Greater Toronto Airports Authority CADD Standard Guide

Engineering Data

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Document Control

Version History

Version	Date	Changes

Revision and Approval Control of Last Version

Task	Responsible	Position	Date
Preparation			
Revision			
Approval			

Reference Documents

Title	Author	Date	Description/Comments
Engineering Data Record Data Submissions			
Site Feature Symbology Manual			
Building Feature Symbology Manual			

Using This Guide

The following sections are provided to assist the reader by outlining various conventions used throughout the GTAA CADD Standard Guide.

Composition of the GTAA CADD Standard

This guide and the following associated documents are integral parts of the GTAA CADD Standard.

- GTAA Record Data Submissions
- Site Feature Symbology Manual (SFSM)
- Building Feature Symbology Manual (BFSM)

Acronyms Used

A/E/C – Architecture, Engineering and Construction

AMMS – Airport Maintenance Management System

BFSM – Building Feature Symbology Manual

BIM – Building Information Modeling

CADD – Computer-Aided Design and Drafting

FM – Facility Management

GIS – Geographic Information System

GTAA – Greater Toronto Airports Authority

SFSM – Site Feature Symbology Manual

Definitions

Definitions are presented here for terms commonly used within this document. The terms may have more colloquial meaning, but in the context of this document, their use is intended with the definitions laid out below.

Airport Campus: The lands maintained and used to operate Toronto Pearson by the Greater Toronto Airports Authority; more than 1800 hectares.

Managed Datasets: Geo-referenced CADD files that represent the current condition of all features located within the Airport Campus. There are two categories of Managed Datasets:

> **Building Managed Datasets:** Made up of data representing all features inside a building within the Airport Campus.

> **Site Managed Datasets:** Made up of data representing surface and subsurface features within the Airport Campus.

The complete list of Building and Site Managed Dataset disciplines is provided in Table 1 on page 3 of this guide.

Data Provisions: A compilation of GTAA Managed Datasets and supporting data. Additional project specific record drawings issued to consultants and contractors to aid in new construction designs.

As-Built Drawings: The original construction drawings on which all changes are recorded over the course of a construction project also referred to as red-lines or red line drawings. They are typically maintained on the construction site by a construction manager or contractor.

Record Drawings: Final drawings that incorporate the as-built or red line drawings into the original construction drawing set.

Building Feature Symbology Manual (BFSM): This document contains the detailed CADD Specification for all Building Managed Datasets.

Site Feature Symbology Manual (SFSM): This document contains the detailed CADD Specification for all Site Managed Datasets.

Updates to This Guide

At the sole discretion of the GTAA this guide and any associated documents may be updated without notice, as dictated by current GTAA requirements and industry standards. Recommendations from end users are strongly encouraged.

Recommendations should be sent to:

The Greater Toronto Airports Authority

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Table of Contents

1 Introduction

This guide is part of a series of documents that together form the GTAA CADD standard. The standard is paramount to ensuring CADD data management strategies are aligned with the GTAA's Vision of making "Toronto Pearson North America's premier portal to a world of possibilities" and Mission: "Together we will attract serve and delight our customers by consistently delivering value through innovative products and services".

As stewards of all GTAA technical documents and data, the Engineering Data unit relies on compliance to this standard by internal and external A/E/C practitioners. Quality CADD data submissions are essential to maintaining the integrity of this vital information.

2 The GTAA CADD Standard

2.1 Scope

This document is a guide for the creation of CADD drawings and data that support construction projects and data management at the GTAA.

Sections two, three and four address the concepts of GTAA Managed Datasets, drawing file organization and an explanation of general CADD graphics attributes and concepts as they relate to the standard.

The Appendices contain consultant and contractor submission requirements, file naming conventions and a sample format/border sheets.

Together with the Record Data Submissions document, BFSM and SFSM, this guide forms the current GTAA CADD Standard for all construction at the GTAA.

2.2 Background

There are many benefits in adhering to a standard for the delivery of electronic CADD data.

