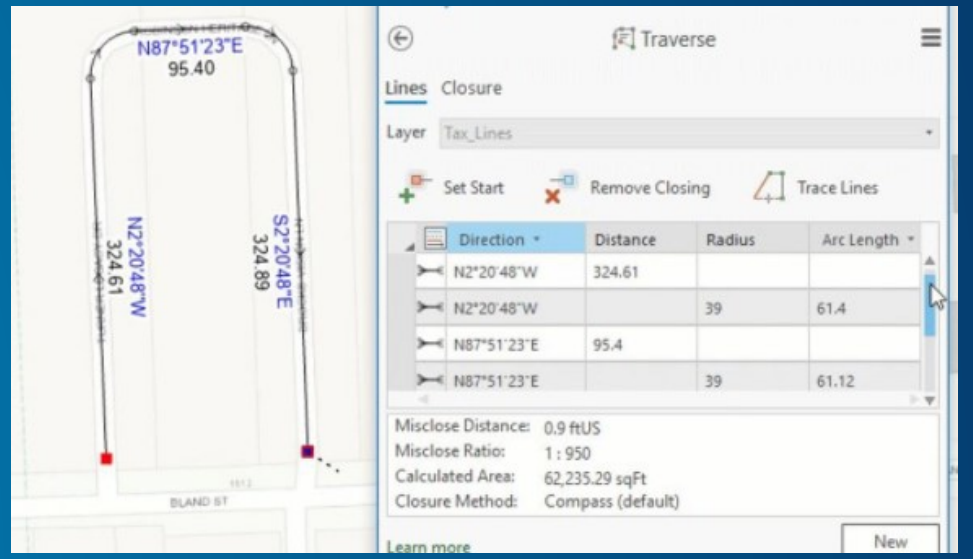
Entering COGO measurements in ArcGIS Pro Parcel Fabric

November 2021

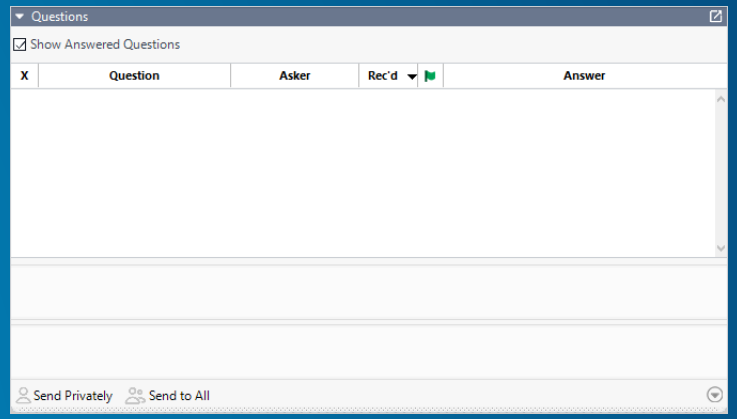


Welcome to the Parcel Fabric Meetup

- If you are new – welcome!
- All meetups are recorded and posted on the Parcel fabric Community page:

