

UC



Editing & Maintaining Parcels with ArcMap

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GIS
INSPIRING
WHAT'S
NEXT

What to expect

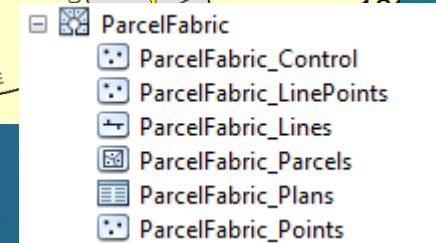
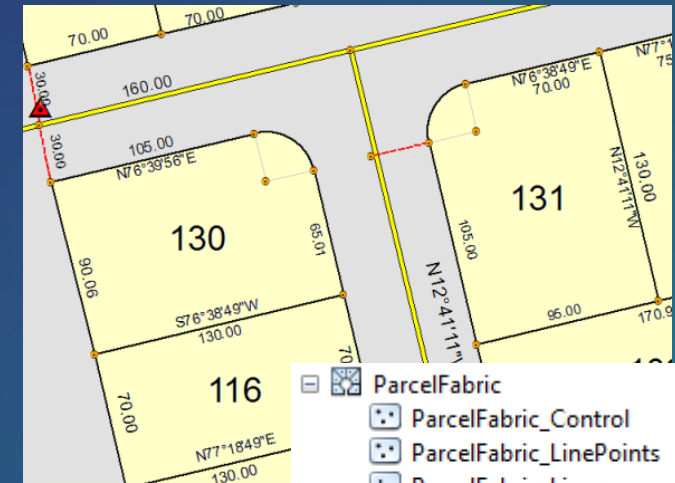
- An introduction to the parcel fabric for ArcGIS Desktop
- A detailed explanation of the parcel fabric data model
- General editing techniques using parcel editing tools

Audience Participation!

- **Who here is familiar with the Parcel Fabric?**
- **Who here has successfully migrated and deployed their parcel network to the Parcel Fabric?**
- **Who here is migrating or planning on migrating to the Parcel Fabric?**

What is a parcel fabric?

- Dataset of related feature classes and tables
 - Polygons, lines, points, plans, etc.
 - Predefined system attributes
- Connected parcel groups
 - Forms a parcel boundary network
- Explicit topology
 - Defined by common parcel corner points
- Parcel Editor toolbar



Why use the parcel fabric?

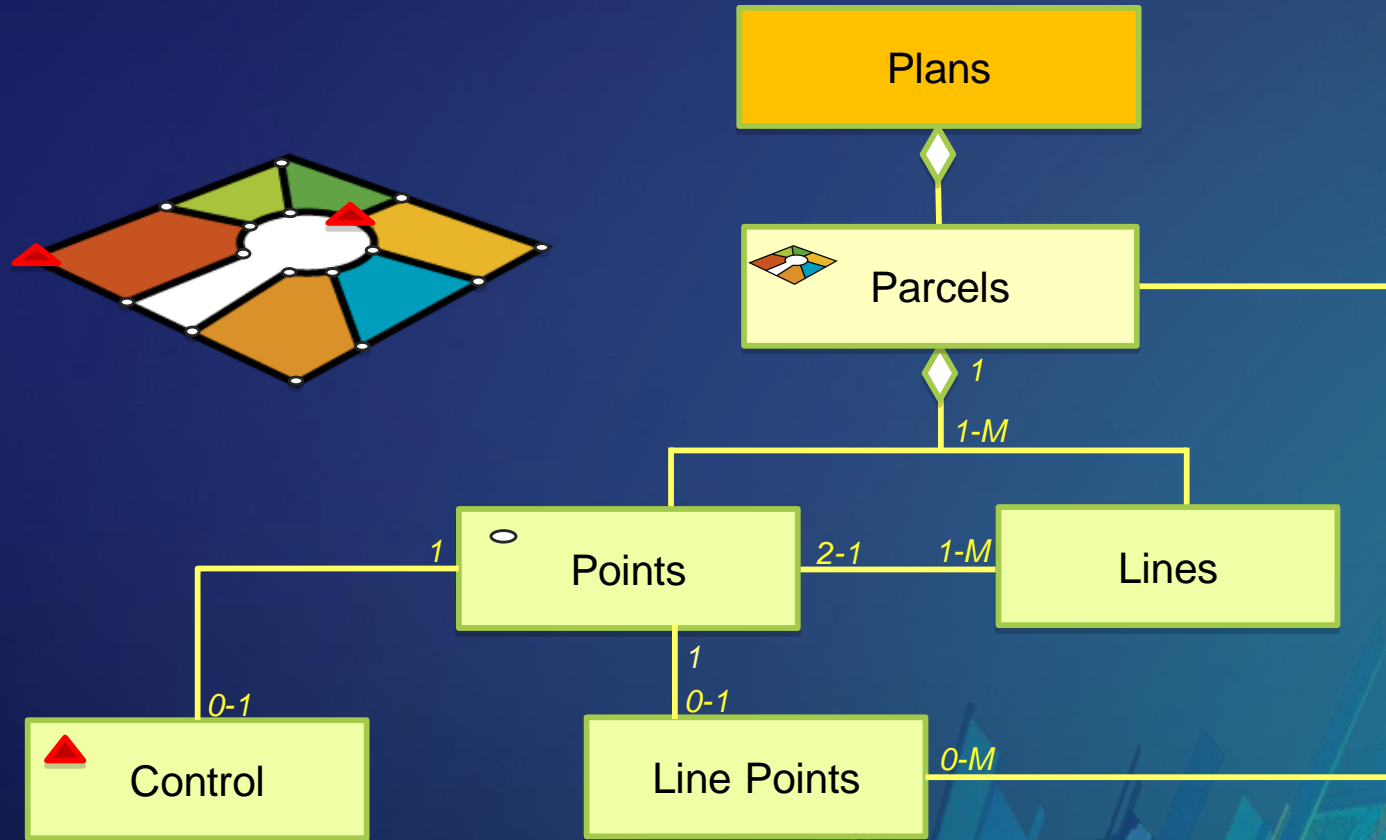
- Uses an optimized data model for parcel editing
- Preserves recorded information
- Maintains topology between parcels
- Maintains overlapping parcels
- Maintains historic parcels
- Uses automated workflows
- Uses/stores control points
- Maintains spatial accuracy



Parcel Fabric Data Model

The image features a dark teal background with a subtle, light-colored grid pattern. In the center, the text "Parcel Fabric Data Model" is written in a bold, white, sans-serif font. The design is accented with several colorful, semi-transparent geometric shapes, including rectangles and lines, in shades of orange, yellow, and light green, which are positioned primarily in the bottom right and top left corners.