- Data consistency and integrity
- Ease of data exchange between CADD applications
- Consistency for mapping and other data dependent products
- Improved efficiency of data maintenance

The Engineering Data unit within Engineering and Development at the GTAA is responsible for the storage, integrity and dissemination of all electronic data pertaining to the A/E/C disciplines. They are stewards for all in-house and consultant generated data.

2.3   GTAA Managed Datasets

The GTAA Managed Datasets comprise individual CADD files that are maintained as a record of the current condition for each system or engineering discipline on the Airport Campus. There are both Building Managed Datasets and Site Managed Datasets.

One example of a Site Managed Dataset is the Airport Campus road network; it contains CADD representations of curb lines, sidewalks, bridges, and other related features.

The simplest example of a Building Managed Dataset is a floor plan containing, walls, doors, stairwells, elevators, etc.

Table 1 - Building and Site Managed Dataset Disciplines on page 3 provides a complete list of the Building and Site Managed Datasets.

This document addresses the CADD standard necessary to maintain these Managed Datasets.

2.3.1 Why Managed Datasets

The GTAA is charged with operating Canada's busiest airport. The campus is over 1800 hectares with hundreds of facilities and many kilometers of roads, runways and buried infrastructure.

The Managed Datasets are the most efficient means of keeping a record of all changes on the Airport Campus. The GTAA is obligated to keep these records as part of the lease agreement held with Transport Canada. These datasets are also critical for the following internal functions:

- Support new construction and design
- Asset life-cycle management
- Assist in the prevention of asset damage and personnel injury
- Utilized for inventory management and inspection programs
- Primary importance for planning and analysis of:
  - o   Safety and security
  - o   Aircraft movement
  - o   Airport operations
  - o   Passenger movement
  - o   Maintenance programs and routing
  - o   Environmental planning

2.3.2 Maintaining Managed Datasets – Consultants and Contractors Roles

In order to fully realize the value of this information, the GTAA's Engineering Data unit is charged with keeping these records current and accurate. Together with the BFSM and SFSM and Record Data Submission documents, this guide describes in detail each Managed Dataset and the process by which consultants and contractors working at Toronto Pearson Airport are required to provide final construction records. Refer to Appendix A – Consultant and Contractor Submission Requirements.

The BFSM and SFSM detail the CADD symbology standards for all GTAA Managed Datasets. Any project submission must include CADD files adhering to these standards. They must reflect any changes within the Airport Campus.

Consultants and contractors are free to use the technologies and processes that enable them to produce drawings necessary to execute their construction projects. Modifications to the GTAA Managed Datasets are required deliverables on all GTAA construction projects.

Building Managed Dataset Disciplines	Site Managed Dataset Disciplines
Baggage Conveyor System	Aviation – Paint Marking
Column Grid Lines	Aviation – Slab Patterns
Communication	Aviation – Surface
Evacuation Routes/Zones	Boundary
Floor Plan	Building
Furniture/Interior Design	Building – Outside
General Power Distribution	Communication
HVAC	Environment
Life Safety (Fire Zones/Suppression)	Fence
Lighting	Fuel
Piping and Utilities	Gas
Reflective Ceiling	Hot and Chilled Water
Structural	Hydrography
	Light
	Miscellaneous
	Power
	Power - Equipment
	Road
	Road – Paint Marking
	Roads
	Sanitary
	Sign
	Storm
	Water

Table 1 – Building and Site Managed Dataset Disciplines

2.4 CADD System Requirements

This standard is not targeted for any vendor specific CADD application. There are certain fundamental CADD concepts that must be adhered to and may influence the CADD software utilized:

- This standard has only been validated for use with MicroStation (V8i) and AutoCAD (2011)

- The GTAA maintains its Managed Datasets with Bentley Microstation.

  - All Data Provisions of Managed Datasets from the GTAA for support of construction design will be in Microstation (V8i) design file format (.dgn)

  - Consultants and/or contractors are required to produce and submit to the GTAA at the end of construction, Managed Datasets in either Microstation or AutoCAD formats in compliance with the BFSM, SFSM and this guide.

