Parcel Alignment

Parcel Fabric Meetup

Product Announcements

ArcGIS Pro

- **3.1 – Released February 23, 2023**
- **3.1.1 – Patch Released April 6, 2023**
  - BUG-000153703 - High Random Access Memory (RAM)
  - Export ArcMap Traverse File
  - Duplicate Parcels
- **3.1.2 – Patch Released May 25, 2023**
  - Import Parcel Points
  - GP Export Parcel Features
  - Traverse
  - GP Export Sequenced Parcel Features

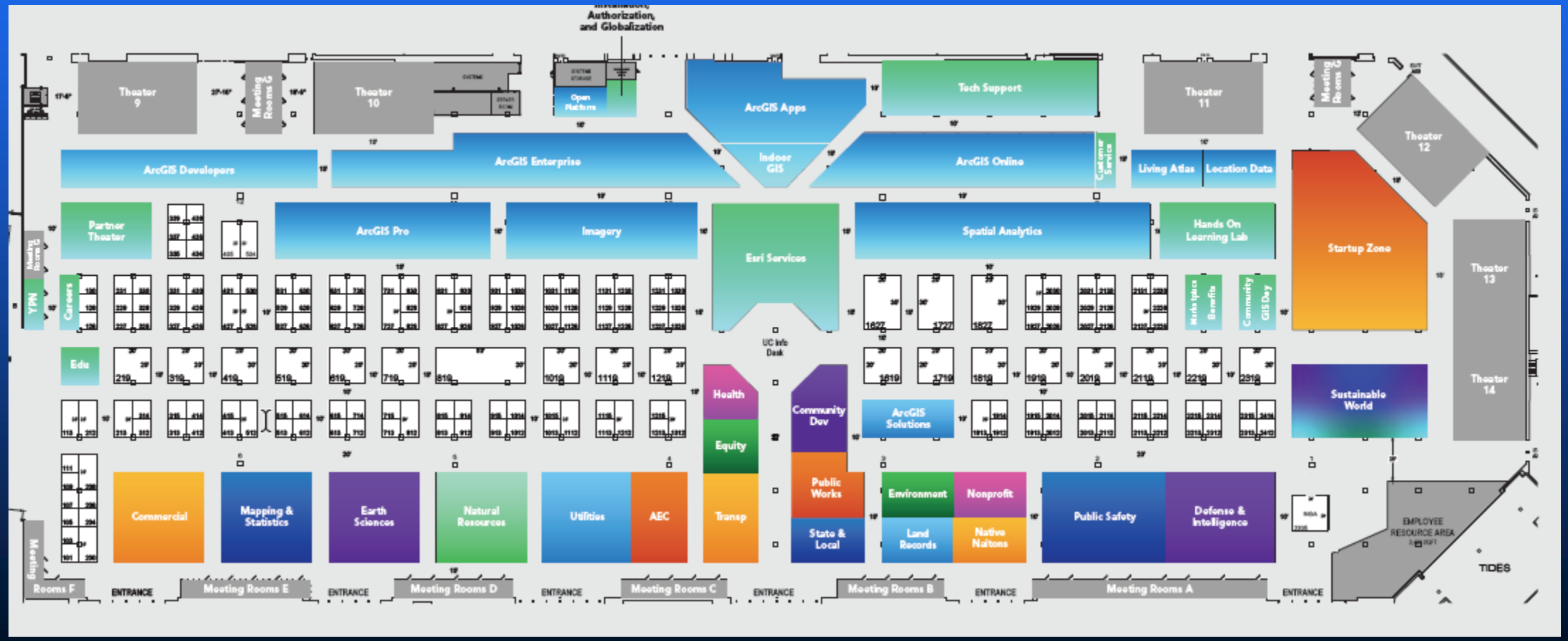
Enterprise

- 11.1 – **Released April 20, 2023**

ArcGIS Enterprise release	ArcGIS Pro releases	Parcel fabric version
10.7.1	2.4 (deprecated)	1 (deprecated)
10.8	2.5	2
10.8.1	2.6	3
10.9	2.7, 2.8	4
10.9.1	2.9, 3.0, 3.1	5
11.0	3.0, 3.1	5
11.1	3.1	5

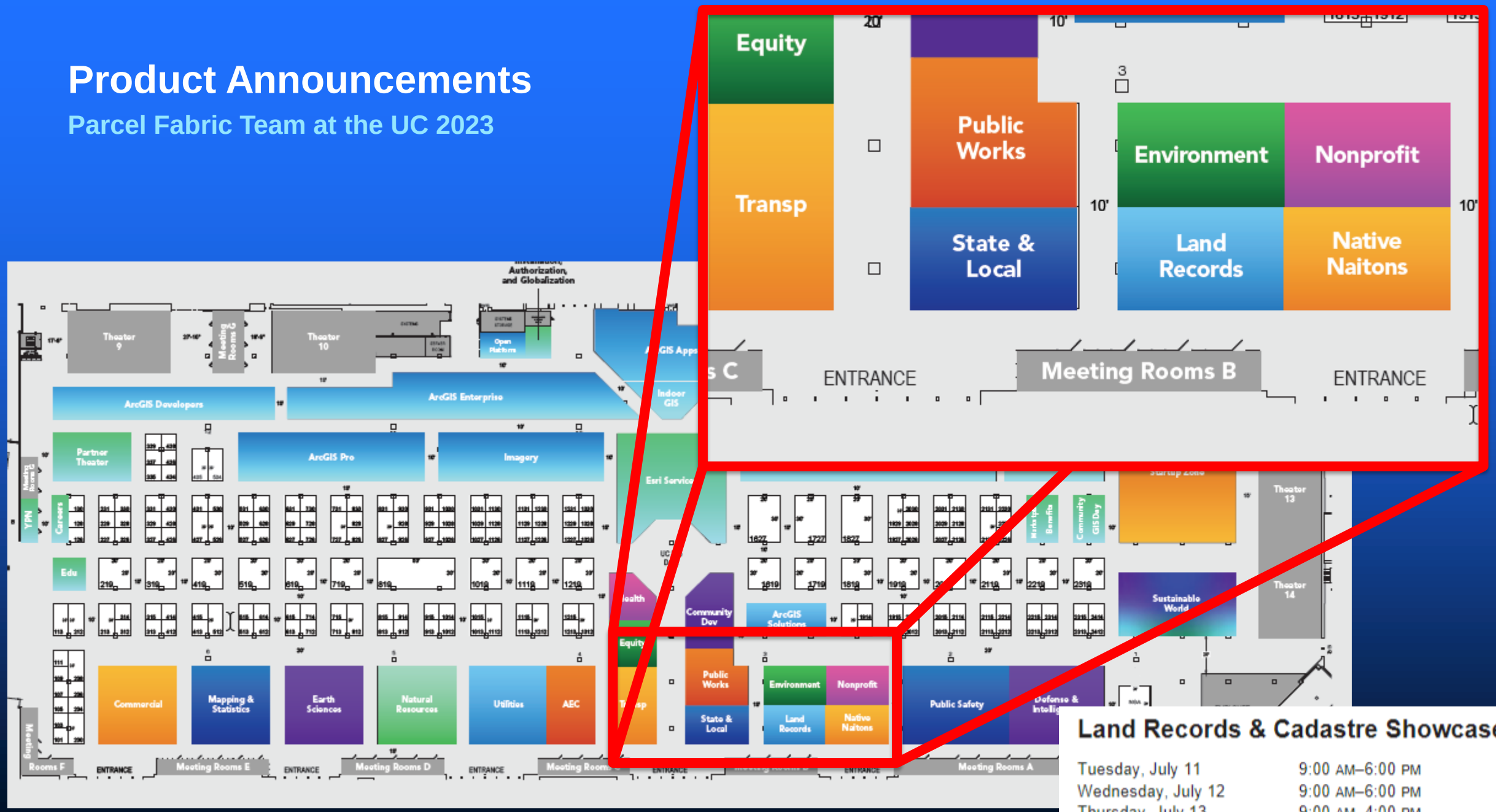
Product Announcements

Parcel Fabric Team at the UC 2023



Product Announcements

Parcel Fabric Team at the UC 2023



Land Records & Cadastre Showcase

Tuesday, July 11	9:00 AM–6:00 PM
Wednesday, July 12	9:00 AM–6:00 PM
Thursday, July 13	9:00 AM–4:00 PM

Product Announcements

Parcel Fabric Team at the UC 2023

ArcGIS Parcel Fabric: Migrating and Administering Parcels

Event: 2023 Esri User Conference

Learn about the parcel fabric information model and how it can be extended. This session will cover both data migration from simple feature classes as well as the upgrade process from the parcel fabric for ArcMap. Once your parcels are in the parcel fabric learn how to configure it in your organization: single user and enterprise deployments, editing map configuration, tasks for parcel workflows, topology rules and attribute rules. Once properly configured learn how to publish the map for multiuser editing and for viewing purposes.

