GIS Naming Conventions

Boone County GIS

**Created and Maintained by the
Boone County Planning Commission
GIS Services Division**

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Naming Conventions

1. Global Conventions

   i.   All names must be descriptive and concise.
   ii. Names must be unique and cannot match any reserved word listed in Appendix B.
   iii. The first character of any name cannot begin with a number.

   NOTE: The term "special characters" appears often in this document. This refers to any non-alphabetic and non-numeric characters.

2. Geodatabase Conventions

   2.1. Personal Geodatabase (PGDB) Names

   i.   Title Case is preferred for readability.
   ii. No special characters are permitted.
   iii. The number of characters comprising a PGDB name is unlimited; however, brevity is preferred.
   iv. A static PGDB with a yearly vintage must indicate the compilation circa as a 4-digit suffix to the PGDB name (e.g. Publishing2004.mdb).
   v.   For monthly compilation periods, the PGDB name must incorporate a suffix consisting of a 4-digit year followed immediately by a 2-digit month (e.g. Publishing200406.mdb).
   vi. For a date-stamped PGDB, the PGDB name must incorporate a suffix consisting of 6 consecutive digits formatted with a 2-digit year, then a 2-digit month, then a 2-digit day (e.g. Publishing040613).

   2.2. Enterprise Geodatabase (SDEGDB) Names

   i.   Title Case is preferred for readability.
   ii. No special characters are permitted.
   iii. The number of characters comprising a SDEGDB name is unlimited; however, brevity is preferred.

   2.3. Domain Table Names

   i.   Title Case is preferred for readability.
   ii. No special characters are permitted.
   iii. The number of characters comprising a Domain Table name is unlimited; however, brevity is preferred.

   2.4. Feature Dataset Names

   i.   Title Case is preferred for readability.
   ii. No special characters are permitted.

  iii. The number of characters comprising a Feature Dataset name is unlimited; however, brevity is preferred.

2.5. Feature Class Names

  i. Title Case is preferred for readability.
  ii. No special characters are permitted.
  iii. The number of characters comprising a Feature Class name is unlimited; however, brevity is preferred.
  iv. GDB Feature Class Names should be in stated in singular form, rather than plural.
  v. Static feature classes with a yearly vintage must indicate the compilation circa as a 4-digit suffix to the feature class name (e.g. ZoningPermits1990).
  vi. Static feature classes with a monthly compilation period must have a suffix consisting of a 4-digit year followed consecutively by a 2-digit month (e.g. ZoningPermits199903).
  vii. Static feature classes that correspond to a specific date must have a suffix consisting of 8 consecutive digits formatted with a 4-digit year, then a 2-digit month, then a 2-digit day (e.g. ZoningPermits20030628).

2.6. Feature Class Aliases

  i. Title Case is preferred for readability.
  ii. Layer Aliases are permitted to contain special characters except for parentheses.
  iii. The number of characters comprising a Layer Alias is unlimited; however, brevity is preferred.

2.7. Geodatabase Table Names

  i. Title Case is preferred for readability.
  ii. The number of characters comprising a geodatabase table name is unlimited; however, brevity is preferred.
  iii. Static tables with a yearly vintage must indicate the compilation circa as a 4-digit suffix to the table name (e.g. ParcelOwners1994).
  iv. For monthly compilation periods, the table name must incorporate a suffix consisting of a 4-digit year followed consecutively by a 2-digit month.
  v. For date-stamped Tables, the table name must incorporate a suffix consisting of 8 consecutive digits formatted with a 4-digit year, then a 2-digit month, then a 2-digit day.

2.8. Relationship Class Names

  i. Title Case is preferred for readability.
  ii. The number of characters comprising a Relationship Class name is unlimited; however, brevity is preferred.
  iii. Relationship Class names are derived from the names of the two classes being related. The relationship class should include a descriptive verb or phrase that will

allow an end-user to more easily interpret the purpose of the relationship class. The words comprising the class name should be set apart by an underscore character. The feature class names contained within the relationship class name will reflect the single or plural nature of the relationship's cardinality. Examples are shown in the table below:

Object 1	Object 2	Cardinality	Relationship Name
Building	ZoningPermits	1 to Many	Building_Has_ZoningPermits
PostOffice	Parcel	1 to Many	PostOffice_Services_Parcels
Parcel	PostOffice	Many to 1	Parcels_ServicedBy_PostOffice
Parcel	AssessmentInfo	1 to 1	Parcel_Has_AssessmentInfo
Park	PlaygroundEquipment	1 to Many	Park_Owns_PlaygroundEquipments
WaterMeter	WaterBillingInfo	1 to 1	WaterMeter_Has_WaterBillingInfo
StreamSamplingSite	StreamSamplingResults	1 to Many	StreamSamplingSite_Has_StreamSamplingResults

2.9. Geometric Network Names

   i.   Title Case is preferred for readability.
   ii. The number of characters comprising a Geometric Network Object name is unlimited; however, brevity is preferred.

2.10. Topology Object Names

   i.   Title Case is preferred for readability.
   ii. The number of characters comprising a Topology Object name is unlimited; however, brevity is preferred.

