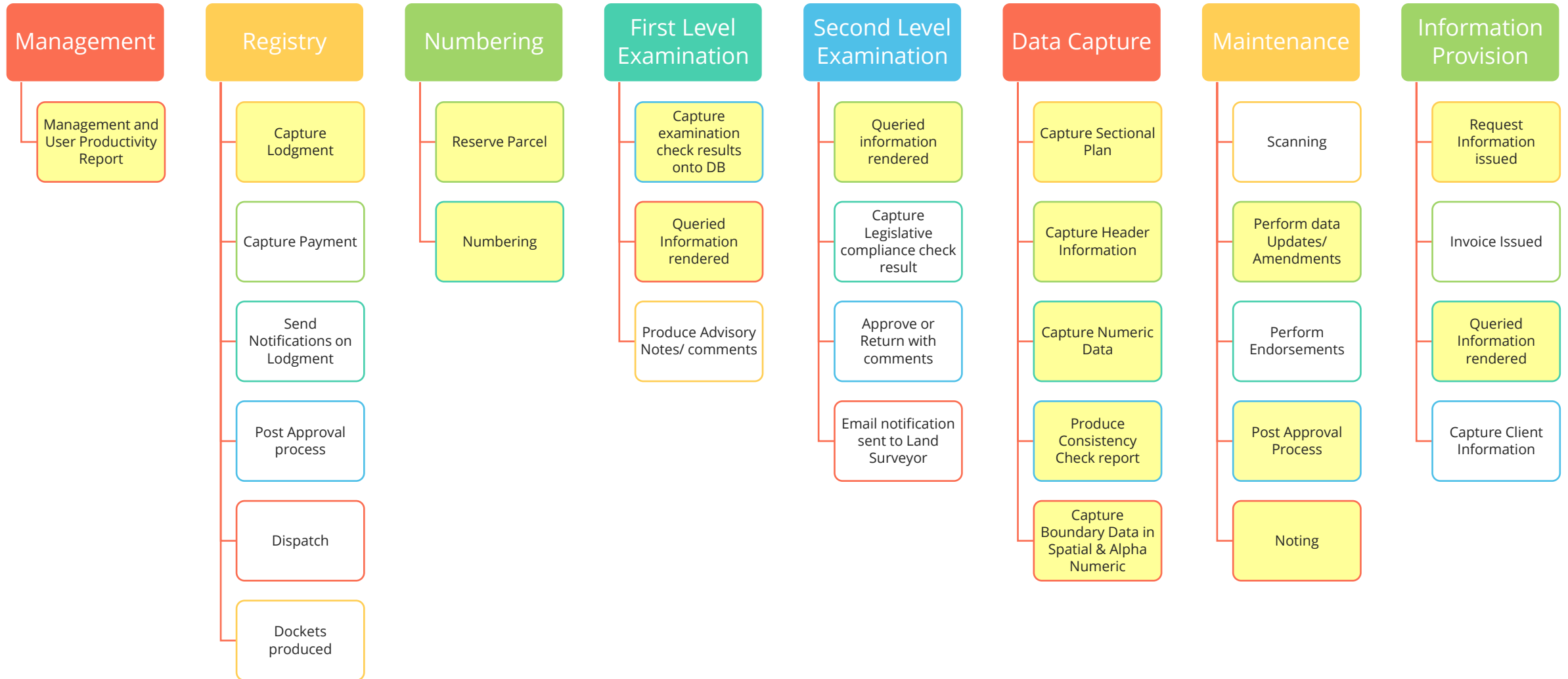# User Sessions | Spatial Data Modelling

CSG CIS Revamp Project

REFRESHING SPATIAL CONCEPTS

- Data Types
  - Vector
    - Point, Line, Polygon
  - Raster
    - Imagery
- Data Model
  - Element (Point/Line/Polygon)
  - Geometry (Feature Object)
  - Layer (Collection of Geometries)
  - Coordinate System (Geographic, Projected, Local/Cartesian)
  - Tolerance (Level of precision)

