



*Ignite Your Productivity!*

# SmartDraft 24 Help

# Welcome to SmartDraft 24 Help

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## SmartDraft Suite

For AutoCAD and BricsCAD

Suite is our comprehensive set of AutoCAD® and BricsCAD® productivity enhancements. Suite provides tools for labeling plan and profile design, site layout, managing block (symbol) libraries, point placement and labeling, and many general drafting enhancements. These tools are tailored to civil engineers, surveyors, mapping professionals, and drafting professionals.

## SmartDraft Survey

For AutoCAD and BricsCAD

Survey is a subset of SmartDraft Suite which focuses on surveyors and mapping professionals. Survey provides tools to label and modify labels of lines and curves with bearings, distances, deltas, radii, tangents, etc. Survey also offers tools to place and label points, create closure reports, and write legal descriptions from polylines or parcels, as well as tools for planview layout.

## SmartDraft PConnect

For AutoCAD and BricsCAD

PConnect is an easy to use and superior point-connection tool designed to combine the best features of attributed point coding with an easily controlled, yet powerful, 2D and 3D line control language. PConnect's enhanced suffix codes give the operator increased flexibility and the ability to produce automated linework and layering. PConnect can use your company's specific description keys, combined with its suffix codes, to create robust geometry from surveyed data collected in the field. The linework is drawn on specified layers as defined by a Description Key Style file.

## SmartDraft Construction Notes

For AutoCAD and BricsCAD

SmartDraft Construction Notes tools automates the process of placing construction notes and creating a construction notes table or list. Use reference symbol only, leaders with reference symbol, multiple leader with reference symbol, leaders with text, or leader, reference symbol, and text. Once the construction note reference symbols are placed, a construction notes table can be created from the symbols.

## SmartDraft HEC-RAS Tools

For AutoCAD Civil 3D and Land Desktop Only

HEC-RAS Tools provide an excellent set of tools for exchanging data between Civil 3D and HEC-RAS. Create a HEC-RAS data file from section lines, an alignment, and a surface. Create section lines at specified stations along an alignment. Import a HEC-RAS floodplain line into Civil 3D. Draw HEC-RAS Cross Section in Civil 3D. And more.

# SmartDraft 24 Help

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## Special thanks to:

*All the people who contributed to this document.*

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# **Part I**

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# 1 Welcome

SmartDraft® 24 *Ignite Your Productivity!*



<http://www.smartdraft.com>

Help file version: 24.0.2

Last updated: 4/3/2024

Copyright © 1989-2024, SmartDraft, Inc.

**SmartDraft®** is designed to make AutoCAD®, AutoCAD Civil 3D®, AutoCAD Map 3D®, and BricsCAD® more productive for civil engineers, mapping professionals, and surveyors. It is the result of extensive research and development, combined with many years of experience in the engineering field. ***SmartDraft! Ignite your productivity.***

## For support:

See [Support Information](#)

## 1.1 Credits

### Credits

**To build the installation/setup program, we used:**

**Inno Setup**, an installer for Windows programs. © 1997-2010 Jordan Russell. All rights reserved.

Internet: <http://www.jrsoftware.org/>

**To create the Help file and Manual, we used:**

**Help & Manual**, © 2019 EC Software GmbH. All rights reserved.

Internet: <http://www.ec-software.com/>

## 1.2 SmartDraft Supports and Requirements

### Supports and disk space requirements:

\* AutoCAD Civil 3D 2018 - 2025 \* or

\* AutoCAD Map 3D 2018 - 2025 \* or

\* AutoCAD 2018 - 2025 \* or

\* BricsCAD Pro v21 - v24 \*

\* BricsCAD Pro for BricsCAD surfaces, and gradings, alignments, 3d alignments, vertical alignments, and vertical alignment views.

\* BricsCAD Pro v24 Civil points reading, processing, and creation. See SmartDraft Suite History for a list of the commands which support the BricsCAD Civil points

\* BricsCAD v21.1.07 - v24 Pro for HEC-RAS Tools.

\* Monitor resolution of at least 1080 x 1024

\* 310 MB free disk space for installation

Commands support the AutoCAD versions, and BricsCAD versions listed above unless stated otherwise on the command page.

### Supports:

\* Microsoft Windows 10<sup>®</sup>

\* Microsoft Windows 11<sup>®</sup>

### Does Not Support:

\* Any version of AutoCAD LT<sup>®</sup>

\* Any version of AutoCAD 2017 based products or prior.

\* Any version of BricsCAD v20 or prior.

## 1.3 Software Authorization

Convert SmartDraft tools from an evaluation copy to an authorized version.

Using SmartAbout

Before entering the authorization code(s), confirm the correct SmartDraft menu is loaded.

To **Change to the correct SmartDraft menu**.

At the command prompt type:

|                          |   |
|--------------------------|---|
| <b>SmartSuite</b> for    | Suite, Suite and PConnect, Suite and HEC-RAS, or Suite, PConnect, and HEC-RAS |
| <b>SmartSurvey</b> for   | Survey, or Survey and PConnect  |
| <b>SmartPConnect</b> for | PConnect only   |
| <b>SmartHECRAS</b> for   | HEC-RAS Tools only  |
| <b>SmartCNote</b> for    | Construction Notes Tools only   |
| <b>SmartSolo</b> for     | Survey Working Folder only  |

To register / authorize the software either:

**Individual Seat License:**

At the command prompt, follow the steps below:

|                            |   |
|----------------------------|---|
| <b>Command:</b>            | <b>SmartAbout</b>   |
| About Dialog Box:          | Select the <b>Authorization</b> button:                           |
| <b>Company/Name:</b>       | Enter the company/name to be associated with the software license |
| <b>Serial Number:</b>      | Enter the supplied serial number                                  |
| <b>Authorization Code:</b> | Enter the supplied authorization code(s)                          |

**OR**

|                   |  |
|-------------------|--|
| <b>Command:</b>   | <b>SmartAbout</b>                        |
| About Dialog Box: | Select the <b>Import License</b> button: |

Select the provided license file.

**OR**

**Site (Network) License:**

Copy the provided license file (SmartDraft24.0.2.lic) to SmartDraft's installation folder on a network drive.

**Note:** A Site License mandates a network drive installation.

### Authorization Dialog Box Options

#### Information

|                       |   |
|-----------------------|---|
| <b>Company/Name:</b>  | Enter the Company/Name of the licensee.   |
| <b>Serial Number:</b> | Enter the supplied serial number.   |
| <b>Suite</b>          | Enter the supplied authorization code if you licensed the Suite set of tools. These options will be grayed out if the Survey, PConnect (only), or Hydro (only) was installed. |



- Survey** Enter the supplied authorization code if you licensed the Survey set of tools. These options will be grayed out if the Suite, PConnect (only), or Hydro (only) was installed.
- PConnect** Enter the supplied authorization code if you licensed the PConnect tools. **Note:** This tool is licensed separately from the Suite, Survey, and Hydro tools.
- HEC-RAS Tools** Enter the supplied authorization code if you licensed the HEC-RAS Tools tools. **Note:** This tool is licensed separately from the Suite, Survey, and PConnect tools.
- Construction Notes Tools** Enter the supplied authorization code if you licensed the Construction Notes tools. This option will only display if the Construction Notes tool is loaded.
- OK:** Close dialog box and save registration information.
- Cancel:** Close dialog box with saving.

**Note:** If either the serial number or authorization code is invalid, you will be prompted to try again. If you continue to have an issue entering the provide authorization code, please [contact us](#).



# **Part II**

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## 2 Contact Us

### 2.1 Contact Us



#### **SmartDraft, Inc.**

<http://www.smartdraft.com>

**For more information, comments, or suggestions, please contact us.**

#### **For support:**

See [Support Information](#)

#### **Evaluation Version**

You may install, access, and for the purpose of commercial evaluation and demonstration, without cost, for a period of thirty (30) days. If you want to continue using the SmartDraft software after thirty (30) days, you must purchase a license(s) per the License Agreement. Additionally, functional limitations apply, as set forth in Section 7 of the license Agreement.

#### **Purchasing these tools**

A license must be purchased per the License Agreement. Site licenses are available for network installations.

For pricing information, contact:

E-mail: [sales@smartdraft.com](mailto:sales@smartdraft.com)

## 2.2 Support Information

### Display Information about SmartDraft, necessary for support

The primary method of product support is via e-mail. We reply to your request as soon as possible.

E-mail: [support@smartdraft.com](mailto:support@smartdraft.com)

When requesting support, please provide the following information to help us serve you more quickly:

- Copy and paste the SmartDraft support information to an email to assist in SmartDraft support
- A description of the problem. e.g. When using the <command name or alias>, I receive the error <xyz> when selecting a <object type, point, typing, etc...>.
- A copy of the file(s), Xref(s), or project files needed to test the problem using your data.
- Indicate in the file, the area, or objects you selected when the error occurred.



Command entry: **smartinfo**

### Dialog Box Options

- |                  |  |
|------------------|--|
| <b>Clipboard</b> | Copy the SmartDraft support information to the Clipboard. Use to copy information into an email. |
| <b>Email</b>     | Open your email client with our support email and subject added (if one is installed).           |
| <b>Close</b>     | Close the dialog   |

# **Part III**

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## 3 Customization

### 3.1 Customization Templates (Overview)

SmartDraft uses Customization Templates as a means to organize and maintain standard settings for associated drawings. These templates determine the basic drawing settings, such as decimal precision, dimension variables, text styles, and other settings. Likewise, they determine global settings, such as layer names and properties, block libraries, new drawing settings, and labeling styles. Template data files include the layer database, labeling styles, make layer list, point layer list, profile layer list, template description file, new drawing settings, special linetypes, user defined blocks, and block and AutoLISP Manager files. Also, templates allow user defined blocks to be substituted for the blocks used by SmartDraft and supplied during installation. Template data files are managed using the [Customization Template Manager](#), [Labeling Style Manager](#), [Labeling Table Style Manager](#), and Block and Detail Manager.

#### Customization Templates

- Multiple drawings can be associated to the same template, even drawings from different projects.
- All drawings associated to a template share the same global settings such, as the layer database, new drawing settings, and user defined blocks.
- A drawing can only be associated to one template, but the associated template can be changed at any time using [Drawing Setup](#).
- A drawing stays associated to the template originally assigned to it as long as the template remains in the Customization Template folder. If the associated template is deleted, moved, or renamed, SmartDraft uses the data files in the template named "DEFAULT."
- A new drawing is associated to the current User Customization Template. Each operator can set his own User Customization Template via [User Options](#).
- The New Drawing Settings are copied to the drawing so they can be modified independently of any other drawing associated to the same template.
- Whenever you associate or reassociate a drawing to a Customization Template, the New Drawing Settings are copied to the drawing.
- The Customization Template's file location path is set using [Program Options](#) and by default is the sub-folder **\TEMPLATE** in SmartDraft's installation folder. When a new template is created, a sub-folder is created in the Customization Template location. For example, if you create a new template named **Water Department**, then the template folder will be **...TEMPLATEWater Department**.
- It is not recommended to use Windows Explorer to create Customization Template folders. Use the [Customization Template Manager](#) to ensure the proper data files are copied into the new template.
- To rename a template folder, use Windows Explorer. Do not rename a template folder once operators start associating drawings to it.
- The files created by the Customization Template Manager can be password protected. See [Password Setup](#).

