



Maintaining L3 Compliant Parcel Mapping

"The L3 Parcel Standard and File Geodatabase"

Webinar

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MassGIS

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Executive Office of Technology Services and Security

Our Mission: To provide secure and quality digital information, services, and tools to constituents and service providers when and where they need them.

Welcome. Welcome.

I thank you for attending this webinar.

We will be covering a lot in this session. I know you'll have questions.

During the presentation, the lines will be muted.

I'll take questions at the end, when the lines will be unmuted.

[NOTE:

Throughout the notes section references to pages of the standard are given as follows:

[L3PS: 19] - Read as L3 Parcel Standard, page 19. Ranges are shown as 14-19. Multiple page references are shown as 14, 19.]



Maintaining L3 Parcel Mapping

Webinar

Topics Covered

- Introducing the L3 Standard
- Level 3 File Geodatabase
 - Components
 - Maintaining LOC_ID values
 - Updating Metadata
- Delivery and QA
 - Delivery Format
 - QA Checks
- MassGIS Municipal Boundary and L3 Parcels
- MassGIS Tools to Facilitate L3 Maintenance
- Wrap-Up

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Here is what we'll cover.

After an introduction to the standard, I'll focus on:

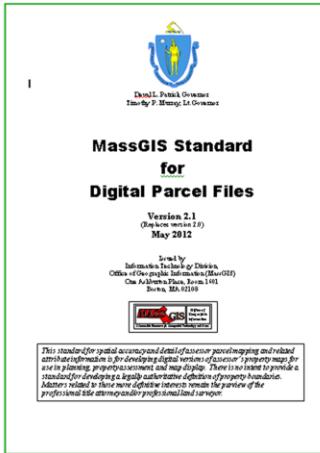
- the L3 file geodatabase (fGDB), including:
 - its components,
 - maintaining relations between the layers using the LOC_ID,
 - then updating Metadata.
- Then I'll review how the data should be formatted when delivered and how the data will then be reviewed.
- Then briefly cover municipal boundaries and parcels.
- Then make you aware of the resources available to maintain L3 Parcel data.
- Then I'll wrap up and take questions.



Maintaining L3 Parcel Mapping

Introduction

The L3 Parcel Standard



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The L3 Parcel Standard (L3PS):

Originally introduced in 2002 with lots of stakeholder participation and comment, including muni GIS staff.

Currently at version 2.1 (May 2012) [L3PS: Cover]. Thus, it is very stable.

Standard is consistent with national standards, including ESRI's "parcel fabric." Though the Parcel Fabric and L3 Parcel Standard are not the same, ESRI confirms that implementing the MassGIS standard does not prevent later migration to the ESRI parcel fabric model. [LSPS: 19]



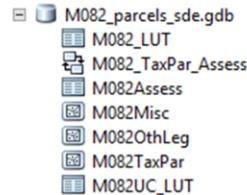
Maintaining L3 Parcel Mapping

Level 3 File Geodatabase

Components of a Level 3 Compliant fGDB

- Three Feature Classes:
 - M000TaxPar FC (“taxable” parcels)
 - M000OthLeg FC (“other legal interests”)
 - M000Misc FC (miscellaneous feature class)
- Three Tables:
 - M000Assess (Assessing extract data table)
 - M000LUT (Type Look-Up-Table)
 - M000UC_LUT (Use Code Look-Up-Table)

Where “000” is your Town ID



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What is an L3 Complaint fGDB?

- The fGDB must have three FCs and three database tables [L3PS: 8, 27]:
 - The three feature classes:
 - M000TaxPar (taxable parcels)
 - M000OthLeg (other legal interests and special “FEE” parcels)
 - M000Misc (miscellaneous feature class)
 - The three tables:
 - M000Assess (Assessing extract data table)
 - M000LUT (a type look up table)
 - M000UC_LUT (use code look up table)
- In the template fGDB (included with the QA script or request from MassGIS), the names are preceded with M000, where ‘000’ is place holder for Town ID – When loaded with your town’s data, change to your Town ID - Left padded w/ zeros – Duxbury, here, has one zero: 082, while Yarmouth is 351 – no zeros.

[MassGIS provides a template fgdb, containing empty (template) FCs and tables, with the L3 Parcel QA Tool.]

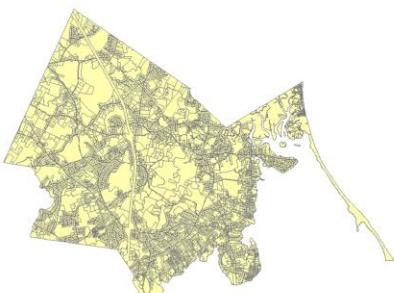
- The following slides cover these six components in more detail.



Maintaining L3 Parcel Mapping

Level 3 File Geodatabase: TaxPar

TaxPar (Tax Parcel) FC



OBJECTID	MAP_PAR_ID	LOC_ID	POLY_TYPE	MAP_NO	SOURCE	PLAN_ID	LAST_EDIT	BND_CHK	NO_MATCH	TOWNID
6201	2120100000000010	F_861207_2020204	FEZ	302	ASSESS	110b	2010524	OK	0	02
6202	2120100000000010	F_861207_2020204	FEZ	302	ASSESS	110b	2010512	OK	0	02
6204	2120100400000000	F_859302_203184	FEZ	351	ASSESS	110b	20110524	OK	0	02
6205	2120100400000000	F_859302_203184	FEZ	351	ASSESS	110b	20110524	OK	0	02
6220	2121007001011150	F_861232_2030870	PRV_ROW	119	AMH	1212425	20130319	OK	0	02
6244	11b	F_874421_2044897	PRV_ROW	118	AMH	1214013	20140313	OK	0	02
6251	11b	F_874421_2044897	PRV_ROW	118	AMH	1214013	20140313	OK	0	02
145	11b	F_861989_2055728	ROW	922	ASSESS	110b	20110524	OK	0	02
146	11b	F_861989_2055728	ROW	922	ASSESS	110b	20110524	OK	0	02
765	11b	F_864451_2047879	ROW	941	ASSESS	110b	20110524	OK	0	02
1298	11b	F_863570_2044429	ROW	940	ASSESS	110b	20110524	OK	0	02
1301	11b	F_863570_2044429	ROW	940	ASSESS	110b	20110524	OK	0	02
1372	11b	F_860085_2042797	ROW	926	ASSESS	110b	20110524	OK	0	02
1764	11b	F_861154_2033454	ROW	101	ASSESS	110b	20110524	OK	0	02
1770	11b	F_861154_2033454	ROW	101	ASSESS	110b	20110524	OK	0	02
2245	11b	F_863420_2045189	ROW	941	ASSESS	110b	20110524	OK	0	02
2246	11b	F_863420_2045189	ROW	941	ASSESS	110b	20110524	OK	0	02
2920	11b	F_874452_2045189	ROW	105	ASSESS	110b	20110524	OK	0	02
3177	11b	F_874952_2044059	ROW	116	ASSESS	110b	20110524	OK	0	02
3219	11b	F_860249_2045557	ROW	108	ASSESS	110b	20110524	OK	0	02
3220	11b	F_860249_2045557	ROW	108	ASSESS	110b	20110524	OK	0	02
4197	11b	F_857901_2037920	ROW	918	ASSESS	110b	20110524	OK	0	02
4200	11b	F_867448_2030810	ROW	959	ASSESS	110b	20110524	OK	0	02
4201	11b	F_867448_2030810	ROW	959	ASSESS	110b	20110524	OK	0	02
5863	11b	F_874461_2031889	ROW	105	ASSESS	110b	20110524	OK	0	02
5864	11b	F_874461_2031889	ROW	105	ASSESS	110b	20110524	OK	0	02
6097	11b	F_873391_2030068	ROW	099	ASSESS	110b	20110524	OK	0	02
6099	11b	F_866449_20291715	ROW	062	ASSESS	110b	20110524	OK	0	02
6110	11b	F_866449_20291715	ROW	062	ASSESS	110b	20110524	OK	0	02
6112	11b	F_869040_2045514	ROW	130	ASSESS	110b	20110524	OK	0	02
6115	11b	F_867901_2045503	ROW	136	ASSESS	110b	20110524	OK	0	02
6116	11b	F_867901_2045503	ROW	136	ASSESS	110b	20110524	OK	0	02
6117	11b	F_857920_2041158	ROW	915	ASSESS	110b	20110524	OK	0	02
6118	11b	F_857920_2041158	ROW	915	ASSESS	110b	20110524	OK	0	02
6119	11b	F_879966_2030283	ROW	108	ASSESS	110b	20110524	OK	0	02
6120	11b	F_873712_2030792	ROW	993	ASSESS	110b	20110524	OK	0	02
6121	11b	F_867448_2030810	ROW	993	ASSESS	110b	20110524	OK	0	02
6122	11b	F_856704_2034644	ROW	019	ASSESS	110b	20110524	OK	0	02
6123	11b	F_860032_2033518	ROW	121	ASSESS	110b	20110524	OK	0	02
6124	11b	F_860032_2033518	ROW	121	ASSESS	110b	20110524	OK	0	02
6125	11b	F_867701_2034240	ROW	960	ASSESS	110b	20110524	OK	0	02
6203	11b	F_866915_2044899	ROW	091	ASSESS	110b	20110524	OK	0	02
6205	11b	F_866915_2044899	ROW	091	ASSESS	110b	20110524	OK	0	02
6207	11b	F_866915_2044899	ROW	091	ASSESS	110b	20110524	OK	0	02
6209	11b	F_866915_2044899	ROW	091	ASSESS	110b	20110524	OK	0	02
6210	11b	F_866915_2044899	ROW	091	ASSESS	110b	20110524	OK	0	02
6211	11b	F_872001_2032155	ROW	079	ASSESS	110b	20110524	OK	0	02
1129	11b	F_866571_2051792	TAX	136	ASSESS	110b	20110524	OK	0	02
1530	11b	F_866571_2051792	TAX	136	ASSESS	110b	20110524	OK	0	02
3113	11b	F_861709_2042507	TAX	138	ASSESS	110b	20110524	OK	0	02
3114	11b	F_861709_2042507	TAX	138	ASSESS	110b	20110524	OK	0	02
3294	11b	F_860033_2043228	WATER	117	ASSESS	110b	20110524	OK	0	02
1765	11b	F_870351_2032435	WATER	076	ASSESS	110b	20110524	OK	0	02
2246	11b	F_860098_2031523	WATER	122	ASSESS	110b	20110524	OK	0	02

