

**Dubai Municipality**



# **Digital Data Delivery General Standards**

**(2008)**

Dubai Municipality



# Planning Department

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The following document describes the Standards of the Dubai Municipality for CAD/GIS/Mapping and digital cadastral information. All submissions of digital information to

the Municipality should meet these Standards. Any questions on exceptions or variances to these Standards due to special need or project requirements should be referred to the Dubai Municipality GIS Center for further clarification.

## ***I. General Digital Standards***

### **Overall Digital CAD/Mapping/GIS Standard**

The Municipality requires all CAD/GIS submissions to be in Two Dimension Bently Microstation CAD or Auto-Cad format (2D) version 5 or later (excluding Microstation/J). **(Three Dimension Bently Microstation CAD or Auto-Cad format (3D) version 5 or later (excluding Microstation/J) is highly recommended)**

### **Mapping Coordinate System**

The Municipality currently uses the Dubai Local Transverse Mercator projection (DLTM). At present all digital data and related coordinates must in the DLTM projection unless explicitly specified otherwise by Dubai Municipality.

### **Dubai Municipality Primary Projection (DLTM)**

<u>Projection:</u>	Transverse Mercator
<u>Parameters:</u>	
Longitude of Origin	55:20:00:00 d:m:s
Latitude of Origin	0:00:00.000 d:m:s
False Easting	500,000.000 m
False Northing	0.000 M
Scale Factor along Longitude of Origin	1.0000

Geodetic Datum: WGS84

<u>Ellipsoid</u>	WGS84 (Standard parameters)
Equatorial Radius:	6378137.000 m
Polar Radius:	6356752.314 m
Eccentricity:	0.0818191908426215
Flattening:	0.00335281066474746
Flattening Inverse:	298.257223563002

#### Units and Formats

Geographic Units: d:m:s	
Format: Long/lat.	Precision: 4, Positive N,E
Projection Units: M	
Format: Easting/Northing	Precision: 3
Height Units: M	Precision: 3
Geocentric Units: M	Precision: 3
Distance Units: M	Precision: 3
Angular Units: deg	Precision: 6

#### Vertical Datum and Heights

Vertical Datum:	User defined
Height Type:	Orthometric
Undulation Model:	Average Undulation
Average Undulation:	0.000 m

#### Spherical Model

Model type:	Equatorial
Model Parameters	

Radius: 6,378,137.000 M

Greenwich Offset  
0:00:00.000 d:m:s

### **Mapping Coordinate Readout**

Master units, 0.123

### **Mapping Working Units**

Dubai Municipality uses 1000 UOR's per Meter

Master Units : M  
Sub Units: MM  
Resolution: 1000 su per m with 1 positional unit per su

### **Mapping Global Origin**

The global origin of Dubai Municipality graphic files is the lower left corner of the design plane, which has the value of 0.001,0.001. To test if a file meets this Standard, type in the following command in the Microstation Command window:

GO=\$

The result will be:

GO= -0.001, -0.001

The global origin may be set in a design file by entering:

GO=  
XY=0.001,0.001

### **Microstation Element Types**

Microstation supports many types of graphic elements. However, not all elements are supported or desirable in the Dubai Municipality GIS environment. The Municipality allows the following type of Microstation Graphic elements, for most applications:

<b>Element Name</b>	<b>Type</b>
Lines	3
Line strings	4
Text	17
Text Nodes	7
Shapes	6
Complex Shapes	14
Arcs	16
Complex Strings	12
Cells (Points)	2

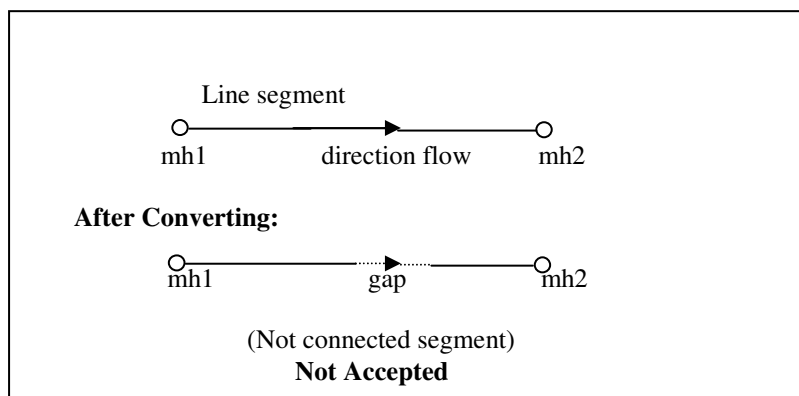
Table 1: Microstation Element Types

B-spline curves are not generally allowed in the Municipality GIS environment, and must be replaced by elements from the above list before they may be included in the system.

