



AVEVA

MARINE

OUTFITTING DRAFT  
Administrator  
Application User Guide

## Disclaimer

Information of a technical nature, and particulars of the product and its use, is given by AVEVA Solutions Ltd and its subsidiaries without warranty. AVEVA Solutions Ltd and its subsidiaries disclaim any and all warranties and conditions, expressed or implied, to the fullest extent permitted by law.

Neither the author nor AVEVA Solutions Ltd, or any of its subsidiaries, shall be liable to any person or entity for any actions, claims, loss or damage arising from the use or possession of any information, particulars, or errors in this publication, or any incorrect use of the product, whatsoever.

## Copyright

Copyright and all other intellectual property rights in this manual and the associated software, and every part of it (including source code, object code, any data contained in it, the manual and any other documentation supplied with it) belongs to AVEVA Solutions Ltd or its subsidiaries.

All other rights are reserved to AVEVA Solutions Ltd and its subsidiaries. The information contained in this document is commercially sensitive, and shall not be copied, reproduced, stored in a retrieval system, or transmitted without the prior written permission of AVEVA Solutions Ltd. Where such permission is granted, it expressly requires that this Disclaimer and Copyright notice is prominently displayed at the beginning of every copy that is made.

The manual and associated documentation may not be adapted, reproduced, or copied, in any material or electronic form, without the prior written permission of AVEVA Solutions Ltd. The user may also not reverse engineer, decompile, copy, or adapt the associated software. Neither the whole, nor part of the product described in this publication may be incorporated into any third-party software, product, machine, or system without the prior written permission of AVEVA Solutions Ltd, save as permitted by law. Any such unauthorised action is strictly prohibited, and may give rise to civil liabilities and criminal prosecution.

The AVEVA products described in this guide are to be installed and operated strictly in accordance with the terms and conditions of the respective licence agreements, and in accordance with the relevant User Documentation. Unauthorised or unlicensed use of the product is strictly prohibited.

First published September 2007

© AVEVA Solutions Ltd, and its subsidiaries 2007

AVEVA Solutions Ltd, High Cross, Madingley Road, Cambridge, CB3 0HB, United Kingdom

## Trademarks

AVEVA and Tribon are registered trademarks of AVEVA Solutions Ltd or its subsidiaries. Unauthorised use of the AVEVA or Tribon trademarks is strictly forbidden.

AVEVA product names are trademarks or registered trademarks of AVEVA Solutions Ltd or its subsidiaries, registered in the UK, Europe and other countries (worldwide).

The copyright, trade mark rights, or other intellectual property rights in any other product, its name or logo belongs to its respective owner.

# OUTFITTING DRAFT Administrator Application User Guide

---

Contents	Page
----------	------

## Administrator

Introduction . . . . .	1:1
How the Guide is Organised . . . . .	1:1
Some General Principles . . . . .	2:1
Role of the OUTFITTING DRAFT Administrator . . . . .	2:1
Setting Up Administrative Access Rights . . . . .	2:2
Supplied Libraries . . . . .	2:2
Searching Libraries . . . . .	2:2
OUTFITTING DRAFT Default Files . . . . .	2:3
Setting the OUTFITTING DRAFT Defaults. . . . .	3:1
Setting the System Defaults . . . . .	3:1
Saving and Loading Default Values . . . . .	3:3
Layer Purpose Definitions. . . . .	3:4
Layer Creation Definitions . . . . .	3:5
Layer Purpose Filtering. . . . .	3:6
Sheet Size Defaults . . . . .	3:6
Defining Element Naming Conventions. . . . .	3:7
Setting Plotting Options . . . . .	3:8
ADP Administration . . . . .	3:12
Selecting the Working Library . . . . .	4:1

<b>Changing your Working Library</b> .....	<b>4:1</b>
<b>Sheet Library Administration</b> .....	<b>5:1</b>
Entering the Sheet Library Administration Application .....	5:1
Creating a Sheet Library .....	5:1
Creating a Backing Sheet and its Content .....	5:2
Creating an Overlay Sheet and its Content .....	5:3
<b>Symbol Library Administration</b> .....	<b>6:1</b>
Entering Symbol Library Administration Mode .....	6:1
Creating a Symbol Library .....	6:1
Creating Symbol Templates .....	6:2
Adding Annotation via a Backing Sheet .....	6:2
<b>2D Symbolic Representation Administration</b> .....	<b>7:1</b>
Project Structure and Distribution .....	7:1
Catalogue Items .....	7:1
Assumptions on how Design Symbols will be Used .....	7:2
Non-uniformly Scaled Design Symbols .....	7:2
Orientating Design Symbols .....	7:2
<b>ISODRAFT Symbol Library Administration</b> .....	<b>8:1</b>
Entering ISODRAFT Symbol Library Administration Mode .....	8:1
Creating an ISODRAFT Symbol Library .....	8:1
Creating ISODRAFT Symbol Templates .....	8:1
Importing ISODRAFT Symbols .....	8:2
<b>Label Library Administration</b> .....	<b>9:1</b>
Entering Label Library Administration Mode .....	9:1
Creating a Label Library .....	9:1
Creating Symbol Templates .....	9:2
Creating Text Templates .....	9:3
<b>Style Library Administration</b> .....	<b>10:1</b>
Creating a Style Library .....	10:1
Creating and Deleting Styles .....	10:1
Setting Style Attributes .....	10:3

<b>Creating a Hatching Style Library</b>	<b>10:5</b>
Creating and Deleting Hatching Styles	10:5
Setting Hatching Style Attributes	10:6
<b>Creating Change Style Libraries</b>	<b>10:7</b>
Creating and Deleting Change Styles	10:8
Setting Change Style Attributes	10:9
<b>Representation Library Administration</b>	<b>11:1</b>
Creating a Representation Library	11:1
Creating Representation Rule Sets	11:3
Creating and Deleting Representation Rules	11:3
Associating Representation Rules with Styles	11:5
Creating Hatching Rule Sets	11:5
Creating and Deleting Hatching Rules	11:6
Associating Hatching Rules with Styles	11:7
Hatching Rule Attributes	11:8
Creating Change Rule Sets	11:9
Creating and Deleting Change Rules	11:10
Associating Change Rules with Styles	11:11
<b>Drawlist Library Administration</b>	<b>12:1</b>
Entering Drawlist Library Administration Mode	12:1
Creating a Drawlist Library	12:1
Creating Drawlists	12:1
Defining Drawlist Members	12:2
<b>Tag Rule Library Administration</b>	<b>13:1</b>
Entering Auto Tagging Administration Mode	13:1
Creating a Tag Rule Library	13:1
Creating and Deleting Tag Rule Sets	13:1
Creating and Setting Up Tag Rules	13:2
<b>ADP Administration</b>	<b>14:1</b>
General ADP	14:1
Setting the ADP Defaults	14:1
Creating a Tagging Library	14:3

Creating a Schedule Library . . . . .	14:3
Backing Sheet Controls . . . . .	14:5
<b>Steelwork Detailing ADP . . . . .</b>	<b>14:7</b>
SDA Options . . . . .	14:7
SDA Customisation Macros . . . . .	14:8
<b>Hangers and Supports ADP . . . . .</b>	<b>14:8</b>
<b>AutoDRAFT Administration . . . . .</b>	<b>15:1</b>
Accessing AutoDRAFT Administration . . . . .	15:1
Starting the Symbol Editor . . . . .	15:1
Starting the Frame Editor . . . . .	15:2
Importing Symbols and Backing/Overlay Sheets . . . . .	15:3
<b>Loading Data Files . . . . .</b>	<b>16:1</b>
Accessing Load Data Files . . . . .	16:1
<b>Updating the Database . . . . .</b>	<b>17:1</b>
Updating Picture Files . . . . .	17:1
Updating Template Instancing . . . . .	17:1
Updating Cross-DB Reference Attributes . . . . .	17:1
Updating Cross-DB Name Attributes . . . . .	17:2
<b>Administrator Menus . . . . .</b>	<b>A:1</b>
General Administrative Menu . . . . .	A:1
Sheet Library Administration . . . . .	A:1
Symbol Library Administration . . . . .	A:2
ISODRAFT Symbol Library Administration . . . . .	A:3
Label Library Administration . . . . .	A:4
AutoDRAFT Administration . . . . .	A:4
Style Library Administration . . . . .	A:5
Representation Rule Administration . . . . .	A:5
Drawlist Library Administration . . . . .	A:5
Tagging Administration . . . . .	A:6
<b>Database Hierarchy . . . . .</b>	<b>B:1</b>
<b>Libraries . . . . .</b>	<b>C:1</b>

<b>Project Libraries.....</b>	<b>C:4</b>
-------------------------------	------------





# 1 Introduction

This document is intended for System Administrators responsible for setting up defaults and the Libraries used by the OUTFITTING DRAFT application.

It is assumed that you are already familiar with using OUTFITTING DRAFT to produce annotated drawings, and that you have attended a OUTFITTING DRAFT Administration Training course. For information about training courses, see AVEVA's worldwide sales and support offices, see the Customer Support pages on our website at <http://www.aveva.com/>.

For more information about using OUTFITTING DRAFT, see the *OUTFITTING DRAFT User Guide* and *Drawing Production User Guide*.

You must be a member of the OUTFITTING DRAFTADMIN team in order to see the Administration options on the OUTFITTING DRAFT menus. See *Setting Up Administrative Access Rights*.

## 1.1 How the Guide is Organised

The remainder of this guide is made up of the following:

- *Some General Principles* explains some principles which you need to understand before you try to use the OUTFITTING DRAFT Administrator functions.
- *Setting the OUTFITTING DRAFT Defaults* explains how to control the default settings which affect the way OUTFITTING DRAFT's applications appear to other users.
- *Selecting the Working Library* tells you how to select the library you wish to work on.
- *Sheet Library Administration* tells you how to configure a Sheet Library, giving users access to standard backing sheets and/or overlay sheets.
- *Symbol Library Administration* tells you how to configure a Symbol Library, from which users can choose 2D symbols to add to their drawings.
- *2D Symbolic Representation Administration* explains how to set up 2D symbolic representation.
- *ISODRAFT Symbol Library Administration* tells you how to configure an ISODRAFT Symbol Library, where you can create symbols for use in ISODRAFT.
- *Label Library Administration* tells you how to configure a Label Library, from which users can choose symbolic and general labels.
- *Style Library Administration* tells you how to configure a Style Library (within the Representation Library), which controls the appearance of various aspects of the drawing (such as which parts of the model are drawn, and which pens are used for which types of line).
- *Representation Library Administration* explains how to define Representation Rule Sets (within the Representation Library), which reference particular Styles. These can be used to link drawing styles to specific types of element within the OUTFITTING DESIGN DB if required.

- [Drawlist Library Administration](#) tells you how to configure a Drawlist Library, which holds ID lists to control which elements are drawn.
- [Tag Rule Library Administration](#) explains how to set up the rules for automatic tagging of items in drawings
- [ADP Administration](#) tells you how to set up defaults for Automatic Drawing Production.
- [AutoDRAFT Administration](#) tells you how to edit symbols and sheet frames for use within AutoDRAFT.
- [Loading Data Files](#) tells you how to use data files to create new projects.
- [Updating the Database](#) describes a special item on the Graphics menu which allows you to update parts of the OUTFITTING DRAFT DB explicitly, to correct inconsistencies which may arise due to operations in other modules such as reconfiguration.
- [Administrator Menus](#) shows, in a quick-reference format, the administration parts of the OUTFITTING DRAFT menu hierarchy.
- [Database Hierarchy](#) shows that part of the OUTFITTING DRAFT (PADD) database hierarchy which is most relevant to the OUTFITTING DRAFT administrator, namely the LIBY and its members. The full hierarchy is shown in the *OUTFITTING DRAFT User Guide*.
- [Libraries](#) shows the Library Hierarchy supplied with OUTFITTING DRAFT.

## 2 Some General Principles

This chapter explains some general principles, which you need to understand before you try to carry out any administrative functions in OUTFITTING DRAFT. It explains:

- Which aspects of OUTFITTING DRAFT are under the control of the administrator.
- What access rights you must have in the Project in order to be able to act as a OUTFITTING DRAFT administrator, and how to set these up.

### 2.1 Role of the OUTFITTING DRAFT Administrator

The OUTFITTING DRAFT Administrator applications enable you to configure the OUTFITTING DRAFT environment to suit specific company and/or project requirements in the following areas.

#### Default Settings

The OUTFITTING DRAFT defaults system allows you to define the following:

- Library pointers
- Layer settings
- Sheet sizes
- Naming conventions
- User-definable styles and colours
- Name string delimiters

The ways in which you set these up are explained in [Setting the OUTFITTING DRAFT Defaults](#).

#### Libraries

As OUTFITTING DRAFT administrator, you are responsible for setting up the standard libraries that other users will reference during drawing production. You can create new libraries, or edit the content of existing libraries, so that the standard data available to individual OUTFITTING DRAFT users complies with the company requirements for their particular drafting functions. The following types of library are controlled in this way:

- Sheet libraries
- Symbol libraries
- ISODRAFT Symbol libraries
- Label libraries
- Style libraries
- Representation rules libraries
- Drawlist libraries

- Auto Tagging rule libraries

The ways in which you set these up are explained in subsequent chapters.

### Automatic Drawing Production

The OUTFITTING DRAFT Administration options allow you to set up defaults and define rules that control how drawings are automatically produced and annotated. These functions are explained in [ADP Administration](#).

### AutoDRAFT Symbols and Sheet Frames

The OUTFITTING DRAFT Administration options allow you to edit symbols and sheet frames for use with AutoDRAFT. You can also import symbols and sheet frames from AutoCAD work directories and macros. These functions are explained in [AutoDRAFT Administration](#)

### Creating Projects

The **Settings >Load data file** option allows you to create new project areas using existing data files. This is explained fully in [Loading Data Files](#).

### Database Updating

Occasionally all or part of the OUTFITTING DRAFT (PADD) database (DB) may need to be updated to allow for changes made outside the normal OUTFITTING DRAFT operations; typically when a project has been reconfigured or the OUTFITTING DESIGN DB has been rebuilt from macros. Updating the OUTFITTING DRAFT database is explained in [Updating the Database](#).

## 2.2 Setting Up Administrative Access Rights

In order to use the Administrator options on the OUTFITTING DRAFT menus, you must enter Marine as a User who is a member of the OUTFITTING DRAFTADMIN team, and you must have Read/Write access to the OUTFITTING DRAFT database that holds the libraries. The System Administrator should ensure that projects are set up in this way.

## 2.3 Supplied Libraries

The Sample Project supplied with the product contains two Departments, **Master\_Libraries** and **Project\_Libraries**. These Departments contain Libraries that contain sample sheets, symbols, and rulesets for tagging, representation etc. The contents of the sample Libraries are summarised in [Libraries](#).

## 2.4 Searching Libraries

When a OUTFITTING DRAFT application user attempts to create a new element, for example, a symbolic label, the application searches for relevant Libraries in a specific sequence. It looks at each LIBY in the DEPT in the listed order until it finds one that contains appropriate type of Library. It then adds this LIBY and all subsequent LIBYs to the scrollable list on the **Library** form *until* it finds a LIBY which does *not* contain a relevant LALB. No further searching is carried out.

This principle allows you, as the Administrator, to hide LIBYs from the user by adding them to the end of the DEPT's members list. (You could, alternatively, store all reference LIBYs in a separate DEPT, but this would add extra DEPTs to the user's Members List.)

It is important to note that, due to this method of searching for the LIBYs, different types of Libraries must be grouped together under the same Department if they are all to be available to the user.

## 2.5 OUTFITTING DRAFT Default Files

The following is a summary of the default files supplied with the product. The files themselves contain additional information. The files are stored in the PDMSDFLTs folder.

### General Default Files

Name	Description
DRA-GEN-SYSTEM	System defaults file
DRA-GEN-SYSTEM.IMP	System defaults file with imperial settings
DRA-GEN-SYSTEM.bak	System defaults file back-up copy
DRA-SETUP	User configurable setup file
DRA-GEN-FONTS	Font names file: four font names can be defined
DRA-GEN-TEXT	Sample intelligent texts displayed to user from dynamic text forms
DRA-GEN-CLASHTEMP	Clash plotting macro template
DRA-GEN-DEFLAY	Layer setup macro: standard default
DRA-GEN-DIMLAY	Layer setup macro: dimension layers
DRA-GEN-HLDLAY	Layer setup macro: Hangers & Supports layers
DRA-GEN-LABLAY	Layer setup macro: label layers
DRA-GEN-MATLAY	Layer setup macro: matchline layers
DRA-GEN-NLLLAY	Layer setup macro: label layers with no leader lines
DRA-GEN-NOTLAY	Layer setup macro: note layers
DRA-GEN-PLTEXT	Projection-line text options
DRA-GEN-RADLAY	Layer setup macro: radial dimension layers
DRA-GEN-SYMLAY	Layer setup macro: symbol layers (2D SYMB)
DRA-GEN-TAGLAY	Layer setup macro: tagging layers (layers with reserved purpose TAG)

**ADP Default Files**

<b>Name</b>	<b>Description</b>
DRA-GENADP-EQUILOCN	General ADP defaults file for equipment location plans
DRA-GENADP-PIPING	General ADP defaults file for piping plan and elevation GAs
DRA-GENADP-PLOTPLAN	General ADP defaults file for plot plans
DRA-GENADP-SUPPORTS	General ADP defaults file for H&S drawings
DRA-ADP-BRANINLAY	Layer setup macro for ADP branch labels
DRA-ADP-DIM1LAY	Layer setup macro for ADP Type 1 dimensions
DRA-ADP-DIM2LAY	Layer setup macro for ADP Type 2 dimensions
DRA-ADP-DIM3LAY	Layer setup macro for ADP Type 3 dimensions
DRA-ADP-EQUICLLAY	Layer setup macro for ADP equipment centrelines
DRA-ADP-PESYMBLAY	Layer setup macro for ADP pipe end symbols
DRA-ADP-SCHEDLAY	Layer setup macro for ADP schedules
DRA-ADP-SCHEDSUPP	Layer setup macro for ADP Hanger and Support schedules
DRA-ADP-TAGLAY	Layer setup macro for ADP Tagging
DRA-ADP-DIM3LEFTATTS	Dimension setup macro for ADP TYPE 3 dimensions LEFT side of view
DRA-ADP-DIM3UPATTS	Dimension setup macro for ADP TYPE 3 dimensions UP side of view
DRA-SDADP-MACRO	Macro file for setting defaults for Steelwork Detailing ADP.

**Hangers & Support Default Files**

<b>Name</b>	<b>Description</b>
DRA-SUPP	Main H&S defaults
DRA-SUPP-HADLAY	Layer setup macro for hanger dimension layers
DRA-SUPP-HSMLAY	Layer setup macro for hanger material list layers
DRA-SUPP-SIBLAY	Layer setup macro for supported item BOM layers
DRA-SUPP-STBLAY	Layer setup macro for steelwork BOM layers

**Detail View Default Files**

<b>Name</b>	<b>Description</b>
DRA-LOC-LAYER	Detail layer setup macro for master view
DRA-LOC-NOTE	Default detail view note intelligent text for master view
DRA-LOC-NOTE-EXAMPLES	Examples of alternative detail view note intelligent texts for master view
DRA-DET-LAYER	Detail layer setup macro for new detail view
DRA-DET-NOTE	Default detail view note intelligent text for new detail view
DRA-DET-NOTE-EXAMPLES	Examples of alternative detail view note intelligent texts for new detail view

**Radial Dimension Default Files**

<b>Name</b>	<b>Description</b>
DRA-DIM-PDIM	PDIM setup macro, this macro is executed each time a PDIM is created
DRA-DIM-RDIM	RDIM setup macro, this macro is executed each time a RDIM is created

**Miscellaneous Default Files**

<b>Name</b>	<b>Description</b>
DRA-AUTONAME	File required for successful appware loading (for future use)





## 3 Setting the OUTFITTING DRAFT Defaults

This chapter tells you how to define the default settings that will be used in the OUTFITTING DRAFT applications.

When you enter OUTFITTING DRAFT and load the forms and menus interface, the macro %PDMSUI%/DRA/ADMIN/START calls the user-defined setup macro %PDMSDFLT%/DRA-SETUP DRAFT which, among other actions, points to the location of the main **OUTFITTING DRAFT defaults file**, DRA-GEN-SYSTEM. The environment variable PDMSDFLT is set to the folder where the defaults file is stored. Remember, if you wish to change the start up operation, that you should only modify DRA-SETUP, *not* the AVEVA-defined START or VARS files.

As a OUTFITTING DRAFT administrator, you can change the settings in the defaults files, if necessary creating a different defaults file for each of the company's drafting requirements. The defaults file accessed by an individual user is determined by the setting of the user's PDMSDFLT environment variable.

Defaults can be set for the following:

- Definitions of **layers** for use with views; defined in terms of their purpose and associated attribute groups.
- Definitions of **name delimiters**; that is, the characters used to separate the component parts of an element's name.
- Pointers to the **libraries** from which the different aspects of OUTFITTING DRAFT's drawing functions obtain their standard data, for example:
  - 2D symbols and labels
  - Backing sheets and overlay sheets
  - Global representation rules and local styles
  - Circulation lists
  - Drawlists
  - Tag rules and tag templates
  - DRWG and SHEE templates

### 3.1 Setting the System Defaults

The *OUTFITTING DRAFT System Defaults* form will be displayed when you select **Settings > System Defaults** from any of the OUTFITTING DRAFT Administration main menus. To access the administration functions, select **Draft>Administration**.

**Draft System Defaults**

File

File : %PDMSDFLT%\DRA-GEN-SYSTEM

Master Project Defaults:

2D Symbols	/DRA/MAS/SYMBOLS/GEN	CE	LIBY
Symbolic Labels	/DRA/MAS/LABELS/GEN	CE	LIBY
Pipe End Label	/DRA/MAS/LABELS/GEN/PIPE/END	CE	SYT
Backing Sheets	/DRA/MAS/BACKS/MET	CE	SHL
Tagging Templates	/DRA/MAS/LABELS/TAG	CE	LIBY
ADP Pipe Label Prefix	/DRA/MAS/LABELS/GEN/USERDEF		

Local Project Defaults:

Drawlists	/DRA/PRJ/DRAWLISTS	CE	LIBY
Overlay Sheets	/DRA/PRJ/OVERS/MET	CE	SHL
Representation Rules	/DRA/PRJ/REPR/GEN	CE	RPL
Hatching Rep Rules	/DRA/PRJ/HRUL/GEN	CE	RPL
Local Styles	/DRA/PRJ/STYL/LOCAL	CE	RPL
Hatching Styles	/DRA/PRJ/HSTYL/LOCAL	CE	RPL
Tagging Rules	/DRA/PRJ/AUTOTAG	CE	LIBY
Circulation lists	/DRA/PRJ/CIRCULATION/GEN	CE	CLLB
Changes Rules	/DRA/PRJ/CHANGE/RULESET	CE	RPL
Drwg Template Prefix	/DRA/PRJ/TMP		
Default Template Name	/DRA/PRJ/TMP/PIPING/AD		

Name Delimiters:

Style ☐ Label Library ☐ Drawlist Library ☐

Further Defaults:

Layer Purpose Definitions... Sheet Sizes...

Layer Creation Definitions... Naming Conventions...

Layer Purpose Filtering...

OK Cancel

The **File** gadget at the top of the body of the form shows the current defaults file.

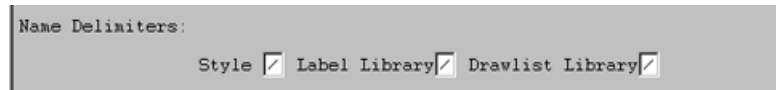
The **Master Project Defaults** and **Local Project Defaults** sections of the form show the default settings of the pointers to the OUTFITTING DRAFT Libraries. If you want to change any of these, either type the new element name into the text box, or navigate to the element required and press the appropriate **CE** button. The text to the right of the **CE** button shows the type of element required for each Library.

**Note:** The library reference defaults are also shown on a *User Defaults* form that is accessed by selecting **Options>Defaults** from the main application menu. The *User Defaults* form is initialised with the settings from the *Draft Defaults* form after the defaults have been loaded from file. Subsequent changes made on the *User Defaults* form override (but do not change) the settings on the *Draft Defaults* form, allowing a user some flexibility in the use of available libraries during drawing production.

**Name delimiters.** By default, the individual parts of drawing element names are separated by a slash delimiting character. For example:

SHEETS/SHLB1/BACK1/SN1

This option allows you to specify any other delimiter character which has been used for Style names, Label Library names and Drawlist Library names.



The **Further Defaults** options are as follows:

- [Layer Purpose Definitions.](#)
- [Layer Creation Definitions.](#)
- [Layer Purpose Filtering.](#)
- [Sheet Size Defaults.](#)
- [Defining Element Naming Conventions](#)

The options under **File** on the menu at the top of the form are described in [Saving and Loading Default Values.](#)

## 3.2 Saving and Loading Default Values

### Saving Default Files

As supplied, the OUTFITTING DRAFT applications reference a defaults file named DRA-GEN-SYSTEM that is set up to reference the AVEVA library database.

When you have modified the defaults forms to suit your own requirements, you can save the updated settings to a file in the usual way; that is, either by updating the current file or by specifying a new file name. To do so, use the **File>Save** or **File>Save As** option, respectively, from the menu on the *Draft System Defaults* form.

### Loading Default Files

You can load default settings from a file, which may be either the current OUTFITTING DRAFT defaults file or a different named file. To do so, use the **File>Load** or **File>Load From** option, respectively, from the menu on the *Draft System Defaults* form.

In each case, you can perform either a **Full** load or a **Partial** load by selecting the relevant option from the submenu. The difference is as follows:

- Full loading of defaults:
  - Clears all existing default values from the forms before loading the new ones.
  - Checks that the minimum number of default values are loaded to allow the application to run correctly. This involves checking that all layer purposes are defined, that naming conventions are specified, and that sheet sizes are set. If any of these settings are not loaded from the specified file, the standard AVEVA values are loaded so that the application can still function.
- Partial loading of defaults:
  - Does not clear existing form settings, allowing you to overwrite a subset of the total defaults available (which speeds up the process if only a few values are to be updated).

- Does not check the overall consistency of the loaded defaults (so a little care is needed to avoid problems).

Both full and partial loading modes keep a log of any errors that occur during loading and display these when loading has been completed. Each error message shows the load file line number at which the error occurred and a brief description of the error. To list the stored loading errors at any time, select **File > Display Errors** from the menu on the *Draft System Defaults* form.

### Restoring Defaults from a Backup File

Each time you save an updated defaults file the current defaults settings are saved in a backup file named DRA-GEN-SYSTEM.bak. To reload the previous default settings from the backup file, select **File>Restore Backup** from the menu on the *Draft System Defaults* form.

## 3.3 Layer Purpose Definitions

The *Layer Purpose Definitions* form is displayed when you select the **Layer Purpose Definitions** button on the *Draft System Defaults* form.

