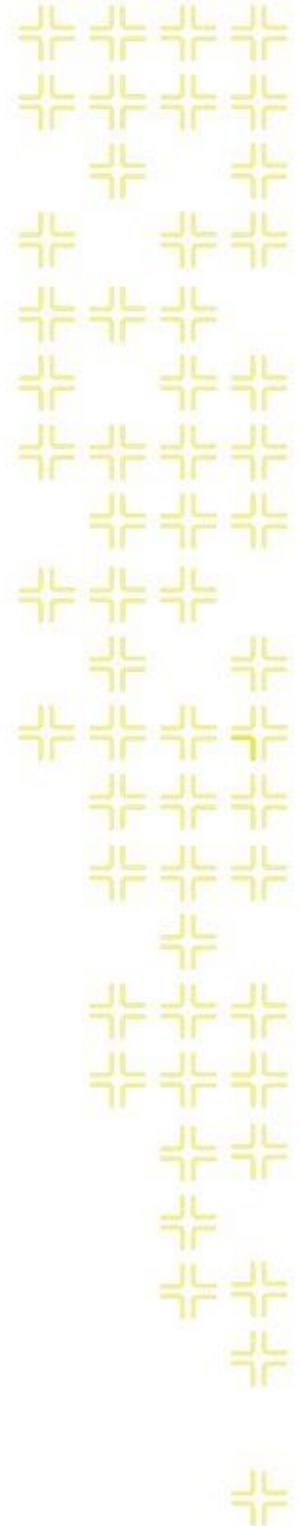




TRAINING GUIDE

Data Quality Tools for GIS and Lucity Spatial



Data Quality Tools for GIS and Lucity Spatial

In this session, we'll cover the tools that can be used to ensure your GIS data is clean in regard to Lucity, as well as the tools that can check for and fix any erroneous data in the Lucity Spatial tables.

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Highlights for version 2018

- Domain Configuration tool added to ArcGIS Pro.
- QA/QC tool added to ArcGIS Pro.

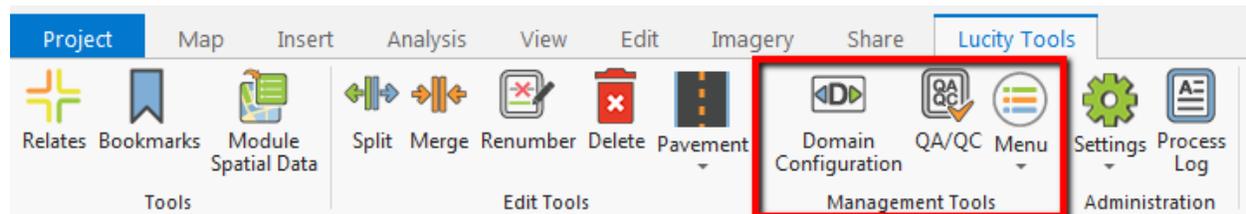
Highlights for version 2018r2

- Update GIS Values tool added to ArcGIS Pro.
- Update Show in Map Flag tool added to ArcGIS Pro.

GIS – ArcGIS Pro Tools

The first part of this session covers data quality tools for your GIS data that is linked to Lucity. All these tools exist within the Management Tools group of the Lucity ArcGIS Pro add-in. Although not shown in this session, all these tools also exist within the ArcCatalog portion of the Lucity GIS Desktop extension.

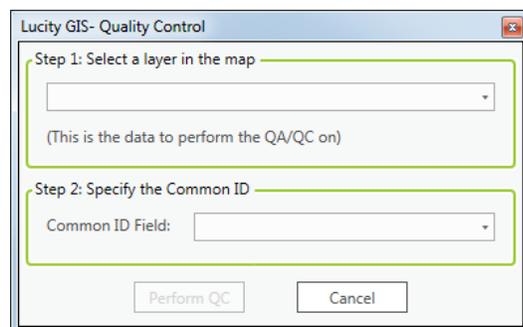
In ArcGIS Pro, the Lucity Management Tools group:



