

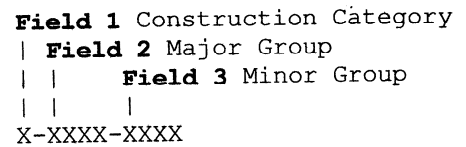
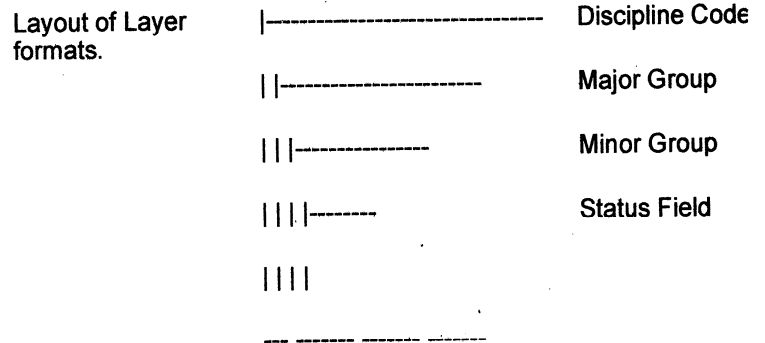
The AIA CAD Layer Format – Methodology

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The CAD Layer Guidelines are organized as hierarchy. This arrangement accommodates expansion and addition of user-defined extensions to the layer list. Layer names are alphanumeric and use abbreviations that are easy to remember. This legibility is particularly important when CAD files are distributed among architects, consultants, and clients.

Codes, Groups and Fields

The following section details the methodology behind the layer name conventions and their general use.



.Layer Name Examples

The following section gives examples of the use of the various groups.

Layer name with Major group and Minor Group. (Status Field not used) A - Wall - Full

Layer name with Major Group and Status Field. (Major Group not used) A - Wall - Demc

Simple layer name with only Major Group. (Minor Group and Status Field not used) A - Wall

Layer name with Major Group, Minor Group, and Status Field. A - Wall - Full - Dem

Explanation of Discipline Code, Groups and Fields

The following section details the use of Discipline Code, Groups and Fields.

Discipline Code Discipline is the primary method of classification for layer names: The discipline code is intended primarily to identify the author of the graphic information. Thus, a structural column placed by an architect would be A-COLS rather than S-COLS. This accommodates the use of "I" as a discipline code, allowing doors and walls to be recognized in both the Architectural and the Interiors disciplines.

The Discipline Code is a two-character field with the second character either a hyphen or a user-defined modifier. The discipline codes are listed below.

A	Architectural
C	Civil
E	Electrical
F	Fire Protection
G	General
H	Hazardous Materials
I	Interiors
L	Landscape
M	Mechanical
P	Plumbing
Q	Equipment
R	Resource
S	Structural
T	Telecommunications
X	Other
Z	Contractor/shop Drawings

Major Group The Major Group designation identifies the building system. This field must contain four characters. For example, a drawing might contain the following layer:

X-XXXX-XXXX

A-Wall	Walls
A-Door	Doors
A-Lite	Lighting Fixtures
A-Fixt	Plumbing Fixtures

Minor Group

This is an *optional*, four-character field for further differentiation of Major Groups. For example, A-WALL PART indicates architecture, new, wall partial height. following modifiers are defined for use in the Minor G field.

X-XXXX-XXXX

Iden	Identification
Patt	Texture & Hatch Patterns
Part	Partial Height Part

Status Field

The Status Field is an optional four-character designa that differentiates new construction from remodeling ; existing to remain. It is only needed when phases of v must be differentiated. Defined values for these fields listed below.

The Status Field is always placed as the last field of t layer name. In a simple layer name such as A-WALL, Status Field would be the third field (A-WALL-DEMO); more detailed layer name, the Status Field would be fourth field (A-WALL-FULL-DEMO).

X-XXXX-XXXX or X-XXXX-XXXX-XXXX

Neww	New Work
Exst	Existing To Remai
Demo	Existing To Demoli
Temp	Temporary Work
Move	Items To Be Move

A remodeling plan might contain the following layers

A-Wall-Neww	New Walls
A-Wall-Demo	Walls To Be Demolished

A-Wall-Exst

Existing Walls T
Remain

Annotation Annotation comprises *text, dimensions, sheet borders*. Detail references, and other elements on CAD drawings that don't represent *physical aspects* of a building. The major group "ANNO" designate annotation.

Annotation can be placed in both paper and model space (Model files/Titleblock files). Dimensions, symbols, and keynotes would typically be placed in model space. Legends, schedules, borders, title blocks would typically be placed in paper space. The same layer names would be used in both cases

Types of annotation are as follows:

* represents Discipline Code

*-Anno-Dims	Dimensions
*-Anno-Keyn	Keynotes
*-Anno-Legn	Legends And Schedules
*-Anno-Note	Notes
*-Anno-Nplt	Construction Lines, Non-Plotting Information
*-Anno-Redl	Redline
*-Anno-Revs	Revisions
*-Anno-Symb	Symbols
*-Anno-Text	Text
*-Anno-Ttlb	Border And Title Block

User-Definable Fields

The Minor Group field can be defined by the user, allowing additional layers to be added to accommodate special project requirements. This should only be done if a desired layer does not apply to a project. Some examples of layers using a user-defined Minor Group field are as follows.