The screenshot shows the 'Layer Purpose Definitions' dialog box. It has a title bar with standard window controls. Inside, there's a 'Layer Purpose' field set to 'NOT' and a 'Setup File' field set to 'DRA-GEN-NOTLAY'. Below these is a scrollable list of 10 layer definitions. The first item, '1. NOT DRA-GEN-NOTLAY', is highlighted. To the right of the list are 'Delete' and 'Insert' buttons. At the bottom, there's an 'Attributes' section with checkboxes for 'Dim', 'Note' (which is checked), 'Text', 'Lab', and 'Symb'. 'OK' and 'Cancel' buttons are at the bottom right. Annotations with arrows point to various parts: 'Purpose of layer (must be 3 chars)' points to the 'Layer Purpose' field; 'Setup/Default filename, executed when layer is created' points to the 'Setup File' field; 'Delete selected purpose definition' points to the 'Delete' button; 'Accept current values to update definition' points to the 'OK' button; and 'Attribute groups determine which attributes are displayed on Layer Attributes form for this layer purpose' points to the 'Note' checkbox.

Layer Purpose	Setup File
1. NOT DRA-GEN-NOTLAY	DIM- NOT+ TEX- LAB- SYM-
2. LAB DRA-GEN-LABLAY	DIM- NOT- TEX+ LAB+ SYM-
3. DIM DRA-GEN-DIMLAY	DIM+ NOT- TEX+ LAB- SYM-
4. TAG DRA-GEN-TAGLAY	DIM- NOT- TEX+ LAB+ SYM-
5. MAT DRA-GEN-MATLAY	DIM- NOT+ TEX+ LAB- SYM-
6. ADA DRA-ADP-DIM1LAY	DIM+ NOT- TEX+ LAB- SYM-
7. ADB DRA-ADP-DIM2LAY	DIM+ NOT- TEX+ LAB- SYM-
8. ADC DRA-ADP-DIM3LAY	DIM+ NOT- TEX+ LAB- SYM-
9. ADE DRA-ADP-EQUICLLAY	DIM- NOT+ TEX+ LAB- SYM-
10. ADL DRA-ADP-BRANINLAY	DIM- NOT- TEX+ LAB+ SYM-

Attributes: ☐ Dim ☒ Note ☐ Text ☐ Lab ☐ Symb

The scrollable list shows all currently defined layer defaults. The highlighted layer is the one that will be updated by any new settings that you enter.

All layers have a PURP attribute which is set to a four character keyword which identifies the purpose for which that layer is intended to be used. Layer purposes cannot be duplicated under any one owning View. The **Layer Purpose** box on the form allows you to specify the purpose as a three-character string (the fourth character is added automatically when setting PURP so that multiple layers of a given type can be created under a single View).

For example, if you have defined a layer with its purpose defined as DIM and a user decides to have three dimension layers in each View for, say, steelwork (STLDIM), equipment (EQUDIM) and piping (PIPDIM), then the View contents might be as follows:

Element Type	Name	PURP
VIEW	XYZ0001/S1/V1	n/a
LAYE	XYZ0001/S1/V1/STLDIM	DIMA
LAYE	XYZ0001/S1/V1/EQUDIM	DIMB
LAYE	XYZ0001/S1/V1/PIPDIM	DIMC

where the fourth character of the PURP (A, B or C) distinguishes the individual DIM layers.

**Note:** The purpose keyword TAG is reserved for autotagging layers. This is a requirement of the application (see Chapter 14) and must always be defined in the layer defaults. If it is omitted, a TAG layer purpose definition will be appended automatically during default initialisation. The TAG layer purpose definition cannot be deleted.

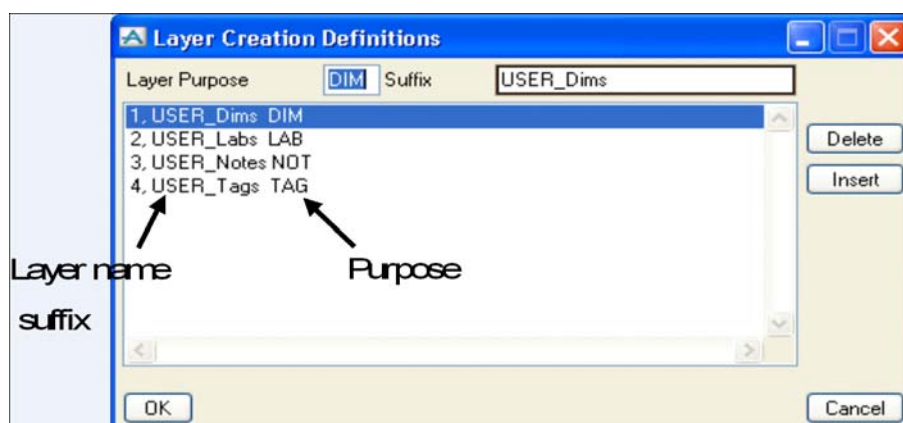
The **Setup File** box is used to specify the macro file that will be executed to set the layer attributes after a layer has been created. Default macro files are supplied with the product. For example, DRA-GEN-DEFLAY defines the default attribute values for layers. This ensures that all users create layer annotation to a common standard.

You can copy and modify these macro files to meet your company and/or project standards. You can also create new files for other purpose types of your own definition.

The **Attribute Group** check boxes (**Dim**, **Note**, **Text**, **Lab** and **Symb**) allow you to specify which attribute types will be displayed on the **Layer Attributes** form. The combination which applies to each of the currently defined layers is shown by the + (selected) and - (unselected) codes in the scrollable list. To change these, turn the attributes on and off as required and then click the **Apply** button.

## 3.4 Layer Creation Definitions

The *Layer Creation Definitions* form is displayed when you select the **Layer Creation Definitions** button on the *Draft System Defaults* form. This form allows you to define what layers are created, and how they are named, when a View is created.



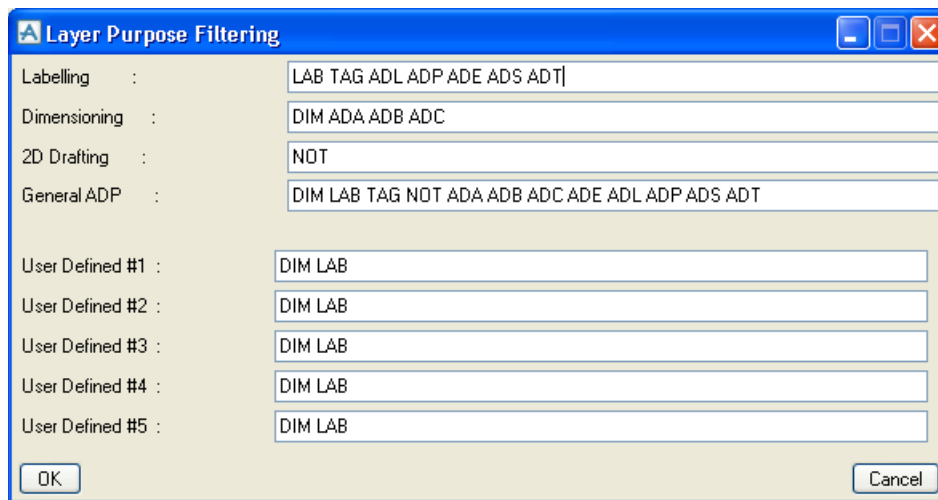
Select the Purpose from the scrolling list, and change the Purpose and suffix as required.

Note that you can create many layers with the same Purpose.

### 3.5 Layer Purpose Filtering

The *Layer Purpose Filtering* form is displayed when you select the **Layer Purpose Filtering** button on the *Draft System Defaults* form.

This form defines what Layers are visible in the **Layer Note** drop-down list on the appropriate application menu bar.



### 3.6 Sheet Size Defaults

The *Sheet Defaults* form is displayed when you select the **Sheet Sizes** button on the *Draft System Defaults* form.

This form allows you to define the dimensions and a reference description for up to 15 standard sheet sizes:

**Sheet Defaults**

Sheet Sizes and Descriptions

	Width	Height	Description
1.	1189	841	A0
2.	841	594	A1
3.	594	420	A2
4.	420	297	A3
5.	297	210	A4
6.	297	420	P3
7.	210	297	P4
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			

OK Cancel

### 3.7 Defining Element Naming Conventions

The *Name Convention* form is displayed when you select the **Naming Conventions** button on the *Draft System Defaults* form.

**Name Convention**

MANDATORY NAMES

Element	Prefix
Department	DEPT
Registry	REGI
Drawing	DR
Sheet	S
View	V

OPTIONAL NAMES

Element	Prefix	Named
Layer Note	LN	<input type="checkbox"/>
Sheet Note	SN	<input checked="" type="checkbox"/>
Local Rule	LR	<input checked="" type="checkbox"/>
View Section	VS	<input checked="" type="checkbox"/>

OK Cancel

Specifies whether or not element is to be named automatically

The form is divided into two parts:

- **MANDATORY NAMES**, that is names for the elements which *must* be named in order for the application to function correctly: DEPT, REGI, DRWG, SHEE and VIEW. For example, drawing numbers typically have a common project related prefix, which you should enter, in the **Prefix** box for the **Drawing** element.
- **OPTIONAL NAMES** for the elements which do not need to be named for the application to function: VNOT, NOTE, RRUL and VSEC. For these elements, use the **Named** check box button to specify whether or not automatic naming is required.

## 3.8 Setting Plotting Options

OUTFITTING DRAFT allows you to plot files in a variety of formats. As an Administrator you can enter or select operating system command strings that enable users to plot their files in a variety of formats.

To select or enter output formats, select **Settings>Plotting Defaults** from the main OUTFITTING DRAFT Administration menu. The *Plotting Options* form will appear.

This form contains predefined command strings for PostScript and HPGL format conversion and printing. For PostScript and HPGL options, make sure that you provide a proper Windows network path to the chosen printer

The **System command string** has several components to it.

Example: **plotcadc FILE ps \\printserver\psprint01**

### plotcadc

This is the name of the batch file PLOTADC.BAT and uses the parameters supplied in the rest of the system command string to specify the printing or other actions to be performed. This batch file uses the Plot Utility Program to perform the plot file conversions and the Windows print command to send them to a printer. This batch file is run when either of the **Plot + File** or **Plot** options are applied in the form shown after using the **Utilities>Plot CE** command.



**FILE** A plot file is created when a drawing sheet is to be output. When the system command string is executed, the location of this file plot file replaces the word 'FILE'.

**ps** This results in a conversion from the OUTFITTING plot file format to a form compatible with a postscript plotter. This file type for the plotter corresponds to a Plot Utility Program driver name; see the *PLOT User Guide* for more details. Typical examples are: ps and hppl.

**\\printserver\\psprint01** This is an example Windows network name of the destination printer.

Under the Windows O/S it is possible to set the **System command string** to direct the plot file directly to the default printer. This is made possible by utilising the AVEVA product called 'Plot Viewer':

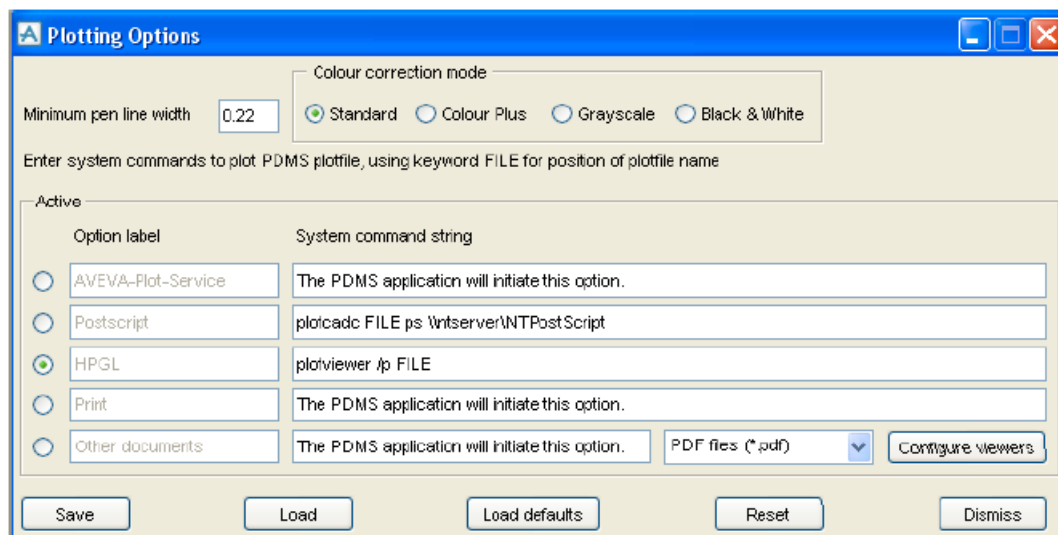
**PlotViewer /p FILE** Here, instead of the Plot program, the Plot Viewer program is executed with the following arguments:

**/p** runs Plot Viewer in plot-only mode and hence sends the plot file directly to the default printer.

**FILE** this word will be replaced by the plot file name

Please note that the Plot Viewer program does not print at a true 100% scale, and therefore your print will be slightly smaller.

An example of the modified form showing the PlotViewer entry is shown below.



Also available under the Windows O/S, it is possible to plot to any printer using the Screen pre-viewer:

**plotcadc FILE screen -0**

Here, the Plot program is executed with the Screen argument. A pre-viewer form is shown which enable you to zoom in and out of the plot file. To send the plot file to a printer, press the button sequence **Cntrl-P** and the standard Windows print form will be displayed, allowing you to choose any printer as the destination.

For more information on the subject of the Plot executable see the manual *AVEVA PLOT User Guide*.

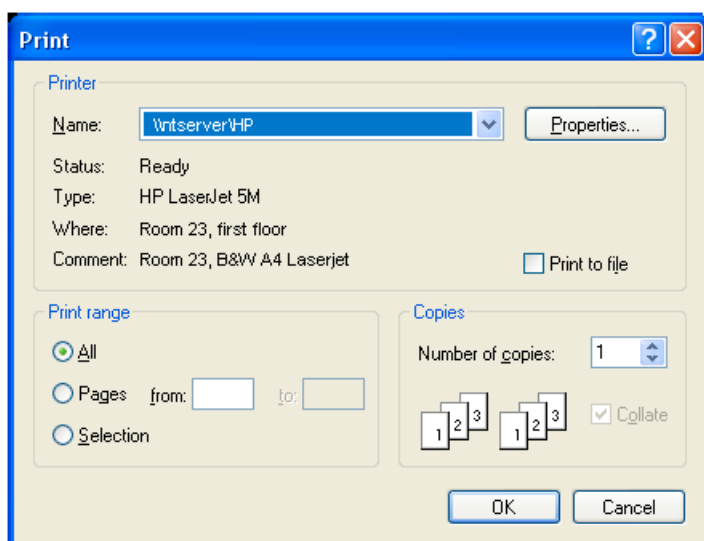
Once you have set all of the plotting options, select the one you require to be set as the default by clicking on the appropriate option button at the left of the form then press **OK**.

The **Save** button will save the settings, which can be recalled by clicking the **Load** button. The **Load Defaults** button will load the predefined plotting settings.

The **Reset** button cancels any changes made to the form since it was opened.

### PRINT Option

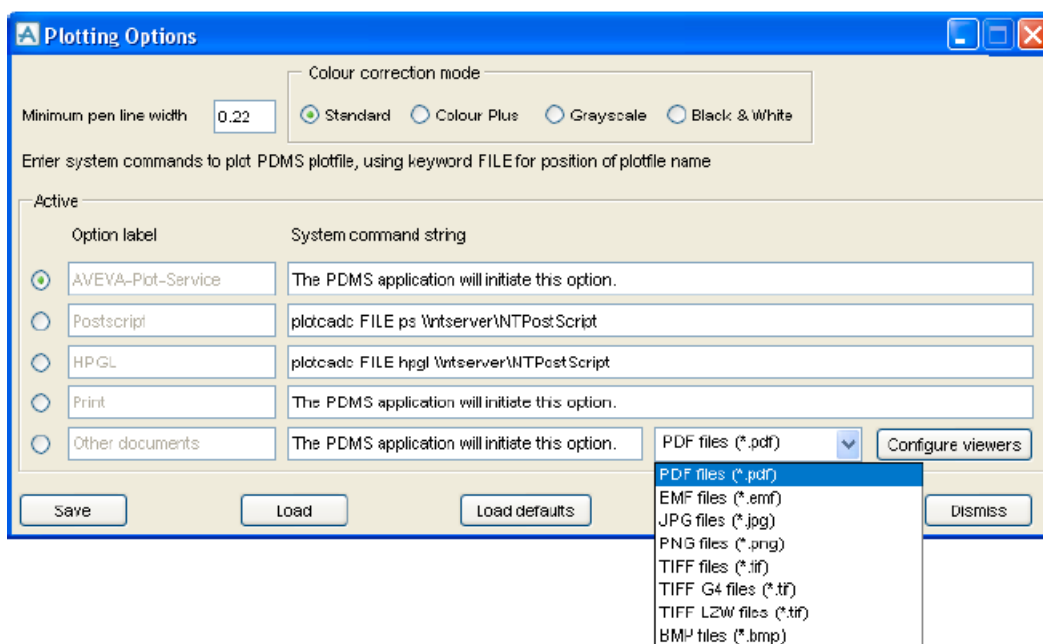
This option instructs the system to use the standard Windows printing dialog for printing the selected sheet, as shown below:



This would send the picture directly to the printer without creating an intermediate plot file.

### Other Documents

This option instructs the system to create a graphical file or a PDF file representing the given picture instead of printing it. The available output formats are shown below:



The plotting options form supports previewing the output instead of printing. Clicking the **Configure viewers** button displays a form where a command string can be entered for each file type that will launch an appropriate viewer.

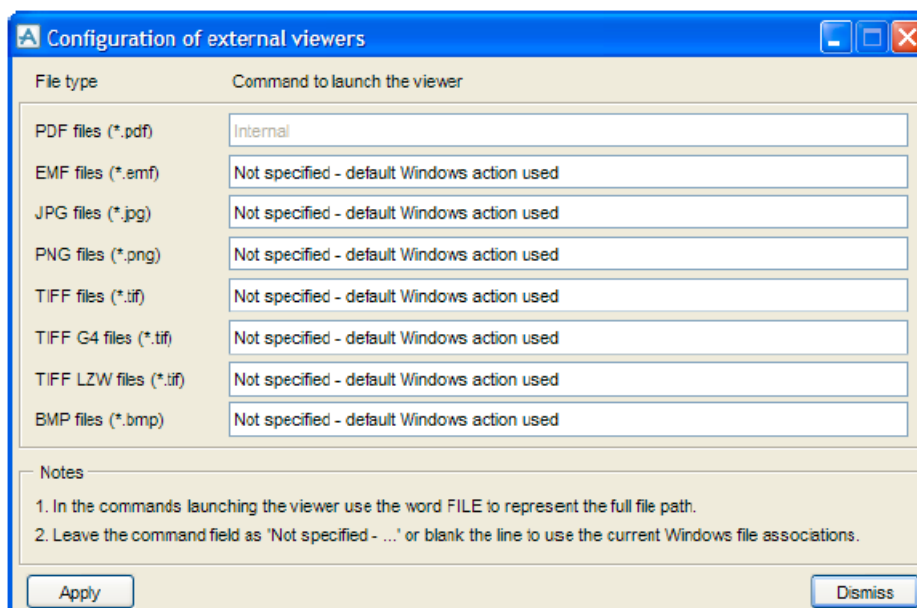
### Other Plotting Options

To set the minimum line width to be used when plotting, enter a value (in mm) in the **Minimum pen line width** text box.

The output colour can be controlled by selecting one of the Colour correction mode options:

<b>Standard</b>	retains the colours as defined in the database
<b>Black &amp; White</b>	changes all colours to black or white to contrast with the background colour
<b>Grayscale</b>	converts all colours to an equivalent shade of grey
<b>Colour Plus</b>	converts all shades of grey to black or white to contrast with the background colour

Click on the **Save** button to save the changes.



The viewing of the PDF files is handled internally by launching the Acrobat Reader application, which must be installed on the workstation. There are no configuration options for the PDF files.

For all other supported file types it is possible to specify the command to be executed in order to view a particular file. If you leave the command field empty, or containing the text 'Not specified – default Windows action used', the handling of the particular file type will be determined by Windows operating system. The action taken will be exactly the same as if you double clicked on the file in Windows Explorer.

If a non-default action is required, the proper command line must be provided, using the word FILE to represent the full file path of the file to be shown.

For example in order to view BMP files in Microsoft Paint, the following command should be entered in the **BMP files (\*.bmp)** field:

**mspaint "FILE"**

To view the JPG files in Irfanview (provided that it is installed in C:\Program Files\Irfanview), the following command should be entered in the **JPG files (\*.jpg)** field:

**"C:\Program Files\Irfanview\iview32.exe" "FILE" /fs**

**Note:** After changing the viewers' configuration remember to save the plotting options in the main form, as the viewers' settings are stored together with the plotting options.

## 3.9 ADP Administration

You set the defaults for Automatic Drawing Production from within the Auto Drawing Application. However, the Backing Sheets used for ADP Drawings must be created by the OUTFITTING DRAFT Administrator. See [ADP Administration](#) for details.

## 4 Selecting the Working Library

When you enter one of the OUTFITTING DRAFT Administration applications, you will be prompted to select a working library.

Select **Draft>Select Working Library**. You will see the *Library Selection* form.

The **Type** list allows you to select the type of library you wish to select (**Sheet**, **Symbol**, **ISODRAFT Symbol** or **Label**). After you have selected a Type, you can scroll through the **Main Library** list until you find the main LIBY that holds the library you want to work with.

After you have chosen a Main Library, all the libraries of the selected type held in the library will be displayed in the **Type** list on the right of the form. You can select the library you want from this window.

Once you have selected your library, any related backing sheets or overlays are displayed in the bottom window of the form. You can select one of these if required.

### 4.1 Changing your Working Library

The icons at the top of your OUTFITTING DRAFT display tell you:

- The type and name of the library you have currently selected to work on, for example:



- The library you have currently selected. For example:



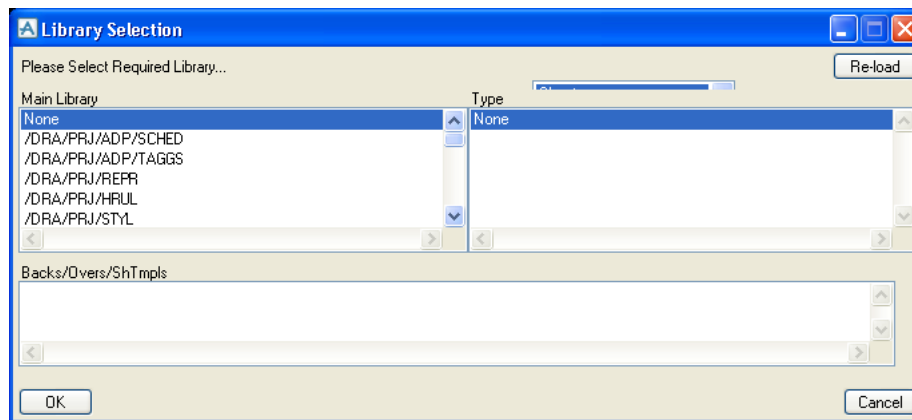
All the libraries you have selected as working libraries in the current work session are shown in the option list. Clicking on any of the libraries in the list will automatically select that library and make it the current working library.

Clicking the **+** button to the right of the list of working libraries adds the current element to the list, if it is a suitable type.

- The option gadget on the right allows you to switch the display of elements on and off. For example:



You can add existing Libraries to the list of Working Libraries by selecting **Draft > Select Working Library**. The *Library Selection* form will be displayed.



## 5 Sheet Library Administration

This chapter tells you how to set up Sheet Libraries (SHLB) containing the Backing Sheets (BACK) and Overlay Sheets (OVER) that users can reference for use with their drawing sheets.

The relevant hierarchy is shown in [Database Hierarchy](#).

**Note:** The DEPT Project\_Libraries, supplied as part of the standard product, contains REGIs named /DRA/PRJ/TMP/*discipline*, where *discipline* is Piping, Equipment, etc. Each of these REGIs contains DRWGs, which own sample sheets with associated LIBYs.

The DEPT Project\_Libraries also contains a LIBY named DRA/PRJ/OVERS, which holds sample overlay sheets.

The DEPT Master\_Libraries contains a LIBY named DRA/MAS/BACKS, which holds sample backing-sheets.

### 5.1 Entering the Sheet Library Administration Application

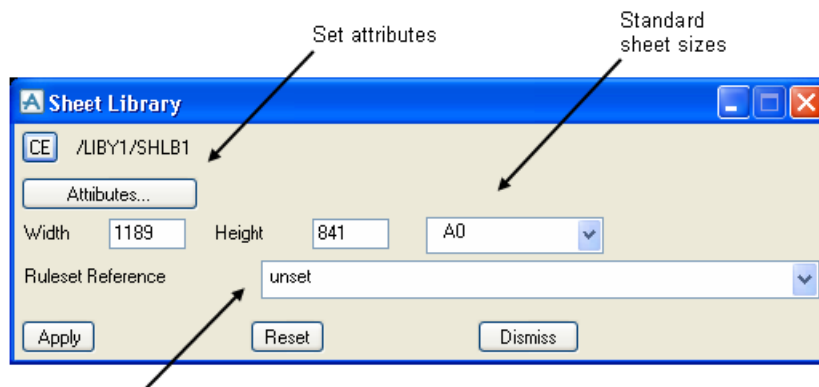
From one of the OUTFITTING DRAFT Administration menus, select **Draft>Sheet Libraries**. The main menu will change to the **OUTFITTING DRAFT Sheet Library Administration** menu. The menu hierarchy is illustrated in [Administrator Menus](#). All menu selections specified in the remainder of this chapter refer to this Sheet Library menu unless otherwise stated.

### 5.2 Creating a Sheet Library

To create a new SHLB, proceed as follows:

1. Navigate to the appropriate LIBY level in the existing hierarchy or, if necessary, use **Create>Library** to add a new LIBY.
2. Select **Create>Sheet Library**. It is recommended that you give the new SHLB a name that will make its content obvious to users.
3. The SHLB is effectively a drawing sheet template that aligns with the BACKs and OVERs that it owns, so you must specify its dimensions (either explicitly in the **Width** and **Height** boxes, or by selecting a standard sheet size from the drop-down list). This size will be cascaded down to BACK and OVER level.
4. If you wish to define attributes at SHLB level, such that they will be cascaded down to BACK or OVER level, click on the **Attributes** button and change the settings on the

*Sheet Library* form. (You can modify these attributes for individual BACKs or OVERs later if you wish.)



