Archive – Technical Training

Autodesk Topobase Client

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Chapter Overview

- This chapter focuses on:
  - Digitizing new data.
  - Creating existing data from an AutoCAD dwg file.
  - Editing attributes and geometry.
  - Filtering records in feature class forms.

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Create New Data

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Chapter Objectives

By the end of this chapter, you will be able to:

- Create new data by digitizing.
- Create new data from AutoCAD entities.
- Filter data.
- Edit existing geometries and attributes.

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3.2 Creating Objects

- Create new features in existing feature classes by using the Autodesk Topobase 2009 digitizing functionality.

- Bring native entities stored in AutoCAD drawings into a Topobase workspace and edit their geometry.

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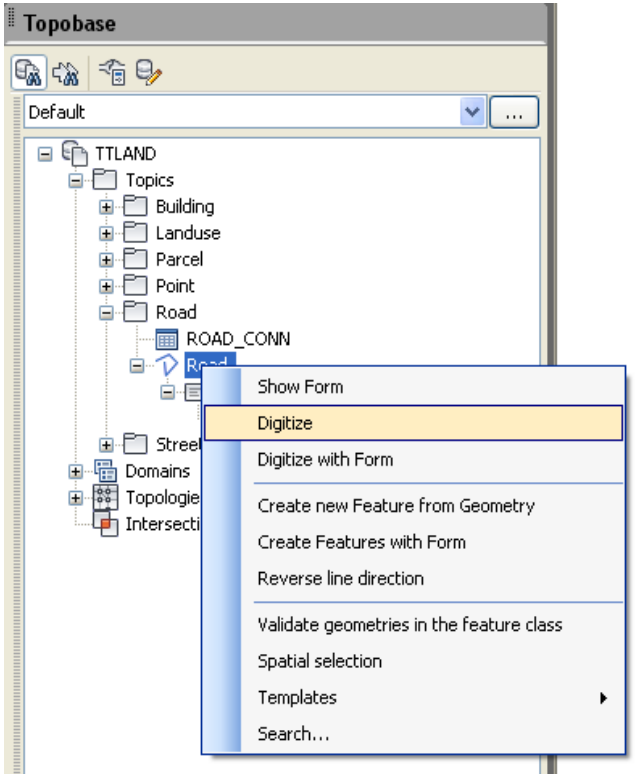
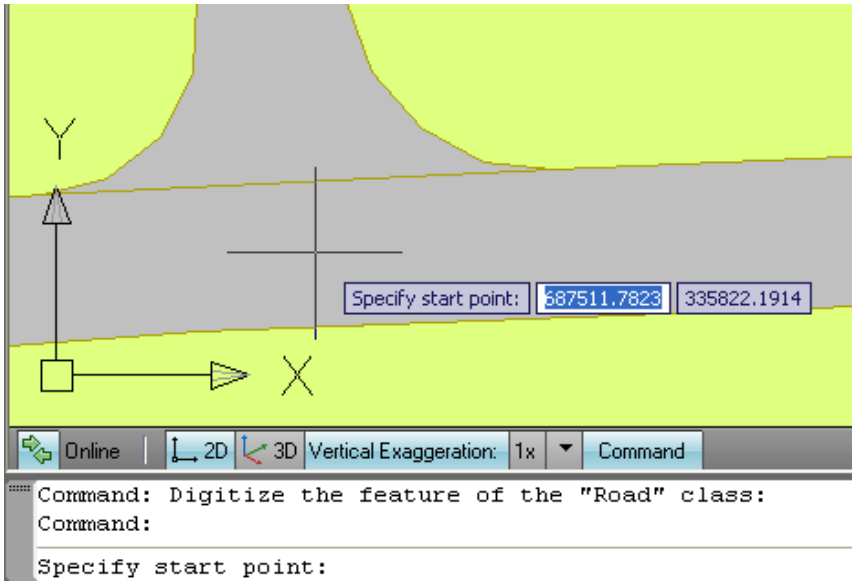
3.3 Digitizing New Geometry

- Create new polygon features (and new point and line geometries) in a workspace.
- *Digitize* lets you create a new feature *without* assigning attributes.