TaxPar FC: “Taxable Parcels”

- Contains parcel polygons that should match to one or more assessing records; hence the name, TaxPar. TaxPar also contains other polygons such as public ROWs.
- The standard covers BOTH :
 - Polygons [L3PS: 14-19]
 - Attributes [L3PS: 19-21, Appendix A]
- Polygons
 - All areas of a municipality MUST be covered by a polygon, and
 - Each area must have only 1 polygon covering it (no stacking).
 - Must pass polygon topology requirements of no gaps, no overlaps.
 - Should be consistent with municipal boundary and appropriately w/ visible features on orthos.
- Attributes:
 - All attributes must be present with types, lengths as specified.
 - For individual Elements:
 - Some may allow NULL. Blank is not allowed in fGDB data.
 - Some MUST have data in them.
 - Some have a limited number of acceptable values.



Maintaining L3 Parcel Mapping

Level 3 File Geodatabase: TaxPar

Attributes of TaxPar:

Attribute	Description
MAP_PAR_ID	Unique parcel identifier for a town that in the form of Map-Block-Lot, Map-Lot, Map-Block/Lot, or similar form.
LOC_ID	Unique parcel identifier based on a point inside the parcel polygon (the "centroid").
POLY_TYPE	Domain values that categorize polygons, including FEE, TAX, ROW, PRIV_ROW, RAIL_ROW, and WATER.
MAP_NO	Map Sheet Number.
SOURCE	Source of information defining the parcel.
PLAN_ID	Source document ID, for example, Plan No.
LAST_EDIT	The most recent date a parcel polygon was altered based on a 'real world' change (split, recombined).
BND_CHK	Used to confirm boundaries drawn between parcels when boundaries appeared inconsistent with ortho features.
NO_MATCH	A flag that, under specific cases and advanced notice to MassGIS, that a parcel record can be excluded from match rate checks with CAMA records (default is 'N').

Full specification: L3PS-Appendix A – Tax Parcel Attributes

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TaxPar contains these attributes: * - Focus on these attributes [L3PS: 6, Appendix A]

*MAP_PAR_ID - Unique parcel ID (Map/Lot, Map/Block/Lot, etc.).

*LOC_ID (Unique ID for FC, created within the FC-more on this later).

*POLY_TYPE (Domain of values – fixed - TAX, FEE, WATER, ROW, etc.).

- Two ways to represent taxable parcels in the standard:

 - FEE – parcel polygon where one or more Assess records relates to a single parcel (can be multipart).

 - TAX – polygon where two or more parcels combined for tax purposes and having a single Assess record.

 - Right of Way polygons (ROW – public or generic; PRIV_ROW; and RAIL_ROW).

 - WATER – polygons for ponds/lakesstreams that participated in defining the bndries of taxable parcels. [Typically, these parcels do not have an owner, but a few exist. These will not be part of match rate checks by the L3 QA script.].

Ponds wholly w/in a parcel are stored in MISC FC.

MAP_NO – Map Sheet Number.

SOURCE (ASSESS, SUBDIV, ANR, etc.) – source of info defining parcel.

PLAN_ID - source doc. ID, for example Plan Number.

*LAST_EDIT (YYYYMMDD) – this is important- the most recent data a parcel

polygon was altered based on a 'real world change' in 4 digit Year, 2 digit month, and 2 digit day (YYYYMMDD) format.

BND_CHK (Used to confirm whether bndry drawn betw parcels is consistent s correct w/ feats seen on an ortho–now optional).

*NO_MATCH – Excluded from matching with a CAMA record. This is used only rarely, with advanced notice to MassGIS, and is for cases where deed research is needed to ID an owner.

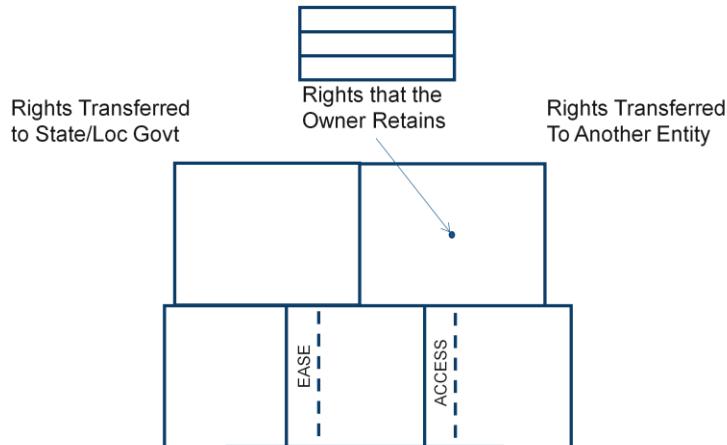
[See the standard for specifics concerning these attributes]



Maintaining L3 Parcel Mapping

Level 3 File Geodatabase: OthLeg

“Bundle of Rights”



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“Bundle of Rights”

[Some content source: <http://extension.illinois.edu/lcr/propertyrights.cfm>]

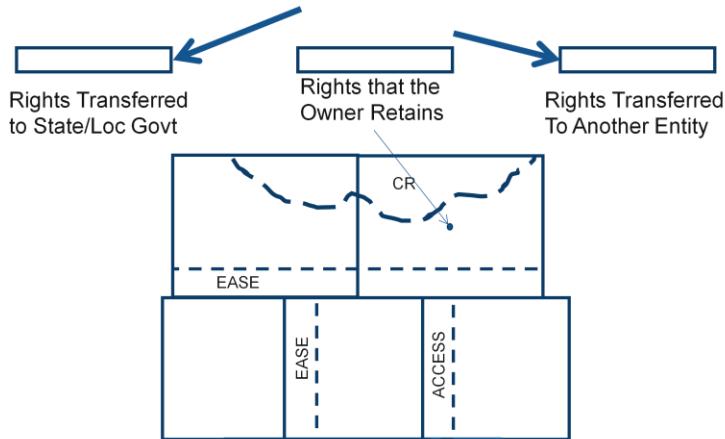
Property rights have been likened to a bundle of sticks where each stick represents a right or interest in land. These rights may all be owned by one person, known as “FEE simple ownership,” or specific rights may be transferred to a govt or other entity.



