



Quality Assurance in the HMLR Local Land Charges Register

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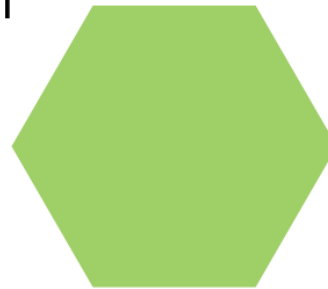
Our ambition is to become the world's leading land registry for speed, simplicity and an open approach to data

Quality underpins the LLC Register



326 English Local
Authorities

26 Million
Charges



A single
LLC register

LLC Digital
Service



Customers

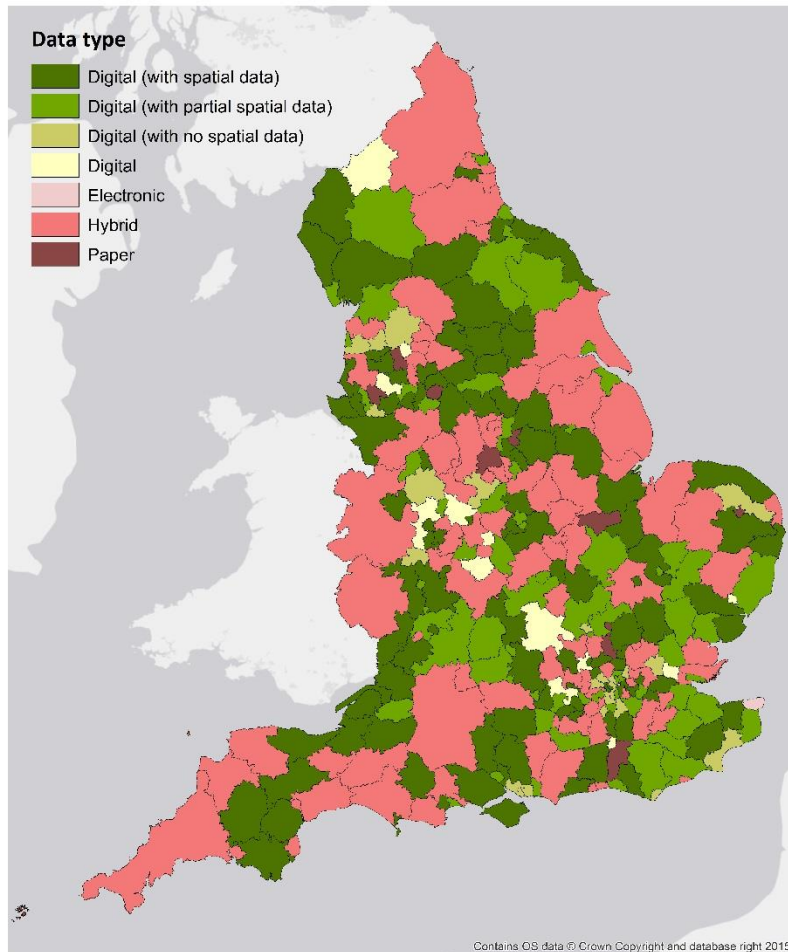


Quality underpins the LLC
Register Service – assuring that all
data meets the Acceptable
Quality Level Threshold