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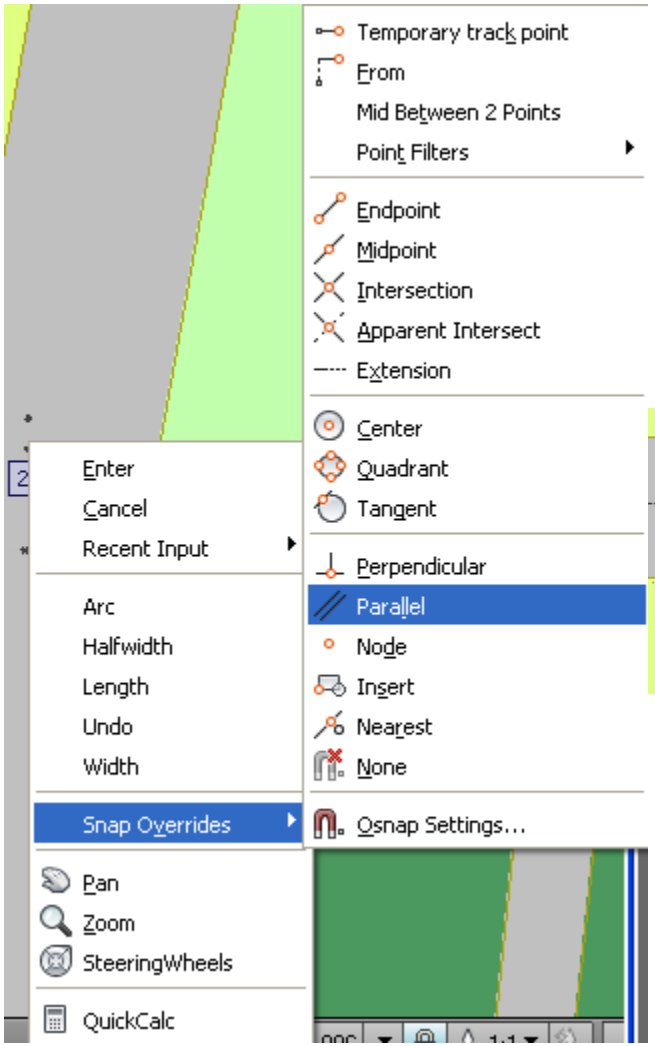
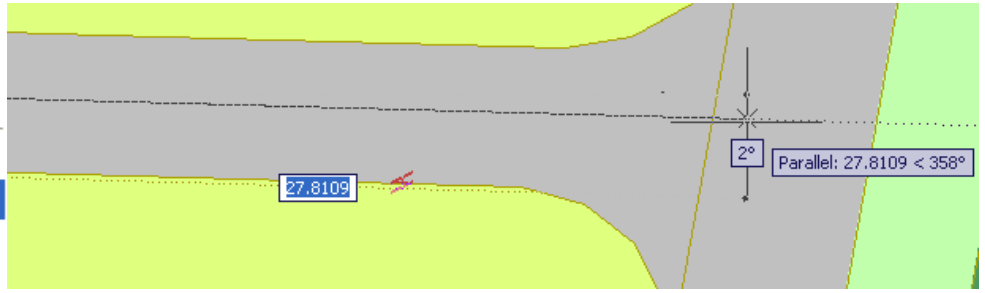
3.3.1 Feature Digitizing Shortcuts