QA/QC

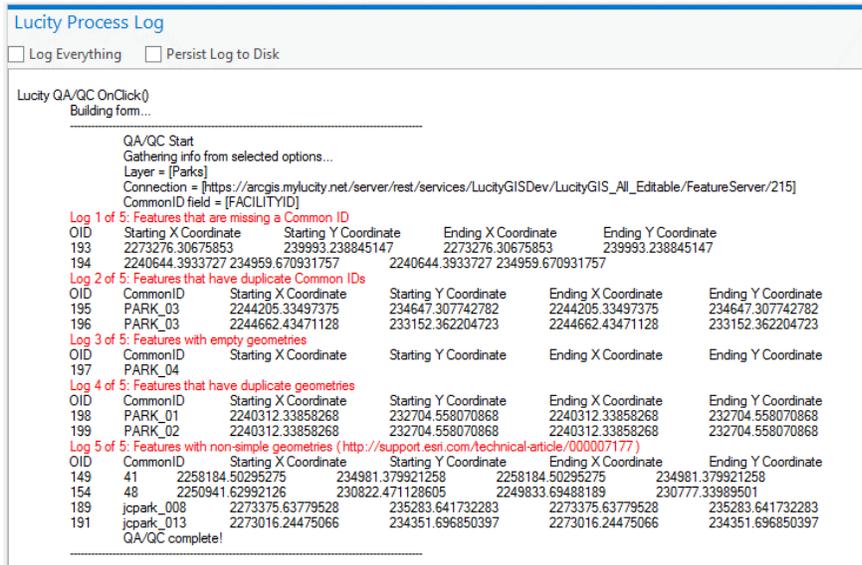
The QA/QC tool can be used against any layer to identify potential data problems that can impact functionality between GIS and Lucity.

To use the tool, click the QA/QC button. The following dialog appears:



- **Step 1: Select a layer in the map:** This is the layer that you would like to perform the QA/QC tests against. This can be any layer, regardless of whether it is linked to Lucity.
- **Step 2: Specify the Common ID:** This is the field in the GIS layer that either is, or will be, linked to the Common ID field in the Lucity module, and is used for two of the QA/QC tests. This field is used to determine the linkage between any given GIS feature and its corresponding Lucity record. It is required to be unique.

Once you have clicked Perform QC, the process begins. When the tool is finished running against the entire layer, the Lucy Process Log will open with all five logs (one for each test) visible:



Note: The QA/QC Results can be exported from the Process Log by clicking the burger button (3 horizontal lines) at the top right of the Process Log >> Export.

GIS features that fail each test have the following written to the log: 1.) Esri ObjectID (OID), 2.) Common ID (except for test #1), and 3.) Beginning/Ending X/Y Coordinates.

Here's an explanation of each test:

- **Features that are missing a common ID:** These are features that have a null or empty value in their Common ID field. These features are unable to be found by Lucy because a non-null Common ID value is required to find a Lucy-linked feature in GIS.
- **Features that have duplicate common IDs:** These are features that have the same Common ID value as other features in GIS. If this Common ID value exists in Lucy, this means that all the GIS features with that Common ID are linked to the same record in Lucy, which is not a supported setup (the Common ID must be a unique, one-to-one relationship).
- **Features with empty geometries:** These are features that exist in the GIS layer's attribute table, but have no spatial information associated to them. This particularly can cause issues with editing, as editing operations attempted on empty geometry will likely fail.
- **Features that have duplicate geometries:** These are features that have the exact same geometry as other features within the GIS layer (features that are sitting on top of each other). This may or may not cause failures with editing, but will likely affect things like spatial relationships, etc.
- **Features with non-simple geometries:** These are features that have complex, often erroneous geometries. Esri's description: "Non-simple features may interrupt data processing and/or

produce error messages when working with them in ArcGIS”. Some examples include: self-intersecting lines, discontinuous parts, null Z-values, and duplicate vertices. More information: <http://support.esri.com/en/technical-article/000007177>

Note: Although the test for non-simple geometries can be quite helpful in assessing GIS data quality, we strongly suggest utilizing Esri’s geometry validation tools as well, as they provide much more depth than the Lucity QA/QC tool is capable of.

Other ArcGIS Pro Tools

The following tools do not solely exist as data quality tools, but they can be quite helpful in improving the quality of your GIS data. These include Update GIS Values, Domain Configuration, and Update Show in Map Flag.

Domain Configuration

The Domain Configuration Tool can be useful in ensuring your GIS domains (and the features in your layers that use them) are in sync with the linked Lucity picklists.