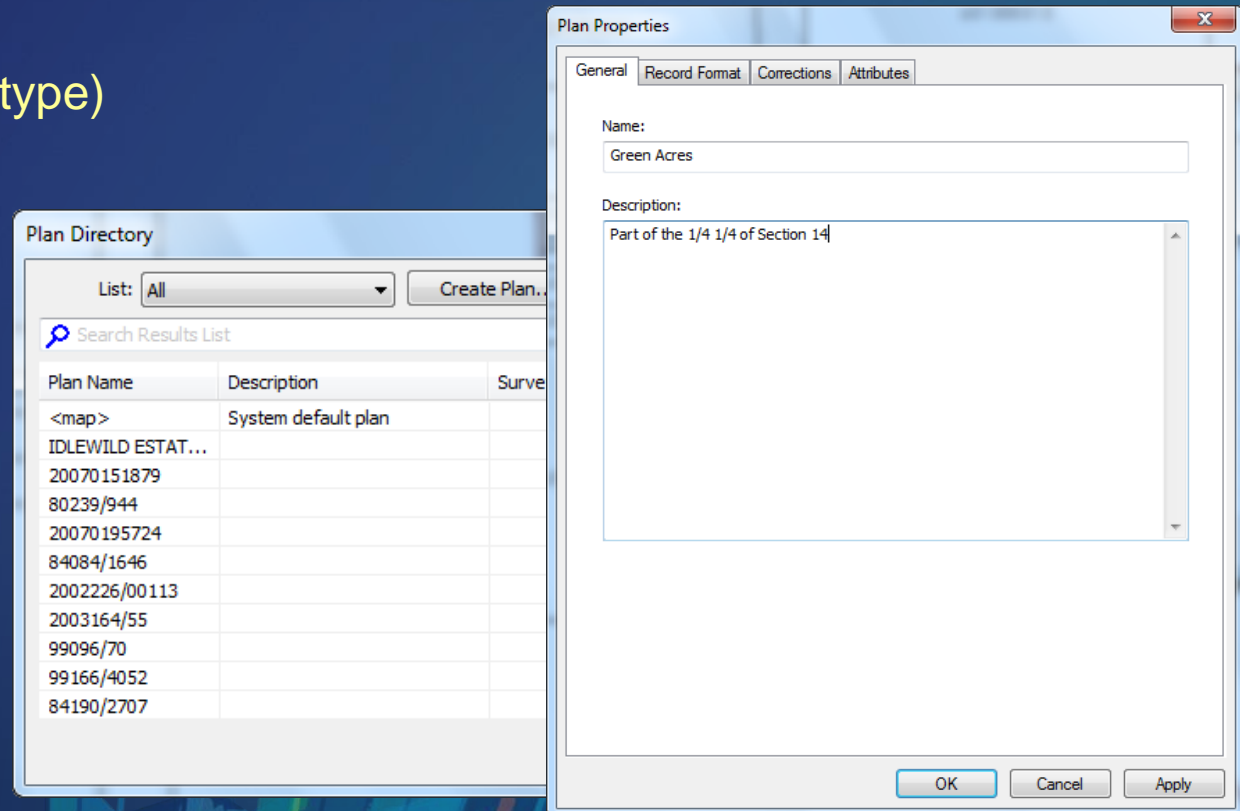
Parcel fabric data model



Plans

Parcel fabric data model

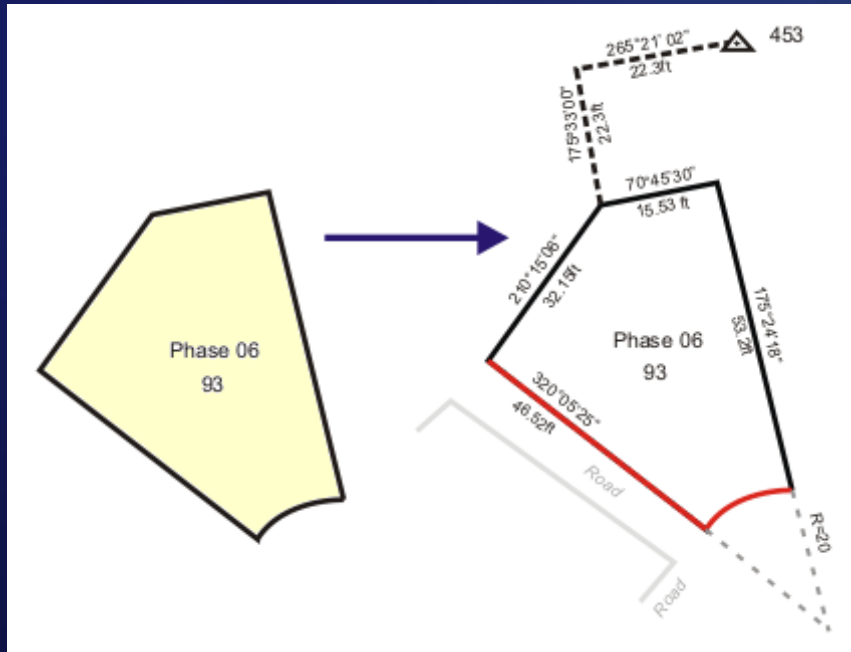
- Represents the legal document
- Stores information such as
 - Record format (direction, angle, curve type)
 - Plan metadata
 - Legal date
- Plans contain one or many parcels