Maintaining L3 Parcel Mapping

Level 3 File Geodatabase: OthLeg

“Bundle of Rights”



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“Bundle of Rights” (continued)

Mapping of the area of personal ownership usually doesn't coincide with mapping of the areas of other rights such as conservation restrictions or easements. Rights may be sold off for part of one parcel and part of other parcels.

The OthLeg FC provides a way to map the polygons representing rights in land when one or more of these rights have been separated from full “FEE simple” ownership.

MassGIS also uses OthLeg to preserve parcel polygons that have been merged for tax purposes in TaxPar FC.



Maintaining L3 Parcel Mapping

Level 3 File Geodatabase: OthLeg

OthLeg (Other Legal) FC



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OthLeg FC “Other Legal” [LSPS: 18]

- Contains polygons that overlap partly or entirely with one or more polys in TaxPar.
 - 2 types:
 - First type is polygons representing separate rights within an area and cover 1 or more parcels.
 - Second type is FEE polygons (will return to later in the pres.).

For attributes of Easements:

- The Domain in the standard for LEGAL_TYPE attribute already contains several types, including EASE, CR, and RAIL_OVER.
 - Only the LEGAL_TYPE attribute is required.



Maintaining L3 Parcel Mapping

Level 3 File Geodatabase: OthLeg

Attributes of OthLeg:

Attribute	Description
LEGAL_TYPE	A domain of values that states whether the polygon is a FEE parcel part of a TAX parcel in TaxPar or an Easement (Req. for all polys).
MAP_PAR_ID	Unique parcel identifier for a town that in the form of Map-Block-Lot, Map-Lot, Map-Block-Lot-Unit, or similar form (Req. for FEE polys).
TAX_PAR_ID	The LOC_ID of the TAX parcel in TaxPar that this polygon is associated with (Req. for FEE polys).
LS_BOOK	Last Sale Book
LS_PAGE	Last Sale Page
REG_ID	Registration ID

Full specification: L3PS-Appendix A – Other Legal Interests Attributes

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OTHLEG: [L3PS: 21-22]

LEGAL TYPE – (Required for all polys) Domain of attributes that records whether a polygon is a FEE parcel or some kind of Easement.

MAP_PAR_ID – (Required for FEE polys) Unique identifier for a parcel in a community in the form of Map-Block-Lot or similar form.

TAXPAR_ID – (Required for FEE polys) This is the LOC_ID of the TAX parcel in TaxPar that covers it.

LS_BOOK - last sale book.

LS_PAGE - last sale page.

REG_ID – Equivalent to the Book and Page numbers in Registry of Deeds but these are for cases through Land or Probate Court.

[See the standard for specifics concerning these attributes]

The domain of valid values for the LEGAL_TYPE attribute can be expanded, for example, “EASE-SEWER” or “EASE-DRAIN.” However, if you do that, we want to know what they are. This is why we have a LUT for this domain.



Maintaining L3 Parcel Mapping

Level 3 File Geodatabase: LUT

LEGAL_TYPE (OthLeg) Attributes in LUT

- The domain of values for the LEGAL_TYPE attribute in OthLeg.
- Custom codes can be used.
- Each new custom value used must be entered in the LUT (Lookup Table).

OBJECTID *	TOWN_ID *	FIELD_NM *	CODE *	CODE_DESC
1	0	LEGAL_TYPE	FEE	parcel of land moved from the TaxPar layer
2	0	LEGAL_TYPE	PRV_ROW	private right-of-way
3	0	LEGAL_TYPE	EASE	easement
4	0	LEGAL_TYPE	CR	conservation restriction
5	0	LEGAL_TYPE	APR	agricultural preservation restriction
6	0	LEGAL_TYPE	CRX	conservation restriction exclusion
7	0	LEGAL_TYPE	APRX	agricultural preservation restriction exclusion
8	0	LEGAL_TYPE	RAL_ROW	railroad ROW on parcel with different owner
9	0	LEGAL_TYPE	RAL_OVER	railroad ROW crossing on top of another ROW
10	0	LEGAL_TYPE	ROW_OVER	ROW crossing on top of another ROW (i.e. overpass)
12	0	MISC_TYPE	WETLAND	wetland area (as shown on assessor map)
13	0	MISC_TYPE	WATER	double line stream, lake, pond, reservoir, etc...
14	0	MISC_TYPE	ISLAND	island in a body of water, isn't a separate parcel
15	0	MISC_TYPE	TRAFFIC_ISLAND	a raised area within a ROW, shown for reference
16	0	MISC_TYPE	OUTSIDE	portion of parcel split by and/or existing beyond town boundary
17	0	MISC_TYPE	BLDG	building outlines/rooftops/footprints
18	82	MISC_TYPE	RESERVED_SPRING	reserved spring

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The domain of values used for LEGAL_TYPE in OthLeg is listed in the (M000_)LUT.

CODE = LEGAL_TYPE.

As previously mentioned, custom attribute values for LEGAL_TYPE can be used, and this LUT is where you store them.

Each new custom value used must be entered in the LUT (Lookup Table) with the town id, the FIELD_NM = LEGAL_TYPE, the CODE value itself, and a description in CODE_DESC.



Maintaining L3 Parcel Mapping

Level 3 File Geodatabase: Misc

Misc (Miscellaneous) FC



OBJECTID	MISC_TYPE *	TOWN_ID
1	TRAFFIC_ISLAND	82
2	TRAFFIC_ISLAND	82
3	TRAFFIC_ISLAND	82
4	TRAFFIC_ISLAND	82
5	TRAFFIC_ISLAND	82
6	TRAFFIC_ISLAND	82
7	RESERVED_SPRING	82
8	TRAFFIC_ISLAND	82
9	RESERVED_SPRING	82
10	TRAFFIC_ISLAND	82
11	TRAFFIC_ISLAND	82

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Misc FC: [L3PS: 19]

- contains any other polygon features that you want represented on a tax map. The Misc FC typically includes a number of features such as TRAFFIC_ISLAND (features found in a road intersection), WATER, and WETLAND.
- You are not required to use this feature class. If you have other feature classes that have, for instance, ponds and lakes, use those feature classes, instead. But, even if you have no polygons in this FC, it must be present in the fGDB submitted to MassGIS.

The polygons in MISC are identified in the MISC_TYPE attribute. The valid domain of values for this attribute can also be expanded provided they are included in the LUT.



Maintaining L3 Parcel Mapping

Level 3 File Geodatabase: Misc

MISC_TYPE (MISC) Attributes in LUT

- MISC_TYPE (Misc) – The domain of values for the MISC_TYPE attribute in MISC.
- Custom codes can be used.
- Each new custom value used must be entered in the LUT (Lookup Table).