- The standard is based heavily on the consistent use of level naming (Microstation) or layer naming (AutoCAD), as defined in the BFSM and SFSM

- This CADD standard is designed to be used with Reference Files (Microstation) or Xrefs (AutoCAD). This eliminates redundant and potentially conflicting information and ensures Managed Dataset integrity is maintained throughout a project

- Use of Cells (Microstation) or Blocks (AutoCAD) is fundamental to the GTAA CADD Standard.

- The standard requires that every plotted drawing sheet have its own separate electronic drawing file.

2.5 Design and Other CADD Related Tools

On any project, there are several design and drawing management technologies that may be considered over and above the base CADD system. Designers may choose to use these packages to aid in design, cost estimates and enhance project constructability. Civil design and discipline specific BIM tools are typical examples.

Document management systems can also benefit a project by improving the efficiency of managing large numbers and versions of documents and drawings during a project life cycle. These systems can often access metadata contained within CADD files making them more easily recovered for future review. Use of any of these systems is encouraged.

At the close of a project, turnover of final records must be accomplished. Therefore, it is critical that designer's take measures to ensure that CADD data is maintained that adheres to the GTAA CADD Standard over the life of a project. That data will constitute the Managed Datasets to be turned over at the end of construction to allow complete and seamless updates to the GTAA Managed Datasets. Managed Datasets must be submitted in Microstation or AutoCAD format.

Prior to commencement of design, consultants and contractors shall disclose the

software application/s or package(s) to be used in the design. The GTAA Project Manager will advise on how and if any custom or proprietary information generated by software applications not specified in this guide will or will not form part of the final project deliverables.

3 Drawing File Organization

3.1 Design Area and Working Units

Both MicroStation and AutoCAD provide a drawing area that is a near infinite range in both positive and negative x, y and z directions.

The unit of measurement used in the GTAA Managed Datasets is meters, to a precision of 3 decimal places.

MicroStation seed files and AutoCAD template files will be provided to the designer with units set to metres as required by the GTAA. The origin is set to 0,0,0 in x, y and z. The designer may at their discretion alter the origin of the z value to a negative value if required.

Consultants and/or contractors will turn over the Managed Datasets impacted by their project, reflecting the as constructed condition. The Managed Datasets submitted will comply with section *3.2 Coordinate System*.

3.2 Coordinate System

The coordinate system used at the GTAA is:

Horizontal: 6° UTM (Universal Transverse Mercator), Zone 17 (Central Meridian 81 Degrees West), NAD 27 (North American Datum 1927), 1974 Adjustment

Vertical: GSC (Geodetic Survey of Canada) 1928 Datum, 1978 Southern Ontario Adjustment

All data submitted to Engineering Data must be geo-referenced to these systems in meters to 3 decimal places.

3.3   Sheet Files

Sheet files are the CADD files used to produce the drawing sets plotted for construction. They typically reference portions of one or more Managed Datasets. Managed Datasets should never be copied directly into a sheet file to avoid duplicate and potentially conflicting information.

The number of sheet files necessary varies from project to project. The complexity of design and scale of a project will typically dictate this requirement. The GTAA Project Manager will advise of any specific GTAA requirements including any specific sheet file requirements.

The typical CADD data contained in sheet files includes:

- Sheet drawing name/number and description
- Text and notes specific to the sheet
- Revision block entries
- Contract/Consultant Information and Logos
- Title block entries
- Key Plan
- References or Xrefs to Managed Datasets
- Reference or Xref to format/border sheet

3.4   Sheet File Naming/Numbering Convention

All sheet file names/numbers are provided by the GTAA. The electronic sheet file names should be equivalent to the name/number displayed on the corresponding sheet drawing.

For a description of the conventions used for sheet file names see *Appendix B*.

For Managed Dataset naming conventions refer to *Appendix C*.

3.5   Drawing Scales

Drawing scales may vary depending on the scope of the project. For building projects drawing scales may range from 1:50 to 1:400. Drawing scales for site projects range between 1:500 and 1:1000.

3.6   Plotting

Printers and Plotters are controlled by configuration files and pen tables. Engineering Data will provide these files. The contractor is responsible for choosing the appropriate configuration and pen tables to suit the requirements of any given project.