https://community.esri.com/t5/arcgis-parcel-fabric/ct-p/arcgis-parcel-fabric

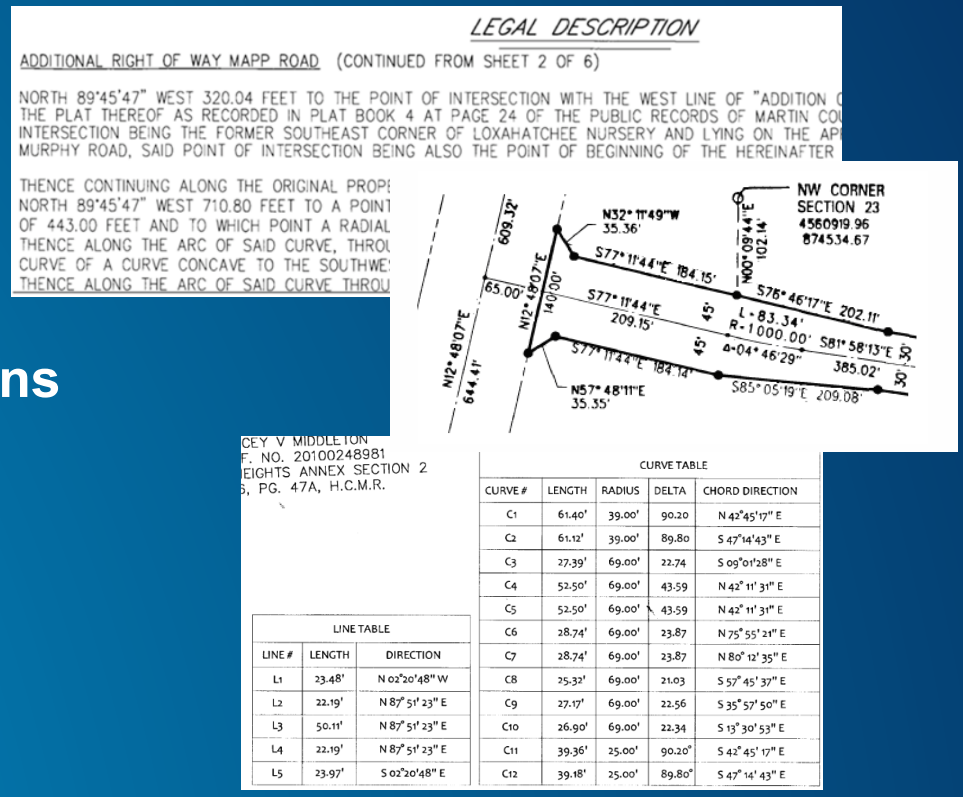
- These slides are uploaded as handouts and have useful help links.
- During the meetup use the Questions area



- After the meeting you can post your questions to the community - here

Agenda – high level

- COGO Enabled
- Standard editing tools
- Traverse
- Traverse adjustment and measurement corrections
- Community driven
- Parcel fabric enhanced COGO capabilities



LEGAL DESCRIPTION

ADDITIONAL RIGHT OF WAY MAPP ROAD (CONTINUED FROM SHEET 2 OF 6)

NORTH 89°45'47" WEST 320.04 FEET TO THE POINT OF INTERSECTION WITH THE WEST LINE OF "ADDITION
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5, PG. 47A, H.C.M.R.

LINE TABLE

LINE #	LENGTH	DIRECTION
L1	23.48'	N 02°20'48" W
L2	22.19'	N 87° 51' 23" E
L3	50.11'	N 87° 51' 23" E
L4	22.19'	N 87° 51' 23" E
L5	23.97'	S 02°20'48" E

CURVE TABLE

CURVE #	LENGTH	RADIUS	DELTA	CHORD DIRECTION
C1	61.40'	39.00'	90.20	N 42°45'17" E
C2	61.12'	39.00'	89.80	S 47°14'43" E
C3	27.39'	69.00'	22.74	S 09°01'28" E
C4	52.50'	69.00'	43.59	N 42° 11' 31" E
C5	52.50'	69.00'	43.59	N 42° 11' 31" E
C6	28.74'	69.00'	23.87	N 75° 55' 21" E
C7	28.74'	69.00'	23.87	N 80° 12' 35" E
C8	25.32'	69.00'	21.03	S 57° 45' 37" E
C9	27.17'	69.00'	22.56	S 35° 57' 50" E
C10	26.90'	69.00'	22.34	S 13° 30' 53" E
C11	39.36'	25.00'	90.20°	S 42° 45' 17" E
C12	39.18'	25.00'	89.80°	S 47° 14' 43" E

What is “COGO Enabled”?

- https://pro.arcgis.com/en/pro-app/latest/help/editing/introduction-to-cogo.htm#ESRI_SECTION1_E9FACCD79C6F4F5EB3C9D79E61F88571