Session Type: Technical Workshop

Topic: Data Management

Session Level: Beginner

ADD TO SCHEDULE **Tuesday, Jul 11** | **8:30 AM - 9:30 AM PDT** (**10:30 AM - 11:30 AM CDT**)

ADD TO SCHEDULE **Thursday, Jul 13** | **4:00 PM - 5:00 PM PDT** (**6:00 PM - 7:00 PM CDT**)

ArcGIS Parcel Fabric: Introduction to Record Driven Workflows

Event: 2023 Esri User Conference

Learn about editing the parcel fabric in ArcGIS Pro using common, record-driven parcel editing workflows. Record-driven workflows will include demos of parcel creation, editing and lineage management based on a variety of legal descriptions. Example workflows will include parcel merge, parcel split (metes-and-bounds), parcel split (area description), parcel boundary line adjustment and creating new parcels from CAD files. The session will end with topics on advanced capabilities workflow automation, 3D cadastre and coordinate-based cadastre.

Session Type: Technical Workshop

Topic: Data Management

Session Level: Beginner

ADD TO SCHEDULE **Wednesday, Jul 12** | **2:30 PM - 3:30 PM PDT** (**4:30 PM - 5:30 PM CDT**)

ADD TO SCHEDULE **Thursday, Jul 13** | **10:00 AM - 11:00 AM PDT** (**12:00 PM - 1:00 PM CDT**)

ArcGIS Parcel Fabric: Introduction to Quality Driven Workflows

Event: 2023 Esri User Conference

Learn about managing data quality in the parcel fabric in ArcGIS Pro. Learn how to use attribute rules and topology rules to evaluate data quality in your parcel fabric and meet data quality requirements for your organization. The session will include common quality-driven workflows for fixing topological errors, geometry errors and attribute errors. The session will also introduce Least-Squares Adjustment capabilities to detect outliers in measurements, evaluate and improve spatial accuracy.

Session Type: Technical Workshop

Topic: Data Management

Session Level: Beginner

ADD TO SCHEDULE **Wednesday, Jul 12** | **2:30 PM - 3:30 PM PDT** (**4:30 PM - 5:30 PM CDT**)

ADD TO SCHEDULE **Thursday, Jul 13** | **1:00 PM - 2:00 PM PDT** (**3:00 PM - 4:00 PM CDT**)

ArcGIS Parcel Fabric: Data Management

Event: 2023 Esri User Conference

This session will consist of short and useful data management demos: How to share a subset of parcel data as a live services that is 'view-only' using a database view; how to access the parcel fabric logging in the ArcGIS Pro client and on the ArcGIS Server to better understand performance issues; how to import points from a CSV or TXT file and how to automate data import using Python.

Session Type: Demo Theater Presentation

Topic: Data Management

Session Level: Intermediate

ADD TO SCHEDULE **Thursday, Jul 13** | **10:00 AM - 10:45 AM PDT** (**12:00 PM - 12:45 PM CDT**)

Land Records SIG: Parcel Management

Event: 2023 Esri User Conference

Join us for our annual Land Records face-to-face Meetup. In our traditional style, our Land Records will present what's new in a new way! Calling all parcel and cadastral folks. Calling all recorders, surveyors and assessors. If you've got parcels, attend and bring your questions! Don't be late, the lunches will be gone! See you there!

Session Type: Special Interest Group Meeting

Session Level: All Attendees

ADD TO SCHEDULE **Wednesday, Jul 12** | **11:30 AM - 12:30 PM PDT** (**1:30 PM - 2:30 PM CDT**)

Product Announcements

Parcel Fabric Team at the UC 2023

Demo Theater Schedule

Tuesday, July 11

12:10 PM	Esri Partner Network an
1:00 PM	Grant Workshop: Conne
2:30 PM	ArcGIS Online: Effective
2:30 PM	A Mobile Mapping Revol

Wednesday, July 12

10:00 AM	ArcGIS Online and ArcG
11:30 AM	ArcGIS Solutions: Land
11:30 AM	ArcGIS Online: Editing i
1:00 PM	Trends in State and Loc
2:30 PM	ArcGIS Field Maps: Loc
4:00 PM	What's New in GIS for L

Thursday, July 13

10:00 AM	ArcGIS Parcel Fabric: D
11:30 AM	Improved Geoprocessin
1:00 PM	Is Your Right-of-Way Fu

Industry-Focused Sessions and Technical Workshops

Tuesday, July 11

8:30 AM	ArcGIS Parcel Fabric: Migrating and Administering Parcels	SDCC, Room 30B
8:30 AM	ArcGIS: Best Practices for Integrated Geospatial Infrastructure	SDCC, Room 30C
10:00 AM	ArcGIS Insights:	
10:00 AM	ArcGIS Solutions	
1:00 PM	Getting Started: E	
2:30 PM	ArcGIS Pro: Worl	
2:30 PM	ArcGIS Experienc	

Wednesday, July 12

8:30 AM	ArcGIS Online ar	
8:30 AM	Integrating GIS a	
10:00 AM	ArcGIS 3D Analy	
2:30 PM	ArcGIS Parcel Fa	
2:30 PM	ArcGIS Parcel Fa	

Thursday, July 13

8:30 AM	ArcGIS Pro: Worl	
8:30 AM	ArcGIS Online ar	
10:00 AM	ArcGIS Parcel Fa	
10:00 AM	ArcGIS Field Map	
1:00 PM	ArcGIS Parcel Fa	
4:00 PM	ArcGIS Parcel Fa	

Special Interest Group Meetings

Wednesday, July 12

11:30 AM	Land Records SIG: Parcel Management	SDCC, Room 2

Moderated Paper Presentations

Tuesday, July 11

8:30 AM	Economics	Revamping Data Management Efficiently for Economic Development Projects	SDCC, Room 28A
10:00 AM	Real Estate	Leveraging ArcGIS in Real Estate to Find the Best Locations for Business	SDCC, Room 28D
1:00 PM	Government	Experiences with National Geospatial Data Infrastructure	SDCC, Room 28A
2:30 PM	Petroleum	Enterprise GIS and Land Resource Management	SDCC, Room 24B

Wednesday, July 12

8:30 AM	Land Records/Cadastre	Emerging Technologies in Land Administration	SDCC, Room 27B
10:00 AM	Land Records/Cadastre	Visualizing Property Valuation in Real-Time	SDCC, Room 27B
1:00 PM	Land Records/Cadastre	Realizing Efficiencies in Parcel Management	SDCC, Room 27B
2:30 PM	Land Records/Cadastre	Modern Right-of-Way Land and Infrastructure Management	SDCC, Room 27B

Thursday, July 13

8:30 AM	Water Resources	Using Dashboards for Data Sharing	SDCC, Grand Ballroom 6
10:00 AM	Agriculture	Optimize Crop Zoning and Land Planning Boundaries	SDCC, Room 28B
1:00 PM	Government	How to Incorporate Equity Across Your Organization	SDCC, Room 24A

https://community.esri.com/t5/user-conference-documents/land-records-cadastre-sessions-and-activities-uc23/ta-p/1297710

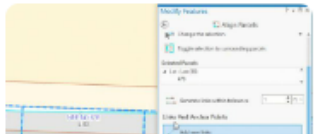
Product Announcements

Parcel Fabric

Meetup

TUE, JUN 13, 2023, 11:00 AM CDT

Parcel Alignment



Online event

Registration URL
https://attendee.gotowebinar.
Webinar ID 147-352-067...

27 attendees

TUE, JUL 11, 2023, 6:30 PM PDT

Parcel Social

barleymash

A parcel get-together in beautif
Join us for a drink and the oppo
presentations, no meetings, just

5 attendees

WED, JUL 12, 2023, 11:30 AM PDT

Meetup at the UC! Lunch on Wednesday!