The [Customization Template Manager](#) is used to edit the following files:

| Type:                    | File name:  |   |
|--------------------------|-------------|---|
| Template Description     | project.ini |   |
| Layer Database           | layer.txt   | See <a href="#">Layer Database Overview</a>                             |
| Make Layer List          | laycr.cly   | See <a href="#">Layer Make</a>  |
| Offset Street Layer List | laycr.oly   | See <a href="#">Offset Street</a>                                       |
| Profile Layer List       | laycr.ply   | See the Profile Layer list of the <a href="#">Profile Setup Options</a> |
| Point Layer List         | laycr.tly   | See <a href="#">Point Options</a>                                       |
| New Drawing Settings     | drawing.ini |   |

|   |        |  |
|---|--------|--|
| User Defined Blocks                                       | *.dwg  | See <a href="#">User Defined Blocks</a>            |
| Files located in the sub-folder<br><Template Name>\LABELS |        |  |
| Area Table Styles   | *.asy  | See <a href="#">Area Table Style Manager</a>       |
| Coordinate Table Styles                                   | *.csy  | See <a href="#">Coordinate Table Style Manager</a> |
| Alignment Station and Offset Label Style                  | *.aosy | See Alignment Station and Offset Labels            |
| Description Key Styles                                    | *.dsy  | See PConnect Description Key Style Manager         |
| Templates   | *.zsy  | See PConnect Template Manager                      |
| Elevation Label Styles                                    | *.esy  | See Elevation Label                                |
| Planview Label Manual Styles                              | *.nsy  | See Planview Label Manual                          |
| Labeling Styles   | *.lsy  | See <a href="#">Labeling Style Manager</a>         |
| Labeling Table Styles                                     | *.tsy  | See <a href="#">Labeling Table Style Manager</a>   |
| Offset Street Styles                                      | *.osy  | See Offset Street                                  |
| Legal Description Options Styles                          | *.lgl  | See Legal Description Options Style Manager        |

**The Block Manager is used to edit the following files:**

|                              |              |
|------------------------------|--------------|
| Block Manager                | *.bdb        |
| Details on Planview TB       | details.bdb  |
| Design Tools Blocks          | design.bdb   |
| Field and Courts             | fields.bdb   |
| Miscellaneous Utility Blocks | utmisc.bdb   |
| Planview Blocks              | planview.bdb |
| Profile Blocks               | profile.bdb  |
| Sewer Blocks                 | sewer.bdb    |
| Storm Drain Blocks           | storm.bdb    |
| Traffic Blocks               | traffic.bdb  |
| Water Blocks                 | water.bdb    |

**The Block and Detail Manager and Block and Detail Category File Manager**

|                      |             |
|----------------------|-------------|
| Folder Variable File | BKeeper.ini |
|----------------------|-------------|

**Borders Toolbar**

|               |             |
|---------------|-------------|
| Improvement   | border1.bdb |
| Grading       | border8.bdb |
| Water         | border6.bdb |
| Sewer         | border7.bdb |
| Mapping       | border2.bdb |
| Miscellaneous | border5.bdb |

**The AutoLISP Manager is used to edit the following files:**

|                  |           |
|------------------|-----------|
| AutoLISP Manager | *.ldb     |
| Grading Tools    | grade.ldb |

**Load customization template linetypes using [Load Linetypes](#):**



Custom Linetypes

[custom  
linetypes](#)

## 3.2 Network Options

SmartDraft can be installed on a network drive and shared with all operators in an office (Site License Required). We recommend this installation method for companies with many operators. When SmartDraft is installed on a network drive, common customization templates can be shared with all operators on the network. Also, the default customization template, and default user options can be set. The CAD Manager can password protect the Program Options and Customization Template Manager.

Advantage of network installation:

- Can use site license to authorize all operators from a single location.
- Can update the program from a single location.
- Can set default customization template name.
- Can set default user options.

### Site (Network) License:

Copy the provided license file (smartdraft12.lic) to SmartDraft's installation folder. The default installation folder is `drv:\Program Files\SmartDraft`. When this file is located on a network drive, it will provide the serial number and authorization to any operator loading the `smartsuite.cuix` menu.

### Network Installation Note:

Customization Templates are located in SmartDraft's installation sub-folder `\template`. To create and maintain customization templates, the operator must have read and write access to this folder and its sub-folders. The ... `\template` folder can be moved and/or renamed. If the folder location is moved and/or renamed, the "Customization Template" path must be edited to reflect the correct folder. Use [Program Options](#) to edit the "Customization Template" path. This path is saved in the `SmartDraftSetup.ini` file in SmartDraft's installation folder.

Example of the customization template line in the `SmartDraftSetup.ini` file:

### [Program]

`TemplateFldr=C:\PROGRAM FILES\SMARTDRAFT\TEMPLATE` customization template folder location is after the =

### Additional Network information:

To password protect SmartDraft's customization settings: See [Password Setup](#).

To set up default network options: See Program Options.


To set up new customization templates or files within the template: See Customization Template Manager.

### 3.2.1 Password Setup

**Add or change the password protection for customization templates, program setup, and default user options.**

When you password-protect SmartDraft, no one can access the customization template manager, program options, or network defined default user options unless they know the password.

**Note:** Password is case sensitive.

 Command entry: **smartpw**

#### Dialog Box Options

**Current:** If there is a current password, type it to allow a new password to be entered.  
**New:** Type a new password.  
**Confirm:** Type the new password again to confirm.

### 3.2.2 Creating strong passwords

To help keep your SmartDraft customization templates more secure, you should use a strong password.

For a password to be strong, it should:

- Be at least seven characters long. Because of the way passwords are encrypted, the most secure passwords are seven or 14 characters long.
- Contain characters from each of the following three groups:

| Group   | Examples   |
|---|--|
| Letters (uppercase and lowercase)                           | A, B, C... (and a, b, c...)                                      |
| Numerals  | 0, 1, 2, 3, 4, 5, 6, 7, 8, 9                                     |
| Symbols (all characters not defined as letters or numerals) | ` ~ ! @ # \$ % ^ & * ( ) _ + - = { }   [ ] \ : " ; ' < > ? , . / |


- Include at least one symbol character in the second through sixth positions.
- Be significantly different from prior passwords.
- Not contain your name or user name.
- Not be a common word or name.

Passwords can be the weakest link in a computer security scheme. Strong, hard-to-guess passwords are important because the tools and computers that people use to guess passwords continue to improve. Network passwords that once took weeks to guess can now be guessed in hours.

Password-guessing software uses one of three approaches: intelligent guessing, dictionary attacks, and automation that tries every possible combination of characters. Given enough time, the automated method can guess any password. However, it can still take months to guess a strong password.

### 3.3 Open Drawing Folder

Open Windows File Explorer to the folder of the current drawing

 Command entry: **odf**

### 3.4 SmartDraft Tab


Display the SmartDraft Ribbon tab in the current workspace

**Note:** Does not display SmartDraft Ribbon tab if the current workspace is read-only.

**Supports:**

AutoCAD Products: Yes

BricsCAD: No

 Command entry: **smarttab**

Command: **smarttab**

Unloading: <menuname>


Reloading: <menuname>

## 3.5 Change SmartDraft Menus

### Change SmartDraft within AutoCAD

The following commands provide tools to change between SmartDraft menus after SmartDraft one of the SmartDraft menus has been loaded.

If the SmartDraft Ribbon tab is not displaying see [SmartDraft Tab](#).

 Command entry:

|                      |  |
|----------------------|--|
| <b>SmartSuite</b>    | Change to the SmartDraft Suite cuix which includes the optional tools PConnect, and HEC-RAS. |
| <b>SmartSurvey</b>   | Change to the SmartDraft Survey cuix which includes the optional tool PConnect.              |
| <b>SmartPConnect</b> | Change to the SmartDraft PConnect cuix.  |
| <b>SmartHECRAS</b>   | Change to the SmartDraft HEC-RAS cuix.   |
| <b>SmartCnote</b>    | Change to the SmartDraft Construction Notes cuix.  |
| <b>SmartSolo</b>     | Change to the SmartDraft Solo commands cuix  |

Once the menu has changed, we recommend closing and reopening AutoCAD.

## 3.6 Customization Guide Appendix

### Customization Layer and Block Guide.

This document lists the layer indexes and/or blocks associated to each SmartDraft command.

This document will help your customization of SmartDraft more quickly.

Use this information when modifying the database or creating user defined blocks.

Use the Customization Template Manager to modify or print the [Layer Database](#), [Make Layer](#), [Profile Layer](#), [Point Layer](#), and [Offset Street](#) lists.

[Setup Panel](#)

[Grading Panel](#)

[HEC-RAS Panel](#)

[Inquiry Panel](#)

[Labeling Panel](#)

[Labeling Override Tools Toolbar](#)

[Layer Panel](#)

[Layout Panel](#)

[Planview Panel](#)

[Points Panel](#)

[Polylines Panel](#)

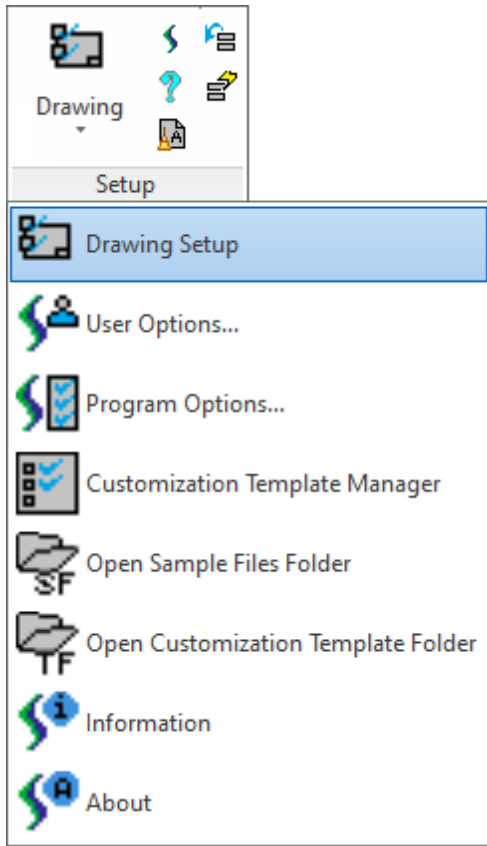
[Profile Panel](#)

[Text Panel](#)

[View Panel](#)

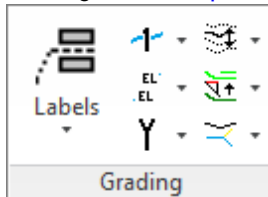
### Details for each command on the panels:

Setup Panel - [Top of Page](#)





















No layer indexes or block names for this panel.