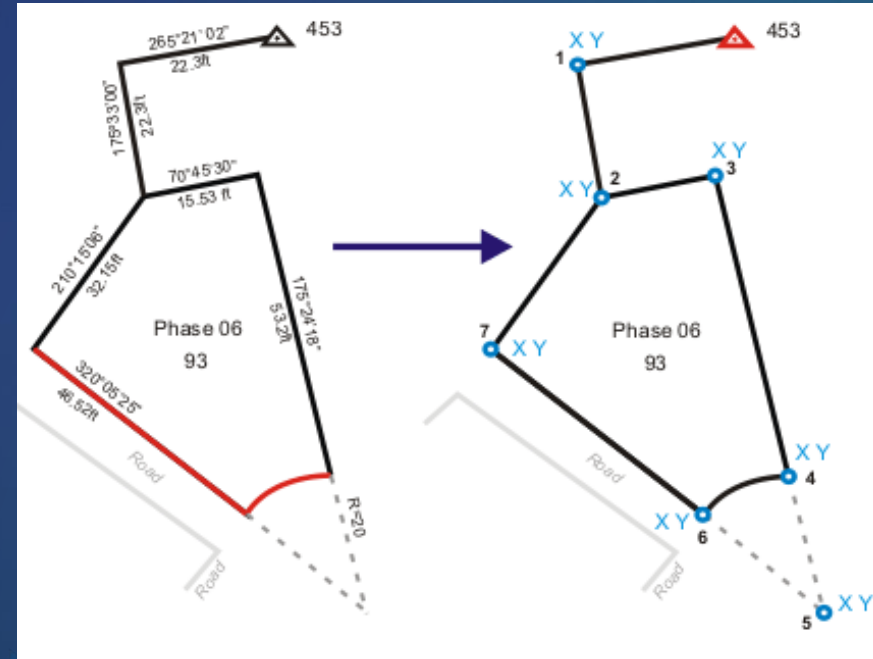
Parcels

Parcel fabric data model

- Parcel polygon is defined by a traverse



Parcel polygon has related lines

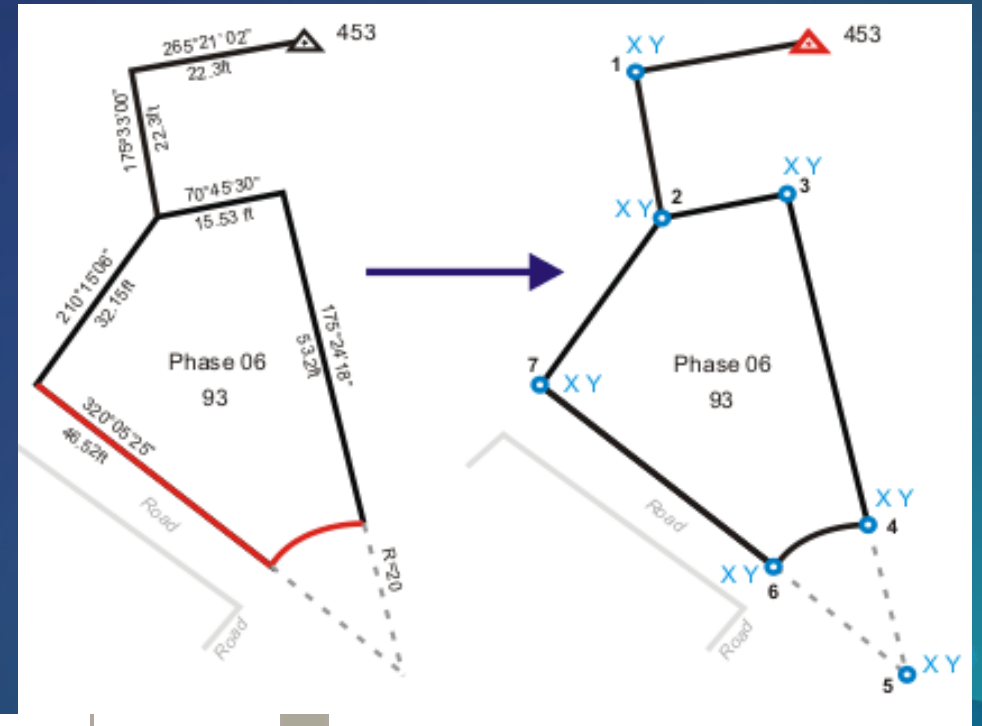


Lines have related points

Lines and Points

Parcel fabric data model

- Lines have From and To points
- Lines store recorded, COGO dimensions
- Lines have categories
 - Boundary, Radial, Connection,
- Points have X Y Z coordinates
- Points can have a control point



| | | | | | |
|---|-------------|---------|--|--|---|
| 1 | N89°17'14"E | 107.150 | | | 2 |
| 2 | S0°42'46"E | 111.860 | | | 3 |
| 3 | S89°17'14"W | 107.150 | | | 4 |
| 4 | N0°42'47"W | 111.860 | | | 1 |