To use the tool, click the Domain Configuration button>>select “Standard Domains”>>check which layer(s) to validate>>click OK. The following window appears, and information is written to the Lucity Process Log:

	No Issues	Missing Domain	Invalid Type	No Domain values	Domain Missing Value	Lucity Missing Value	Desc Don't Match	GIS Domain Name	Feature Class	GIS Field	Lucity Field	GIS Field Type	Lucity Field Type
Manage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	wHydrantManufacturer	Water Hydrants	MANUFACTURER	HY_MFG_CD	String	Numeric
Manage	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	AssetOwner	Water Hydrants	OWNEDBY	HY_OWNR_CD	SmallInteger	Numeric				
Manage	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	AssetManager	Water Hydrants	MAINTBY	HY_MANG_CD	SmallInteger	Numeric				

```

Lucity Process Log
Log Everything  Persist Log to Disk 

Lucity Domain Configuration OnClick()
Building form...
-----
Validate Standard Domains Start
  Validating Domains for [Water Hydrants]
    Validating Domain for Lucity field [HY_MFG_CD]
      Lucity Picklist is missing GIS code for [TEST2] in GIS Domain
    Validating Domain for Lucity field [HY_OWNR_CD]
    Validating Domain for Lucity field [HY_MANG_CD]
  Validate Standard Domains Complete
  -----
  
```

Domains that are out of sync with Lucity will have their rows highlighted in red in the grid. Click Manage to handle the discrepancies. The following window appears:

Resolve Domain Discrepancies

GIS Feature Class: Water Hydrants
 GIS Field Name: MANUFACTURER Field Type: String
 GIS Domain: wHydrantManufacturer

Lucity Module: Water Hydrants
 Lucity Field Name: HY_MFG_CD Field Type: Numeric
 Lucity Picklist: ManufacturerCode

Code	Description	GIS Code *Req	Restricted
1	Wood-Matthews	Wood-Matthews	<input type="checkbox"/>
2	Waterous	Waterous	<input type="checkbox"/>
3	US Pipe	US Pipe	<input type="checkbox"/>
4	Unknown	Unknown	<input type="checkbox"/>
5	Traverse City	Traverse City	<input type="checkbox"/>
6	Other	Other	<input type="checkbox"/>
7	Mueller Company	Mueller Company	<input type="checkbox"/>
8	M&H Valve / Dresser	M&H Valve / Dre:	<input type="checkbox"/>
9	M&H Valve	M&H Valve	<input type="checkbox"/>
10	Kennedy Valve	Kennedy Valve	<input type="checkbox"/>
11	Iowa Valve	Iowa Valve	<input type="checkbox"/>
12	Eddy	Eddy	<input type="checkbox"/>
13	Dresser	Dresser	<input type="checkbox"/>

Code	Description	# of Records
American Darling	American Darling	9
Clow Corporation	Clow Corporation	1
Corey	Corey	0
Dresser	Dresser	0
Eddy	Eddy	0
Iowa Valve	Iowa Valve	0
Kennedy Valve	Kennedy Valve	0
M&H Valve	M&H Valve	0
M&H Valve / Dre:	M&H Valve / Dresser	0
Mueller Company	Mueller Company	1949
Other	Other	0

Code	Description	GIS Code	# of Records
1	Wood-Matthews	Wood-Matthews	0
2	Waterous	Waterous	2
3	US Pipe	US Pipe	0
4	Unknown	Unknown	0
5	Traverse City	Traverse City	0
6	Other	Other	0
7	Mueller Company	Mueller Company	1951
8	M&H Valve / Dresser	M&H Valve / Dre:	0
9	M&H Valve	M&H Valve	0
10	Kennedy Valve	Kennedy Valve	0
11	Iowa Valve	Iowa Valve	0

Values shown in red in the top two grids have no match in GIS/Lucity. You can check “Show current values and record counts” to see how many records in GIS/Lucity are using any given domain or picklist value. This helps to give an idea of what needs to be changed to get the GIS domain back in sync with the corresponding Lucity picklist, and what would be affected by the changes. It is useful to run this tool before syncing data into Lucity from GIS, as it will prevent data issues caused by mismatched picklist values.

To use the tool, make changes by adding or removing values in the top grids, and using the Add Value or Repopulate buttons. When finished, click Apply Changes for GIS and/or Lucity.

For more details about the Domain Configuration Tool, please see the **Overview of ArcGIS Pro with Lucity** session.

Notes: _____

Update GIS Values

The Update GIS Values tool supports updating the Lucity Auto ID field in GIS. There are some places in Lucity GIS that will use the Lucity Auto ID before the Common ID, if there is a field for it in GIS; it is these places that require the Lucity Auto ID value to be correct.