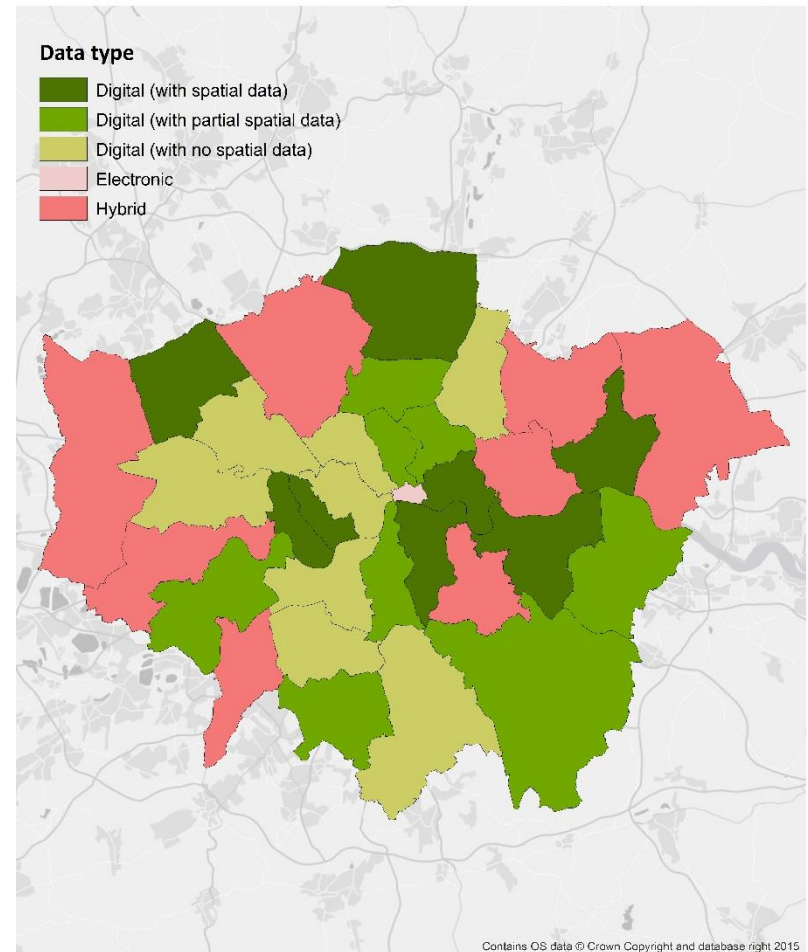
Quality assurance across all data types



Local Land Charges - Data Types by District

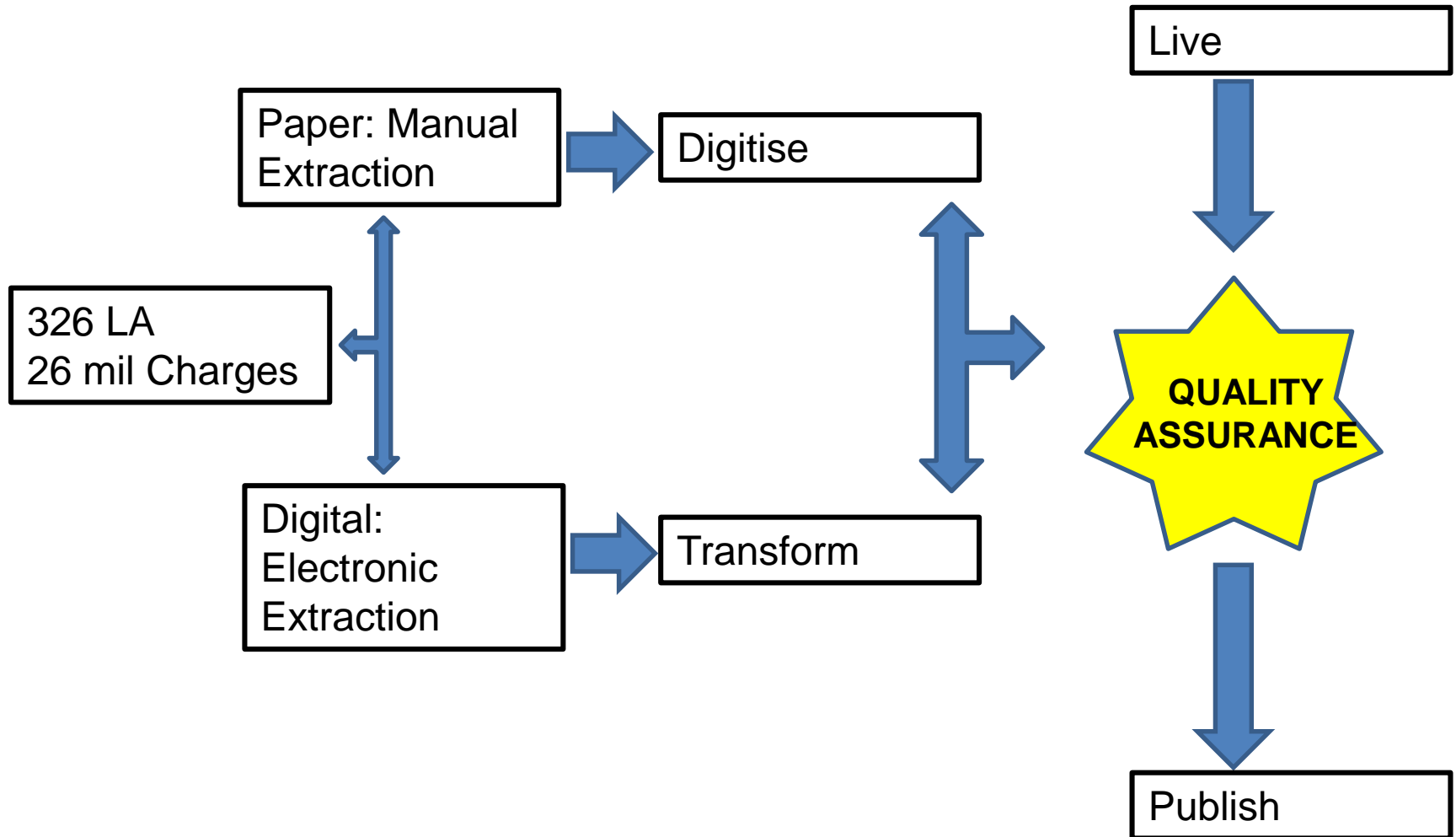


Local Land Charges - Data Types in London

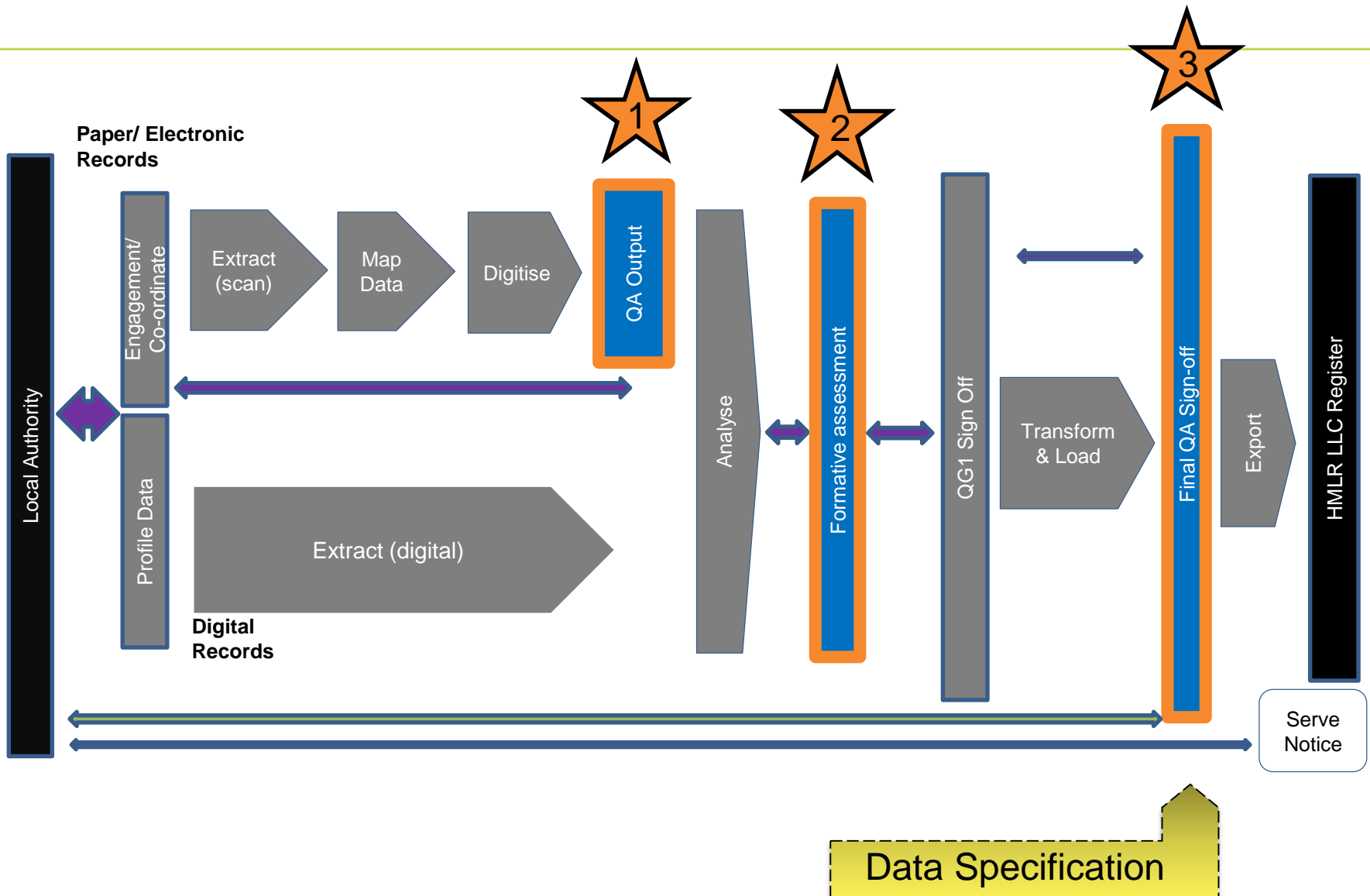


LLC Register Service Data Quality has to cover all data types and all sources (including Originating Authorities)

End point process?



LLC Quality Assurance: 3 stage process



LLC Data Specification



Describes ‘what good looks like’

HM Land Registry
Local Land Charges



Local Land Charges

Local Land Charges Data
Specification

Version 1.5.2

29 June 2018

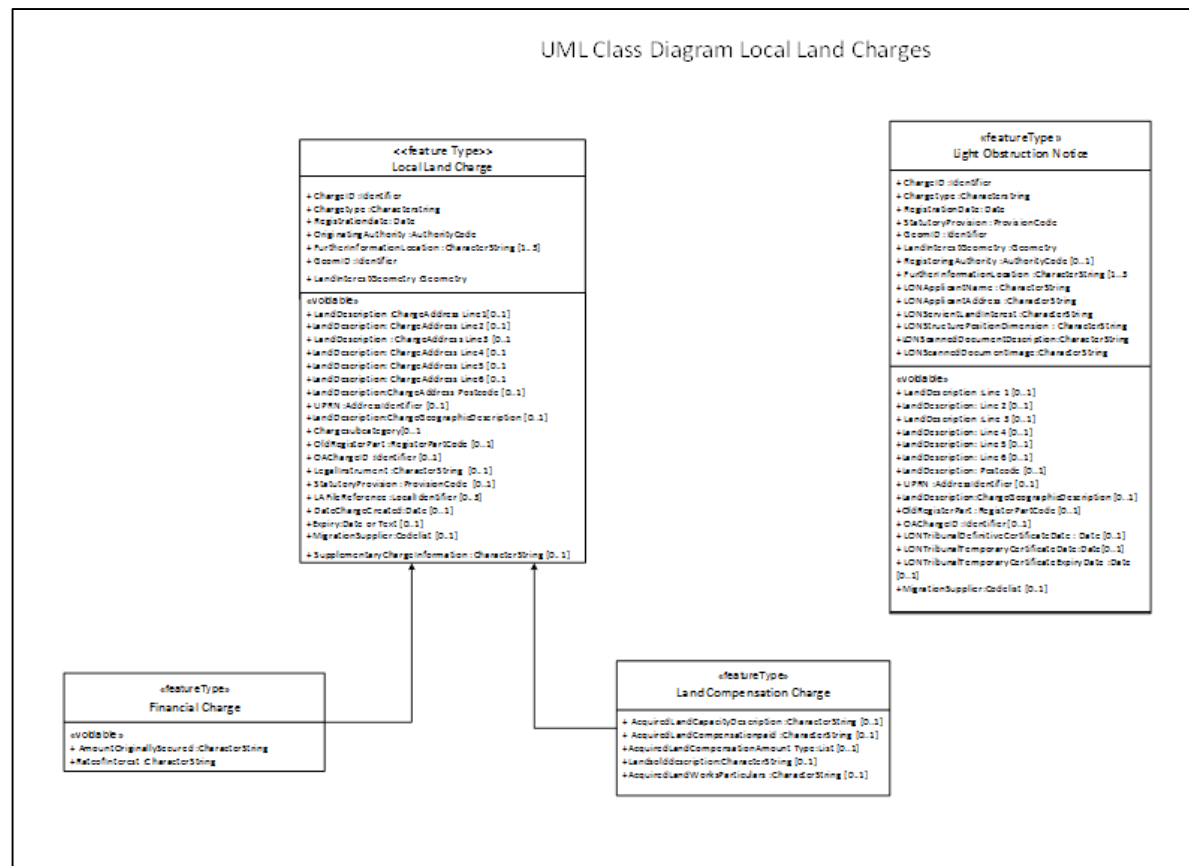




LLC Data Specification

UML Diagram: Describes content, structure & unique data requirements

Conditional Planning Permission	Most Common Charge Types (not exhaustive)
Enforcement Notice	
Planning Obligation	
Tree Preservation Order	
Revocation or Modification Order	
Waste Land Notice	
General Financial Charge	
Specific Financial Charge	
S156 Housing Act 1985	
Site of Scientific Interest	
Smoke Control Order	
Ancient Monuments	
Highways Act Agreement	
Instrument of dedication of land	
Local Government & Housing Act	
Local Government Act Agreement	
s8 Land Compensation Charge	
s52 Land Compensation Charge	
Listed Building Charge	
Light Obstruction Notice	
New Town Charge	
Civil Aviation	
Open Cast Coal	
Water Industry Act Agreement	
Compulsory Purchase Orders (Housing & Planning Act 2016	
Other Charge Type	



