Learning Guide 6

Unit of Competency : Prepare Cadastral Index Maps

Module-3 Title : Structuring and Constructing CIM Using GIS Process

LO 3 : Structure and construct CIM thru AutoCAD Method

Program:

Cadastral Index Mapping

Report B63

Instruction Sheet	Learning Guide 6

Introduction

This learning guide is developed to provide you the necessary information regarding the following topics –

- Understanding AutoCAD Method
- Procedures in AutoCAD Method

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, you will be able to –

- gather relevant information and documents
- review and validate documents and/or existing cadastral maps
- determine context of forms using the gathered information
- prepare appropriate forms in accordance to organizational requirements

Learning Activities

1. Read the specific objectives of this Learning Guide.
2. Read the information written in the “Information Sheet”.
3. Read the “Operation Sheet” and try to understand the procedures discussed.
4. Practice the steps or procedures. Go to your trainor/facilitator if you need clarification, you want answers to your questions or you need assistance in understanding a particular step or procedure.
5. Do the “LAP Test” in page 9 (if you are ready). Your trainor/facilitator will evaluate your output either satisfactory or unsatisfactory. If unsatisfactory, your trainor/facilitator shall advice you on additional work. But if satisfactory you can proceed to Learning Guide 7.

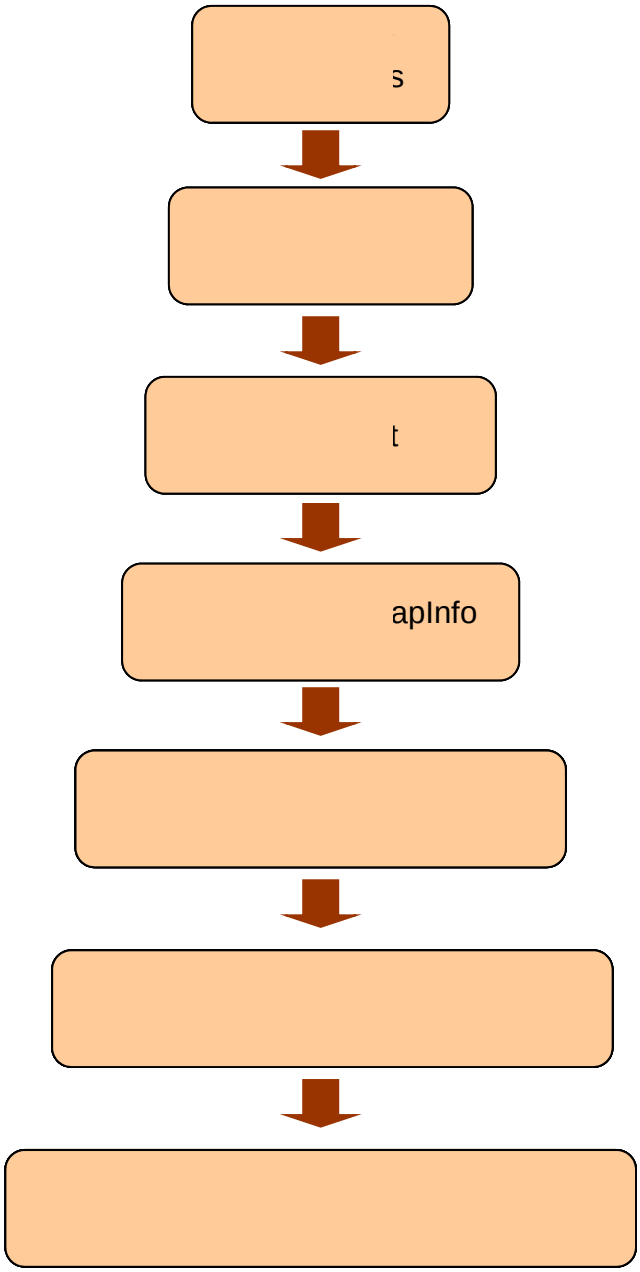
Information Sheet	Understanding AutoCAD Method

Illustrated below is the general make up of the AutoCAD Method:

- Undertake records search
- Prepare base sheet as per specifications. The map graticule and grid can be produced using AutoCAD (or MapInfo if it is available.
- Plot all available survey control
- Plot or Trace parcels including all the information of the cadastral maps (i.e. parcel boundaries, watercourse boundaries and road network, ocean or sea boundaries including man made creatures like canals/irrigation).
- Where cadastral maps are drawn to a scale of 1:4000 and coordinate are in PRS 92, trace directly the parcels. And, if its not, then values must be transformed.
- Only registered easements and right of ways will be shown on the CIM. This include all foreshore and river easements;
- Parcel must be traced across the CIM to occupy the whole space regardless of barangays configuration and political boundaries
- After plotting onto the cadastral index map all the parcels and other features label all the figures with its corresponding identity
- Add lot and block numbers
- Assign parcel identifiers
- Update the cross-index database
- Apply quality assurance procedures to the processes

If you observe the compilation process is no different from the CIM development.