See section 5.4

## 5.3 Creating a Backing Sheet and its Content

To create and display a new BACK, proceed as follows:

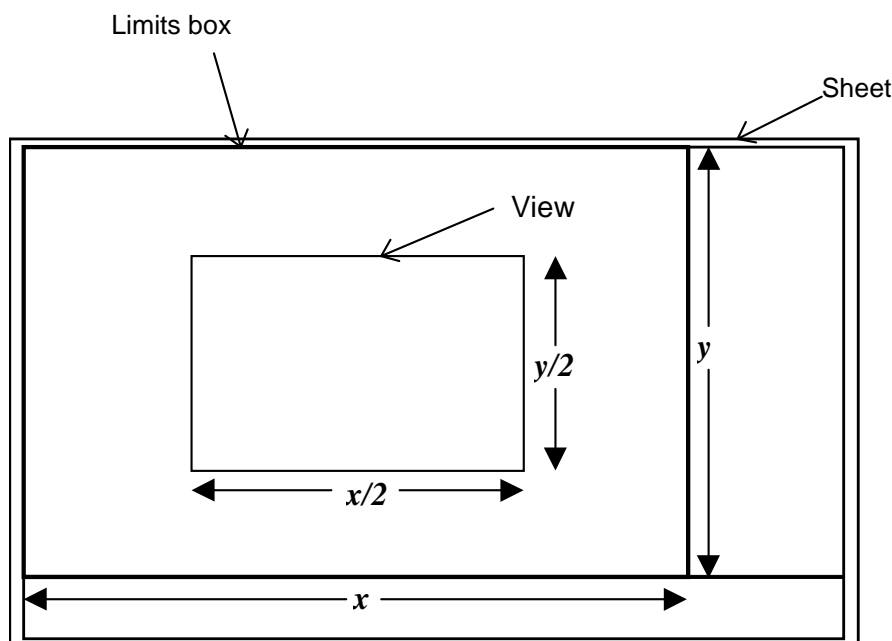
1. Navigate to the appropriate SHLB level.
2. Select **Create>Backing Sheet**. It is recommended that you give the new BACK a name that will make its content obvious to users.
3. The BACK is a drawing sheet on which you will position one or more NOTES, each of which may comprise any combination of 2D primitives, text primitives (TEXP) and existing symbol instances (SYMB).  
**Hint:** You will find it easier to position and align individual NOTE components (i.e. primitives, text and/or symbol instances) if you display a working **grid** with a fairly small spacing (say 10 mm) and set the **snap** function to on.
4. For each NOTE in turn, select **Create>Note>Back**.
5. Depending on the detailed design required, create one or more features of the Backing Sheet Note using the **Create>2D Primitives**, **Create>2D Symbol** and **Create>Text** options. As you create each feature, use the cursor to position it and, for a primitive, to define its size. If the grid snap function prevents you setting the precise position or size that you want, either turn snapping off temporarily or modify the attributes of the primitive later.

### Restricting the Usable Area of a Sheet

You can define the usable area of a sheet, so that the area in which a user can create views does not overlap any of the backing sheet annotation, by creating a special NOTE with the name *backing\_sheet\_name/LIMITS*. This NOTE should contain just a single RECT primitive that corresponds to the sheet area available to a user. When the user selects the option **Create>View> Pre-defined Frame**, OUTFITTING DRAFT searches the sheet for this special note and, if found, the VIEW dimensions will be set automatically to fit into the RECT defining the available area.

During creation of any Views the limits are used to set the initial position and size of the View, as shown:





## 5.4 Creating an Overlay Sheet and its Content

To create and display a new OVER, proceed as follows:

1. Navigate to the appropriate SHLB level.
2. Select **Create>Overlay Sheet**. It is recommended that you give the new OVER a name to make its content obvious to users. This is important; as each drawing sheet is likely to reference several overlay sheets simultaneously. The function of the **Ruleset Reference** drop-down list will be explained in Step 4.
3. In its simplest form, the OVER is a drawing sheet on which you can position NOTES, for which the procedure is exactly the same as for a BACK (see [Creating a Backing Sheet and its Content](#)). However, an OVER can also own VIEWS, (typically used to display keyplan views of all or part of the Design DB), each of which can own one or more LAYERS, each of which can, in turn, own VNOTES (View Notes). It is the VIEWS, and their members, which we will consider further (see [Database Hierarchy](#)).  
**Hint:** You will find it easier to position and align individual VIEWS and their members if you display a working **grid** with a fairly small spacing (say 10 mm) and set the **snap** function to on.
4. To create a VIEW in an OVER, select **Create>View>Limits Defined** or **Create>View>User Defined** and set the VIEW attributes. Each VIEW can reference a **Ruleset** which defines the way in which its Design graphics are to be drawn: you can set the **Ruleset Reference** either at individual VIEW level, or at OVER level (see Step 2), or at SHLB level ([Creating a Sheet Library](#)).

**Note:** When you create a VIEW, a set of LAYERS is created automatically, their function and content being determined by the default settings, as explained in [Layer Purpose Definitions](#). (This is exactly the same as for the creation of VIEWS during the normal use of OUTFITTING DRAFT.)

5. To create a VNOTE, navigate to the appropriate LAYER level and select **Create>Note>Over**.

6. Depending on the detailed design required, create one or more features of the View Note using the **Draw** options on the main menu. As you create each feature, use the cursor to position it and, for a primitive, to define its size. If the grid-snap function prevents you setting the precise position or size that you want, either turn snapping off temporarily or modify the attributes of the primitive later.

## 6 Symbol Library Administration

This chapter tells you how to set up Symbol Libraries (SYLB) containing the Symbol Templates (SYTM) from which users can select 2D symbols to add to their drawings. Each SYTM may comprise any combination of 2D primitives, text primitives (TEXP) and existing symbol instances (SYMB).

The relevant hierarchy is shown in Appendix B.

**Note:** The DEPT Master\_Libraries, supplied as part of the standard product, contains a REGI named DRA/MAS/SYMBOLS, which holds contains two LIBYs holding general symbols and electrical symbols, which you can adapt as required.

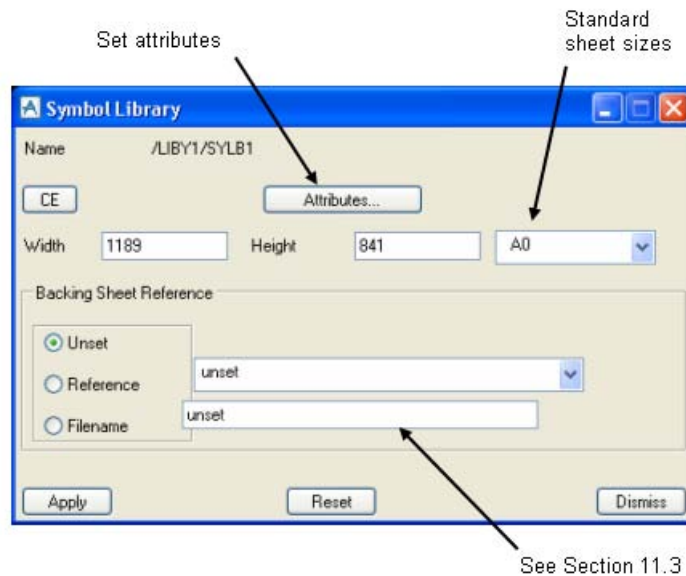
### 6.1 Entering Symbol Library Administration Mode

From one of the OUTFITTING DRAFT Administration menus, select **Draft>Symbol Libraries**. The main menu will change to the **OUTFITTING DRAFT Symbol Library Administration** menu. The menu hierarchy illustrated in [Symbol Library Administration](#). All menu selections specified in the remainder of this chapter refer to the Symbol Library menu unless otherwise stated.

### 6.2 Creating a Symbol Library

To create a new SYLB, proceed as follows:

1. Navigate to the appropriate LIBY level in the existing hierarchy or, if necessary, use **Create>Library** to add a new LIBY.
2. Select **Create>Symbol Library**. It is recommended that you give the new SYLB a name that will make its content obvious to users.
3. The SYLB is effectively a drawing sheet on which you will position the SYTMs, so you must specify its dimensions (either explicitly in the **Width** and **Height** boxes, or by selecting a standard sheet size from the drop-down list).
4. If you wish to define attributes at SYLB level, such that they will be cascaded down to SYTM level, click on the **Attributes...** button and change the relevant settings on the resulting form. (You can modify these attributes for individual SYTMs later if you wish.)



## 6.3 Creating Symbol Templates

The SYTMs define the appearance of the 2D symbols which users can select and add to their drawings (as symbol *instances*).

**Hint:** You will find it easier to position and align the individual parts of each SYTM (i.e. the primitives, text, and/or instances of other symbols) if you display a working **grid** with a fairly small spacing (say 10 mm) and set the **snap** function on.

Create each SYTM as follows:

1. Select **Create>Symbol Template** and give the symbol a meaningful name.
2. Use the cursor to position the origin of the SYTM at a convenient grid point.
3. Depending on the detailed design required, create one or more components of the SYTM in turn from the **Draw** options on the main menu bar. As you create each component, use the cursor to position it and, for a primitive, to define its size. If the grid-snap function prevents you setting the precise position or size that you want, either turn snapping off temporarily or modify the attributes of the primitive later. (Remember, when positioning the component parts of the SYTM, where you placed its origin in Step 2.)

## 6.4 Adding Annotation via a Backing Sheet

When you create each SYTM, you define its origin with respect to its component outlines. It is helpful if users can see where this origin is, but you may not want to make an origin marker part of the selectable symbol instance. Similarly, you may wish to add a descriptive name to the SYTM, as displayed on the SYLB sheet, in such a way that the name is not selected for display on the drawing sheet. The solution is to position the origin marker and descriptive name on a **backing sheet** that is displayed with, but does not form part of, the SYLB sheet. To do so, proceed as follows:

1. Examine the displayed SYLB sheet and make a note of the coordinates of all locations at which you wish to position supplementary details. (You may be able to use the grid

as a measuring scale if you have chosen a convenient spacing and have positioned SYTM components at grid intersection points.)

2. Change to Sheet Library Administration mode (see [Sheet Library Administration](#)). Create a backing sheet (BACK) with the same dimensions as the SYLB sheet and display it in a 2D View.
3. For each required group of annotations on the SYLB, create a NOTE and position it at the appropriate point on the BACK (using the notes which you made in Step 1 as a reminder); or create all of the annotations within a single NOTE if you prefer.
4. Change back to Symbol Library Administration mode. Select **Modify>Symbol Library>Definition** and set the **Backing Sheet Reference** option to the name of the corresponding BACK that you have just created.

Now, when the SYLB is displayed, the annotation for each SYTM will be shown for the user's guidance but will not be selected for adding to a drawing.



## 7 2D Symbolic Representation Administration

Symbolic representation is cross-disciplinary functionality which allows design items to be represented symbolically in a 2D View in OUTFITTING DRAFT when the Update Design process is executed. This depends on creating appropriate symbol and/or text templates in the OUTFITTING DRAFT database and setting up appropriate data structures and references in Catalogue databases before this functionality is used.

If the OUTFITTING DRAFT administrator does not have the appropriate permissions in the Catalogue, then effective co-operation between the OUTFITTING DRAFT and Catalogue administrators will be critical for the symbolic representation functionality.

To support this functionality, additional elements (DRSSET and DRSYLK) have been added to the Catalogue database.

### 7.1 Project Structure and Distribution

When symbolic representation is used in a drawing, the same design symbol should be used under the same conditions across an organisation irrespective of its size.

Design symbols will usually be held in a OUTFITTING DRAFT (i.e. PADD) database in one of the Multiple Databases (MDB) in the master project (MAS) in addition to the master discipline catalogues that already reside there. This OUTFITTING DRAFT database will contain the templates for 2D design symbols that are referenced by the Catalogue. Thus, OUTFITTING DRAFT design symbols will be made available in user projects by including a foreign reference to the MDB in the master project.

As the OUTFITTING DRAFT design symbol libraries will be stored within a foreign project database, then it will be the responsibility of the system/project administrator for the foreign project to distribute them globally. The Global application only distributes databases for a given project. Thus if master project is required at another location, then the system/project administrator must either make that a Global project or otherwise arrange for its distribution.

**Note:** Use of backing sheets (BACK) should be avoided within the design symbol database since these will complicate distribution of the design symbol libraries.

### 7.2 Catalogue Items

The following element types have been added to the Catalogue (CATA) DDL:

DRSYLK (Drafting Symbol Link)

DRSSET (Drafting Symbol Link)

DRSSET have been added as a list member of CATE, STCA, SECT and STSE.

Elements SCOM, SPRE, JOIN and SFIT include a reference to a Draft Symbol Set: dynamic ftable %DRSSRE (%DRSSET).

The Catalogue and Specifications Reference Manual (PARAGON Section) describes how to create DRSSET and DRSYLK elements in the catalogue.

## 7.3 Assumptions on how Design Symbols will be Used

Each Catalogue item references a parameterised template and provides a set of values for these parameters. Consequently, there could, for example, be Catalogue items for OFFICE-TABLE/1200x1000, OFFICE-TABLE/1800X750 and OFFICE-TABLE/2000X800.

To use symbolic representation with a fixed size symbol for occurrences of these Catalogue items in a OUTFITTING DRAFT View, a single Design Symbol Set (DRSSET) will be created and referenced by the GPART for each of these items.

However, if a scaled design symbol is used, a DRSSET would be created for each of these items in the Catalogue, for example DRSSET-OFFICE-TABLE/1200x1000, DRSSET-OFFICE-TABLE/1800X750 and DRSSET-OFFICE-TABLE/2000X800. As there is a one-to-one correspondence between GPART and DRSSET, this may require the creation of additional GPARTs.

## 7.4 Non-uniformly Scaled Design Symbols

Setting the x and y scaling factors in the %XYSC attribute independently on the Design Symbol Link (DRSYLK) element will enable the non-uniform scaling of Design Symbols (DESSYMs). This will enable the DESSYM to be scaled to the correct size for the design element that it is intended to replace in the OUTFITTING DRAFT View regardless of the aspect ratio of that design element.

## 7.5 Orientating Design Symbols

The OUTFITTING DRAFT administrator or the symbol designer must associate the symbol template (SYTM) or text template (TXTM) with orientation of the component in the Catalogue that the design symbol (DESSYM) will represent. This is achieved either by selecting an existing P-point on the Catalogue Component or by creating a new P-point. Then the value of PPDI attribute on the SYTM or TXTM must be set to the value of P-point Number (%NUM) attribute on the Catalogue Component. This will enable the 2D Symbolology functionality to use the direction of the P-point, which is determined by the P-point direction (PTCD) attribute on the P-point element, for aligning the x-axis of the SYTM or TXTM.



## 8 ISODRAFT Symbol Library Administration

This chapter tells you how to set up ISODRAFT Symbol Libraries (ISOLB), containing ISODRAFT Symbol Templates (ISOTM). This allows you create and modify ISODRAFT Symbol Keys.

### 8.1 Entering ISODRAFT Symbol Library Administration Mode

From one of the OUTFITTING DRAFT Administration Applications main menus, select **Draft>ISODRAFT Symbol Libraries**.

The main menu will change to the **ISODRAFT Symbol Library Administration** menu. The menu hierarchy is illustrated in [Database Hierarchy](#). All menu selections specified in the remainder of this chapter refer to the ISODRAFT Symbol Library menu unless otherwise stated.

### 8.2 Creating an ISODRAFT Symbol Library

To create a new ISODRAFT Symbol Library (ISOLB):

1. Navigate to the appropriate LIBY level in the existing hierarchy or, if necessary, use **Create>Library** to add a new LIBY.
2. Select **Create>ISODRAFT Symbol Library**. It is recommended that you give the new ISOLB a name that will make its content obvious to users.
3. The ISOLB is a drawing sheet on which you will position the ISOTMs, so you must specify its dimensions (either explicitly in the **Width** and **Height** boxes, or by selecting a standard sheet size from the drop-down list).
4. If you wish to define attributes at ISOLB level, such that they will be cascaded down to ISOTM level, click on the **Attributes...** button and change the relevant settings on the resulting form. (You can modify these attributes for individual ISOTMs later if you wish.)

### 8.3 Creating ISODRAFT Symbol Templates

The ISODRAFT Symbol Templates allow ISODRAFT users to produce user-defined symbols using the OUTFITTING DRAFT interface. The symbol definition is made up of two components - **straights** and **markers**.

Straights can be solid for normal lines, dashed for insulation lines and chained for tracing lines.

Markers can be defined for symbol arrive and leave points, tee points and spindle points.

Create each ISOTM as follows:

1. Select **Create>ISODRAFT Symbol Template** and give the symbol a name. The *Symbol Template* form will be displayed.
2. Define the symbol geometry using the pending on the detailed design required, create one or more components of the ISOTM in turn from the **Draw**, **Construct**, and **Edit** options, which are used in the same way as in the 2D Drafting Application.

You can add annotation to an ISODRAFT Symbol Template in the same way as for Symbol Templates.

3. Export the ISODRAFT Symbol by selecting **Utilities>Export ISODRAFT Symbol**. See the online help for more information.

## 8.4 Importing ISODRAFT Symbols

The *Import ISODRAFT Symbols* form is displayed when you select **Utilities>Import ISODRAFT Symbols** from the ISODRAFT Symbol Library Administration menu. The form allows you to import ISODRAFT symbol macro files into OUTFITTING DRAFT symbol libraries.

You specify the filename of the file containing ISODRAFT symbol macros, and give the name of symbol library.

The **Apply** button imports the given symbol macro file into the OUTFITTING DRAFT symbol library. The first symbol is positioned at the bottom left hand corner of the Sheet. Subsequent symbols are tabulated across and up the page. When there is no space left on the Sheet, a new ISOLB is created.

For more information, see the on-line help for the *Import ISODRAFT Symbols* form.

## 9 Label Library Administration

This chapter tells you how to set up Label Libraries (LALB) containing the Symbol Templates (SYTM) and Text Templates (TXTM) from which users can create symbolic (SLAB) or general (GLAB) labels, respectively. Each SYTM may comprise any combination of 2D primitives, text primitives (TEXP) and existing symbol instances (SYMB). Each TXTM holds specific or intelligent (i.e. #-coded) text in its BTEX attribute.

The relevant hierarchy is shown in [Database Hierarchy](#).

**Note:** The DEPT Master\_Libraries, supplied as part of the standard product, contains a REGI named DRA/MAS/LABELS, which holds contains LIBYs holding different types of label templates, which you can adapt as required.

### 9.1 Entering Label Library Administration Mode

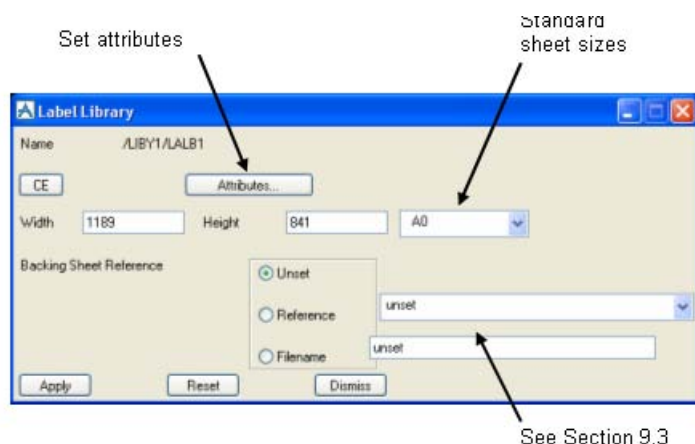
From one of the OUTFITTING DRAFT Administration Application main menus, select **Draft>Label Libraries**.

The main menu will change to the **Label Library Administration** menu, which gives you access to the menu hierarchy illustrated in [Label Library Administration](#). All menu selections specified in the remainder of this chapter refer to this Label Library menu unless otherwise stated.

### 9.2 Creating a Label Library

To create a new LALB, proceed as follows:

1. Navigate to the appropriate LIBY level in the existing hierarchy or, if necessary, use **Create>Library** to add a new LIBY.
2. Select **Create>Label Library**. It is recommended that you give the new LALB a name that will make its content obvious to users.
3. The LALB is effectively a drawing sheet on which you will position the SYTMs and TXTMs, so you must specify its dimensions (either explicitly in the **Width** and **Height** boxes, or by selecting a standard sheet size from the drop-down list).
4. If you wish to define attributes at LALB level, such that they will be cascaded down to SYTM and TXTM level, click on the **Attributes...** button and change the relevant settings on the resulting form. (You can modify these attributes for individual SYTMs or TXTMs later if you wish.)



## 9.3 Creating Symbol Templates

The SYTMs define the appearance of the 2D symbols that users can refer to when creating SLABs to add to their drawings.

**Hint:** You will find it easier to position and align the individual parts of each SYTM (i.e. the primitives, text, and/or instances of other symbols) if you display a working **grid** with a fairly small spacing (say 10 mm) and set the **snap** function on.

Create each SYTM as follows:

1. Select **Create>Symbol Template** and give the symbol a meaningful name.
2. Use the cursor to position the origin of the SYTM at a convenient grid point.
3. Depending on the detailed design required, create one or more components of the SYTM in turn from the **Draw**, **Edit** and **Construct** options. As you create each component, use the cursor to position it and, for a primitive, to define its size. If the grid-snap function prevents you setting the precise position or size that you want, either turn snapping off temporarily or modify the attributes of the primitive later. (Remember, when positioning the component parts of the SYTM, where you placed its origin in Step 2.)

### Adding Annotation via a Backing Sheet

When you create each SYTM, you effectively define its origin with respect to its component outlines. It is helpful if users can see where this origin is, but you may not want to make an origin marker part of the selectable symbol instance. Similarly, you may wish to add a descriptive name to the SYTM, as displayed on the LALB sheet, in such a way that the name does not form part of the selectable symbol instance. The solution is to position the origin marker and descriptive name on a **backing sheet** that is displayed with, but does not form part of, the LALB sheet. To do so, proceed as follows:

1. Examine the displayed LALB sheet and make a note of the coordinates of all locations at which you wish to position supplementary details. (You may be able to use the grid as a measuring scale if you have chosen a convenient spacing and have positioned SYTM components at grid intersection points.)
2. Change to Sheet Library Administration mode (see [Sheet Library Administration](#)). Create a backing sheet (BACK) with the same dimensions as the LALB sheet and display it in a 2D View.

3. For each required item of annotation on the LALB, create a NOTE and position at the appropriate point on the BACK (using the notes which you made in Step 1 as a reminder).
4. Change back to Label Library Administration mode. Select **Modify>Label Library>Definition** and set the **Backing Sheet Reference** option to the name of the corresponding BACK that you have just created.

Now, when the LALB is displayed, the annotation for each SYTM will be shown for the user's guidance without confusing the selection of a symbol instance for adding to a drawing.

## 9.4 Creating Text Templates

Unlike SYTMs, TXTMs have no members. Instead, they hold text strings (in their BTEX attributes) to which users can refer when creating GLABs to add to their drawings. These text strings can include #-coded intelligent text, which is replaced by the corresponding attribute settings from the Design DB when the labels are displayed on the drawing sheets.

Each TXTM automatically includes a Label Frame, although this can be switched off if it is not required.

In order to see the effects of adding individual TXTMs as you build up the LALB contents, open a 2D View window and add the LALB to the display. You may find it easier to position and align TXTMs if you display a working **grid** with a fairly small spacing (say 10 mm) and set the **snap** function on; or you may prefer just to position them by eye.

Create each TXTM as follows:

1. Select **Create>Text Template** and give the template a meaningful name.
2. Use the cursor to position the origin of the TXTM at the required point. (Nothing will appear in the displayed view until you have set the BTEX attribute.)

You will be presented with a *Modify Text* form

3. Enter the required text using the keyboard or insert intelligent text codes, formatting your text using the options above the text box.

### Inserting Intelligent Text Codes

To incorporate a #-coded intelligent text item, call up the **Intelligent Text** gadget by clicking the **Intelligent Texts** button. Use the **Codewords** menu options to select the Design attribute whose setting is to be inserted when the TXTM is referenced by a GLAB. Select the required codeword, copy it, and then paste it into the text box on the *Dynamic Text* form. The **Codewords** menu includes, in a categorised hierarchy, short descriptions of all attributes whose settings are most likely to be needed; if you want to

incorporate any attribute not covered by the listed options, type its name, preceded by the # character, into the text box.

**Copying Text from an Existing TXTM**

To save unnecessary typing, you can copy text from an existing TXTM into the TXTM that you are currently defining. To do so, first ensure that the TXTM that you wish to copy is visible in a 2D View and then click the **Insert Text** button. When prompted, use the cursor to identify the TXTM whose BTEX is to be copied; the text will be inserted after the highlighted line in the edit window.

4. When the required text is displayed in the text box, click **Apply** to copy the string to the BTEX attribute of the TXTM. The text and label frame (if switched on) will appear in the displayed LALB at the position you defined in Step 2.

## 10 Style Library Administration

This chapter tells you how to set up Styles (STYL), which define how different elements are drawn, and Hatching Styles, which define which elements are hatched, and the appearance of the hatching. Styles and hatching Styles are stored in Representation Libraries (RPLB).

This chapter also tells you how to set up Design Change Styles (DCSTYL), which define how different design elements (including hatching) that have changed are drawn, and Annotation Change Styles (ACSTYL), which define how annotation elements that have changed are drawn. Design Change Styles and Annotation Change Styles are stored in Representation Libraries (RPLB).

From one of the OUTFITTING DRAFT Administration application main menus, select **Draft>Style Libraries**.

The main menu will change to the **Representation Style Administration** menu. The menu hierarchy is shown in [Style Library Administration](#).

### 10.1 Creating a Style Library

**Note:** **Style Libraries** are actually **Representation Libraries** (RPLB) in terms of OUTFITTING Database elements. Note that the STYLs that you can reference from an RRUL must be owned by the *same* LIBY.

To create a new Style Library:

1. Navigate to an existing LIBY or use **Create > Library** to add a new LIBY.
2. Select **Create > Style Library**, and you will see the *Create RPLB* form on which you can give the Style Library a name. It is recommended that you give the new RPLB a name that makes it obvious that it is a Style Library.
3. When you press **OK** on the *Create RPLB* form, you will see the *Style Library* form. This form allows you to define the STYLs to be stored in the library.

The *Style Library* form will be considered in two stages:

- The upper part of the form is concerned with the creation and deletion of STYL elements within the RPLB. It contains a list of all STYLs in the current Style Library. This part of the form is explained in [Creating and Deleting Styles](#).
- The lower part of the form allows you to set attribute values for the current STYL; that is, for the STYL which is highlighted in the list. This part of the form is explained in [Setting Style Attributes](#).

#### 10.1.1 Creating and Deleting Styles

The upper part of the *Style Library* form shows the name of the current RPLB that is being used as a Style Library, and a list of all STYLs within it (or None if you have just created the

RPLB). You can change the current element by selecting the library you want in the emboss list and clicking **CE**.

## Creating a Style

To create a new STYL, click the **Create Style** button and give the new STYL a name. The name will be added to the displayed list and will be highlighted as the current selection. The attributes of the new STYL will have the default settings shown by the gadgets in the lower part of the form. Change these, if required, as explained in [Setting Style Attributes](#).

## Deleting a Style

To delete a STYL from the current library, highlight it in the list and click the **Delete Style** button.

## Listing Some of the Attributes

The amount of information shown in the **Styles** list about each STYL is controlled by the option selected from the **Display** drop-down list:

### Name

shows only the STYL name and drawing level.