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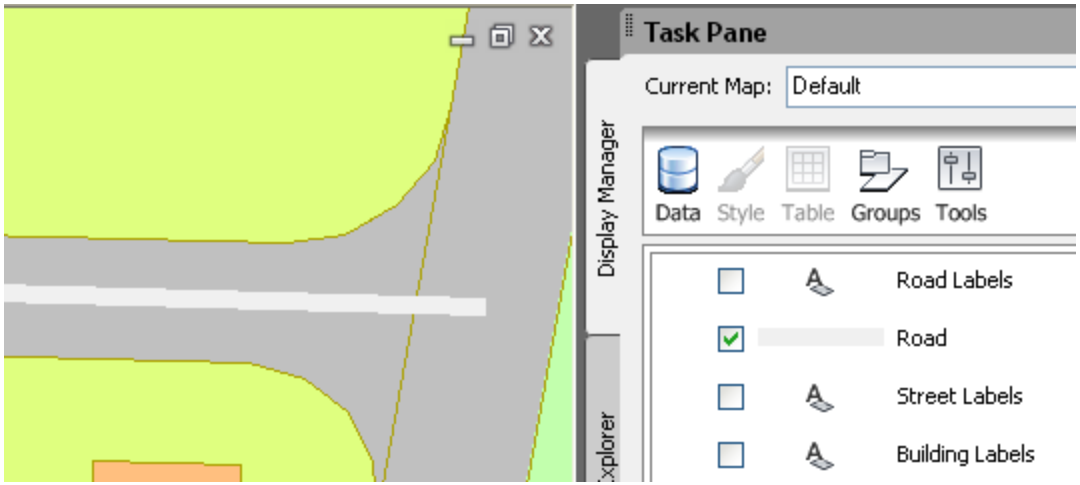
3.3.1 Feature Digitizing Shortcuts +

- After you finish digitizing the line feature by creating an endpoint, select **Enter** and the new feature is added to the selected Topobase feature class.
- If the feature class where you added the new feature is toggled on in the Map 3D Display Manager, the new line feature appears in the Map 3D drawing area.



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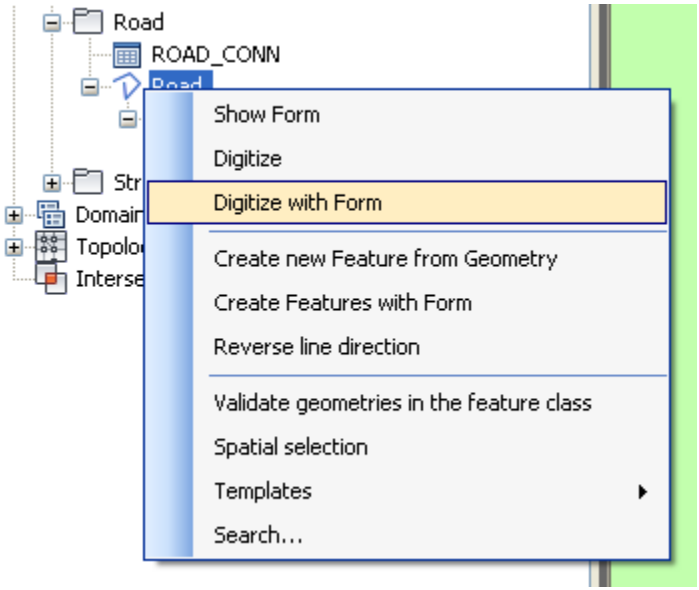
3.3.2 Assigning Attributes to a Feature

- Select **Digitize with Form**.



- After digitizing, use the feature class form to supply attribute information.

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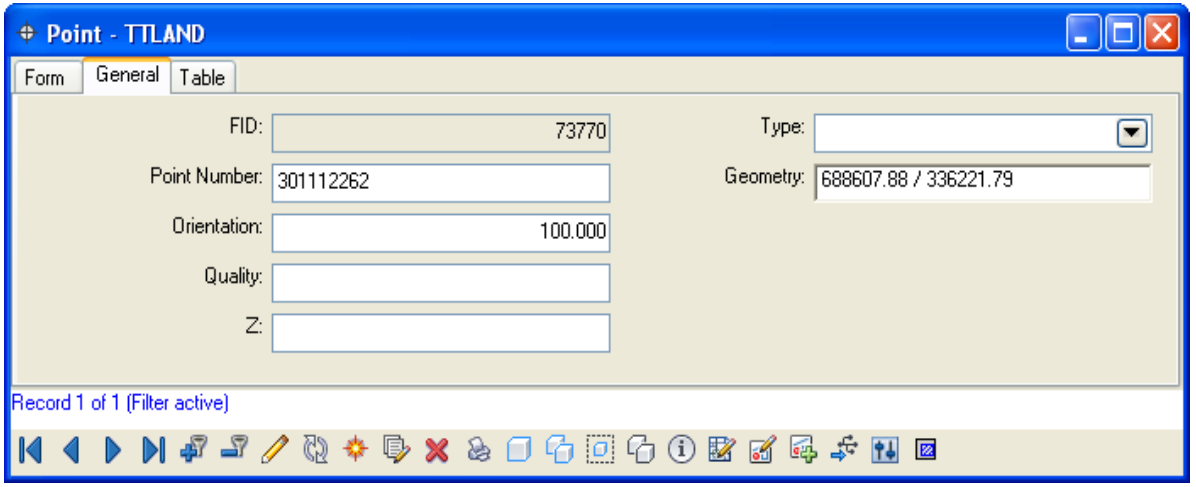
3.3.3 Digitizing Tools in the Feature Class Form