LLC Data Specification



Data Quality: Themes, criteria & AQL

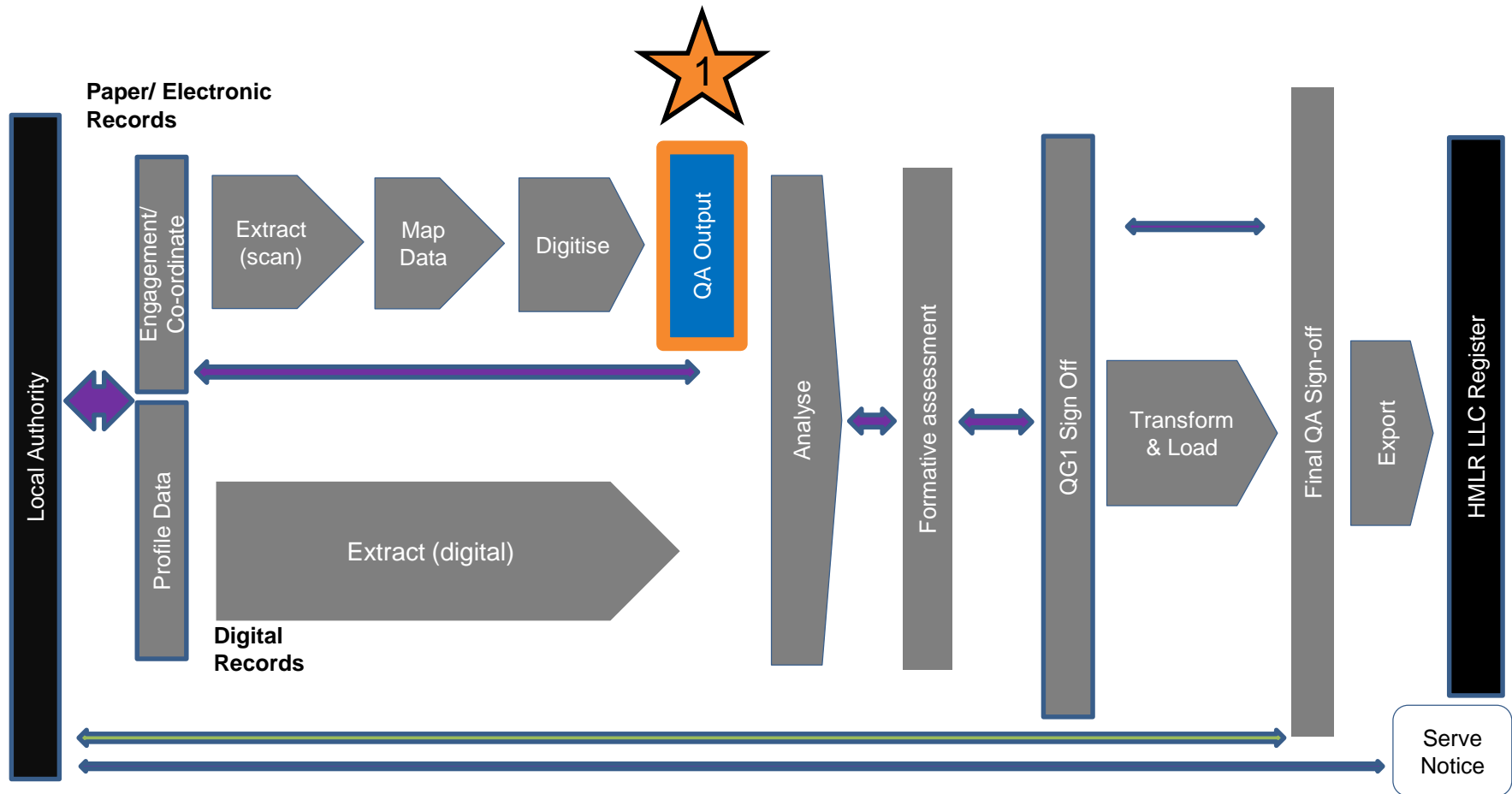
Each data population has the following AQL requirements against the defined quality measure criteria.



Quality Theme	Quality Criteria	Example Quality Measure	AQL
Completeness	Omission	Does each submitted LLC contain all mandatory attributes	100%
	Commission	Are there any LLC with additional or replicated data attributes	95%
Thematic Accuracy	Classification	Have Charge Types & Charge Sub-categories been allocated correctly	99%
Logical Consistency	Conceptual (adherence to Digitisation Practice Guide (DPG) or other agreed Local Business Rules	Have all mandatory and conditional items been replicated accurately from the source Have TPO geometries been captured as per 3.3.4 DPG Have originating authorities been captured in single agreed format	95%
	Domain (adherence to wider rules)	Have UPRN & structured address been matched correctly	97%
	Topological Consistency	Have all geometries been captured without loops or self-intersects	95%
Positional Accuracy	Relative position	Is there an acceptable relationship between the land description and the geometry	99%
Temporal	Consistency	Have all dates been captured in the prescribed YYYY/MM/DD format	95%
	Validity	Do expiry dates come after registered date	



LLC Quality Assurance: When & Where



Check Point 1: Quality Assure Digitised Output



Activity: All paper and/or electronic records are extracted from each LA and digitised into a single format.



What is checked?