### Gen

shows the drawing level and any linestyle and colour settings applicable to general drawings.



### Pipe

shows the drawing level and any linestyle and colour settings applicable to pipework drawings.

### Steel

shows the drawing level and any linestyle and colour settings applicable to steelwork drawings.

Set an appropriate **Display** mode to make it easier to find the STYL whose attributes you want to modify, without having to recognise its name.

## 10.1.2 Setting Style Attributes

The lower part of the *Style Library* form consists of three sets of gadgets that allow you to modify the attribute settings for the currently highlighted STYL.

To modify any of the attribute settings for the current STYL, change the settings of the corresponding gadgets (as explained in the following paragraphs) and click the **Apply** button.

Annotations in the image:

- Drawing level**: Points to the 'Draw Level' text box.
- Standard colour selector**: Points to the 'Colour' dropdown menu.
- Click to show colour palette**: Points to the 'Pick' button.
- Standard line-pattern selector**: Points to the 'Style' dropdown menu.
- Standard line-width selector**: Points to the 'Thin' dropdown menu.
- Choose which of these you want displayed**: Points to the 'Representation Flags' section.
- Check this box if a User-defined style is required**: Points to the 'User-defined' checkbox.

### Setting Drawing Levels

The **Draw Level** text box shows the Drawing Level (DLEV) setting. This attribute will restrict the elements displayed using this Style to just those that include this number in their drawing level range, as set in OUTFITTING DESIGN.

**Note:** Every primitive in the design model has an associated drawing level range attribute. If the drawing level given here lies within this range, the 3D object will be drawn when it is added to the Draw List.

## Assigning Colours and Styles

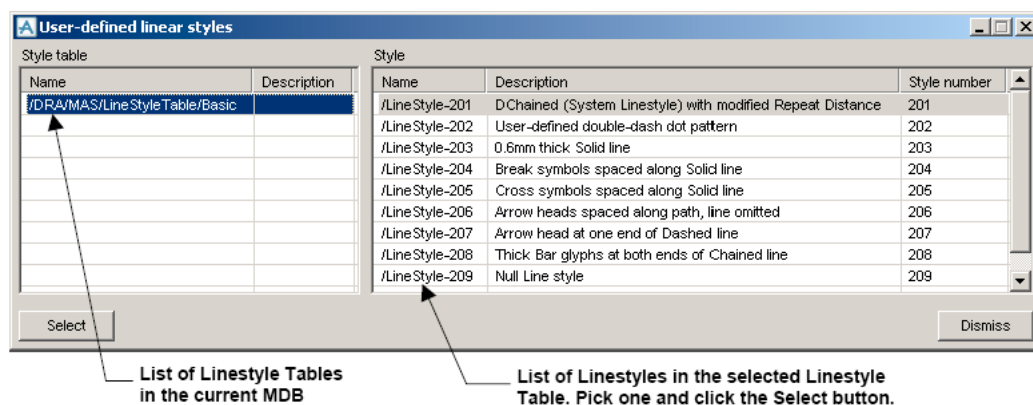
The **Styles and Colours** section of the form shows the assignment of linestyles and colours to the six line types (i.e. Frontface, Backface, etc).

For each line type you can assign a **colour** and either a **Standard linestyle** (which may be 'Off') or a **User-defined linestyle**.

**Colours** can either be selected from a drop-down list (initially populated with the basic 16 system-defined colours) or picked from a colour-palette shown when the **Pick** button is clicked. The colour selector gadgets will be greyed out if the linestyle is 'Off'.

**Standard linestyles** are selected from two drop-down list gadgets: the first allowing 'Off' or one of the 10 standard system-defined line-patterns to be selected, and the second allowing one of the three standard system-defined line-widths to be selected.

If a **User-defined linestyle** is required the checkbox should be ticked. This will cause the two Standard linestyle gadgets to be greyed out and the *User-defined Linear Styles* selection form to be displayed as shown below. The left-hand side of this form lists all the Linestyle Tables found in the MDB. Selecting one of these causes the right-hand side to be populated with the Table's Linestyles from which a selection can be made.



## Setting Drawing Flags On or Off

The **Representation Flags** section of the form shows the current On/Off settings for the TUBE, PSYM, OBST, INSU, PRFG and PLFG flags:

- **Tube:** If switched off this will suppress the display of all pipes.
- **Piping Symbols:** If switched off this will suppress the display of all piping symbols.
- **Obstructions:** If switched off this will suppress the display of all obstructions.
- **Insulation:** If switched off this will suppress the display of any insulation.
- **Profile:** This is used for steelwork & if off then the profiles of the steelwork will be suppressed.
- **P-Lines:** This is used for steelwork and if on will show the steelwork stick build representation

## 10.2 Creating a Hatching Style Library

**Note: Hatching Style Libraries** are actually **Representation Libraries** (RPLB) in terms of OUTFITTING Database elements. Note that the HSTYLs that you can reference from a HRUL must be owned by the *same* LIBY.

To create a new Hatching Style Library:

1. Navigate to an existing LIBY or use **Create > Library** to add a new LIBY.
2. Select **Create > Hatching Library**, and you will see the *Create RPLB* form on which you can give the Hatching Style Library a name. It is recommended that you give the new RPLB a name that makes it obvious that it is a Hatching Style Library.

When you press **OK** on the *Create RPLB* form, you will see the *Hatching Styles* form that allows you to define the HSTYLs to be stored in the library.

The *Hatching Styles* form will be considered in two stages:

- The upper part of the form allows you to create and delete HSTYLs. It contains a list of all HSTYLs in the current RPLB. This part of the form is explained in [Creating and Deleting Hatching Styles](#).
- The lower part of the form allows you to set attribute values for the current HSTYL; that is, for the HSTYL which is highlighted in the list. This part of the form is explained in [Setting Hatching Style Attributes](#).

### 10.2.1 Creating and Deleting Hatching Styles

The name of the current RPLB is shown at the top of the form. You can change the current element by selecting the Library you want in the Members List and clicking **CE**.

### Creating a Hatching Style

To create a new HSTYL, click the **Create Style** button and give the new HSTYL a name. The name will be added to the **Hatching Styles** list and will be highlighted as the current selection. The attributes of the new HSTYL will have the default settings shown in the lower part of the form. Change these, if required, as explained in [Setting Hatching Style Attributes](#).

### Deleting a Hatching Style

To delete a HSTYL from the current library, highlight it in the list and click the **Delete Style** button.

## 10.2.2 Setting Hatching Style Attributes

There are three sets of gadgets in the lower part of the form which allow you to modify the attribute settings for the current HSTYL.

The screenshot shows the 'Hatching Style Attributes' form with several annotations:

- Click to show colour palette**: Points to the 'Pick' button next to the 'Colour' dropdown in the 'Hatch Pattern Colour and Style' section.
- Standard colour selector**: Points to the 'Colour' dropdown in the 'Hatch Pattern Colour and Style' section.
- Standard fillstyle selector**: Points to the 'Style' dropdown in the 'Hatch Pattern Colour and Style' section.
- Check this box if a User-defined fillstyle is required**: Points to the 'Unset' checkbox in the 'Hatch Pattern Colour and Style' section.
- This includes an HVAC duct symbol**: Points to the 'ON' dropdown in the 'Pipe Symbols' section.

The form contains three main sections:

- Hatch Pattern Colour and Style**: Includes 'Colour' (red (2)), 'Style' (diagonal lines), and an 'Unset' checkbox.
- Outline Colour and Style**: Includes 'Colour' (grey), 'Style' (Off), and an 'Unset' checkbox.
- Pipe Symbols**: Includes an 'ON' dropdown.

Buttons at the bottom include 'Apply', 'Reset', and 'Dismiss'.

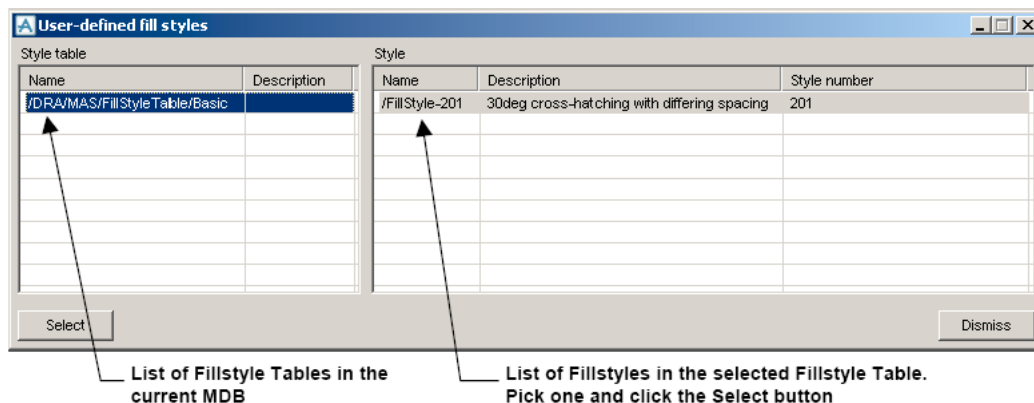
### Hatching Pattern Colour and Style

For the Hatch Pattern you can assign a **colour** and either a **Standard fillstyle** (which may be 'Off') or a **User-defined fillstyle**.

The **Colour** can either be selected from a drop-down list (initially populated with the basic 16 system-defined colours) or picked from a colour-palette shown when the **Pick** button is clicked. The colour selector gadgets will be greyed out if the fillstyle is 'Off'.

The **Standard fillstyle** is selected from the drop-down list gadget. A total of 18 standard system-defined fillstyles are provided as well as 'Off' and 'Solid Fill'.

If a **User-defined fillstyle** is required the checkbox should be ticked. This will cause the Standard style gadget to be greyed out and the *User-defined Fill Styles* selection form to be displayed as shown below. The left-hand side of the form lists all the Fillstyle Tables found in the MDB. Selecting one of these causes the right-hand side to be populated with the Table's Fillstyles from which a selection can be made.



### Outline Colour and Style

For this line type you can assign a colour and either a Standard linestyle (which may be 'Off') or a User-defined linestyle. Refer to [Setting Style Attributes](#) for an explanation of the gageets.

If an Outline is used, then each surface hatched will be outlined in the specific style.

### Pipe Symbols

The choices are **ON** or **OFF**. Choosing ON will hatch the cross-section of a pipe or HVAC duct with a piping end symbol or ducting end symbol. OFF will hatch the full cross-section of the pipe or duct.

## 10.3 Creating Change Style Libraries

To create a new Change Design Library:

1. Navigate to an existing LIBY or use **Create > Change Design Library** to add a new LIBY.
2. Select **Create > Change Design Library**, and you will see the *Create RPLB* form on which you can give the Change Design Library a name. It is recommended that you give the new RPLB a name that makes it obvious that it is a Change Design Library.
3. When you click **OK** on the *Create RPLB* form, you will see the *Change Design Library* form. This form allows you to define the DCSTYLs that will be stored in the library.

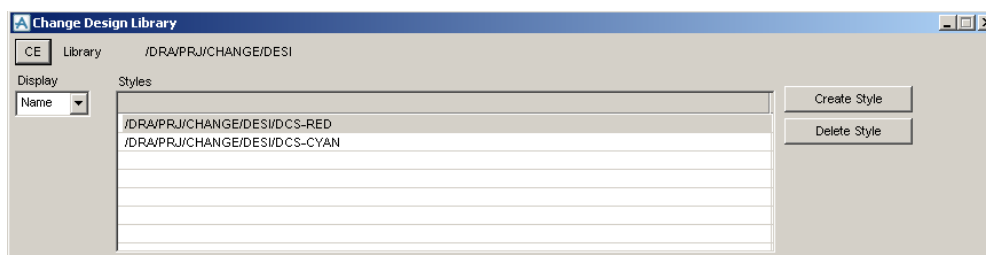
A similar procedure should be followed in order to create a new Annotation Design Library except that you would use **Create > Change Annotation Library** and the *Change Annotation Library* form.

The *Change Design Library* form and the *Change Annotation Library* form are similar, having identical upper parts, but different lower parts.

- The upper part of these forms is explained in [Creating and Deleting Change Styles](#).
- The lower part of the *Change Design Library* form allows you to set attribute values for the current DCSTYL; that is, for the DCSTYL that is highlighted in the list. This part of this form is explained in [Setting Change Design Style Attributes](#).
- The lower part of the *Change Annotation Library* form allows you to set attribute values for the current ACSTYL; that is, for the ACSTYL that is highlighted in the list. This part of this form is explained in [Setting Change Annotation Style Attributes](#).

### 10.3.1 Creating and Deleting Change Styles

The upper part of the *Change Design Library* and *Change Annotation Library* forms shows the name of the current RPLB that is being used as a Change Style Library, and a list of all Styles (either DCSTYLs or ACSTYLs) within it (or None if you have just created the RPLB).



#### Creating a Change Style

To create a new Design (DCSTYL) or Annotation (ACSTYL) Change Style click the **Create Style** button. You will be prompted for a name for the new Change Style which will be added to the displayed list and will be highlighted as the current selection. The attributes of the new Change Style will have the default settings shown by the gadgets in the lower part of the form. Change these, if required, as explained in [Setting Change Design Style Attributes](#) or [Setting Change Annotation Style Attributes](#).

#### Deleting a Change Style

To delete a Change Style from the current library highlight it in the **Styles** list and click the **Delete Style** button.

#### Listing Some of the Attributes

The amount of information shown in the **Styles** list about each Change Style is controlled by the option selected from the **Display** drop-down list:

<b>Name</b>	Shows only the Change Style name
<b>Gen</b>	Shows the linestyle and colour settings applicable to changes in general drawings.
<b>Pipe</b> (Design Change Styles only)	Shows the linestyle and colour settings applicable to changes in pipework drawings.
<b>Steel</b> (Design Change Styles only)	Shows the linestyle and colour settings applicable to changes in steelwork drawings.
<b>Hatch</b>	Shows the style and colour settings applicable to changed areas of hatching
<b>Style</b> (Annotation Change Styles only)	Shows the font and other changes made to mark changes in text strings.

Set an appropriate **Display** mode to make it easier to find the Change Style whose attributes you want to modify without having to recognise its name.

### 10.3.2 Setting Change Style Attributes

This Section describes the use of the lower parts of the *Change Design Library* and *Change Annotation Library* forms to modify the attribute settings for the currently highlighted DCSTYL or ACSTYL.

#### Setting Change Design Style Attributes

The lower part of the *Change Design Library* form consists of sets of gadgets that allow you to modify the attribute settings for the currently highlighted DCSTYL.

To modify any of the attribute settings for the current DCSTYL, change the settings of the corresponding gadgets (as explained in the following paragraphs) and click the **Apply** button.

The screenshot shows a form titled 'Change Design Style Attributes' with several sections for different line types. Each section has a 'Colour' dropdown (set to 'red (2)'), a 'Pick' button, a 'Style' dropdown, and a 'Line-width' dropdown. The sections are: Frontface, Backface, Centre line, P-line, Member line, Obscured line, Outline, and Hatch pattern. The Hatch pattern section has a 'Standard fillstyle selector' dropdown and a 'Check this box if a User-defined style is required' checkbox. The form has an 'Apply' button at the bottom left and a 'Dismiss' button at the bottom right. Annotations with arrows point to: 'Standard colour selector' (the 'red (2)' dropdown), 'Click to show colour palette' (the 'Pick' button), 'Standard line-pattern selector' (the 'Style' dropdown for Frontface), and 'Standard line-width selector' (the 'Thin' dropdown for Frontface).

The lower part of the form allows the assignment of styles and colours to the six line types (i.e. Frontface, Backface, etc) equivalent to those of a Representation Style (STYL), and to the single line type (i.e. Outline) and single Hatch pattern equivalent to those of a Hatching Style (HSTYL).

For all eight of these line types you can assign a **colour** and either a **Standard style** or a **User-defined style**. A colour may also be set to 'Unchanged' and a style to 'Unchanged' or 'Off'.

**Colours** can either be selected from a drop-down list (initially populated with the basic 16 system-defined colours and the 'Unchanged' option) or picked from a colour-palette shown when the **Pick** button is clicked. The colour selector gadgets will be greyed out if the Style is 'Off'.

**Standard linestyles** are selected from two drop-down list gadgets: the first allowing 'Unchanged' or 'Off' or one of the 10 standard system-defined line-patterns to be selected, and the second allowing one of the three standard system-defined line-widths to be selected.

The **Standard fillstyle** is selected from the drop-down list gadget. A total of 18 standard system-defined fillstyles are provided as well as 'Unchanged', 'Off', and 'Solid Fill'.

If a **User-defined Style** is required the checkbox should be ticked. This will cause the Standard Style gadgets to be greyed out and the *User-defined Linear (or Fill) Styles* selection form to be displayed. The left-hand side of this form lists all the Linestyle (or Fillstyle) Tables found in the MDB. Selecting one of these causes the right-hand side to be populated with the Table's Styles from which a selection can be made.

### Setting Change Annotation Style Attributes

The lower part of the *Change Annotation Library* form consists of sets of gadgets that allow you to modify the attribute settings of the currently highlighted ACSTYL. These attributes control the appearance of changed annotation graphics (lines and hatching) and text strings.

To modify any of these settings for the selected ACSTYL, change the settings of the corresponding gadgets (as explained in the following paragraphs) and click the **Apply** button.

The screenshot shows a software interface for configuring annotation styles. It is divided into three main sections: 'Note line', 'Hatch pattern', and 'Text'. Each section has a 'Colour' dropdown menu (currently set to 'green (5)') and a 'Pick' button. The 'Note line' section also includes a 'Style' dropdown (set to 'Solid') and a 'Thin' checkbox. The 'Hatch pattern' section includes a 'Style' dropdown showing a hatched pattern and an 'Unset' checkbox. The 'Text' section includes a 'Font' dropdown (set to 'UNCHANGED'). Below these sections is a 'Representation Flags' section with a checked 'Underline' checkbox and a 'Brackets' dropdown (set to 'Square'). At the bottom are 'Apply' and 'Dismiss' buttons.

- **Annotation Graphics**

- **Colours** can either be selected from a drop-down list (initially populated with the basic 16 system-defined colours and the 'Unchanged' option) or picked from a colour-palette shown when the 'Pick' button is clicked.
- **Standard linestyles** are selected from 2 drop-down list gadgets: the first allowing 'Unchanged' or one of the 10 standard system-defined line-patterns to be selected, and the second allowing one of the three standard system-defined line-widths to be selected.
- The **Standard fillstyle** is selected from the drop-down list gadget. A total of 18 standard system-defined fillstyles are provided as well as 'Unchanged' and 'Solid Fill'.
- If a **User-defined Style** is required the checkbox should be ticked. This will cause the Standard Style gadgets to be greyed out and the *User-defined Linear (or Fill) Styles* selection form to be displayed. The left-hand side of this form lists all the Linestyle (or Fillstyle) Tables found in the MDB. Selecting one of these causes the right-hand side to be populated with the Table's Styles from which a selection can be made.

- **Annotation Text**

For the text of a changed annotation element there are separate gadgets that allow you to specify the colour and font; either of these may be set to 'Unchanged'.

The **Representation Flags** section contains two additional gadgets for defining how changed text is presented:

- The **Underline** check box allows you to underline all changed annotation text;



- The **Brackets** selector allows you (optionally) to enclose changed annotation text within brackets of various types.



## 11 Representation Library Administration

This chapter tells you how to set up:

- Representation Rule Sets (RRST) and Representation Rules (RRUL). These define the appearance of the drawing of the Design Model.
- Hatching Rule Sets (HRST) and Hatching Rules (HRUL). These define how model faces created by section planes, and surfaces of Specified Design primitives, are hatched.

These Rules Sets are created within Representation Libraries (RPLB). When accessed during normal OUTFITTING DRAFT drawing operations, each RRUL references a STYL or HSTYL (Hatching Style) that is to be applied to the View from which the owning RRST has been called.

**Note:** The DEPT Project\_Libraries, supplied as part of the standard product, contains a LIBY named DRA/PRJ/REPR, which holds sample representation rule libraries.

This chapter also tells you how to set up:

- Change Rule Sets (CRST), Design Change Rules (DCRULE) and Annotation Change Rules (ACRULE). These define the appearance of changed design elements and changed annotations on the drawing of the Design Model.

Change Rule Sets are created within Representation Libraries (RPLB). When accessed during normal OUTFITTING DRAFT drawing operations, each DCRULE references a DCSTYL and each ACRULE references an ACSTYL, which is to be applied to the View from which the owning CRST has been called.

From one of the OUTFITTING DRAFT Administration application main menus, select **Draft > Representation Rules**. The main menu will change to the **Representation Style Administration** menu. The menu hierarchy is shown in [Administrator Menus](#).

### 11.1 Creating a Representation Library

#### Representation or Hatching Library

To create a new RPLB, proceed as follows:

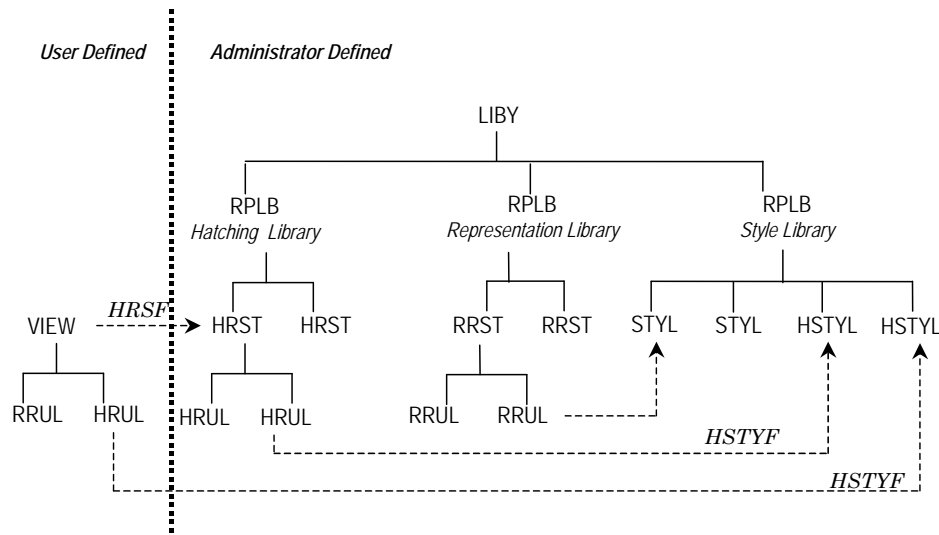
1. Navigate to an existing LIBY or use **Create > Library** to add a new LIBY.
2. Select **Create > Representation Library** or **Create > Hatching Library**. You should give the new RPLB a name to make it obvious whether it is a Representation Rule Library or a Hatching Library.

**Note:** The STYLS or HSTYLS which you can reference from a RRUL or an HRUL must be owned by the *same* LIBY.

## Local Rules

Views can also own **local** HRULs and RRULs. The View HRSF attribute should be set to point to a HRST, and the HSTYF attribute of the HRULs owned by the View should be set to point to HSTYLs, in the same way as HRULs owned directly by HRST

The database hierarchy is shown in the following diagram.



**Note:** You can store HSTYLs in a separate RPLB if you wish, and that you can store HRSTs, RRSTs and Styles in the same RPLB.

## Change Library

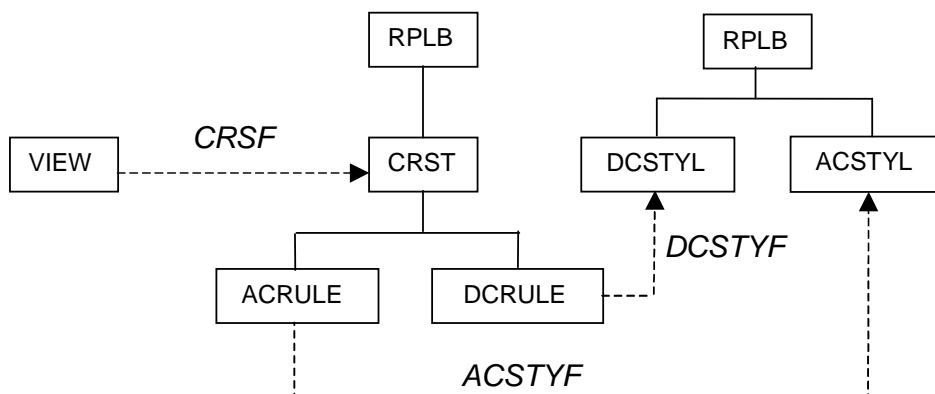
To create a new RPLB, proceed as follows:

1. Navigate to an existing LIBY or use **Create > Library** to add a new LIBY.
2. Select **Create > Change Library**. You should give the new RPLB a name to make it obvious that it is a Change Rule Library.

## Local Rules

Unlike Representation Rules, Views cannot own DCRULEs or ACRULEs. All Change Rules applicable to a View are owned by a Change Ruleset (CRST) which is referenced by the View's Change Ruleset Reference attribute.

The database hierarchy is shown in the following diagram.



## 11.2 Creating Representation Rule Sets

When a Representation Library is created, a Representation Rule Set (RRST) is automatically created below it. To create additional RRSTs below the current RPLB, select **Create > Ruleset**. The *Create RRST* form will be displayed, and you can give the RRST a name.

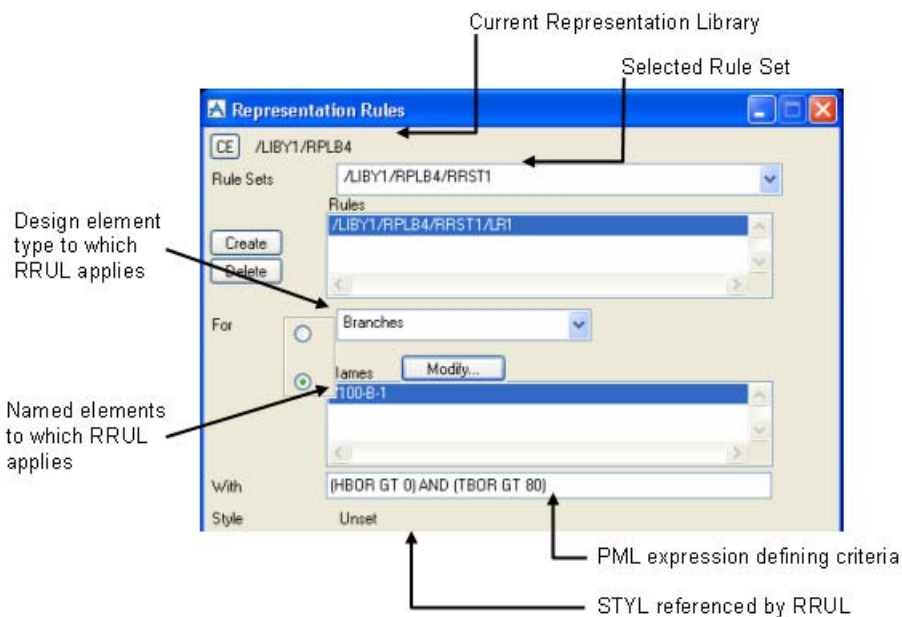
When you press **OK** on the *Create RRST* form, you will see the *Representation Rule Set* form that allows you to define individual RRULs and to set up a reference from each of these to an existing STYL. (Remember that each RRUL can only reference a STYL in the same LIBY).