To use the Update GIS Values tool, click Menu>>Update GIS Values. The following prompt appears, asking for a layer to update. Once a layer is selected, all the fields in that layer that can be updated from Lucity, including the field that stores the Lucity Auto ID, show up in the list box:



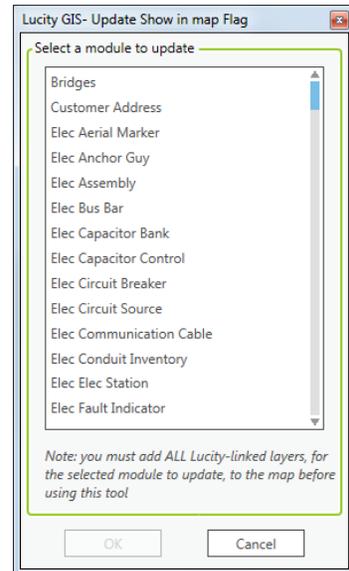
Click OK, and all selected fields in GIS will be updated with the value that is in Lucity. In the case of the Lucity Auto ID field, the correct Lucity Auto ID will be assigned to the features to update in GIS.

Notes: _____

Update Show in Map Flag

While Update Show in Map Flag does not modify your GIS data or schema at all, it can be very helpful in determining what records in Lucity have no matching feature in GIS, and vice versa. Normally, this field is automatically updated, but in some circumstances, it may not be, so this tool ensures that the In Map Flag field in Lucity is correct.

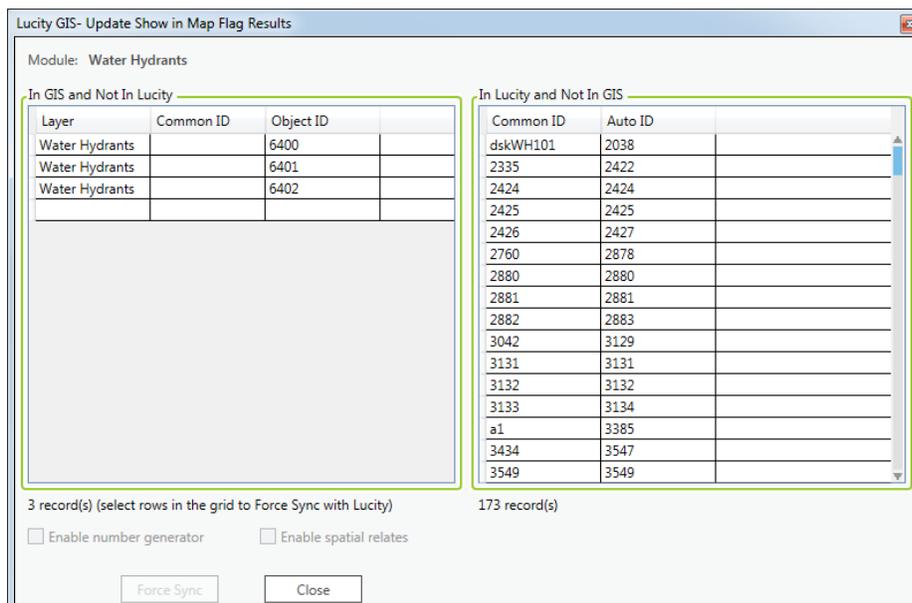
To use the tool, click Menu>>Update Show in Map Flag. The following prompt appears:



Go ahead and select which module you would like to update the show in map flag for. You must have all layers linked to the selected module present in the map for the process to work.

Once the process begins, it will pass a list of all Common IDs from each linked layer to Lucity. Using this list, it will determine if each Common ID has a matching record in Lucity, updating the in-map flag accordingly as it goes along.

Additionally, the process builds a list of orphans in GIS, as well as a list of orphans in Lucity, and returns the results to ArcGIS Pro to be displayed. For GIS records that aren't in Lucity, there is an option on the form to run a Force Sync on records selected in the grid:



GIS Data Quality Dashboards

The GIS Data quality dashboards are a live dashboard for a GIS Analyst or admin within your organization to show them the assets within Lucity that may have a disconnect to the Assets in GIS or that need to be edited within GIS. The two Dashboard tabs are the 'QA' dashboards and the 'Work' dashboards. These dashboards will be provided to Clients after they have received a GIS Review from a Lucity Tech Team member.

GIS QA Dashboards

The GIS QA Dashboards are created to show all assets that are within Lucity, that are not currently linked to an asset in the associated GIS Feature class. So, either the Assets within GIS were deleted and the associated Lucity record did not get updated. Or a record was created in Lucity and GIS does not have an asset created in the feature class that is associated with it. The filters for all these plugins are created using the INMAP field which is in all Lucity asset tables. These plugins look for all records that have an InMap flag value of '0'.

