AUS DIGITAL GOVERNANCE

Appendix G - Name Codes

May 05, 2023
Version 1.0

Austin-Bergstrom International Airport

HNTB

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Content highlighted in yellow within this document are yet to be determined. Discussion with AUS stakeholders is required to generate the standards for these items. The outcome will be documented and provided in a future version of this manual as it becomes finalized.

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Table of Contents

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SUMMARY OF REVISIONS:

V 1.0 – Original issue date 05 May 2023

While this document is intended as a reference that can be cited in agreements such as contracts and BIM Execution Plans, it is recognized that the use of the Name Codes in design and construction is evolving. To accommodate this evolution this document will be updated periodically in clearly identifiable versions. A project can adopt a specific version and then has the option to remain with that version or update if an updated version is published. Initially the target update frequency is annually, but that may change in the future. In addition, interim updates may be issued if needed.

Table 0.01 summarizes changes made to the Name Codes from the previous approved version. Information displayed is for reference only.

TABLE 0.01: REVISION HISTORY

Revision	Date	Author	Approver	Description
1.0	05MAY23	HNTB		First Version of Naming Codes

INTRODUCTION

The Name Codes provide the requirements for structuring names throughout the digital files on AUS projects.

PURPOSE OF NAME CODES

The Name Codes establishes the naming structure that must be met to produce deliverables and hand over digital files in a format for efficient incorporation into the AUS system.

The Name Codes is a live document and should be maintained by the BIM Manager. External Companies are required to contact the AUS Planning and Development Project Manager or BIM department for the current version and referenced documentation.

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CHAPTER 1: CODES

1.01: DISCIPLINE CODES

Discipline codes specify the department responsible for the content within the file, sheet, layer, or reference on a project. Codes can consist of either one or two characters. Two-character codes can be used to provide additional information related to the overall one-character code. Tables 1.01 and 1.02 contain the one- and two-character codes approved by AUS.

TABLE 1.01: ONE CHARACTER DISCIPLINE CODES

Discipline Code	Description
A	Architectural
B	Geotechnical
C	Civil
D	Baggage Handling System (BHS)
E	Electrical
F	Fire Protection
G	General
H	Hazardous Material
I	Interiors
L	Landscape
M	Mechanical
N	Airport Equipment
O	Operations
P	Plumbing
Q	Equipment
R	Resource
S	Structural
T	Telecommunications
V	Survey/Mapping
W	Distributed Energy
X	Other Disciplines
Y	Security
Z	Contractor/Shop Drawings

TABLE 1.02: TWO+ CHARACTER DISCIPLINE CODES

Discipline Code	Description	Content
AD	Architectural Demolition	Structural part of building or removing exterior walls and etc
AE	Architectural Elements	Sections, Details, Elevations
AP	Architectural Partition	Construction Wall
ARCP	Reflective Ceiling Panel	Reflective ceiling panel layout
BH	Bore Hole	Bore Hole
CD	Civil Demolition	Structure removal and site clearing
CS	Civil Site	Plats, dimension control
CG	Civil Grading	Excavation, grading, drainage, erosion control
CP	Civil Paving	Roads, driveways, parking lots
CI	Civil Improvements	Pavers, flagstone, exterior tile, furnishings, retaining walls, and water features
CT	Civil Transportation	Waterways, wharves, docks, trams, railways, people movers
CU	Civil Utilities	Water, sanitary sewer, storm sewer, power, communications, fiber optic, telephone, cable television, natural gas, jet fuel and steam systems
CUPH	Civil Utilities Phase	Utilities Phasing Plan
CSG	Civil Signage	Roadways, streets, parking lots
DE	Baggage Elements	Baggage handling systems
DD	Baggage Demolition	Removal of existing baggage handling systems
DN	Baggage Equipment	Baggage handling equipment
DS	Baggage Site Equipment	Site components of the baggage handling systems
EG	Electrical Grounding	Grounding
ES	Electrical Site	Utility tunnels and site lighting
ED	Electrical Demolition	Protection, termination and removal
EP	Electrical Power	Electric Circuit
EL	Electrical Lighting	Light Fixtures
EI	Electrical Instrumentation	Controls, relays, instrumentation and measurement devices
ET	Electrical Telecommunications	Telephone, network, voice and data cables
EY	Electrical Auxiliary Systems	Alarms, nurse call, security, CCTV, PA, music, clock and program
EQF	Food Service Electrical	Connection and fixture types, positions, load requirements