4 Graphic Attributes and Concepts

All CADD systems provide methods of distinguishing features in a file represented by different geometries including lines, points, polygons, text etc. The distinction of features in a CADD file is commonly achieved by the use of levels/layers, weights, styles, colours and cells/blocks. Refer to the SFSM and BSFM for level/layer, weights, styles, colours, cells/blocks, text sizes and text fonts used for all disciplines used at the GTAA for both MicroStation and AutoCAD.

4.1 Levels/Layers

CADD Levels or Layers are the most common method of creating logical groupings of features in a drawing or design. Most CADD systems have no limitation on the naming, numbering and number of Levels or Layers used within a file. Other CADD attributes colour, style, weight and sometimes even element types, can be assigned on a given level or layer to distinguish similar features with different properties, such as, ownership, manufacturer, various measures, etc.

A primary purpose of the GTAA CADD Standard is to provide the prescribed set of Levels or Layers, in combination with other CADD attributes, to be used in any CADD file produced for GTAA projects and for maintaining the GTAA Managed Datasets.

The BFSM and SFSM provide the complete list of level/ layer names and naming conventions used in the GTAA CADD Standard.

4.2 Element Types

Microstation and AutoCAD each use advanced input tools for creating complex drawings. For the purposes of Managed Datasets submitted to the GTAA the GTAA CADD Standard specifies the following basic element types to be used on corresponding Level(s)/Layer(s).

Lines/Arcs/Curves (No B-Splines)

Shapes /Polygons (No Complex Shapes)

Cells/Blocks (Only those defined in the BFSM or SFSM)

Text

4.3 Colours

Microstation and AutoCAD use a colour palette or table that maps colours to an indexed 0-255 cell, grid. Different colours can be mapped to each of the cells depending on local configurations. For the purposes of Building or Site Managed Datasets, users must only ensure that the correct indexed cell number identifier is used for each feature, as defined in the BFSM and SFSM regardless of CADD platform.

4.4 Weights/Widths

MicroStation uses line weights and AutoCAD uses line widths to define the thickness of an element. Line weights/widths are defined for each feature in the BFSM and SFSM.

4.5 Styles

Styles are typically applied to linear elements. Line styles used in the GTAA CADD Standard are defined for each feature in the BFSM and SFSM.

4.6 Text

MicroStation uses custom font libraries for controlling the available text styles within the system. AutoCAD uses a similar mechanism. For compliance with the GTAA CADD Standard, refer to the BFSM and SFSM for the appropriate fonts to use in Microstation and the corresponding fonts to be used in AutoCAD

4.7 Cells and Blocks

Microstation allows a collection of CADD geometries to be stored as a symbol (known as a cell) and placed multiple times within a design. A Block provides the corresponding functionality in AutoCAD. Use of cells or blocks provides clarity and consistency to designers, contractors and facility owners. Cells and blocks are an integral and critical part of the GTAA CADD Standard.

They should only be used however, as defined in the BFSM or SFSM.

4.8 Drawing Deviation Form

In rare circumstances, an element of construction or design may not have a corresponding feature definition in this standard. The designer may complete a Drawing Standards Deviation form proposing project specific additions to the current GTAA CADD Standard.

The Drawings Standards Deviation form should be submitted for approval to the GTAA Engineering Data unit prior to utilizing the new feature definition in a design. The graphic attributes listed in the chart below should be included in the Drawings Standards Deviation form.

LEVEL / LAYER	LEVEL / LAYER DESCRIPTION	ELEMENT TYPE	COLOUR	WEIGHT	LINE STYLE	TEXT FONT	TEXT HEIGHT (metres)	TEXT WIDTH (metres)	TEXT LINESPACING (metres)	TEXT LINE LENGTH (number of characters)	CELL / BLOCK NAME

4.9 Format/Border Sheet

Used synonymously in this guide format or border sheets are typically standalone CADD files that contain location key maps, legends, title, contractor information,

project information and revision dates. See *Appendix D* for a sample of a format/border sheet. The GTAA has several styles available based on paper sizes.