The screenshot shows a web interface for GIS QA dashboards. On the left, there are three tabs: 'GIS QA' (highlighted in green), 'GIS Work', and 'Parks'. The main content area is titled 'Trees/Parks' and contains a list of asset categories with their respective counts:

- Trees Not in GIS (1)
- Parks Not in GIS (0)
- Parks Parking Not in GIS (0)
- Park Paths Not in GIS (0)
- Park Structures Not in GIS (0)
- Park Fields Not in GIS (0)
- Park Courts Not in GIS (0)
- Park Landscapes Not In GIS (0)
- Park Meters Not in GIS (0)
- Park Lights Not in GIS (0)
- Park Pools Not in GIS (6)
- Park Pool Appurtenances Not in GIS (0)
- Park Playgrounds Not in GIS (0)
- Playground Modular Components Not in GIS (0)
- Park Playground Equipment Not in GIS (0)
- Park Furniture Not in GIS (0)
- Park Fences Not in GIS (0)
- Park Art Not in GIS (0)
- Park Refuse Not in GIS (0)
- Park Irrigation Pipes Not in GIS (0)
- Park Irrigation Nodes Not in GIS (0)
- Park Irrigation Controllers Not in GIS (0)
- Park Irrigation Valves Not in GIS (0)

Notes: _____

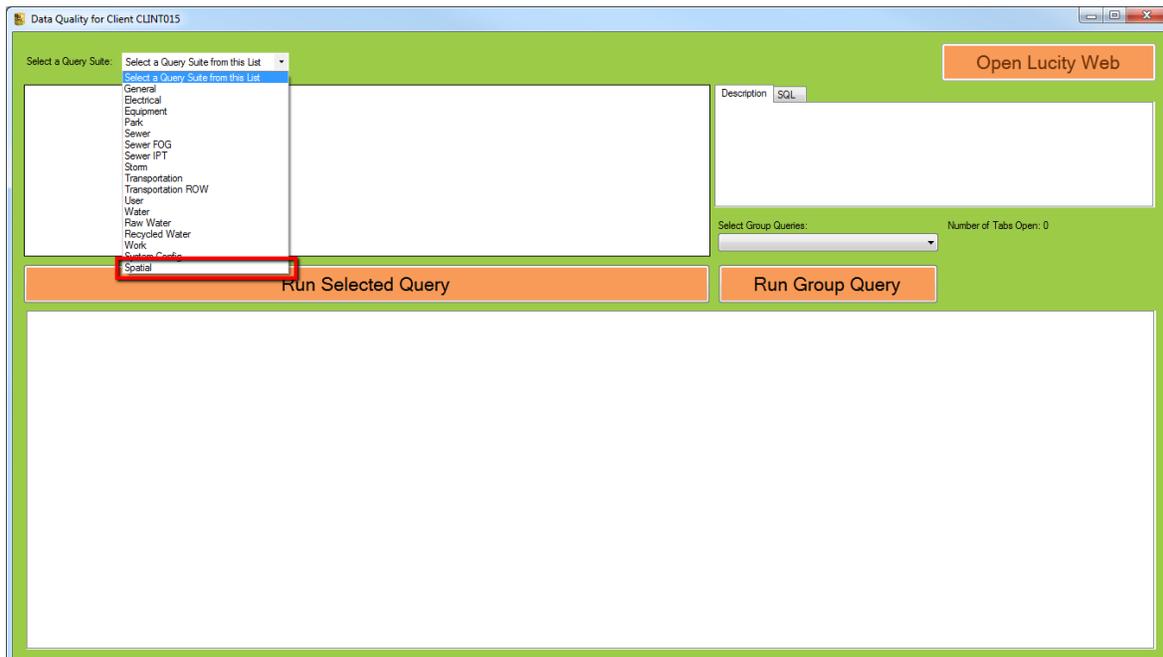
GIS Work Dashboards

The GIS Work dashboards are created to provide a field for end users to check to indicate when Geometry or attributes of the GIS features need to be edited by the GIS Admin.



Lucity Spatial – DataQuality.exe (DQS)

The second part of this session covers data quality tools for the Lucity Spatial tables. All these tools exist as queries within the Spatial Query Suite inside the Lucity Data Quality Tool. If you have a complete install of Lucity Desktop, the Lucity Data Quality Tool can be found in your local workstation \bin



directory or can be accessed from Start>>All Programs>>Lucity>>Admin Tools.

These queries (10 total) are all ran against the Lucy Spatial tables that are used by the Lucy Spatial Indexer, which include the work geometry tables for points, lines, and polygons (WKGEOMPT, WKGEOMLN, and WKGEOMPG), and the work spatial change table (WKSPATIALCHANGE).

Note: All queries in the Spatial Query Suite are currently only supported for SQL Server. These queries are not currently available for Oracle databases.

For more information about the Lucy Spatial Indexer, see the **Overview of Lucy Spatial** session.