The *Representation Rule Set* form will be considered in two stages:

- The upper part of the form is concerned with the creation and deletion of RRULs within a RRST. It also allows you to restrict the application of a RRUL to a specified class of elements. This part of the form is explained in [Creating and Deleting Representation Rules](#).
- The lower part of the form displays a list of all currently defined STYLs and allows you to select any one of these to be referenced by the current RRUL. This part of the form is explained in [Associating Representation Rules with Styles](#).

## 11.3 Creating and Deleting Representation Rules

The upper part of the *Representation Rules* form shows the name of the current RPLB. You can switch to another RPLB by selecting it in the Members List and pressing the **CE** button.



The **Rule Sets** drop-down list allows you to switch to any RRST owned by the current RPLB.

The **Rules** list shows all RRULs in the current RRST.

### Specifying the Owning Rule Set

Select the RRST whose member RRULs you wish to modify from the **Rule Set** drop-down list. The RRULs owned by the current RRST will be shown in the **Rule** list (or None if you have just created the RRST).

### Creating a Rule

To create a new RRUL, click the **Create** button and give the new RRUL a name. The name will be added to the list and will be highlighted as the current selection.

### Deleting a Rule

To delete a RRUL from the current RRST, highlight it in the **Rules** list and click the **Delete** button.

### Specifying the Elements to which Rules Apply

You can specify the type of element or a list of named elements, as follows:

To specify the **type** of element to which the current RRUL is to be applied, click the **For** option button and select the type from the drop-down list.

To specify named elements to which the current RRUL is to be applied, press the **Modify** button, and the *Names* form will be displayed. On this form, select individual elements from the **Members** list for copying to the **Names** list in the usual way. When you press **OK**, the names will be shown in the text pane on the *Representation Rules* form.

### Criteria for Rule Application

To apply qualifying restrictions to the elements specified by the **For** option, type an expression in the **With** text box. For example, if the **For** gadget specifies Branches, you might use the **With** qualifier to enter

'(HBOR GT 100) AND (TBOR GT 80)'

meaning 'Branches with HBOR greater than 100 mm and TBOR greater than 80 mm'.

The **Style** box halfway down the form, shows the name of the STYL (if set) that is referenced by the current RRUL. The way in which you set this is explained in [Associating Representation Rules with Styles](#).

## 11.4 Associating Representation Rules with Styles

The lower part of the *Representation Rule Set* form allows you to list the contents of any Style Library in the same LIBY as the current Representation Library.

The screenshot shows a form with the following fields and annotations:

- With**: A text box containing the expression '(HBOR GT 0) AND (TBOR GT 80)'.
- Style**: A text box containing 'Unset'.
- Styles**: A text box containing '/DRA/PRJ/STYL/PIPE'. An arrow labeled 'Select Style Library' points to this field.
- Display**: A list box showing three items: '/DRA/PRJ/STYL/PIPE/NORMAL Level 6', '/DRA/PRJ/STYL/PIPE/DASH Level 6', and '/DRA/PRJ/STYL/PIPE/DETAIL Level 6'. An arrow labeled 'List of STYLs in the current STYL' points to this list.
- Name**: A dropdown menu with 'Name', 'Gen', 'Pipe', and 'Steel' options. An arrow points to this dropdown.
- Buttons**: 'Apply' and 'Dismiss' buttons at the bottom.

To associate a RRUL with a STYL, proceed as follows:

1. Use the **Styles** drop-down list to select the RPLB that holds the required STYL. All STYLs in the selected Style Library will be shown in the list.
2. If necessary, use the **Display** drop down list to change the amount of information shown in the list. The display options are identical to those that you used when you created the Style Library, as described in [Creating a Style Library](#).
3. Ensure that the required RRUL is highlighted in the **Rule** list and select the corresponding STYL from the Style list; then click the **Apply** button to create the association.

## 11.5 Creating Hatching Rule Sets

When a Hatching Library is created, a Hatching Rule Set (HRST) is automatically created below it. To create additional HRSTs below the current RPLB, select **Create > Hatching Ruleset**. The *Create HRST* form will be displayed, and you can give the HRST a name.

When you press **OK** on the *Create HRST* form, you will see the *Hatching Rule Set* form to allow you to define individual HRULs and to set up a reference from each of these to an

existing HSTYLE. (Remember that each HRUL can only reference an HSTYLE in the same LIBY).

The *Hatching Rule Set* form will be considered in two stages:

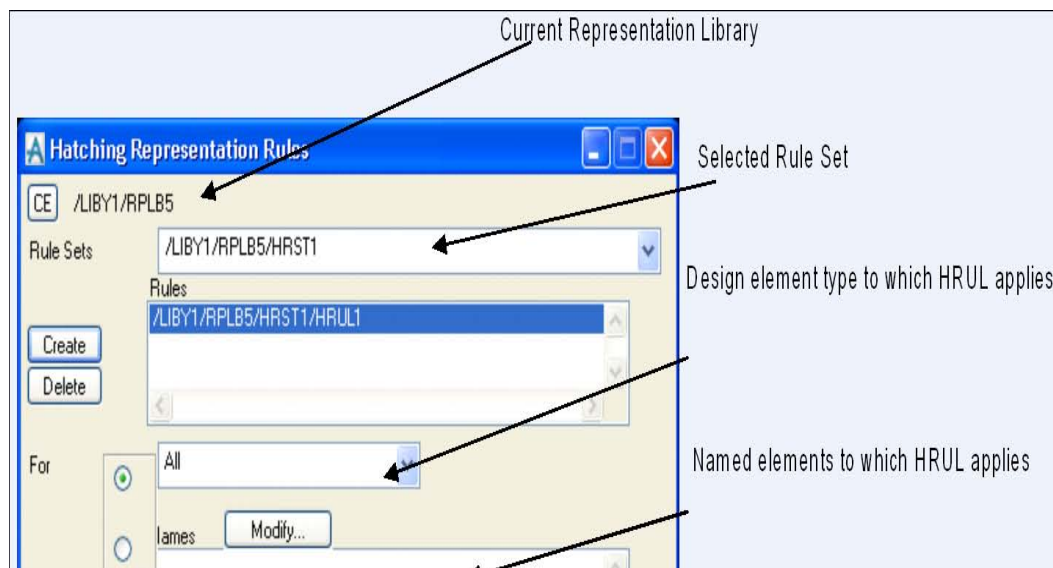
- The upper part of the form is concerned with the creation and deletion of HRULs within a HRST. It also allows you to restrict the application of a HRUL to a specified class of elements. This part of the form is explained in [Creating and Deleting Hatching Rules](#).
- The lower part of the form displays a list of all currently defined HSTYLES and allows you to select any one of these to be referenced by the current HRUL. This part of the form is explained in [Associating Hatching Rules with Styles](#).

## 11.6 Creating and Deleting Hatching Rules

The upper part of the *Hatching Rules* form shows the name of the current RPLB. You can switch to another RPLB by selecting it in the Members List and pressing the **CE** button.

The **Rule Sets** drop-down list allows you to switch to any HRST owned by the current RPLB.

The **Rules** list shows all HRULs in the current HRST.



### Specifying the Owning Rule Set

Select the HRST whose member HRULs you wish to modify from the **Rule Set** drop-down list. The HRULs owned by the current HRST will be shown in the **Rule** list (or None if you have just created the HRST).

### Creating a Rule

To create a new HRUL, click the **Create** button and give the new HRUL a name. The name will be added to the list and will be highlighted as the current selection.

### Deleting a Rule

To delete an HRUL from the current HRST, highlight it in the **Rules** List and click the **Delete** button.



### Specifying the Elements to which Rules Apply

You can specify the type of element or a list of named elements, as follows:

To specify the **type** of element to which the current HRUL is to be applied, select the **For** option button, and select the type from the drop-down list.

To specify named elements to which the current HRUL is to be applied, press the **Modify** button, and the *Names* form will be displayed. On this form, select individual elements from the **Members** list for copying to the **Names** list in the usual way. When you press **OK**, the names will be shown in the text pane on the *Hatching Rules* form.

### Criteria for Rule Application

To apply qualifying restrictions to the elements specified by the **For** option, type an expression in the **With** text box. For example, if the **For** gadget specifies Branches, you might use the **With** qualifier to enter

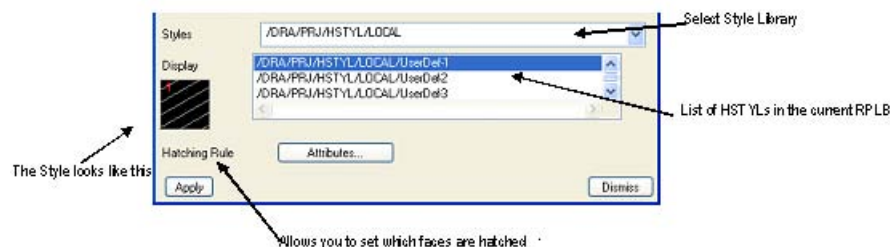
'(HBOR GT 100) AND (TBOR GT 80)'

meaning 'Branches with HBOR greater than 100 mm and TBOR greater than 80 mm'.

The **Style** box, halfway down the form, shows the name of the HSTYL (if set) that is referenced by the current HRUL. The way in which you set this is explained in [Associating Hatching Rules with Styles](#).

## 11.7 Associating Hatching Rules with Styles

The lower part of the *Hatching Representation Rules* form allows you to list the contents of any Style Library in the same LIBY as the current Hatching Library.



The **Style** drop-down list displays the current Hatching Style of the selected Hatching Rule.

To associate an HRUL with an HSTYL:

1. Select the RPLB owning the required HSTYL from the **Styles** drop-down list. All HSTYLs in the selected Hatching Library will be shown in the **Display** list.

**Note:** In the Administration application, this is all the Hatching Libraries in the MDB, but for the user defined local hatching, only the library from the User Defaults Local Styles is available.

2. Ensure that the required HRUL is highlighted in the **Rules** list and select the corresponding HSTYL from the **Styles** drop-down list; then click the **Apply** button to create the association.

## 11.8 Hatching Rule Attributes

The Hatching Rule attributes give you more control over which surfaces of an element are hatched. The *Hatching Rules Attributes* form is displayed when you press the **Attributes** button on the *Hatching Representation Rules* form.

- Pressing the **Plot** button on the *Hatching Rule Attributes* form will display the *Hatching Rule Attributes Plot* form which illustrates the Hatching Rule Attributes.

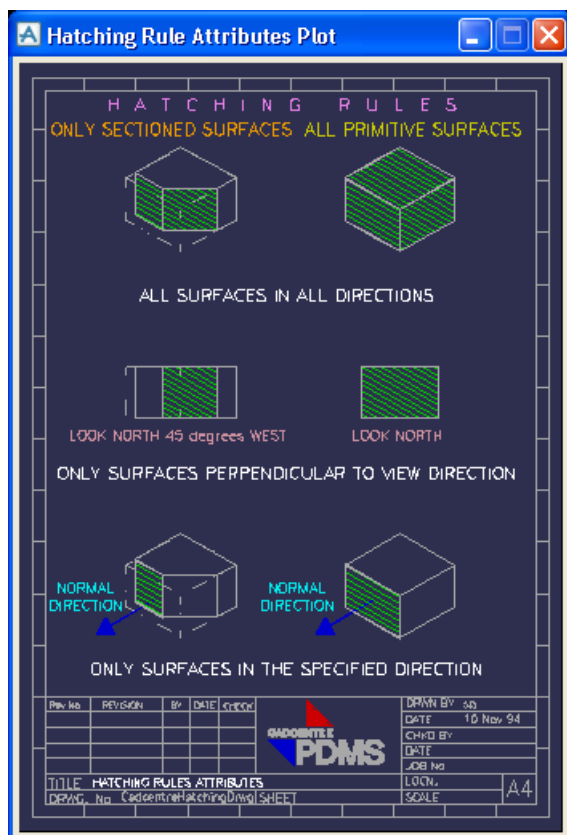
Hatching rules can **Consider**:

- Only Sectioned Surfaces**, which means only surfaces cut by a section plane
- All Primitive Surfaces**, which means that the element need not be cut by a section plane to be hatched.

The Rule can be further refined by the Hatching options:

- All Surfaces in All Directions** means all surfaces meeting the initial criteria.
- Only Surfaces Perpendicular to the View Direction** - example, if the view direction is north then the south face of the element will be hatched, assuming it meets the initial criteria.
- Only Surfaces Facing in a Specified Direction** means that the user can specify a direction normal to the surface to be hatched, instead of using the view direction. An example of this is a box shown in an isometric view with the top surface cross-hatched. If six surfaces of a box were required to have different hatching styles then this option would be used on six Hatching Rules.

The **Direction** and **Derived** gadgets are active when **Only Surfaces Facing in a Specified Direction** is chosen. If you press **Derived**, you will be prompted to pick a Design element.



## 11.9 Creating Change Rule Sets

When a Change Library is created, a Change Rule Set (CRST) is not automatically created. To create a CRST below a Change Library, navigate to the RPLB, select **Create > Change Ruleset**. The *Create CRST* form will be displayed, and you can give the CRST a name.

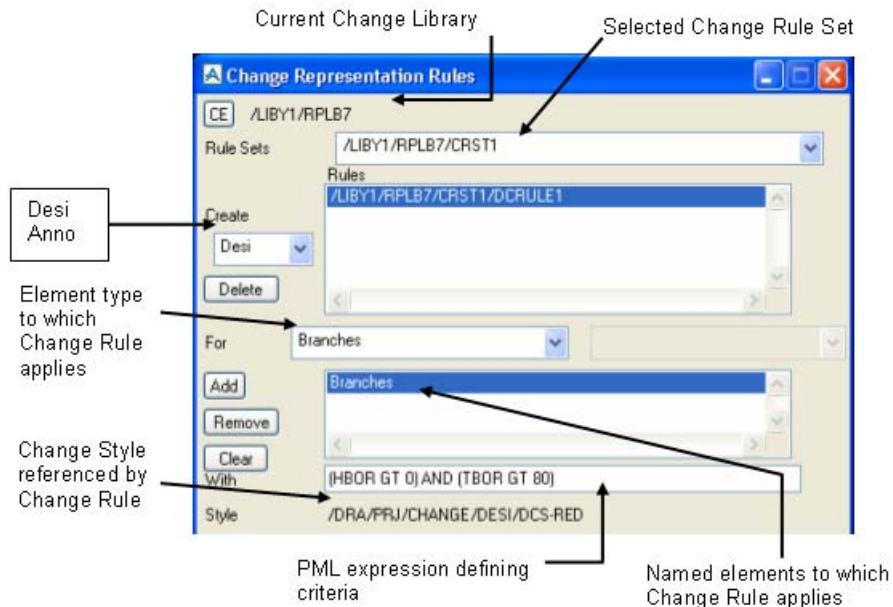
When you click **OK** on the *Create CRST* form, you will see the *Change Representation Rules* form to allow you to define individual DCRULEs and ACRULEs and to make references from these to existing DCSTYLs and ACSTYLs.

The *Change Representation Rules* form will be considered in two stages:

- The upper part of the form is concerned with the creation and deletion of DCRULES and ACRULES within a CRST. If creating a DCRULE it allows you to restrict the application of a DCRULE to a specified changed element. If creating an ACRULE it allows you to restrict the application of an ACRULE to a specified changed annotation type. This part of the form is explained in [Creating and Deleting Change Rules](#).
- The lower part of the form displays a list of all currently defined DCSTYLS or ACSTYLS, depending on the selection made in the upper part of the form, and allows you to select any one of these to be referenced by the current DCRULE or ACRULE. This part of the form is explained in [Associating Change Rules with Styles](#).

## 11.10 Creating and Deleting Change Rules

The upper part of the *Change Representation Rules* form shows the name of the current RPLB. You can switch to another RPLB by selecting it in the Members List and clicking the **CE** button.



The **Rule Sets** drop-down list allows you to switch to any CRST owned by the current RPLB.

The **Rules** list shows all DCRULEs and ACRULEs in the current CRST.

### Specifying the Owning Rule Set

Select the CRST whose member DCRULEs or ACRULEs you wish to modify from the **Rule Sets** drop-down list. The DCRULEs and ACRULEs owned by the current CRST will be shown in the **Rules** list (or None if you have just created the CRST).

### Creating a Rule

To create a new Rule, first select the type of Change Rule that you wish to create, Design (DCRULE) or Annotation (ACRULE), from the **Create** drop-down list, then click the **Create** button and give the new Rule a name. The name will be added to the **Rules** list and will be highlighted as the current selection.

### Deleting a Rule

To delete a Rule from the current CRST, highlight it in the **Rules** list and click the **Delete** button.

### Specifying the Changed Elements to which Rules Apply

You can specify the type of change or create a list of types of change, as follows:

To specify the **type** of changed element to which the current DCRULE or ACRULE is to be applied, select the type from the **For** drop-down list. Use the right-hand drop-down list for

Annotation Changes and the left-hand drop-down list for Design Changes. The drop-down list available depends on the type of Change Rule selected.

To create a list of changed design elements that a DCRULE is to be applied to, select an option in the **For** drop-down list, then click the **Add** button. Select another option from the **For** drop-down list and again click the **Add** button. Clicking the **Add** button adds the option selected to the list. Individual options can be deleted from the list by selecting them and clicking the **Remove** button. A complete options list can be deleted by clicking the **Clear** button.

### Criteria for Rule Application

To apply qualifying restrictions to the elements specified by the **For** option, type an expression in the **With** text box. For example, if the **For** gadget specifies Branches, you might use the **With** qualifier to enter

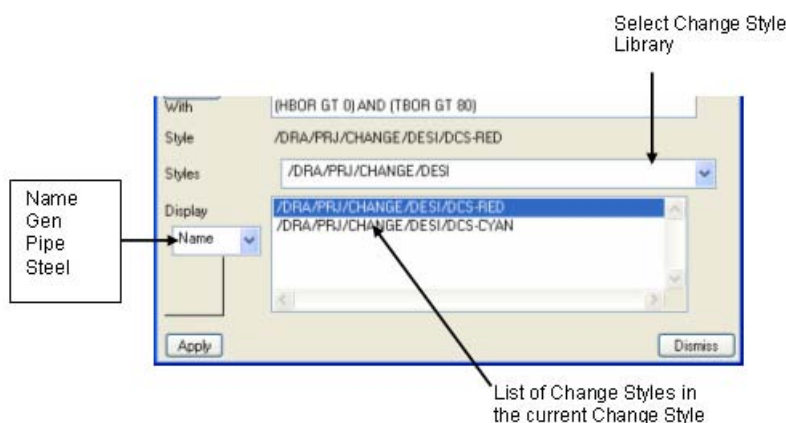
'(HBOR GT 100) AND (TBOR GT 80)'

meaning 'Branches with HBOR greater than 100 mm and TBOR greater than 80 mm'.

The **Style** line below the **With** text box shows the name of the Change Style which is referenced by the current Change Rule. The way in which you set this is explained in [Associating Change Rules with Styles](#).

## 11.11 Associating Change Rules with Styles

The lower part of the *Change Representation Rules* form allows you to list the contents of any Change Style Library in the same LIBY as the current Change Style Library.



The **Style** gadget displays the current Change Style of the selected Change Rule.

To associate a Change Rule with a Change Style:

Select the RPLB owning the required Change Style from the **Styles** drop-down list. All Change Styles of the relevant type in the selected RPLB will be shown in the **Display** list.

Ensure that the required Change Rule is highlighted in the **Rules** list and select the corresponding Change Style from the **Styles** list, then click the **Apply** button to create the association.



## 12 Drawlist Library Administration

This chapter tells you how to set up Drawlist Libraries (DLLB), each containing a group of Drawlists (IDLI; also known as ID Lists) which allow users to create lists of design elements to be drawn or sectioned. You can allocate DLLBs and IDLIs to design items according to design disciplines, project areas, or any other classifications appropriate to your company's working practices.

Each IDLI comprises a list of Design elements, in the usual format of an Add List and a Remove List, which can all be displayed in an area view simply by reference to the IDLI name.

**Note:** The DEPT **Project Libraries**, supplied as part of the standard product, contains a LIBY named DRA/PRJ/DRAWLISTS, which holds sample drawlist libraries.

### 12.1 Entering Drawlist Library Administration Mode

From one of the OUTFITTING DRAFT Administration menus, select **Draft>Drawlist Libraries**. The main menu will change to the *OUTFITTING DRAFT Drawlist Library Administration* menu. The menu hierarchy is illustrated in [Administrator Menus](#). All menu selections specified in the remainder of this chapter refer to the Drawlist Library menu unless otherwise stated.

### 12.2 Creating a Drawlist Library

To create a new DLLB, proceed as follows:

1. Navigate to the appropriate LIBY level in the existing hierarchy or, if necessary, use **Create>Library** to add a new LIBY.
2. Select **Create>Drawlist Library**. It is recommended that you give the new DLLB a name to make its use as a Drawlist Library obvious to users and indicate the IDLI classifications that it is to contain.

### 12.3 Creating Drawlists

To create the first IDLI in a new DLLB, select **Create>Drawlist** and give the new IDLI a meaningful name.

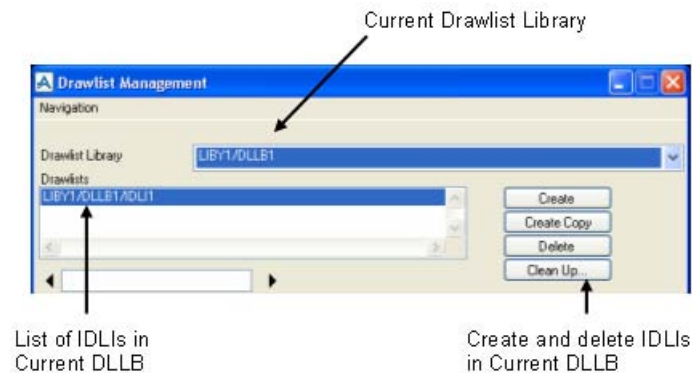
To add another Drawlist to a DLLB that already has member IDLIs, select **Modify>Drawlist Library**. (You can, of course, do this even if the DLLB is empty, as an alternative to the method given in the preceding paragraph.)

In either case, you will be presented with a *Drawlist Management* form. This form is the same as that used to define local Drawlists. For more information, see the online help. The

only difference is that as OUTFITTING DRAFT Administrator you are creating Drawlists at Library level rather than at local user level. Only the basic principles of using the form will be repeated here, as a reminder.

The *Drawlist Management* form will be considered in two stages:

- The upper part of the form is concerned with the creation and deletion of IDLI elements within a DLLB. This part of the form is explained in the remainder of this section.
- The lower part of the form allows you to select elements from the Design DB for inclusion in the Add and Remove lists (ADDE and REME) of a specified IDLI. This part of the form is explained in [Creating and Setting Up Tag Rules](#). The upper part of the *Drawlist Management* form appears like this:



### Selecting a Drawlist Library

To specify the Drawlist Library whose member IDLIs you wish to modify, use the **Drawlist Library** option button. The list that is presented to you includes both DLLBs you have defined and standard DLLBs that were supplied as part of the product (as determined by the Drawlists Library Reference on the *Draft Defaults* form; see [Setting the System Defaults](#)).

### Creating a Drawlist

To create a new (empty) IDLI, click the **Create** button and give the IDLI a name.

### Creating a Copy of an Existing Drawlist

To create a new IDLI that has the same Add and Remove lists as an existing IDLI, click the **Create Copy** button, give the new IDLI a name, and use the displayed *Copy Drawlist* form to select the IDLI to be copied.

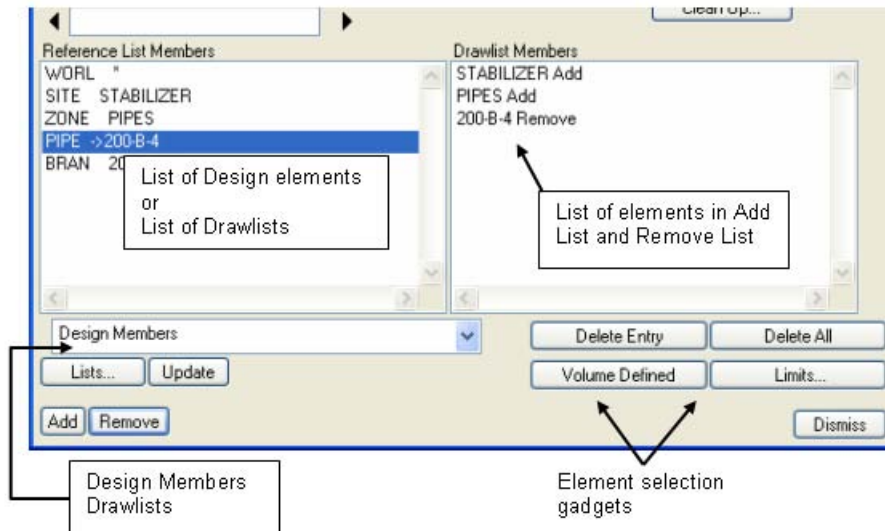
### Deleting a Drawlist

To delete an IDLI from the current DLLB, highlight it in the displayed list and click the **Delete** button.

## 12.4 Defining Drawlist Members

The lower part of the *Drawlist Management* form contains the gadgets that you use to build up the Add and Remove lists owned by each Drawlist.





The usual principles apply; that is, you select items from the **Reference List Members** list and copy them into the **Drawlist Members** list by using the **Add**, **Remove** or **Volume Defined** buttons.

The **Drawlist Members** list shows all elements in both the Add List and the Remove list, the element names being qualified by 'Add' or 'Remove' to show their status.

### Identifying Design Elements

The **Reference List Members** list can show either the Design DB elements or other existing Drawlists. The former allows you to pick design elements explicitly; the latter allows you to identify design elements by their presence in other Drawlists. Use the **Design Members/Drawlists** drop-down list to choose which list is to be displayed.

### Specifying Design Elements within a 3D Limits Box

To add elements within a given design volume to the Drawlist, click the **Volume Defined** button. All significant elements positioned partly or wholly within the current **limits box** will be added to the Drawlist. If no limits box is currently defined, you will be presented with a **Drawlist Limits** form on which you can enter coordinates of two opposing corners of the required volume.

### Deleting an Entry from the Drawlist Members List

To delete an entry from the Drawlist, highlight the relevant line in the **Drawlist Members** list and click the **Delete Entry** button. The selected line may be either an Add entry or a Remove entry.



## 13 Tag Rule Library Administration

This chapter explains how you set up Tag Rule Sets (TRST) and Tag Rules (TAGR), within Tag Rule Libraries (TRLB). When accessed during normal OUTFITTING DRAFT drawing operations, each TAGR references a Tagging Template (which may be either a SYTM or a TXTM; see Chapter 8). Tag rules determine which items will be tagged in the View graphics.

**Note:** The DEPT **Project Libraries**, supplied as part of the standard product, contains a LIBY named DRA/PRJ/AUTOTAG, which holds sample tag rule libraries for various disciplines.