From Point

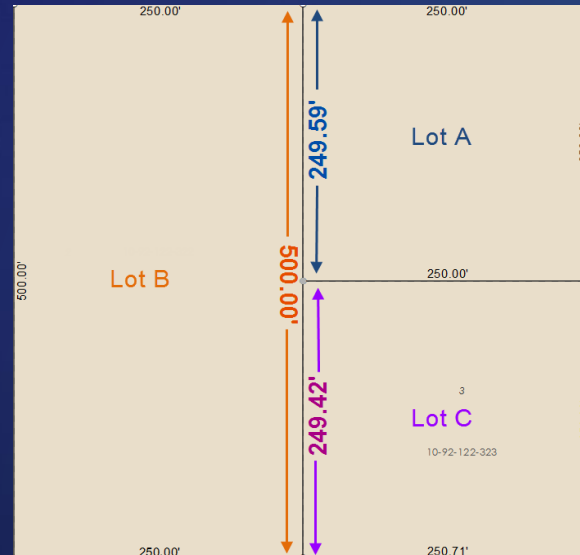
To Point

Parcel Traverse

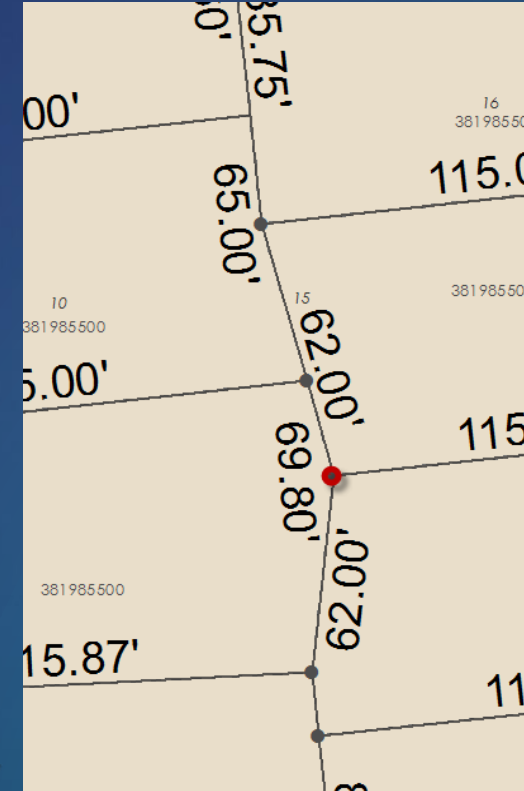
Line points

Parcel fabric data model

- Ensure topology between parcels
- Preserve recorded dimensions



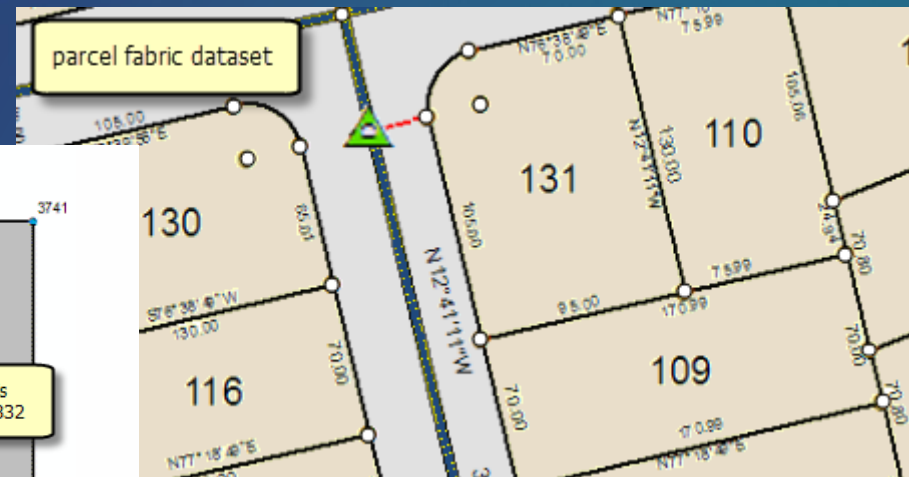
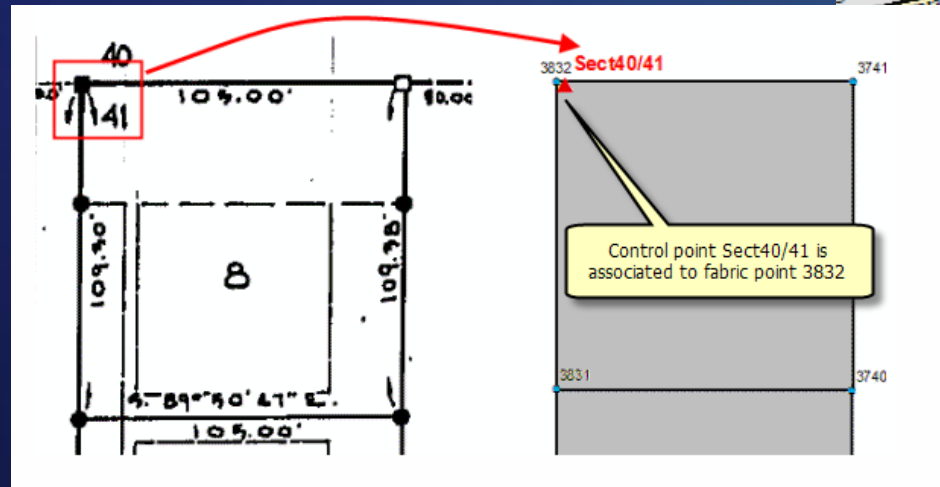
$$249.42 + 249.59 \neq 500$$



Control points

Parcel fabric data model

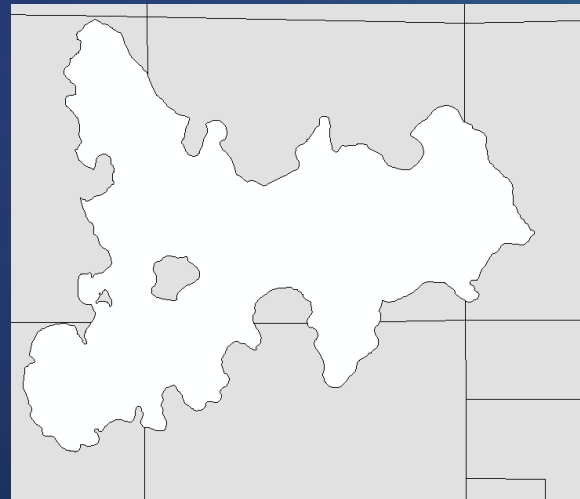
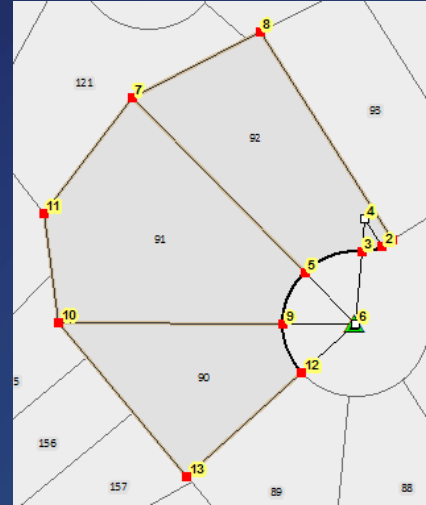
- Related (linked) to parcel points
- Can be imported or manually added
- Parcel points can be adjusted to control points in a parcel fabric least-squares adjustment



Parcel Fabric Data Model

Supports:

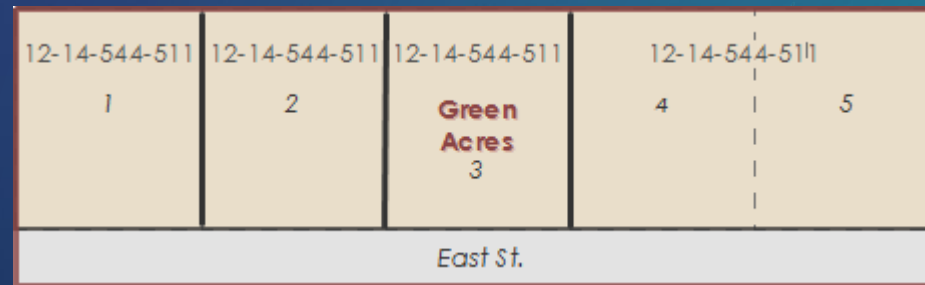
- True parametric curves and radial lines
- Natural boundaries
- Donut/island and multipart parcels
- Historic parcels
- Stacked parcels (Condos)
- Overlapping parcels