A-Door-Metl	Metal Doors
A-Wall-Strc	Walls To Structure

In contrast to the first edition of "CAD Layer Guidelines", this edition does not incorporate a fourth level of hierarchy for the user-defined layers. In other words, users should use a layer such as A-DOOR-MIDN instead of A-DOOR-METL-IDEN.

Layers for Elevations,

Special Groups of layers within each discipline are defined for

Details, Sections, and Vertical Drawings

elevations, sections, details, and three-dimensional views. Define layer groups are as follows. The Minor Group "*-ELEV" can be added to any Major Group layer (A-WALL, A-DOOR, Etc.)

* represents Discipline Code

Elevations

*-Elev	Elevations
*-Elev-Iden	Component Identification Numbers
*-Elev-Otln	Building Outlines
*-Elev-Patt	Textures And Hatch Patt With Different Pens

Sections

*-Sect	Sections
*-Sect-Iden	Component Identification Numbers
*-Sect-Mbnd	Material Beyond Section
*-Sect-Mcut	Material Cut By Section
*-Sect-Patt	Textures And Hatch Patt With Different Pens

Details

*-Detl	Details
*-Detl-Iden	Component Identification Numbers
*-Detl-Mbnd	Material Beyond Section
*-Detl-Mcut	Material Cut By Section
*-Detl-Patt	Textures And Hatch Patt With Different Pens

Listing of Groups and Codes

List of acceptable Major Groups Codes.

No Customization is allowed.

Major Code	Description	Major Code	Description
Abt	Anchor Bolt	Irrg	Irrigation
Accs	Access	Jois	Joists
Acid	Acid	Lgas	Labratory Gas
Anno	Annotation	Lite	Lighting
Area	Area	Ltng	Lightning Protec

Beam	Beam	Mach	Machine Shop
Bldg	Building	Mdgs	Medical Gas
Brin	Brine Systems	Metl	Miscellaneous M
Cabl	Cable	Ngas	Natural Gas
Chim	Chimney	Nurs	Nursing
Cing	Ceiling	Pgng	Paging Systems
Cmpa	Compressed Air Systems	Pipe	Pipe
Co2s	CO2 Systems	Pkng	Parking
Code	Code	Plan	Plans
Cols	Columns	Plnt	Plant
Comm	Communications	Powr	Power
Cont	Controls	Proc	Process
Cwtr	Chilled Water	Prop	Property
Deck	Floor Decks	Prot	Protection
Detl	Detail	Rcov	Recover
Domw	Domestic Water	Refg	Refrigeration
Dust	Dust	Risr	Risers
Elev	Elevation	Road	Road
Elht	Electric Heat	Roof	Roof
Ener	Energy Management	Sanr	Sanitary
Eqpm	Equipment	Sect	Sections
Evac	Evacuation	Sert	Security
Exhs	Exhaust	Site	Site
Fire	Fire	Slab	Slabs
Fixt	Fixture	Soun	Sound
Flor	Floor	Spcl	Special
Fndn	Foundation	Sprn	Sprinklers
Fuel	Fuel	Stan	Standpipe System
Furn	Furniture	Stem	Steam
Glaz	Glass	Strm	Storm
Grid	Grids	Test	Test

Grnd	Grouding	Topo	Topography
Haln	Halon	Tvan	Television Anter
Hotw	Hot water	Walk	Walks
Hvac	H.V.A.C	Wall	Walls
Igas	Inert Gas	Watr	Water
		Xref	External Referer

List of possible Minor Group Codes. To be used when possible. Limited customization allowed.

##	Pen#, Xref#, etc.	Chil	Chilled Water
2way	2-way	Circ	Circuitting
Aban	Abandoned	City	City
Accs	Equipment Access	Clhd	Sprinkler head (Ceiling)
Adag	Disabled Access Guides	Cntr	Center Lines
Alrm	Fire Alarm	Coax	Coax
Appl	Appliances	Code	Code Informatio
Area	Area Calculations	Cols	Columns
Asbs	Asbestos	Comp	Condensate Pip
Bbl#	Basketball Bleachers	Cons	Construction Co
Beds	Beds	Cpip	Compressed Air Piping
Blr1	Bleachers - Closed Partitions	Cprf	Copper Feeder
Blr2	Bleachers - Opened Position	Cprh	Copper Horizont
Bnch	Benchmarks	Cpr	Copper Riser
Bore	Test Borings	Curb	Curb
Brdg	Bridges	Data	Data
Brng	Bearing and Distance Labels	Date	Date Stamp
Busw	Busways	Deck	Decks
Cabl	Cable Trays	Desc	Descriptive Text
Cars	Graphic Illustration of	Dims	Dimensions

