NON-SPATIAL DATA DELIVERY STANDARDS

Version 1.0

Port of Tacoma

12/10/2013

Preface

The Port of Tacoma Enterprise Geographic Information System (GIS) is designed to incorporate information from many sources and in many formats. While the majority of that information is exchanged via a recognized GIS format, such as a shapefile or file geodatabase feature class, CAD format, such as an AutoCAD drawing, or as raw GPS latitude/longitude coordinates, such as a Trimble SSF or COR file, there is still other information collected for the GIS from tables, such as Excel spreadsheets, documents stored as PDF files and photographs.

In the context of the Port of Tacoma Enterprise GIS, these forms of information are referred to as non-spatial data, that is, data that does not include GIS-recognized spatial features and coordinates.

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Chapter 1 – Explanation

1.1 Purpose

The purpose of this document is to describe the Non-Geospatial Data Delivery Standards for any and all non-GIS, -CAD, and/or –GPS data, either existing or newly completed for the Port of Tacoma, internally or by outside contract, that is intended for use with the Port of Tacoma Enterprise GIS.

This encompasses all non-GIS, -CAD, and/or –GPS data developed for delivery to the Port of Tacoma for inclusion in the Enterprise GIS for any project. Compliance with the Non-Geospatial Data Delivery Standards facilitates smooth and timely integration and compatibility with the Port of Tacoma Enterprise GIS.

1.2 Scope

This standard applies to all non-GIS, -CAD, and/or –GPS data utilized by the Port and new non-GIS, -CAD, and/or –GPS data delivered to the Port that is intended for use with the Port of Tacoma Enterprise GIS.

Any exemption requests or requests to deliver typically GIS or CAD formatted data as a non-geospatial data format must be submitted to the Port of Tacoma GIS Coordinator for decision before delivery.

Chapter 2 – Non-Geospatial Data Delivery Standards

2.1 Data Format

The Port of Tacoma accepts the following non-geospatial data formats. Please see below for more general information for all data and specific details per format type:

- Microsoft Office (Word .DOCX, Excel .XSLX, .CSV, Access. .ACCDB) 2010/2013
- Microsoft Office (Word .DOC, Excel .XSL, .CSV) 97-2003
- Adobe Portable Document Format (.PDF)
- Photos (.JPEG/.JPG, .PNG, .TIF/.TIFF, .BMP)

2.1.1 Unique identifier reference

Data that is targeted to enhance existing Port of Tacoma Enterprise GIS data must include a unique identifier field and each record must have the correct unique identified value referenced unless exempted by the Port of Tacoma Enterprise GIS coordinator. This may include a complete exemption or with approval, the use of Latitude / Longitude GPS coordinates. Refer to section 2.1.2 for more information on GPS coordinate requirements.

For example: see the Excel screenshots in section 2.1.4; each security gate record references a unique identifier value in the "#"/"Num" field, which is stored in the original Enterprise GIS gate feature class.

2.1.2 Latitude / Longitude GPS coordinates

Data that consists of or includes Latitude / Longitude GPS coordinates should be in Decimal Degrees. Refer to the GPS Data Collection and Delivery Standards document for more details on the GPS data requirements.