Overlapping parcels

Parcel fabric data model

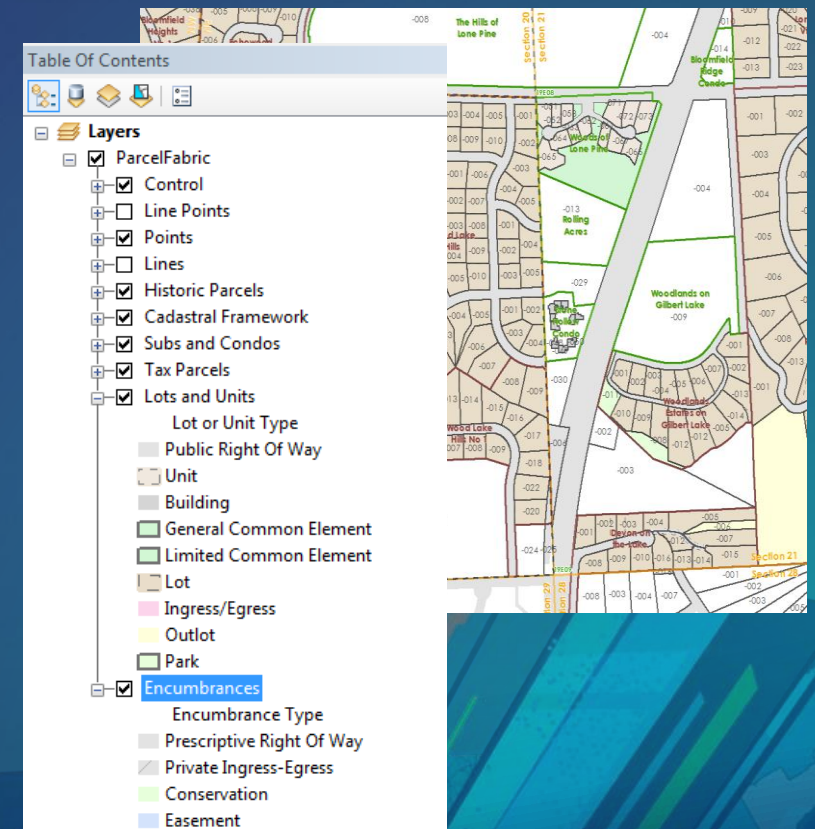
- Subdivisions, Lots, Tax Parcels, Historic parcels share common points



Local Government Information Model (LGIM)

Parcel fabric data model

- Parcel fabric data model can be optimized for your organization
 - Add attributes, tables, definition queries
- In the USA, the LGIM is used
- Parcel fabric can be enabled with the LGIM
- Provides a configured layer for streamlined editing
- Provides automated parcel editing workflows



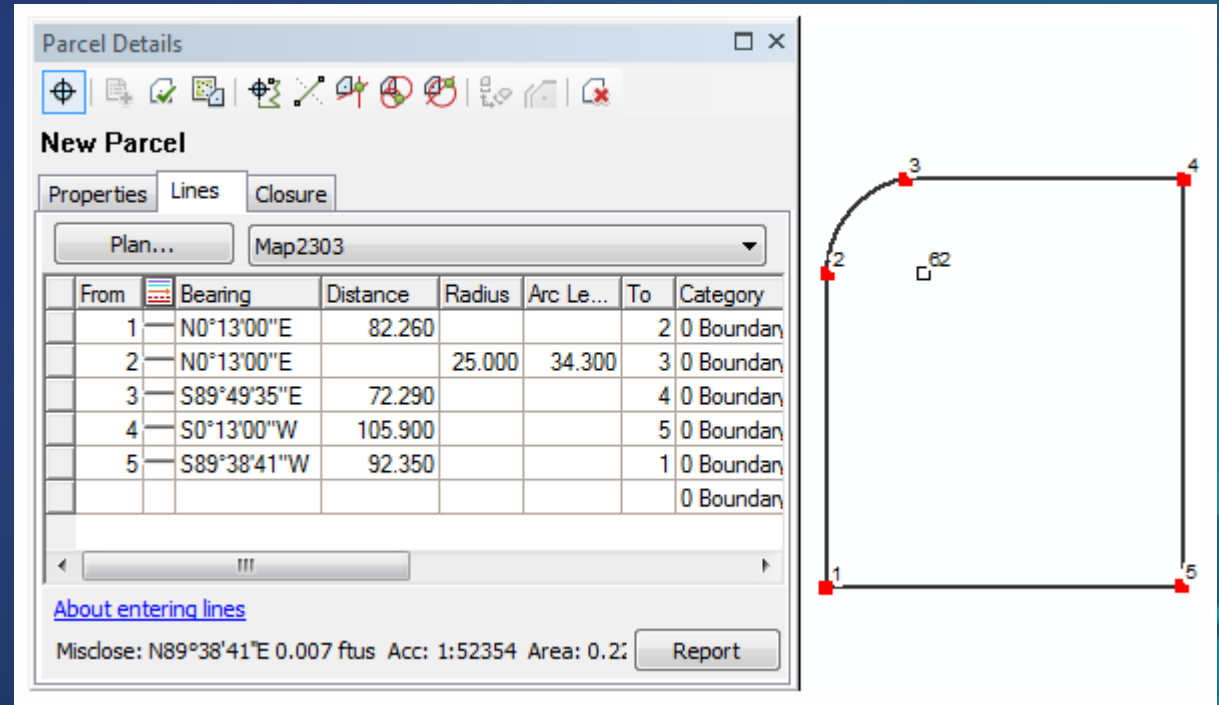
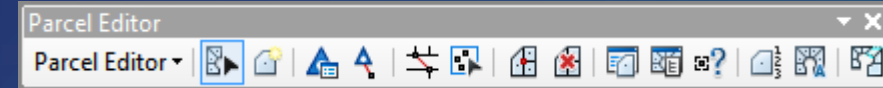
Parcel Editing



Parcel Editing

Create new parcels

- Parcel Editor toolbar
- Parcel traverse
 - Primary method of creating parcels
- Construct from parent parcel
- Parcel division, merge, remainder
- COGO tools
- Parcel joining
 - Add new parcels to the parcel fabric layer

A screenshot of the Parcel Details dialog box, showing the New Parcel section. The dialog box includes a toolbar, a Plan dropdown menu set to Map2303, and a table of line data. The table has columns for From, Bearing, Distance, Radius, Arc Length, To, and Category. The data rows show a traverse starting at point 1 and ending at point 5, with a misclose of N89°38'41"E 0.007 ftus. A Report button is visible at the bottom right.

| From | Bearing | Distance | Radius | Arc Le... | To | Category |
|------|-------------|----------|--------|-----------|----|-----------|
| 1 | N0°13'00"E | 82.260 | | | 2 | 0 Boundan |
| 2 | N0°13'00"E | | 25.000 | 34.300 | 3 | 0 Boundan |
| 3 | S89°49'35"E | 72.290 | | | 4 | 0 Boundan |
| 4 | S0°13'00"W | 105.900 | | | 5 | 0 Boundan |
| 5 | S89°38'41"W | 92.350 | | | 1 | 0 Boundan |
| | | | | | | 0 Boundan |