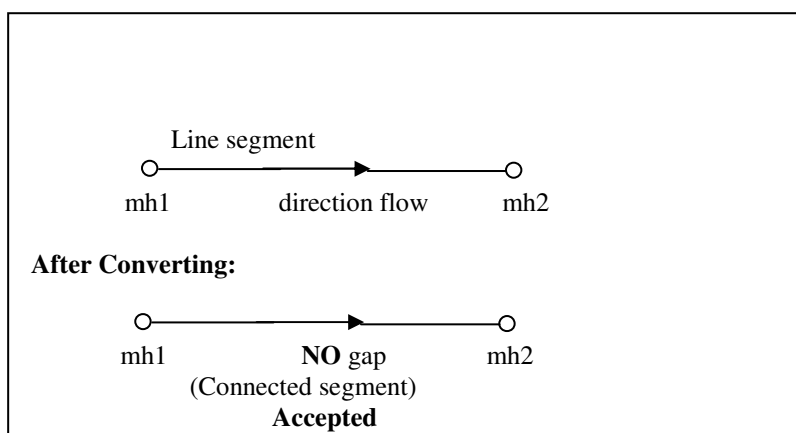
However, cells (type 2) are only allowed as *Boundary Control Point Symbol*, *Permanent Survey Monumentation Symbol* and *Gate Level Symbol*. *Shared Cells* or *Shared Cells Instance* are not accepted in any files.

**Connectivity Rules**

All line segments should be connected and all associated cells should be drawn as separate features on lines. (See Figure1 & Figure2)



*Figure1: Not accepted drawing*



*Figure2: Accepted drawing*

**Mapping Design file type (2D versus 3D)**

All mapping data is to be submitted as two-dimensional (2D) Microstation graphic files. (Three-dimensional (3D) files are **highly recommended**).

**Mapping Orientation**

All mapping data is to be delivered in a non-rotated orientation.



**Color Table, Font table, Symbol tables**

The Municipality will furnish its Standard Color, font and Symbol tables as required. Contractors should not create or modify the Standard tables. **Contractors should also commit on color, level and element type for each feature.** If additional Symbols are required, or exceptions or variances to the Standard tables are required due to special need or project requirements, any desired modifications should be approved by and coordinated with the Dubai Municipality GIS Center.

***I. Digital Data Standards for As-built drawings for Planning Projects***

**Directory structure**

Directory Structure for drawing preparation & submission

	<b>File Name</b>	<b>Description</b>
	As-Built	Project Description
	Others	Others ( <b>Planning</b> ): <ul style="list-style-type: none"> <li>▪ Parcel Data</li> <li>▪ Build-Planning</li> </ul>

**Planning & Survey Department:****I. PARCEL DATA.DGN in MicroStation v7: PARCEL DATA**

<b>Feature</b>	<b>Element Type</b>	<b>Level</b>	<b>Color</b>	<b>Weight</b>	<b>Line Style</b>	<b>Text Height And width</b>	<b>Justification</b>	<b>Font</b>	<b>Feature Code</b>
Parcel Lines (Cogo Lines)	3,4 or 16	10	1	1	0				DMU040010
Parcel Lines (Digitized Lines)	3,4 or 16	10	2	1	0				DMU040010
Parcel Lines (Survey Adj. Lines)	3,4 or 16	10	17	1	0				DMU040010
Parcel Numbers	17	11	0	1	0	2.5, 2.5	CC	1	DMU040011
Parcel Shapes	3,4 or 16	12	13	2	0				DMU040012
Dimensions of Parcel Lines	3,4 or 16	9	0	0	0	1.8 1.2	CC		DMU040013
Completely Affected(Parcel Lines)	3,4 or 16	20	20	1	0				DMU040010
Completely Affected(Parcel Numbers)	3,4 or 16	21	20	1	0				DMU040011
Completed Affected(Parcel Shapes)	3,4 or 16	22	13	2	0				DMU040012
Description	3,4 or 16	30	0	1	0				DMU040014
Already Compensated (Parcel Lines)	3,4 or 16	42	20	1	0				DMU040010
Already Compensated (Parcel Numbers)	17	43	20	1	0				DMU040011
Already Compensated (Parcel Shapes)	3,4 or 16	44	13	2	0				DMU040012

<b>Developer Plot ID</b>	<b>17</b>	<b>54</b>	<b>0</b>	<b>1</b>	<b>0</b>				
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Note : This Developer plot ID should be unique and should match with zoning template file in Excel submitted along with the same.