SPATIAL | BUSINESS PROCESSES

Management
- Management and User Productivity Report

Registry
- Capture Lodgment
- Capture Payment
- Send Notifications on Lodgment
- Post Approval process
- Dispatch
- Dockets produced

Numbering
- Reserve Parcel
- Numbering

First Level Examination
- Capture examination check results onto DB
- Queried Information rendered
- Produce Advisory Notes/ comments

Second Level Examination
- Queried information rendered
- Capture Legislative compliance check result
- Approve or Return with comments
- Email notification sent to Land Surveyor

Data Capture
- Capture Sectional Plan
- Capture Header Information
- Capture Numeric Data
- Produce Consistency Check report
- Capture Boundary Data in Spatial & Alpha Numeric

Maintenance
- Scanning
- Perform data Updates/ Amendments
- Perform Endorsements
- Post Approval Process
- Noting

Information Provision
- Request Information issued
- Invoice Issued
- Queried Information rendered
- Capture Client Information

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TYPE OF DOCUMENTS

- **Diagram;**
- **General Plan;**
- **Sectional Plan;**
- **Beacon Agreement;**
- **Servitude Plan;**
- Survey Record.

ENTITIES

Current	Proposed
SP_PARCEL	GISParcelPreApproved
SP_BEACON	GISParcelApproved
SP_BOUNDARY	GISParcelSpatial
SP_EASELINE	GISBeacon
SP_EASEPOLY	GISBoundary
SP_STRTXT	GISEasement
SP_TOWN	

LAYERS

Administrative Registration	Metropolitan Municipality
Allotment Township	Mineral Rights
Beacon	Other Boundaries
Communal Land	Parent Farm
Compilations	Private Open Space
Deeds Office Area	Private Street
District Management Area	Proclamation Area
District Municipality	Provincial
Erf	Public Place
Established Boundary	Servitude Area
Farm Portion	Servitude Line
General Plan	Street
Holding	Street Name Text
International Boundary	Suburb
Lease Area	Surveyed Informal Erf
Local Municipality	Unalienated River Bed
Magisterial	Unalienated State Land
Lease General Plan	Lease ERF

ENTITIES – CURRENT VS PROPOSED | PARCEL

Current Entity	Layer	New Entities		
SP_PARCEL	Erf	GISParcelPreApproved	GISParcelApproved	GISParcelSpatial
SP_PARCEL	Farm Portion	GISParcelPreApproved	GISParcelApproved	GISParcelSpatial
SP_PARCEL	Holding	GISParcelPreApproved	GISParcelApproved	GISParcelSpatial
SP_PARCEL	Parent Farm	GISParcelPreApproved	GISParcelApproved	GISParcelSpatial
SP_PARCEL	Private Open Space	GISParcelPreApproved	GISParcelApproved	GISParcelSpatial
SP_PARCEL	Private Street	GISParcelPreApproved	GISParcelApproved	GISParcelSpatial
SP_PARCEL	Public Place	GISParcelPreApproved	GISParcelApproved	GISParcelSpatial
SP_PARCEL	Street	GISParcelPreApproved	GISParcelApproved	GISParcelSpatial
SP_PARCEL	Surveyed Informal Erf	GISParcelPreApproved		GISParcelSpatial
SP_PARCEL	Unalienated River Bed	GISParcelPreApproved		GISParcelSpatial
SP_PARCEL	Unalienated State Land	GISParcelPreApproved		GISParcelSpatial