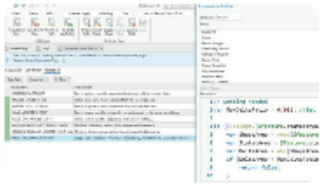
111 E Harbor Dr

For those attending the UC (User Conference), this is a fac
Finally, we can meet in person and show you some of the
been asking for....

5 attendees

TUE, NOV 14, 2023, 11:00 AM CST

The use of Arcade with the Parcel fabric



Online event

Registration URL
https://attendee.gotowebinar.com/register/8319078029162098778
Webinar ID 984-184-195...

17 attendees

Manage

Going

Parcel Fabric Meetup

Product Announcements

TUE, JUL 11, 2023, 6:30 PM PDT

Parcel Social

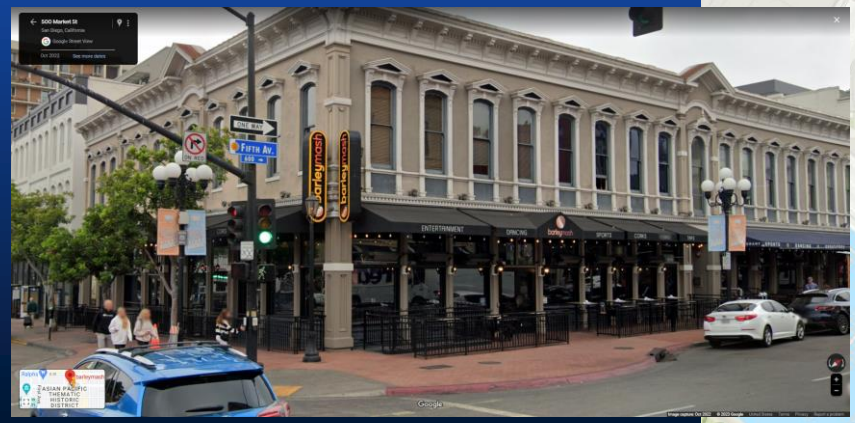
barleymash

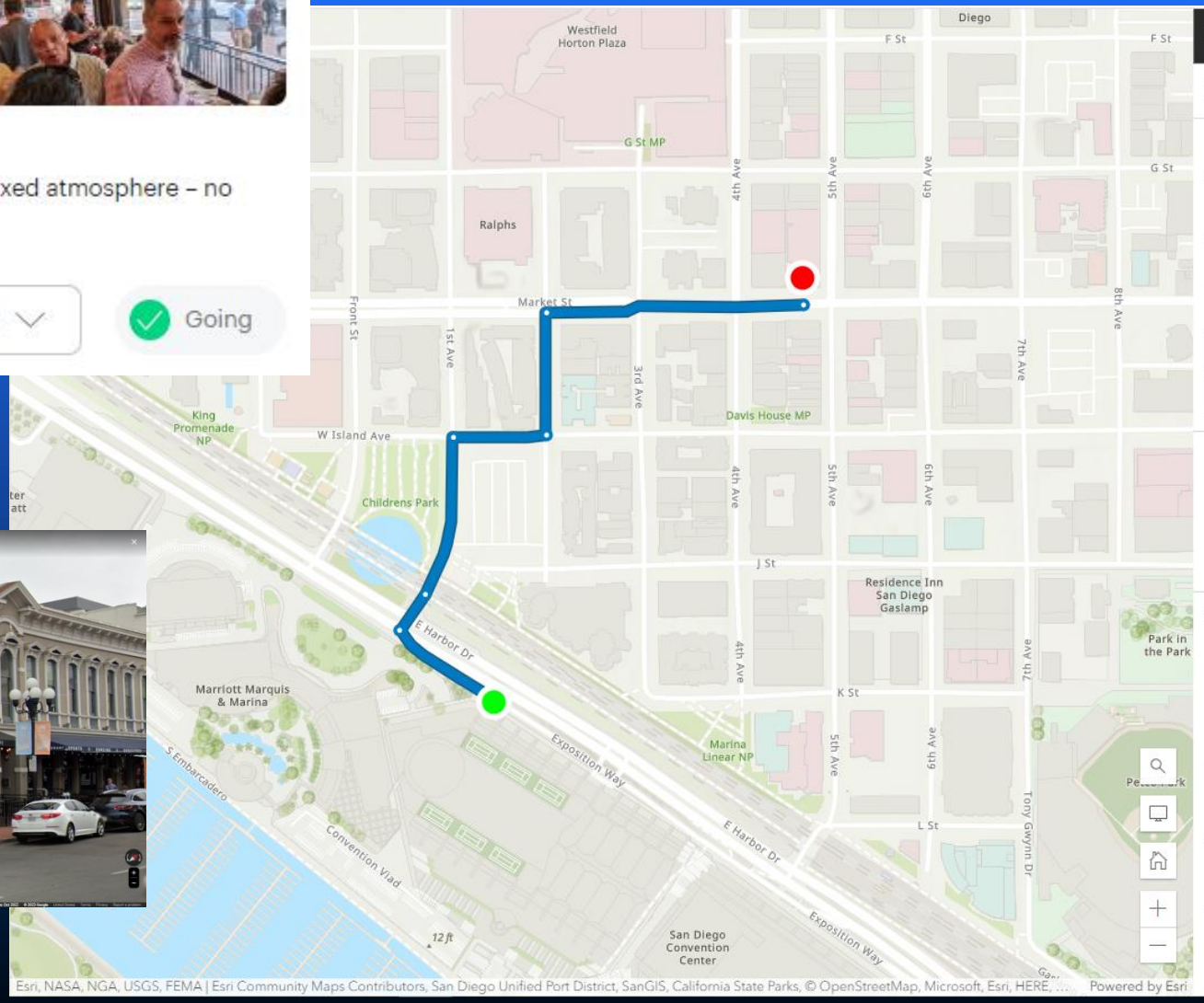
A parcel get-together in beautiful San Diego.
Join us for a drink and the opportunity to connect in a relaxed atmosphere – no presentations, no meetings, just fun....

5 attendees

Manage

Going





Why this session?

- Highly requested
- We often get questions about it
- This is a ‘deep dive’:
  - Plenty of time (1.5 hours allocated)
  - Interact: ask as many questions as you want
  - Interact: provide your own tips

Agenda

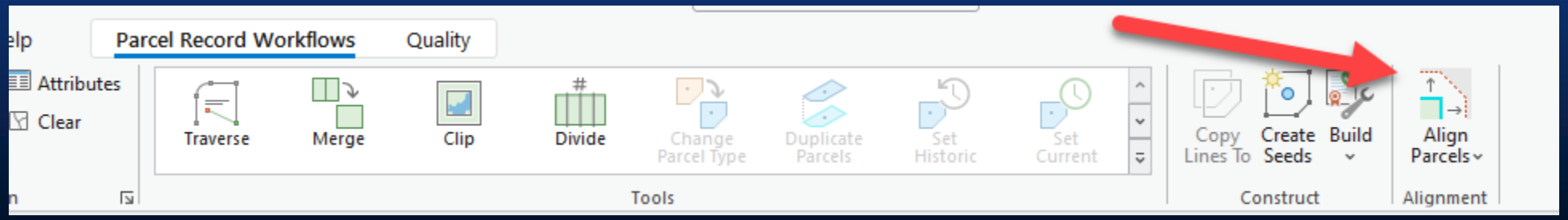
- Why Parcel Alignment is needed?
- Record–driven or Quality–Driven workflow?
- Holding points fixed & topological behavior
- Highlight Gaps and Overlaps
- Align Parcel tool
- Align Feature Tool
- Align Edge tool
- Editing Move-Rotate-Scale tool
- Automation:
  - Geoprocessing Import Parcel Fabric Points
  - Adjusting associated datasets

Why Parcel Alignment?

- Not all parcel workflows require alignment:
  - Bounds description
  - Parcel Merge workflow
- When ever parcels are based on measurements (COGO, XYZ):
  - Every measurements is an estimate, thus it carries an error
  - Many times we distribute the error (traverse, LSA), but it still exists
  - Surrounding legacy data also contains errors, sometimes large errors
- What’s the issue with having small gaps and overlaps?
  - Do not represent the physical world nor the legal world
  - Become bigger when things move
  - GIGO – bad for analysis
  - Paper can hide issues that web viewer do not always hide

What type of workflow is this?