Digitize new feature and select in form.

Digitize new geometry for selected feature.

Connect existing geometry to selected feature.

Create and position label.

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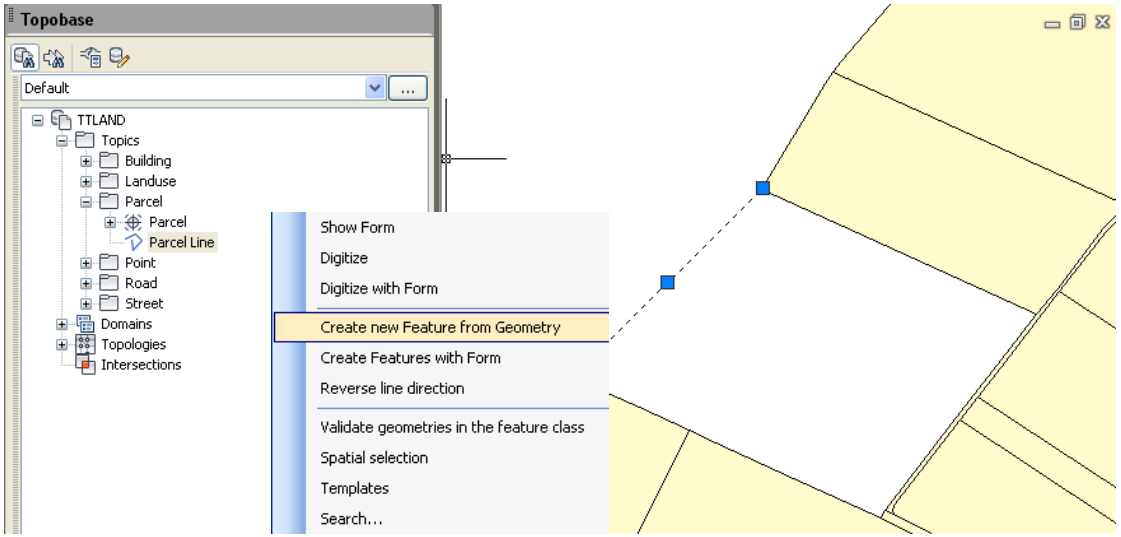
3.4 Importing Native Entities

- Native entity = Object that exists in an AutoCAD drawing.
- Import multiple native entities from Autodesk Map 3D into a feature class.
- Use:
  - **Create new Feature from Geometry**.
  - **Create Features with Form**.



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3.5 Queries

- Spatial query:
  - Based on location information.
  - Based on position or spatial relationships.

- Attribute query:
  - Based on attributes in feature classes.
  - Example: “Select all garden areas”
    - Select all the features in the Landuse feature class for which the Landuse Type attribute has a value of garden.

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3.5.1 SQL

- Use SQL (Structured Query Language) statements to query, insert, update, and delete data in the database.

- Use the **SELECT** statement to retrieve records from the database. Basic syntax:

  SELECT <*attributes*>

  FROM <*table_name*>

  WHERE <*conditions*>

  NOTE: <*conditions*> filter the records selected.

- The SQL query function resides in feature class forms.