4.10 Reference and Xref

Reference is a Microstation CADD system function that allows CADD operators to 'attach' one or more existing CADD file(s) within an active design. Xref is the corresponding functionality in AutoCAD.

4.11 Dimensions

Dimensions in Site Managed Datasets are not required. Dimensioning in Building Managed Datasets will be shown in millimeters. Refer to the BFSM for graphical attributes for dimensions.

4.12 Building Information Modeling (BIM)

Data created using BIM technologies are not natively compatible with GTAA Managed Datasets. BIM models are typically three dimensional representations of an entire building or site construction project. The data can be exchanged between systems and can be used to generate sheet files for construction.

The GTAA CADD Standard does not currently include BIM standards. However, it is recognized that BIM is rapidly gaining acceptance within Architectural and Engineering communities. As with any other specialized design tool, the GTAA encourages the use of BIM to aid in any aspect of GTAA construction projects.

Any consultant considering the use of BIM on a GTAA project should consult with the assigned GTAA Project Manager to coordinate discussions with the GTAA's Engineering Data unit.

A Appendix
Consultant and Contractor Submission Requirements

1 General Requirements:

The designer and/or Consultant should make arrangements through the GTAA Project Manager or Coordinator, as early as possible for the following:

- Make request for a data provision containing existing technical data for the work site, the GTAA CADD Standard Guide, CADD resource files and other GTAA standards relevant to the project

- Make request for GTAA drawing numbers

- Make request for any room and door numbers to be assigned for new construction

Ensure relevant elements of the project are in compliance with the following GTAA standards:

- Drawings and data comply with the GTAA CADD Standard, BFSM, SFSM and 'Engineering Data Record Document Submissions' guide.

- Any core drilling is done in compliance with the facility Core Drilling standards guide

- Ensure new systems or equipment to be maintained by the GTAA are named and labeled using the standards laid out in the GTAA 'Identification and Labeling Standards Manual'

2 Data Submissions

Data submissions are required at various stages of construction on all GTAA construction projects. An overview of the requirements is laid out below. Please contact the GTAA Project Manager or Manager, Engineering Data for any clarification.

2.1 Design Data Submissions

Design submissions are dictated by specific project requirements. Any exceptions from the following design submission guidelines must be agreed to in writing by the GTAA project manager.

- During design, drawings in CADD format will be submitted by the consultant for review by GTAA at 30, 60 and 90% completion, or as required by the GTAA project manager or coordinator

- Each required submission will also include the Managed Dataset for each discipline, to the extent of the design for the phase of construction underway, if not in its entirety.

  o The Managed Dataset will be supplied in Microstation or AutoCAD format and comply with the GTAA CADD Standard

2.2   Construction Data Submissions

When Construction documents are complete, but prior to issuance of a Facility Alteration Permit (FAP) for construction, the following data and documents will be required:

- A drawing list file will be provided in Excel format identifying all drawings supplied Drawing Numbers (Assigned by GTAA) and descriptions of each

- All construction drawings will be supplied in both CADD and PDF format

- A CADD reference sheet will be provided in Excel format listing all CADD files supplied listing their name and a description and include the Xref or referencing relationships between them and all other CADD drawings submitted

- For any equipment, systems or building components to be maintained by the GTAA, both Excel format and PDF format AMMS inventories, following the GTAA AMMS, naming, numbering and labelling standards, will be submitted

- Any renderings or 3 dimensional data including Building Information Models (BIM) generated as part of the design will be supplied in its native format or an agreed universal exchange format (.ifc, .dxf, etc)

- Managed Datasets for each discipline to the extent of the design in CADD format matching the GTAA CADD. Each data set should be geo-referenced to the existing GTAA datasets.

2.3   As-Built and Record Data Submissions

Upon completion of construction the following submissions will be required.