- All relevant text data accurately and completely captured from source.
- Pre-existing digital geometries are accurately associated with the correct text record.
- Geometries that are created are in the correct position and occupy the correct extent.

Check Point 1: Quality Assure Digitised Output



Table F.2 — Statistical values for testing of number of conforming/non-conforming items
Significance level 95 %

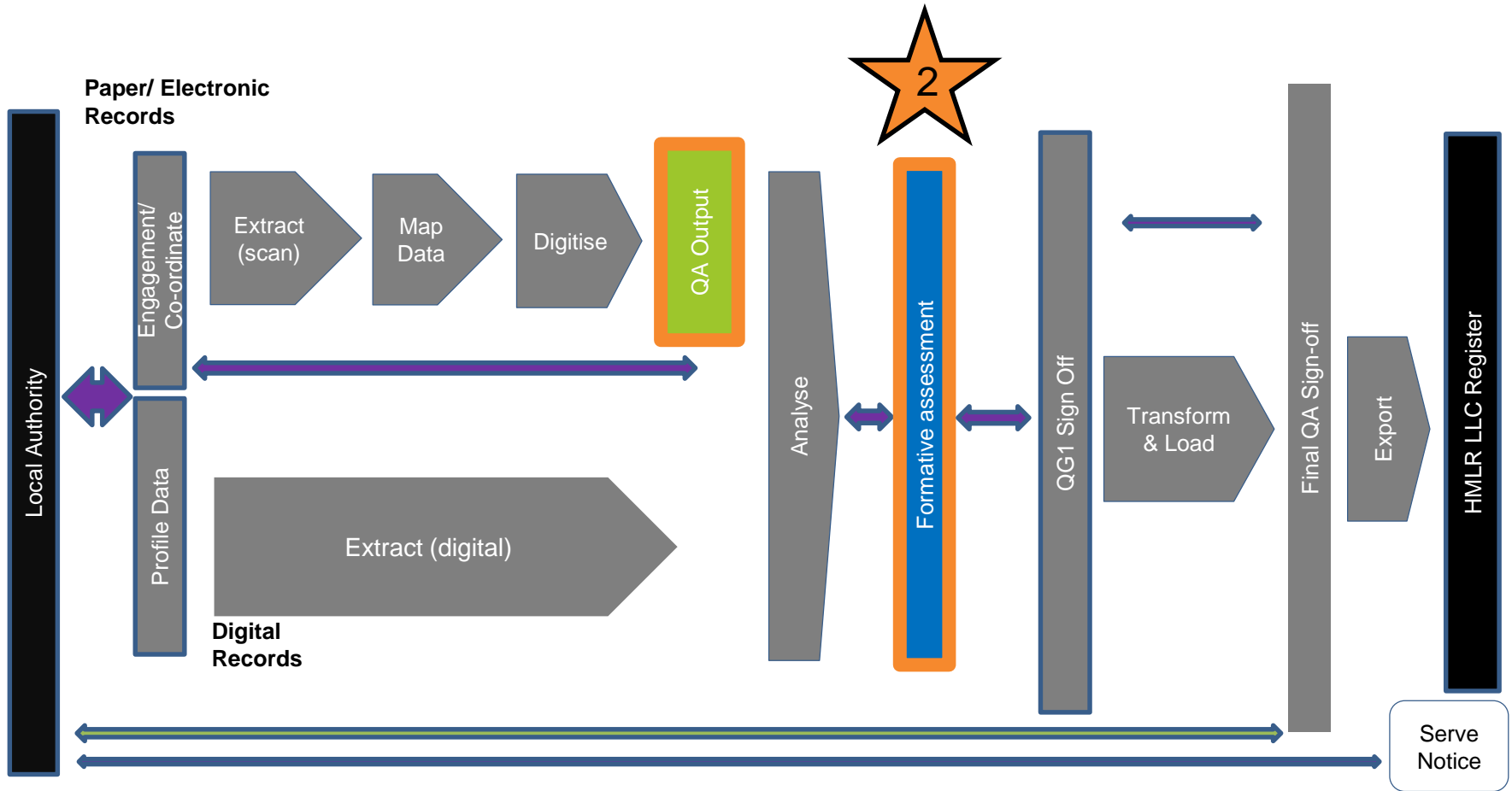
Population size		$p_0 =$	0,5 %	1,0 %	2,0 %	3,0 %	4,0 %	5,0 %
From	To	Sample size (n)	Rejection limit					
1	8	All	1	1	1	1	1	1
9	50	8	1	1	1	2	2	2
51	90	13	1	1	2	2	2	3
91	150	20	1	2	2	3	3	4
151	280	32	1	2	3	3	4	4
281	400	50	2	3	3	4	5	6
401	500	60	2	3	4	5	6	7
501	1200	80	3	3	5	6	7	8
1201	3200	125	3	4	6	8	10	11
3201	10000	200	4	6	8	11	14	16
10001	35000	315	5	7	12	16	20	23
35001	150000	500	6	10	16	23	28	34
150001	500000	800	9	14	24	33	42	51
> 500000		1250	12	20	34	49	63	76

How do we check?

- Sample
- VBA & Regular expression
– Global checks against text
- FME – workbenches to
validate geometry
association & topological
consistency

Outcome: A complete digital record (text and spatial extent) has been captured for each charge, which accurately reflects the source information.

LLC Quality Assurance: When & Where



Check Point 2: Formative Assessment



Activity: LA submit all LLC records, including those that have been through digitisation, to enable a holistic assessment of all their data.

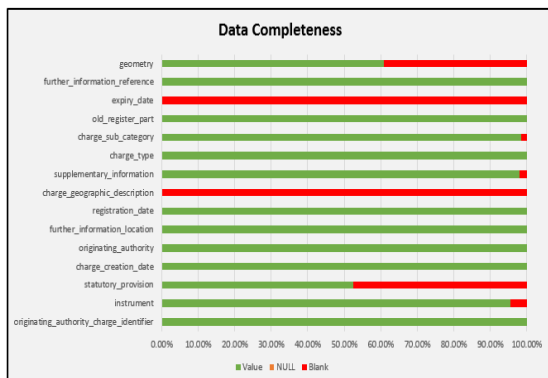


What is checked?

