Corridor Optimization Techniques with FDOTSS4 OpenRoads Technology

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Description

- In this session we will discuss methods optimizing corridor processing when creating a model using FDOTSS4 OpenRoads Technology tools

Background: *Bentley Communities - OpenRoads*

Question:

What is the order in which template data is processed at each template drop?

Answer:

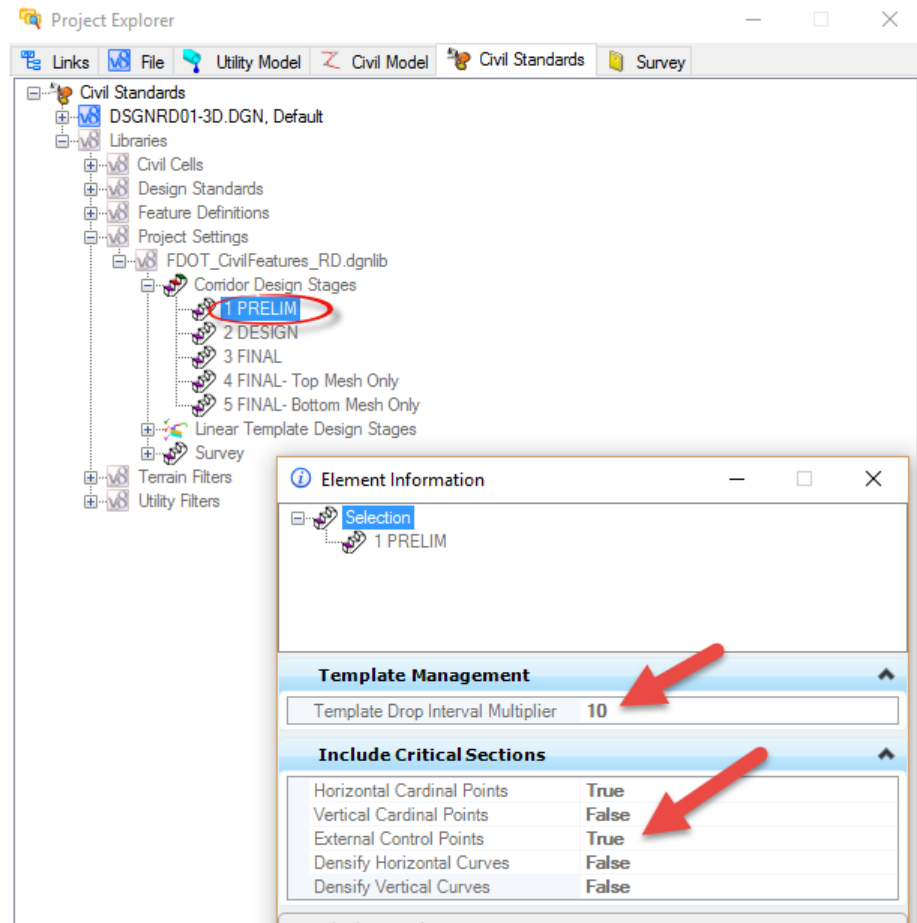This is generally the order in which OpenRoads solves the location of points and components at each template drop...

1. Template is dropped, and points are placed according to the point constraints stored in the template.

2. Parametric constraints are applied as defined in the template, and in the corridor.

3. Horizontal Feature constraints are applied to move points if the feature is found in the specified range.

4. Point controls are applied to the assigned points, overriding the corresponding constraint, and all points that are constrained back to the point controlled point will be recalculated.