OBJECTID *	TOWN_ID *	FIELD_NM *	CODE *	CODE_DESC
1	0	LEGAL_TYPE	FEE	parcel of land moved from the TaxPar layer
2	0	LEGAL_TYPE	PRIV_ROW	private right-of-way
3	0	LEGAL_TYPE	EASE	easement
4	0	LEGAL_TYPE	CR	conservation restriction
5	0	LEGAL_TYPE	APR	agricultural preservation restriction
6	0	LEGAL_TYPE	CRX	conservation restriction exclusion
7	0	LEGAL_TYPE	APRX	agricultural preservation restriction exclusion
8	0	LEGAL_TYPE	RAIL_ROW	railroad ROW on parcel with different owner
9	0	LEGAL_TYPE	RAIL_OVER	railroad ROW crossing on top of another ROW
10	0	LEGAL_TYPE	ROW_OVER	ROW crossing on top of another ROW (continued)
12	0	MISC_TYPE	WETLAND	wetland area (as shown on assessor map)
13	0	MISC_TYPE	WATER	double line stream, lake, pond, reservoir, etc...
14	0	MISC_TYPE	ISLAND	island in a body of water, isn't a separate parcel
15	0	MISC_TYPE	TRAFFIC_ISLAND	a raised area within a ROW, shown for reference
16	0	MISC_TYPE	OUTSIDE	portion of parcel split by and/or existing beyond town boundary
17	0	MISC_TYPE	BLDG	building outlines/rooftops/footprints
18	82	MISC_TYPE	RESERVED_SPRING	reserved spring

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The domain of values used for MISC_TYPE in MISC is also listed in the LUT.

[L3PS: 22, Appendix A]

- Like in LEGAL_TYPE, MISC_TYPE – The domain of values to describe any feature in MISC FC.
- Custom codes can be used.
- Each new value used must be entered in the LUT (Lookup Table). For each new value, create a new record, enter your TOWN_ID, then select “MISC_TYPE” under FIELD_NM, then enter the value for CODE and then a description for that code.



Maintaining L3 Parcel Mapping

Level 3 File Geodatabase: Assess

Assess Table

OBJECTID *	PROP_ID	LOC_ID *	BLDG_VAL	LAND_VAL	OTHER_VAL	TOTAL_VAL	FY	LOT_SIZE	L_S_PRICE	USE_CODE
1	001850002000	F_851502_2643114	0	40600	0	40600	2017	1.91	0	930V
2	002967000000	F_851134_265002	161700	129100	34000	324800	2017	2.61	625000	1010
3	002967000000	F_851134_265002	0	300	0	300	2017	0.14	225000	1010
4	002968000000	F_855179_2651117	302200	144100	1400	447500	2017	0.35	555000	1010
5	003014000000	F_854631_2649066	0	1100	0	1100	2017	28.71	1	7170
6	003057000000	F_854509_2649761	0	1600	0	1600	2017	0.09	0	1320
7	003058000000	F_854682_2650090	0	14200	0	14200	2017	0.78	100	1320
8	003060000000	F_854855_2649997	212600	219000	0	435600	2017	3.6351	420000	1010
9	003061000000	F_855190_2649947	731900	378000	151500	1262200	2017	4.6503	1915000	1010

E	SITE_ADDR	ADDR_NUM	FULL_STR	LOCATION	CITY	ZIP	OWNER1	OWN_ADDR	OWN_CITY	OWN_STATE	OWN_ZIP
0	HIGH ST	0	HIGH ST	DUXBURY	02332	DUXBURY TOWN OF	878 TREMONT ST	DUXBURY	MA	02332	
67	DINGLEY DELL LN	67	DINGLEY DELL LN	DUXBURY	02332	STRIEBEL DAVID J T	PO BOX 2723	DUXBURY	MA	02331	
0	DINGLEY DELL LN	0	DINGLEY DELL LN	DUXBURY	02332	DINGLEY DELL ESTATES INC	PO BOX 2723	DUXBURY	MA	02331	
19	MELLORS WALK	19	MELLORS WALK	DUXBURY	02332	VITARO RICHARD P	19 MELLORS WALK	DUXBURY	MA	02332	
0	CONGRESS ST	0	CONGRESS ST	DUXBURY	02332	COSTANZO ROBERT A TT	254 TAYLOR ST	PEMBROKE	MA	02359	
0	CONGRESS ST	0	CONGRESS ST	DUXBURY	02332	MIGRE JAMES P	115 CONGRESS ST	PEMBROKE	MA	02359	
0	CONGRESS ST	0	CONGRESS ST	DUXBURY	02332	DINGLEY DELL ESTATES INC	PO BOX 2723	DUXBURY	MA	02331	
21	DINGLEY DELL LN	21	DINGLEY DELL LN	DUXBURY	02332	SISKKA ANDRUS	21 DINGLEY DELL LN	DUXBURY	MA	02332	
1010	CONGRESS ST	1010	CONGRESS ST	DUXBURY	02332	STRIEBEL PATRICK	1010 CONGRESS ST	DUXBURY	MA	02332	

P	OWN_CD	LS_BOOK	LS_PAGE	REG_ID	ZONING	YEAR_BUILT	BLD_AREA	UNITS	RES_AREA	STYLE	STORES	WIM_ROOMS	LOT_UNITS	CAMA_ID *	TOWN_ID
	11969	107		PD	1979	2040	0	340	Vacant Land	0	0/A	1001	02		
	39122	24		PD	1979	2040	0	340	Cape Cod	1.75	1/A	760	02		
	6150	261		PD	1969	4426	0	2476	Vacant Land	0	0/A	763	02		
	26520	74		PD	1969	4426	0	2476	Colonial	2	8/A	764	02		
	42297	111		RC			0	0	Vacant Land	0	0/A	679	02		
	3881	626		PD			0	0	Vacant Land	0	0/A	750	02		
	33538	202	O	O			0	0	Vacant Land	0	0/A	751	02		
	43373	187		PD	1964	5807	0	2672	Split Level	2	8/A	752	02		
	39724	56		RC	2000	7831	0	5097	Colonial	2	11/A	754	02		

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The Assess table source is a copy of your Assessor's CAMA database. The five major CAMA software packages.

Include: Vision, Patriot, PK_Systems, CSC/Tyler IAS, Tyler Universe. [L3PS: 13-15, Appendix A]

- This extract is available in all CAMA systems.
- The extract includes the field containing the LOC_ID.

There are many fields that are included in an extract. The standard specifies each field's name, type, and length. The extract must be imported into an empty Assess table that conforms to the MassGIS standard. I'll speak more about this in a couple slides.



Maintaining L3 Parcel Mapping

Level 3 File Geodatabase: Assess

Data Attributes in the Assess table

PROP_ID (initial link to map)	PROP_ID	
BLDG_VAL		
LAND_VAL	Valuations	
OTHER_VAL		
TOTAL_VAL		
FY (fiscal year)		
LOT_SIZE		
LS_DATE	Miscell.	
LS_PRICE		
USE_CODE		
SITE_ADDR		
ADDR_NUM		
FULL_STR		
LOCATION (unit, side)	Site Address Info.	
CITY		
ZIP		
▪ Files from one CAMA system may appear different a file from another but all should have these data elements.		
OWNER1		
OWN_ADDR		Owner Info.
OWN_CITY		
OWN_STATE		
OWN_ZIP		
OWN_CO		
LS_BOOK (last sale book)		
LS_PAGE (last sale page)	Registry Info.	
REG_ID		
ZONING		
UNITS (number of units)		
YEAR_BUILT		
BLD_AREA (commercial / industrial)		
RES_AREA (gross living area)		
STYLE		
STORIES		
NUM_ROOMS		Miscell.
LOT_UNITS (units for lot size)		
CAMA_ID		
LOC_ID		

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The Assess table developed from the MassGIS CAMA has these elements. Generally, elements include valuations, site address information, owner and owner address information, registry information, and other useful items.

One of the data elements in the assessing extract is USE_CODE.



