X11-Using the New Civil Geometry Tools

Joe Waxmonsky, PE
Bentley Civil

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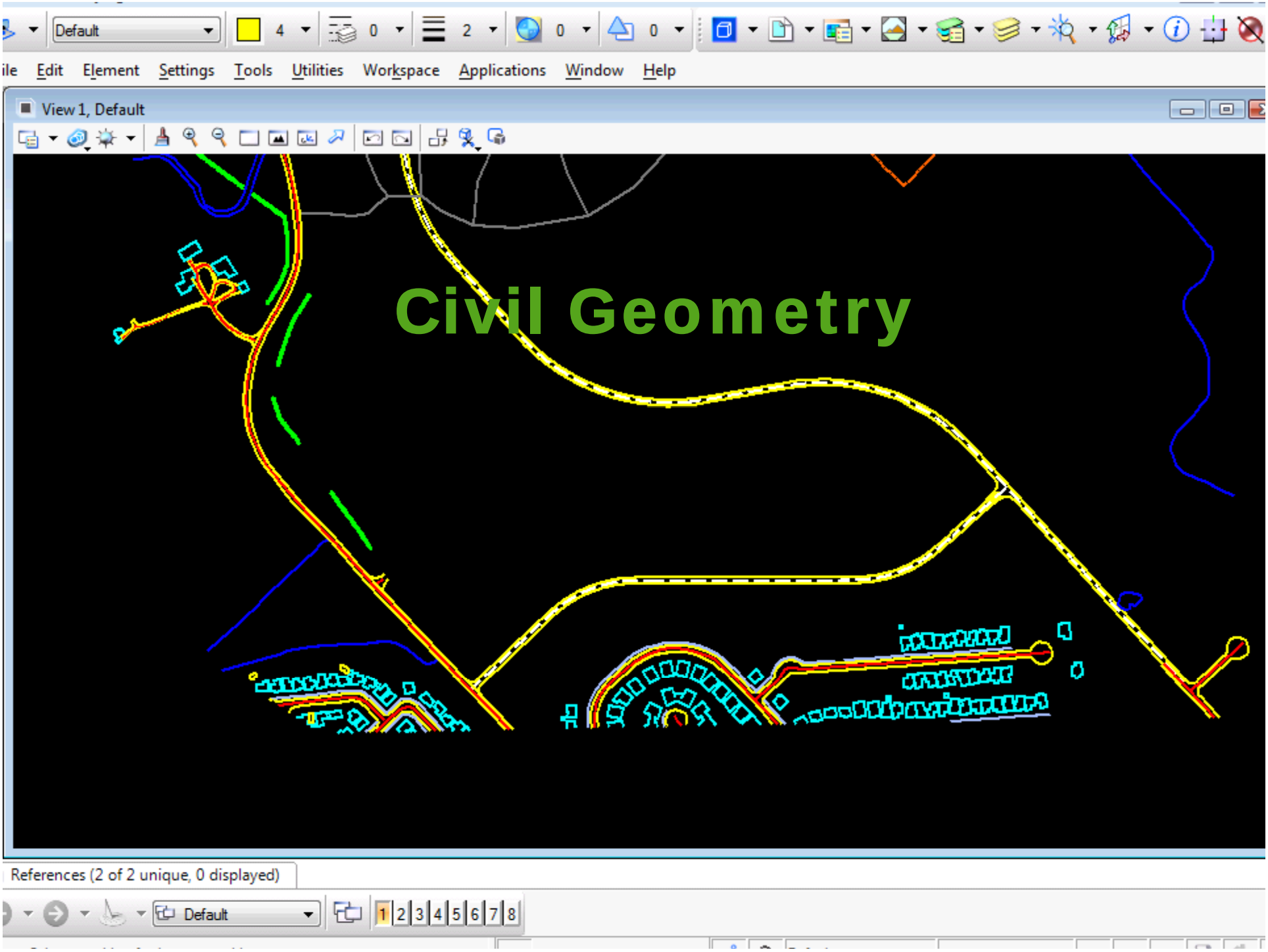