5. Component display rules are solved based on the current position of all points.

6. End conditions are solved by extending designated segments along the specified slope to seek their targets.

Background: *What Affects Corridor Processing?*

- Complexity of Template(s)
- Interval Spacing
- Design Stage
  - Preliminary – interval x10
  - Design – interval x5
  - Final – interval x1
- Active Terrain Size
- Corridor Objects
  - Key Stations
  - Point Controls
  - Parametric Constraints
  - EXTERNAL REFERENCES
  - CLIPPING REFERENCE
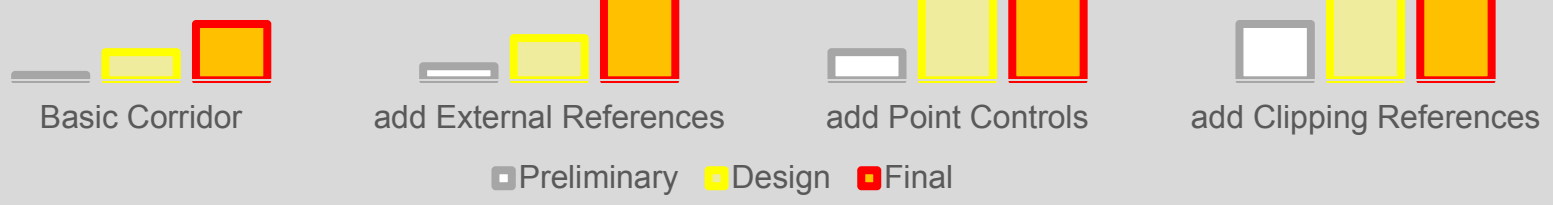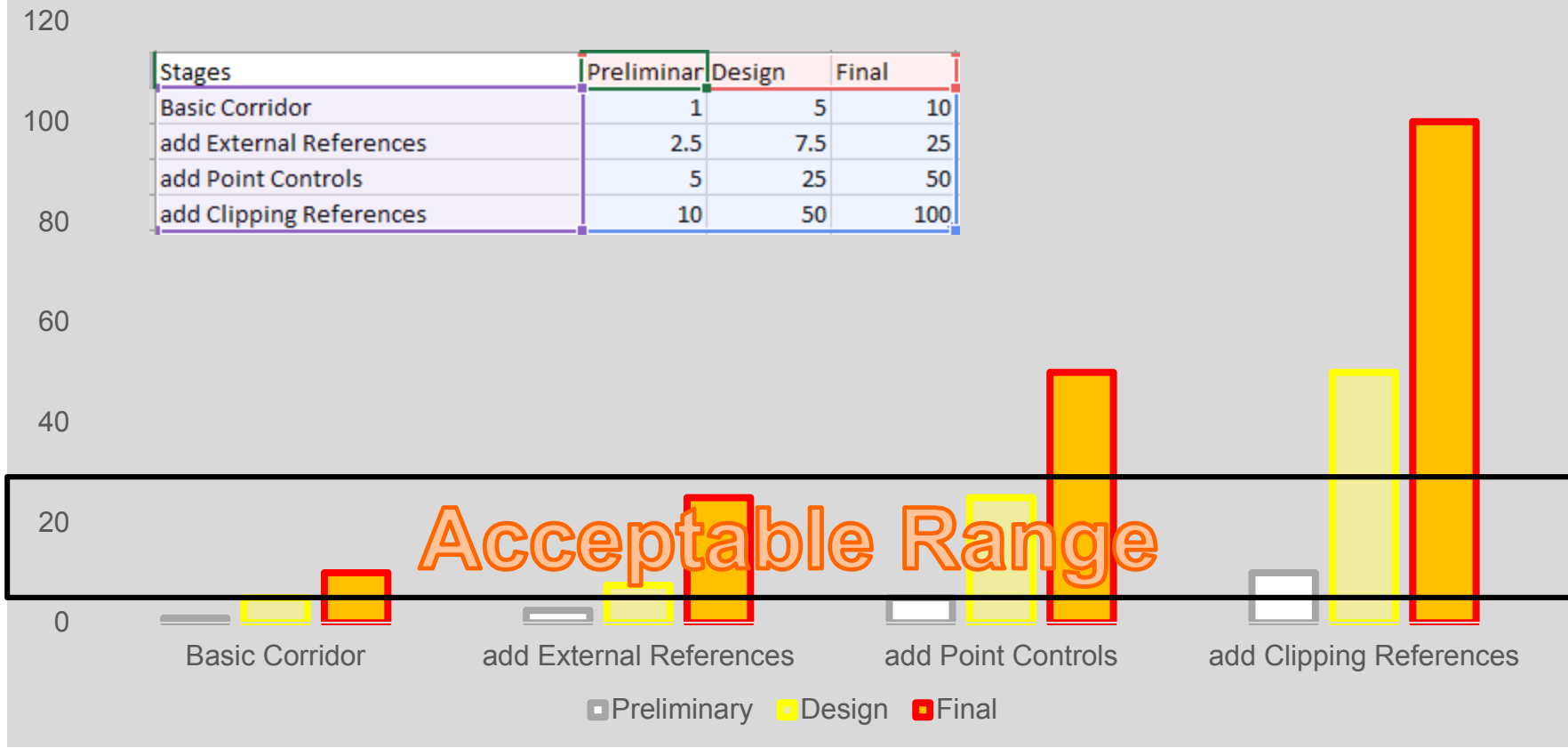
Examples:

Processing Time (Seconds)

Stages	Preliminary	Design	Final
Basic Corridor	1	5	10
add External References	2.5	7.5	25
add Point Controls	5	25	50
add Clipping References	10	50	100

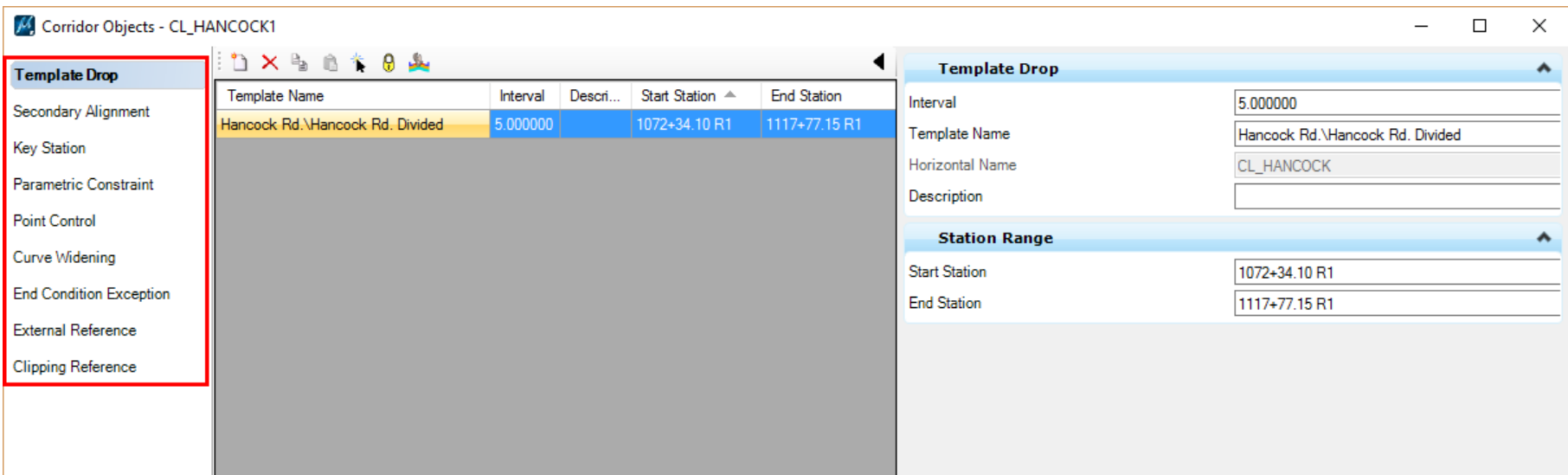□ Preliminary   □ Design   ■ Final

Examples:

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add Clipping References	10	50	100

Acceptable Range

Basic Corridor   add External References   add Point Controls   add Clipping References

☐ Preliminary ☐ Design ☐ Final

Background: *When does Corridor Processing Start?*

- Every time a Corridor Object is added or edited

Background: How to control Corridor Processing?

- Use the Unlock feature to stop *auto* Corridor Processing

Background: *How to control Corridor Processing?*

- Use the Unlock feature to stop *auto* Corridor Processing
- Once re-locked, use Process Corridor

Background: *Can I stop Corridor Processing?*

- No, not within the GEOPAK program
- Yes, using FDOTSS4 ClearCrash !

ClearCrash

Corridor Processing Optimization Techniques

Corridor Objects Dialog:

- Widen the Interval Spacing

- Deactivate the terrain when not testing EC's

- Narrow the Template Drop Range on single Template runs temporarily while validating design model

- Grossly maximize Interval Spacing on multiple Template runs

- Don't add unnecessary Corridor References

- Don't add Corridor Clipping Object until the end

Project Explorer Dialog:

- Set include External References to false on the Design Stages; Preliminary and Design

- Break up terrain

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