TRANSACTON

ENTITIES – CURRENT VS PROPOSED | OTHERS

Current Entity	Layer	New Entity
SP_BEACON	Beacon	GISBeacon
SP_BOUNDARY	Administrative Registration	GISBoundary
SP_BOUNDARY	Communal Land	GISBoundary
SP_BOUNDARY	Compilations	GISBoundary
SP_BOUNDARY	Deeds Office Area	GISBoundary
SP_BOUNDARY	District Management Area	GISBoundary
SP_BOUNDARY	District Municipality	GISBoundary
SP_BOUNDARY	General Plan	GISBoundary
SP_BOUNDARY	Local Municipality	GISBoundary
SP_BOUNDARY	Magisterial	GISBoundary
SP_BOUNDARY	Metropolitan Municipality	GISBoundary
SP_BOUNDARY	Other Boundaries	GISBoundary
SP_BOUNDARY	Proclamation Area	GISBoundary
SP_BOUNDARY	Provincial	GISBoundary
SP_BOUNDARY	Suburb	GISBoundary
SP_EASELINE	Established Boundary	GISBoundary
SP_EASELINE	International Boundary	GISBoundary
SP_EASELINE	Servitude Line	GISEasement
SP_EASELINE	Street Centreline	GSIStreets
SP_EASEPOLY	Lease Area	GISBoundary
SP_EASEPOLY	Mineral Rights	GISBoundary
SP_EASEPOLY	Servitude Area	GISEasement
SP_STRTXT	Street Name Text	GISBoundary
SP_TOWN	Allotment Township	GISBoundary

ATTRIBUTES | GISPARCEL

FIELD NAME	DESCRIPTION
GID	Geometry Identifier
PRCL_KEY	27 Digit Code (5 mdbcode + 21 +1 remainder)
PRCL_TYPE	Parcel Type
LSTATUS	Legal Status
WSTATUS	Work Status
GEOM_AREA	Geometry Area
COMMENTS	Comments
TAG_X	Longitude
TAG_Y	Latitude
TAG_VALUE	Parcel Number
ID	21 Digit Code /LPI
DATE_STAMP	Modified DATE
CISRefNumber	Reference Number
Layer	Erf/Farm Portion/Holding/Parent Farm/Private Open Space/Private Street/Public Place/Street/Surveyed Informal Erf/Unalienated River Bed/Unalienated State Land

ATTRIBUTES | GISBOUNDARY

FIELD NAME	DESCRIPTION
GID	Geometry Identifier
GEOM_AREA	Geometry Area
COMMENTS	Comments
TAG_X	Longitude
TAG_Y	Latitude
TAG_VALUE	Metropolitan Municipality
BND_TYPE	Boundary Type
DATE_STAMP	Modified/Created Date
CISRefNumber	Reference Number
Layer	Administrative Registration\Communal Land\Compilations\Deeds Office Area\District Management Area\District Municipality\General Plan\Local Municipality\Magisterial\Metropolitan Municipality\Other Boundaries\Proclamation Area\Provincial\Suburb
SGNO	SG Number
CREATINGTITLEDEEDNO	Creating Title Deed Number
TAG_ANGLE	Tag Angle in Radians

ATTRIBUTES | GISEASEMENT

FIELD NAME	DESCRIPTION
GID	Geometry Identifier
EASE_TYPE	Easement Type (from look up eg. Electrical, Road, Sewer... etc.,)
GEOM_AREA	Geometry Area
COMMENTS	Comments
TAG_X	Longitude
TAG_Y	Latitude
TAG_VALUE	SG_Number
DATE_STAMP	Modified Date
CISRefNumber	Reference Number
Layer	Established Boundary\International Boundary\Servitude Line\Lease Area\Mineral Rights\Servitude Area\Street Name Text\Allotment Township
LSTATUS	
WSTATUS	
CREATINGDEEDNO	Creating Deed Number

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ATTRIBUTES | GISBEACON

FIELD NAME	DESCRIPTION
GID	Geometry Identifier
COMMENTS	Comments
TAG_X	Longitude
TAG_Y	Latitude
TAG_VALUE	Survey Record Number
BEACON_TYPE	Beacon Type
DATE STAMP	Modified Date
DEGREE_SQUARE	Degree_Square
HEIGHT	Height
CISRefNumber	Reference Number