ODOT User Guide for gINT Civil Tools

Disclaimer: gINT Civil Tools configuration is preliminary and subject to change pending completion of standards by the gINT Technical Working Group and subsequent approval of the Geo/Hydro Leadership Team (GHLT). Certain pattern cells have not been configured for this tool while other patterns are subject to revision. These cells in their current configuration do not constitute a standard and revision may be required at a future date.

Requirements: InRoads V8i SS2 (or InRoads Lite) running with a geometry project (.alg) loaded
Set Annotation Scale in model (gINT CivilTools uses it for sizing text)
Must have InRoads profile set already drawn in model if plotting boreholes in profile
Must have InRoads cross section set already drawn in model if plotting boreholes in cross section
gINT_Patterns.cel cell library must be located in F:\ODOT_DATA\USERCFG\Cell

Cell Library: gINT_Patterns.cel library contains all of the ODOT cells that will be used with gINT Civil Tools to pattern boreholes in profile and cross section, and to place boreholes in plan view.

XML Preference Files: A set of four XML preference files are delivered to your F:\ODOT_DATA\USERCFG\Data\gINTCivilTools_Prefs folder for use with different borehole depths and annotation scales.

Name	Width x Depth	Profile Range	Cross Section Range
Inch10_Shallow_gINTCivilTools_Prefs.xml	3' x 30'	150'	100' (-50 to +50)
Inch20_Medium_gINTCivilTools_Prefs.xml	5' x 60'	300'	150' (-75 to +75)
Inch40_Deep_gINTCivilTools_Prefs.xml	10' x 100'	600'	300' (-150 to +150)
Inch100_DeepAndWide_gINTCivilTools_Prefs.xml	25' x 150'	1500'	800' (-400 to +400)

The preference file for each scale sets a column width (in feet) and applies a material scale factor with the same value to produce a borehole pattern that is one cell wide. For the borehole to be patterned correctly, the column width must match the material scale factor.

Notes about gINT Civil Tools:

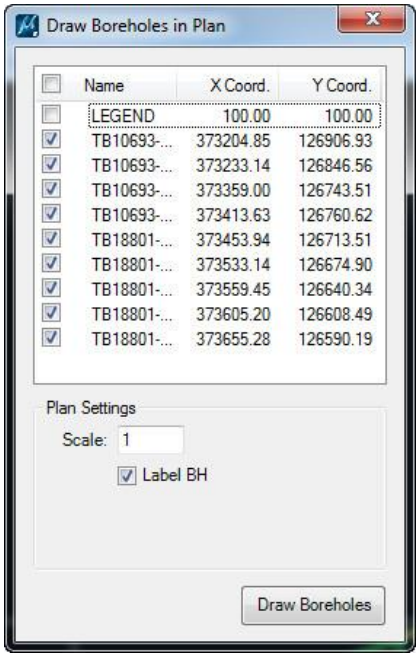
- gINT Civil Tools uses profile and cross section graphics that have already been drawn into a design file. To correctly place boreholes in plan, profile, or cross section InRoads V8i SS2 must be running with the geometry file (.alg) loaded.
- gINT Civil Tools is launched from the MicroStation key-in window with `gintciviltools start` , or gINT CivilTools may appear on your MicroStation ODOT menu.
- gINT Civil Tools recognizes only the first profile set drawn in the active model - one profile set per model.
- gINT Civil Tools recognizes only the first cross section set drawn in the active model - one cross section set per model.
- gINT Civil Tools reads all of the preference settings from only the preference file that is loaded at start.
    - Other XML preference files may be loaded after start, but borehole column widths and proximity settings will not be updated - see individual workflows for instructions.
- If an XML preference file is located in the same folder as the active design file (_DGNDIR), that preference file will be loaded at start.
- There should be only one XML preference file in the working directory at launch.