### 13.1 Entering Auto Tagging Administration Mode

From one of the OUTFITTING DRAFT Administration menus, select **Draft>Tagging Rules**. The main menu will change to the **OUTFITTING DRAFT Tagging Rules Administration** menu. The menu hierarchy illustrated in [Administrator Menus](#). All menu selections specified in the remainder of this chapter refer to the Auto Tagging menu unless otherwise stated.

### 13.2 Creating a Tag Rule Library

To create a new TRLB, proceed as follows:

1. Navigate to the appropriate LIBY level in the existing hierarchy or, if necessary, use **Create>Library** to add a new LIBY.
2. Select **Create>Tagrule Library**. It is recommended that you give the new TRLB a name to make its use as a Tag Rule Library obvious to users.

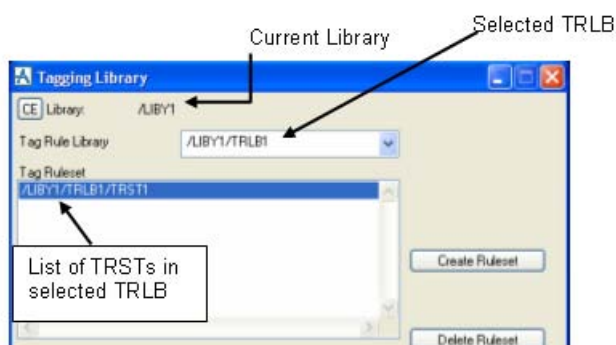
You will be presented automatically with a *Tagging Library* form that allows you to define TRSTs and their member TAGRs.

The *Tagging Library* form will be considered in two stages:

- The upper part of the form is concerned with the creation and deletion of TRSTs within a TRLB. This part of the form is explained in [Creating and Deleting Tag Rule Sets](#).
- The lower part of the form enables you to create TAGRs, to define the types of element to which they are to be applied, and to set references to the templates which control the format of the associated tags. This part of the form is explained in [Creating and Setting Up Tag Rules](#).

### 13.3 Creating and Deleting Tag Rule Sets

The upper part of the *Tagging Library* form shows the name of the current LIBY and has a drop-down list which allows you to switch to any TRLB owned by that LIBY. It also incorporates a list of TRSTs within the current TRLB.



### Specifying the Owning Tag Rule Library

To specify the TRLB whose member TRSTs you wish to modify, use the **Tag Rules Library** drop-down list to select from those available in the current LIBY. The TRSTs owned by the current TRLB will be shown in the **Tag Ruleset** list (or None if you have just created the TRLB).

### Creating a Tag Rule Set

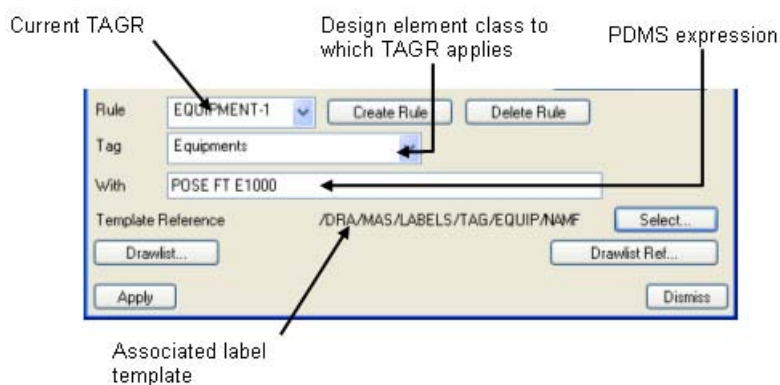
To create a new TRST, click the **Create Ruleset** button and give the new TRST a name. The name will be added to the displayed list and will be highlighted as the current selection.

### Deleting a Tag Rule Set

To delete a TRST from the current TRLB, highlight it in the **Tag Ruleset** List and click the **Delete Ruleset** button.

## 13.4 Creating and Setting Up Tag Rules

The lower part of the *Tagging Library* form contains all of the gadgets necessary to create TAGRs, to define the types of element to which they are to be applied, and to set references to the templates which control the format of the associated tags.



### Viewing Tag Rules

The **Rule** drop-down list displays a list of all TAGRs in the current TRST (i.e. the TRST highlighted in the **Tag Ruleset** list). It is also used to change the current TAGR if you wish to modify its attribute settings.

### Creating a Tag Rule

**Note:** Tag Rules are always named automatically when they are created. You cannot change the name.

The attribute values for the newly created TAGR are defined by the current settings of the other gadgets on the form (**Tag**, **With**, **Template Reference**, etc.), so set these as explained in the following paragraphs before you create the TAGR.

To create a new TAGR, click the **Create Rule** button. The TAGR will be named automatically and its name will be added to the **Rule** option button list as the current selection.

### Deleting a Tag Rule

To delete a TAGR from the current TRST, make the TAGR current (by using the **Rule** drop-down list) and click the **Delete Rule** button.

### Specifying the Elements to which Rules Apply

You can specify the type of element or a list of named elements, as follows:

To specify the **type** of element to which the current TAGR is to be applied, select a design element class from the **Tag** drop-down list.

### Criteria for Tag Rule Application

To apply restrictions to the elements specified by the **Tag** option, type a OUTFITTING expression into the **With** text box. For example, if the **Tag** gadget specifies Branches, you might use the **With** qualifier to enter '(HBOR GT 100) AND (TBOR GT 80)' to compile the overall specification 'Branches with HBOR greater than 100 mm and TBOR greater than 80 mm'.

### Associating a Label Template with a Tag Rule

To select a label template that will define the appearance of tags generated by the current TAGR, use the Template Reference **Select** button. You will be presented with a *Select Template for Auto Tagging* form. On this form, select the **Label Library** required and, from the displayed templates, pick the one which is to be associated with the current TAGR. **Apply** this to the current TAGR.

### Associating a Drawlist with a Tag Rule

To specify a drawlist which is to be associated with the current TAGR (such that only items in the drawlist will be tagged), click the **Drawlist Reference** button. You will be presented with a *Drawlist Reference* form. On this form, select the **Drawlist Library** required and, from the displayed list, pick the **Drawlist** which is to be associated with the current TAGR. **Apply** this to the current TAGR.

To modify the content of the drawlist associated with the current TAGR, click the **Drawlist** button. You will be presented with a *Drawlist Management* form. On this form, select the

**Drawlist** whose member list is to be modified and add or remove design elements. **Apply** this to the current TAGR in the usual way. **Apply** the changes to the current TAGR.

## 14 ADP Administration

This chapter explains what the OUTFITTING DRAFT Administrator must do to set up a project to allow Automatic Drawing Production (ADP) for Pipework and Steelwork.

OUTFITTING DRAFT provides for three types of Automatic Drawing Production (ADP):

- [General ADP](#) for Equipment and Piping
- [Steelwork Detailing ADP](#).
- Hanger and Support ADP. The Administrator's role is setting up suitable backing Sheets, as described in [Hangers and Supports ADP](#). The User information for Hangers and Supports ADP is given in *Pipe Support Design User Guide*.

**Note:** ADP administration is accessed through the Automatic Drawing Production Application, and not through the Administration Application. The forms and menu options are only available if you are a member of the DRAFTADMIN team.

### 14.1 General ADP

The General ADP options create drawings from specified parts of the Design model in the usual way, and then add annotation according to defaults set up by the System Administrator.

The defaults are stored in files, and there are different defaults suitable for different types of drawings. The user must load a suitable file for the drawing being produced.

The ADP application can add dimensions, labels, and schedules to a drawing. It can also add graphical information such as equipment centrelines and pipe end symbols.

The ADP application recognises different **Types** of dimensions:

- **Type 1** dimensions are used for pipework.
- **Type 2** dimensions are used for equipment centres.
- **Type 3** dimensions are used for gridlines.

You can control the way in which each type of dimension is displayed. You can specify the order in which types of dimensions are generated. For each type, you can set up Rules using PML expressions to define how different drawing element types are dimensioned.

#### 14.1.1 Setting the ADP Defaults

The ADP Defaults are set on the *ADP Defaults File Editor* form, which is displayed when you select **Settings > General ADP Defaults** from the Main ADP Menu.

There are several defaults files supplied with the product, stored in the directory %PDMSDFLTS%. The file names are of the form DRA-GENADP -\*. These files can be modified, and you can create your own new files as well.

You can load a defaults file in the following ways:

- Select **File > Load From** from the menu at the top of the form. A File Browser will be displayed, showing the files in the given directory. Select the file you want.
- Press the **Browse** button on the body of the form. A File Browser will be displayed.
- If you already have an ADP Drawing displayed, you can select **From View** and pick any item in the View. The Defaults file used to create the View will be loaded.

When a defaults file is loaded, the *ADP Defaults File Editor* form will be filled in with details from the file. You can change the defaults as described in the following sections.

The **File Header** text box shows a description of the type of defaults.

The text boxes labelled **Type 1**, **Type 2** and **Type 3** show the type of dimensioning controlled by the given types. As supplied, Type 1 is Piping, Type 2 is Equipment and Type 3 is Gridline. Not all types are used in all default files: when a type is not used in the current default file it is shown on the form as **Unused**. To change a type of dimensioning, click on the appropriate **Type** button, and a **Type *n* Defaults** form will be displayed.

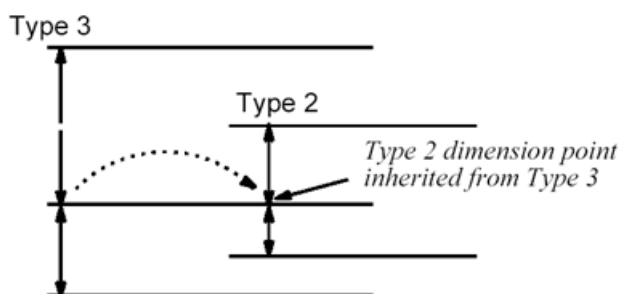
For information about the options on the **Type *n* Defaults** forms, see the online help.

The **General**, **Schedules** and **Tagging** buttons allow you to set defaults as described in the following sections.

### The General ADP Defaults Form

The *General ADP Defaults* form is displayed when you press **General** on the *ADP Defaults File Editor* form. This form allows you to:

- **Restrict USER Access.** If this button is switched off, users will be able to access the *Modify User Defaults* form and so change the defaults. If this button is switched on, users will not be able to modify the defaults files from the user forms. The only way to change them will be from this form, which is only accessible to users who are members of the DRAFTADMIN team. The **Modify** button on the *Modify User Defaults* form and the **Edit** button on the *View Function* form will not be active.
- Set the **Annotation Processing Order**. In the text box, enter the order in which different types of annotation are to be processed. As supplied, the order is 3, 2, 1. Each **Type *n* Defaults** form has an option where you can define how **inherited** dimension points are handled, by specifying which Type they are copied from: the processing order must ensure that the dimension points to be copied already exist.



- Create any **Representation Rulesets** needed. If the standard Representation Rulesets are required, this text box should contain the text **Standard**.
- Create any rules needed to control which elements are **ADDED** or **REMOVED** from Drawlists defined by volume. As supplied, all elements within the Volume will be added, but elements of type PIPE that are owned by a Zone with Function set to Heating or Electrical will be removed.



### The *ADP Defaults - Schedules* and *ADP Defaults - Tagging* Forms

The *ADP Defaults - Schedules* form is displayed when you press **Schedules** on the *ADP Defaults File Editor* form.

The *ADP Defaults - Tagging* form is displayed when you press **Tagging** on the *ADP Defaults File Editor* form.

## 14.1.2 Creating a Tagging Library

The tagging facilities used in ADP are based on the standard OUTFITTING DRAFT automatic tagging functionality. You need to be familiar with this before reading any further.

The ADP PGA defaults file contains an entry to allow the administrator to define what tag rule set element will be available to the user during use of the ADP system. The supplied system refers to a TRLB called

DRA/PRJ/ADP/TAGGS/PGA

that contains the TRST's that the user accesses on the tagging creation form. Each TRST is represented by toggle gadgets on the user's form.

In order to create your own TRLB for tagging you simply create the TRSTs and their TAGR elements with tag rules and tagging templates as required. The only important consideration for the ADP system is that the last part of the TRSTs name is used on the user's form, and so this should describes the tagging available to the user.

For example, if the TRST is named /MYTAG/Instruments, then **Instruments** will appear on the user's tagging creation form.

Some example tagging templates are provided in the label libraries

DRA/PRJ/ADP/TAGGS/PGA/TXTM

and

DRA/PRJ/ADP/TAGGS/PGA/SYTM

but you are free to define or use any symbol or text template as required.

## 14.1.3 Creating a Schedule Library

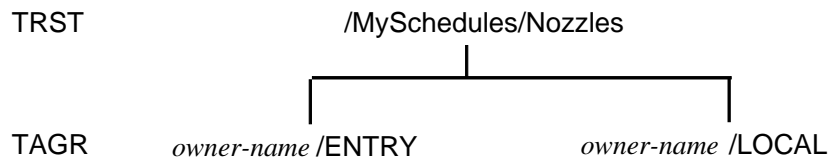
The schedule facilities used in ADP are based on the standard OUTFITTING DRAFT automatic tagging functionality, and you should be familiar with this before reading any further.

The ADP PGA defaults file contains an entry to allow the administrator to define what tag rule set element will be available to the user during use of the ADP system. The supplied system refers to a TRLB called

DRA/PRJ/ADP/SCHE/PGA

that contains the TRSTs that the user accesses on the schedule creation form. Each TRST is represented by a toggle and modify button gadget group on the user's form.

In order to create your own TRLB for schedules and any number of TRSTs below this, each of which represents an available schedule for use by the user. The TRSTs and their constituent TAGRs have to be built with the following naming conventions:



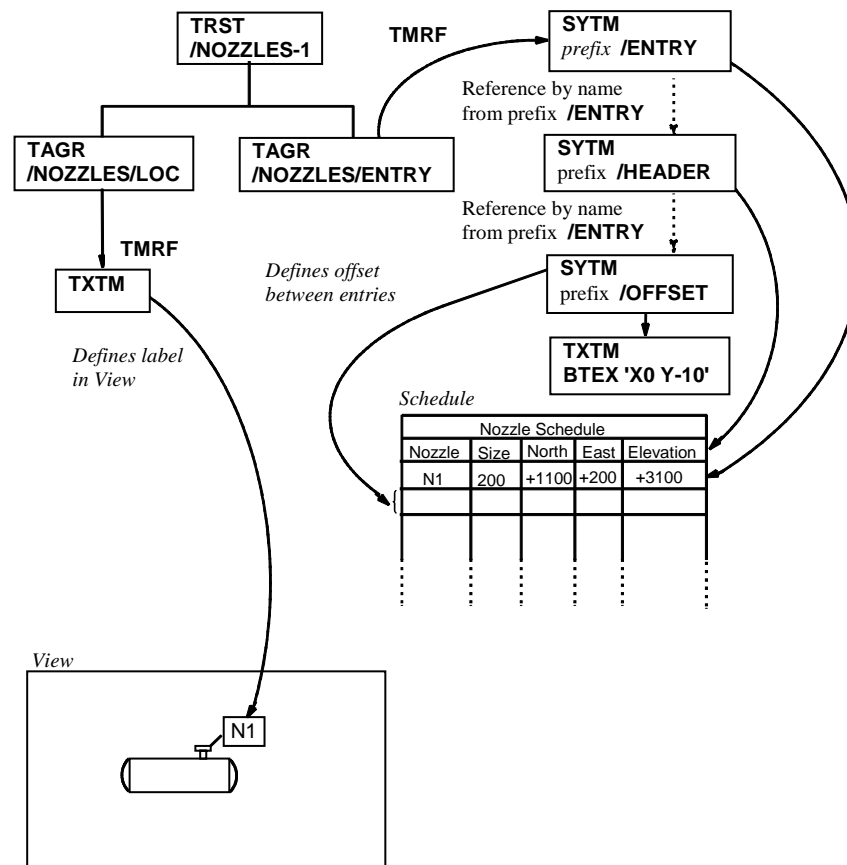
TAGR /LOCAL can reference any SYTM or TXTM as required. This tag rule is responsible for generating the tags local to the design graphics.

TAGR /ENTRY has to reference a special SYTM which in turn has references to other SYTMs and is responsible for generating the tabular format entries generated as part of the schedule. In order to generate a matching set of local and table tags it is important that both TAGRs have the same criteria.

The SYTM referenced by the TAGR /ENTRY has an associated set of SYTMs as shown below, where *prefix* can be any prefix name for the SYTMs, but the same prefix is used to identify all three SYTMs required to construct the schedules table.

### Example

The following example is based on the Project Libraries supplied in the Sample Project, under DRA/PRJ/ADP/SCHED:



Each of the functions of the three schedule table SYTMs is explained below:

<i>prefix</i> /ENTRY	The SYTM used to construct the table entries
<i>prefix</i> /HEADER	The SYTM used to construct the table header
<i>prefix</i> /OFFSET	The SYTM used to determine how each of the table entries is positioned, during construction of the table

The SYTM *prefix*/OFFSET contains a single TEXP whose BTEX determines how each table entry is positioned with respect to the previous. The BTEX simple states the OFFSET for each table entry in the standard X and Y format. For example:

---

**Example:**

```
BTEX = 'X 0 Y -10'
```

---

This means that each table entry is offset by -10 in the Y direction, therefore producing a vertical table that grows down the sheet from the origin position.

The origin and extent positions for any schedules created are initially taken from a special note created in the BACK by the administrator. See the next section for details of how to implement this.

#### 14.1.4 Backing Sheet Controls

The backing sheet referenced by an ADP sheet can contain two sets of information to allow the ADP annotation and view creation to be more automated. The following sections describe the types of additional information that can be generated under a BACK for use by the ADP system.

The general ADP application makes use of special information stored on the backing sheet in the form of Notes, which specify where certain types of annotation generated by ADP will be located on the sheet. If this information is not present on the backing sheet the application will either prompt the user for input or not allow the user access to the associated automatic annotation options.

All the Notes have visibility set to false.

##### Reference Drawings

This is the area on the Sheet that is available for the user to insert a list of Reference Drawings. It is defined under a Note named *back\_sheet\_name*/REFDRWGS. The Note contains TEXTs that are used to represent reference drawings associated with a sheet. Each TEXP should be positioned and have attributes set as required. The TEXP is copied from the backing sheet onto the user's sheet during reference drawing definition.

The Note should also contain a rectangle whose area represents the available area taken by the reference drawing texts, which is used during zoom operations.

##### Sheet Limits

This is the area available on the backing sheet where the View will be created. It is defined under a Note named *back\_sheet\_name*/LIMITS. The Note should contain just one RECT element whose limits correspond to the available free space on the BACK. This LVIS of the

NOTE should be set to FALSE in order to inhibit the display of the rectangle on the user's sheet.

### Schedules

This is the area on the Sheet that will be used to display Schedules. The origin of the schedule table and its maximum extent is defined on the backing sheet. Only one origin and extent definition can be added to a BACK and this is initially used by ALL schedules that are created by the user. The user always has the option to re-define the two attributes for any schedule created. The ORIGIN and EXTENT information gives the application a starting point for any schedules.

To create the ORIGIN and EXTENT positions on the backing sheet create a NOTE under the required BACK with the name

*back\_sheet\_name*/SCHEDULE.

This note should own two MRKP elements named:

*back\_sheet\_name*/SCHEDULE/ORIGIN

and

*back\_sheet\_name*/SCHEDULE/EXTENT

SCHEDULE/ORIGIN should be positioned where the origin of the schedule will be positioned and from where the schedule will be built.

SCHEDULE/EXTENT should be positioned at a point past which the schedule should not be built. All subsequent schedule entries that would exceed this extent position are hidden and the user is warned of the schedule overflow.

### Keyplan

This is the area on the Sheet that will be used to display a Keyplan. It is defined under a Note named *back\_sheet\_name*/KEYPLAN. This note should contain one MRKP element to determine the position for the Sheet's keyplan OLAY. The MRKP must be named:

*back\_sheet\_name*/KEYPLAN/ORIGIN.

The Note should also contain a rectangle whose area represents the available area taken by the reference drawing texts, which is used during zoom operations.

### Title

This is the area on the Sheet that will be used to display the title block of the backing sheet. It is defined under a Note named *back\_sheet\_name*/TITLE. The Note can contain 2D primitives to define the geometry of the Title Block. It should have a Rectangle (the first primitive in the list, or first Rectangle in the list) with NLSTYLE set to OFF, whose area will define the area occupied by the title block. This is used during zoom operations.

### Summary

The following table summarises the special Notes that can exist on the backing sheets, and more details are given below.

Name	Use	Action if not present
/REFDRWGS	Reference Drawing Information	GUI gadgets inactivated
/LIMITS	Defines available sheet area	Whole sheet area assumed

Name	Use	Action if not present
/SCHEDULE	Defines schedule position info	User prompted for positions
/KEYPLAN	Position for keyplan OLAY	Positioned at X0 Y0
/TITLE	Area for zooming on TITLE BLOCK	GUI gadgets inactivated

You can refer to the standard A0 backing sheet, /DRA/MAS/BACKS/METRIC/A0, in the Department Draft\_Libraries, as an example.

## 14.2 Steelwork Detailing ADP

This Section describes the administration tasks which you will need to carry out for Steelwork Detailing Automatic Drawing Production (SDA), which allows the OUTFITTING DRAFT User to produce dimensioned and annotated drawings of the most commonly used structural elements (straight Beams and Columns, and flat Plates) automatically.

The requirements for SDA are:

- A Sheet Library containing suitable backing sheets
- A Symbol Library containing suitable annotation symbols
- A Style Library containing suitable styles
- A Representation Rules Library containing rules defining which Styles are used for displaying the profiles.
- One or more SDAOPT elements, which set the SDA defaults that the SDA User will initially see displayed on the SDAOPT form.

The backing sheets and SDAOPT elements supplied with the product are in the Department Master\_Libraries. The backing sheets in the Library DRA/MAS/BACKS can be used for SDA. The Library DRA/MAS/SDADP contains Libraries of Styles, Symbols and Representation Rules for SDA. It also contains two SDAOPT elements:

### SDA-Default

### SDA-Main-Views

The only difference is that the SDA-Main-Views file will not output detail views.

**Note:** Occasionally fabrication drawings produced by SDADP will be under-dimensioned, although it will always be at least 70% of that required for fabrication of the component. If a dimension is missing, it may be due to the way the catalogue component is defined.

### 14.2.1 SDA Options

The attributes of the SDAOPT element define the options that will be used. You can change the attributes of an SDAOPT element or create a new one using the *Steelwork Detailing Options* form, described in *Drawing Production User Guide*.

The UPDCB attribute of the SDAOPT element controls which customisation macro is run: it is set to:

**%PDMSDFLT%/DRA-SDADP-MACRO**

See the next section for information about the macro.

If you create your own SDAOPT element, it will be created in the current LIBY, if there is one. If your current element is the World, a new LIBY will be created to store the options in. You will have to give this LIBY a suitable name, if required, after the SDAOPT element has been created.

### 14.2.2 SDA Customisation Macros

The two SDA customisation macros supplied in the PDMSDFLTS directory (SDA-Default and SDA-Main-Views) control the naming conventions for the Sheets generated by SDA, the pens and the positions of text on the Sheets

You can edit these macros, or write your own, if you are familiar with PML, the AVEVA Programming Macro Language. See the *AVEVA Software Customisation Guide* and the *AVEVA Software Customisation Reference Manual* for more information. A customisation macro is called once for each major item created by SDA. This means that you can define the parameters used to draw each type of element.

Note that the supplied macros do not name the DEPTs REGIs and DRWGs created by SDA. You will have to give them suitable names, if required, after an SDA run.

## 14.3 Hangers and Supports ADP

This section describes how the backing sheets supplied for Hanger and Supports ADP are set up. The Sheets are supplied in the Library

Each Backing Sheet contains twelve member notes. Each Note owns TEXPs to help define the specific area of the sheet. Some TEXPs are not used at this release, and some Notes contain 2D primitives that are not used at this release.

The TEXPs must be kept as members of certain Notes for the OUTFITTING DRAFT GUI to work correctly. The values in the BTEXT of the TEXP elements can be whole numbers, decimals or fractions.

The standard backing sheet has the following members. Those marked with an asterisk are required, the other are optional.

*	NOTE 1	/DRA/MAS/H&S_A2/HS_Matl_List
*	NOTE 2	/DRA/MAS/H&S_A2/Frame
*	NOTE 3	/DRA/MAS/H&S_A2/Supported_Items
*	NOTE 4	/DRA/MAS/H&S_A2/Support_Steel
	NOTE 5	/DRA/MAS/H&S_A2/TitleBlock
	NOTE 6	/DRA/MAS/H&S_A2/TitleBlockData
	NOTE 7	/DRA/MAS/H&S_A2/DrawingNotes
	NOTE 8	/DRA/MAS/H&S_A2/Address
	NOTE 9	/DRA/MAS/H&S_A2/SmallPrint
	NOTE 10	/DRA/MAS/H&S_A2/ModBlock
	NOTE 11	/DRA/MAS/H&S_A2/HashTexts
*	NOTE 12	/DRA/MAS/H&S_A2/LIMITS

**Note:** 1: /DRA/MAS/H&S\_A2/HS\_Matl\_List

This Note contains TEXTs that define settings for the Hanger Bill of Materials. The Members of this Note do not have to be named.

- |        |                                                                                                                                                                                                                                                             |
|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TEXT 1 | <p>BTEXT attribute set to<br/>H&amp;S_MATL_LIST:<i>value1, value2</i><br/>where <i>value1</i> and <i>value2</i> specify the starting point of the Bill of Material. This position is based on the lower left-hand corner of the owning BACK size.</p>       |
| TEXT 2 | <p>BTEXT attribute set to<br/>REF_X:<i>value</i><br/>where <i>value</i> sets the horizontal (X) placement of the part number hanger element in the BOM. The position is a specified distance from the left-hand edge of the BOM area defined by TEXT 1.</p> |
| TEXT 3 | <p>BTEXT attribute set to<br/>DESC_X:<i>value</i><br/>where <i>value</i> sets the horizontal (X) starting position of the hanger element in the BOM. The position is a specified distance from the left-hand edge of the BOM area defined by TEXT 1.</p>    |
| TEXT 4 | <p>BTEXT attribute set to<br/>DESC_MAX_CHAR_X:<i>value</i><br/>where <i>value</i> specifies the number of characters allowed in each line of the material description. Additional characters will wrap onto the next line.</p>                              |
| TEXT 5 | <p>BTEXT attribute set to<br/>DIAM_X:<i>value</i><br/>where <i>value</i> specifies the distance from the left edge of the BOM area when the diameter setting of the hanger element is to be placed</p>                                                      |
| TEXT 6 | <p>BTEXT attribute set to<br/>LENGTH_X:<i>value</i><br/>where <i>value</i> specifies the distance from the left-hand edge of the BOM area where the length text of the hanger element is to be placed.</p>                                                  |
| TEXT 7 | <p>BTEXT attribute set to<br/>QTY_X:<i>value</i><br/>where <i>value</i> specifies the distance from the left-hand edge of the BOM where the quantity of the hanger parts is to be placed.</p>                                                               |
| TEXT 8 | <p>BTEXT attribute set to<br/>LINE_SPACE:<i>value</i><br/>where <i>value</i> specified the distance between each line in the description part of the BOM.</p>                                                                                               |
| TEXT 9 | <p>BTEXT attribute set to<br/>ITEM_SPACE:<i>value</i><br/>where <i>value</i> specifies the distance between each part number description down the BOM listing.</p>                                                                                          |

TEXP 10	BTEX attribute set to UNBOLT_PACK_EXCLUDE: <i>word, word</i> <i>Not used at this release</i>
TEXP 11	BTEX attribute set to LAYE_PURP: <i>word</i> where <i>word</i> specified distance from the left-hand edge of the BOM area defined by TEXP 1.
TEXT 12	BTEX set to SLAB_SORF: <i>name</i> The name specified is that of the TAGR to be referenced for the support labels

**Note:** 2 /DRA/MAS/H&S\_A2/Frame

This Note contains the 2D drafting primitives that define the main backing Sheet border, similar to the backing sheets for standard drawing sheets.