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Civil Geometry
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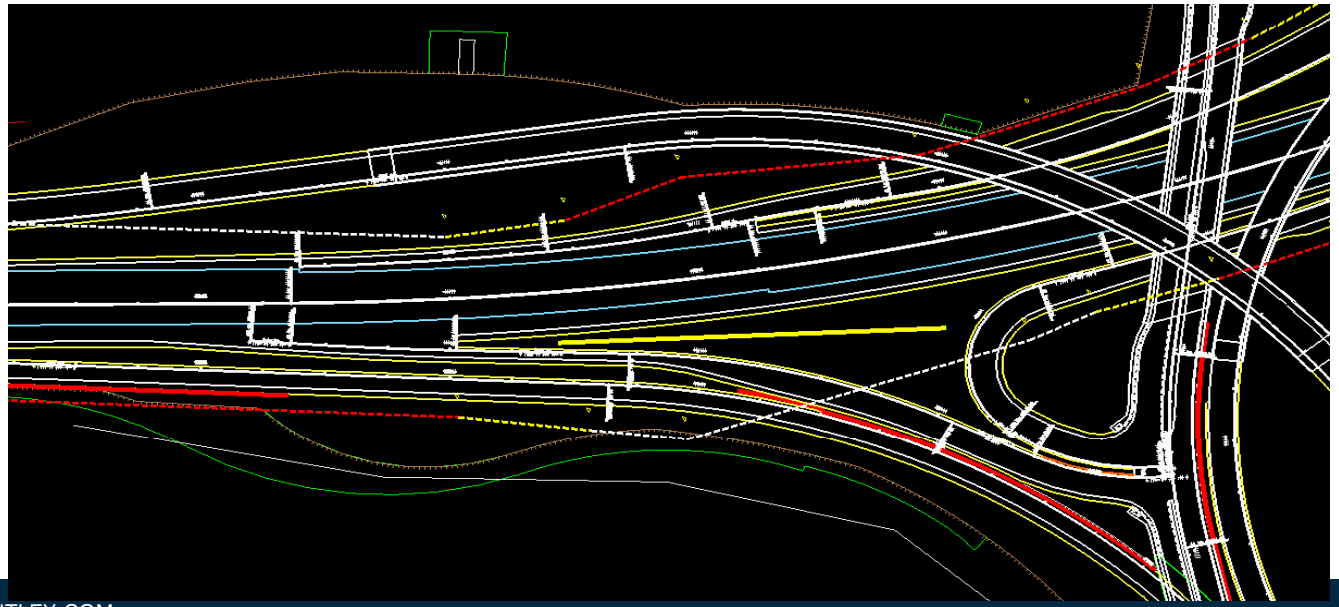
Civil Geometry