Maintaining L3 Parcel Mapping

Level 3 File Geodatabase: Assess-UC_LUT

Use Code Lookup Table (UC_LUT)

OBJECTID *	TOWN_ID	USE_CODE	USE_DESC
587	0	9740	Vacant, Utility Authority
588	0	9750	Vacant, Transportation Authority
589	0	9800	Vacant, Selectmen or City Council, Other City or Town (Municipal)
590	0	9810	Improved, Selectmen or City Council, Other City or Town (Municipal)
591	0	9820	Vacant, Conservation, Other City or Town
592	0	9850	Improved Municipal or Public Safety, Other City or Town
593	0	9980	Vacant, Other District (County)
594	0	9890	Improved, Other District (County)
595	0	9900	121A Corporations
596	0	9910	Vacant County or Regional
597	0	9920	Improved, County or Regional Deeds or Administration
598	0	9930	Improved County or Regional Correctional
599	0	9940	Improved County or Regional Association Commission
600	0	9950	Other, Open Space
601	0	9960	Other, Non-Taxable Condominium Common Land
602	0	9970	Other
603	82	722	Wasteland
604	82	343	Commercial Condo
605	82	0109	Multi Hses
606	82	0325	Pri Res
607	82	0322	Condo - Vacant
608	82	101A	Single Fam - Affordable
609	82	102A	Condo - Affordable

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[L3PS: 23]

There are standard use code values, established by DOR. These are already populated in this table.

Munis can add custom values. If custom values are used, they must be entered in the UC_LUT table. For each new value, create a new record, then enter your TOWN_ID, the use code value, and a brief description of what that value describes (you may need the Assessor to provide a description).

USE_CODE is becoming more and more important as a way to characterize the human activity at a location. The use code is used for various types of regional analysis and is part of creating MassGIS land use-land cover mapping, which will be released later this year.



Maintaining L3 Parcel Mapping

MassGIS CAMA Extract

How the Assess Table is Updated - Via the MassGIS Extract:

- It is a specific file exported from a CAMA system containing assessor data included in the L3 Parcel standard.
- Typically a .txt, .csv, or .xls (not .xlsx) format.

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Back to the Assess table – along with the changes to TaxPar, OthLeg, and Misc to visually represent the parcels, the data in the Assess table needs to be replaced with an updated version from the Assessor’s CAMA system. This update is based on the MassGIS standard extract. [L3PS: 22-23]

The screenshot illustrates the workflow for importing a MassGIS Extract into ArcMap. It starts with a 'MA GIS.txt' file being processed by the 'Extractor' utility. The utility generates a 'PostProc.txt' file and a 'schema.ini' file. These files are then used to right-click on an 'Assess' table in an ArcMap feature class, and a context menu is shown with the 'Load Data...' option selected. This leads to a final state where the 'Assess' table is successfully loaded into the ArcMap database, which also contains other tables like 'M000.LUT' and 'M000Assess'.

So, how does the Assess table get up to date using the extract from the Assessor's CAMA database?

The data is exported by the Assessor from the CAMA database using the "MassGIS standard report" export format within the CAMA. The result is a file (.txt, .csv, or .xls).

There are two steps to importing this file:

1. Use the utility, currently called the Extractor, that opens a selected file, reformats the data and creates two files: a PostProc.txt file that contains the reformatted data and a schema.ini file that maps the fields between the PostProc.txt file and the Assess table.
2. In ArcMap copy into your fGDB an empty Assess table from a template fGDB (available from MassGIS) then right-click over that table and select LOAD, then select the PostProc.txt file to import data into the template Assess table.

Instead of importing the file, you can submit an MassGIS extract along with the fGDB. **HOWEVER**, the extract MUST still be created from the MassGIS standard extract option. But, If you do successfully LOAD the CAMA data into the Assess table and have the other five required elements of the L3 fGDB, you'll be able to run the MassGIS L3 Parcel QA tool and get your results quicker.

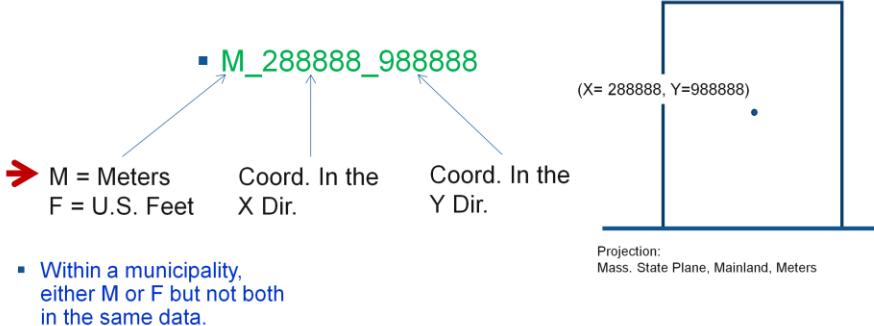


Maintaining L3 Parcel Mapping

Level 3 Maintaining LOC_IDs

The Locational ID (LOC_ID):

- LOC_ID is the same format in every municipality
- Derived from coordinate location inside the parcel polygon in TaxPar



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As stated in the attribute slide for TaxPar, LOC_ID is the unique identifier for polygons in TaxPar. It has these advantages [L3PS: 10]:

- Same format all the time in every municipality.
- Represents a coordinate somewhere within a parcel polygon – usually the centroid.

The LOC_ID value has three components, separated by underscores. This whole value represents a point within a parcel that it was created from:

- “M” or “F” signifying the units of the Mass. State Plane coordinate system you are working in.
- Next is the 1st set of numbers representing the location in the X dir. in that unit of a point within that parcel.
- The last group is the second set of numbers representing the Y direction in that unit.
- Only the numbers to the left of the decimal are used.

MassGIS uses the Massachusetts State Plane, Mainland projection, in Meters. Many communities have LOC_IDs in feet, which is generally OK, but contact us if you are unsure how to proceed.



Maintaining L3 Parcel Mapping

Level 3 File Geodatabase: TaxPar

Challenge of Map ID differences:

- CAMA stores map information:
- Map=195, Block=12, Lot=10,
- (and maybe sub-lots A, B, C, etc.)

GIS	CAMA SYSTEM
195-12-10	195-12-10
195_12_10	195/12/10
195-12-10A	195//12//10A

- Map-Block-Lot values are often formatted differently between GIS and CAMA data. Thus, links between the two are much harder to manage.

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So, why can't we use Map-Par-ID instead of creating a new type of parcel ID?
[L3PS: 10, 19]

CAMA systems store the map id information in several fields, then concatenate them into a string either padding digits with 0s or having separators. Thus:

- There are multiple ways in which same map/block/lot information may be displayed on maps and in assessor records between communities.
- If there is not coordination between the map editors and the assessors, the same MAP_PAR_ID value in TaxPar may be formatted differently from PROP_ID in Assess and, thus, a link between the records is NOT established.
- Map, Block, and Lot information is only unique in each community.

Also, condo owners on the same parcel have their own MAP_PAR_ID (often with a Unit or serial number with the base MAP_PAR_ID No). These condo Map IDs have no equivalent on the parcel map.

The result is much lower match rates and more time/money in maintaining values. LOC_ID solves these issues.



Maintaining L3 Parcel Mapping

Maintaining LOC_ID Values and Links: Simple FEE Parcels

Before: Single Parcel



Original LOC_ID

After: Two Parcels



New LOC_IDs Needed

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Maintaining Parcels in the L3 Standard –

When parcels are split or significantly changed (not just altered slightly) a new LOC ID needs to be generated.

In this example, one FEE parcel is split roughly down the middle into two smaller parcels and two LOC ID values will be created.

The first thing to do is use the ArcGIS tools to split the polygon into smaller polygons.