Process Flow Chart



Operation Sheet	Process in Compiling CIM By AutoCAD Method

A. Plotting Procedure

Plotting is by coordinates using Lot Data Computation (LDC) thru AutoCAD.

- Type PL (Polyline), Enter
- Enter the Coordinates of the lot starting EASTING then NORTHING from corner one (1) up to the last corner

Example: (assuming of four corner lot)

470319.32	1240706.47	Enter
470330.44	1240725.88	Enter
470440.00	1240646.77	Enter
470419.17	1240644.67	Enter

After entering all the coordinates), ENTER

- Type C (to close the polyline) Enter
- Type Z (Zoom) Enter
- Type E (Extent) Enter

B. Labeling

Steps on how to label the polygon information

Pre - activity

- Type DT (for Text) Enter
- Type J (Justify) Enter
- Type C (Center) Enter

Then enter text desire

C. Adjustment to PRS System:

- Locate BBM equivalent to lot corner from the cadastral map and ascertain that the coordinates of this BBM is converted to PRS system (LYT)
- Plot the coordinates of LYT which is equivalent to the BBM above-mentioned
- Then drag plotted old BBM including parcels from cadastral map to best fit or coincide equally with the LYT equivalent to that BBM.

D. Layering

- Convert plotted lots by AutoCAD to MapInfo
- Digitize some of the map features such as rivers and creeks , road lots boundaries and names of adjoining barangays and municipalities including parcel identifier numbering

E. Lay-outing

- View and select table/layers to be open
- Open window on menu bar to select new layout window
- Open option on menu bar to select preferences
- Open preferences on option to open system setting and other categories to check paper and layout units
- Double frame object on layout window to modified scale on paper (i.e. 40m for scale 1:4000, 20m for scale 1:2000 and 10m for scale 1:1000)
- Conform layout to map window
- Open files to open workspace to view/open the blank standard CIM layout
- Select marquee select icon on tool bars to highlight the blank standard CIM layout to be copied and pasted to the newly created layout.
- Both map and layout window minimized
- Select layer control on map menu bar to auto label the grid number

- Select the grid line number to be layout
- Select change view on map menu bar to modified map scale

F. Printing

- Select the Map window to make it active
- Choose File > Print, the print dialog displays
- Specify the number of copies you want to print
- Click all to have all the pages of the Map printed or specify a page range
- Click the options button, the Map Print Option dialog displays
- Choose a map size option (window size, fit the page, or custom.)
- Choose a map contents option (Same as window or centered on window)
- Use custom scale and custom width to specify the scale, width, and height settings for your map.
- Click OK for each dialog to print the Map Window.

G. CIM Lot indexing

- Prepare a CIM Index Form with the size equal to the CIM Sheet Form. Indicate on the top portion the parcel information ((i.e. PI, lot number, name of claimants, location of the lot, its area, status whether titled or not and remarks) within a CIM index sheet.

- Tabulate on the first column the PI numerically starting from the lowest number.

- Tabulate the corresponding information pertaining to that particular PI.

- Cross check with database for quality assurance

The following should be employed to cross check against the database:

- Use the survey plan or cadastral map and the lot number as reference to find the corresponding record in the cross index database.

- Any parcel that cannot be found in the cross-index database should be flagged for further investigation or field check.

- Check should be made in the database by running a report which states the findings on the duplication of records or missing data.

H. Quality Assurance

- Check should be done on a regular basis, i.e. when particular achievements have been reached during the compilation of the CIM.
- The Q.A. should be done by a supervising or experienced operator.
- At the completion of the CIM production a blue/white print copy is required. Any information which is found in error will be highlighted in color. Every stage of CIM production is highlighted by different colors.
- The item to be checked are:
  - √ Completeness and accuracy of searching.
  - √ Check that the grid, legend, graticule and CIM number is correct.
  - √ Check of control used, reference plans and indexes used.
  - √ All line works i.e. tracing of the Cadastral and other feature.
  - √ Completeness and accuracy of lot numbering.
  - √ Quality of drawing and lettering
  - √ Sheet edge join match the adjacent CIM.

LAP Test	Practical Demonstration

Name: _____ **Date:** _____

Time started: _____ **Time finished:** _____

Instructions: Given a set of data, materials, tools and equipment, you are required to compile the CIM using AutoCAD method within 1 hour:

Submit your output to your trainor/facilitator for evaluation and wait for further instructions.