- A complete set of horizontal tools for schematic and horizontal geometric design
- Tools for Alignments ***AND*** the other 99% of geometric civil features
- Provide the Civil Workflow better geometry
  - Integrated
  - Improved User Experience
  - Rules based placement and editing to maintain relationships



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Concepts

Advanced interface = Heads up prompts, graphical and dynamic feedback

Associative = Geometric elements have relationships which should be preserved.

Rules-based = The associations are preserved in rules which preserves design intent.

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Relationships

Not only is the design intent for individual elements preserved but the relationships between elements are also preserved.

For example: All edges of pavement are laid out based on a relationship to a centerline (or baseline) using offsets, stationing and perhaps tapers. Preserving these relationships updates the edges if the centerline changes, saving you work.

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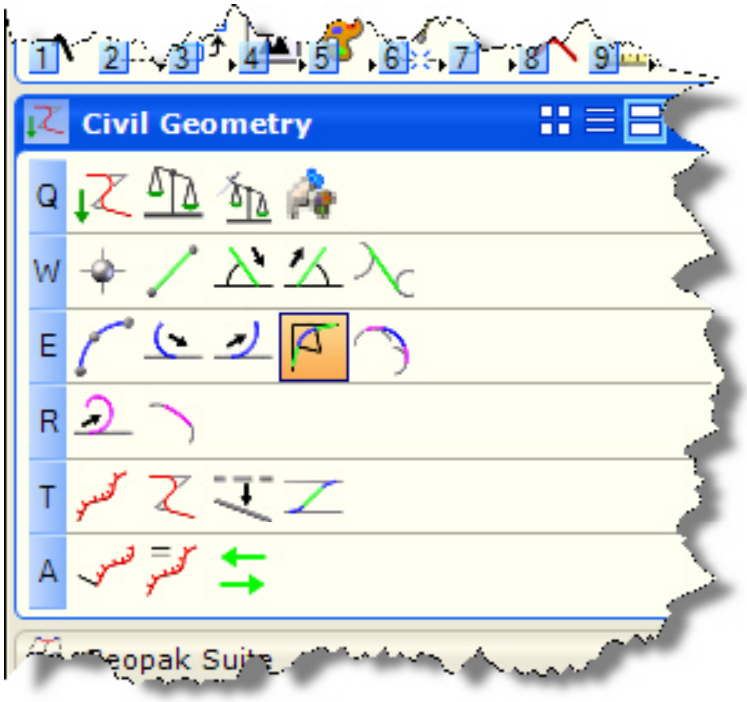
The Geometry Toolset

- New Commands added as MSTN Tasks
- Commands are:
  - Integrated with Microstation
  - Dynamic
  - Utilize graphical feedback
  - Create rules based elements
  - Preserve user input and relationships



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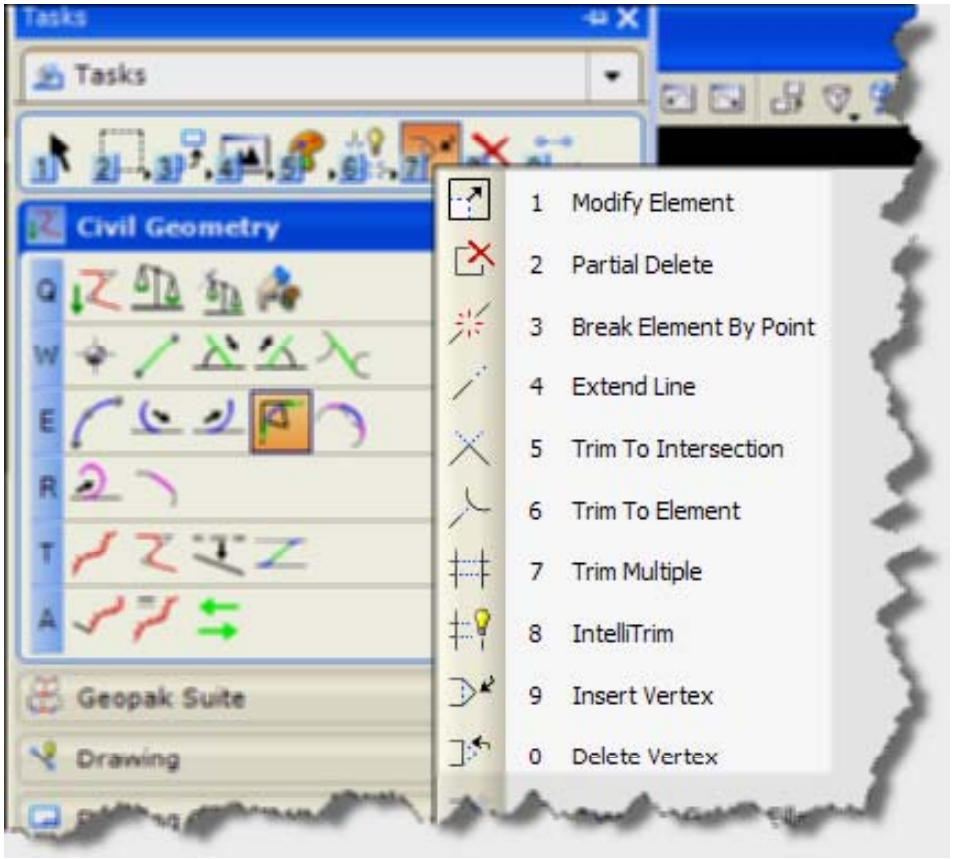
Microstation Modify Commands