- Alignment does not create any parcel lineage…
- But is part of many Record-Driven workflows:
  - Split metes-and-bounds
  - Boundary resurvey
  - New Subdivision
  - …
- In short: probably both



Is there One Way to Align Parcel Data?

- NO - there are many ways
- Each method has pros and cons:
  - Manual effort: mouse clicks, zooming, panning
  - Predictability (preview)
  - Performance
  - Ability to break it down to smaller pieces
  - What moves? Points, vertices, lines
  - Uniformity – one tolerance fits all?
- How do I know method to use?
  - Experience
  - Start with the more efficient method, preview, undo?!

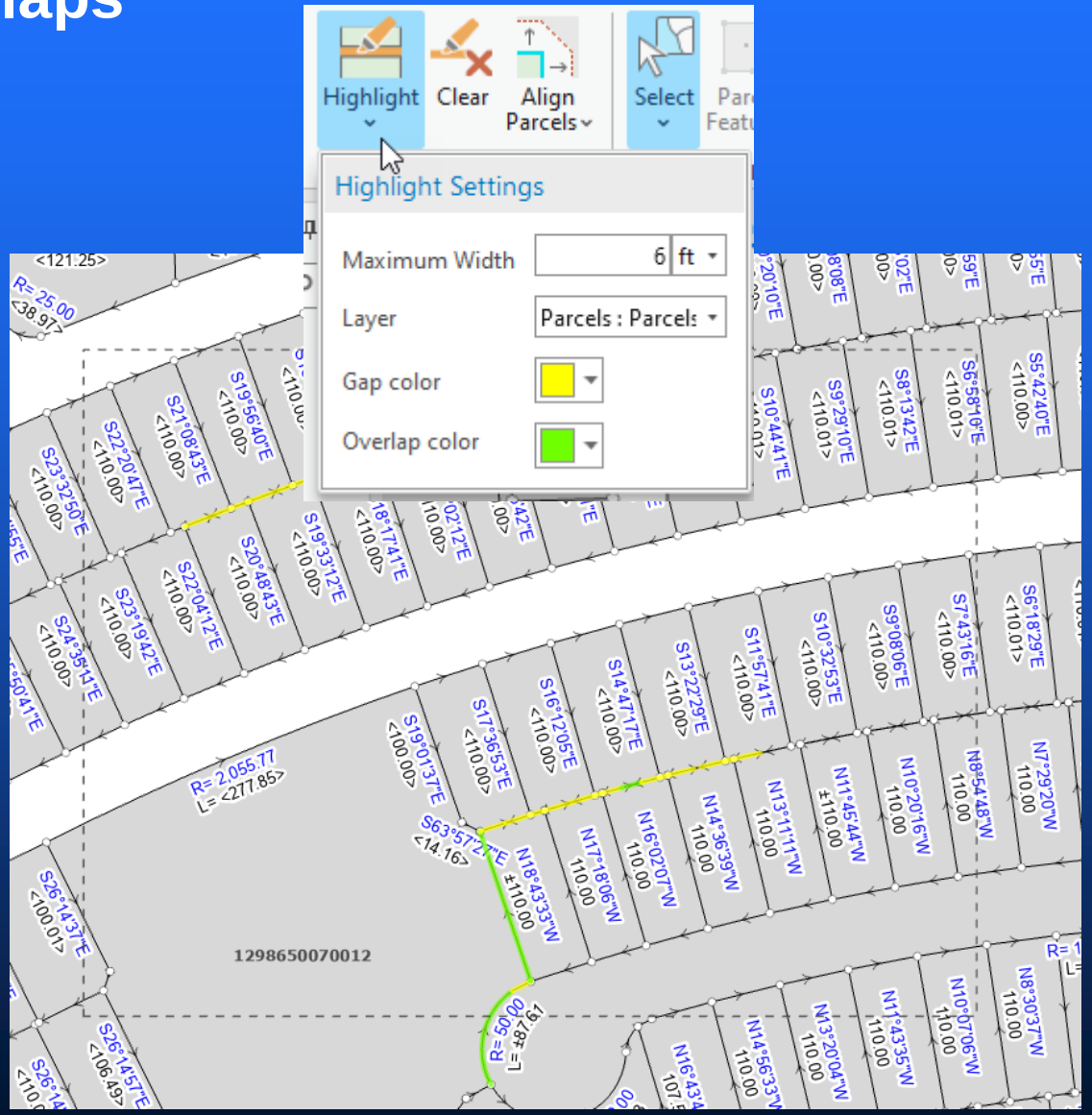
Quality Checks

Before Performing any Parcel Alignment

- Days to weeks before:
  - Make sure you have valid geometries: Geoprocessing tool Check Geometry, Geoprocessing tool Repair Geometry
  - Valid topological integrity: validate topology
  - Fix densified curves: geoprocessing tool Simplify By Straight Lines and Circular Arc (AKA SLACA)
- Just before aligning
  - Highlight Gaps and Overlaps in your work area extent
  - Turn on layers (points, polygons, lines)

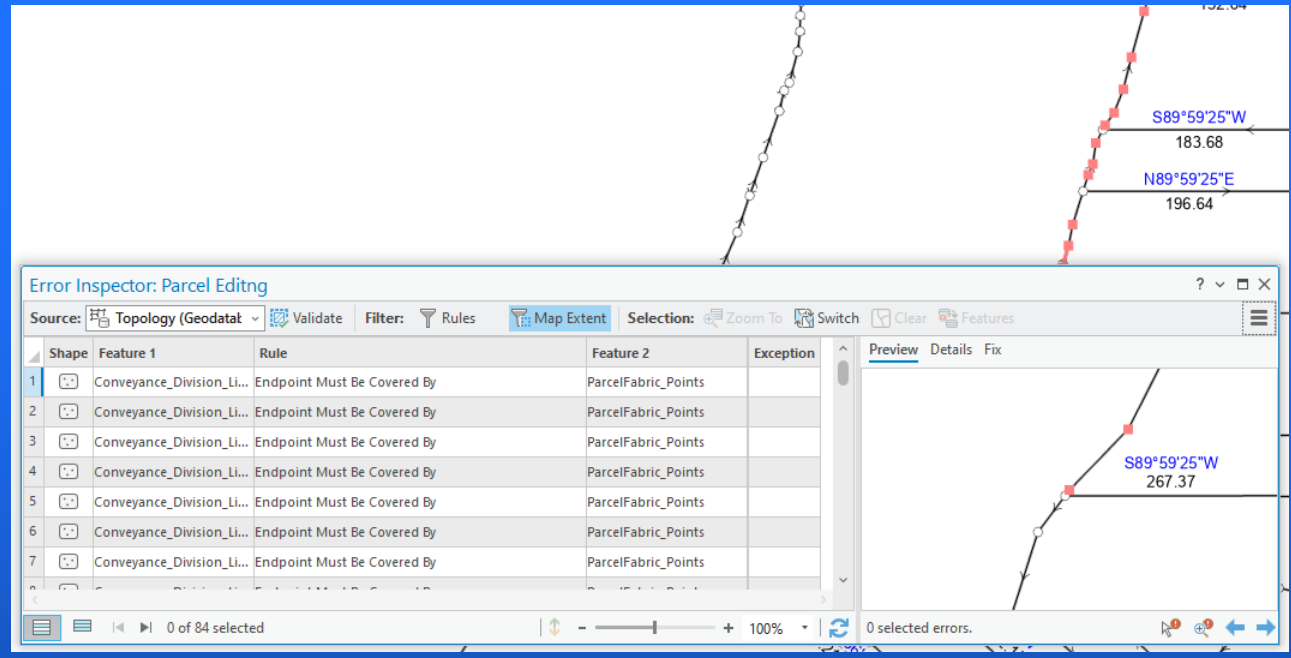
Quality Check – Highlight Gaps and Overlaps

- Tool creates graphics to help visualize gaps and overlaps between parcels
- Configure colors
- Works on visual extent
- Help doc LINK



Quality Check – Validate Topology

- Identify topological integrity issues:
  - Line and polygon do not match
  - Lines with missing points
  - …
- You can add your own rules
- Remember: topology rules work on the feature class and not on the feature layer → includes current and retired features.
- ‘Cracking and clustering’ is a good thing for alignment