Consultant will validate information from the Contractor/s and supply:

- As-built drawings (the red line copies as marked by the constructor) scanned and supplied to the GTAA in colour PDF format upon acceptance by the project Consultant

- For any equipment, systems or building components to be maintained by the GTAA, O&M manuals will be supplied in hardcopy and PDF format

- For any equipment, systems or building components to be maintained by the GTAA, any warranties will be supplied in hardcopy and PDF format

- For any equipment, systems or building components to be maintained by the GTAA, both Excel format and PDF format AMMS inventories, following the GTAA AMMS, naming, numbering and labelling standards, will be submitted, where changes from construction submissions have occurred

Consultant will provide:

- Updated construction drawings reflecting final as constructed condition based on contractor's as-built drawings in CADD and PDF or format agreed to by the GTAA Project Manager. These will be the Final record drawings. The supplied files should allow the GTAA to reproduce a complete, accurate and fully legible set of all final record drawings.

- Provide a final drawing list file in Excel format identifying all drawings supplied including the drawing numbers (as assigned by GTAA) and descriptions of each

- A final CADD reference sheet in Excel format listing all CADD files supplied including their file name, drawing title, description and include any Xref or reference file relationships between them and other drawings submitted

- Managed Datasets to the extent of construction, reflecting the as constructed and existing condition, for each discipline in CADD format matching the GTAA CADD Standard and geo-referenced to match with existing GTAA Managed Datasets.

- Final renderings, 3 dimensional data and/or Building Information Models (BIM) modified since design will be supplied in their native formats or an agreed universal exchange format (.ifc, .dxf, etc)

- A single Excel format document list will be provided listing the name and description of all documents (including O&M Manuals, Warranties) submitted. This listing should include the document file names, titles and descriptions as stored on digital media

B Appendix
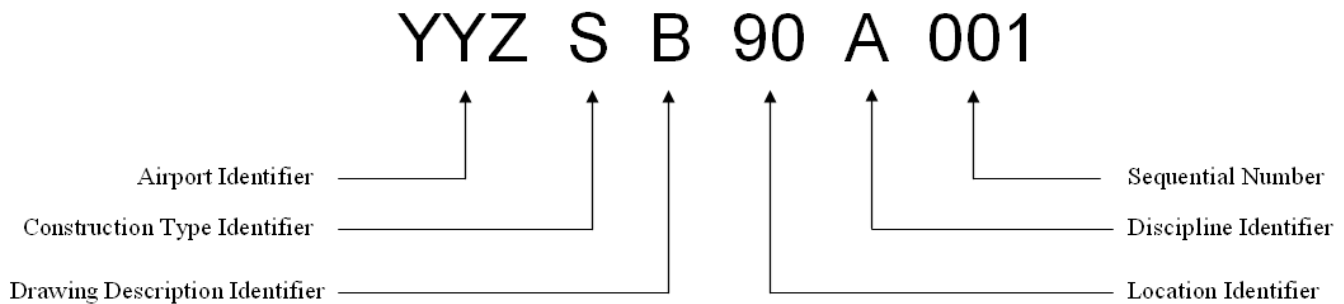# Naming Guide – Sheet Files

Naming Guide – Sheet Files

This appendix is a guide to understanding the GTAA's drawing numbering system and syntax.

Application should be made to Engineering Data prior to commencing design to have GTAA drawing numbers assigned. Drawing numbers are to be assigned by the GTAA ONLY unless written authorization is provided by Engineering Data.

Assigned GTAA sheet drawing numbers should be:

- Displayed in each drawing at the locations indicated by the Format/Border sheet

- Used to name the sheet file's master digital drawing file.

The GTAA drawing numbering system utilizes six identifiers, as illustrated below, to uniquely identify each sheet drawing.

YYZ S B 90 A 001

- Airport Identifier
- Construction Type Identifier
- Drawing Description Identifier
- Sequential Number
- Discipline Identifier
- Location Identifier

Airport Identifier

'YYZ' is Toronto Pearson Airport's location code, as assigned by the International Air Transport Association (IATA). This same IATA designation is used to uniquely identify drawings created to support any project at Toronto Pearson. The first three characters of all drawings assigned by the GTAA contain the IATA airport designation 'YYZ'.

Construction Type Identifier

This single character designation will be either 'B' or 'S'. A designation of 'B' indicates that the drawing is in support of a building related construction project where and 'S' designation indicates the project is site related.

Drawing Description Identifier

This single character identifier is used to identify the status or type of drawing - tender, presentation, record, etc.