	Cars		
Case	Casework	Dran	Parking Lot Drain Slope
Catv	Cable TV	Duct	Exhaust System Ductwork, Hvac.
Cdff	Hvac Ceiling Diffusers	Edge	Edge of Slab
Deqp	Compressed Air Equipment	Elev	Elevations, Elev text, 3D, etc.
Char	Chairs and other Seating	Hpip	High Pressure S Piping
Emer	Emergency Lighting Devices	Hral	Stair and Balcor Handrails and G Rails
Eqpm	Equipment	Hvel	Electric Lines - High Voltage
Esmt	Easements, Row, and Setback Lines	Hvsl	Street Lights Line High Voltage
Etcx	Ethernet 10base2 Coax	Hydr	Hydrants
Extr	Exterior	Iden	Miscellaneous Annotation Symbols & Text
Feed	Feeders	Igas	Inert Gas
Fenc	Fencing	Intr	Interior
Fh1h	One Hour Fire Wall	Irrg	Irrigation
Fh2h	Two Hour Fire Wall	Isld	Parking Islands
File	File Cabinets	Jack	Data/Telephone Jacks
Fire	Fire Wall	Jamb	Door and Window
Fixd	Fixed	Jbox	Junction Box
Fixt	Fixtures	Join	Slab Control Joints
Fldr	Floor Drains	Keyn	Key Notes
Flor	Floor	Kple	Panel Electric Line
Fnsh	Finish	Kpsg	Keys

Free	Freestanding	Legn	Schedule, Leger Table Border
Full	Full	Less	Asbestos Quant Less Than
Ggep	Fuel Gas General Piping	Levl	Level Changes, Ramps, Pits, an Depressions
Gopr	Fuel Oil Process Piping	Lpip	Low Pressure S Piping
Grid	Grid	Lvel	Electric Lines - L Voltage
Grnd	Bushes, Ground Covers and Vines	Lvsl	Street Lights Lin Low Voltages
Grrp	Fuel Gas Process Piping	Main	Water Main
Grtr	Greater	Mbnd	Material Beyond Section Cut
Head	Door and Window Headers	Mcut	Material Cut by Sections
Metr	Meters and Valves	Peop	People
Mhol	Manholes	Peqp	Process Air Equipment
Misc	Miscellaneous	Pfix	Plumbing Fixture
Mmff	Multi-Mode Fiber Feeder	Pile	Piles, Drilled Pie
Mmfh	Multi-Mode Fiber	Pipe	Piping
Mmfr	Multi-Mode Fiber Riser	Plan	Plans
Move	Movable	Play	Play Structures
Nicn	Not in Contact	Plnt	Plants
Note	Notes	Pnls	Furniture Syster Panels
Nplt	Non-Plotting Information	Pole	Electric Poles ar Street Lights on Poles
Numb	Power Circuit Numbers	Pool	Pools and Spas
Occp	Occupant or Employee	Powr	Furniture Syster Power

	Names		
Odff	Other Diffusers	Ppip	Process Air Piping
Ogep	Fuel Oil General Piping	Prht	Partial Height
Open	Ceiling and Roof	Rais	Raised
Othd	Sprinkler Head (Other)	Rbar	Re-bar
Otlr	Outlines	Rdff	Return Air Diffus
Ovhd	Overhead Communication Lines	Rfeq	Rooftop Exhaust Equipment
Ovhd	Overhead	Risr	Risers
P#	Detail Outlines or Detail Using Different Pens or Colors	Roof	Roof
Panl	Power Panels	Rtwl	Retaining Walls
Pat(1-9)	Textures and Hatch Patterns, Certain Construction Lines (1-9)	Satv	Satellite TV
Pave	Roads That Have No Curb and Gutter but Are Pave	Sdff	Supply Diffusers
Serv	Service	Tank	Tanks
Sign	Signage	Tees	Main Tees
Sill	Sills	Tele	Telephone
Site	Site	Textl	Large Text
Slev	Sleeves Under University Roads	Texts	Small Text
Smff	Single-Mode Fiber-Feeder	Text	Legends and Schedules Text
Smfh	Single-Mode Fiber, Horizontal	Text	Legends and Schedules Text
Smfr	Single-Mode Fiber Riser	Ther	Thermostats
Smok	Smoke Detectors or Heat Sensors	Tptn	Toilet Partitions

Spcl	Architectural Specialties	Ttbl	Title Blocks
Spkl	Irrigation Sprinklers	Tunn	Tunnels
Spot	Spot Elevations	Turf	Lawn Areas
Sprt	Playing Fields and Text	Ucpt	Under Carpet W
Step	Steps	Undr	Underground
Stor	Storage	Unpv	Roads That Are Unpaved
Strp	Floor and Parking Lot Striping and Handicapped Symbol	Urac	Under Floor Raceways
Strs	Stairs, Treads, Escalators, and Ladders	Util	Utilities
Susp	Suspended Elements	Vbl#	Floor Striping fo Volleyball Courts
Swbd	Switchboards	Vhcx	Catv Video Fees
Swbt	Swb	Vprt	Paper Space Viewports
Swch	Switches	Vrcx	Catv Video, Fee Riser
Swng	Door Swing Arc	Wdwk	Architectural Woodwork (Field Built Cabinets and Counters)
Symb	Symbols	Wire	Wiring

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