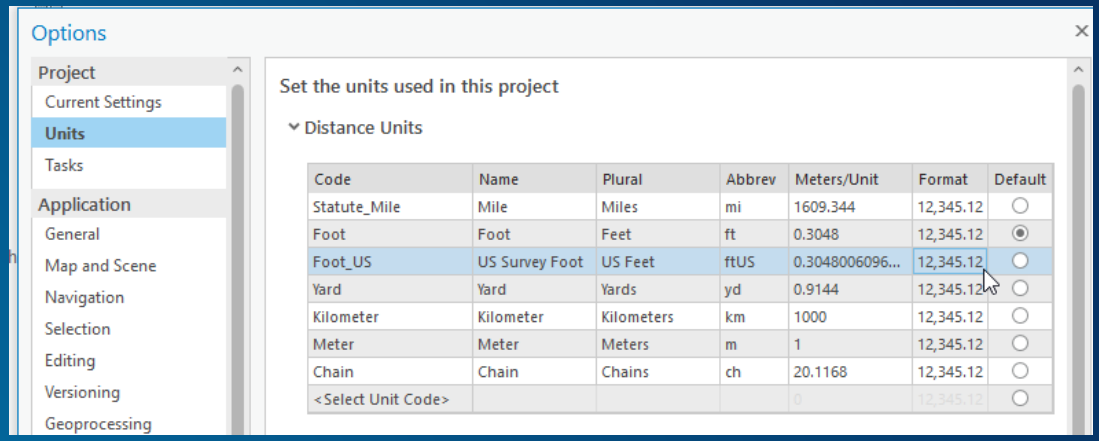
COGO-enabled line features

COGO-enabled line features contain additional attribute fields for storing COGO measurements independent of the geometry attributes. Features draw with COGO symbology and include a label expression that labels each line with its COGO dimension, when it exists.

To add or remove COGO fields, use the following geoprocessing tools:

Tool	Description
Enable COGO	Enables COGO on a line feature class and adds COGO fields and COGO-enabled labeling to a line feature class.
Disable COGO	Disables COGO on a line feature class and removes COGO fields and COGO-enabled labeling and symbology.

COGO Prep.



- Set the correct units
  - Small difference in distances: check ‘US Feet’ versus ‘feet’
  - ~3 times bigger / smaller: check ‘feet’ versus ‘meter’
  - Don’t forget to also set Angular, Area and Direction units
- COGO labeling settings: direction format, what to show, color, abbreviation…
- Feature templates settings: 2 point line continue feature
- Feature template overrides
- Hold down ‘C’ key to suspend editing and pan
- …

COGO - aware context menu constraints/tools

- Direction
- Distance
- Direction/Distance
- Circular Arc
- Spiral Curve

- COGO – aware shortcut keys
  - r – Radius
  - a – Angle/Direction
  - d – Distance
  - g – Direction/Distance

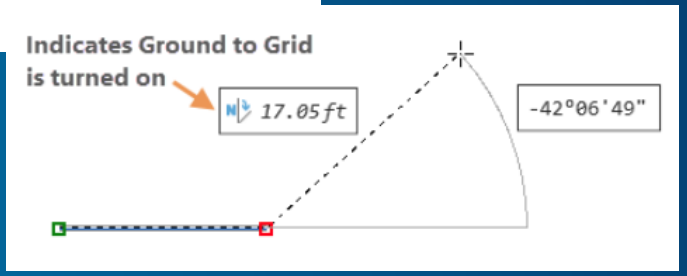
https://pro.arcgis.com/en/pro-app/latest/help/editing/direction-distance-and-elevation-commands.htm

COGO – aware Dynamic Constraints

- https://pro.arcgis.com/en/pro-app/latest/help/editing/enable-dynamic-constraints.htm

Dynamic Constraints are on-screen text box controls that enable you to constrain the direction and distance of a new line segment to specified values. Creating a two-point COGO-enabled line writes the constraint values to the appropriate COGO fields.

Tabbing through the controls and typing a value in the active text box sets a constraint. When a constraint is not set, the text box dynamically updates as you move the pointer.