"M_ " + str(int(round(ISSHAPE.LABELPOINT!.X,0))) + " " + str(int(round(ISSHAPE. LABELPOINT!.Y,0)))

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Next, you create LOC_IDs for each of these new polygons:

- select the split or combined polygons.
- in the TaxPar attributes table, use Field Calculator to create a new LOC_ID value using a python command provided below. This process is documented step-by-step in the “Guide to Maintaining Parcels.” Note the use of the SHAPE.LABELPOINT command. [We have found that w/ “L” or “U” shaped parcels sometimes did not create an acceptable value when SHAPE.CENTROID was used.]
- Finally, fill in the other attributes for the parcels.

Remember: each polygon has a unique LOC_ID value, including ROW and WATER polygons.

If a parcel has non-contiguous parts, then a single multipart polygon needs to be made, then a LOC_ID created.



Maintaining L3 Parcel Mapping

Maintaining LOC_ID Values and Links: Simple FEE Parcels

Finished Parcels



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The result should have two parcels, each with LOC_ID values different from each other and located within the respective polygon.



Maintaining L3 Parcel Mapping

Maintaining LOC_ID Values and Links: Simple FEE Parcels

New LOC_ID
Values Needed



Old LOC_ID
Value Retained
Where X-Y
Coordinate
Components
Create a Point
Within that
Polygon

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In some cases, the original LOC_ID value can be retained. Here, a lot has been split into multiple lots. The old LOC_ID, if the value represented a centroid, is retained in the center parcel.



Maintaining L3 Parcel Mapping

Maintaining LOC_ID Values and Links: Simple FEE Parcels

Notify Assessor to Update LOC_IDs in CAMA via a LOC_ID Change List

- “LOC_ID change list” – a list with the minimum fields
 - PROP_ID
 - LOC_ID
- Assessor uses list to Copy/Paste updated values into corresponding CAMA records
- CAMA LOC_ID update tool “In the Works” with Patriot, Vision.

PROP_ID	Loc_ID
068/420.0-0020-0011.0	F_318387_2993289
068/413.0-0046-0003.0	F_333222_3010034
068/102.0-0031-0000.0	F_332957_3013361
068/102.0-0019-0001.0	F_332684_3013433
068/411.0-0022-0002.0	F_338376_3019197
068/410.0-0065-0000.0	F_325148_3018042
068/411.0-0022-0001.0	F_338151_3020095
068/406.0-0012-0001.0	F_338886_3026535
068/406.0-0012-0002.0	F_338582_3027042
068/407.0-0033-0001.0	F_326551_3028848
068/404.0-0037-0000.0	F_325999_3030340
068/412.0-0022-0002.0	F_338785_3008567
068/407.0-0126-0001.0	F_332908_3022277
068/402.0-0001-0001.0	F_324052_3035804
068/401.0-0001-0001.0	F_324638_3036766
068/414.0-0029-0000.0	F_323639_3006693
068/413.0-0060-0000.0	F_331490_3010589
068/411.0-0034-0000.0	F_340259_3016986

25

If you create LOC_ID per new or reconfigured parcels, then the Assessor needs to update the corresponding assessing records. How is it done?

This requires that the Assessor be provided a file with this info – at minimum the PROP_ID for a CAMA record and the corresponding LOC_ID value. Other fields can be added such as site address if this is helpful to the Assessor. [L3PS: 32]

The Assessor receives this change list and uses the PROP_ID to look for the CAMA record, then will COPY and PASTE the new LOC_ID in the CAMA, replacing any existing values already in the field. Any CAMA record to a parcel gets the LOC_ID value for that lot. For instance, individual condo owners get the same LOC_ID value in a lot. MassGIS has an instruction sheet for Assessors.

Remind the Assessor NOT TO TYPE IN THE LOC_ID VALUES –this introduces typos.

Patriot and Vision said they will develop a LOC_ID update tool for Assessors. When avail., MassGIS will provide updated info about this.



Maintaining L3 Parcel Mapping

Maintaining LOC_ID Values and Links: TAX - FEE Parcels

Linking CAMA Records to Two + Parcel Records Using TAX-FEE Relationships:

- TAX-FEE combines parcels (same owner, different MAP_PAR_ID values, and in most cases, adjacent to one another) for 'TAX' purposes so that one CAMA record is associated with multiple parcels.
- This is done using both the TaxPar and OthLeg FCs.



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Back when the TaxPar FC was introduced, the value, "TAX" was introduced as one of the domain values in POLY_TYPE.

There are two needs:

- The Assessor has the need to group two or more parcels for 'tax purposes' to create address lists and tax bills.
- Engineering and other entities have the need to represent all deeded parcels on a tax map with their owner information

TAX-FEE relationship is used to combine parcels (same owner, different MAP_PAR_ID values, and in most cases, adjacent to one another) for 'TAX' purposes so that one CAMA record is associated with multiple parcels [and to ID the entire area for that owner record]. This is done using both the TaxPar and OthLeg FCs. [L3PS: 31-32]

TAX Parcels in TaxPar:

- Are the dissolved areas of groups of individual parcel polygons.
- LOC_ID value is created in this polygon and stored in LOC_ID.
- MAP_PAR_ID has no value (There is more than one value involved)
- POLY_TYPE = TAX to signal this particular relationship.

FEE polygons in OthLeg:

- Are the same 'FEE' polygons originally in TaxPar.
- LEGAL_TYPE = FEE
- MAP_PAR_ID is Map Id of that parcel
- TAXPAR_ID has the LOC_ID value of the TAX poly covering this poly in TaxPar.

Not all communities create TAX parcels, but it's the only way to apply one CAMA record over more than one separately deeded parcel.

The OthLeg FC can be empty IF there are no FEE parcels from a TAX-FEE relationship, and no digitized easements maintained in your GIS as polygons.

This is how to create this relationship – using the first case, which has three adjacent polygons, same owner, different MAP_PAR_ID values.

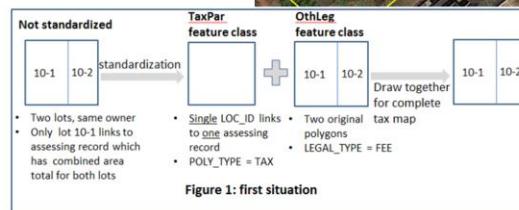


Maintaining L3 Parcel Mapping

Maintaining LOC_ID Values and Links: TAX - FEE Parcels

Creating TAX Parcels in TaxPar: Case #1–Dissolve Adjacent Polys

Start with selecting parcel polygons that are to be combined for tax purposes and are represented by one CAMA record.



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To create TAX-FEE parcel polygons:

Start by selecting parcel polygons that are to be combined for tax purposes and are represented by one CAMA record.

This is a situation where you should be in conversation with the Assessor. The Assessor should have created one record representing the three parcels owned by the same owner. If there are still records for each parcel, then it is NOT a TAX Parcel.

In this example, the Assessor has confirmed that there is only one CAMA record for these parcels.

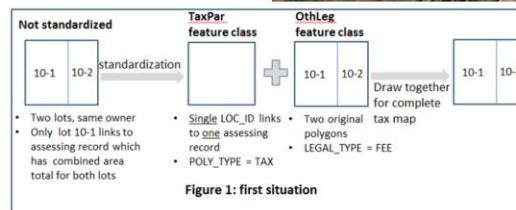


Maintaining L3 Parcel Mapping

Maintaining LOC_ID Values and Links: TAX - FEE Parcels

Creating TAX Parcels in TaxPar: Case #1-Dissolve Adjacent Polys

- Copy component parcels from TaxPar into OthLeg
- Make sure each component parcel in OthLeg has the right MAP_PAR_ID value



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Then,

- Copy component parcels from TaxPar and paste into OthLeg.
- Make sure each component parcel in OthLeg has the right MAP_PAR_ID value.