Grading Panel - [Top of Page](#)

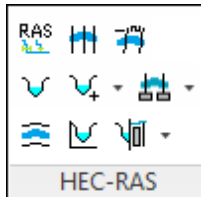











| Command               | Index(es)   | Block name(s)                                | Style          |
|-----------------------|---|--|----------------|
| Elevation Flag Manual | 80 - Proposed<br>81 - Existing<br><br>80 - Demo<br>Leader<br>354 - Proposed, Demo<br>279 - Existing | G-LABEL-X.dwg<br>G-LABEL-X-A<br>(Annotative) | Planview Small |
| Elevation Label       | Text<br>80 - Proposed<br><br>81 - Existing<br>80 - Demo   | G-LABEL-X.dwg<br>G-LABEL-X-A<br>(Annotative) | Planview Small |

|   |                                 |                                  |                            |                |
|---|---------------------------------|----------------------------------|----------------------------|----------------|
|   |                                 | Leader                           |                            |                |
|   |                                 | 354 - Proposed, Demo             |                            |                |
|   |                                 | 279 - Existing                   |                            |                |
|    | Elevation Label - Lot Line Text | 80 - Proposed                    | G-LABEL-LLX.dwg            | Planview Small |
|   |                                 | 81 - Existing                    | G-LABEL-LLX-A (Annotative) |                |
|   |                                 | 80 - Demo                        |                            |                |
|    | Label Slope Manual              | 80 - Proposed                    | G-SLPX.dwg                 | Planview Small |
|   |                                 | 81 - Existing                    | G-SLPX-A (Annotative)      |                |
|   |                                 | 80 - Demo                        |                            |                |
|    | Label Slope (One Point)         | 80 - Proposed                    | G-SLPX.dwg                 | Planview Small |
|   |                                 | 81 - Existing                    | G-SLPX-A (Annotative)      |                |
|   |                                 | 80 - Demo                        |                            |                |
|    | Label Slope (Two Point)         | 80 - Proposed                    | G-SLPX-2.dwg               | Planview Small |
|   |                                 | 81 - Existing                    | G-SLPX-2-A (Annotative)    |                |
|   |                                 | 80 - Demo                        |                            |                |
|    | Spot Elevation                  | 320 - Proposed                   | SPOT-EL.dwg                |                |
|   |                                 | 321 - Existing                   | SPOT-EL-A (Annotative)     |                |
|   |                                 | 320 - Demo                       |                            |                |
|  | Interpolate                     | 301 - All types                  | INTERP.dwg                 |                |
|  | Interpolate Contours            | 320 - Proposed                   | SPOT-EL.dwg                |                |
|   |                                 | 321 - Existing                   |                            |                |
|   |                                 | 320 - Demo                       |                            |                |
|  | Calculate Slope                 | Spot                             | SPOT-EL.dwg                |                |
|   |                                 | 320 - All types                  |                            |                |
|   |                                 | Slope                            |                            | Planview Small |
|   |                                 | 80 - Proposed                    |                            |                |
|   |                                 | 81 - Existing                    |                            |                |
|   |                                 | 80 - Demo                        |                            |                |
|  | Calculate Elevation             | Spot                             | SPOT-EL.dwg                |                |
|   |                                 | 320 - All types                  |                            |                |
|   |                                 | Point                            | POINT.dwg                  |                |
|   |                                 | Point layer set in point options |                            |                |
|   |                                 | Text                             |                            | Planview Small |
|   |                                 | Current layer                    |                            |                |
|  | Label Contours                  | 78 - Proposed                    |                            | Planview Small |

|   |                 |  |
|---|-----------------|--|
|   | 79 - Existing   |  |
|   | 78 - Demo       |  |
|  Adjust Elevation        |                 |  |
|  Edit Object's Elevation |                 |  |
|  Slope Symbol            | 292 - Proposed  |  |
|   | 293 - Existing  |  |
|   | 294 - Demo      |  |
|  Toe of Slope            | 289 - Proposed  |  |
|   | 290 - Existing  |  |
|   | 291 - Demo      |  |
|  FL Arrow                | 302 - All types | G-FLAR.dwg<br>G-FLAR-A.dwg<br>(Annotative) |
|  Daylight                | 303 - All types | G-DL.dwg                                   |
|  Cut / Fill              | 319 - All types | G-CF.dwg                                   |
|  Brow Ditch              | 295 - All types | G-BD.dwg                                   |



HEC-RAS Panel - [Back to Customization Guide Appendix](#)



| Command   | Index(es)   | Block name(s) | Style          |
|---|---|---------------|----------------|
|  HEC Application Loader                              |   |               |                |
|  Create Sample Lines or Polylines along an alignment | 214 - For all types   |               |                |
|  Sample Lines Tool                                   | Uses the Sample Line Style  |               |                |
|  Create HEC-RAS Data                                 |   |               |                |
|  Add Sections to a HEC-RAS Project                   |   |               |                |
|  Add River / Reach to a HEC-RAS Project              |   |               |                |
|  Create HEC-RAS Planview Sections Lines and Labels   | 213 - For all types   | PV-XSL.dwg    | Planview Small |
|  Create HEC-RAS Floodplain Lines                     | 215 - For all types   |               |                |
|  Create HEC-RAS Cross Sections                       | 208 - Section Grid Text<br>209 - Section Grid Lines<br>210 - Section Labels | P-HGL.dwg     |                |

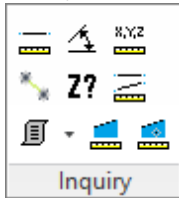













211 - Section Ground  
 212 - Water Surface

-  Create HEC-RAS Water Surface Profile Uses the Profile Style Profile
-  Label HEC-RAS Water Surface Profile Leader of Label Profile

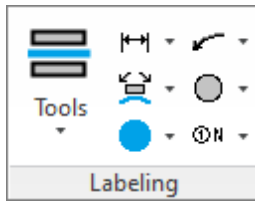
217 - All types P-SLABEL.dwg  
 Text of Label  
 281 - For all types Profile Small

Inquiry Panel - [Back to Customization Guide Appendix](#)





| Command   | Index(es)                                   | Block name(s)                               | Style type     |
|---|---|---|----------------|
|  Distance         |   |   |                |
|  Measure Angle   |   |   |                |
|  ID Points       |   |   |                |
|  Inverse Points  |   |   |                |
|  ID Elevation    |   |   |                |
|  Length (Add)    |   |   |                |
|  List            |   |   |                |
|  Area            | 75 - Proposed<br>76 - Existing<br>75 - Demo |   | Planview Small |
|   | If index 75 / 76 are not defined            | 55 - Proposed<br>56 - Existing<br>55 - Demo | Planview Small |
|  Area by Point   | Same as above                               |   |                |
|   | If Polyline to remain                       | Current layer                               |                |
|  List Object     |   |   |                |
|  Tangency Report |   |   |                |












Labeling Panel - [Back to Customization Guide Appendix](#)



| Command                  | Index(es)                                   | Block name(s)                             | Style type     |
|--------------------------|---|---|----------------|
| Labeling                 | 68 - Text<br>73 - Leader                    |   | Planview Small |
| Labeling Tags Tool       |   |   |                |
| Create Labeling Table    | 73 - Leader<br>65 - Table Lines             | 68 - Text                                 | Planview Small |
| Command                  | Index(es)                                   | Block name(s)                             | Style          |
| Arc Leader               | 73 - Proposed<br>74 - Existing<br>73 - Demo |   |                |
| Straight Leader          | 73 - Proposed<br>74 - Existing<br>73 - Demo |   |                |
| Add Continuation Symbol  | Layer of selected object                    | D-CTS.dwg<br>D-CTS-A (Annotative)         |                |
| Add Arrowhead            | 73 - Proposed<br>74 - Existing<br>73 - Demo | SM_ARR.dwg<br>SM_ARR-A (Annotative)       |                |
| Create a Break Symbol    | Layer of selected object                    | D-B.dwg<br>D-B-A (Annotative)             |                |
| Pipe Crossing Symbol     | Layer of selected object                    | D-PX.dwg                                  |                |
| Command                  | Index(es)                                   | Block name(s)                             | Style          |
| Radial Bearing           | 68 - All types                              | G-LABEL-X.dwg<br>G-LABEL-X-A (Annotative) | Planview Small |
| ALTA Labels              | 68 - All types                              |   | Planview Small |
| Command                  | Index(es)                                   | Block name(s)                             | Style          |
| Rotate along Arc         |   |   |                |
| Change Bearing Direction |   |   |                |
| Change Label Direction   |   |   |                |
| Reposition Labels        |   |   |                |




 Change Labeling Precision

 Scale Labels

| Command   | Index(es)                                   | Block name(s)  | Style type     |
|---|---|--|----------------|
|  Circle                    | 55 - Proposed<br>56 - Existing<br>55 - Demo | D-C1.dwg<br>D-C1-A (Annotative)  | Planview Small |
|  Square                    | Same  | D-S1.dwg<br>D-S1-A (Annotative)  | Planview Small |
|  Triangle                  | Same  | D-T1.dwg<br>D-T1-A (Annotative)  | Planview Small |
|  Hexagon                   | Same  | D-H1.dwg<br>D-H1-A (Annotative)  | Planview Small |
|  Keyhole                   | Same  | D-KH1.dwg<br>D-KH1-A (Annotative)  | Planview Small |
|  Diamond                   | Same  | D-D1.dwg<br>D-D1-A (Annotative)  | Planview Small |
|  Oval                      | Same  | D-O1.dwg<br>D-O1-A (Annotative)  | Planview Small |
|  Pentagon                | Same  | D-P1.dwg<br>D-P1-A (Annotative)  | Planview Small |
|  Star                    | Same  | D-ST1.dwg<br>D-ST1-A.dwg   | Planview Small |
|  Rectangle               | Same  | D-R1.dwg<br>D-R1-A.dwg   | Planview Small |
| <b>Command</b>  | <b>Index(es)</b>                            | <b>Block name(s)</b>   |                |
|  Crow's Feet - Automatic | 61 - All types                              | Arrow in left<br>D-AL, D-AL2, and D-AL3<br><br>Arrow in right<br>D-AR, D-AR2, and D-AR3<br><br>Arrow out left<br>D-ALO, D-AL2O, and D-AL3O<br><br>Arrow out right<br>D-ARO, D-AR2O, and D-AR3O |                |