- **Jeff's video:** https://youtu.be/OiOtKQFdGHw

Geometric Constraints

- https://pro.arcgis.com/en/pro-app/latest/help/editing/geometric-constraints.htm

Constraint commands

While sketching a feature, right-click to apply one of the following constraints:

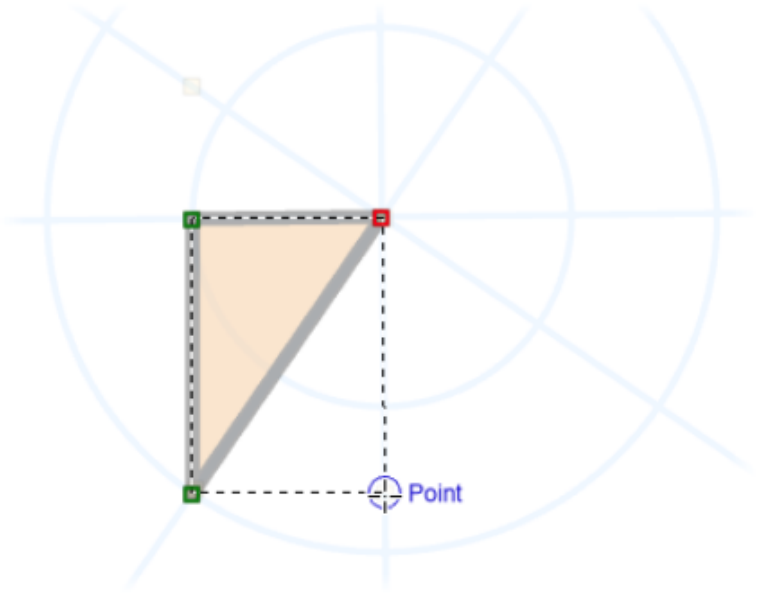
Constraint	Description
Parallel	Constrains the current segment parallel to an existing right-clicked feature segment.
Perpendicular	Constrains the current segment perpendicular to an existing right-clicked feature segment.
Vertical	Constrains the current z-aware segment vertically along the z-axis. Available only in 3D scenes.

Constrain by inference

- https://pro.arcgis.com/en/pro-app/latest/help/editing/inference-constraints.htm

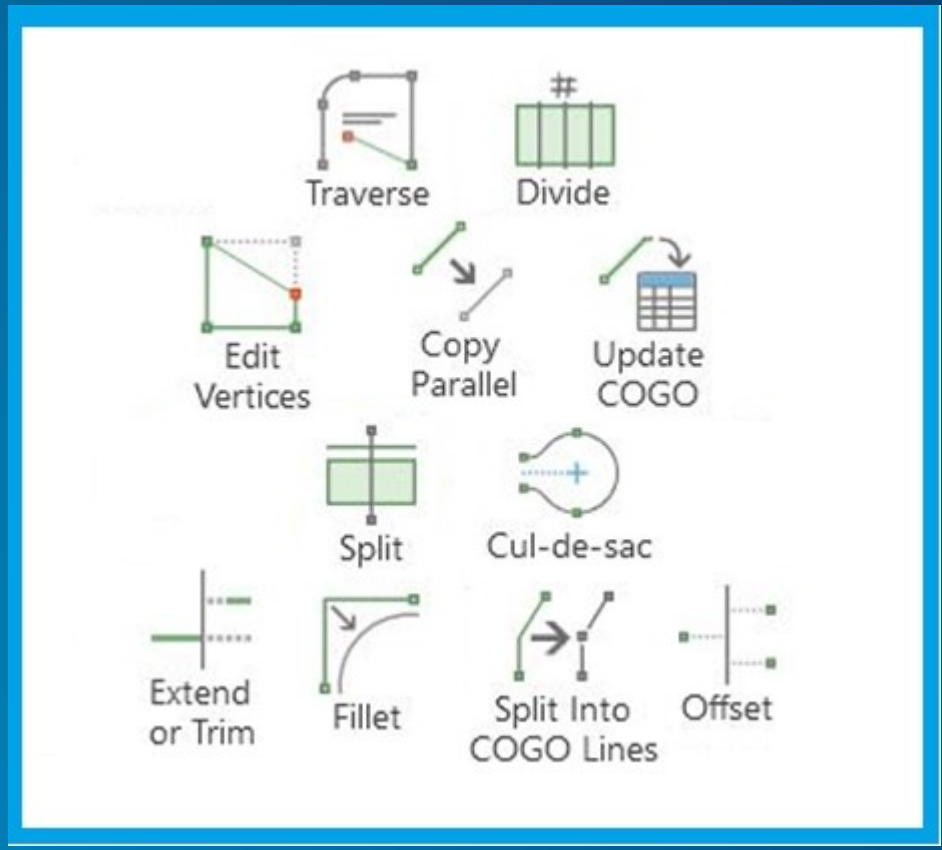
Inference constraints analyze the segment of the active sketch over which the pointer is hovering and displays inferred geometric constraints. When snapping is turned on, the pointer snaps to them using the active snap agents.