**Note:** 3 /DRA/MAS/H&S\_A2/Supported\_Items

This Note displays a table that lists the pipes that are being supported.

TEXP 1	BTEX set to BOM:SIB <i>Not used at this release</i>
TEXP 2	BTEX set to HEADER_POS: <i>value1,value2</i> where <i>value1</i> and <i>value2</i> define the position of a SLAB that references the supported item table symbol template (SYTM). The origin of the SYTM is the upper left corner of the table.
TEXP 3	BTEX set to LABEL_POS: <i>value1,value2</i> where <i>value1</i> and <i>value2</i> define the position of the first SLAB in the support item table. The position is a distance from the lower left corner of the owning BACK.
TEXP 4	BTEX set to TILE_X: <i>value</i> where <i>value</i> is the horizontal distance between the reference SLABs in the support item table.
TEXP 5	BTEX set to TILE_Y: <i>value</i> where <i>value</i> is the vertical distance between the reference SLABs in the support item table.
TEXP 6	BTEX set to TILE_MAX: <i>value</i> <i>Not used at this release</i>



- TEXP 7      BTEX set to  
TAGGING:*name*  
The LABEL TAGR defines criteria for the Support Table BOM and references that specific label template.
- TEXP 8      BTEX set to  
TITLE:*text*  
where *text* is used in the log file to mark the start of messages relating to symbolic labels in the supported item layer owned by the View.

### Note: 4 /DRA/MAS/H&S\_A2/Support\_Steel

This table displays the list of member parts, listing the size of each member and its required length.

- TEXP 1      BTEXT  
set to BOMST:STB  
*Not used at this release*
- TEXP 2      BTEX set to  
HEADER\_POS:*value1,value2*  
*Value1* and *value2* define the upper left corner position of the steel BOM table. The table template (SYTM) is referenced by a SYMB that is created under a VNOT in the Steel BOM layer of the first View when the support drawing is generated.
- TEXP 3      BTEX set to  
LABEL\_POS:*value1,value2*  
where *value1* and *value2* define the position of the first SLAB in the steel BOM list. This position is the distance from the lower left corner of the owning BACK.
- TEXP 4      BTEX set to  
TILE\_X:*value*  
where *value* specifies the horizontal distance between SLABs in the support material list.
- TEXP 5      BTEX set to  
ILE\_MAX:*value*  
*Not used at this release*
- TEXP 6      BTEX set to  
TILE\_Y:*value*  
where *value* specifies the vertical distance between SLABs in the support material list.
- TEXP 7      BTEX set to  
TAGGING:*name*  
where *name* specifies the name of the TRST that owns the TAGRs to be used for the support items listing.

**TEXP 8**      BTEX set to  
TAGGING:*name*  
where *name* specifies the name of the TRST that owns the TAGRs to be used for the structural support steel list BOM. The TRST has two member TAGRs, LOCAL and LABEL. These TAGRs are copied into the appropriate layer and the member SLABs that are generated reference them. The LOCAL TAGR defines criteria for locating the Part Number SLAB in the Views. The LABEL TAGR defines criteria for the Support Material Table and references that specific label template.

**TEXP 9**      BTEX set to  
TITLE:*text*  
where *text* is used in the log file to indicate the start of messages relating to symbolic labels in the support steel layer owned by the View.

### **Note: 5 /DRA/MAS/H&S\_A2/TitleBlock**

This Note contains TEXPs that define the title block layout such as, date, checked, approved etc. These TEXPs have the BTEX attribute set to fixed information. They are not set to extract data through hash codes.

Two TEXPs in this Note are named DRA/MAS/H&S\_A2/Scale and DRA/MAS/H&S\_2/Proj. Both TEXPs are at specified positions on the sheet but the BTEX attribute is not set in either case. These two TEXPs are used for placement of the view scale and angle projection specified from the overall default settings. The creation of the drawing is not abandoned if the Note or the two named TEXPs do not exist.

### **Note: 6 /DRA/MAS/H&S\_A2/TitleBlockData**

The TEXPs in this Note are similar to those stored in the Titleblock Note. By default, the visibility of this Note is turned off. When the H&S drawing is generated OUTFITTING looks for a note in the backing sheet ending in TitleBlockData. To avoid an error message in the batch log file this note should exist.

### **Note: 7 /DRA/MAS/H&S\_A2/DrawingNotes**

This Note contains one TEXP. The BTEX is set to

NOTE\_WIDTH:30

*Not used at this release.*

### **Note: 8 /DRA/MAS/H&S\_A2/Address**

This Note contains one symbol. It could be used to reference a company logo symbol template and be positioned were required.

### **Note: 9 /DRA/MAS/H&S\_A2/SmallPrint**

This Note does not contain any members.

### **Note: 10 /DRA/MAS/H&S\_A2/ModBlock**

This Note contains TEXPs that define the revision area block layout of the AVEVA backing sheet. These TEXPs have the BTEX attribute set to fixed information. They are not set to extract data through hash codes.

### **Note: 11 /DRA/MAS/H&S\_A2/HashTexts**

The TEXTs in this Note define the intelligent text hash codes extracting the AUTHOR, DATE and NAME from the owning DRWG and their placement on the backing. A fourth TEXT extracts the title attribute from the hanger or support drawing sheet.

The Drawing and Sheet titles attributes are preset and filled in from the file PDMSUI>DRA>SUPP>UDRWGMAK. Lines 63 and 64 of this file set the drawing title attribute and lines 108 and 109 set the sheet title attribute.

**Note: 12 /DRA/MAS/H&S\_A2/LIMITS**

This note contains one rectangle. The rectangle defines the area on the hanger and support drawing where the Views will be created. It should be noted that placement and sizing of this rectangle should be kept clear of the Supported Item and Support Steel BOM lists to maintain clarity.



## 15 AutoDRAFT Administration

The AutoDRAFT option of the **Administration** menu allows you to access the **AutoDRAFT Symbol Editor** (allowing you to convert symbols created in AutoCAD into a form usable by OUTFITTING DRAFT) and the **Frame Editor** (allowing you to take drawing frames created in AutoCAD and convert them into a OUTFITTING DRAFT usable format).

You can also import symbols and sheet frames created in AutoCAD to be used in OUTFITTING DRAFT.

### 15.1 Accessing AutoDRAFT Administration

To display the AutoDRAFT Administration menu bar, select **Draft>AutoDRAFT**. The menu hierarchy is shown in [Administrator Menus](#).

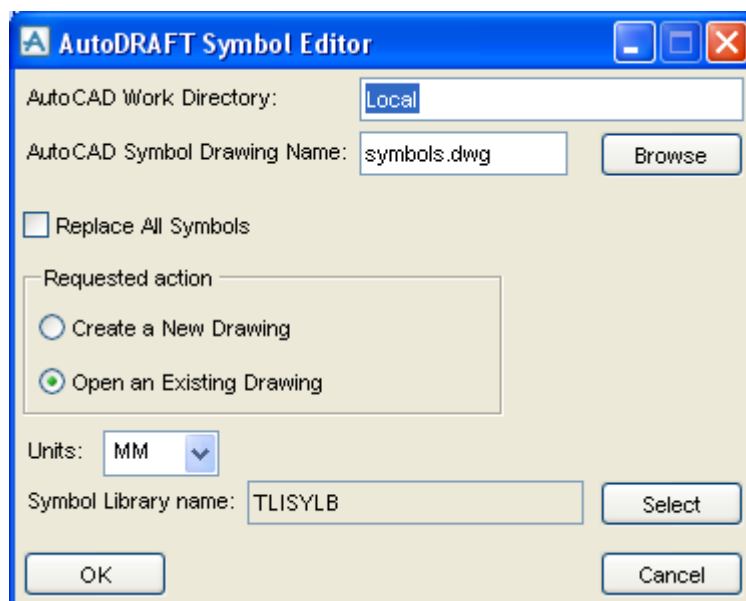
### 15.2 Starting the Symbol Editor

The **Symbol Editor** enables symbols created in AutoCAD to be converted into a OUTFITTING DRAFT command macro that can then be used to create the equivalent symbols as OUTFITTING DRAFT Symbol Template (SYTM) elements.

If any of the SYTMs thus defined already exist in the current OUTFITTING DRAFT Symbol Library then the old 2D primitives are deleted and replaced by the new definition.

1. Select **Draft>AutoDRAFT** to bring up the AutoDRAFT Administration menus.
2. Select **Edit>Symbols** from the menu bar. This displays the **AutoDRAFT Symbol Editor** form.
3. Make the Symbol Library (SYLB) that you wish to contain the returning Symbol Editor generated symbols the current element.
4. Click on one of the option buttons as required:  
**Create a New Drawing** creates a new, empty AutoCAD drawing for use by the Symbol Editor. (If an AutoCAD drawing of the same name already exists then you are asked if you wish to continue (i.e. update it, as below), the alternative being to return to DRAFT.)  
**Open an existing Drawing** opens an existing Symbol Editor drawing.
5. Use the **Browse** button to select a folder for a new drawing (if **Create a New Drawing** option is selected), or a folder and a DWG file name (if **Open an existing Drawing** option is selected). Alternatively, edit manually the text boxes **AutoCAD Work Directory** and **AutoCAD Symbol Drawing Name** to define the name and location of the AutoCAD drawing.
6. If you wish all symbols drawn in AutoCAD that have the same name as existing DRAFT symbol templates in the selected Symbol Library to overwrite the DRAFT symbol templates when they are imported from the Symbol Editor, tick the **Replace All**

**Symbols** check box. (If this option is not set, you will still be given the option, at the import stage, to overwrite symbols individually.)



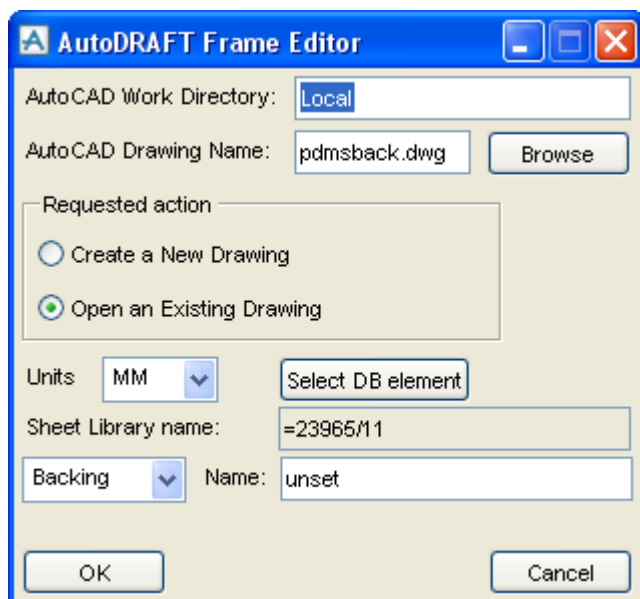
7. Specify the AutoCAD drawing units to be used by selecting from the **Units** drop-down list.
8. If you wish the Symbol Library (SYLB) that you wish to contain the returning Symbol Editor-generated symbols to be other than the shown current element (as selected at step 6), backspace in the **Symbol Library Name** text entry box until it is clear, then type in the required name.
9. Click on **OK**. After a short pause, the AutoCAD text window and graphics window (with the specified drawing displayed within it) will appear.

## 15.3 Starting the Frame Editor

The **Frame Editor** enables drawing frames created in AutoCAD to be converted into a command macro that can then be used to create the equivalent frames as Backing or Overlay Sheet elements within a specified Sheet Library.

If the specified Backing/Overlay Sheet already exists in the specified Sheet Library then the old 2D primitives are deleted and replaced by the new definition.

1. Select **Draft>Administration>AutoDRAFT** to display the AutoDRAFT Administration menus.
2. Make the Sheet Library (SHLB) that you wish to contain the returning Frame Editor-generated symbols the current element.
3. Select **Edit>Sheet Frame** from the menu bar. This displays the **AutoDRAFT Frame Editor** form.



4. Click on one of the option buttons as required:  
**Create a New Drawing** creates a new, empty AutoCAD drawing for use by the Frame Editor. (If an AutoCAD drawing of the same name already exists then you are asked if you wish to continue (i.e. update it, as below), the alternative being to return to DRAFT.)  
**Open an Existing Drawing** opens an existing Frame Editor drawing.
5. Use the **Browse** button to select a folder for a new drawing (if **Create a New Drawing** option is selected), or a folder and a DWG file name (if **Open an Existing Drawing** option is selected). Alternatively, edit manually the text boxes **AutoCAD Work Directory** and **AutoCAD Drawing Name** to define the name and location of the AutoCAD drawing.
6. Specify the AutoCAD drawing units to be used by selecting from the **Units** drop-down list.
7. If necessary, you may select a different Sheet Library (SHLB) to contain the sheet to be generated by Frame Editor by selecting it in the explorer and using the '**Select DB element**' button. If you select a SHLB element, only the sheet library will be set. If you select a BACK or OVER element, both the sheet name and its owning library will be set.
8. Select from the drop-down list at the bottom-left of the form whether you wish the imported symbols to create a **Backing** Sheet or an **Overlay** Sheet.
9. Enter the name that you wish to give the derived Sheet into the **Name** text box.
10. Click on **OK**. After a short pause, the AutoCAD text window and graphics window (with the specified drawing displayed within it) will appear.

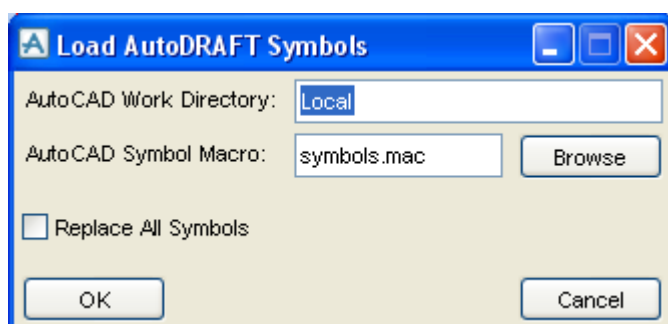
## 15.4 Importing Symbols and Backing/Overlay Sheets

**Note:** The file import facilities described in this section need only be used if the AVEVA software and AutoDRAFT are on **different** hardware platforms. Furthermore, the use of these facilities is **optional**; provided you first navigate to the correct position in the database hierarchy, the macro file exported from AutoDRAFT can be run into the OUTFITTING DRAFT database using the \$M/ command.

**Note:** If the AVEVA software and AutoCAD are on the **same** hardware platform, the Symbol or Sheet elements created using AutoCAD can be created in the database directly from AutoDRAFT. See the *AutoDRAFT User Guide* for details.

Having created entities in AutoCAD (using the **AutoDRAFT Symbol Editor**) which can be used as Symbols in OUTFITTING DRAFT, they can be imported to OUTFITTING DRAFT and Symbol Template (SYTM) elements **automatically** created.

1. Select **Draft>AutoDRAFT** to bring up the AutoDRAFT Administration menus.
2. Select **Import>Symbols** from the menu bar. This displays the **Load AutoDRAFT Symbols** form.



3. If the directory to contain the Symbol creation macro file is not the local one, backspace in the **AutoCAD Work Directory** text box until it is clear, then type in the required directory name.
4. If the macro file to be used does not have the supplied default name symbols.mac then backspace in the **AutoCAD Symbol Macro** text box until it is clear, then type in the new file name.
5. Press **OK**, and a Backing or Overlay Sheet will be automatically created.
6. If you wish all symbols drawn in AutoCAD that have the same name as existing OUTFITTING DRAFT Symbol Templates in the selected Symbol Library to overwrite the OUTFITTING DRAFT Symbol Templates when they are imported from the Symbol Editor, tick the **Replace All Symbols** check box. (If this option is not set, you will still be given the option, at the import stage, to overwrite symbols individually.)

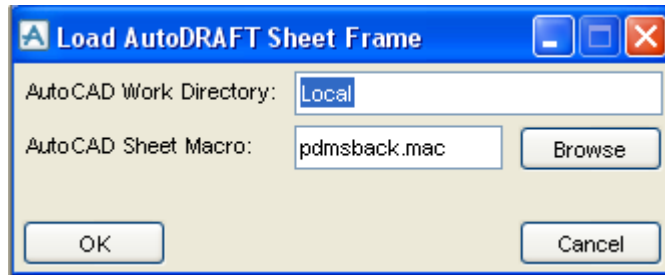
The Symbol Library (SYLB) to which the Symbol Templates are to be added is as specified on entry to the Symbol Editor, see [Starting the Symbol Editor](#).

**Note:** The ways in which AutoCAD entities and attributes are mapped to OUTFITTING DRAFT elements and attributes are described in the *AutoDRAFT User Guide*.

Having created a drawing entity in AutoCAD (using the **AutoDRAFT Frame Editor**) that can be used as a Backing or Overlay Sheet in OUTFITTING DRAFT, it can be imported to OUTFITTING DRAFT and a Backing or Overlay Sheet element (as required) **automatically** created.

1. Select **Draft>AutoDRAFT** to bring up the AutoDRAFT Administration menus.
2. Select **Import>Sheet Frame** from the menu bar. This displays the **Load AutoDRAFT Sheet Frame** form.





3. If the directory to contain the Sheet-creation macro file is not the 'local' one, backspace in the **AutoCAD Work Directory** text box until it is clear, then type in the required directory name. If the macro file to be used does not have the supplied default name pdmsback.mac then backspace in the **AutoCAD Sheet Macro** text box until it is clear, then type in the new file name.
4. When you press **OK**, a Backing or Overlay Sheet will be automatically created.

The type of Sheet to be created, and the Sheet Library (SHLB) to which the Sheet is to be added are both as specified on entry to the Frame Editor.

If the specified Backing/Overlay Sheet already exists in the specified Sheet Library then the old 2D primitives are deleted and replaced by the new definition.



## 16 Loading Data Files

The **Administration** option of OUTFITTING DRAFT contains a feature that allows you to automatically load data files to create new projects. By using the **Load Data File** option you can load new project data for **Main Libraries**, **Template Drawings** and **Application Department**.

### 16.1 Accessing Load Data Files

To load the data files, select **Draft > Settings > Load data file** from the OUTFITTING DRAFT main menu.

You can then select the data files you wish to load (**Main Libraries**, **Template Drawings** or **Application Department**).



## 17 Updating the Database

There are occasions when the database needs to be updated specifically, as opposed to the routine updating that occurs from time to time in normal use. This chapter explains when and how you should do this.

### 17.1 Updating Picture Files

This operation should be carried out to recover from a corrupt picture file, such as may result from a RECONFIGURER operation, or if an attempt has been made to display a VIEW created using a previous version of OUTFITTING DRAFT.

Annotation graphics will always be restored but Design graphics may not be. In all such cases, a message alert will be displayed instructing you to carry out the update operation, and this is the *only* time that the operation should be carried out.

Select **Graphics > System Update > Picture** from the Administration menu.

### 17.2 Updating Template Instancing

This option (valid at SHEE, BACK, OVER, SYLB or LALB level, or above) scans the database hierarchy and updates all those parts of picture files that use the graphics 'instancing' mechanism. For example, a SYMB is an 'instance' of a SYTM. OLAY and BACK elements are in the same category.

This update should be used to generate the correct graphics after the LIBNO NEW option has been used in RECONFIGURER.

Select **Graphics > System Update > Instances** from the Administration menu.

### 17.3 Updating Cross-DB Reference Attributes

This option updates all Draft element attributes that refer to elements in the Design database. The settings of such attributes exist as database reference numbers.

The updating function operates on the current element. It should only be used if the Design database has been deleted and rebuilt from macros. See Chapter 2 of the *OUTFITTING DRAFT User Guide* for further details.

Select **Graphics > System Update > Refs** from the Administration menu.

## 17.4 Updating Cross-DB Name Attributes

Draft elements with attributes that refer to elements in the Design database (the settings of which exist as database reference numbers) also have (hidden) text attributes set to the names of the referenced elements. This option updates the latter attributes, using the settings of the associated reference attributes.

The updating function operates on the current element. It should only be used if the Design database has been deleted and rebuilt from macros. See Chapter 2 of the *OUTFITTING DRAFT User Guide* for further details.

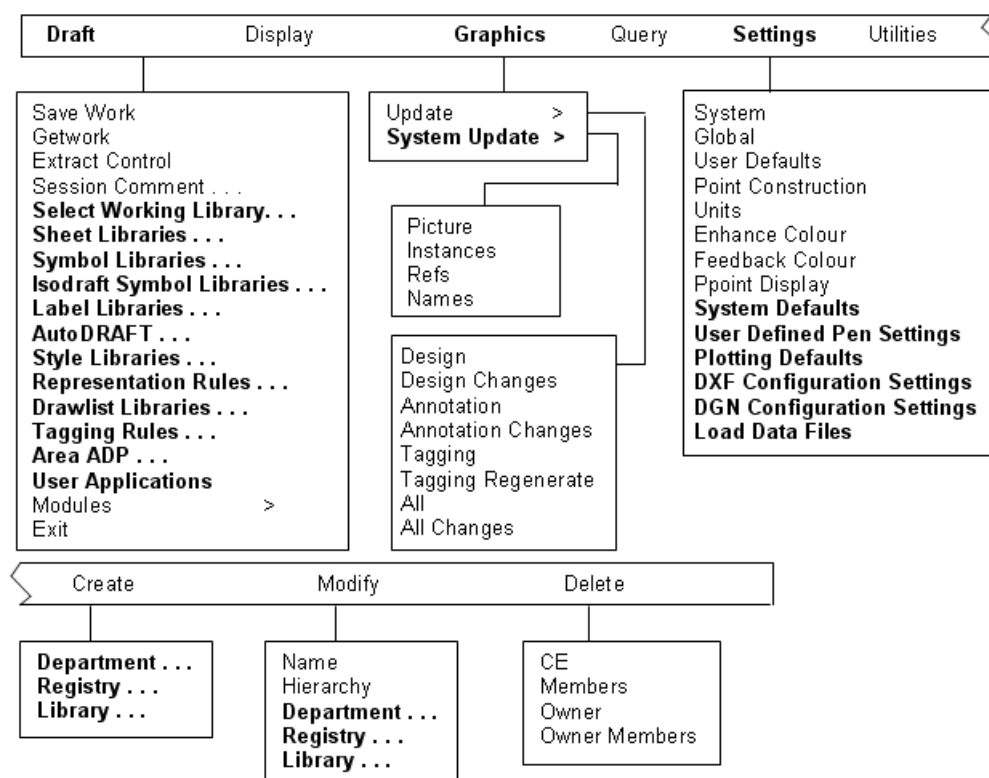
Select **Graphics > System Update > Names** from the Administration menu.

## A Administrator Menus

### A.1 General Administrative Menu

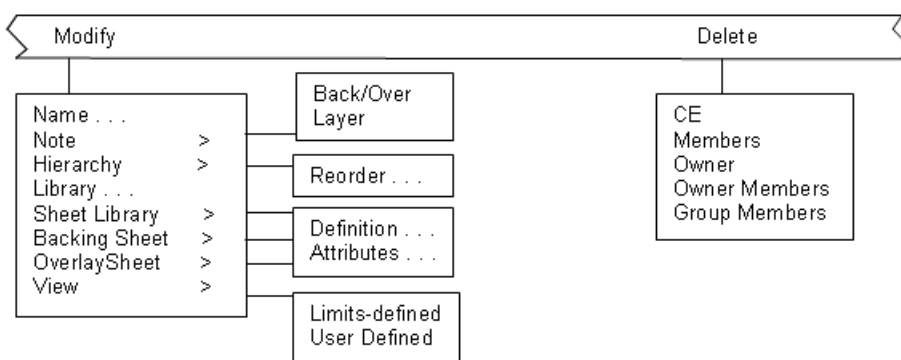
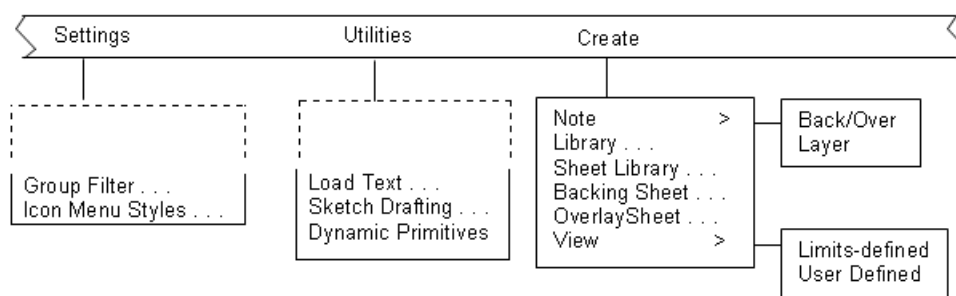
**Note:** The Administrative menu options that are different from the User Applications are shown in bold. Options that are common to all the Administrative Applications are only shown on the General Administration menu.

This Section shows the part of the menu hierarchy that is common to all Applications.