No arrow left  
 D-ALN, D-AL2N, and Position 1, 2, and 3  
 D-AL3N

No arrow right  
 D-ARN, D-AR2N, and Position 1, 2, and 3  
 D-AR3N

-  Crow's Feet - Erase
-  Crow's Feet - Manual
-  Directional Arrow


Same as Automatic  
 61 - All types

Same as Automatic  
 D-A.dwg Break type  
 D-A1.dwg No break

**Command**

**Index(es)**

**Block name(s)**

 Solid Circle

166 - Proposed  
 167 - Existing


FM-M1.dwg  
 FM-M1-A  
 (Annotative)

168 - Demo

 Half Circle


Same

FM-M2.dwg  
 FM-M2-A  
 (Annotative)

 Open Circle


Same

FM-M3.dwg  
 FM-M3-A  
 (Annotative)

 Double Circle


Same

FM-M4.dwg  
 FM-M4-A  
 (Annotative)

 Double Circle Solid


Same

FM-M12.dwg  
 FM-M12-A  
 (Annotative)

 Cross Circle

Same

FM-M10.dwg  
 FM-M10-A  
 (Annotative)

 Solid Square


Same

FM-M5.dwg  
 FM-M5-A  
 (Annotative)

 Open Square

Same

FM-M6.dwg  
 FM-M6-A  
 (Annotative)

 Double Square




Same








FM-M7.dwg  
 FM-M7-A  
 (Annotative)

 Double Square Solid

Same

FM-M13.dwg

|   |                       |      |  |
|---|-----------------------|------|--|
|  | Square Circle Solid   | Same | FM-M13-A<br>(Annotative)<br>FM-M14.dwg<br>FM-M14-A<br>(Annotative) |
|  | Cross Square          | Same | FM-M11.dwg<br>FM-M11-A<br>(Annotative)                             |
|  | Solid Triangle        | Same | FM-M8.dwg<br>FM-M8-A<br>(Annotative)                               |
|  | Open Triangle         | Same | FM-M9.dwg<br>FM-M9-A<br>(Annotative)                               |
|  | Triangle Circle Solid | Same | FM-M15.dwg<br>FM-M15-A<br>(Annotative)                             |



| Command  | Index(es)      | Block name(s) | Style          |
|--|----------------|---------------|----------------|
|  Dimension                          | 61 - All types |               | Dimension Text |
|  Dimension Truncate                 | 61 - All types |               | Dimension Text |
|  Dimension with Prompt            | 61 - All types |               | Dimension Text |
|  Dimension without Leader         | 61 - All types |               | Dimension Text |
|  Dimension Outside                | 61 - All types |               | Dimension Text |
|  Dimension Arc                    | 61 - All types |               | Dimension Text |
|  Dimension Text - Alternate Units | 61 - All types |               | Dimension Text |

Labeling Override Tools - [Back to Customization Guide Appendix](#)



settings.

Uses current label style's

| Command  | Index(es) | Block name(s) | Style |
|--|-----------|---------------|-------|
|  Labeling Style Manager       | Per Style |               |       |
|  Labeling Table Style Manager | Per Style |               |       |

Layer Panel - [Back to Customization Guide Appendix](#)









No layer indexes or block names for this panel.






Layout Panel - [Back to Customization Guide Appendix](#)







| Command               | Index(es)   | Block name(s) | Style |
|-----------------------|---|---------------|-------|
| Change Length         |   |               |       |
| Change Angle          |   |               |       |
| Line Tangent to Arc   | Current layer   |               |       |
| Line Tangent Two Arcs | Current layer   |               |       |
| Line Perpendicular    | Current layer   |               |       |
| Line Bisect           | Current layer   |               |       |
| Line By Turned Angle  | Current layer   |               |       |
| Arc Tangent to Line   | Current layer   |               |       |
| Reverse Curves        | Current layer   |               |       |
| Lot Lines             | 5 - Proposed<br>6 - Existing<br>7 - Demo  |               |       |
| Cul-De-Sac            | Right-of-way<br>17 - Proposed<br>18 - Existing<br>19 - Demo<br>Curb<br>26 - Proposed<br>27 - Existing<br>28 - Demo<br>Centerline<br>23 - Proposed<br>24 - Existing<br>25 - Demo |               |       |
| Knuckle               | Right-of-way<br>17 - Proposed   |               |       |




|   |                |
|---|----------------|
|   | 18 - Existing  |
|   | 19 - Demo      |
|   | Curb           |
|   | 26 - Proposed  |
|   | 27 - Existing  |
|   | 28 - Demo      |
|  Driveway Wing   | 237 - Proposed |
|   | 238 - Existing |
|   | 239 - Demo     |
|  Pedestrian Ramp | 46 - Proposed  |
|   | 47 - Existing  |
|   | 48 - Demo      |



| <b>Command</b>  | <b>Index(es)</b>                            | <b>Block name(s)</b>                 | <b>Style</b> |
|---|---|--------------------------------------|--------------|
|  Parking Spaces                | 32 - Proposed<br>33 - Existing<br>34 - Demo |                                      |              |
|  Parking Spaces along Polyline | Same as above                               |                                      |              |
|  Parking Spaces Count          | Same as above or Current                    | D-SPC.dwg, TC-HC.dwg, and TC-HCS.dwg |              |
|  Laterals along Alignment    | 55 - Proposed<br>56 - Existing<br>55 - Demo |                                      |              |







| <b>Command</b>   | <b>Index(es)</b>        | <b>Block name(s)</b> | <b>Style</b> |
|--|-------------------------|----------------------|--------------|
|  Offset Multiple    |                         |                      |              |
|  Offset Current     |                         |                      |              |
|  Offset Block       |                         |                      |              |
|  Offset Street      | Per layers in laycr.oly |                      |              |
|  Offset 3D Polyline |                         |                      |              |




| <b>Command</b>   | <b>Index(es)</b> | <b>Block name(s)</b> | <b>Style</b> |
|--|------------------|----------------------|--------------|
|  Rectangle              | Current layer    |                      |              |
|  Rectangle / Shadow Box | Current layer    |                      |              |

| <b>Command</b>  | <b>Index(es)</b>   | <b>Block name(s)</b> | <b>Style</b> |
|---|--|----------------------|--------------|
|  Open Xref   |  |                      |              |
|  Xref Attach | 276 - If <X> is in the name, the Xref will be substituted in its place. The default is X-<Xref filename> |                      |              |








-  Xref Overlay 276 - If <X> is in the name, the Xref will be substituted in its place. The default is X-<Xref filename>
-  Xref Overlay2 276 - If <X> is in the name, the Xref will be substituted in its place. Default is Xref.
-  Xref Overlay Multiple 276 - If <X> is in the name, the Xref will be substituted in its place. The default is X-<Xref filename>


-  Xref Match XCLIP
-  Xref Color Screen

| <b>Command</b>   | <b>Index(es)</b>                               | <b>Block name(s)</b> | <b>Style</b> |
|--|--|----------------------|--------------|
|  Chainlink Fence      | 254 - Proposed<br>255 - Existing<br>256 - Demo | D-X.dwg              |              |
|  Circle Symbol Fence | 269 - Proposed<br>270- Existing<br>271 - Demo  | D-O.dwg              |              |
|  Retaining Wall     | 251 - Proposed<br>252 - Existing<br>253 - Demo |                      |              |
|  Retaining Wall     | 251 - Proposed<br>252 - Existing<br>253 - Demo | D-RW.dwg             |              |
|  Demolition Symbol  | 77 - All types                                 | D-DEMO.dwg           |              |
|  Abutment Symbol    | 20 - Proposed<br>21 - Existing<br>22 - Demo    | FM-ABR.dwg           |              |

| <b>Command</b>  | <b>Index(es)</b>                            | <b>Block name(s)</b> | <b>Style</b> |
|---|---|----------------------|--------------|
|  Arrows        | 52 - Proposed<br>53 - Existing<br>54 - Demo |                      |              |
|  Word Signs    | 52 - Proposed<br>53 - Existing<br>54 - Demo |                      |              |
|  Caution Signs | 49 - Proposed                               |                      |              |

















|  |                |          |
|--|----------------|----------|
|  | 50 - Existing  |          |
|  | 51 - Demo      |          |
|  Warning Signs    | 49 - Proposed  |          |
|  | 50 - Existing  |          |
|  | 51 - Demo      |          |
|  Regulatory Signs | 49 - Proposed  |          |
|  | 50 - Existing  |          |
|  | 51 - Demo      |          |
|  Barricade        | 272 - Proposed | TC-B.dwg |
|  | 273 - Existing |          |
|  | 274 - Demo     |          |
|  Cone             | 49 - Proposed  | TC-D.dwg |
|  | 50 - Existing  |          |
|  | 51 - Demo      |          |
|  Stop Sign        | 49 - Proposed  | I-S3.dwg |
|  | 50 - Existing  |          |
|  | 51 - Demo      |          |
|  Street Sign      | 49 - Proposed  | I-S1.dwg |
|  | 50 - Existing  |          |
|  | 51 - Demo      |          |
|  Guard Post     | 49 - Proposed  | I-S2.dwg |
|  | 50 - Existing  |          |
|  | 51 - Demo      |          |


| Command   | Index(es)                      | Block name(s) | Style |
|---|--------------------------------|---------------|-------|
|  Fillet 3 Limits | Layer of first selected object |               |       |

Planview Panel - [Back to Customization Guide Appendix](#)



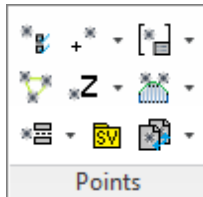
| Command  | Index(es)      | Block name(s)   | Style          |
|--|----------------|-----------------|----------------|
|  Label Alignment Stationing           | 66 - All types | I-STA.dwg       | Planview Small |
|  Label Alignment Stations and Offsets | 80 - Proposed  | PV-LABEL1-X.dwg | Planview Small |
|  | 81 - Existing  |                 |                |
|  | 80 - Demo      |                 |                |

















|   |                                      |   |  |                 |
|---|--------------------------------------|---|--|-----------------|
|    | Alignment Station Intersection Label | 80 - Proposed<br>81 - Existing<br>80 - Demo | PV-LABEL-X.dwg   | Planview Small  |
|    | Laterals along Alignment             | Current layer                               |  |                 |
|    | Planview Label Manual                | 80 - Proposed<br>81 - Existing<br>80 - Demo | PV-LABEL-X.dwg   | Planview Small  |
|    | Create 3D Polyline from Profile      | 206 - All types                             |  |                 |
|    | Endpoint Ticks                       | Layer of selected object                    | D-TM.dwg   |                 |
|    | Label Coordinates                    | 69 - All types                              |  | Planview Small  |
|    | North Arrow                          | 165 - All types                             | D-N.dwg<br>D-N-A.dwg (Annotative)<br>D-N1.dwg<br>D-N1-A.dwg (Annotative)<br>D-N2.dwg<br>D-N2-A.dwg (Annotative)<br>D-N3.dwg<br>D-N3-A.dwg (Annotative) |                 |
|  | Barscale                             | 55 - Proposed<br>56 - Existing<br>55 - Demo | D-BS-4.dwg (4 units)<br>D-BS-3.dwg (3 units)<br>D-BS-2.dwg (2 units)<br>D-BS-1.dwg (1 units)   |                 |
|  | Cross Section Label                  | 67 - All types<br>57 - All Types            | D-SEC.dwg<br>D-SEC-A.dwg (Annotative)<br>D-SEC-X.dwg<br>D-SEC-X-A.dwg (Annotative)   | Planview Medium |
|  | Detail Notes                         | 67 - All types                              | D-SEC-L.dwg<br>D-SEC-L-A.dwg (Annotative)  | Planview Medium |
|   | Text of note                         | 55 - Proposed<br>56 - Existing<br>55 - Demo |  | Planview Small  |
|  | Grid Tick and Label                  | 163 - All types                             | D-GTIC-X.dwg<br>D-GTIC-X-A.dwg (Annotative)  | Planview Small  |
|  | Grid Label Display Update            |   |  |                 |