This setting is available on the status bar at the bottom of the active map.

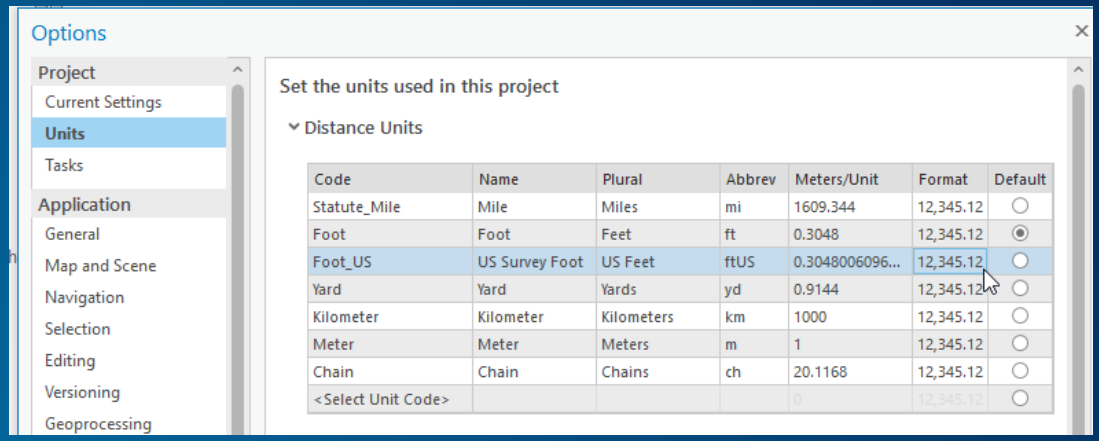


COGO – aware editing tools found in the Modify Pane

- Traverse
- **Edit Vertices**
- Update COGO
- Cul-de-sac
- Split lines into COGO lines
- Extend or Trim
- **Fillet**
- Line Intersection
- Split
- Divide
- **Copy Parallel**
- Offset



Editing tips and tricks



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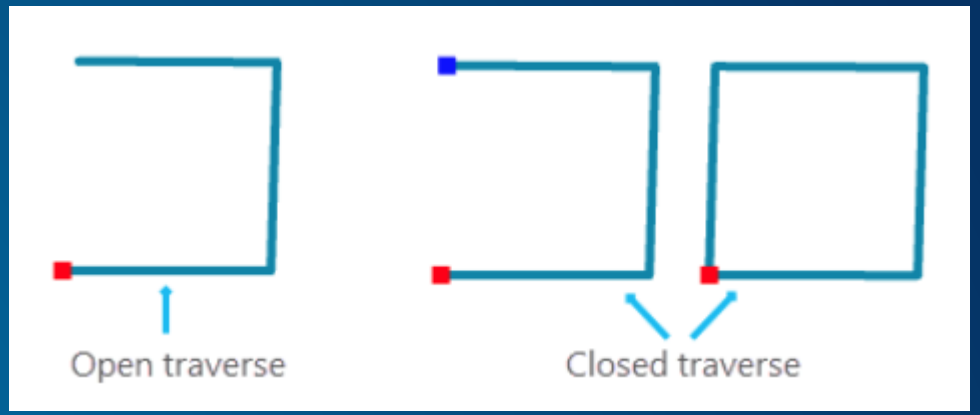
Traverse – part 1

- Open and closed traverse – help link
- Creating a new traverse
- Shortcuts and overrides – help link
- Built-in calculator
- Setting closure tolerance
- Area and misclose ratio



Calculator shortcuts

Use operators in the **Distance**, **Radius**, **Arc Length**, and **Chord Length** fields to quickly calculate an
derive distances.