Special Notes about Plan View:

Draw Boreholes in Plan is configured for the drawing scale indicated in the name of the XML preference file.
Plan view text is designed to work with annotation scale lock on. Text placed by gINT Civil Tools is annotation text.
The cell, GT_Borehole, is not an annotation cell and is sized for use at 1"=100' drawing scale.
A scale factor is applied to cause both the text and the cell to be correctly sized at drawing scales other than 1"=100'.

Workflow for Plan View of Boreholes

1. Prepare to use gINT Civil Tools: Copy gINTCivilTools_Prefs folder from your F:\ODOT_DATA\USERCFG\data folder and paste into the folder containing the design file (.dgn) for the project.
2. Launch MicroStation and InRoads. Load InRoads data: alignments (.alg) and surface (.dtm)
3. Decide upon a plan view drawing scale and create a model with that Annotation Scale. - (example 1"=100')
4. Copy the gINT Civil Tools XML preference file with the same scale in its name to the working directory. - (example, copy Inch100_DeepAndWide_gINTCivilTools_Prefs.xml to same folder as my active .dgn file)
5. Key-in `gintciviltools start` to launch gINT Civil Tools or launch from the ODOT menu.
6. Load the gINT project file (.gpj) and accept the default Database Settings with **[OK]**.
7. Click the button **Draw Boreholes in Plan**.
8. Check/uncheck which boreholes to display; check to Label BH; click **[Draw Boreholes]**.
9. Click **[OK]** on the Information dialog stating the number of boreholes drawn.
10. Fit View; close **Draw Boreholes in Plan** dialog.

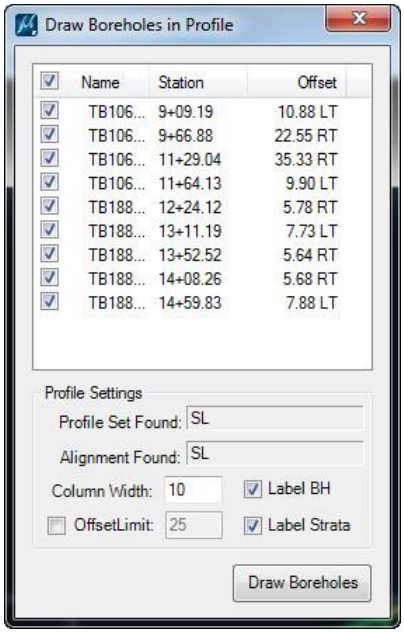


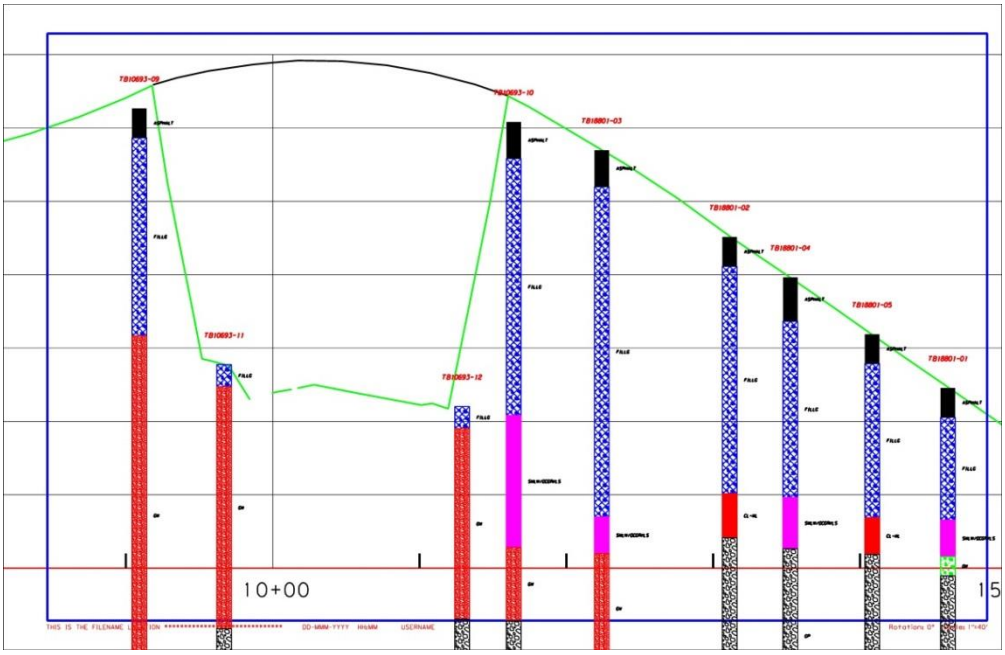
Notes:

- Text uses annotation scale, so the Annotation Scale Lock must be toggled on.
- GT_BOREHOLE cell is not an annotation cell and is sized for placement in 1"=100' with scale of 1. Differently scaled XML preference files use a different plan scale that affects the size of the cell and the Label text.

Workflow for Profile View of Boreholes

1. Prepare to use gINT Civil Tools: Copy gINTCivilTools_Prefs folder from your F:\ODOT_DATA\USERCFG\data folder and paste into the folder containing the design file (.dgn) for the project.
2. Launch MicroStation and InRoads. Load InRoads data: alignments (.alg) and surface (.dtm)
3. Decide upon a drawing scale for the profile and create a model with that Annotation Scale. - (example 1"=40')
4. Cut a profile set using the ODOT preference in InRoads.
5. Verify Annotation Scale choice by placing a Border cell from the ODOT Tasks>General>Sheet Borders group. - (example, 11x17 border should enclose the profile area well)
6. Copy the gINT Civil Tools XML preference file with the same scale in its name to the working directory. - (example, copy Inch40_Deep_gINTCivilTools_Prefs.xml to same folder as my active .dgn file)
7. ** Key-in `gintciviltools start` to launch gINT Civil Tools or launch from the ODOT menu.
8. Load the gINT project file (.gpj) and accept the Database Settings **[OK]**.
9. Execute **Draw Boreholes in Profile**.
10. Check/uncheck which boreholes to display; check to Label BH and to Label Strata; click **[Draw Boreholes]**.
11. Click **[OK]** on the Information dialog stating the number of boreholes drawn.
12. Fit View; close **Draw Boreholes in Profile** dialog.