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3.5.1 SQL +

- Operators

Operator	Meaning
<	is (strictly) less than
<=	is less than or equal to; is not greater than
>	is (strictly) greater than
>=	is greater than or equal to; is not less than
<>	is distinct from; is unequal to
AND, OR, NOT	Boolean operators
IS NULL	for blank field searching, database NULL
IS NOT NULL	for non-blank field searching
LIKE	for comparison with character strings
BETWEEN	strictly between, for range of values
IN	to use in a list of specific values

- Example:

SELECT ***** FROM **LANDUSE_TSUR** WHERE **AREA > 40000**

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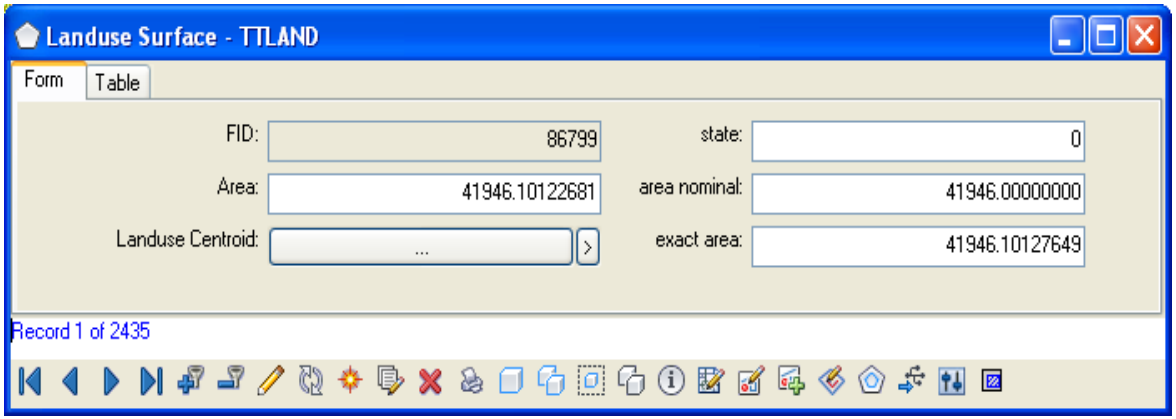
3.5.2 Form Filters

- Queries do not require extensive SQL knowledge.
- To use a form filter, open the form of the feature class.
- In the document explorer, right-click the feature class and select **Show Form** to access the **Form** tab and the **Table** tab.



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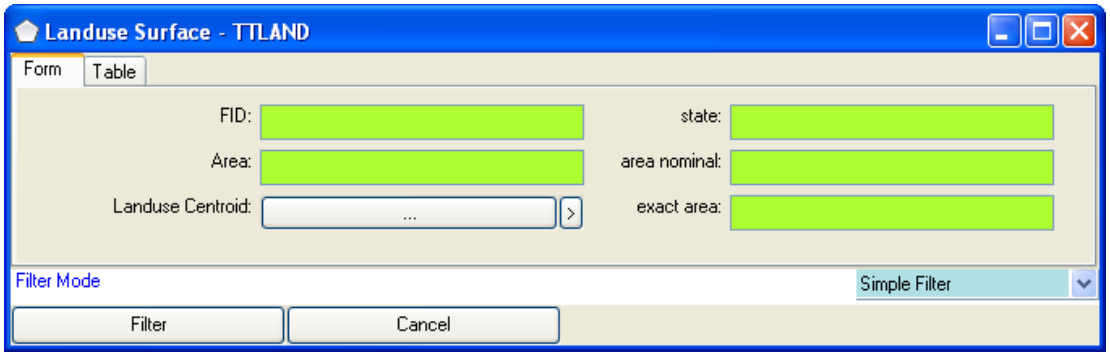
3.5.2 Form Filters +

- Add Filter tool.
  - Simple filter
  - Additive filter
  - Or filter



- Construct queries by entering conditions using operators.
  - Oracle is case-sensitive

- Example:
  To perform a Simple filter query that returns polygons whose areas are greater than 40000 m^2, in the Area field introduce the condition **> 40000**.