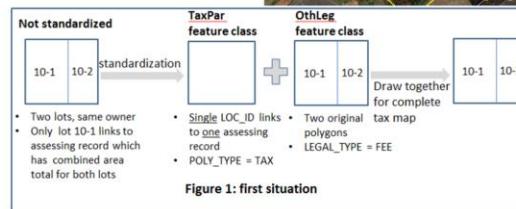


Maintaining L3 Parcel Mapping

Maintaining LOC_ID Values and Links: TAX - FEE Parcels

Creating TAX Parcels in TaxPar: Case #1-Dissolve Adjacent Polys

- In TaxPar, dissolve the copied parcels into one large parcel
- Create a new LOC_ID value for that parcel
- If present, delete the value in MAP_PAR_ID
- Change POLY_TYPE to "TAX"



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Then,

- In TaxPar, dissolve the selected parcels into one large polygon.
- Create a new LOC_ID value for that parcel.
- If present, delete the value in MAP_PAR_ID.
- Change POLY_TYPE to "TAX."
- Also, enter the values for the other fields in the TaxPar record.

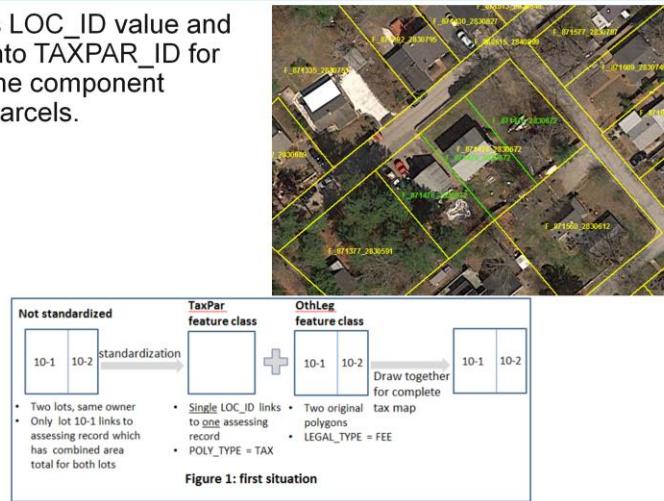


Maintaining L3 Parcel Mapping

Maintaining LOC_ID Values and Links: TAX - FEE Parcels

Creating TAX Parcels in TaxPar: Case #1-Dissolve Adjacent Polys

- Copy this LOC_ID value and paste it into TAXPAR_ID for each of the component OthLeg parcels.



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Then,

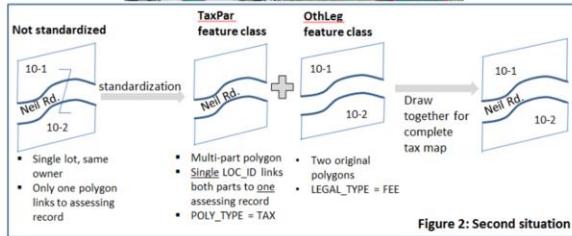
- Copy this LOC_ID value and paste it into TAXPAR_ID for each of the component parcels in OthLeg.



Maintaining L3 Parcel Mapping

Maintaining LOC_ID Values and Links: TAX - FEE Parcels

Creating TAX Parcels in TaxPar: Case #2 – Multi-Part Polygons



Source: Guide to Maintaining L3 Parcels

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The second case is when one of the lots may be across a right of way or WATER polygon and, thus does not have a shared boundary. Again, each lot should have its own Map-Par-ID, and, of course, a common owner.

If the lots are far apart, for instance, across town, we don't generally accept them as TAX parcels.



Maintaining L3 Parcel Mapping

Maintaining LOC_ID Values and Links: TAX - FEE Parcels

This is **NOT** a TAX Parcel:



Same MAP_PAR_ID indicates parts of same deeded parcel. Make A single multipart FEE Polygon in TaxPar, no components in OthLeg.

32

The above is NOT a TAX parcel. If the MAP_PAR_ID is the same in each polygon, then these are likely two parts of THE SAME PARCEL. If this is the case, then these two should be made into a multi-part polygon with POLY_TYPE value of FEE.

Multipart polygons are required where there are two or more non-adjacent portions of the same polygon, regardless of whether the polygon is TAX or FEE.



Maintaining L3 Parcel Mapping

Maintaining LOC_ID Values and Links: Municipal Boundary Checks

Municipal Boundaries and L3 Parcel Boundaries

- Generally, L3 Parcel boundaries should be clipped to the boundary.
- Where other boundary delineations may be accepted:
 - Town Surveyed boundaries with Engineering plans
 - Water Boundaries
 - Right of Way
- MassGIS's boundary mapping is based on:
 - Harbor and Land Commission Atlas (published 1898 – 1915)
 - Mass. Acts and Resolves that modify boundaries drawn since Atlas
 - USGS Topographical maps and other sources.

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Parcel boundaries must be clipped to the MassGIS survey-derived municipal boundary. [L3PS: 27]

Where other boundary delineations may be accepted:

- Engineering plans with Town Surveyed boundaries
- Water Boundaries in your tax map
- Right of Way in your tax map

MassGIS' boundary mapping:

- Harbor and Land Commission Atlas (published 1898 – 1915)
- Mass. Acts and Resolves that modify boundaries since Atlas was published
- USGS Topographical maps and other sources.

Editing 'M000TaxPar'

Identification

General | Contact | Citation | Time Period | Status | Spatial Domain | Keywords | Browse Graphic | Security | Cross Reference

Description

Abstract: This dataset is a polygon representation of the parcels for the Town of Dubu, Massachusetts. Edits to a base parcel file were made to the spatial and tabular data in order to bring the file in compliance with November 2010 MassGIS.

Purpose: The purpose of this dataset is to provide the Massachusetts Office of Geographic Information with a polygon representation of the parcels for the Town of Dubu, Massachusetts that comply with its Level III standards.

Language: English

Supplemental Information: (OPTIONAL)

Access Constraints: This digital parcel data layer is considered to be in the public domain and will become accessible for download and display from the MassGIS website: <http://www.mass.gov/mgis>

Use Constraints: This data may be appropriate for planning purposes. It should not be utilized where legal and surveyed property boundaries are required.

Data Set Credit: Geospatial Department, Coler & Colantonio, Inc. (781) 982-5405

Native Data Set Environment: This parcel data is submitted to MassGIS in a file geodatabase. It will be incorporated into the MassGIS SDE database, and may be converted into other GIS data types for future distribution.

Native Data Set Format: File geodatabase feature class

Save | Cancel | Help

FGDC Editor (Plug In)

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We view metadata just as important as the polygon or attribute data within the fGDB [L3PS: 26, Appendix C].

Maintain within the M000TaxPar FC in fGDB via FGDC Editor Add-in.

Downloadable from ESRI web site.

Full metadata created when L3 Parcels first created.

The screenshot displays three windows from a software application titled "Editing 'MOB2TaxPar'".

- Top Window:** "Identification" tab. It contains fields for "Abstract", "Language", "Access Constraints", "Use Constraints", "Data Set Credit", "Native Data Environment", and "Native Data Format". A red circle highlights the "Abstract" field, which contains the text: "Polygons were assigned a 2D plan link to the M171Assessor reference. These fields were populated where they were known and applicable. Annual parcel updates completed May 2016." Another red circle highlights the "Native Data Format" field, which contains "GeoDatabase feature class".
- Middle Window:** "Metadata Reference" tab. It shows "Currentness Reference" set to "Validation Date" and "Time of Day" set to "May 2016". A red circle highlights the "Validation Date" dropdown.
- Bottom Window:** "Metadata" tab. It shows "Metadata Date" set to "5/21/2016". Other fields include "Metadata Standard Name" (FGDC Content Standards for Digital Geospatial Information), "Review Date", "Metadata Future", "Previous Version", "Language of Metadata", "Metadata Contact", "Metadata Access Constraints", "Metadata Use Constraints", and "Handling Information". A red circle highlights the "Metadata Date" field.