Laura Court
Control #2115
0712400012
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Laura Court
Control #2116
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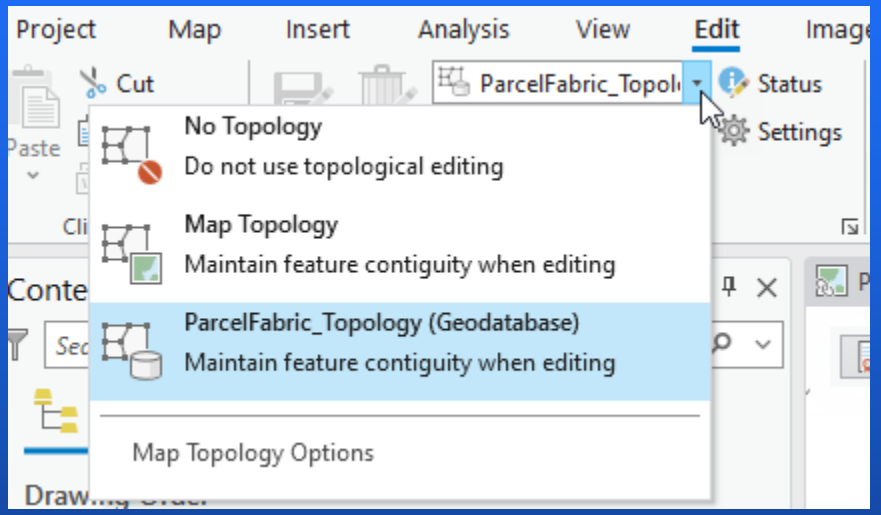
Settings

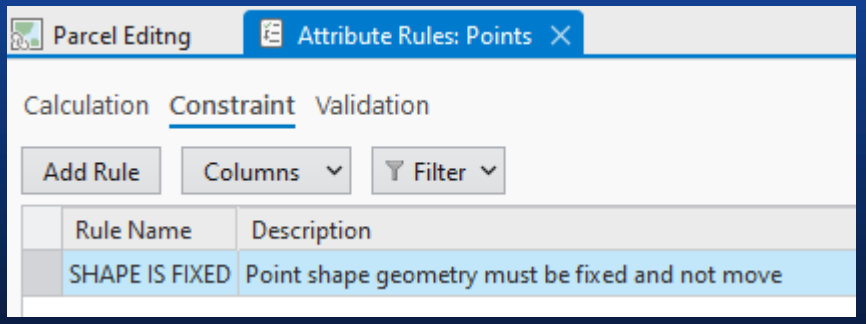
Topology Settings

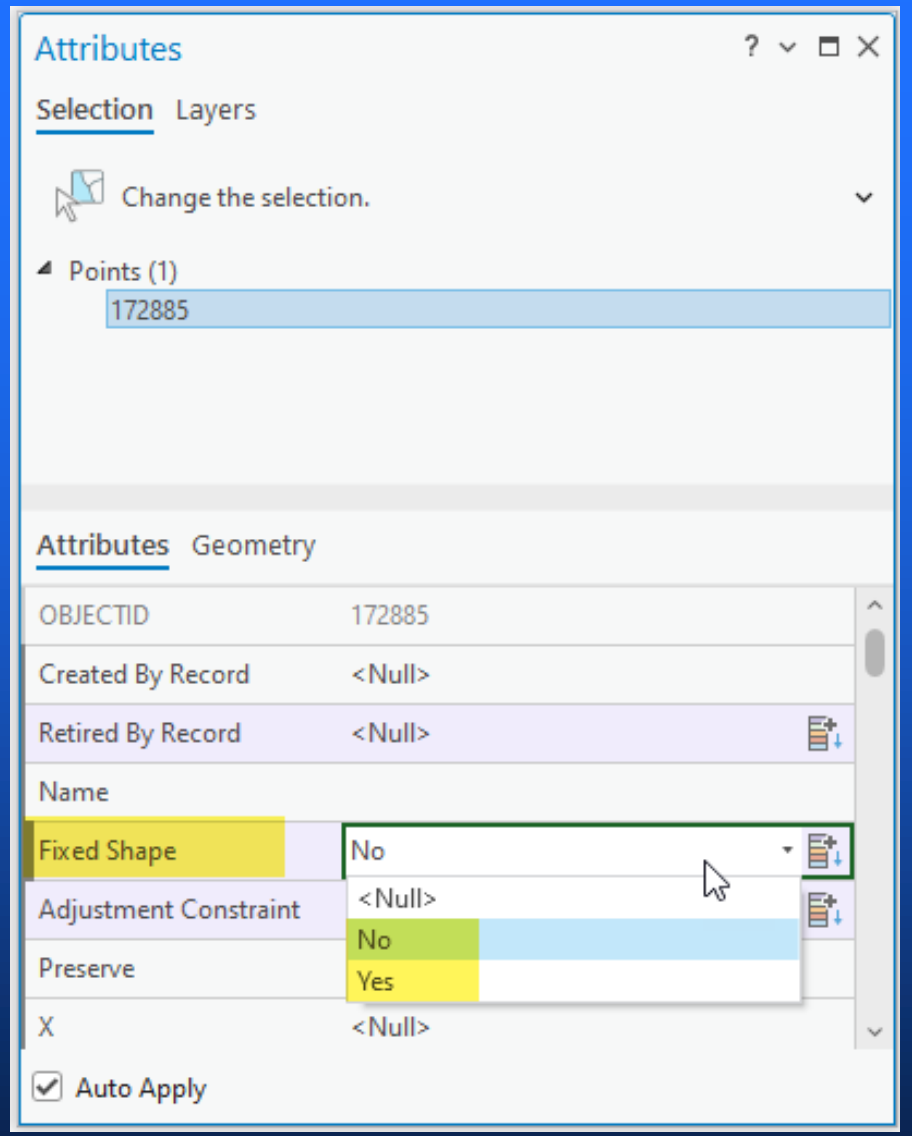
- Parcel Fabric controls a standard Geodatabase topology
- If you see features get disconnected make sure it is turned on
- Some tools, like Align Edge will not work
- Map Topology only works on visible layers
- Use ‘No Topology’ when you do want to disconnect feature



Fixed Shape for Points

- When set to ‘Yes’ the point will not move
- Any feature (line, polygon) connected to the point will not move at that location
- Uses a system Attribute Rule – type Constraint
- Align Parcel tool honors this setting
- Help doc LINK