Wrong Geometry Types

The three Lucy work geometry tables exist to store points, lines, or polygons. Although incredibly unusual, features of the wrong geometry type have ended up in these tables before (i.e. polygons in the points table). There are three queries to test for this:

- Non-point features in the Work Point table (Test #1).
- Non-line features in the Work Line table (Test #4).
- Non-polygon features in the Work Polygon table (Test #7).

Since this situation can cause errors in processing, these queries fall under the “Error” Group. To run any of these queries, select the row for the test in the top grid, and click Run Selected Query. A results grid will appear at the bottom of the window:

The screenshot shows the 'Data Quality for Client CLINT015' application window. At the top, there is a 'Select a Query Suite' dropdown set to 'Spatial' and a button 'Open Lucy Web'. Below this is a grid of tests. The first row is selected, highlighted in blue, and has a red border around it. The test name is 'Non-point features in the Work Point table' and the group is 'Error'. Below the test grid are three buttons: 'Run Selected Query', 'Run Group Query', and 'Fix Selected (Spatial)'. The 'Run Selected Query' button is highlighted in orange. Below these buttons is a results grid for the selected test. The results grid has columns: GM_ID, GM_MODID, GM_RECID, GM_PARENTID, GM_TYPE, GM_DUPLICATE, GEOM, and SRID. The first row in the results grid is highlighted in blue and has a red border around it. The data in this row is: GM_ID: 147478, GM_MODID: 7, GM_RECID: 4150, GM_PARENTID: 4737, GM_TYPE: 1, GM_DUPLICATE: (checkbox), GEOM: POLYGON (226..., SRID: 3419.

Test	Group	Count	Test Name	Module
1	Error	1	Non-point features in the Work Point table	Work Spatial
2	Warning	-1	Spatial reference discrepancies in the Work Point table	Work Spatial
3	Error	-1	Invalid geometries in the Work Point table	Work Spatial
4	Error	-1	Non-line features in the Work Line table	Work Spatial
5	Warning	-1	Spatial reference discrepancies in the Work Line table	Work Spatial
6	Error	-1	Invalid geometries in the Work Line table	Work Spatial
7	Error	-1	Non-polygon features in the Work Polygon table	Work Spatial

GM_ID	GM_MODID	GM_RECID	GM_PARENTID	GM_TYPE	GM_DUPLICATE	GEOM	SRID
147478	7	4150	4737	1	<input type="checkbox"/>	POLYGON (226...	3419

These queries belong to the “Warning” group, since they may or may not cause issues in processing but will likely cause unexpected results. To run any of these queries, select the test in the top grid and click Run Selected Query. The results are displayed in the bottom grid:

Select a Query Suite: **Spatial** There are 10 queries available for this query suite. Please select one and hit the RUN button. Or select a group in the query suite and run it.

Open Lucity Web

Test Number	Group	Count	Test Name	Module
1	Error	-1	Non-existent features in the Work Point table	Work Spatial
2	Warning	1	Spatial reference discrepancies in the Work Point table	Work Spatial
3	Error	-1	Invalid geometries in the Work Point table	Work Spatial
4	Error	-1	Non-line features in the Work Line table	Work Spatial
5	Warning	-1	Spatial reference discrepancies in the Work Line table	Work Spatial
6	Error	-1	Invalid geometries in the Work Line table	Work Spatial
7	Error	-1	Non-polygon features in the Work Polygon table	Work Spatial
8	Warning	1	Spatial reference discrepancies in the Work Polygon table	Work Spatial

Run Selected Query **Run Group Query**

Select Group Queries: Error (6) queries Number of Tabs Open: 1

Spatial reference discrepancies in the Work Point table							
GM_ID	GM_MODID	GM_RECID	GM_PARENTID	GM_TYPE	GM_DUPLICATE	GEOM	SRID
147479	7	4150	4737	1	<input type="checkbox"/>	POINT (2254302...	9143

Close this Tab One Row found Close All Tabs

Notes: _____

Invalid Geometries

If there are features with non-simple geometries in your GIS (see above section on the QA/QC tool), there is potential that these can be processed and copied into the work geometry tables, and cause issues down the road. SQL Server recognizes these geometries as invalid geometries.

There are three queries to test for this:

- Invalid geometries in the Work Point table (Test # 3).
- Invalid geometries in the Work Line table (Test #6).
- Invalid geometries in the Work Polygon table (Test #9).

