E□-LTNG-CLNG	Lightning protection system: ceiling-mounted	●
E□-LTNG-CNMB	Lightning protection system: circuit numbers	●
E□-LTNG-EQPM	Lightning protection system: equipment	●
E□-LTNG-IDEN	Lightning protection system: identification and text	●
E□-LTNG-REVC	Lightning protection system: revision clouds	●
E□-LTNG-REVS	Lightning protection system: revisions	●
E□-LTNG-WALL	Lightning protection system: wall-mounted	●
E□-NURS	Nurse call system	
E□-NURS-ANNO	Nurse call system: annotation	●
E□-NURS-ANNO-KEYN	Nurse call system: annotation: keynotes	●
E□-NURS-ANNO-NOTE	Nurse call system: annotation: notes	●
E□-NURS-CIRC	Nurse call system: circuits	●
E□-NURS-CLNG	Nurse call system: ceiling-mounted	●
E□-NURS-CNMB	Nurse call system: circuit numbers	●
E□-NURS-EQPM	Nurse call system: equipment	●
E□-NURS-FLOR	Nurse call system: floor-mounted	●
E□-NURS-IDEN	Nurse call system: identification and text	●
E□-NURS-REVC	Nurse call system: revision clouds	●

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Layer Name	Description	New
Electrical (continued)		
E□-NURS-REVS	Nurse call system: revisions	●
E□-NURS-WALL	Nurse call system: wall-mounted	●
E□-PGNG	Paging system	
E□-POWR	Power	
E□-POWR-ANNO	Power: annotation	●
E□-POWR-ANNO-KEYN	Power: annotation: keynotes	●
E□-POWR-ANNO-NOTE	Power: annotation: notes	●
E□-POWR-BUSW	Power: busways	
E□-POWR-CABL	Power: cable trays	
E□-POWR-CIRC	Power: circuits	
E□-POWR-CIRC-CRIT	Power: circuits: critical	●
E□-POWR-CIRC-NUMB	Power: circuits: numbers	
E□-POWR-CLNG	Power: ceiling-mounted	●
E□-POWR-CLNG-CRIT	Power: ceiling-mounted: critical	●
E□-POWR-CNMB	Power: circuit numbers	●
E□-POWR-CNMB-CRIT	Power: circuit numbers: critical	●
E□-POWR-DEVC	Power: devices	
E□-POWR-EQPM	Power: equipment	
E□-POWR-EQPM-CRIT	Power: equipment: critical	●
E□-POWR-EXTR	Power: exterior	●
E□-POWR-FEED	Power: feeders	
E□-POWR-FLOR	Power: floor-mounted	●
E□-POWR-FLOR-CRIT	Power: floor-mounted: critical	●
E□-POWR-IDEN	Power: identification and text	●
E□-POWR-JBOX	Power: junction box	
E□-POWR-PANL	Power: panels	

Layer Name	Description	New
Electrical (continued)		
E□-POWR-SWBD	Power: switchboards	
E□-POWR-URAC	Power: underfloor raceways	
E□-POWR-UCPT	Power: under-carpet wiring	
E□-POWR-ROOF	Power: roof	
E□-POWR-REVC	Power: revision clouds	●
E□-POWR-REVS	Power: revisions	●
E□-POWR-WALL	Power: wall-mounted	●
E□-POWR-WALL-CRIT	Power: wall-mounted: critical	●
E□-SERT	Security	
E□-SERT-ANNO	Security: annotation	●
E□-SERT-ANNO-KEYN	Security: annotation: keynotes	●
E□-SERT-ANNO-NOTE	Security: annotation: notes	●
E□-SERT-CIRC	Security: circuits	●
E□-SERT-CLNG	Security: ceiling-mounted	●
E□-SERT-CNMB	Security: circuit numbers	●
E□-SERT-EQPM	Security: equipment	●
E□-SERT-FLOR	Security: floor-mounted	●
E□-SERT-IDEN	Security: identification and text	●
E□-SERT-REVC	Security: revision clouds	●
E□-SERT-REVS	Security: revisions	●
E□-SERT-WALL	Security: wall-mounted	●
E□-SITE	Site	
E□-SITE-UNDR	Site: underground lines	
E□-SITE-POLE	Site: electric poles	
E□-SITE-OVHD	Site: overhead lines	
E□-SOUN	Sound/PA system	
E□-TVAN	TV antenna system	

Layer Name	Description	New
Electrical (continued)		
E□-TVAN-ANNO	TV antenna system: annotation	●
E□-TVAN-ANNO-KEYN	TV antenna system: annotation: keynotes	●
E□-TVAN-ANNO-NOTE	TV antenna system: annotation: notes	●
E□-TVAN-CIRC	TV antenna system: circuits	●
E□-TVAN-CLNG	TV antenna system: ceiling-mounted	●
E□-TVAN-CNMB	TV antenna system: circuit numbers	●
E□-TVAN-EQPM	TV antenna system: equipment	●
E□-TVAN-IDEN	TV antenna system: identification and text	●
E□-TVAN-REVC	TV antenna system: revision clouds	●
E□-TVAN-REVS	TV antenna system: revisions	●
E□-TVAN-WALL	TV antenna system: wall-mounted	●