 Grid Label Reposition

| Command   | Index(es) | Block name(s) | Style |
|---|-----------|---------------|-------|
|  List Alignment Stations and Elevations      |           |               |       |
|  Crossing Alignments Stations and Elevations |           |               |       |

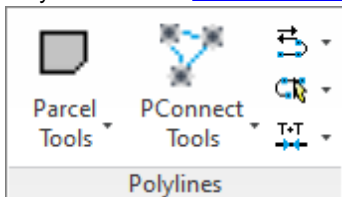
Points Panel - [Back to Customization Guide Appendix](#)







| Command   | Index(es)                  | Block name(s)   | Style          |
|---|----------------------------|-----------------|----------------|
|  Point Options                           |                            |                 |                |
|  Manual                                  | Point layer set in options | POINT.dwg       |                |
|   | Default                    |                 |                |
|   | 340 - All types            |                 |                |
|  Coordinates                           | Point layer set in options | POINT.dwg       |                |
|  Setbacks                              | Point layer set in options | POINT.dwg       |                |
|  Along objects                         | Point layer set in options | POINT.dwg       |                |
|  Station and Offset                    | Point layer set in options | POINT.dwg       |                |
|  Traverse                              | Point layer set in options | POINT.dwg       |                |
|   | Linework to current layer  |                 |                |
|  Connect Points by Polyline            | Current layer              |                 |                |
|  Coordinate Table                      | 70 - All types             |                 | Planview Small |
|  Point Elevation                       |                            |                 |                |
|  Point Label                           | Text                       |                 | Planview Small |
|   | 80 - Proposed              |                 |                |
|   | 81 - Existing              |                 |                |
|   | 80 - Demo                  |                 |                |
|   | Leader                     |                 |                |
|   | 354 - All types            |                 |                |
|  Associate Survey Working Folder       |                            |                 |                |
|  Label Northing and Easting Difference | 69 - All types             | G-LABEL-NEX.dwg | Planview Small |
|  Point Merge                           |                            |                 |                |
|  Description Find and Replace          |                            |                 |                |
|  Zoom To                               |                            |                 |                |

|   |                        |  |             |                |
|---|------------------------|--|-------------|----------------|
|  | Points List Available  |  |             |                |
|  | Select by Range or All |  |             |                |
|  | Point Import           | Point layer set in options                     | POINT.dwg   |                |
|  | Point Export           |  |             |                |
|  | Point to Spot Label    | 320 - Proposed<br>321 - Existing<br>320 - Demo | SPOT-EL.dwg | Planview Small |
|  | Delete Point Group     |  |             |                |

Polylines Panel - [Back to Customization Guide Appendix](#)



**Parcel Tools**



| <b>Command</b>  | <b>Index(es)</b>   | <b>Block name(s)</b>             | <b>Style</b> |
|---|--|----------------------------------|--------------|
|  Create an Area Table | 70 - Text<br>65 - Table lines                                  | Planview Small                   |              |
|  Define a Parcel     |  |                                  |              |
|  Label Parcel        | 64 - Lot number<br>75 - Proposed<br>76 - Existing<br>75 - Demo | Planview Small<br>Planview Small |              |
| If index 75 / 76 are not defined  | 55 - Proposed<br>56 - Existing<br>55 - Demo                    | Planview Small                   |              |
|  Create Reports      |  |                                  |              |

**PConnect Tools**

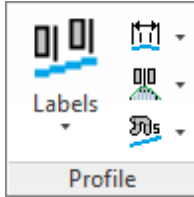
Create layer per the Description Key File.

**Polylines Tools**







No layer indexes or block names for this panel except below

| <b>Command</b>   | <b>Index(es)</b> | <b>Block name(s)</b> | <b>Style</b> |
|--|------------------|----------------------|--------------|
|  Create 3D Polyline                             | 206 - All types  |                      |              |
|  Create Polyline with Arcs - Tree or Brush Line | Current layer    |                      |              |

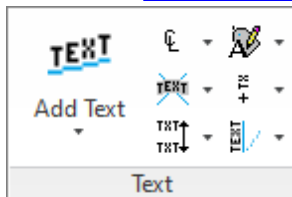
Profile Panel - [Back to Customization Guide Appendix](#)



| Command  | Index(es)   | Block name(s)  | Style  |
|--|---|--|--|
| Station and Elevation                            | Text / Leader<br>175 - Proposed<br><br>176 - Existing<br><br>175 - Demo<br>178 - All types<br>Profile lines<br>Layer per profile layer<br>setup and selection | P-LABEL.dwg<br><br>D-PDM.dwg - Datum<br>Metric<br><br>D-PD.dwg - Datum<br>Feet | Profile Small<br><br><br><br><br><br>Profile Large |
| Distance and Elevation or Slope                  | Same as above   | P-LABEL.dwg  | Profile Small                                      |
| Digitize   | Same as above   | P-LABEL.dwg  | Profile Small                                      |
| Profile: Station Label                           | Same as above   | P-LABEL.dwg  | Profile Small                                      |
| Profile Label along the Alignment 66 - All types |   | I-STAPRF.dwg   |  |
| Create Alignment Labels along the Profile        | Text / Leader<br>Profile<br><br>175 - Proposed<br>176 - Existing<br>175 - Demo  |  | Profile Small                                      |
| Profile File from Points along Alignment         |   |  |  |
| Angle, Draw, Inquire, Label, and Pipe            | Draw - Current<br><br>Pipe - Layer of selected<br>object  |  | Profile Small                                      |
| Pipe Cut Away                                    | Layer of selected object  |  |  |
| Pipe Crossing                                    | Text / Leader<br>175 - Proposed<br>176 - Existing<br>175 - Demo<br>Pipe<br>Layer per profile layer<br>setup   | D-PDM.dwg - Metric<br><br>D-PD.dwg - Feet                                      | Profile Small                                      |
| Curb Return                                      | Text / Leader<br>175 - Proposed   |  | Profile Small                                      |




|   |                      |  |             |               |
|---|----------------------|--|-------------|---------------|
|   |                      | 176 - Existing                                 |             |               |
|   |                      | 175 - Demo                                     |             |               |
|   |                      | Profile lines                                  |             |               |
|   |                      | Layer per profile layer<br>setup and selection |             |               |
|    | Label Cross Sections | 175 - Proposed                                 | P-LABEL.dwg | Profile Small |
|   |                      | 176 - Existing                                 |             |               |
|    | Arc Leader           | 175 - Proposed                                 | SM_ARR.dwg  |               |
|   |                      | 176 - Existing                                 |             |               |
|    | Straight Leader      | 175 - Proposed                                 | SM_ARR.dwg  |               |
|   |                      | 176 - Existing                                 |             |               |
|    | Profile Text         | 175 - Proposed                                 |             | Profile Small |
|   |                      | 176 - Existing                                 |             |               |
|   |                      | 175 - Demo                                     |             |               |
|    | Profile Dimension    | 175 - Proposed                                 |             | Profile Small |
|   |                      | 176 - Existing                                 |             |               |
|   |                      | 175 - Demo                                     |             |               |
|  | Profile Calculator   |  |             |               |

Text Panel - [Back to Customization Guide Appendix](#)



No layer indexes or block names for this panel except below.

Text Styles - [Back to Customization Guide Appendix](#)

| Command  | Index(es)                                   | Block name(s) | Style type      |
|--|---|---------------|-----------------|
|  Small Text     | 55 - Proposed<br>56 - Existing<br>55 - Demo |               | Planview Small  |
|  Medium Text    | 57 - Proposed<br>58 - Existing<br>57 - Demo |               | Planview Medium |
|  Planview Large | 59 - Proposed<br>60 - Existing<br>59 - Demo |               | Planview Large  |

|  |   |                 |
|--|---|-----------------|
| <b>FD</b> Filled Text                  | 322 - All types                             | Filled          |
| <b>S</b> Shadow Text                   | 321 - All types                             | Shadow          |
| <b>D</b> Dashed Text                   | 323 - All types                             | Dashed          |
| <b>SN</b> Street Name                  | 63 - All types                              | Planview Medium |
| <b>L#</b> Lot # Large                  | 64 - All types                              | Planview Large  |
| <b>L#</b> Lot # Shadow                 | 64 - All types                              | Shadow          |
| <b>CL</b> Text Symbols on Line         | See Block Manager for info                  |                 |
| <b>19.1<br/>+ B.1</b> Text Mathematics | 55 - Proposed<br>56 - Existing<br>55 - Demo | Planview Small  |

Masking: The masking object is placed on the layer of the object being masked.

View Panel - [Back to Customization Guide Appendix](#)



No layer indexes or block names for this panel except below.

| Command       | Index(es)       | Block name(s) | Style |
|---------------|-----------------|---------------|-------|
| Viewport Make | 280 - All types |               |       |

### 3.6.1 Customization Guide Appendix Extra

## Customization Layer and Block guide.

This documents the layer indexes and/or blocks associated to each SmartDraft Extra command. The document will help you customization SmartDraft more quickly. Use this information when modifying the database or creating user defined blocks.