2.11. Raster Names

   i.   Title Case is preferred for readability.
   ii. The number of characters comprising a Raster name is unlimited; however, brevity is preferred.

3. Shapefile Conventions

   3.1. Shapefile Names

   i.   Lower Case is required.
   ii.   Shapefile Names are not permitted to contain special characters.
   iii. Shapefile names must conform to an 8.3 file naming convention (i.e. c*******.x**) for a total of 11 characters with one period separating the filename from the file extension.
   iv.   Shapefile names may be stated in the plural form.
   v.   Static shapefiles with a yearly vintage must indicate the compilation circa as a 4-digit suffix to the Shapefile name (e.g. cens1990.shp contains census data from 1990).

vi.   For monthly compilation periods, the shapefile name must incorporate a suffix consisting of a 2-digit year followed consecutively by a 2-digit month (e.g. stdn0304.shp contains students enrolled in April of 2003).

vii.   For date-stamped shapefiles, the shapefile name must incorporate a suffix consisting of 6 consecutive digits formatted with a 2-digit year, then a 2-digit month, then a 2-digit day (e.g. zp991207 contains zoning permits applied for on December 7, 1999). To comply with rule 3.1.iii, the name can only have a 2 character prefix that is used for descriptive purposes. Thus, proper care must be taken to ensure the name is unique.

4. Layer file Conventions

    4.1. Layer names

      i.   Title Case is preferred for readability.
      ii.   Special characters are encouraged in Layer names.
      iii.   The number of characters comprising a Layer name is unlimited. Long names are encouraged to promote understanding of what the layer depicts.

5. Standalone Raster Conventions

    5.1. Raster Names

      i.   Title Case is preferred for readability.
      ii.   Raster names may contain special characters.
      iii.   The number of characters comprising a raster name is unlimited; however, brevity is preferred.
      iv.   Static rasters with a yearly vintage must indicate the compilation circa as a 4-digit prefix in the file name (e.g. 1999boone.sid).
      v.   For monthly compilation periods, the raster name must incorporate a suffix consisting of a 4-digit year followed consecutively by a 2-digit month.
      vi.   For date-stamped rasters, the raster name must incorporate a suffix consisting of 6 consecutive digits formatted with a 2-digit year, then a 2-digit month, then a 2-digit day.

6. Standalone Table Conventions

    6.1. Table Names

      i.   Title Case is preferred for readability.
      ii.   Table names are not permitted to contain special characters.
      iii.   Filenames must conform to an 8.3 file naming convention (i.e. c*******.x**) for a total of 11 characters with one period separating the filename from the extension.
      iv.   Static tables with a yearly vintage must indicate the compilation circa as a 4-digit suffix to the table name (e.g. Ownr1994.dbf contains parcel owners in 1994).

v.   For monthly compilation periods, the table name must incorporate a suffix consisting of a 2-digit year followed consecutively by a 2-digit month (e.g. tacc0411.dbf contains traffic accidents in November 2004).

vi.   For date-stamped tables, the table name must incorporate a suffix consisting of 6 consecutive digits formatted with a 2-digit year, then a 2-digit month, then a 2-digit day (e.g. ar030923.dbf contains arrests made on September 23, 2003). To comply with rule 6.1.iii, the name can only have a 2 character prefix that is used for descriptive purposes. Thus, proper care must be taken to ensure the name is unique.

7. Attribute Conventions

The following standards apply to attributes found in all entities described above (Feature Classes, Shapefiles, Rasters, Tables, etc.).

7.1. Attribute Names

i.   Upper Case is preferred for consistency and ease of use by programmers.

ii.   Field names are limited to 10 characters.

iii.   Special characters are not permitted

iv.   An attribute item that has a physical name which ends in 'KEY' must contain unique values (i.e. it must be a primary key).

v.   An attribute item that stores characteristics that allow it to be used for identification purposes, yet does not contain unique values may end in 'ID'.

vi.   An attribute item that has a physical name which ends in 'DT' must contain date values.

vii.   An attribute item that has a physical name which ends in 'TM' must contain time values.

viii. An attribute item that stores both date and time shall end in 'DT'.

ix.   An attribute item that has a physical name which ends in 'CD' must contain coded values supplied by a geodatabase domain table's Description column.

x.   An attribute item that has a physical name which ends in 'TX' must contain description values supplied by a geodatabase domain table's Description column.

xi.   All attribute item names ending in 'NAME' must contain proper or common names. This suffix must be preceded by a prefix of no more than six characters which generally describes the GIS layer. Examples are listed in the following table.