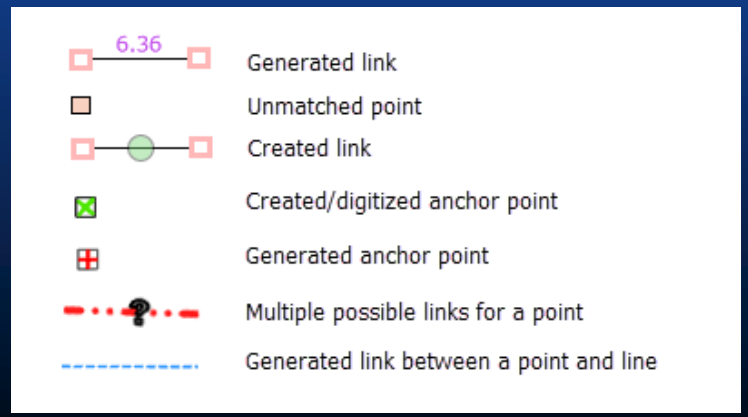
Expression

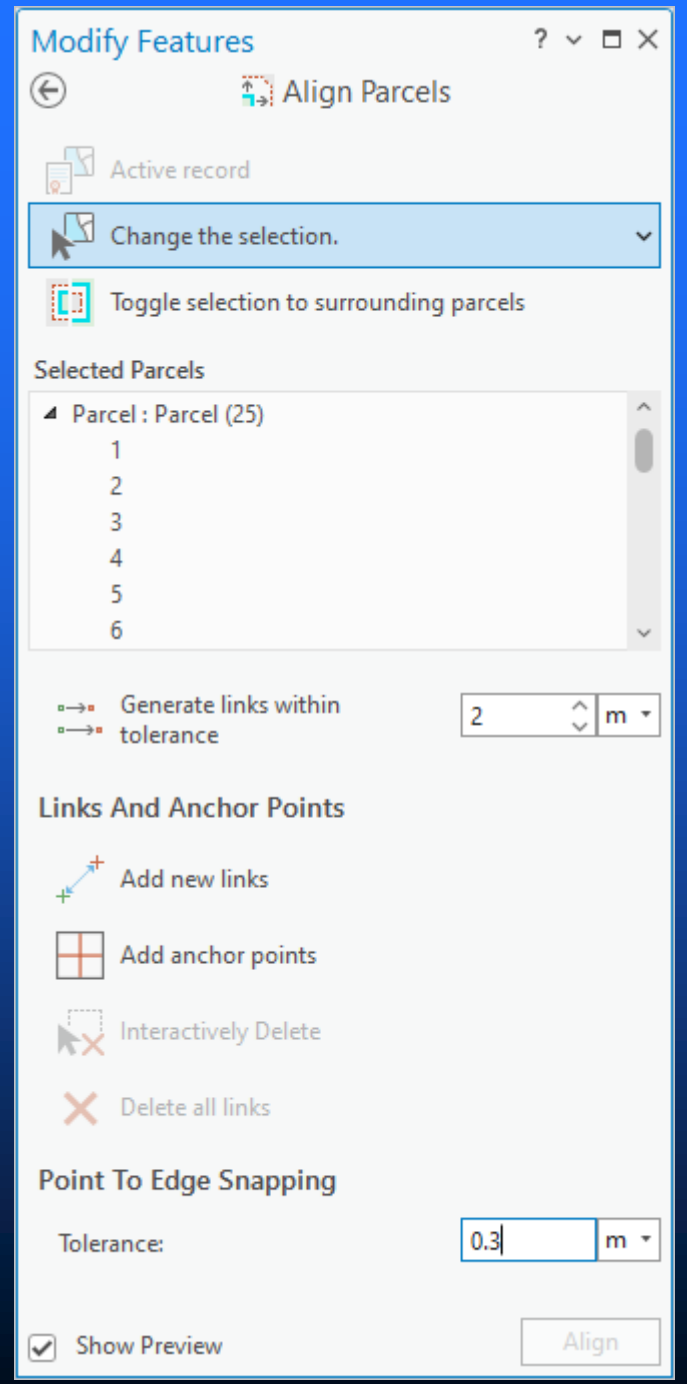
```
1 if (($feature.IsFixed == 1) && (!Equals(Geometry($feature), Geometry($originalFeature)))) { return false; } return true;
```

Alignment Tools

Align Parcels

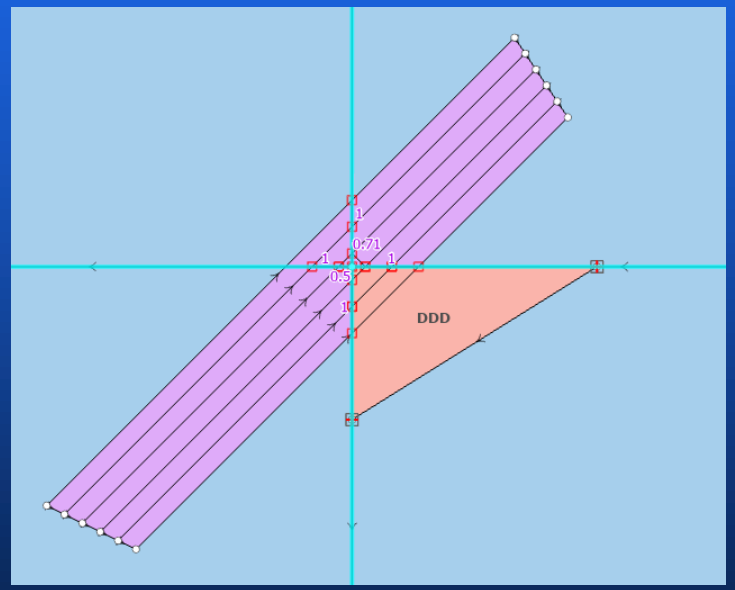
- Designed specifically for parcels
- Selected parcels move. Selection can be toggled (AKA in ArcMap “Join mode”)
- 3 click process:
  - Set selection
  - Generate links & review results
  - Align
- You can help the process by:
  - Creating links
  - Moving the geometries close to the target
  - Using the smallest tolerances



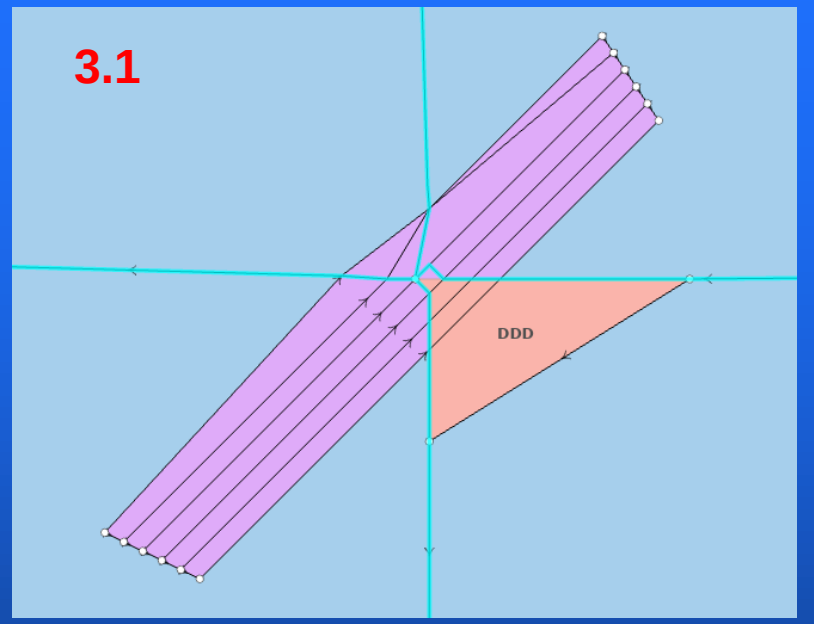


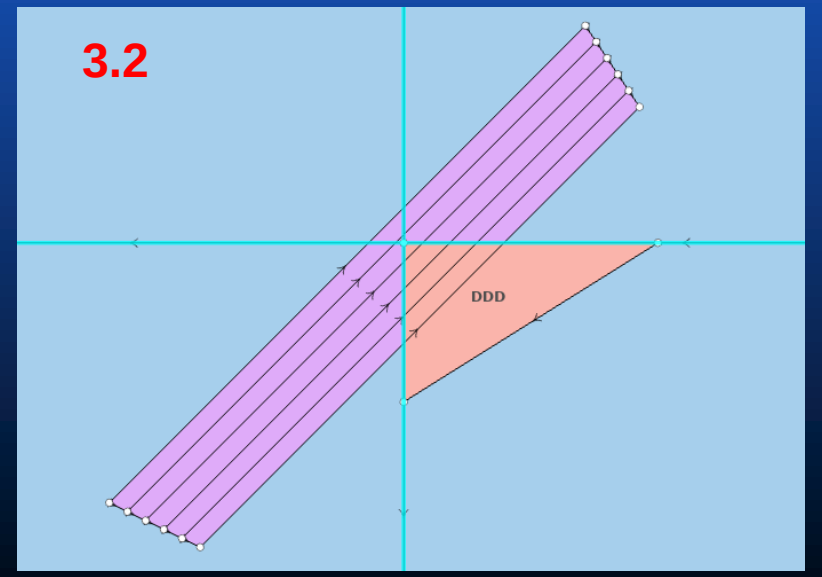
Align Parcels

- Moving point is deleted
- For a big subdivision, will internal points move? Yes
- Like all the other tools, we keep enhancing this tool with each release:
  - Performance
  - Bugs
  - Enhancements
- Help doc LINK