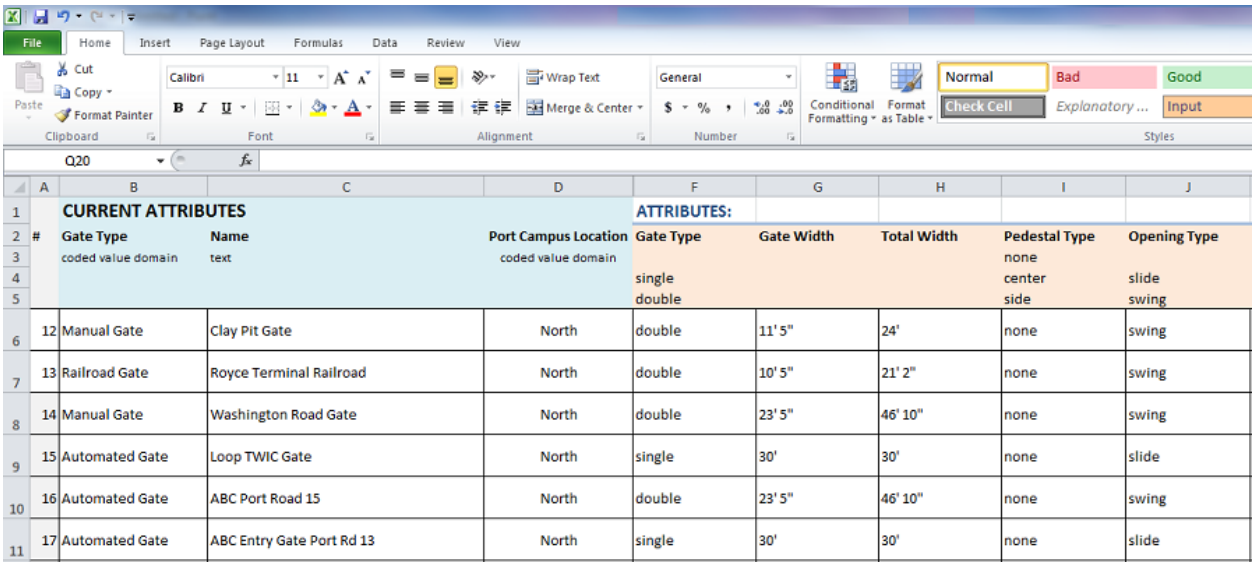
2.1.3 Password protection

Do not apply any password protection to Microsoft Office or PDF files unless under the direction of or given permission by the Port of Tacoma Enterprise GIS coordinator.

2.1.4 Microsoft Office document formatting

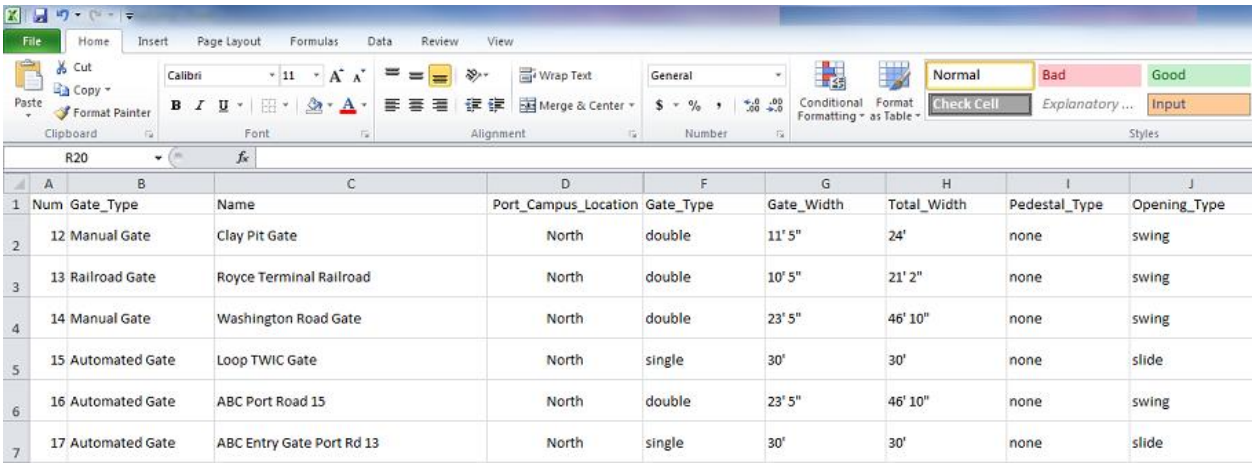
Do not apply excessive, custom or unique formatting to Microsoft Office documents including Microsoft Word and Excel files. Do not utilize non-Windows standard fonts unless exempted by the Port of Tacoma Enterprise GIS coordinator and submission of font file (.TTF, .OTF, etc.) along with said Office documents.