Toolbars:

[Block Manager Tools](#)

[Border Tools](#)

[Miscellaneous Tools](#)

[Planview Labeling Tools](#)

[Plants Tools](#)

[Profile Tools](#)

[Sewer Tools](#)

[Storm Drain Tools](#)

[Water Tools](#)

## Details for each command on a toolbar

Border Toolbar - [Top of Page](#)



Opens Block Manager

Block Manager Toolbar - [Top of Page](#)











Opens Block Manager

Miscellaneous Toolbar - [Top of Page](#)

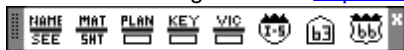





| Command                  | Index(es)                                      | Block name(s) or Style |
|--------------------------|--|------------------------|
| Light with arm           | 148 - Proposed<br>149 - Existing<br>150 - Demo | SL-2.dwg               |
| Light without arm        | 148 - Proposed<br>149 - Existing<br>150 - Demo | SL-1.dwg               |
| Dashed Light with arm    | 148 - Proposed<br>149 - Existing<br>150 - Demo | SL-4.dwg               |
| Dashed Light without arm | 148 - Proposed<br>149 - Existing<br>150 - Demo | SL-3.dwg               |
| Gas valve                | 157 - Proposed                                 | G-V.dwg                |








|   |                    |                |          |
|---|--------------------|----------------|----------|
|   |                    | 158 - Existing |          |
|   |                    | 159 - Demo     |          |
|    | Gas service symbol | 157 - Proposed | G-M.dwg  |
|   |                    | 158 - Existing |          |
|   |                    | 159 - Demo     |          |
|    | Gas vault          | 157 - Proposed | None     |
|   |                    | 158 - Existing |          |
|   |                    | 159 - Demo     |          |
|    | Powerpole          | 160 - Proposed | D-PP.dwg |
|   |                    | 161 - Existing |          |
|   |                    | 162 - Demo     |          |
|    | Guypole            | 160 - Proposed | D-GP.dwg |
|   |                    | 161 - Existing |          |
|   |                    | 162 - Demo     |          |
|    | Electric vaults    | 151 - Proposed | None     |
|   |                    | 152 - Existing |          |
|   |                    | 153 - Demo     |          |
|    | Telephone pole     | 154 - Proposed | T-P.dwg  |
|   |                    | 155 - Existing |          |
|   |                    | 156 - Demo     |          |
|  | Telephone manhole  | 154 - Proposed | T-MH.dwg |
|   |                    | 155 - Existing |          |
|   |                    | 156 - Demo     |          |
|  | Telephone vault    | 154 - Proposed | None     |
|   |                    | 155 - Existing |          |
|   |                    | 156 - Demo     |          |

Planview Labeling Toolbar - [Top of Page](#)







| Command  | Index(es)   | Block name(s) or Style        |
|--|---|-------------------------------|
|  Street and See Sheet | Street Name<br>63 - All types<br>Sheet text   | Medium Text<br><br>Small Text |
|  Matchline            | 55 - All types<br>59 - Proposed<br>60 - Existing<br>59 - Demo<br>164 - For Matchline Line | Large Text                    |
|  Planview Description | 59 - Proposed<br>60 - Existing  | D-PH.dwg                      |

|   |                     |                |             |
|---|---------------------|----------------|-------------|
|  | Key Map Header      | 59 - Demo      |             |
|   |                     | 55 - All types | Small Text  |
|   |                     | 59 - All types | Large Text  |
|  | Vicinity Map Header | 55 - All types | Small Text  |
|   |                     | 59 - All types | Large Text  |
|  | Interstate          | 55 - All types | D-INTER.dwg |
|  | State               | 55 - All types | D-STATE.dwg |
|  | US                  | 55 - All types | D-US.dwg    |




Plants Toolbar - [Top of Page](#)



| <b>Command</b>  | <b>Index(es)</b>   | <b>Block name(s) or Style</b> |
|---|--|-------------------------------|
|    | 304 - Proposed<br>305 - Existing                             | D-TREE.dwg                    |
|    | 304 - Demo<br>304 - Proposed<br>305 - Existing               | D-PALM.dwg                    |
|   | 304 - Demo<br>304 - Proposed<br>305 - Existing               | None                          |
|  | 304 - Demo<br>306 - Proposed<br>307 - Existing<br>306 - Demo | None                          |





Profile Toolbar - [Top of Page](#)



| <b>Command</b>  | <b>Index(es)</b>  | <b>Block name(s) or Style</b>                        |
|---|---|--|
|  | 178 - All types<br>175 - Proposed<br>176 - Existing<br>175 - Demo | D-PH.dwg - Profile Large<br>D-SC.dwg - Profile Small |
|  | 175 - Proposed<br>176 - Existing<br>175 - Demo                    | Profile Medium                                       |
|  | 175 - Proposed<br>176 - Existing<br>175 - Demo                    | Profile Medium                                       |






Sewer Toolbar - [Top of Page](#)



| Command  | Index(es)                                      | Block name(s) or Style |
|--|--|------------------------|
|  Sewer service symbol | 55 - Proposed<br>56 - Existing<br>55 - Demo    | D-C1.dwg               |
|  Manhole              | 118 - Proposed<br>119 - Existing<br>120 - Demo | S-MH.dwg               |
|  Cleanout             | 118 - Proposed<br>119 - Existing<br>120 - Demo | S-CO.dwg               |
|  Plug                 | 118 - Proposed<br>119 - Existing<br>120 - Demo | S-P.dwg                |

Storm Drain Toolbar - [Top of Page](#)
















| Command   | Index(es)                                      | Block name(s) or Style |
|---|--|------------------------|
|  Offset pipe edges         | 142 - Proposed<br>143 - Existing<br>144 - Demo | None                   |
|  Manholes                  | 145 - Proposed<br>146 - Existing<br>147 - Demo | SD-A4.dwg              |
|  Curb Inlets               | 145 - Proposed<br>146 - Existing<br>147 - Demo | SD-B.dwg               |
|  Curb Inlet with one wing  | 145 - Proposed<br>146 - Existing<br>147 - Demo | SD-B1.dwg              |
|  Curb Inlet with two wings | 145 - Proposed<br>146 - Existing<br>147 - Demo | SD-B2.dwg              |
|  Catch Basin               | 145 - Proposed<br>146 - Existing<br>147 - Demo | SD-F.dwg               |
|  Catch Basin               | 145 - Proposed<br>146 - Existing               | SD-G.dwg               |

|   |                      |  |             |
|---|----------------------|--|-------------|
|    | Area Drains          | 147 - Demo<br>145 - Proposed<br>146 - Existing | SD-CB.dwg   |
|    | Cleanouts            | 147 - Demo<br>145 - Proposed<br>146 - Existing | SD-CO.dwg   |
|    | Straight Headwall    | 147 - Demo<br>145 - Proposed<br>146 - Existing | SD-SHW.dwg  |
|    | U Headwall           | 147 - Demo<br>145 - Proposed<br>146 - Existing | SD-UHW.dwg  |
|    | Winged Headwall      | 147 - Demo<br>145 - Proposed<br>146 - Existing | SD-WHW.dwg  |
|    | L right headwall     | 147 - Demo<br>145 - Proposed<br>146 - Existing | SD-LLHW.dwg |
|  | L left headwall      | 147 - Demo<br>145 - Proposed<br>146 - Existing | SD-LRHW.dwg |
|  | Junction Structure 2 | 147 - Demo<br>145 - Proposed<br>146 - Existing | SD-LRHW.dwg |

Water Toolbar - [Top of Page](#)



| <b>Command</b>   | <b>Index(es)</b>                               | <b>Block name(s) or Style</b> |
|--|--|-------------------------------|
|  Water service symbol | 55 - Proposed<br>56 - Existing<br>55 - Demo    | D-C1.dwg                      |
|  Hydrants             | 124 - Proposed<br>125 - Existing<br>126 - Demo | W-FH.dwg                      |
|  Hydrants             | 124 - Proposed<br>125 - Existing<br>126 - Demo | W-FH1.dwg                     |
|  Values               | 124 - Proposed<br>125 - Existing               | W-GV.dwg                      |

|   |                   |                |            |
|---|-------------------|----------------|------------|
|   |                   | 126 - Demo     |            |
|    | Valves            | 124 - Proposed | W-GV1.dwg  |
|   |                   | 125 - Existing |            |
|   |                   | 126 - Demo     |            |
|    | Water meter       | 124 - Proposed | W-M.dwg    |
|   |                   | 125 - Existing |            |
|   |                   | 126 - Demo     |            |
|    | Air Release Valve | 124 - Proposed | W-ARV.dwg  |
|   |                   | 125 - Existing |            |
|   |                   | 126 - Demo     |            |
|    | Air Release Valve | 124 - Proposed | W-ARV1.dwg |
|   |                   | 125 - Existing |            |
|   |                   | 126 - Demo     |            |
|    | Blow Off Valve    | 124 - Proposed | W-BO.dwg   |
|   |                   | 125 - Existing |            |
|   |                   | 126 - Demo     |            |
|    | Blow Off Valve    | 124 - Proposed | W-BO1.dwg  |
|   |                   | 125 - Existing |            |
|   |                   | 126 - Demo     |            |
|  | Thrust Block      | 124 - Proposed | W-TB.dwg   |
|   |                   | 125 - Existing |            |
|   |                   | 126 - Demo     |            |
|  | Plug              | 124 - Proposed | W-P.dwg    |
|   |                   | 125 - Existing |            |
|   |                   | 126 - Demo     |            |
|  | Check Valve       | 124 - Proposed | W-CV.dwg   |
|   |                   | 125 - Existing |            |
|   |                   | 126 - Demo     |            |

## 3.7 Layer Database Overview

SmartDraft's automatic layer making feature can increase drafting productivity by reducing the time it takes to learn and remember your company's layering standard. It can automatically create a layer before inserting a block, or drawing an object. It assists in creating multiple drawings with consistent layer names, colors and linetypes. If you work with multiple agencies or consultants, which require their own layering standards, [Customization Templates](#) are used to accommodate this need.

### Layer database

- The layer database stores the layer name, color, linetype, linewidth, plot style, plot/no plot, and description of each layer used by SmartDraft.
- A different layer database is stored within each Customization Template.
- Layers can have three types, such as proposed, existing, demolition/vacate.
- Commands in SmartDraft are associated to the layer database via a layer database index number.
- Before making changes to the layer database, first find the associated index number and modify the associated layer properties.
- Changing or removing layer database index numbers from the layer database will cause undesired results.
- To edit and maintain the layer database file, use the **Customization Template Manager** and select the Layer Database setting.
- Discipline specific layers are displayed in the **Layer Make**, **Profile Setup Options**, and **Point Options** commands. The [Layer List Manager](#) maintains these layer lists.
- Currently the layer database file is a standard text (ASCII) file.
- It is not recommended to use a text editor to modify the layer database, unless extreme caution is used to maintain the proper format of the file.
- To incorrectly edit the layer database file with a text editor could cause undesired results.

### Layer Database Format

- The layer database file is a text (ASCII) file located in the customization template folder.
- The file name of the layer database is LAYER.TXT.
- The first two lines of the file contain header and version information.
- Do not edit the first two lines of the layer database file.
- [Layer Database Index numbers](#)
- 1 through 354 are reserved for SmartDraft.
- Do not change or remove layer database index numbers from 1 through 354.
- Add non-command specific layers starting at the layer database index number 355.
- The first 5 characters are the layer database index number field.
- Characters 6 to 37 are the layer name field. If the layer name **\*current\*** is used, any command using the specified layer index will place new objects on the current layer.
- Characters 38 to 41 are the layer color field.
- Valid color numbers are 1 through 255.
- Characters 42 to 73 are the linetype field.
- The specified linetype must be defined in either the ACAD.LIN or SMART.LIN file in the Customization Template.
- Characters 74 to 105 are the description field.
- Characters 106 to 110 are the plot field.
- Characters 111 to 113 are the linewidth field.
- Characters 114 to 145 are the plot style field.