- Modify Commands will interact with civil elements



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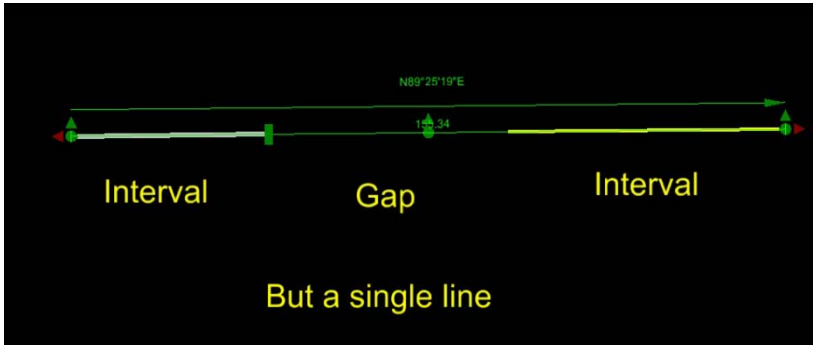
Intervals and Gaps

- The intervals can be used in any command, or the base geometry can be used.
- Some commands allow you to pick the pieces of complex elements – those commands that require arcs for example will let you pick an arc that's inside a complex.
- When we make a civil complex element – we hide the original elements and our complex rule saves relationships to the original elements and whether it is forward or reversed within the complex.



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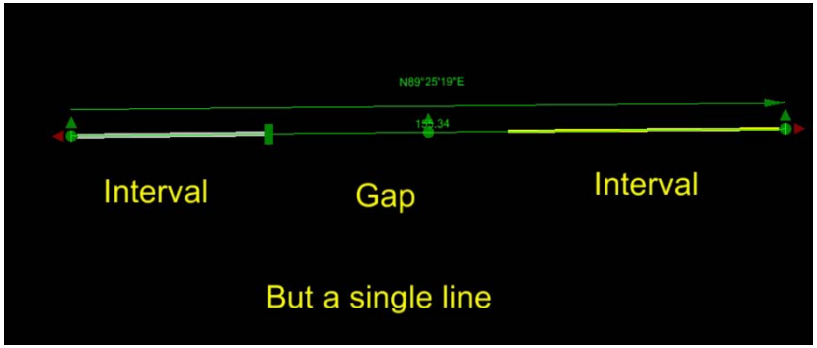
Intervals and Gaps

- "Base Geometry" – the original created element with its rule. Base geometry is always preserved.
- An interval is where the base geometry is shown (visible) – a gap is where it is not shown.
- Geometry commands that trim or extend create intervals along the original "base geometry".
- The MS modify commands create intervals or gaps along the original base geometry.



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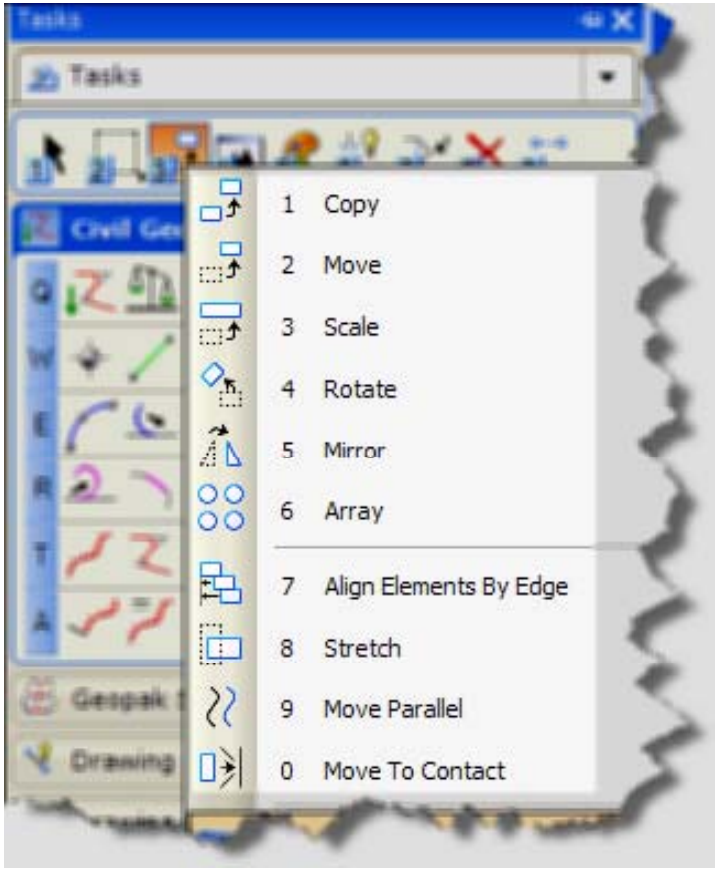
Microstation Manipulate Commands

- Manipulate Commands will not interact with civil elements unless you remove the rule first.