- Each record has all mandatory items.
- The position of geometries accurately reflects the land/property description.
- The data adheres to overarching rules or requirements.

Outcome: Where data is incomplete, inconsistent or inaccurate this 'early warning' assessment enables HMLR to work with the LA to close the gap, often by applying agreed business rules during transformation

Check Point 2: Formative Assessment



Textual Analysis

Checks passed	6
Checks failed	3
Checks require investigation	4
Total Rows	79027

Registration Date is before Charge Creation Date	0	0.00%	Pass
Date Validation Checks	32	0.04%	Pass
Expiry Date is before Registration Date	0	0.00%	Pass
Expired charges	0	0.00%	Pass
Paid in Full but no expiry date	1	0.00%	Pass
Part 2 charge has no value for amount secured or rate of interest	0	0.00%	Pass
No value in charge-geographic-description and charge-address	194	0.25%	Fail
Value in both charge-geographic-description and charge-address	0	0.00%	Pass
charge-address missing Line 1, PostCode and UPRN	3619	4.58%	Fail

originating-authority variations	1
further-information-location variations	2
Charge types	5
Value in charge-geographic-description	0
Value in charge-address	78833

Data Quality Checks

Quality Theme	Number of Checks	Checks Passed	Overall Status
Completeness	14	11	Fail
Thematic	5	4	Fail
Temporal	2	2	Pass
Conceptual	5	3	Further checks required
Topological	1	0	Further checks required

Register Status

Data Set	Register Status
Textual Data	Not Register Ready
Spatial Data	Not Register Ready
Data Quality	Not Register Ready

How do we check?

LLC dashboard has been developed to validate:

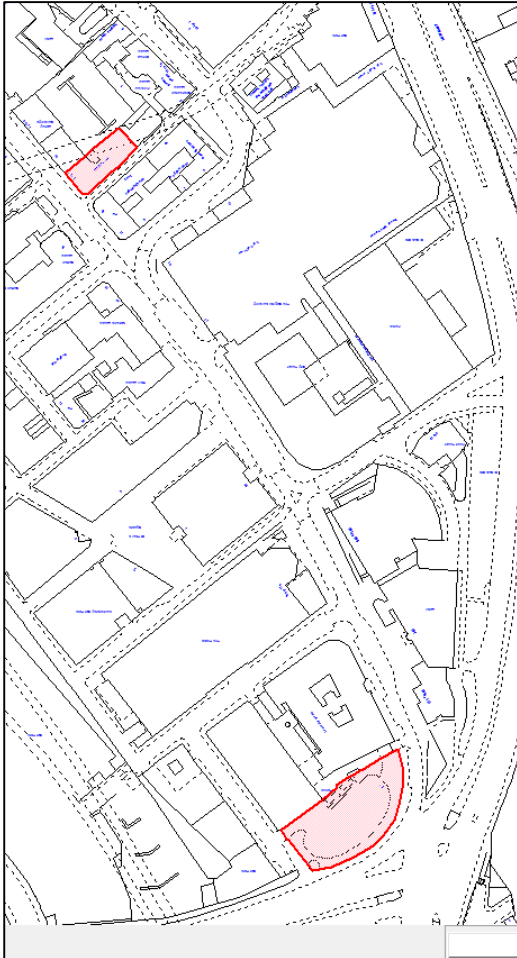
- Completeness
- Consistency
- Temporal rules
- Geometric validity
- Thematic accuracy

Total Rows 79027

Total Rows: 75027							
Quality Theme	Quality Criteria		Check	AQL	Fail Number	% Pass	Status
Completeness	Commission & Omission	Textual	Mandatory Items Complete	100%	Data Set	N/A	Fail
Completeness	Omission	Textual	All LLC Records allocated single charge type	100%	0	100%	Pass
Completeness	Omission	Textual	Have all submitted LLCs been allocated a point where further information can be obtained about the registered charge This may be postal or electronic address.	100%	0	100%	Pass
Completeness	Omission	GeoSpatial	Have all submitted LLC been associated with a spatial object captured as GeoJSON feature collection	100%	0	100%	Pass
Completeness	Commission	Textual	For all submitted LLC where Charge Type is 'Financial', 'Land compensation' or 'Light obstruction notice' has been used, has sub-charge category been omitted	95%	0	100%	Pass
Completeness	Commission & Omission	Textual	For all submitted LLC where Charge Type of Planning, Listed building, Housing or Other has been used, has a single sub-charge category been captured	100%	443	99%	Fail
Completeness	Omission	Textual	Have all submitted LLC been allocated a registration date	100%	1	100%	Pass
Completeness	Omission	Textual	Where charge type 'Planning', 'Listed building', 'Housing', 'Land Compensation', 'Financial' or 'Other' has been used, has	100%	0	100%	Pass



How do we check geometries?