Misclose: N89°38'41"E 0.007 ftus Acc: 1:52354 Area: 0.2: Report

Parcel Editing

Construct new parcels

- Split parent parcels
 - Construct from parent
- Build parcels from construction lines
- Add or paste construction lines

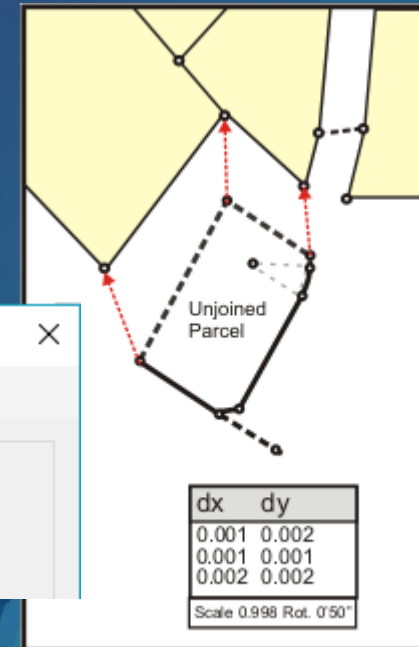
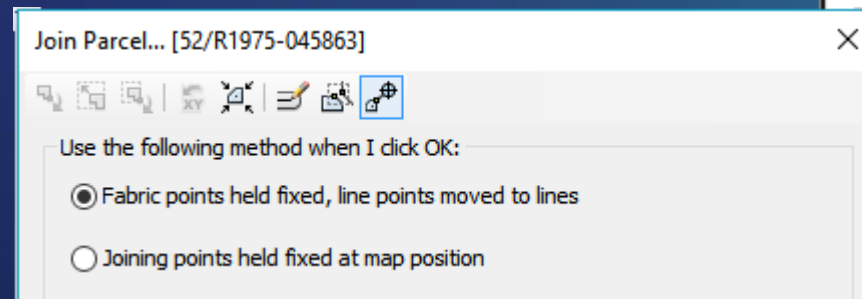
The screenshot displays the 'Parcel Details' window in a software application. The window title is 'Parcel Details' and it contains a toolbar with various icons. Below the toolbar is the 'New Construction' section, which includes a 'Construction Lines' tab. This section has a 'Plan...' button, a dropdown menu set to 'Lakes of Echo Park', a 'Template...' button, and a checkbox for 'Tax Parcels'. There is also a checkbox for 'Show selectable parent lines'. Below these controls is a table with the following data:

| From | Bearing | Distance | Radius | Chord | To | Category |
|------|-------------|----------|--------|-------|----|------------|
| 10 | N75°09'00"W | 108.220 | | | 12 | 0 Boundary |
| 12 | N87°02'15"W | 63.020 | | | 13 | 0 Boundary |
| 13 | | | | | | 0 Boundary |

Below the table is a scroll bar and a link labeled 'About entering lines'. At the bottom of the window is a diagram showing a parcel layout with vertices numbered 1 through 13. The vertices are connected by lines, with some lines highlighted in red and others in black. A blue crosshair is visible over the diagram.

Parcel joining

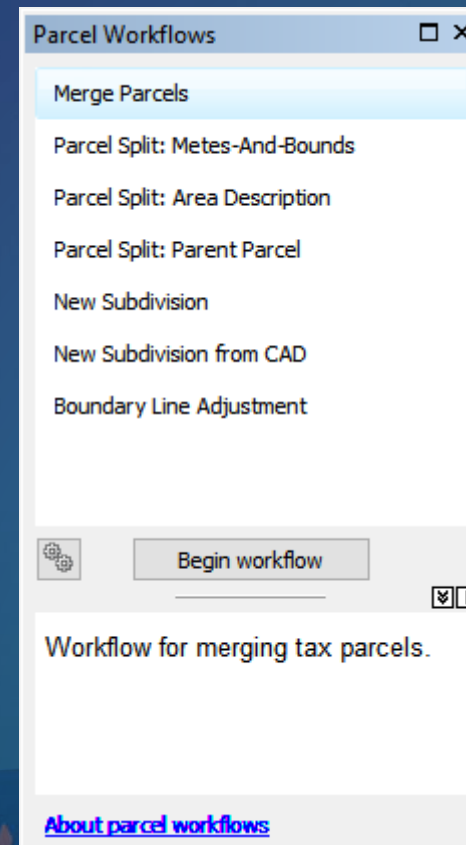
- New parcels are interactively joined to the parcel fabric layer
 - Parcels are cartographically matched to existing parcels
 - Minimizes slivers, gaps, overlaps
- Two join methods
 - Fit new parcel to surrounding parcels
 - Hold new parcel fixed and move surrounding parcels



Automated parcel editing workflows

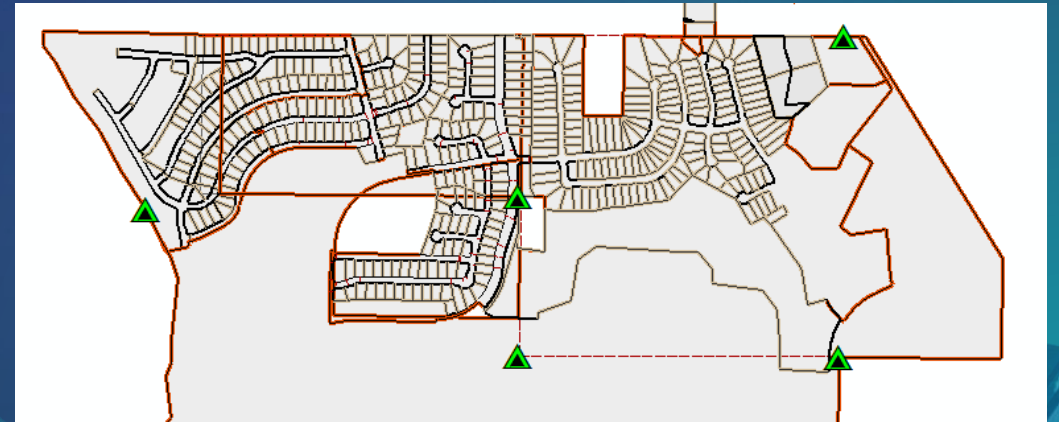
Local Government Information Model

- Common parcel editing workflows in local government
 - Parcel fabric must be enabled with the LGIM
- Workflows can be treated as guides/tutorials