FA	Fire Detection and Alarm	Smoke alarms, heat alarms, Fire alarm notification appliance, Pull Stations
FE	Fire Suppression	Fire extinguishing systems and equipment
FD	Fire Demolition	Demolition
GA	Cover Sheet	Cover sheet with or without sheet index (depends on how many sheet listings). Use GI for sheet index sheet if needed
GI	General Information	Sheet Index, general notes, symbols, codes, abbreviations, symbol legend, orientation maps, accessibility access
GC	General Contract	Phasing, schedules, contractor staging areas, fencing, haul routes, erosion control, temporary and special requirements
GR	General Resource	Photographs, soil borings
GE	General Egress	Egress Plan Only (Do not use for Life Safety Plan is different)
HA	Asbestos	Asbestos abatement, identification or containment
HC	Chemicals	Phasing, schedules, contractor staging areas, fencing, haul routes, erosion control, temporary and special requirements
HL	Lead	Lead piping or paint removal
HP	PCB	PCB containment and removal
HR	Refrigerants	Ozone depleting refrigerants
IC	Interior Casework	assembling of box-like features such as cabinets, cases, storage areas, and bookshelves
ID	Interior Demolition	Interior walls, ceilings, floors, doors, windows and etc
IE	Interior Elements	Sections, Details, Elevations
IF	Interior Furnishings	Cabinet(s), Free-Standing Cabinet(s), Furniture
IG	Interior Graphics	Murals and visuals
IN	Interior Design	Interior of an area
IM	Interior Millwork	base trim, crown molding, interior doors, door frames, window casing, chair rails and wood paneling
IS	Interior Signage	Signs & Placards-directional or a location
LD	Landscape Demolition	Demolition, relocation, and salvage information
LE	Landscape Elements	Landscape components
LG	Landscape Grading	Proposed contours and spot grades
LI	Landscape Irrigation	Mainlines, valves, controllers, pumps, etc.
LL	Landscape Lighting	Lighting
LP	Landscape Planting	Landscape Planting
LR	Landscape Relocation	Vegetation relocation information
LS	Landscape Site	All site hardscape and callouts

MS	Mechanical Site	Utility tunnels and piping between facilities
MDH	Mechanical Demolition HVAC/Ductwork	HVAC/Ductwork protection, termination and removal
MDP	Mechanical Demolition Piping	Piping protection, termination and removal
MH	Mechanical HVAC	Ductwork, air devices and equipment
MP	Mechanical Piping	Chilled and heating water, steam
MI	Mechanical Instrumentation	Instrumentation and control
MS	Mechanical Site	Mechanical site elements
PS	Plumbing Site	Extension and connections to Civil Utilities
PD	Plumbing Demolition	Protection, termination, and removal
PP	Plumbing Piping	Piping, valves and insulation
PQ	Plumbing Equipment	Pumps and tanks
PL	Plumbing Fixtures	Domestic water, sanitary and storm drainage, fixtures
PNG	Plumbing-Natural Gas	Gas Riser, Gas Lines
PQF	Food Service Plumbing	Connection and fixture types, positions, load requirements
QA	Athletic Equipment	Gymnasium, exercise, aquatic and recreational
QB	Bank Equipment	Vaults, teller units, ATMs, drive through
QC	Dry Cleaning Equipment	Washers, Dryers, Ironing and Dry Cleaning
QD	Detention Equipment	Prisons and jails
QE	Educational Equipment	Chalkboards, library
QF	Food Service Equipment	Kitchen, bar, service, storage, and processing
QH	Hospital Equipment	Medical, exam, and treatment
QL	Laboratory Equipment	Science labs, planetariums, observatories
QM	Maintenance Equipment	Housekeeping, window washing, and vehicle servicing
QN	National Airspace System (NAS)	National Airspace System Equipment
QP	Parking Lot Equipment	Gates, ticket and card access
QR	Retail Equipment	Display, vending, and cash register
QS	Site Equipment	Bicycle racks, benches, playgrounds
QT	Theatrical Equipment	Stage, movie, rigging systems
QV	Video/Photographic Equipment	Television, darkroom, and studio
QY	Security Equipment	Access control and monitoring, surveillance