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Only three fields need to be updated with each submission:

- Abstract (be sure there is a statement about updating mapping and CAMA data and provide a date of currentness).
- Time Content/Calendar Date: Change to represent the currentness of data submitted.
- Metadata Date: Change to the date the metadata was edited.



Maintaining L3 Parcel Mapping

Level 3 File Geodatabase Delivery Format and QA

Format of Delivery:

- File type accepted:
 - File Geodatabase (FGDB)
 - Personal geodatabase (.mdb)
 - Shape Files **NOT** accepted
 - CAD Files **NOT** accepted
- Components: Minimum the three FCs (TaxPar, OthLeg, Misc) and three tables (Assess, LUT, UC_LUT), with the fields as specified in the standard
 - Other layers can be included
 - Additional attributes in existing feature classes are OK as long as the standard required attributes are present
- In lieu of an updated Assess table, a CAMA extract containing updated LOC_ID and other data can be included with the fGDB
- FC may be part of a feature data set.

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File type accepted:

-File Geodatabase (fGDB) [L3PS: 8, 27]:

 -with the six required, conformant components.

-Personal geodatabase (.mdb), **providing** it has the six required, conformant components.

-No shape files or CAD files accepted.

Components: TaxPar, OthLeg, and Misc FC and, Assess, LUT, and UC_LUT tables with the fields as specified in the standard.

- Other layers can be included and other attributes accepted as long as the standard layers and attributes are there.
- FC can be in a feature dataset.

For now, an updated CAMA extract (MassGIS extract) containing the updated LOC_ID can be submitted in lieu of an updated Assess table – this may change. As noted earlier, if you produce fGDB with all 6 components you can then run MassGIS QA yourself. Several of your peers have said that this is useful.



Maintaining L3 Parcel Mapping

Level 3 File Geodatabase Delivery Format and QA: Where to Upload

- How to Deliver: MUNIUPLOAD Utility
 - All fGDB files for L3 Parcel review are placed here
 - Similar to an FTP site
 - Prefer NOT to have delivery via email
 - Requires sending an email requesting that an account be set up. The url will be provided as part of the set up.

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How to Deliver: MUNIUPLOAD Utility

All fGDB files for L3 Parcel review are placed here.

Similar to an FTP site.

Requires an account set up (by email address).

Requires sending an email requesting that an account be set up. The url will be provided as part of the set up.

Documentation sent when the account is set up.



Maintaining L3 Parcel Mapping

Level 3 File Geodatabase Delivery Format and QA

L3 QA Script Basic Rules and Checks:

- All FCs and tables are present and the fields within them are the correct type and length
- Values in the attribute tables conform to the schema
- LOC_IDs: one and only one per polygon; no duplicate values
- Links between the mapping and assessing database are correct
- Identify gross discrepancies between parcel area measured by the GIS software and the lot-size recorded by the assessor
- There are no overlaps or gaps between parcel polygons (topology check)
- TAX-FEE relationships are correct both in the geometry and the attributes

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L3 QA Script Basic Rules and Checks:

- All FCs and tables are present and the fields within them are the correct type and length.
- Values in the attribute tables conform to the schema based on the standard.
- LOC_IDs: one and only one per polygon; no duplicate values.
- Links between the mapping and assessing database are correct [L3PS: 32-33, -Appendix A].
 - This includes checking that match rates meet minimum percentage levels:
 - From Assess records with Building or Other Values > \$1K to TaxPar records (<= 1000 parcels – 99.0%, >1000 parcels – 99.8%).
 - From Assess records with Building or Other Values < \$1K to TaxPar records (< 1000 parcels – 95%.0, > 1000 parcels – 97.0%).
 - From TaxPar records to Assess records.
- Identify gross discrepancies between parcel area measured by the GIS software and the lot-size recorded by the assessor;
 - the primary purpose of lot size vs. GIS area check is identifying incorrect links to the assessing data extract; and whether the LOT_UNIT value (S

or A) matches the values in LOT_SIZE.

- compares lots that are at least 1 acre in size and reports discrepancies >50%.

[- we don't review unless there are MANY records.]

- There are no overlaps or gaps between parcel polygons (topology check)
- TAX-FEE relationship correctly modeled, including:[
 - There are two or more OthLeg component polygons for each TAX polygon in TaxPar.
 - There is a TAX polygon in TaxPar covering FEE polygons in OthLeg.
 - Every FEE parcel in OthLeg has a value in TAXPAR_ID and MAP_PAR_ID].
 - TAX polygons in TaxPar exactly cover all component FEE polygons in OthLeg.
 - [There are less records in Assess for the TAX parcel to number of FEE parcels in OthLeg.]

There are seven separate checks on TAX-FEE relationships. The most important of these is that the TAX parcel in TaxPar must exactly cover all of its constituent FEE parcels in OthLeg.

If your fGDB contains all six components, you can run the script and obtain the results immediately.



Maintaining L3 Parcel Mapping

Maintenance Package to Be Distributed:

After the Webinar, the Following Will be Distributed to You:

- **Maintaining L3 Parcel Mapping Webinar Presentation** - (this document)
- **Municipal Boundaries and the L3 Parcel Standard Presentation** - a brief discussion of the origins of the municipal boundaries as drawn in the Towns from Survey Points Points, Arc Lines, and Polygons FCs.
- **Extractolator** - (aka, AssessUploader – Stand alone app) Reformats an exported file (MassGIS standard report format) to another text file so that it can be imported into an FGDC template Assess table without incident.
- **L3 Parcel QA Tool** - (Python Script) Conducts a full QA review on an L3 compliant fGDB and provides a text file of results and files listing issues that need reviewing.
- **MassGIS Standard for Digital Parcels and Related Data Sets, Version 2.1, May 2012.**
Also Available At: <https://www.mass.gov/service-details/massgis-standard-for-digital-parcels-and-related-data-sets>
- **Guide to Maintaining L3 Parcels**
Also Available At: <https://www.mass.gov/service-details/maintaining-standardized-assessor-parcel-mapping>
- **Guide to Maintaining a Map Topology** – especially for editing with the ArcMap Basic license.
- **LOC_ID Update Instructions** - Instructions for the Assessor to update LOC_ID values within a CAMA system.

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After this webinar, a package will be sent to you with the following:

Maintaining L3 Parcel Mapping Webinar Presentation - (this document)

Municipal Boundaries and the L3 Parcel Standard Presentation - a brief discussion of the origins of the municipal boundaries as drawn in the Towns from Survey Points Points, Arc Lines, and Polygons FCs.

The “Extractolator” (for now) (CAMA extra repossessing utility – Stand alone app)

Reformats an exported MassGIS extract to a text file so that it can be imported into an fGDB template Assess table using LOAD in ArcMap.

L3 Parcel QA Tool (Python Script)

Conducts a full QA review on an L3 compliant fGDB

Provides a text file of results and files listing issues that need reviewing

V5 works in versions 10.1 and higher

MassGIS Standard for Digital Parcels and Related Data Sets, Version 2.1, May 2012.

<https://www.mass.gov/service-details/massgis-standard-for-digital-parcels-and-related-data-sets>

Guide to Maintaining L3 Parcels

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LOC_ID Update Instructions - Instructions for the Assessor to update LOC_ID values within a CAMA system.



Maintaining L3 Parcel Mapping

Other Tools: Documentation

- MassGIS Docs and Web Sites Available:
 - MassGIS Data - Level 3 Assessors' Parcel Mapping Data Download Page
<https://docs.digital.mass.gov/dataset/massgis-data-standardized-assessors-parcels>

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Other References

In addition to the documents supplied, the data download page for L3 Parcels has a discussion about L3 Parcels and links to documents. The direct link is here.



Maintaining L3 Parcel Mapping

Wrap Up

- Remember:

We are here to help you in maintaining your parcel data to the L3 Parcel Standard.



QUESTIONS?

(It's free - really!)

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