Attribute Item Name	Attribute Item Value
OWNERNAME	JOHN DOE
SCHOOLNAME	GOODRIDGE ELEMENTARY
CEMTRYNAME	HOPEFUL LUTHERAN
SUBDVNNAME	CHESHIRE RIDGE
CITYNAME	FLORENCE

xii. Attribute items that are meant to impart a layer characteristic that is specific to a certain year must indicate the vintage as a 4-digit suffix to the attribute name (e.g. POPULA1990 stores population data from 1990).

xiii. For characteristics specific to a certain month, the attribute name must incorporate a suffix consisting of a 4-digit year followed consecutively by a 2-digit month (e.g. RAIN199602 stores the amount of rainfall recorded in February 1996).

xiv. For date-stamped attributes, the attribute name must incorporate a suffix consisting of 6 consecutive digits formatted with a 2-digit year, then a 2-digit month, then a 2-digit day (e.g. SAMP040927 stores sample data taken on September 27, 2004).

xv. All standard shapefile geometry attributes inherent to GIS layers will be named AREA and PERIMETER (for polygon layers) and LENGTH (for line layers). Geodatabase attributes for the same items will adopt the default assigned by the GDB.

7.2. Attribute Aliases

i. Title Case is preferred for readability.

ii. Attribute Aliases are encouraged to contain special characters.

iii. The number of characters comprising an Attribute Alias is unlimited; however, brevity is preferred.

iv. Attributes containing proper names or common names may be designated with an Attribute Alias of simply 'Name'. If the data set contains attributes for many common names, the word 'Name' should be preceded by a descriptor in the (e.g. 'Occupant Name' and 'Owner Name' may be two attributes in the building layer. Alternatively, the word 'Name' may be left out (e.g. 'Occupant' and 'Owner').

7.3. Attribute Values

i. Upper Case is preferred for all attribute values stored in the data set.

ii. Domain table descriptions are entered in Title Case. Thus, any attribute values that are entered in title case may be inferred to originate from a Domain Table.

iii. The number of characters comprising an attribute value is entirely dependent on the properties established for that field during initial design of the layer.

iv. If a field containing numeric coded values is defined as a two-character text field, then the codes 1 through 9 must be preceded with a '0'. The same rule applies to three-character text fields for codes 10 through 99 (and so on and so forth).

v. All domain tables should contain a value signifying "Unknown". For text domains, the code 'U' will be used. For integer domains, the number 0 will be used. Range domains may ignore this rule.

vi. All domain tables may contain a value signifying "Not Applicable".

vii. All domain tables may contain a value signifying "None". (*NOTE – care should be taken not to confuse "None" with "Unknown").

viii. Fully qualified date values should be in the format 'YYYY/MM/DD'.

ix. Fully qualified time values should be in the format 'HH:MM' and be based on a 24-hour clock.

    x.   An attribute item that stores both date and time shall be in the format 'YYYY/MM/DD HH:MM'. A space must be present between the date and time.

    xi.   AREA and LENGTH attributes will be formatted as data type with a precision of 15 and a scale of 2.

8.   Data Interoperability Modeling Conventions

   8.1.   ArcToolbox Organization

      i.   All models and scripts that relate to routine data transformations are to be stored in the same toolbox file (*.tbx).

   8.2.   Model Names

      i.   No case is specified.

      ii.   The only special character permitted is the underscore character.

      iii.   The number of characters comprising a model name is unlimited; however, brevity is preferred.

      iv.   All model names will begin with the layer name that the model produces.

      v.   All model names will end with an abbreviation that denotes the source and destination of the layer resulting from the model. This designation will be preceded by an underscore character (e.g. '_SDE2shp' where 'SDE' is the source and 'shp' is the destination). .

   8.3.   Model Labels

      i.   No case is specified.

      ii.   Special characters are permitted.

      iii.   The number of characters comprising a model label is unlimited.

      iv.   Model labels should be intuitive and easy to understand.

   8.4.   Transformer Names

      i.   Upper case is required

      ii.   The only special character permitted is the underscore character.

      iii.   Transformer names will begin with the source attribute name followed by an underscore character. The transformer name will end with the default name given by the Data Interoperability extension.

   8.5.   Virtual Attribute Names

      i.   Lower case is required.

      ii.   The only special character permitted is the underscore character.

      iii.   Attributes created within a data transformation model must begin with an underscore and be followed by the destination attribute name.

   8.6.   Data Transformation Layout Standards

      i.   Source data will be located in the upper left corner of the model

      ii.   Destination data will be located in the lower right corner of the model

      iii.   Model components will not overlap.

    iv.   Individual components of a transformation model will not be more than eight components wide when viewed at its fullest extent.

    v.   Virtual attributes must be stacked on the bottom of the last transformer in the same order as the destination dataset's attribute table (prevents crossing connectors when expanded).

    vi.   Default geometry fields (AREA and LENGTH) will be located at the very bottom of the last transformer; with AREA appearing before LENGTH (for polygons).

9. Conventions for External Data

Occasionally, the GIS Services Division receives GIS data which originated from entities that are not associated with the consortium. If consortium members exhibit a need for this data, the GIS Services Division will perform QA on the data and publish it for Boone County GIS user consumption.

External data which gets routinely updated will not be modified by Boone County GIS other than the necessary projection conversions. External data that are dynamically linked or imported into the production environment and used in a production workflow will persist the naming conventions defined by the data provider. As a result, the object names and field names may not follow the data modeling standards and naming conventions defined in this chapter. Where possible, efforts will be made to alter non-conforming conventions used in the production environment to conforming names in the published GIS Layers. Redistribution of external data by Boone County GIS will only be allowed with permission from the data provider.