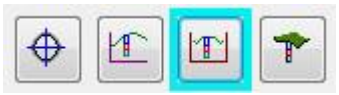


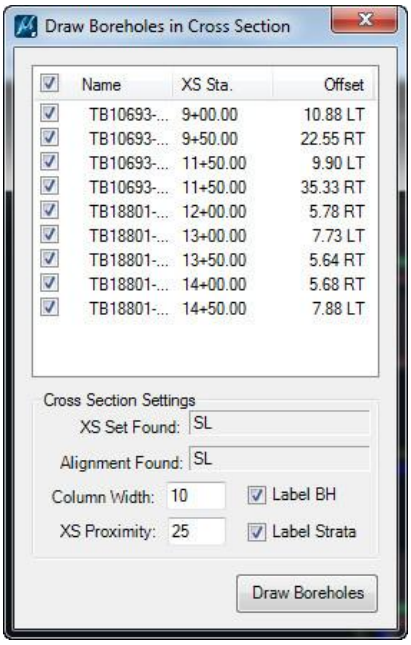


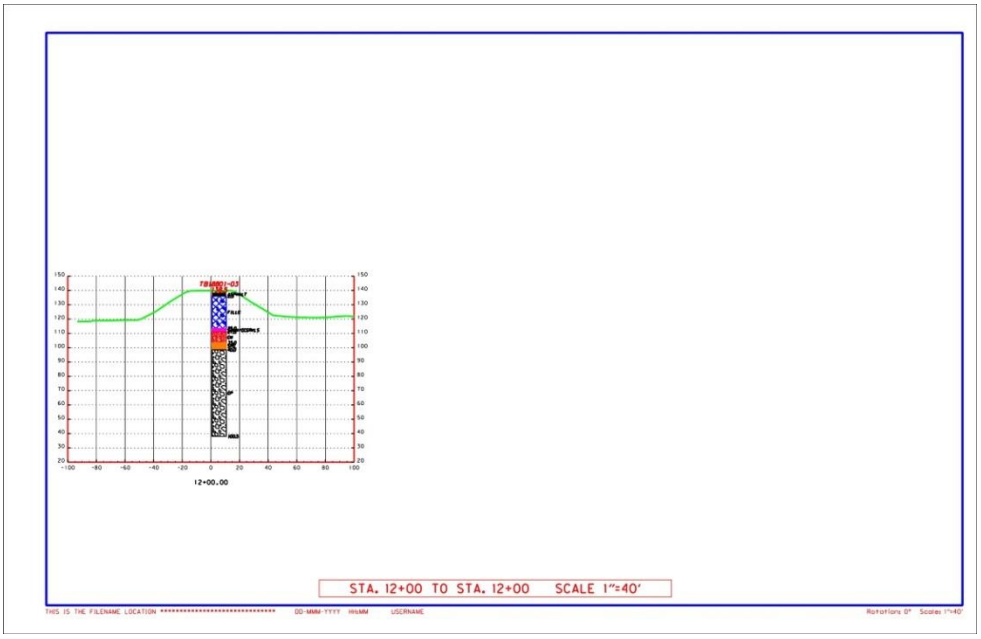
Notes:
** If gINT Civil Tools is already open with a different scale preference file loaded - you must exit gINT Civil Tools and re-start it to load the preference file for new scale!

Workflow for Cross Section View of Boreholes

1. Prepare to use gINT Civil Tools: Copy gINTCivilTools_Prefs folder from your F:\ODOT_DATA\USERCFG\data folder and paste into the folder containing the design file (.dgn) for the project.
2. Launch MicroStation and InRoads. Load InRoads data: alignments (.alg) and surface (.dtm)
3. Decide upon a drawing scale for the profile and create a model with that Annotation Scale. - (example 1"=40')
4. Cut a cross section set* using an InRoads preference with the scale in its name - may use ODOT preference for 1"=100'. - (example, use Inch40ForAnnotation)
5. Verify Annotation Scale choice by placing a Border cell from the ODOT Tasks>General>Sheet Borders group. - (example, 11x17 border should enclose the cross section area well)
6. Copy the gINT Civil Tools XML preference file with the same scale in its name to the working directory. - (example, copy Inch40_Deep_gINTCivilTools_Prefs.xml to same folder as my active .dgn file)
7. ** Key-in `gintciviltools start` to launch gINT Civil Tools or launch from the ODOT menu.
8. Load the gINT project file (.gpj) and accept the Database Settings **[OK]**.
9. Execute **Draw Boreholes in Cross Section**.
10. Check/uncheck which boreholes to display; check to Label BH and to Label Strata; click **[Draw Boreholes]**.
11. Click **[OK]** on the Information dialog stating the number of boreholes drawn.
12. Fit View; close **Draw Boreholes in Cross Section** dialog.







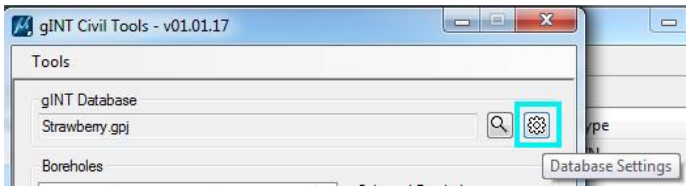
Notes:

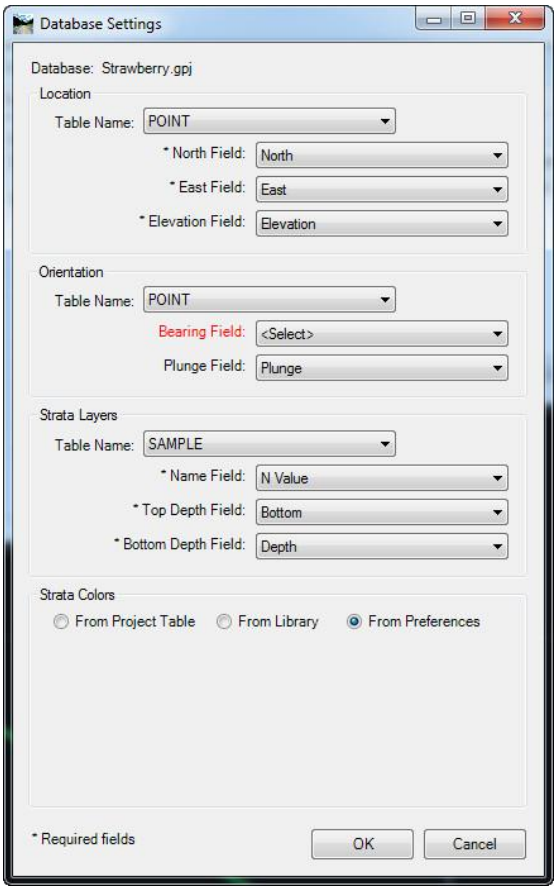
* If cutting Single Station cross sections, each station will need to be cut in its own MicroStation model.

** If gINT Civil Tools is already open with a different scale preference file loaded - you must exit gINT Civil Tools and re-start it to load the preference file for new scale!

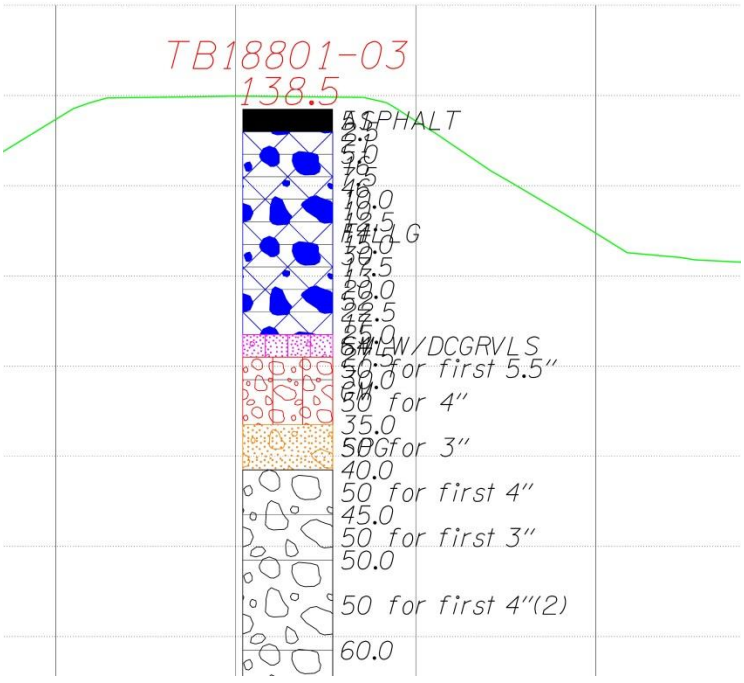
Workflow for Cross Section View of Borehole Sample Data

1. In MicroStation Models, copy the model containing the display of the borehole lithography, name or describe the copy to indicate that it will contain Sample Data. (example, CrossSectionInch40_SampleData)
2. In gINT Civil Tools, select Database Settings and change the Strata Layers section to display information from the Table Name: Sample, Name Field: N Value, Top Depth Field: Depth, and Bottom Depth Field: Bottom. Accept the Database Settings **[OK]**.





3. Execute **Draw Boreholes in Cross Section**. *(Profile is similar)*
4. Check/uncheck which boreholes to display; check to Label BH and to Label Strata; click **[Draw Boreholes]**.
5. Click **[OK]** on the Information dialog stating the number of boreholes drawn.
6. **Reference the Sample Data model into the model containing the Lithology to display information from two different database tables. You may use "merge into master" or copy elements from one model into the other.



Notes:

* You may only display information from one table; lithology information will be replaced with sample data, which is why you are instructed to copy the model in step 1, and reference and merge in step 6.