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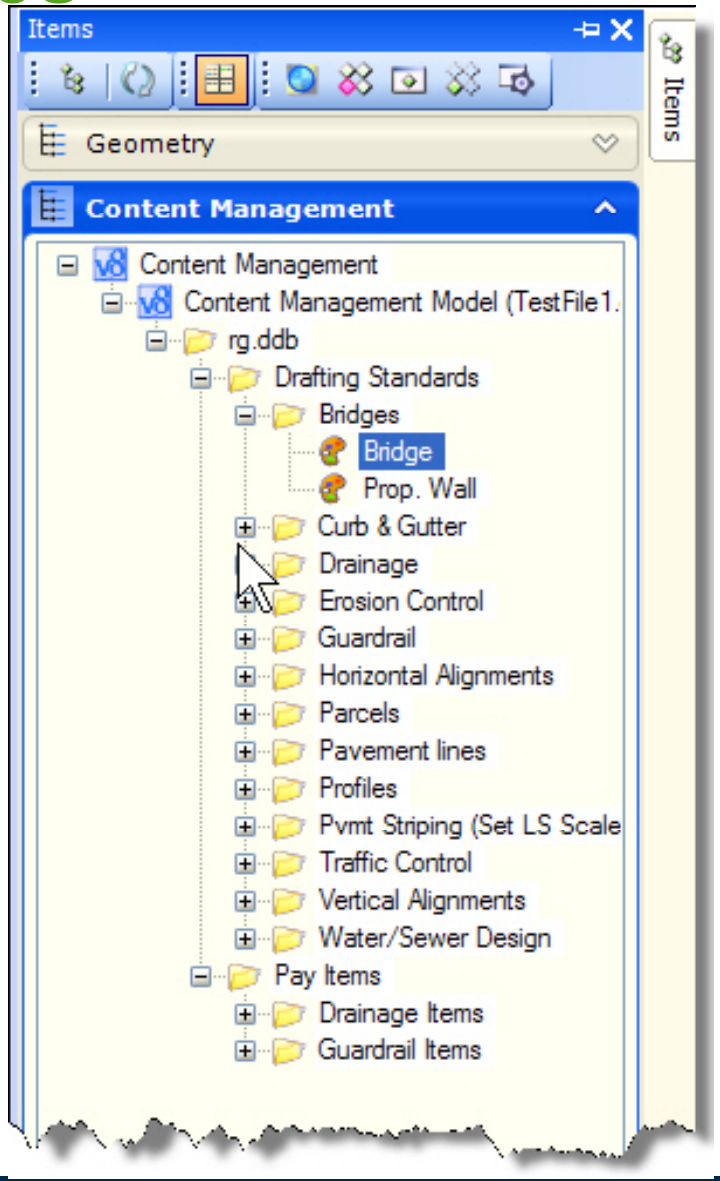
Feature Tables

- Preserves user investment in Feature tables developed for GEOPAK, InRoads and MXROAD.
- Uses DDB, XIN or PSS files for feature definitions.