RC	Resource Civil	Surveyor's information and existing civil drawings
RS	Resource Structural	Existing facility structural drawings
RA	Resource Architectural	Existing facility architectural drawings
RM	Resource Mechanical	Existing facility mechanical drawings
RE	Resource Electrical	Existing facility electrical drawings
RP	Resource Plumbing	Existing facility plumbing drawings
RFA	Resource Fire Detection and Alarm	Existing facility pull stations, smoke alarms, heat alarms and Fire alarm notification appliance
RFE	Resource Fire Suppression	Existing facility fire suppression drawings
SD	Structural Demolition	Protection and removal
SS	Structural Site	Site
SB	Structural Substructure	Foundations, piers, slabs, and retaining walls
SF	Structural Framing	Floors and roofs
SE	Structural Elements	Structural components
TA	Audio Visual	Cable, music and CCTV systems
TC	Clock and Program	Time generators and bell program systems
TI	Intercom	Intercom and public address systems
TM	Monitoring	Monitoring and alarm systems
TN	Data Networks	Data switching, transmission lines, and system controls
TY	Security	Security devices
VA	Aerial	Aerial surveyed points and features
VF	Field	Field Surveyed points and features
VI	Digital	Digitized points and features
VU	Combined Utilities	Multiple utilities

1.02: FILE TYPE CODES

File type codes represent digital files not defined under the Naming Conventions, Section 3.01 within the BIM Standards, such as sheets or references. Files defined with these type codes are from the BIM environment. Table 1.03 contains the file type codes approved by AUS.

TABLE 1.03: FILE TYPE CODES

File Type Code	Description
2	2D Drawing
3	3D Model
A	Analysis Model
F	Federated Model
P	Point Cloud
R	Render Model

1.03: SHEET TYPE CODES

Sheet type codes group project drawings by the content displayed. Utilizing sheet codes will organize a project to align all disciplines and provide a standard flow of information. Table 1.04 contains the sheet type codes approved by AUS.

TABLE 1.04: SHEET TYPE CODES

Sheet Type Code	Description
0	General (Symbols, Legends, Notes, etc.)
1	Plans (Floor, Ceiling, Site-Civil, etc.)
2	Elevations (Vertical and Horizontal views)
3	Sections (Sectional views, wall sections, etc.)
4	Large-Scale Views (plans, elevations, and sections)
5	Details
6	Schedules
7	Diagrams
8	User Defined
9	3D Representations

1.04: MAJOR AND MINOR LAYER CODES

Major and Minor codes are layering indicators developed for the US National CAD Standard (NCS) to provide additional information for elements within the AutoCAD or Civil3D environment.

MAJOR

Major codes represent the discipline's system within a building and are indicated with four characters. Codes are required for all layers and are available under the "Layer Name Format" section within the NCS.

MINOR

Minor codes are optional indicators that provide information specific to the major group. Two minor groups can be used to further define the elements contained on the layer. Codes are represented with four characters and are available under the "Layer Name Format" section within the NCS. All custom minor groups must be reviewed and approved with the AUS BIM department.

1.05: REFERENCE FILE TYPE CODES

Reference file type codes are specific to AutoCAD and Civil 3D and define the content within a linked drawing. Table 1.05 contains the approved AUS reference file type codes.