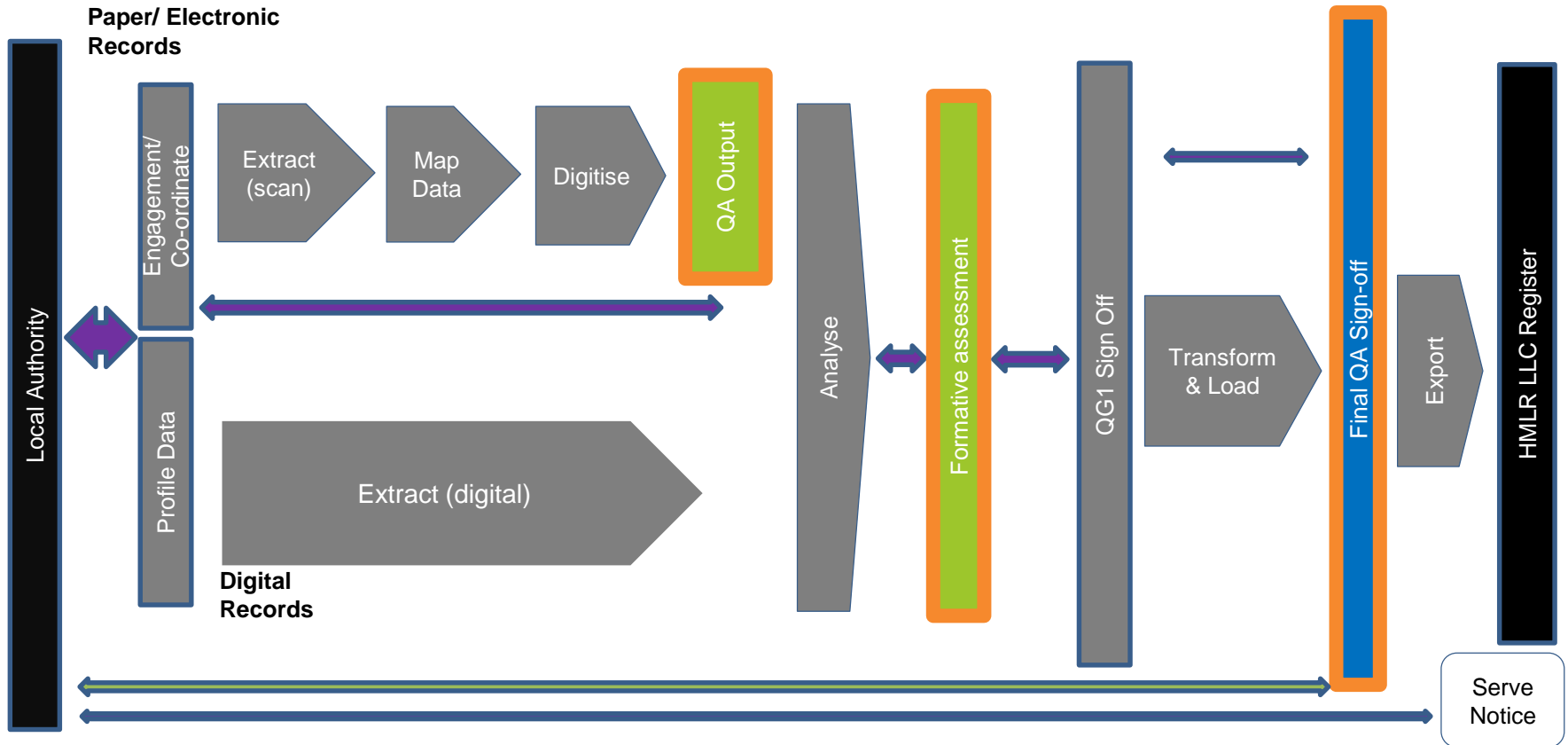
Where UPRN is not available we sample the following geometric datasets independently to ensure the position of each geometry is accurate:

- Multiple charges registered against identical land descriptions where the geometries do not fall within $\pm 50\text{m}$ of each other.
- Charges that include a full postcode and the geometry falls $\pm 50\text{m}$ outside of the postcode area.
- Listed building charges are cross referenced against Natural England data.
- Statistically valid sample of all charges not considered above.

LLC Quality Assurance: When & Where



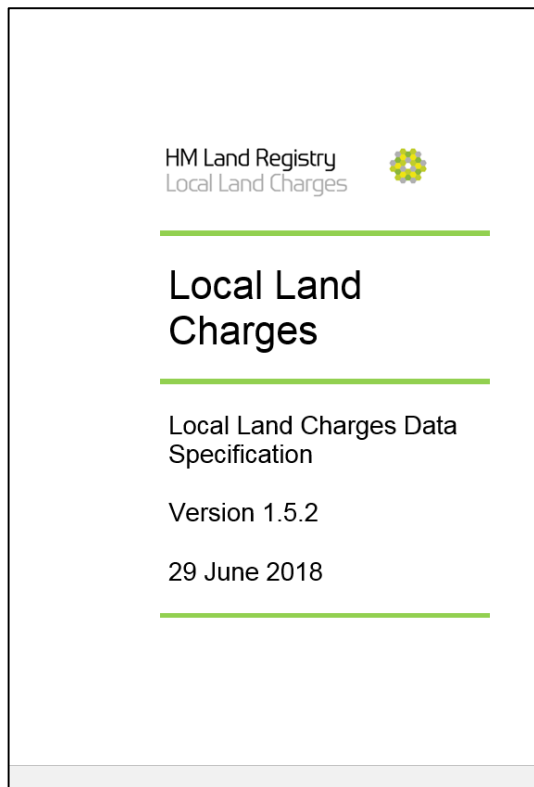
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Check Point 3: Final Quality Sign-off



Activity: All LLC records are transformed into a single format and structure prior to being submitted into the HMLR LLC register.



What is checked?

- All LLC records have been captured and accurately transformed to align with the LLC data specification.
- No errors or irregularities have been entered during transformation.
- The data achieves at least the minimum acceptable quality level against a range of technical criteria.