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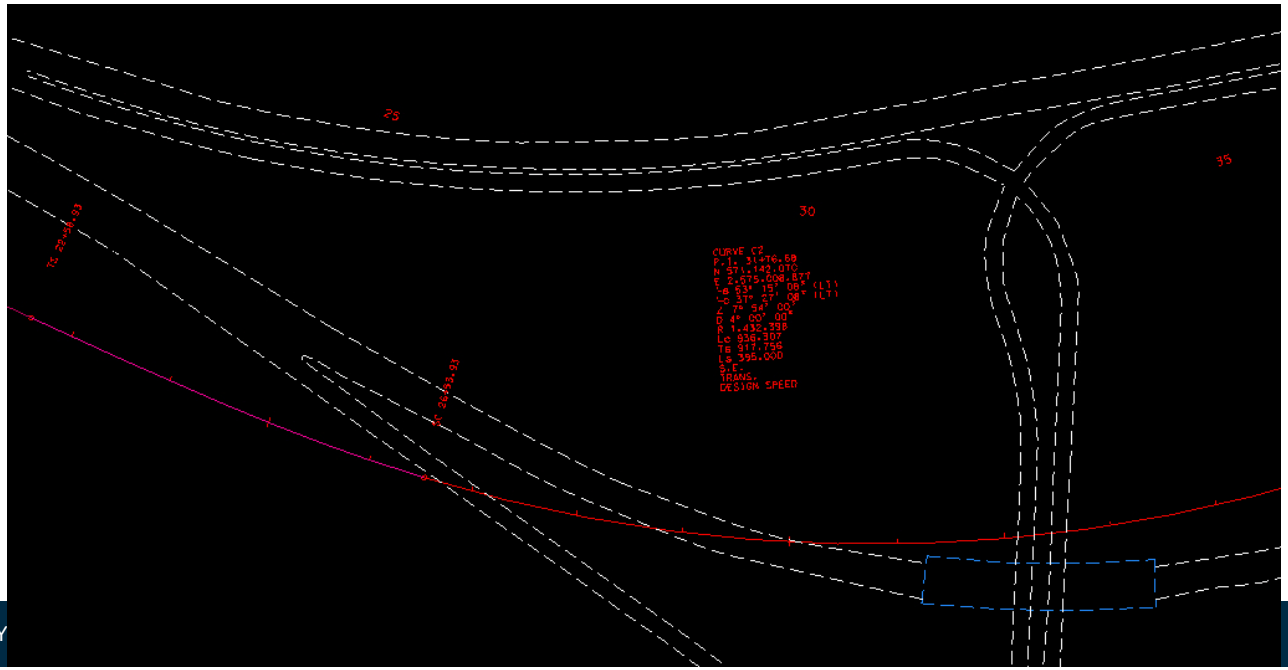
Annotation

- Annotation can be applied automatically at time of element creation.
- Annotation is determined from your existing DDB, XIN or PSS files



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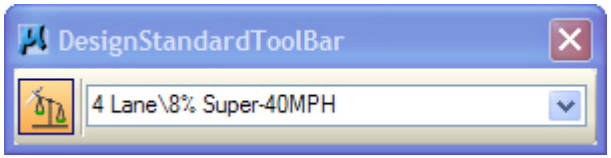
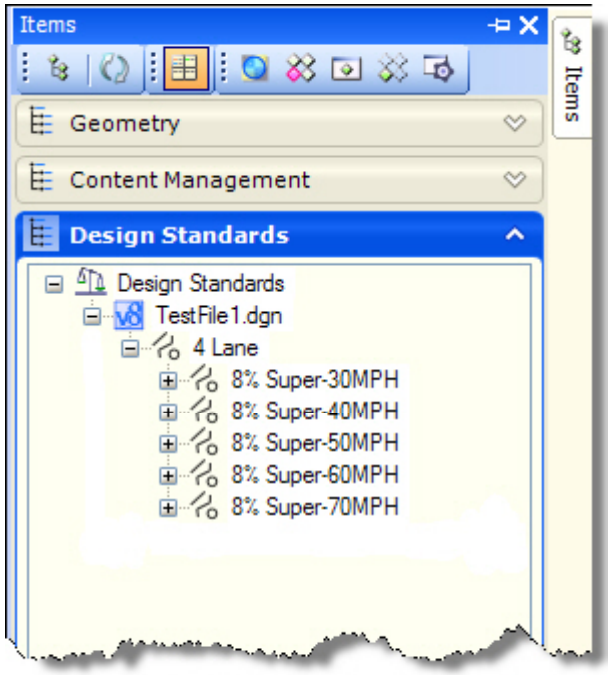
Design Standards

- Design standards control the geometry radius and transition lengths
- For SS1 this is very alignment specific.