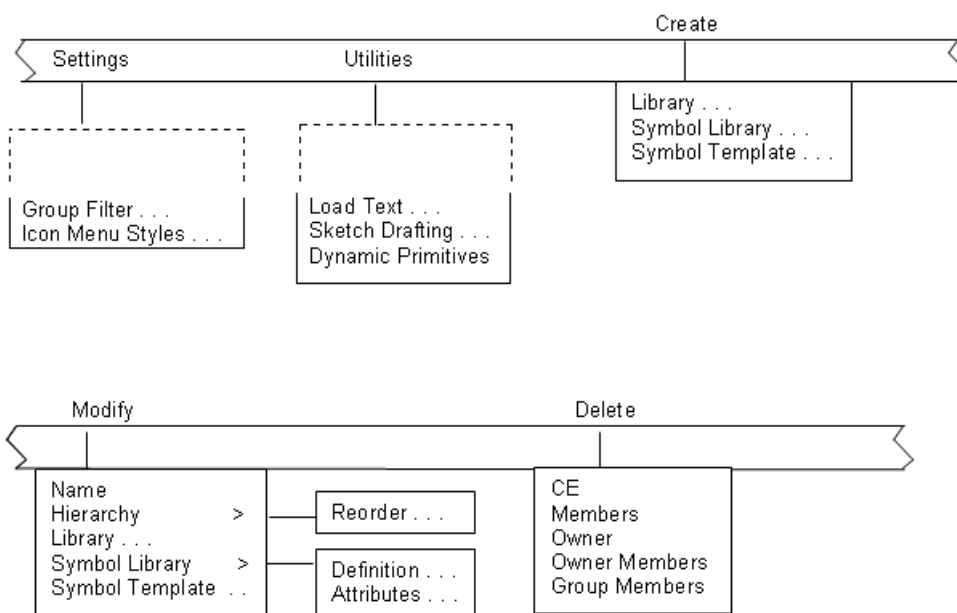


### A.2 Sheet Library Administration

**Note:** The **Draw**, **Construct** and **Edit** options are the same as in the 2D Drafting Application.



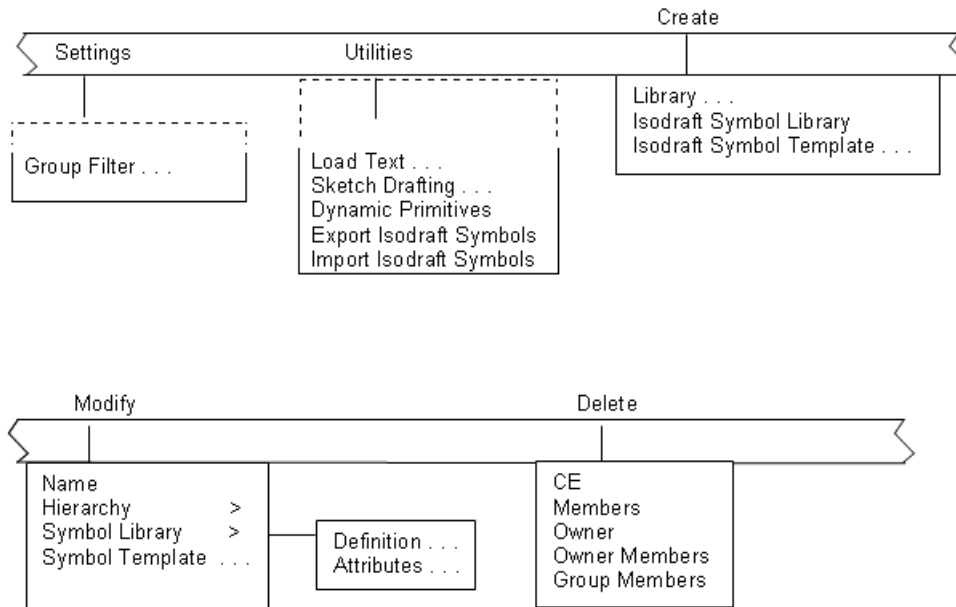
## A.3 Symbol Library Administration





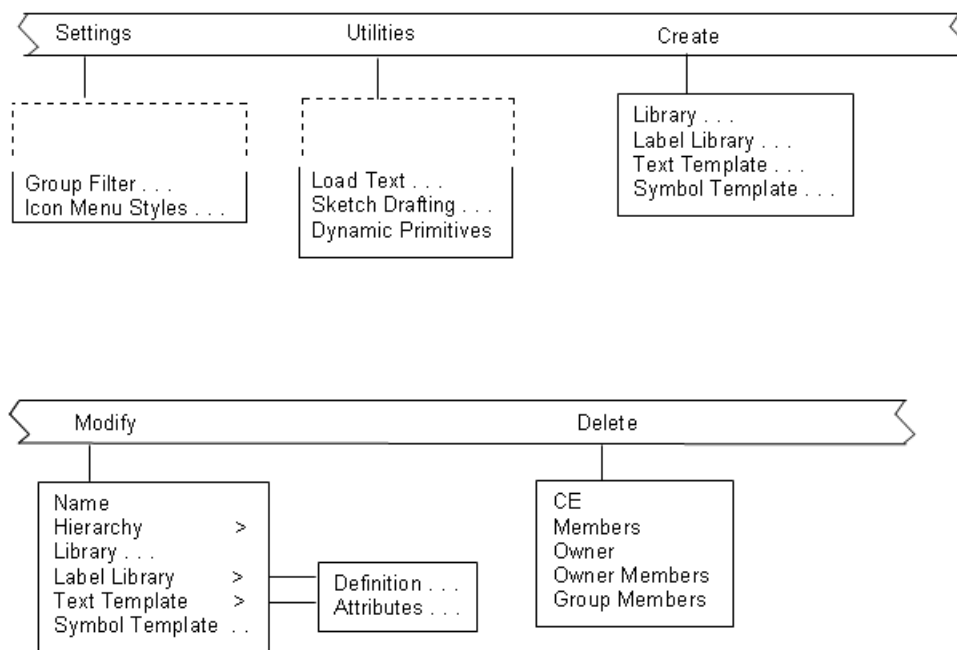
**Note:** The **Draw**, **Construct** and **Edit** options are the same as in the 2D Drafting Application.

## A.4 ISODRAFT Symbol Library Administration

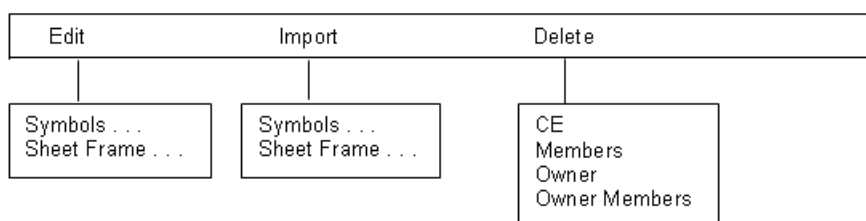


**Note:** The **Construct** and **Edit** options are the same as in the 2D Drafting Application.

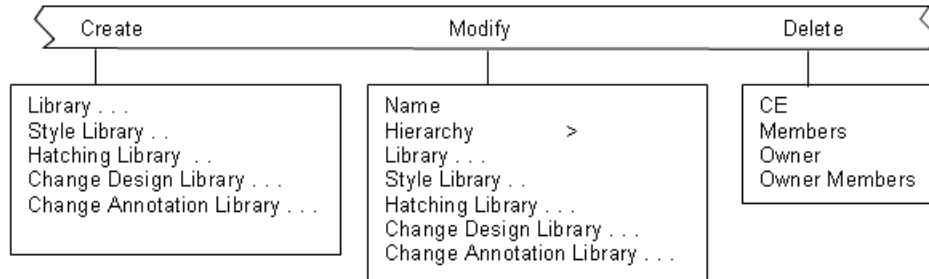
## A.5 Label Library Administration



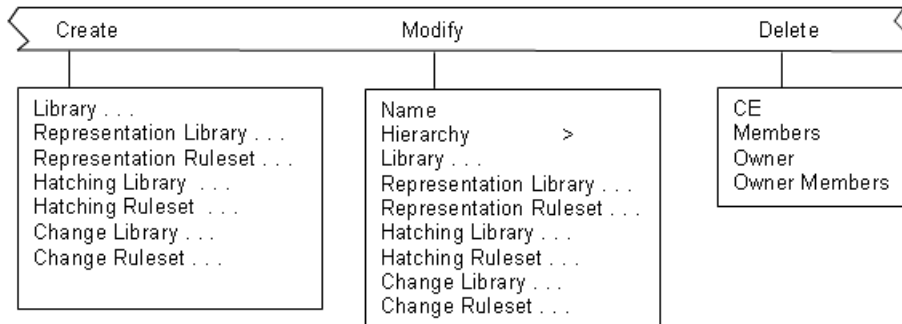
## A.6 AutoDRAFT Administration



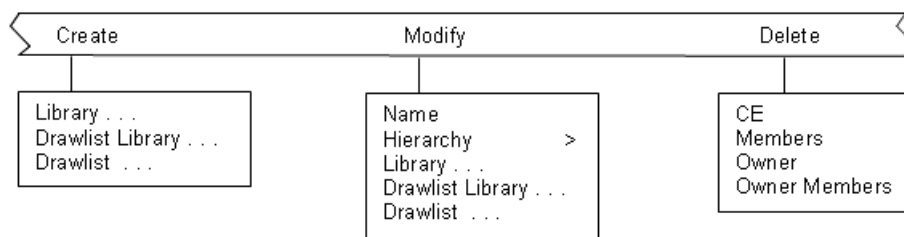
## A.7 Style Library Administration



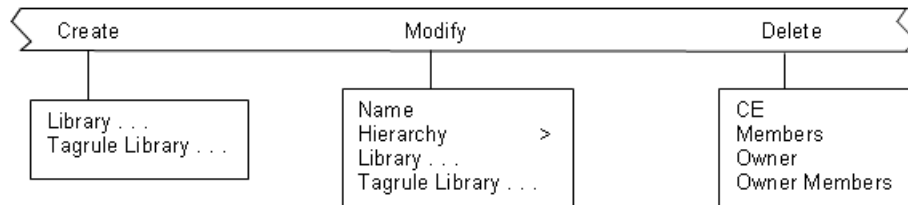
## A.8 Representation Rule Administration



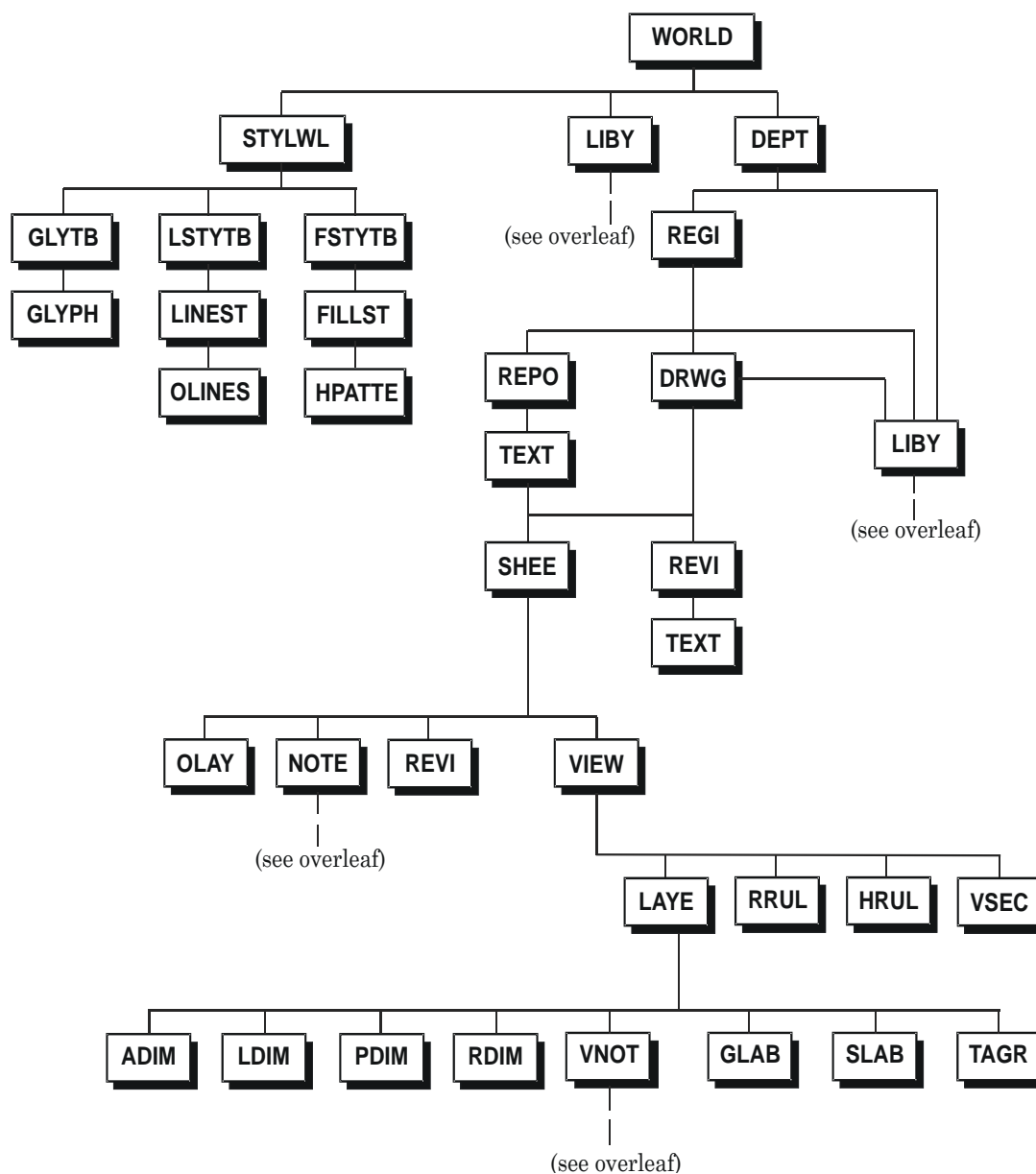
## A.9 Drawlist Library Administration



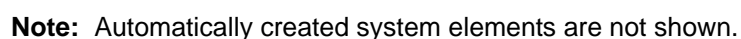
## A.10 Tagging Administration



## B Database Hierarchy



**Note:** Automatically created 'system' elements are not shown.



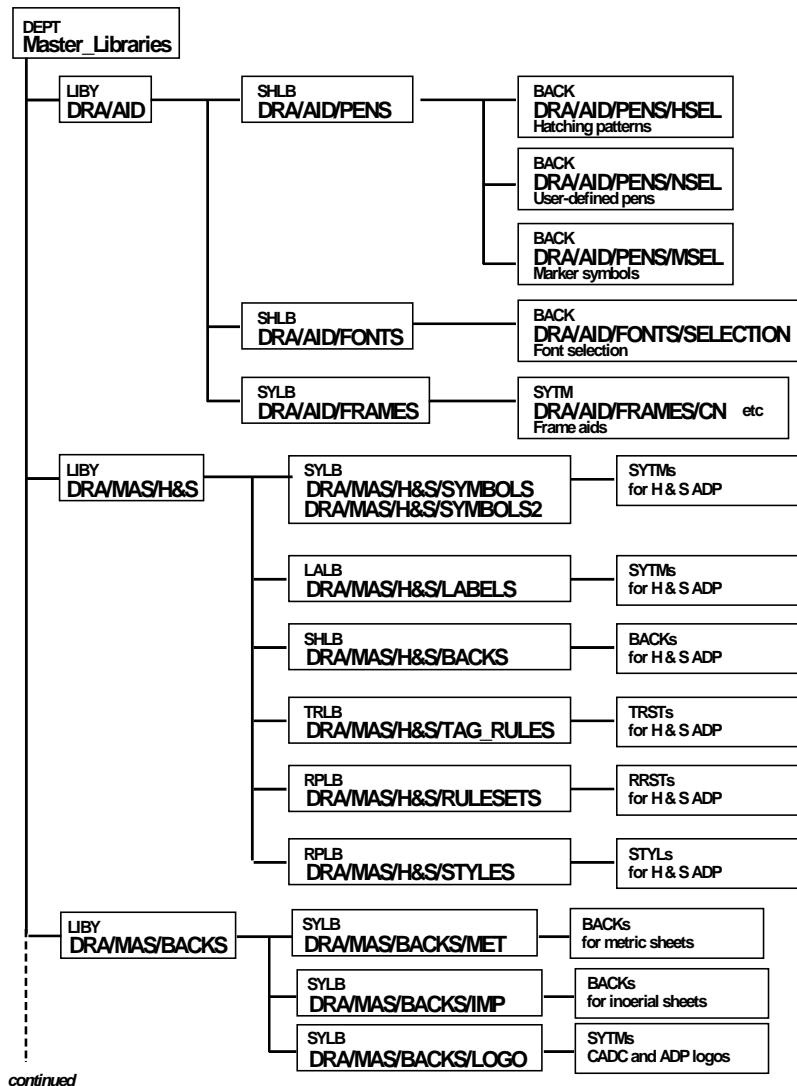
## C Libraries

The OUTFITTING DRAFT Libraries supplied with the product are stored in two Departments:

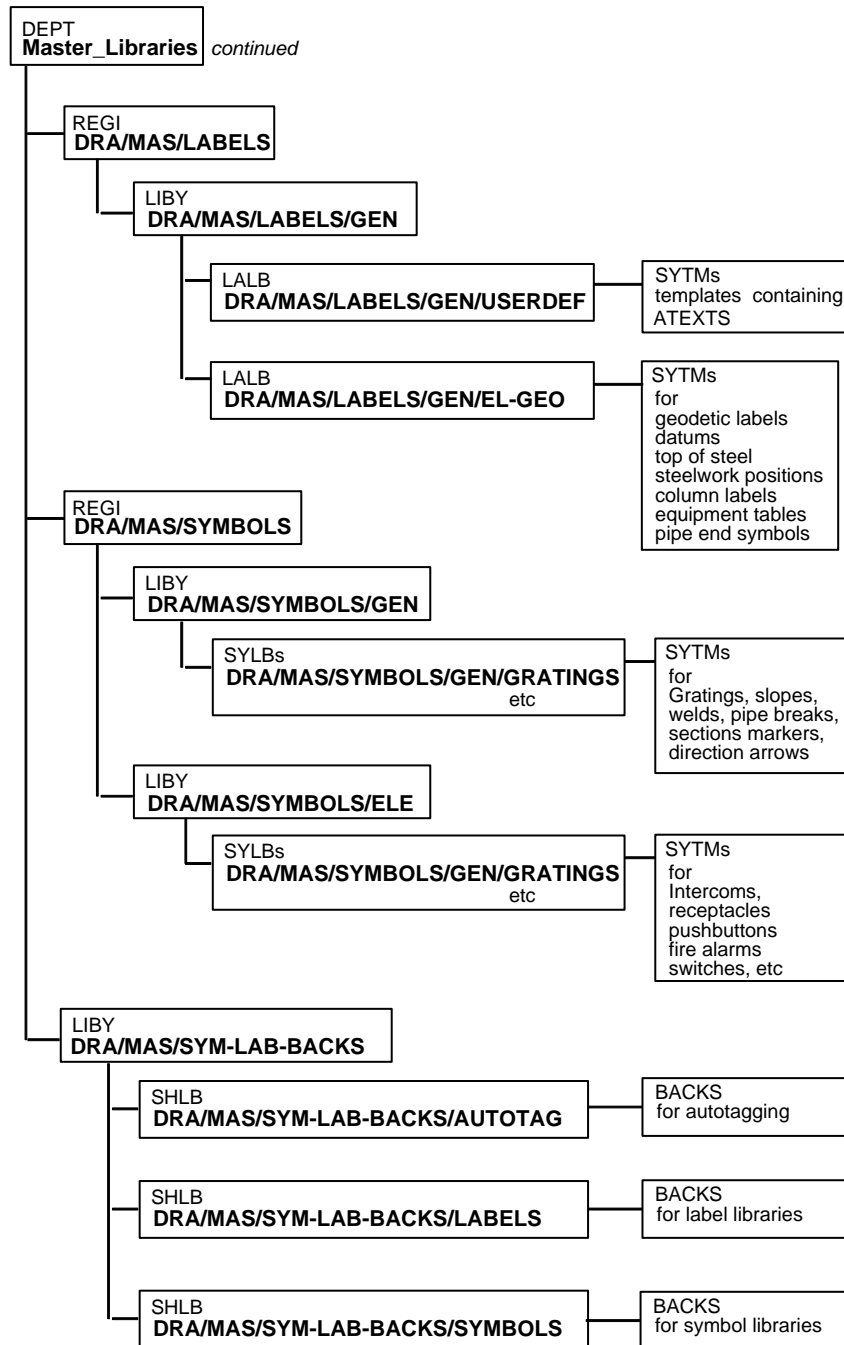
- Master\_Libraries can be referenced from any project.
- Project\_Libraries contain rules that are Project-specific.

This appendix summarises the contents of the two Departments.

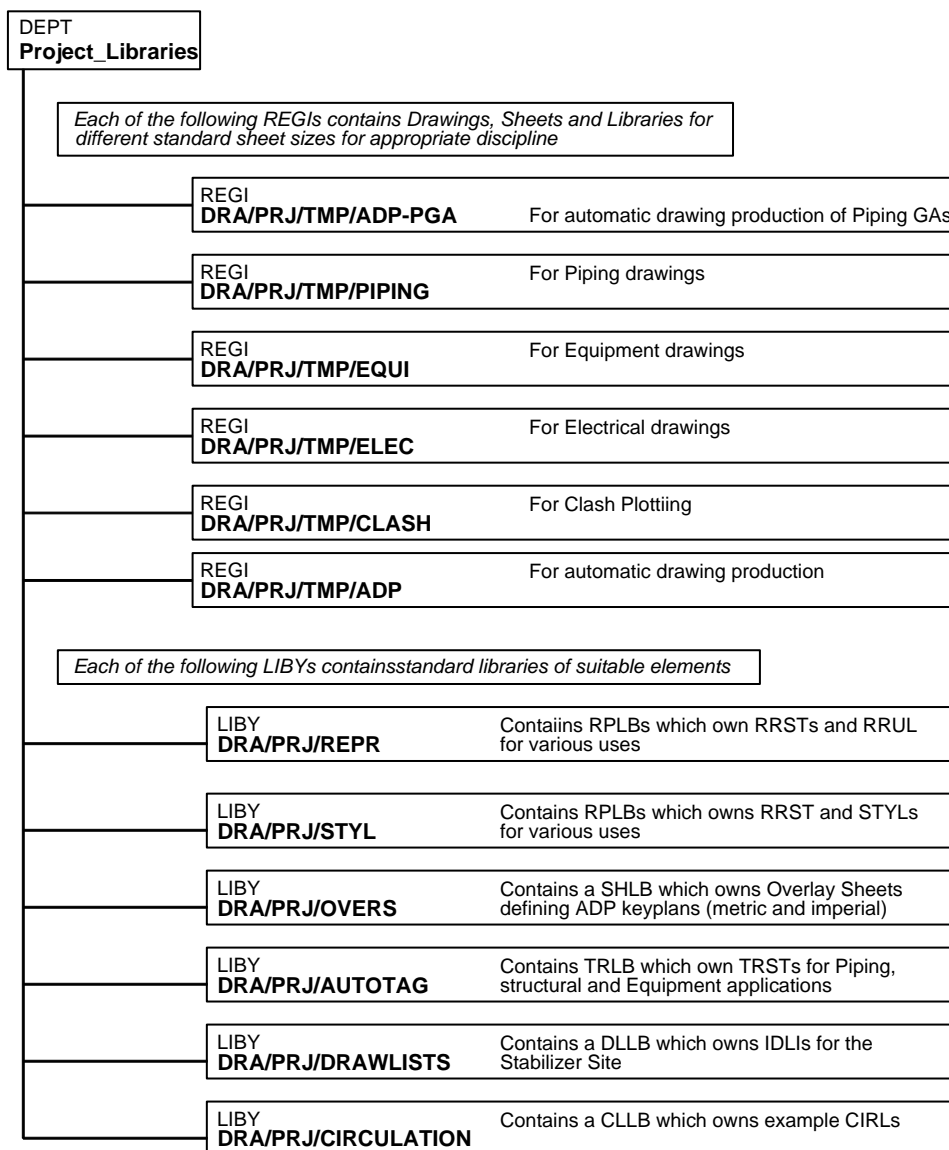
## Master Libraries







### C.1 Project Libraries



# Index

---

## A

Access rights .....	2:2
Administrator	
access rights .....	2:2
functions .....	2:1
ADP	
backing sheets .....	14:5
Hanger and Supports .....	14:8
Keyplan .....	14:6
Reference drawings .....	14:5
schedule library .....	14:3
Schedules .....	14:3, 14:6
Sheet limits .....	14:5
Tagging .....	14:3
tagging library .....	14:3
ADP Administration .....	14:1
Auto tagging .....	13:1
AutoDRAFT Frame Editor form .....	15:2
AutoDRAFT Symbol Editor .....	15:1
AutoDRAFT Symbol Editor form .....	15:1
Automatic Drawing Production .....	14:1

## B

Backing sheet	
adding annotation .....	6:2, 9:2
create .....	5:2
for ADP .....	14:5

## D

Data files	
load .....	16:1
Database	

updating .....	17:1
Default files .....	2:3
Defaults .....	3:1
DRA-(gt)SETUP .....	3:1
load .....	3:3
Delimiters	
element names .....	3:3
DRA-SETUP .....	3:1
Drawlist	
creating .....	12:1, 12:2
defining members .....	12:2
deleting .....	12:2
Drawlist library .....	12:1
creating .....	12:1
drawlist .....	12:1

## E

Element name delimiters .....	3:3
-------------------------------	-----

## F

Frame Editor .....	15:2
--------------------	------

## H

Hanger and Supports ADP .....	14:8
Hatching	
rule sets .....	11:5
styles .....	10:5

## I

ISODRAFT Symbol library	
creating .....	8:1

ISOLB .....	8:1
ISODRAFT Symbol template	
ISOTM .....	8:1

## K

Keyplans	
ADP .....	14:6

## L

Label library .....	9:1
backing sheet annotation .....	9:2
creating .....	9:1
symbol templates .....	9:2
text templates .....	9:3
Layer purpose .....	3:4
Layer purpose filter .....	3:6
Library	
searching .....	2:2
Load AutoDRAFT Sheet Frame form ..	15:4
Load Symbols AutoDRAFT form .....	15:4
Loading default settings .....	3:3

## M

Main library .....	4:1
Mappings, AutoCAD to DRAFT .....	15:4

## N

Name conventions .....	3:7
------------------------	-----

## O

OUTFITTING DRAFT Defaults	
save .....	3:3
Overlay sheet	
create .....	5:3

## P

Plot options .....	3:8
Plotting Options form .....	3:8
PURP attribute .....	3:4

## R

Reference Drawings	
ADP .....	14:5
Representation library .....	11:1
creating .....	11:1, 11:2
rule sets .....	11:3
Representation rule set	

creating .....	11:4, 11:6, 11:10
deleting .....	11:4, 11:6

## S

Saving default settings .....	3:3
Schedule library	
for ADP .....	14:3
Schedules	
ADP .....	14:6
in ADP .....	14:3
SDADP Administration .....	14:7
Searching for Libraries .....	2:2
Sheet library .....	5:1
backing sheet create .....	5:2
creating .....	5:1
overlay sheet .....	5:3
use of .....	15:2
Sheet limits	
ADP .....	14:5
Sheet sizes .....	3:6
Steelwork Detailing ADP .....	14:7
Style attributes .....	10:3
Style library .....	10:1
Styles	
creating .....	10:1
deleting .....	10:1
Symbol library	
creating .....	6:1
SYLB .....	6:1
symbol templates .....	6:2
SYTM .....	6:1
use of .....	15:1
Symbol template .....	6:2
SYTM .....	6:1
System update	
picture files .....	17:1
template instancing .....	17:1

## T

Tag rule library .....	13:1
Tag rules .....	13:2
Tagging	
in ADP .....	14:3
Tagging library	
for ADP .....	14:3
Title block .....	14:6

## W

Working library	
changing .....	4:1
main library .....	4:1