TABLE 1.05: REFERENCE FILE TYPE CODES

Type Code	Description
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

Type Code	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
PH	Phase
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

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 Wastewater Plan
JP	Joint Layout Plan
KP	Key Plan
LB	Boring Log

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

CHAPTER 2: ABBREVIATIONS AND ACRONYMS

Table 2.01 contains the abbreviations and acronyms mentioned throughout the AUS Digital Governance documentation.

TABLE 2.01: ABBREVIATION AND ACRONYM DESCRIPTIONS

Abbreviation / Acronym	Description
BIM	Building Information Model
BEP	BIM Execution Plan

APPENDICES:

APPENDIX A: BIM GUIDE AND STANDARDS

TABLE OF FIGURES:

No table of contents entries found.

TABLE OF TABLES:

WORKS CITED:

United States National CAD Standard: A Consensus Standard Incorporating Industry Publications. Version 6, National Institute of Building Sciences, 2014.

CREDITS

This appendix was developed by HNTB Corporation. It is a tool that is provided to assist in the implementation of BIM as required per AUS standards and contracts.

Please direct any questions about this manual to AUS BIM or GIS Department. Please do not contact any of the other contributors pertaining to this checklist.

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AUS DIGITAL GOVERNANCE

Appendix H - Graphics Guide

May 05, 2023
Version 1.0

Austin-Bergstrom International Airport

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V 1.0 – Original issue date 05 May 2023

While this document is intended as a reference that can be cited in agreements such as contracts and BIM Execution Plans, it is recognized that the use of the Graphics Guide in design and construction is evolving. To accommodate this evolution this document will be updated periodically in clearly identifiable versions. A project can adopt a specific version and then has the option to remain with that version or update if an updated version is published. Initially the target update frequency is annually, but that may change in the future. In addition, interim updates may be issued if needed.

Table 0.01 summarizes changes made to the Graphics Guide from the previous approved version. Information displayed is for reference only.

TABLE 0.01: REVISION HISTORY

Revision	Date	Author	Approver	Description
1.0	05MAY23	HNTB		First Version of Graphics Guide

INTRODUCTION

The Graphics Guide provides the requirements for displaying elements when developing digital files for AUS projects. This guide describes AUS requirements for each approved authoring software.

PURPOSE OF THE GRAPHICS GUIDE

The Graphics Guide establishes the appearance that must be met to produce deliverables and hand over digital files in a format for efficient incorporation into the AUS system.

The Graphics Guide is a live document and should be maintained by the BIM Manager. External Companies are required to contact the AUS Planning and Development Project Manager or BIM department for the current version and referenced documentation.

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CHAPTER 1: GENERAL

1.01: SYMBOLS

Symbols shall follow the COA symbology provided in section 3.2 of the CAD standards manual. Table 1.01 contains the symbols specific to AUS and overwrites the COA version, if exists.

TABLE 1.01: AUS LINE TYPES

Symbol	Name	Default Layer (AutoCAD)	Description

1.02: HATCHES

Hatches shall follow the COA patterns indicated within the CAD standards manual section 3.3. Table 1.02 contains the hatches specific to AUS and overwrites the COA version, if exists.

TABLE 1.02: AUS HATCHES

Symbol	Name	Default Layer (AutoCAD)	Description

CHAPTER 2: REVIT

1.01: LINE PATTERNS

X

1.01: LINE STYLES

X

1.01: LINE WEIGHTS

X

CHAPTER 3: AUTOCAD AND CIVIL 3D

3.01: LAYERS

AUS layers shall follow the National CAD Standard (NCS) layer name format. The following changes to the NCS format are specific to AUS. Table 3.01 contains the AUS specific layers. AUS layers shall be included within the template file.

TABLE 3.01: AUS LAYERS

Layer Name	Color	Line type	Weight	Plot Style	Description
Baggage Handling System					
National Airspace System					

3.02: LINE TYPES

Line types represent the graphic display of a line. AUS types shall be aligned to the COA standards (Appendix B), in section 3.1.5 with the additional options available in Table 3.02. Both the COA_ESD.lin and AUS.lin shall be utilized. Line types are included within the AUS template file. LIN files shall be included with the template.