Columns (or fields) in Excel should have simple formatting with a single row with designated field names at the top. For example, the following formatting at the top of this Excel file is unacceptable:



1		**CURRENT ATTRIBUTES**			**ATTRIBUTES:**				
2	#	**Gate Type**	**Name**	**Port Campus Location**	**Gate Type**	**Gate Width**	**Total Width**	**Pedestal Type**	**Opening Type**
3		coded value domain	text	coded value domain				none	
4					single			center	slide
5					double			side	swing
6	12	Manual Gate	Clay Pit Gate	North	double	11' 5"	24'	none	swing
7	13	Railroad Gate	Royce Terminal Railroad	North	double	10' 5"	21' 2"	none	swing
8	14	Manual Gate	Washington Road Gate	North	double	23' 5"	46' 10"	none	swing
9	15	Automated Gate	Loop TWIC Gate	North	single	30'	30'	none	slide
10	16	Automated Gate	ABC Port Road 15	North	double	23' 5"	46' 10"	none	swing
11	17	Automated Gate	ABC Entry Gate Port Rd 13	North	single	30'	30'	none	slide

This version is acceptable; note that the column/field headings are just one row, no cell color or outline formatting has been applied and the field names comply with the naming convention rules (see below):



Num	Gate_Type	Name	Port_Campus_Location	Gate_Type	Gate_Width	Total_Width	Pedestal_Type	Opening_Type
12	Manual Gate	Clay Pit Gate	North	double	11' 5"	24'	none	swing
13	Railroad Gate	Royce Terminal Railroad	North	double	10' 5"	21' 2"	none	swing
14	Manual Gate	Washington Road Gate	North	double	23' 5"	46' 10"	none	swing
15	Automated Gate	Loop TWIC Gate	North	single	30'	30'	none	slide
16	Automated Gate	ABC Port Road 15	North	double	23' 5"	46' 10"	none	swing
17	Automated Gate	ABC Entry Gate Port Rd 13	North	single	30'	30'	none	slide

You may, however, submit two versions of the Office document, one with formatting designed to enhance the readability of the data within the document and then one without, formatted as detailed here. Contact the Port of Tacoma Enterprise GIS coordinator for more information.

2.1.5 Image compression and resolution

JPEG files must be no lower than a level 8 compression. TIFF files should be uncompressed and be at 300dpi unless otherwise exempted by the Port of Tacoma GIS coordinator.

2.2 Naming Convention

It is important that both GIS and non-spatial data and field names in data delivered to the Port of Tacoma follow the same naming convention already applied to all existing GIS and non-spatial data. It is important to understand the naming convention already in place to alleviate any confusion or added work upon delivery of the data.

2.2.1 Start data file and field names with alphabetical characters

Many processing workflows that both GIS and non-spatial data are subjected to are unable to handle objects that start with numbers or special characters. Avoiding names starting with a number also helps to better sort the display of objects in folder directories and in the Enterprise GIS.

2.2.2 Do not include spaces, dashes, or other special characters

Many GIS software processes cannot handle spaces or any kind of special character in the file names and/or in field names. Avoid causing problems for the data later down the line by eliminating any special characters. Underscores, however, do not cause problems and can be used in the place of dashes and/or spaces.

2.2.3 Avoid using reserved words

Using reserved words for the underlying DBMS could easily result in unexplained errors. Avoid using words like Order, File, Range, etc., on their own.

2.2.4 Always provide alias names for fields

Setting an alias for field names, especially field names that are cryptic or abbreviated, is the best way to maintain useful information and provide benefits in multiple areas. Be sure to include field aliases as a part of the metadata. This is a required element of metadata.

2.3 Metadata

All non-spatial data intended for inclusion in the Port of Tacoma Enterprise GIS must have Federal Geographic Data Committee (FGDC) Content Standard for Digital Geospatial Metadata (CSDGM) as

defined by the Port of Tacoma Metadata Standards document. Refer to that document for more information.

Additionally, avoid using fields in the database to store metadata about the feature class, e.g. a Date Loaded field. Such information is required in the metadata and therefore superfluous in the attribute table. Only exceptions are to either capture row specific metadata, e.g., Modified By, where each record may have different values, or where the origin source of the individual features may vary and need to be tracked. In the second case, the metadata should also document the fact that there are multiple data origins.

Any exemption requests from any part of the metadata requirement must be submitted to the Port of Tacoma GIS Coordinator for decision before delivery.