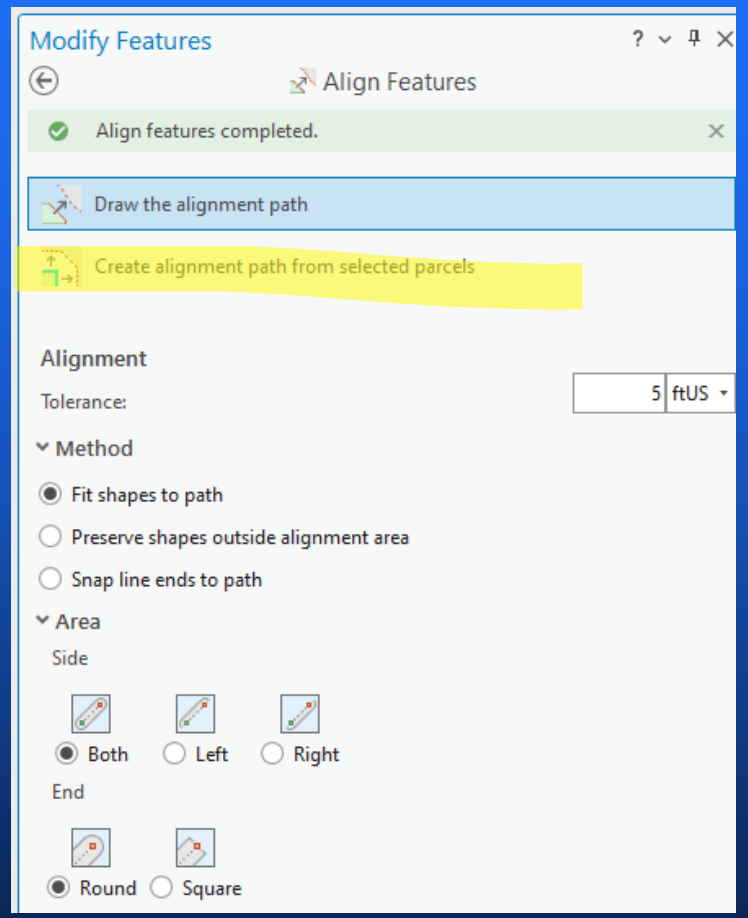
Align



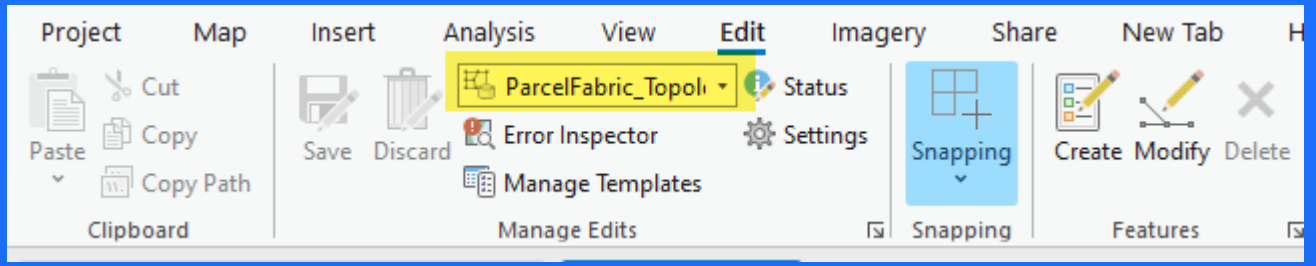


Align Features Tool

- Aligns edges of geometry
- Does not merge points
- Commonly used when fixing gaps and overlaps
- Options available for Parcel Fabrics to creating an alignment path
- Help doc LINK

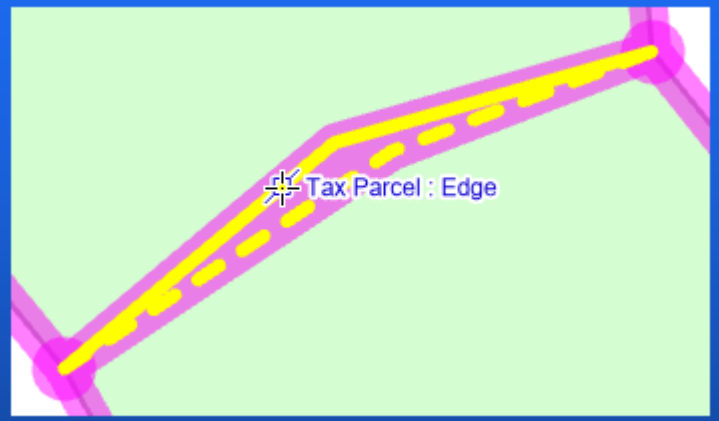


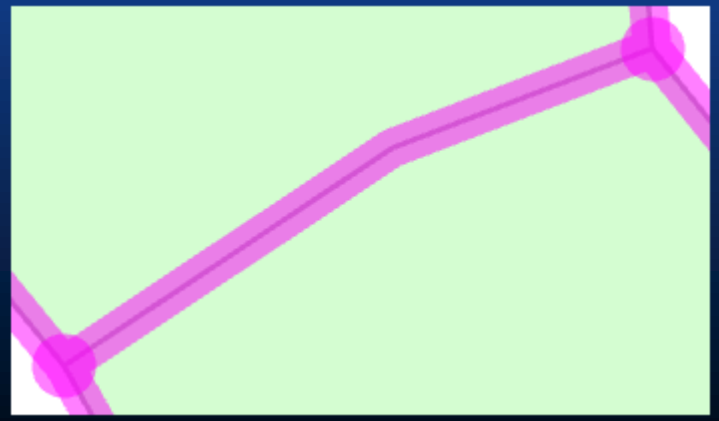
Align Edge



- Solid line stays fixed
- Click on the solid line
- Commonly used to fix gaps and overlaps
- Works with simple cases…
- Review results carefully