TABLE 3.02: AUS LINE TYPES

Symbology	Name	Default Layer	Description

3.03: LINE WEIGHTS

Line weights represent the graphical thickness of a line when plotted. AUS shall be aligned to the COA line weight standard in section 3.1.6 of the COA standards. Overall, existing elements will be 0.20mm with new set at 0.50mm. Layers preset within the AUS template shall have the matching line weight assigned. New layers must select a line weight from section 3.1.6 that aligns to the layer's content.

3.03: PLOT STYLES

Plot styles represent the graphical settings for printing elements in both model and paper space. AUS shall use the name-based plotting (STB) developed by COA, described in section 3.1.7 of the CAD standards manual.

APPENDICES:

APPENDIX A: BIM GUIDE AND STANDARDS

APPENDIX B: CITY OF AUSTIN DESIGN CAD STANDARDS MANUAL

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AUS DIGITAL GOVERNANCE

Appendix I - Deliverable Checklist

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SUMMARY OF REVISIONS:

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While this document is intended as a reference that can be cited in agreements such as contracts and BIM Execution Plans, it is recognized that the use of the Deliverable Checklist in design and construction is evolving. To accommodate this evolution this document will be updated periodically in clearly identifiable versions. A project can adopt a specific version and then has the option to remain with that version or update if an updated version is published. Initially the target update frequency is annually, but that may change in the future. In addition, interim updates may be issued if needed.

Table 0.01 summarizes changes made to the Deliverable Checklist from the previous approved version. Information displayed is for reference only.

TABLE 0.01: REVISION HISTORY

Revision	Date	Author	Approver	Description
1.0	05MAY23	HNTB		First Version of Deliverable Checklist

INTRODUCTION

The Deliverable Checklist provides the requirements for submitting design and construction digital files to AUS for each approved authoring software. Refer to Appendix A for more information regarding the AUS BIM Standards.

PURPOSE OF DELIVERABLES CHECKLIST

The Deliverables Checklist establishes the actions that must be conducted to hand over digital files in a format for efficient incorporation into the AUS system.

The Deliverable Checklist is a live document and should be maintained by the BIM Manager. External Companies are required to contact the AUS Planning and Development Project Manager or BIM department for the current version and referenced documentation.

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CHAPTER 1: GENERAL

The following checklist items apply to all digital files submitted to AUS. Refer to the project BIM Execution Plan (BEP), Chapter 11, for the list of deliverables where these items are applicable.

☐All sheet views have a view title with matching scale or “NTS” indicated.

☐All sheet scales are aligned with the title views.

☐All sheets contain a page label matching the drawing number and name.

☐All sheet references contain hyperlinks.

☐Remove consultant stamps.

☐All sheets with plan views have a matching hatched keyplan sector for both horizontal and vertical.

☐All sheets are the approved project titleblock size.

☐Project cover sheet contains site location map indicating project location.

☐All naming conventions are aligned to AUS standards.

CHAPTER 2: REVIT

The following checklist items apply to all digital files developed within Revit. Refer to the project BIM Execution Plan (BEP), Chapter 11, for the list of deliverables where these items are applicable.

☐All Revit models are to be transmitted to remove excess content. Each model shall contain the 3D design and all 2D sheet views included in the latest submission prior to hand over.

CHAPTER 3: AUTOCAD AND CIVIL 3D

The following checklist items apply to all digital files developed within AutoCAD or Civil 3D. Refer to the project BIM Execution Plan (BEP), Chapter 11, for the list of deliverables where these items are applicable.

☐Remove all content not shown within the sheet viewport.

☐Remove all content outside of the titleblock border.

☐Delete tabs that have not been submitted as an official drawing.

☐All reference files must be provided with sheet drawings and saved within a subfolder labeled “Xref.”

☐Delete all references not associated with the submitted design.

☐All references are set as overlay and not attached.

☐No nested references are used.

☐All files are Purged and Audited.

☐All used Layer Filters remain withing drawing.

APPENDICES:

APPENDIX A: BIM GUIDE AND STANDARDS

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