Automated in-line checks



Existing Particulars	Most Common Charge Types (not exhaustive)																			
	Conditional Planning Permission	Enforcement Notice	Planning Obligation	Tree Preservation Order	Modification or Variation Order	Waste Land Notice	General Financial Charge	Financial Charge	S156 Housing Act 1985	Site of Scientific Interest	Smoke Control Order	Ancient Monuments	Highways Act	Agreement of Restriction of Use of Land	Local Government & Housing Act	Local Government Act	Agreement of Restriction of Use of Land	S152 Land Compensation Charge	Listed Building Charge	Light Obstruction Notice
UPRN	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Date of Registration	M																			
Land Description	M																			
Statutory Provision	C																			
Date Charge Created	C																			
Instrument	C																			
Originating Authority	M																			
Place of Inspection	M																			
Current Register Part	M																			
Expiry Date/Text	C																			
Authority File Reference	C																			
Name of Applicant	-																			
Address of Applicant	-																			
Description of interest in servient land	-																			
Description of Dominant Building	-																			
Position & dimension of structure	-																			
Definitive Land Tribunal certificate date	-																			
Temporary Land Tribunal certificate date	-																			
Temporary Land Tribunal certificate expiry date	-																			
List of documents filed and copies of those documents	-																			
Description of Retained Land	-																			

one of the following sub charge categories (SCC) must be used

- Change a development
- Breach of conditions
- Conservation area
- Conditional planning consent
- Enforcement notice
- Article 4
- Planning notices
- Planning agreement
- Tree preservation order (TPO)
- Listed building conditional planning consent
- No SCC recorded
- Listed building
- Enforcement notice
- Repairs notice
- Not SCC recorded
- Approval under house in multiple occupation (HMO)
- Grant
- Interim certificate under HMO
- Notice of works or repairs
- Re-approval of grant
- Re-approval under HMO
- S156 Housing Act*1
- Not SCC recorded
- Ancient monuments
- Assets of community value
- Compulsory Purchase Order
- Improve a highway
- Smoke control order
- Site of special scientific interest (SSSI)



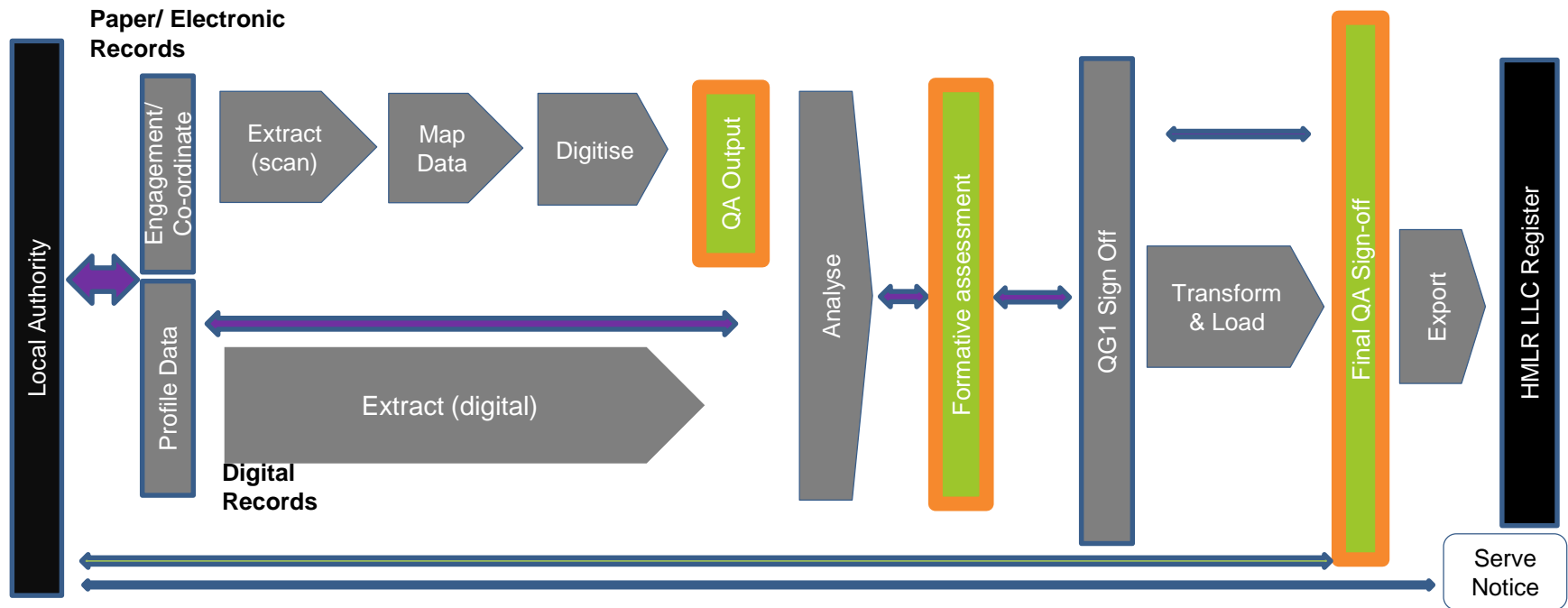
Check Point 3: Final Quality Sign-off

- Validation that all agreed transformation rules have been applied accurately and consistently

Originating Authority Name (as is)	HMLR global business rule defines 'What'	LA agree 'How' via local business rule
Warwick District Council	'each instance of a unique Originating Authority name must be captured as the single standard representation'	Warwick District Council
Warwickshire District Council		Warwick District Council
The Warwick Council		Warwick District Council
WDC		Warwick District Council
Warwick		Warwick District Council
Worwick Council		Warwick District Council
Individual Concerned	Registered against 3 charges (18,000/1); does not breach rule or AQL	
Solicitors	Registered against 2 charges (28,000/1); does not breach rule or AQL	



Final Sign-off – all quality check points achieved



Outcome: Each digital record is complete (text and spatial extent), accurate and has been transformed into a standard format that can be stored, accessed and maintained in the HMLR register.

<https://search-local-land-charges.service.gov.uk/search>



gov.uk/land-registry

Our ambition: To become the world's leading land registry for speed, simplicity and an open approach to data

@HMLandRegistry

Our mission: Your land and property rights: guaranteed and protected

hmlandregistryblog.gov.uk

Insert additional info

We give assurance

We have integrity

We drive innovation

We are professional