Operator	Use in grid field	Description	Example
+	**Distance**, **Radius**, **Arc Length**, and	Add two distances.	Add a ROW width to an existing radius to get the outer ra Type 30+15 in the **Radius** field

Radius, **Arc Length**, **Chord Length**, and **Delta Angle** fields:

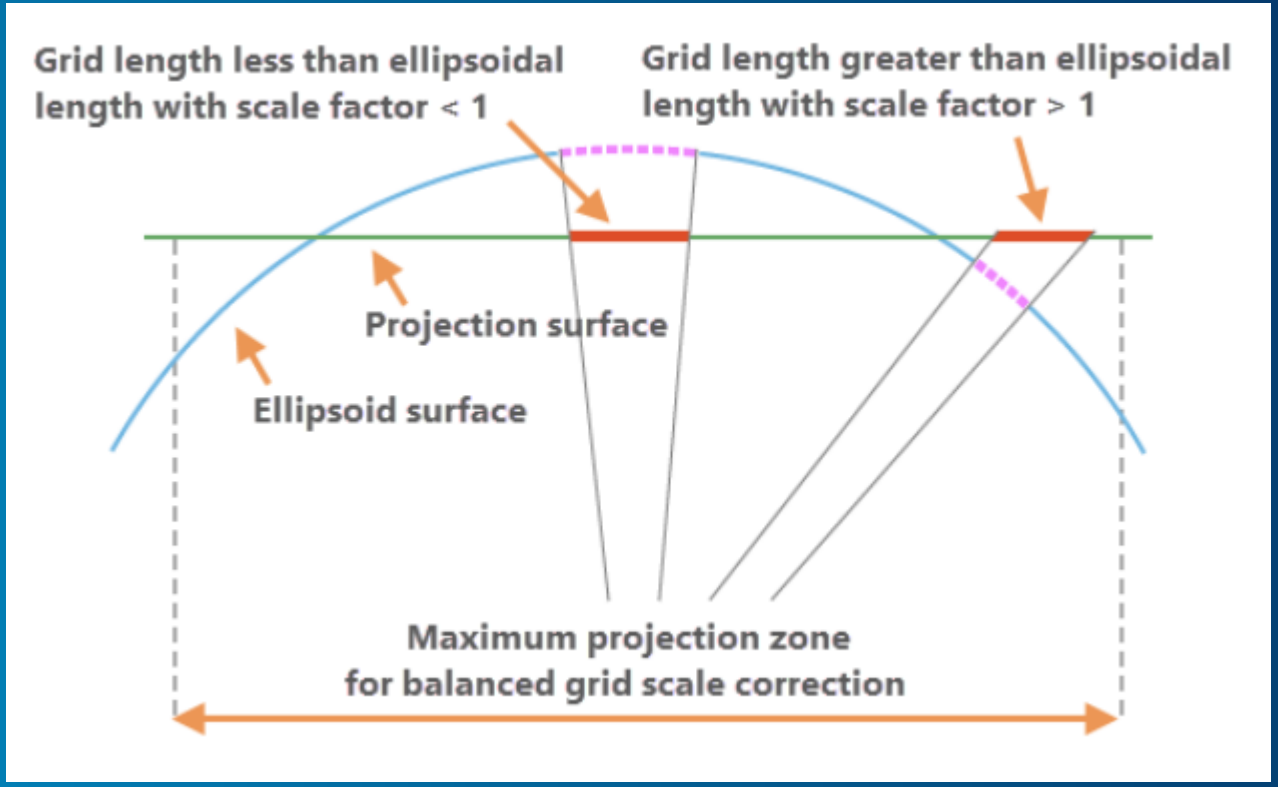
Override	Keystroke	Use in grid field	Example
Tangent bearing curve	tb or TB	**Direction**	`41-56-06-4tb` (using quadrant bearing)
Radial bearing curve	rb or RB	**Direction**	`41-56-06rb` (using north azimuth and degrees-minutes-seconds)
Chord bearing curve	cb or CB	**Direction**	`41-56-06cb` (using north azimuth and degrees-minutes-seconds)
Chord length	c or C	**Arc Length** and **Delta Angle**	`25.01c`
Delta (central angle)	d or D	**Arc Length** and **Chord Length**	`90-59-59d`
Arc length	a or A	**Chord Length** and **Delta Angle**	`25.01a`