### Layer Database example

| 1-5   | 6-38 | 39-41 | 42-73    | 74-105      | 106-110 | 111-113    | 114-145    |
|-------|------|-------|----------|-------------|---------|------------|------------|
| Index | Name | Color | Linetype | Description | Plot    | Lineweight | Plot Style |

|   |           |    |            |               |     |   |        |
|---|-----------|----|------------|---------------|-----|---|--------|
| 1 | 0         | 7  | CONTINUOUS | Layer 0       | Yes | 0 | Normal |
| 2 | CURB      | 3  | CONTINUOUS | Curb          | Yes | 0 | Normal |
| 3 | EX-CURB   | 11 | CONTINUOUS | Existing Curb | Yes | 0 | Normal |
| 4 | DEMO-CURB | 7  | CONTINUOUS | Demo of curb  | Yes | 0 | Normal |

**Note:** The default layer database was designed for plotting using the colors from the pen chart below. If your company modified the default layer database file, this pen width chart may not apply to you.

| Color Number | Pen Width (mm) | Weight Screen (%) | Note          |
|--------------|----------------|-------------------|---------------|
| 1            | 0.25           | 100%              |               |
| 2            | 0.35           | 100%              |               |
| 3            | 0.50           | 100%              |               |
| 4            | 0.70           | 100%              |               |
| 5            | 1.00           | 100%              |               |
| 6            | 0.25           | 100%              |               |
| 7            | 0.25           | 100%              |               |
| 8            | 0.25           | 100%              |               |
| 9            | 0.25           | 30%               |               |
| 10           | 0.35           | 30%               |               |
| 11           | 0.50           | 30%               |               |
| 12           | 0.70           | 30%               |               |
| 13           | 1.00           | 30%               |               |
| 14           | 0.25           | 30%               |               |
| 157          | 0.25           | 0%                | Masking color |

### 3.8 Layer Database Manager

**Modify the properties of the layer database.**

Edit and maintain the layer database file within a Customization Template. See [Layer Database Overview](#) for additional information about the layer database.

**Note:** See [Customization Guide Appendix](#) for information on which layer indexes are assigned to which commands.

 SmartDraft menu ▶ Options ▶ Customization Template Manager ▶ highlight Layer Database and select Edit...

#### Dialog Box Options

##### Template Name

Name and Description of current Customization Template.

**Layers**

|                     |   |
|---------------------|---|
| <b>Find:</b>        | Search for text within the layer database.  |
| <b>Print:</b>       | Print the layer database file to the Window's current default printer.  |
| <b>List Box:</b>    | The list of layers defined in the <a href="#">layer database file</a> . Select a layer from the list to edit its properties or select the New button to add a new layer.  |
| <b>Index:</b>       | Unique identifier used by SmartDraft to access the layer properties. The properties for a specific layer type can be modified, but the index must remain the same for SmartDraft commands to create the layer with the desired properties.  |
| <b>Name:</b>        | The AutoCAD layer name created when a command accesses the layer database. Enter the desired layer name. The layer name has been limited to 31 characters in the database. If the layer name <b>*current*</b> is used, any command using the specified layer index will place new objects on the current layer. |
| <b>Color:</b>       | The color associated to the layer. To modify the color, select the Color button to display the Select Color dialog box.   |
| <b>Linetype:</b>    | The linetype associated to the layer. Select the desired linetype from the list. The list is made up of all the linetypes defined in the <a href="#">custom linetype file</a> and AutoCAD's ACAD.LIN file.  |
| <b>Lineweight:</b>  | The lineweight associated to the layer. Select the desired lineweight from the list.  |
| <b>Plot Style:</b>  | The plot style associated to the layer. Enter a value valid named plot styles. Note:  |
| <b>Plot:</b>        | Controls whether the layer will be plotted. If set to No, AutoCAD does not plot the layer even if the layer is visible.   |
| <b>Description:</b> | A description associated to the layer, not used by AutoCAD. Used for reference and a note field.  |
| <b>Buttons</b>      |   |
| <b>Apply:</b>       | Save the changes back to the list of layer properties.  |
| <b>Color:</b>       | Select to display the Select Color dialog box and change the color value.   |
| <b>New:</b>         | Select to add a new layer to the end of the layer database file. A new unique index number will be created. This new layer will not be used by predefined commands.   |
| <b>Delete:</b>      | Delete the selected layer from the layer database. Layers with index numbers from 1 to 354 are reserved for SmartDraft and cannot be deleted.   |
| <b>OK:</b>          | Select to save changes back to the layer database file.   |

## 3.9 Layer List Manager

Determine which discipline specific layers from the layer database will be displayed in the Make Layer, Profile Setup Options, and Point Options commands. These lists associate a text description with the layer database index number for the proposed, existing, and demolition layer type.

**Make layer list**

Modify the list of layers displayed in the **Layer Make** command.

**Profile layer list**

Modify the list of layers displayed in the Profile Layer drop down list in the **Profile Setup Options** command.


**Point layer list**

Modify the list of layers displayed in the **Point Options** command.

**Offset Street layer list**

Modify the list of layers displayed in the **Offset Street** command.



 SmartDraft menu ▶ Program Setup ▶ Customization Template Manager ▶ highlight the layer list type and select Edit...

#### Dialog Box Options

|                              |  |
|------------------------------|--|
| <b>Layers:</b>               | A list of the layers currently defined in either the Make, Profile or Point layer list file. |
| <b><a href="#">New:</a></b>  | Display a dialog box to create a new layer definition to the Layers list.                    |
| <b><a href="#">Edit:</a></b> | Display a dialog box to modify the highlighted layer definition in the Layers list.          |
| <b>Delete:</b>               | Remove the highlighted layer from the Layers list.   |
| <b>Print:</b>                | Print the layer list file to the Window's current default printer.                           |

**Note:** See [Layer Database Overview](#) for details on customizing SmartDraft's layering feature.

## 3.10 Layer List Add or Edit

Dialog to create a new or edit an existing layer in the description list.

#### Dialog Box Options

|                                    |  |
|------------------------------------|--|
| <b>Description:</b>                | Enter the description to be displayed in the Layers list. The description has been limited to 31 characters. |
| <b>Layer Indexes:</b>              |  |
| <b>Proposed:</b>                   | Specify the layer database index number for the *PROP* layer type.   |
| <b>Existing:</b>                   | Specify the layer database index number for the *EXIST* layer type.  |
| <b>Demolition:</b>                 | Specify the layer database index number for the *DEMO* layer type.   |
| <b><a href="#">Layer Index</a></b> | Display the layers and layer database index numbers defined in the layer database file.                      |

## 3.11 Layer Database Index

**Layer Database Index** Unique numbers in the [layer database file](#), which are associated to each layer definition. These numbers are used to access the defined layer properties by the tools in SmartDraft.

#### Dialog Box Options

##### Layer Index List

|                    |  |
|--------------------|--|
| <b>List box:</b>   | List of all the layers in the layer database and their assigned layer database index number. |
| <b>Filter:</b>     | Filter the list of layers in the list box by description. Enter a value to filter the list.  |
| <b>Proposed:</b>   | Select button to assign the selected layer's index number to the proposed layer value.       |
| <b>Existing:</b>   | Select button to assign the selected layer's index number to the existing layer value.       |
| <b>Demolition:</b> | Select button to assign the selected layer's index number to the demolition layer value.     |

Proposed, Existing and Demolition are **Layer Types**. When SmartDraft creates a layer, it reads the layer database index number associated with the current layer type. To enter or select a layer database index number, it must already exist in the layer database file.

## 3.12 Custom Linetypes

The custom linetype file contains all the custom linetypes supplied with SmartDraft. It is a standard **AutoCAD** linetype file and name SMART.LIN.

If you have your own custom linetypes and want to use them with the automatic layer creation tools, they must be added to this file or the ACAD.LIN. This file is located in the root sub-folder of the customization template.

## 3.13 New Drawing Settings

Drawing settings stored in the Customization Template, which are copied into the drawing.

These values are saved in the DRAWING.INI file, which is stored within the Customization Template folder. These settings are copied into the drawing so they can be modified independently of any other drawing associated to the same template.

 SmartDraft menu ▶ Options ▶ Customization Template Manager ▶ highlight New Drawing Settings and select Edit...

### Dialog Box Options

#### New Drawing Setup

**Horizontal** Enter the **Horizontal Scale**. This value controls the height of text, block insertion scale and arrow head size for these tools.

**Architectur** Specify if the **listed commands** honor architectural units. See **Architectural Scale** table.

**Unit Type:** Specify if the drawing **units** are Imperial or Metric.

**Angle Type:** Specify the output **Angle Type**.

**Angular** Specify the **Angular Precision**.

**Linear** Specify the **Decimal, Linear Precision**.

**Add Linear Distance Commas** Check this option to add commas to linear distances for distance labels and command prompts.  
**Coordinate** Specify the [Coordinate Precision](#).

**Elevation** Specify the [Elevation Precision](#).

**Station** Specify the position of the station delimiter.

**Readability** Specifies the angle counter clockwise off straight up at which label text flips 180 degrees to remain plan readable. Minimum -25.0 to 25.0.

**Dimstyle** Specify the dimension variables of SmartDraft's dimstyles. See [Dimstyle Variables](#)

**Text Style:** Specify the pre-defined text style values used throughout SmartDraft. See [Text Styles](#).

**Create** Specify if the blocks inserted by SmartDraft commands or the styles created by SmartDraft will be  
**Annotative** annotative or not.  
**Blocks /**  
**Styles:**


## 3.14 User Defined Blocks

**Block(s) defined, created, or modified by the operator to be substituted for the blocks used throughout SmartDraft and supplied during the installation.**

**Note:** See [Customization Guide Appendix](#) for information on the block name assigned to each command.

### User Defined Blocks

- Must have the same name as block used by SmartDraft.
- If the original block used by SmartDraft contains attributes, the user defined block must have the same number of attributes, and the attributes must be in the same order as the original block.
- When SmartDraft inserts a block, it checks the drawing to see if the block is already inserted. If so, it uses the block definition in the drawing. If the block has not already been inserted, it checks for a user defined block in the associated [Customization Template](#), otherwise it uses the supplied blocks.
- The supplied blocks are located in the installation sub-folder \SYM.
- Do not change the supplied block in the original location. At times these blocks are updated and during the installation of the update, any changes you make could be lost.

 SmartDraft menu ▶ Options ▶ Customization Template Manager ▶ highlight User Defined Blocks and select Edit...

### Dialog Box Options

#### Block Names

**Supplied Blocks:** List of supplied blocks in the \SYM folder. These blocks can be copied to a Customization Template and used as the base for User Defined Blocks.