These queries belong to the “Error” group because any process attempted on records in the Lucity Spatial tables with invalid geometry will fail. To run any of these queries, select the test in the top grid and click Run Selected Query. The results will display in the bottom grid:

The screenshot displays the 'Data Quality for Client CLINT015' application. At the top, there is a dropdown menu for 'Select a Query Suite' set to 'Spatial'. Below this is a table of 10 queries. Query 9, 'Invalid geometries in the Work Polygon table', is selected and highlighted in blue. To the right of the table is a 'Description' and 'SQL' section. Below the table are two buttons: 'Run Selected Query' and 'Run Group Query'. The bottom section shows the results of the selected query in a table with columns: GM_ID, GM_MODID, GM_RECID, GM_PARENTID, GM_TYPE, GM_DUPLICATE, GEOM, and SRID. The first row of results is highlighted in blue and shows GM_ID 693, GM_MODID 14, GM_RECID 2182, GM_PARENTID 1945, GM_TYPE 1, GM_DUPLICATE (checkbox), GEOM POLYGON (0 0. ... 3419, and SRID 3419.

Notes:

Spatial records that failed processing/are awaiting processing

Sometimes the Spatial Indexer fails to process a record, and the geometry never gets written to the appropriate work geometry table. This shows up later when the expected geometry is missing from the results of one of the tools that uses the spatial tables. All records that fail processing remain in the WKSPATIALCHANGE table with an error message and description, while successfully processed records are moved out of the table.

To run this query, select the test in the top grid and click Run Selected Query. The results will display in the bottom grid:

Select a Query Suite: Spatial There are 10 queries available for this query suite. Please select one and hit the RUN button. Or select a group in the query suite and run it.

Open Lucy Web

Test Number	Group	Count	Test Name	Module
4	Error	-1	Non-line features in the Work Line table	Work Spatial
5	Warning	-1	Spatial reference discrepancies in the Work Line table	Work Spatial
6	Error	-1	Invalid geometries in the Work Line table	Work Spatial
7	Error	-1	Non-polygon features in the Work Polygon table	Work Spatial
8	Warning	-1	Spatial reference discrepancies in the Work Polygon table	Work Spatial
9	Error	1	Invalid geometries in the Work Polygon table	Work Spatial
10	Info	4253	Spatial records that either failed processing or are awaiting processing	Work Spatial

Select Group Queries: Error (6) queries Number of Tabs Open: 1

Run Selected Query Run Group Query Reprocess Selected

SPCH_ID	SPCH_PARENTID	SPCH_LOC_ID	SPCH_LOCTYPE	SPCH_TYPE	SPCH_DATETIME	SPCH_ASSETID	SPCH_CATINV	SPCH_ADDRESS	SPCH_X	SPCH_Y	SPCH_GUID	SPCH_I
5186660	450823	353263	WKWOASSET	INSERTUPDATE	7/13/2017 6:05 ...		1				82bedd99-af74-...	7/13/20
5186661	450823	353264	WKWOASSET	INSERTUPDATE	7/13/2017 6:05 ...		1				82bedd99-af74-...	7/13/20
5186662	450823	353265	WKWOASSET	INSERTUPDATE	7/13/2017 6:05 ...		1				82bedd99-af74-...	7/13/20
5186681	450826	353275	WKWOASSET	INSERTUPDATE	7/13/2017 6:05 ...		1				82bedd99-af74-...	7/13/20
5186682	450826	353276	WKWOASSET	INSERTUPDATE	7/13/2017 6:05 ...		1				82bedd99-af74-...	7/13/20
5186683	450826	353277	WKWOASSET	INSERTUPDATE	7/13/2017 6:05 ...		1				82bedd99-af74-...	7/13/20
5187167	451093	353334	WKWOASSET	INSERTUPDATE	7/13/2017 1:00 ...	20347	89				f1802e61-a3d9-4...	7/13/20
5187168	451094	353335	WKWOASSET	INSERTUPDATE	7/13/2017 1:01 ...	13858	89				f1802e61-a3d9-4...	7/13/20
5187173	451096	353336	WKWOASSET	INSERTUPDATE	7/13/2017 1:18 ...	13858	89				960ad265-40f0-4...	7/13/20
5187381	48677	48677	WKREQ	INSERTUPDATE	7/14/2017 2:41 ...	1071	120				3f7ab-49-9424-4...	7/18/20
5187553	48681	48681	WKREQ	INSERTUPDATE	7/18/2017 1:50 ...	3	120				898aadd8-ed3d-...	7/18/20
5209153	453092	356878	WKWOASSET	INSERTUPDATE	7/20/2017 11:30 ...	7971	22				77145e9f-cc6d-4...	7/20/20
5210192	453188	357409	WKWOASSET	INSERTUPDATE	7/24/2017 6:47 ...	1386	28				0a9e340-3697-...	7/24/20

Close this Tab 4253 Rows Close All Tabs

This query returns all records from WKSPATIALCHANGE and it belongs to the "Info" query group.