Adjustments in the parcel fabric

- Least-squares adjustment
 - Adjust parcels to two or more control points
 - Parcel dimensions must match record dimensions
 - High degree of spatial accuracy
- Manual transform
 - Move/shift a selection parcels
- Feature adjustment
 - Align features to adjusted parcel fabric boundaries



Parcel Editing Demo

Amy Andis

Parcel fabric summary

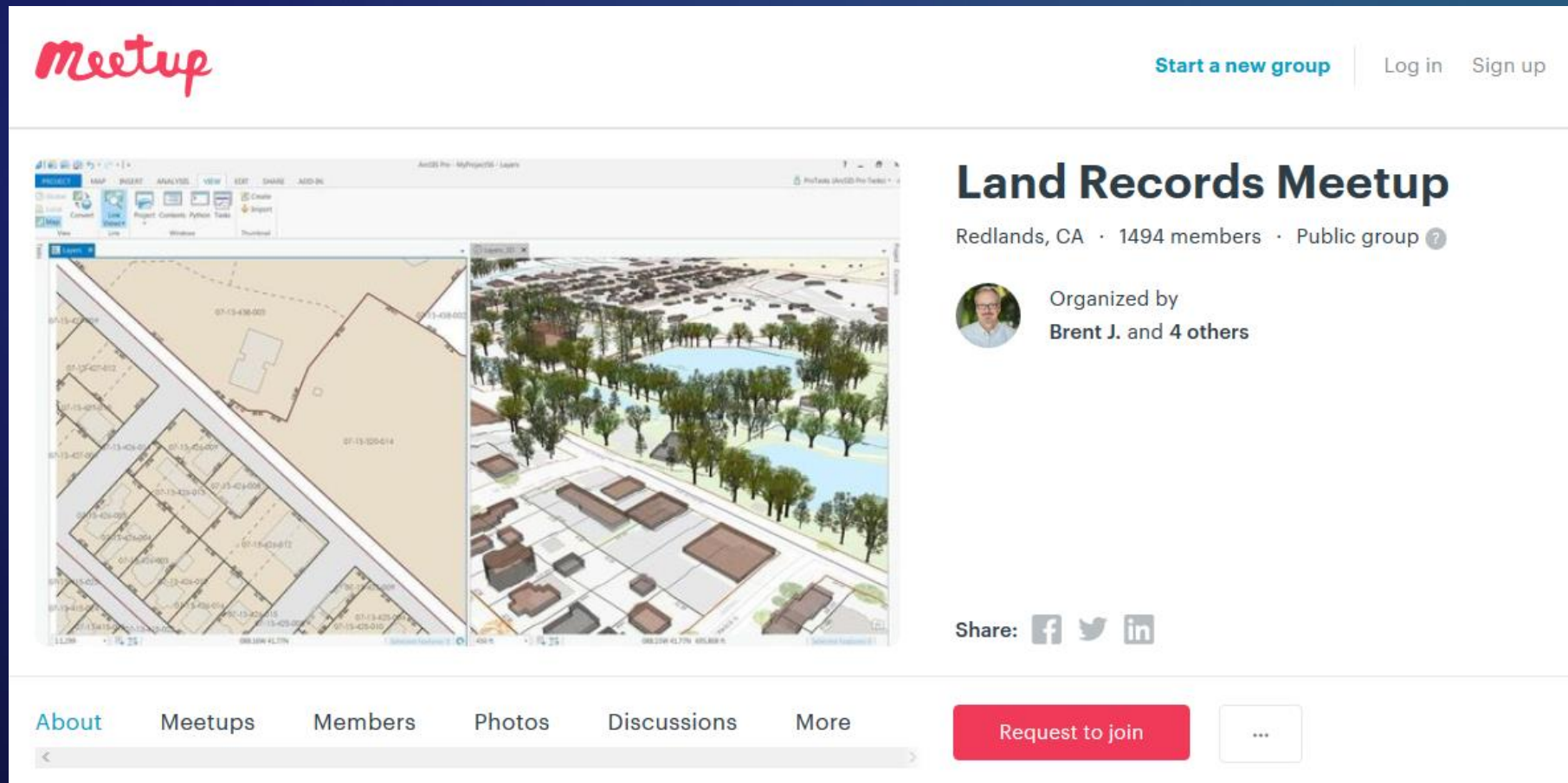
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Community

Land Records Meetup

- <http://www.meetup.com/Esri-Land-Records-Meet-Up/>



The screenshot shows the Meetup website interface for the "Land Records Meetup" group. At the top left is the Meetup logo. On the top right, there are links for "Start a new group", "Log in", and "Sign up". The main content area features a large image of a software interface, likely ArcGIS, displaying a map with various land parcels and a 3D rendering of a residential development. To the right of the image, the group name "Land Records Meetup" is prominently displayed, followed by the location "Redlands, CA", the number of members "1494 members", and the group type "Public group". Below this, a profile picture of the organizer is shown, along with the text "Organized by Brent J. and 4 others". A "Share:" section includes icons for Facebook, Twitter, and LinkedIn. At the bottom of the page, there is a navigation menu with links for "About", "Meetups", "Members", "Photos", "Discussions", and "More". A red "Request to join" button is visible on the right side of the bottom navigation area.

Community

Geonet Land Records Group

- geonet.esri.com/groups/land-records

The screenshot shows the Esri GeoNet website interface for the Land Records group. At the top, the Esri logo is on the left, and navigation links for Industries, Products, Support & Services, About, and Community are on the right. A search bar is also present. Below this is a dark blue banner with the 'GeoNet The Esri Community' logo and a graphic of speech bubbles. A secondary navigation bar includes Home, News, Communities, All Content, ArcGIS Ideas, and GeoNet Help, along with notification and utility icons. The main content area features the 'esri' logo, 'All Places >' link, and the group name 'Land Records' with 'Following', 'Actions', and 'Info' buttons. A sub-navigation bar lists Activity, Content, People, Projects, and Calendar. The 'CREATE:' section offers options for Status Update, Question, Discussion, Blog Post, Files, and Document. A text input field with a sun icon and the placeholder 'What's going on?' is provided for posting. On the right, a 'FEATURED CONTENT' section displays a post titled 'First Cadastral Map in USA - who's got one older?' with an 'All content' link below it.