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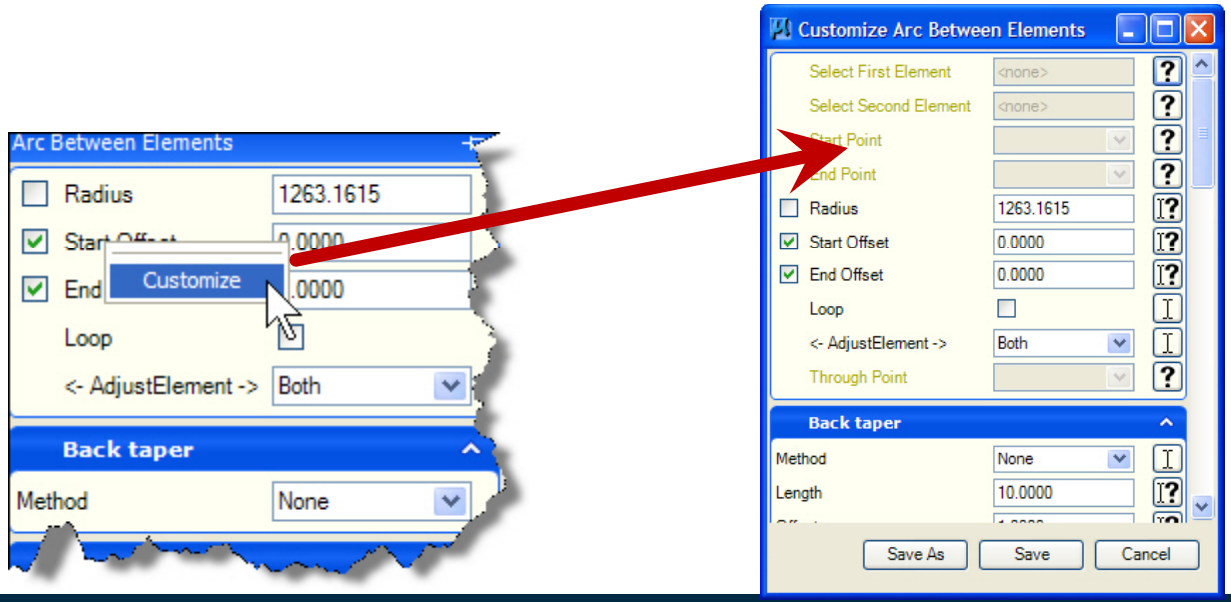
Command Customization

- Right click the command dialog to customize its function. This allows you to create variable versions of tools to accomplish workflows.