Notes: _____

Records that failed processing will have the following fields populated: **SPCH_GUID**, **SPCH_SU_ERROR**, and **SPCH_SU_DESC**. Records that are awaiting processing by the Spatial Indexer will exist in the results but will not have these fields populated.

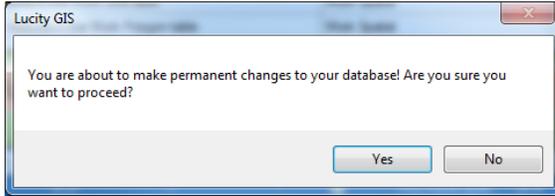
SPCH_GUID	SPCH_PROCDTTM	SPCH_LINK1	SPCH_SU_ERROR	SPCH_SU_DESC
82bedd99-af7-4...	13/2017 7:51 ...	015b85b0-2046...	ServiceIssue	No feature classes linked to [InvalidModule]
82bedd99-af7-4...	13/2017 7:51 ...	eacdb94d-833c...	ServiceIssue	No feature classes linked to [InvalidModule]
82bedd99-af7-4...	13/2017 7:51 ...	6e3ce22c-a89d...	ServiceIssue	No feature classes linked to [InvalidModule]
82bedd99-af7-4...	13/2017 7:51 ...	c6c6a11a-e269...	ServiceIssue	No feature classes linked to [InvalidModule]
82bedd99-af7-4...	13/2017 7:51 ...	b9c49261-b712...	ServiceIssue	No feature classes linked to [InvalidModule]
82bedd99-af7-4...	13/2017 7:51 ...	971b4c6d-ee27...	ServiceIssue	No feature classes linked to [InvalidModule]
f1802e61-a3d9-4...	13/2017 1:05 ...	1111dev1	ServiceIssue	No feature classes linked to [WaterFlowMeterDeviceInventory]
f1802e61-a3d9-4...	13/2017 1:05 ...	13667	ServiceIssue	No feature classes linked to [WaterFlowMeterDeviceInventory]
960ad265-40f0-4...	13/2017 1:20 ...	13667	ServiceIssue	No feature classes linked to [WaterFlowMeterDeviceInventory]
3f7ab49-9424-4...	18/2017 11:11...	1071	ServiceIssue	No feature classes linked to [WaterFlushingRoutes]
898aadd8-ad3d-4...	18/2017 1:54 ...	1	ServiceIssue	No feature classes linked to [WaterFlushingRoutes]
77145e6f-cc6d-4...	20/2017 11:30...	1	ServiceIssue	No feature classes linked to [WaterPumpInventory]
0a86e340-3697-4...	24/2017 6:51 ...	1048	ServiceIssue	No feature classes linked to [StompPumpInventory]

To fully utilize this query to resolve records that failed processing in the Spatial Indexer, follow these steps:

1. Correct whatever errors show up within the **SPCH_SU_ERROR** and **SPCH_SU_DESC** fields. These are usually related to issues with the editable GIS service (feature doesn't exist in the service, layer doesn't exist in the service, the service can't be accessed for any period of time while processing is attempted, etc.).
2. Once these errors are corrected, select however many rows in the bottom grid that you want to reprocess, and click Reprocess Selected.

The screenshot shows the 'Data Quality for Client CLINT015' interface. At the top, it indicates '10 queries available for this query suite'. Below this is a table with columns: Test Number, Group, Count, Test Name, and Module. Row 10 is selected, showing 'Spatial records that either failed processing or are awaiting processing' with a count of 4253. To the right is a 'Description' pane with SQL code. At the bottom, there is a large data grid with columns: SPCH_ID, SPCH_PARENTID, SPCH_LOC_ID, SPCH_LOCTYPE, SPCH_TYPE, SPCH_DATETIME, SPCH_ASSETID, SPCH_CATINV, SPCH_ADDRESS, SPCH_X, SPCH_Y, SPCH_GUID, and SPCH_J. A red arrow points to the 'Reprocess Selected' button.

3. The following prompt appears. Click Yes, and the **SPCH_GUID** field is cleared out for all the selected records, marking them to be processed again by the Spatial Indexer.



Note: The Spatial Indexer runs every 5 minutes, so you may not see results immediately when reprocessing a selected set of records. If you get stuck while troubleshooting this, please do feel free to contact Lucity Support for further assistance.

Notes: _____