Community

Geonet ArcGIS Ideas

- geonet.esri.com/community/arccgis-ideas

The screenshot shows the Geonet ArcGIS Ideas community page. At the top, there is the Esri logo and navigation links for Industries, Products, Support & Services, About, and Community. A search bar is located in the top right corner. Below the navigation is the Geonet logo and the tagline 'The Esri Community'. A secondary navigation bar includes Home, News, Communities, All Content, ArcGIS Ideas, and GeoNet Help. A notification bell icon shows '50+'. The main banner features a map background with the text 'YOUR IDEAS IN MOTION' and a lightbulb icon. Below the banner is a sub-navigation bar with Overview, Content, People, and Subspaces. At the bottom, there are three buttons: 'Post an Idea', 'Search Ideas' (highlighted with an orange box), and 'Getting Started'. The 'Search Ideas' button has a search input field containing the text 'fabric'.

Community

Geonet Parcel Fabric Developers Group

- geonet.esri.com/groups/parcel-fabric-developers

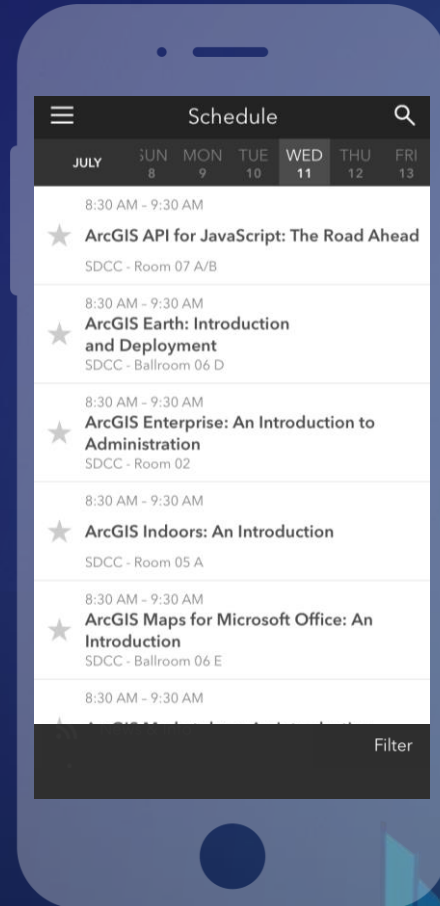
The screenshot displays the Esri GeoNet website interface. At the top, the Esri logo is on the left, and navigation links for Industries, Products, Support & Services, About, and Community are on the right. A search bar is also present. Below the navigation is a dark blue banner with the 'GeoNet The Esri Community' logo and several speech bubble icons. A secondary navigation bar includes Home, News, Communities, All Content, ArcGIS Ideas, and GeoNet Help, along with notification and utility icons. The main content area shows the 'Parcel Fabric Developers' group page, with tabs for Activity, Content, People, Projects, Reports, and Calendar. A 'CREATE:' section offers options like Status Update, Question, Discussion, Blog Post, Files, and Document. A text input field with a sun icon and the placeholder 'What's going on?' is visible. On the right, a 'KEY DATES' section indicates 'No dates are currently scheduled.'

Please Take Our Survey on the App

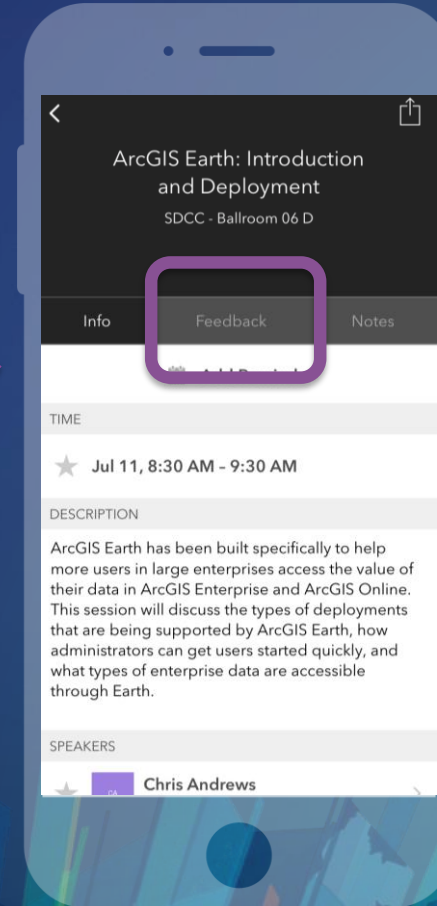
Download the Esri Events app and find your event



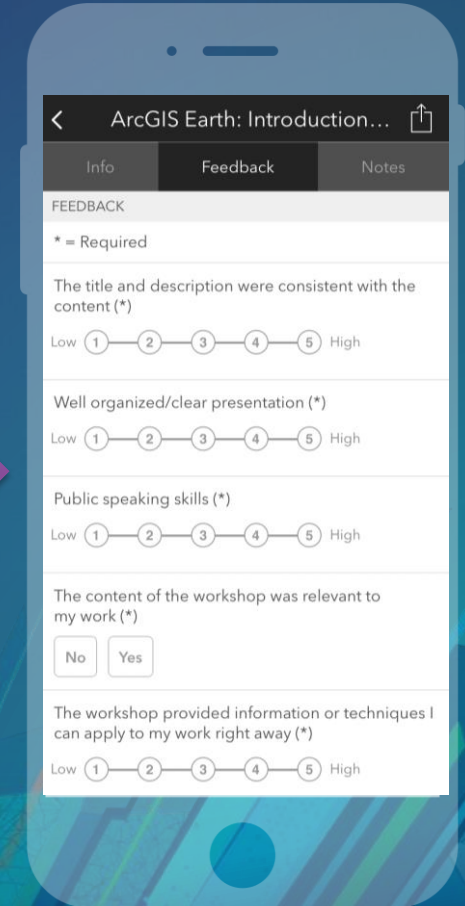
Select the session you attended



Scroll down to find the feedback section



Complete answers and select "Submit"



The Next Generation of Parcel Management



Esri will support parcel management in **future releases** of ArcGIS Pro. The new generation of parcel management will be of interest to customers who maintain cadastral records at any scale, **domestically and internationally**.

The new generation will introduce **2D/3D editing** capabilities and a simpler more efficient approach for parcel maintenance. The new generation of the parcel fabric can be **edited from the entire ArcGIS Platform** and maintained using the new improved editing functionality of ArcGIS Pro.

Existing customers will be able to **easily upgrade** their parcel fabric without having to re-migrate their data, thus saving their investment.

For more information visit the UC 2018 Q & A and search for Parcel Fabric



esri

THE
SCIENCE
OF
WHERE