Location Identifier

This two digit numeric identifier is used to indicate the general location, a building or specific infrastructure on the GTAA campus.

Discipline Identifier

This single character identifier indicates the discipline of the drawing. The same Discipline Identifier may have different meanings depending on the drawings Construction Type Identifier.
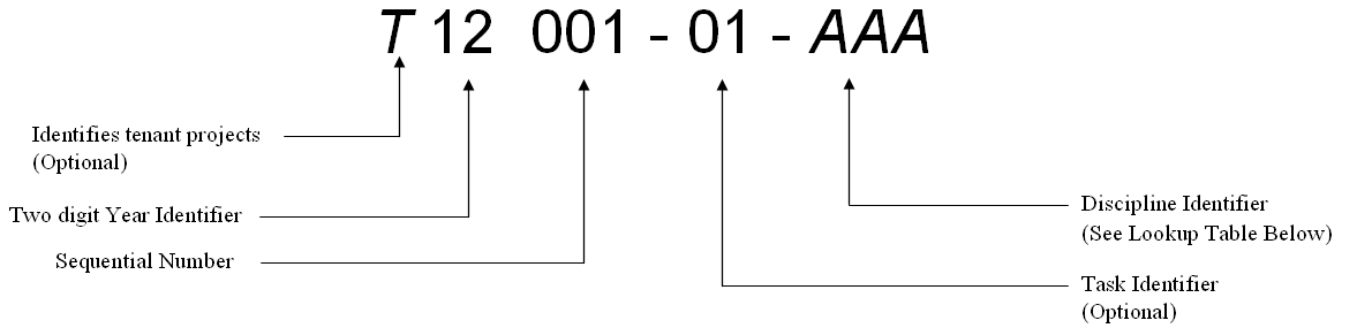
Sequential Number

Three numeric characters form the final digits of any GTAA sheet file name. these numbers ensure that each sheet is unique within a project.

C Appendix Naming Guide – Managed Datasets

Naming Guide – Managed Datasets

For every construction project at the GTAA, consultants and/or contractors will need to keep a complete and accurate representation of the changes resulting from their project in Managed Datasets as described in this guide and accompanying BFSM and SFSM.

These files will normally be referenced or XRef'd by the project sheet files. The naming convention for the project's Managed Datasets is detailed here for reference.

$$T\ 12\ \ 001 - 01 - AAA$$

Identifies tenant projects
(Optional)

Two digit Year Identifier

Sequential Number

Discipline Identifier
(See Lookup Table Below)

Task Identifier
(Optional)

Building Managed Datasets			Site Managed Datasets	
Title	**File Code***		**Title**	**File Code***
Floor Plan	ARC		Aviation Surfaces	AVS
Furniture	FUR		Buildings	BLD
Reflective Ceiling	RFL		Hydrography	HYD
Code Compliance	CCD		Paint Markings	PMA/PMG
Operations	OPS		Roads	RDS
Asbestos Contaminated	ASB		Slab Patterns	SLB
Signage	SIG		Signs	SGN
Evacuation Routes/Zones	EVA		Fences	FNC
General Power Distribution	GPD		Miscellaneous	MIS
Lighting	LTG		Power Distribution	PWR
Communication	COM		Lighting	LGT
Life Safety	FIR		Fuel	FUL
Security Data	SEC		Natural Gas	GAS
HVAC	HVA		Hot & Chilled Water	H&C
Baggage Conveyor System	CON		Sanitary Sewers	SAN
Piping & Utilities	PIP		Storm Sewers	STM
Column Grid Lines	GRID		Water Distribution	WTR
Structural Steel	STR		Communications	COM
Foundations & Footings	FOD		Property Boundary	CB
Framing	FRM		Lease/Easements	LSE
			Horizontal & Vertical Control	MON
			Environment	ENV
			Boreholes	BRE
			Security	SEC
			Digital Elevation Model (DEM)	DEM
			Areas of Interest	AOI
			Construction Sites	CST

D Appendix   Sample Format/Border Sheet

Site Sample Format/Border Sheet

Building Sample Format/Border Sheet