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3.5.2 Form Filters ++

- Add Filter tool
  - Select **Additive Filter** from the shortcut menu in the status line. Type **> 88250** in the Fid field, and click **Filter**.

- To remove the filter, click the **Remove Filter** tool in the toolbar at the bottom of the form.

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3.5.3 Filter Manager

- **SQL Filter**
  - Right-click the feature class form and select **Filter > SQL Filter**.
  - Accept the default, modify it, enter a new condition, or remove the filter.

- **Filter Manager**
  - Lets you save, share, modify, reuse, and remove filters.
  - Right-click the feature class form and select **Filter > Filter Manager**.

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3.5.3 Filter Manager +

- To execute a named query:
  - Right-click the feature class form and select **Filter > Execute Filter**.
- To modify the filter:
  - Click **Cancel**, reopen the Filter Manager form, and click **Modify**.

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3.6 Modifying Objects

- Attribute data is modified using feature class forms.
- Use *Edit Mode.*

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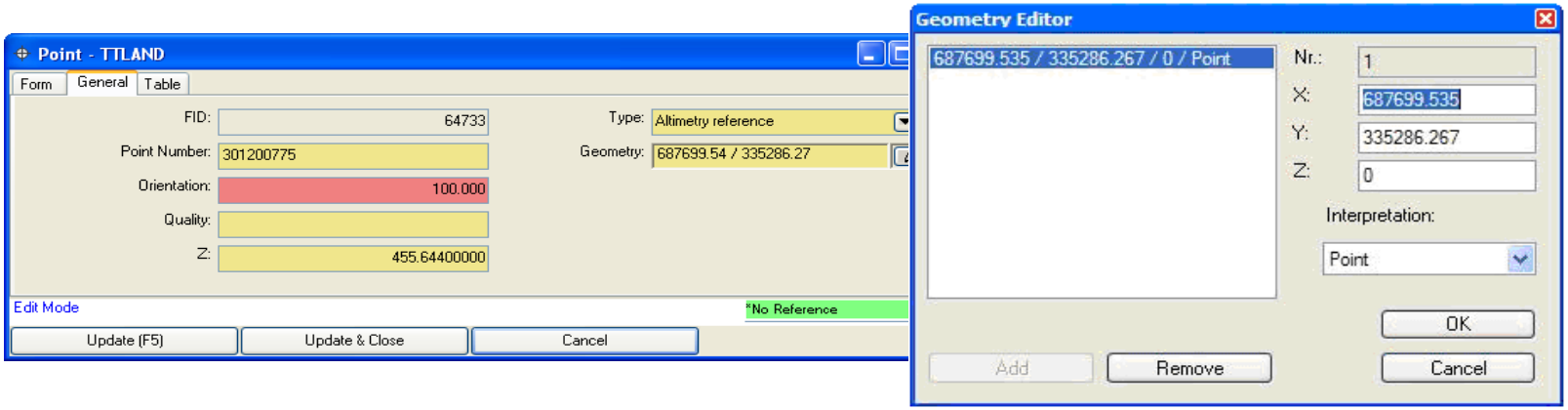
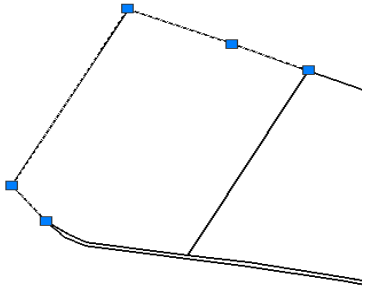
3.6.1 Editing Geometry

- Moving features in a feature class form:



- Moving features in AutoCAD Map 3D 2008:
  - Click **Edit Geometries** ( ) in the Home tab, Quick Access panel.



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3.6.2 Editing Attributes

- Individual updates
  - Click the Information icon, enter the update, and then click **Update**.
- Global updates
  - Click the Global Update tool, enter the update, and then click **Global Update**.

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3.7 Chapter Summary

You should now be able to:

- Create new data by digitizing.
- Create new data from AutoCAD entities.
- Filter data.
- Edit existing geometries and attributes.

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