Traverse – part 2

- Tracing a traverse - help link
- Import / Export ArcMap traverse txt files
- Entering a natural boundary – help link
- How to migrate an old ArcMap COGO schema to the new COGO Schema? Link

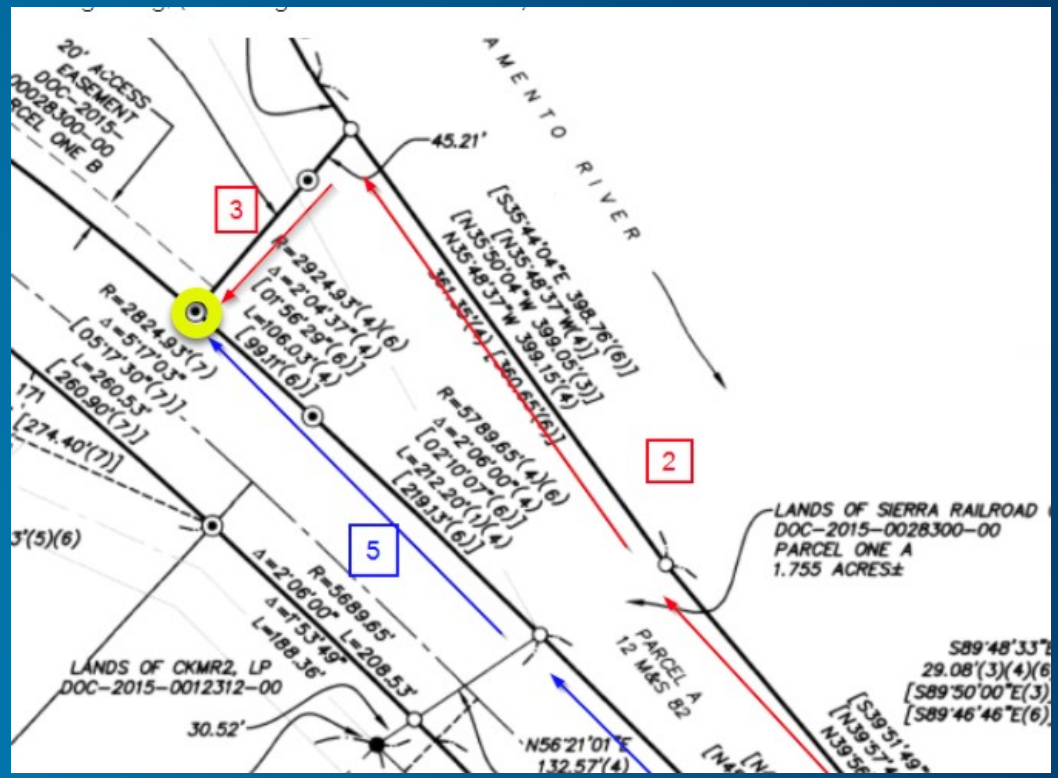
Traverse Adjustment and Measurement Corrections

- Traverse adjustment methods – help link
- Ground to Grid correction – help link



Community Driven

- Traverse with missing information – community question
- New @ Pro 2.9? propagation of tangency



Parcel Fabric & COGO

- COGO Type metadata field & domain
- Partial measurements / no measurements
- ‘Show Only Active Record’
- R&D – auto-snap: Link
- Are we done?
  - Performance enhancements
  - ML/AI

COGO Type	Long	Stores metadata about the most recent source of the COGO dimension. Values are system-populated or can be set in the Attributes table. Values can be Entered, From Geometry, or Computed. The field uses the system-added PF_COGOType domain.

PF_COGOType	Parcel Fabric COGO Type	The most recent source of the COGO dimensions. Use the value **Entered** if the dimensions were entered, for example, using the traverse tool. Use **From Geometry** is used if the dimensions are generated from the line geometry, for example, the Update COGO tool. Use **Computed** is used if the dimensions are derived from other dimensions, for example, a parcel merge or parcel split.

Annoucements

What’s new Parcel Fabric @ArcGIS Pro 2.9?

- **Register today**

Wednesday, December 1, 2021

What's New - Parcel Fabric @ArcGIS Pro 2.9!!!