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Workshop Agenda

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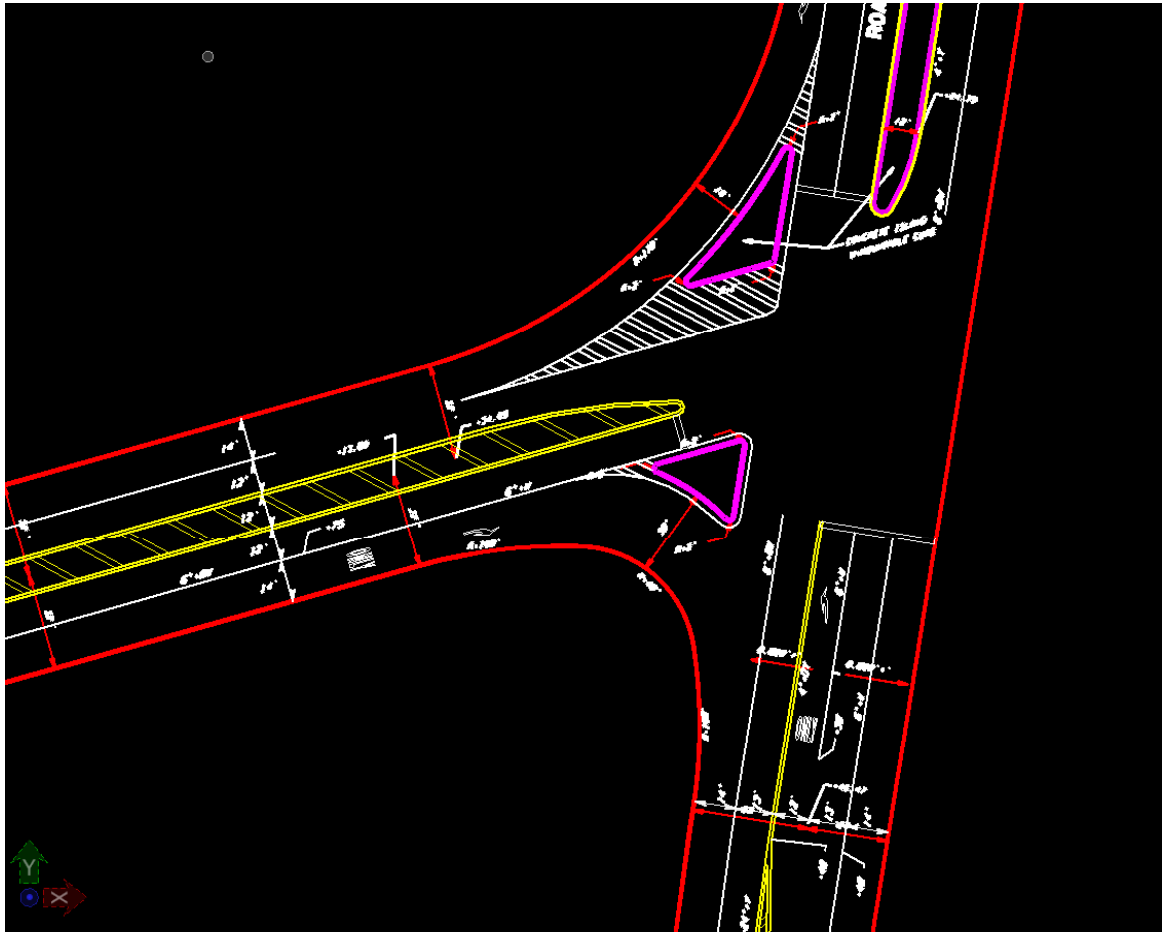

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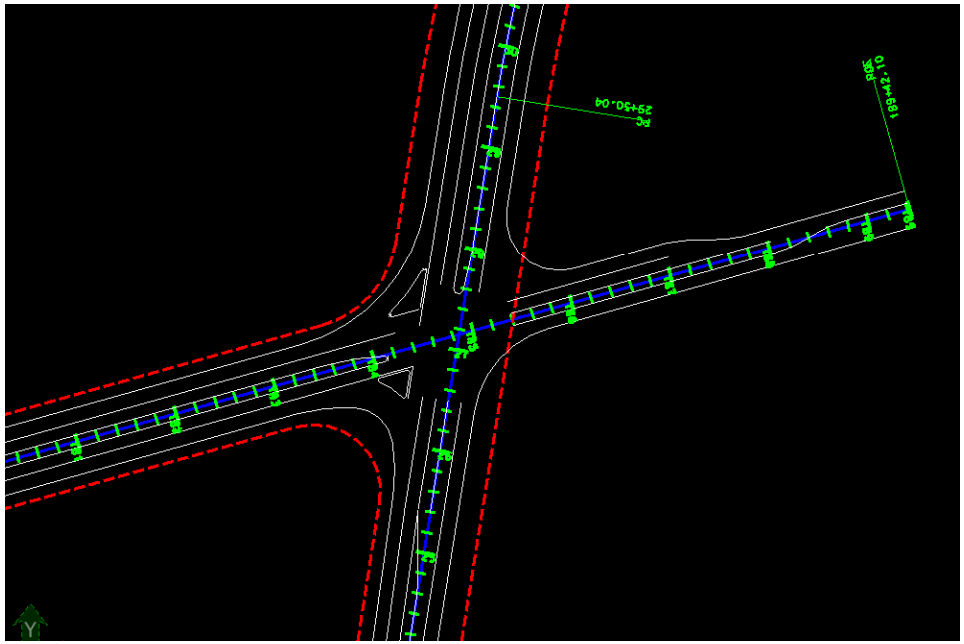
Workshop Agenda

- Examine the New Tools
- Focus on Geometric Layout of Intersection



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Workshop Agenda

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Conclusion

- Questions?

joe.waxmonsky@bentley.com

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