**User Defined Blocks:** List of User Defined Blocks in the Customization Template.

**Copy:** Copy the selected Supplied Block(s) to the current Customization Template.

**Open:** Open the selected User Defined Block.

**Delete:** Delete the selected User Defined Block.

To create a User Define Block:

1. Find the name of the block SmartDraft uses. See [Customization Guide Appendix](#) for information on the block name assigned to each command.
2. Copy the supplied block from the Supplied Blocks list to the current Customization Template folder.
3. Open the user defined block via the User Defined Blocks Manager option of the Customization Template Manager. Edit as desired using the above rules and save the changes.

### Examples:

Change the north arrow used by **North Arrow**

1. The north arrow block name is D-N.
2. Open the User Defined Blocks Manager.
3. Copy D-N.DWG from the Supplied Blocks list to the current Customization Template.  
or rename your current north arrow block to D-N.DWG and move it to the desired template folder.
4. Open D-N.DWG from the User Defined Blocks Manager option of the Customization Template Manager, edit as desired and save changes.
5. Confirm the drawing is associated to the correct Customization Template using **Drawing Setup**.
6. Use the **Redefine Blocks** command or command alias **RB** to update the block definition in the current drawing.

7. Type: **NA** at the command prompt to start the North Arrow command. If the D-N block is not already in the drawing, the user defined north arrow will be used.

Change the perpendicular tick mark placed at the endpoints of lines, arcs, and polylines used by **Endpoint Ticks**.

The Endpoint Ticks command places the tick on the same layer as the selected object. The supplied endpoint tick block appears to be the same color as the selected object because the original tick block was created on layer 0 and color of the tick is set to byblock.

For this example, Modify the endpoint tick to be white no matter on which layer it is inserted.

1. The endpoint tick block name is D-TM.
2. Open the User Defined Blocks Manager.
3. Copy D-TM.DWG from the Supplied Blocks list to the current Customization Template.
4. Open D-TM.DWG from the User Defined Blocks Manager option of the Customization Template Manager. Double-click on the line object to open the Properties command. Change the color to White (7) and save changes.
5. Confirm the drawing is associated to the correct Customization Template using **Drawing Setup**.
6. Use the **Redefine Blocks** command or command alias **RB** to update the block definition in the current drawing.
7. Type: **TM** at the command prompt to start the Endpoint Ticks command and select an object. If the D-TM block is not already in the drawing, the user defined endpoint tick will be used.

## 3.15 Monoplex.shx Font

SmartDraft comes with a custom font file named **MONOPLEX.SHX**. This font's characters look like those of AutoCAD's simplex.shx, but each character is evenly spaced like AutoCAD's monotxt.shx. This font is used so columns of numbers will line up correctly.

Includes the standard special characters:

|                      |     |
|----------------------|-----|
| Degree               | %%D |
| Plus/Minus           | %%P |
| Start/Stop Underline | %%U |
| Start/Stop Overscore | %%O |
| Diameter Symbol      | %%C |

Special added characters:

|                    |       |
|--------------------|-------|
| C/L                | %%130 |
| P/L                | %%131 |
| Delta Symbol       | %%132 |
| F/L                | %%133 |
| Angle Point Symbol | %%134 |
| 1/2                | %%171 |
| 1/4                | %%172 |
| 3/4                | %%173 |

Unicode has been added to monoplex.shx as of 11/2/2002. The following special Unicode characters have been added:

When using the MTEXT command, use these codes.


|                    |         |
|--------------------|---------|
| C/L                | \U+2104 |
| P/L                | \U+214A |
| Delta Symbol       | \U+0394 |
| F/L                | \U+E101 |
| Angle Point Symbol | \U+2220 |
| 1/2                | \U+00BC |
| 1/4                | \U+00BD |
| 3/4                | \U+00BE |
| Subscript on       | \U+00DE |
| Subscript off      | \U+00DD |
| Superscript on     | \U+00E4 |
| Superscript off    | \U+00E3 |



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## 3.16 Coordinate Table Style Manager

Create and modify coordinate table styles to be used with the [Coordinate Table](#) command.


 SmartDraft menu ▶ Options ▶ Customization Template Manager ▶ highlight Coordinate Table Styles and select Edit...

### Dialog Box Options

|                      |  |
|----------------------|--|
| <b>Name:</b>         | A list of the currently defined coordinate table styles. Select the coordinate table style to edit.  |
| <b>Save As:</b>      | Save the current coordinate table settings to a new style.   |
| <b>Lock:</b>         | Set the current table style (Name: above) as read-only. Lock a style if you desire to avoid accidental modification. See <a href="#">Unlock Customization Template Files</a> to remove the lock.   |
| <b>Delete:</b>       | Delete the current coordinate table style. <b>Note:</b> Cannot delete the "default" or a locked style. Deleting a style cannot be undone.  |
| <b>Rename:</b>       | Rename the current table style.  |
| <b>Table Setup:</b>  | Specify the title text, text styles, text heights, and layers to be used to create the table.  |
| <b>Title Text:</b>   | Enter a text string to be used as the table title.   |
| <b>Justify</b>       | Specify the text justification for the Title text. Options are Left, Center, and Right.  |
| <b>Style:</b>        | All text styles defined in the current drawing are listed with five special selections of *current*, *Type a style name*, or Preset Small, Medium, and Large Text. *current* uses the style current when the table command starts. Preset Small, Medium, or Large Text style uses the style Small, Medium, or Large defined by this software. *Type a style name* allows the operator to type any text style, even if it does not exist in the current file. |
| <b>Title:</b>        | Specify the text style to use for the Title text.  |
| <b>Header:</b>       | Specify the text style to use for the Header text.   |
| <b>Data:</b>         | Specify the text style to use for the Data text values.  |
| <b>Height:</b>       | Specify the height for the selected text style for the Title, Header and Data text. <b>Note:</b> The specified height will be multiplied by the horizontal scale to create the actual height of the style.   |
| <b>Layer:</b>        | Specify the layer for the Title, Header, and Data text. Also specify the layer for the Table Lines. Select *Type a Layer Name* to specify a layer not in the current drawing. If the layer does not exist in the drawing being labeled, the command will create the layer with the color white, and the linetype continuous. Selecting either "Preset Coordinate Text" or "Preset Leader" will use the layer defined in the layer data base for that select. |
| <b>Table Values:</b> | Specify the data values, header text, , justification, and column width to be used to create the table. Note: Up to 10 columns can be defined.   |
| <b>Value:</b>        | Specify the data value type for the defined column. Options are Northing, Easting, Elevation, Description (Full), Description (Raw), and Prompted Note.  |
| <b>Header:</b>       | Specify the header text used with the value specified above.   |
| <b>Justify:</b>      | Specify the text justification for the data in the defined column. Options are Left, Center, and Right.  |
| <b>Width:</b>        | Specify the width of the column. Options are 8 - 30. The number is the width of one text character of the selected text style. Remember to specify enough characters to hold the selected data type. If the data value is too long, it will extend into the next column.   |
| <b>Buttons:</b>      |  |
| <b>Apply:</b>        | Apply any changes made to current style.   |
| <b>Close:</b>        | Exit Labeling Table Style Manager without saving changes.  |

## 3.17 Area Table Style Manager

Create and modify area table styles to be used with the **Area Table** command.

 SmartDraft menu ▶ Options ▶ Customization Template Manager ▶ highlight Area Table Styles and select Edit...

### Dialog Box Options

|                       |  |
|-----------------------|--|
| <b>Name:</b>          | A list of the currently defined area table styles. Select the area table style to edit.  |
| <b>Save As:</b>       | Save the current area table settings to a new style.   |
| <b>Lock:</b>          | Set the current area table style (Name: above) as read-only. Lock a style if you desire to avoid accidental modification. See <a href="#">Unlock Customization Template Files</a> to remove the lock.  |
| <b>Delete:</b>        | Delete the current area table style. <b>Note:</b> Cannot delete the "default" or a locked style. Deleting a style cannot be undone.  |
| <b>Rename:</b>        | Rename the current table style.  |
| <b>Table Setup:</b>   | Specify the title text, text styles, text heights, and layers to be used to create the table.  |
| <b>Title Text:</b>    | Enter a text string to be used as the table title.   |
| <b>Title Justify:</b> | Specify the text justification for the Title text. Options are Left, Center, and Right.  |
| <b>Data Text:</b>     | Enter a text string to be used as the Area Type column header. e.g. LOTS or parcels.   |
| <b>Data Justify:</b>  | Specify the text justification for the Data header text. Options are Left, Center, and Right.  |
| <b>Data Width:</b>    | Specify the width of the Area Type column. Options are 8 - 30. The number is the width of one text character of the selected text style. Remember to specify enough characters to hold the selected data type. If the data value is too long, it will extend into the next column.   |
| <b>Style:</b>         | All text styles defined in the current drawing are listed with five special selections of *current*, *Type a style name*, or Preset Small, Medium, and Large Text. *current* uses the style current when the table command starts. Preset Small, Medium, or Large Text style uses the style Small, Medium, or Large defined by this software. *Type a style name* allows the operator to type any text style, even if it does not exist in the current file. |
| <b>Title:</b>         | Specify the text style to use for the Title text.  |
| <b>Header:</b>        | Specify the text style to use for the Header text.   |
| <b>Data:</b>          | Specify the text style to use for the Data text values.  |
| <b>Height:</b>        | Specify the height for the selected text style for the Title, Header and Data text. <b>Note:</b> The specified height will be multiplied by the horizontal scale to create the actual height of the style.   |
| <b>Layer:</b>         | Specify the layer for the Title, Header, and Data text. Also specify the layer for the Table Lines. Select *Type a Layer Name* to specify a layer not in the current drawing. If the layer does not exist in the drawing being labeled, the command will create the layer with the color white, and the linetype continuous. Selecting either "Preset Coordinate Text" or "Preset Leader" will use the layer defined in the layer data base for that select. |
| <b>Table Values:</b>  | Specify the data values, header text, , justification, and column width to be used to create the table. Note: Up to 10 columns can be defined.   |
| <b>Value:</b>         | Specify the data value type for the defined column. Options are Northing, Easting, Elevation, Description (Full), Description (Raw), and Prompted Note.  |
| <b>Header Feet:</b>   | Specify the header text when the drawing is set to Feet.   |
| <b>Header Meters:</b> | Specify the header text when the drawing is set to Meters.   |
| <b>Justify:</b>       | Specify the text justification for the data in the defined column. Options are Left, Center, and Right.  |
| <b>Width:</b>         | Specify the width of the column. Options are 8 - 30. The number is the width of one text character of the selected text style. Remember to specify enough characters to hold the selected data type. If the data value is too long, it will extend into the next column.   |
| <b>Buttons:</b>       |  |
| <b>Apply:</b>         | Apply any changes made to current style.   |
| <b>Close:</b>         | Exit Labeling Table Style Manager without saving changes.  |



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