## II. PLANNING.DGN in MicroStation v7: Planning

Feature	Element Type	Level	Color	Weight	Line Style	Text Height And width	Justification	Font	Feature Code
Planning Lines (R.O.W)	3,4 or 16	1	7	1	0				DMU050010
Public Facilities P.F Boundaries	3,4 or 16	4	5	5	0				DMU050012
Planning Information: PF	7,17	40	0	1	0				DMU050011
Planning Information: duplicate text	7,17	40	16	1	0				DMU050090
Planning Information: No PF	7,17	5	32	1	0				DMU050020
Planning Information: No Access information (text)	17	41	0	1	0				DMU050014
Planning Information: No Access information (line)	3,4 or 16	41	0	1	0				DMU050015
Planning Information Other text (Comm Names,Road,Names,Landmarks etc)	7,17	42	0	1	0				DMU050016
Planning Information (Lines)	3,4 or 16	15	0	2	0				DMU050017
Future Planning(lines)	3,4 or 16	30	7	1	2				DMU050018
Future Planning(text)	3,4 or 16	31	0	1	0				DMU050019
Wells (cell)	2	35	7	1	0				DMU050040
Wells (text)	7,17	36	0	1	0				DMU050041
Vegetation Point	2	14	14	1	0				DMU050042
Vegetation Text	7,17	15	15	1	0				DMU050043
Landmarks Outlines	3,4 or 16	2	1	1	0				DMU050021
Frozen Area ,Planning, under Progress, Planning Under study, Stopped Area,Replanning(outlines)	3,4 or 16	8	1	5	2				DMU050022

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Frozen Area ,Planning, under Progress,Planning Under study,Stopped Area,Replanning(hatching)	3,4 or 16	25	1	1	2				DMU050092
Frozen Area ,Planning, under Progress,Planning Under study,Stopped Area,Replanning(text)	7,17	26	0	1	0				DMU050023
Frozen Area ,Planning, under Progress,Planning Under study,Stopped Area,Replanning(duplicate text,Arabic)	7,17	21	21	1	0				DMU050093
Conservation Area & Buffer Zone(outlines)	3,4 or 16	7	1	1	0				DMU050024
Conservation Area & Buffer Zone(hatch)	3,4 or 16	27	1,5	1	1				DMU050094
Conservation Area & Buffer Zone(text)	7,17	28	0	1	0				DMU050025
Conservation Area & Buffer Zone(duplicate text, Arabic)	7,17	25	25	1	0				DMU050095
Utility Corridor (outlines)	3,4 or 16	20	1	1	0				DMU050026
Utility Corridor (Text)	7,17	21	0	1	0				DMU050027
Utility Corridor (duplicate Text, Arabic)	7,17	28	28	1	0				DMU050096
Aquatic Zone (outlines)	3,4 or 16	55	0	4	0				DMU050028
Aquatic Zone (text)	7,17	56	0	1	0				DMU050029
Aquatic Zone (duplicate text, Arabic)	7,17	31	31	1	0				DMU050097
Aquatic Zone (hatching)	3,4 or 16	57	0	1	0				DMU050098

## GIS Data Standards

Danger Zone Outlines	3,4,16	45	1	1	2				DMU050030
Danger Zone (text)	7,17	46	0	1	0				DMU050031
Danger Zone (duplicate text, Arabic)	7,17	35	35	1	0				DMU050099
Borrow pit, Camel Zareeba, Explosive sites (outlines)	3,4,16	47	1	1	2				DMU050032
Borrow pit, Camel Zareeba, Explosive sites (text)	7,17	48	0	1	0				DMU050033
Borrow pit, Camel Zareeba, Explosive sites (duplicate text, Arabic)	7,17	38	38	1	0				DMU050100
Utility corridor	6	39	39	1	0				DMU050158
Community Map	2	4	4	1	0			Standard	DMU081107
Sikka Centerline	3,4,16	58	4	1					
Sikka Centerline Width Text	7,17	59	0	1					
Road Centerline	3,4,16	60	5	1					
Road Centerline Width text	7,17	61	0	1					