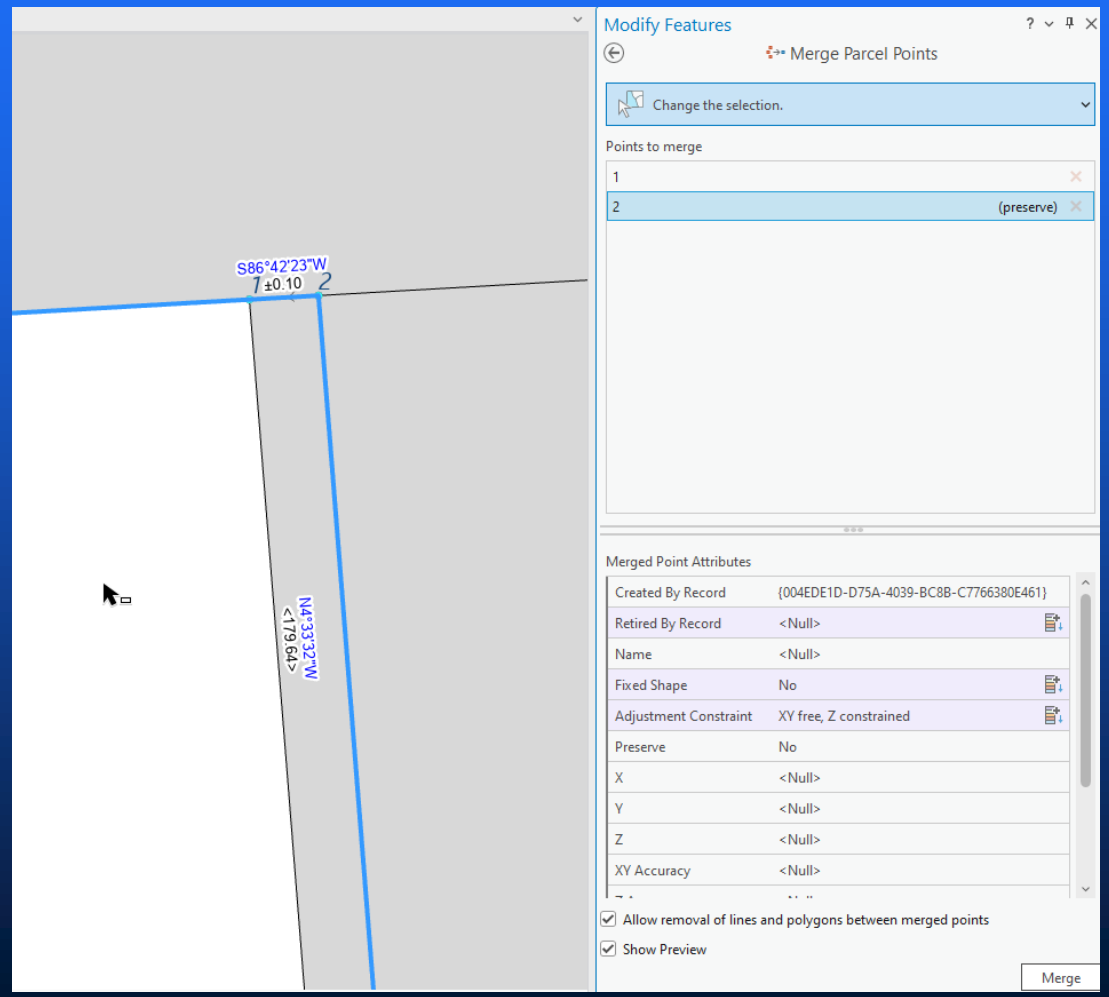
- Help doc LINK





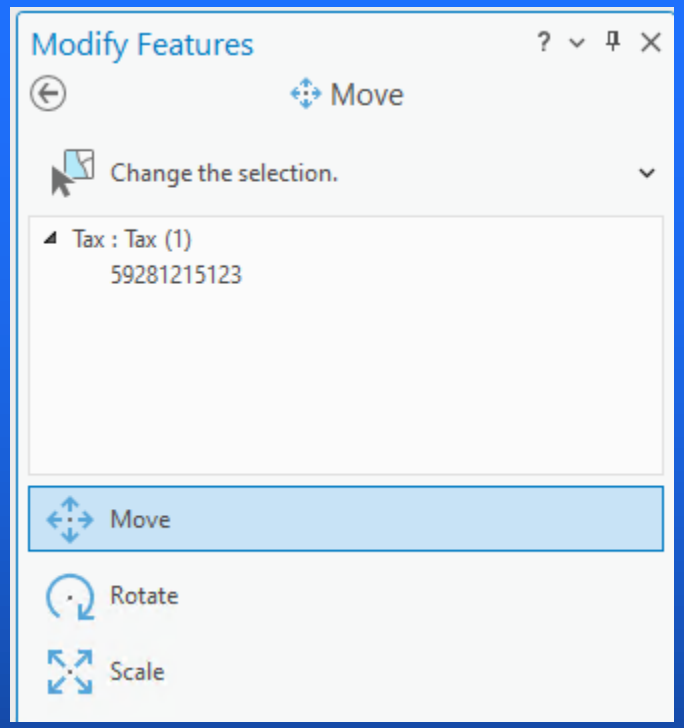
Merge Parcel Points Tool

- Merges 2 or more selected points into one selected point
- If a fixed point is selected, it will automatically be chosen to be preserved
- Lines and Polygon geometry will move to new location
- If there is a short line segment it will get deleted
- Help doc LINK



Move / Rotate / Scale Tool

- Used to coarsely place geometries to where they should be before aligning
- Can be used with polygons, lines and points
- Works with multiple selected features
- Make sure to close the pane when done
- Help doc LINK
-

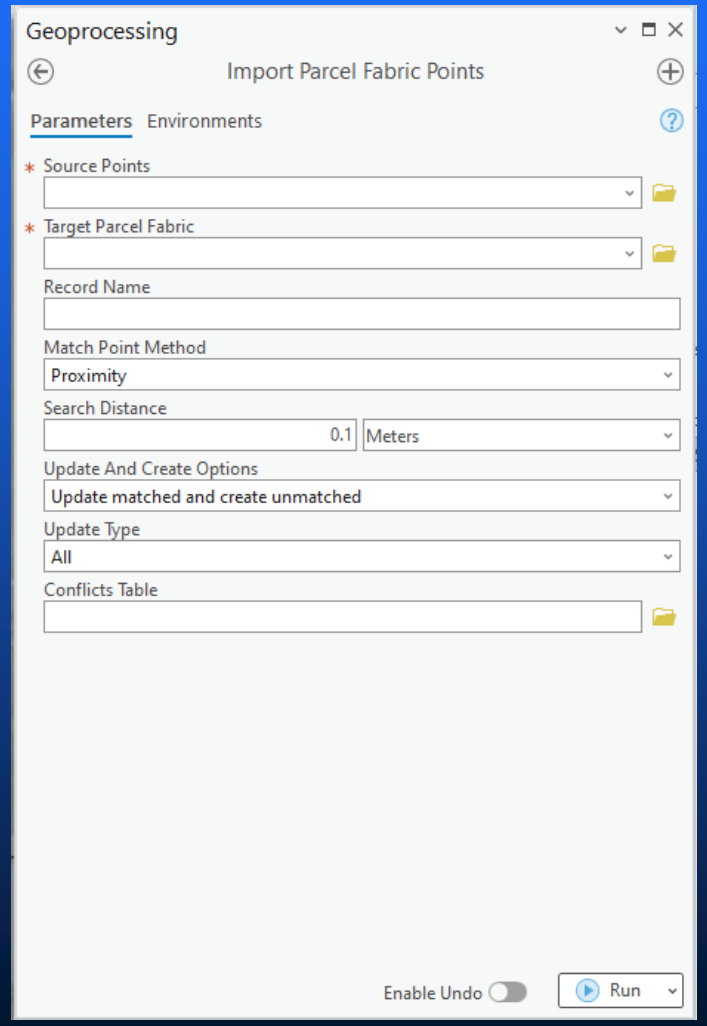


Keyboard shortcut	Action	Comment
Ctrl and click	Relocate the anchor.	Relocate the selection anchor to the clicked location. You can zoom in to a feature without the current location of the anchor being visible in the active view.
Ctrl and drag	Move the anchor.	Move the selection anchor.

Automation – Geoprocessing Import Parcel Fabric Points

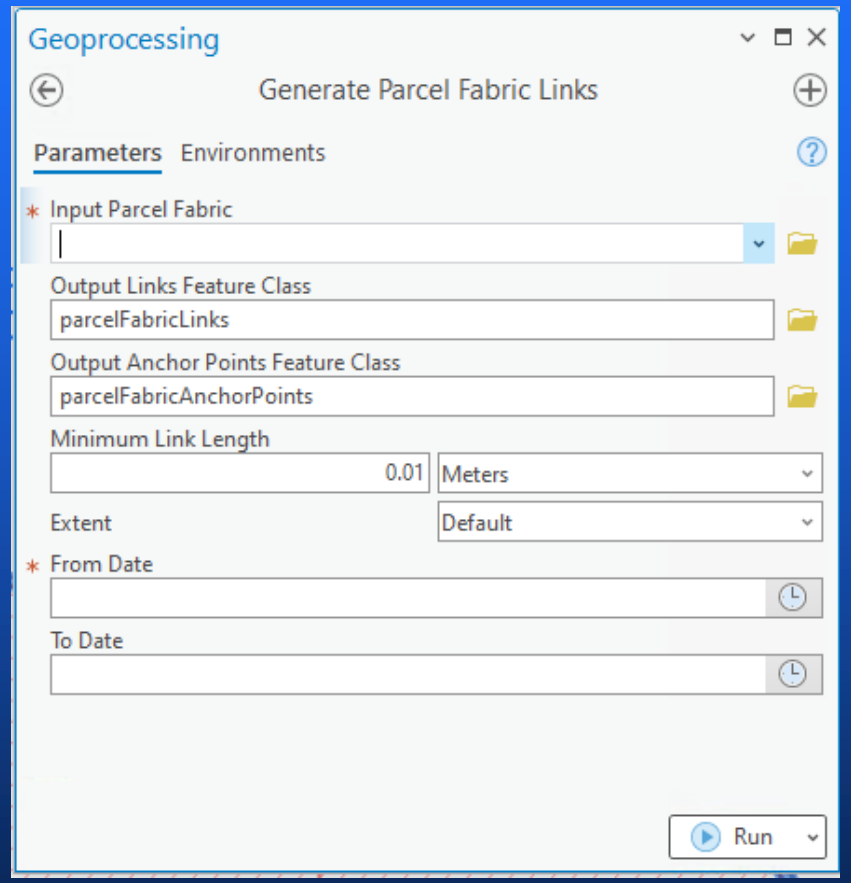
- Can be used to align data:
  - Between organizations (e.g. Federal, State, Local)
  - Align to newly captured points

- Help doc LINK



How to Align Associated Datasets?

- Geoprocessing tool Generate Parcel Fabric Links
- Leverages the temporal nature of Branch Versioning
- Creates links and Anchor Points (AKA ‘Identity Links’) in a given:
  - Extent
  - Time window (UTC)
  - Tolerance
- Links and anchor points can be used to rubbersheet any other dataset
- Help doc LINK



Demos

Let’s Align

How do I get started?

- Contact your esri account manager
- Watch the videos on the Parcel Fabric Community https://community.esri.com/community/arcgis-parcel-fabric
- Read the Parcel Fabric help documentation
- Prototype or Proof of concept with a partial migration or upgrade
- Missing something? Let us know through the ArcGIS Parcel Fabric Ideas Page.

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