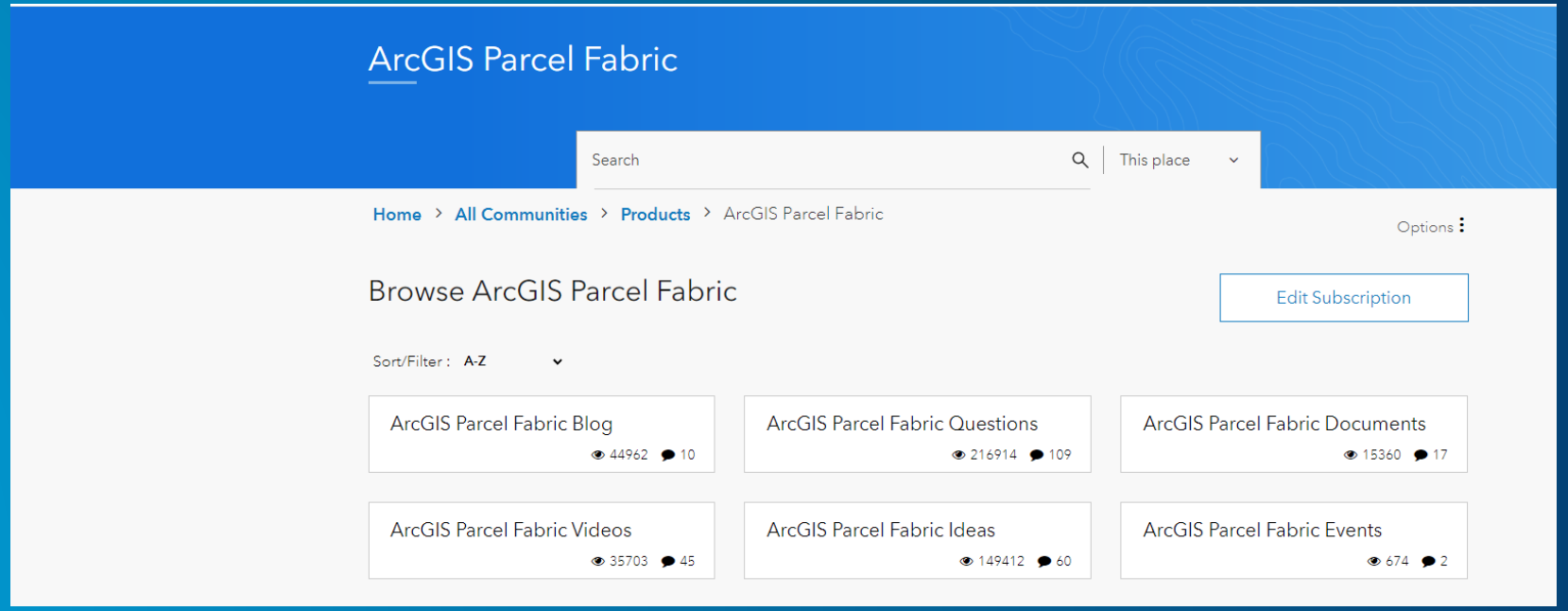
Hosted by

Jason Camerano and 4 others

1. Highlight Gaps and Overlaps tool
2. Importing parcel fabric attribute rules - smart, fast, and easy
3. Predefined layers used to evaluate your data
4. What does the new field 'RetiredParcelCount' on the records table do?
5. How to keep your fixed point from moving?
6. Improved COGO labeling for lines using a new field called LabelPostion (right, left, centered)
7. Geoprocessing tool 'Import Parcel Fabric Points' can now Update Or Create new points or Both
8. Geoprocessing tool 'Upgrade ArcMap Parcel Fabric' can delete your identical lines
9. Divide your parcels from any client - Divide is not exposed on the REST API
10. A correction in a wrong direction in a traverse will propagate to all subsequent tangent courses.
11. Reconcile can run Async using the reconcile geoprocessing tool
12. ...

Community Pages
https://community.esri.com/t5/arcgis-parcel-fabric/ct-p/arcgis-parcel-fabric

- Think you found a bug – call technical support and log it
- Parcel questions and ideas go to the parcel community
- ArcGIS Pro questions and ideas go the ArcGIS Pro community

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