User Manual

ARGUS EstateMaster DF 7.30

May-2020

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Part I

1 Introduction

ARGUS EstateMaster DF is a cash flow model designed for property development feasibility analysis. It calculates investment returns including residual land value, development profit, internal rate of return and net present value based on a comprehensive set of inputs.

The Program can be used to:

- Financially appraise property development and test project feasibility;
- Estimate residual land value for acquisition purposes based on hypothetical development;
- Estimate the value of land for the purpose of disposal; and
- Estimate returns to the land owner and developer in a joint venture arrangement.

ARGUS EstateMaster DF is also suitable, or adaptable, for:

- Full financial feasibility of multi-staged developments or single-staged developments;
- Cost Benefit analysis;
- Valuation tool to calculate a site's residual value based on a hypothetical development; and
- Post-project evaluation.

1.1 Program Integrity

Every effort has been made to provide a quality product that is simple, flexible and detailed in its analysis.

The ARGUS EstateMaster DF program has been sealed to safeguard the integrity of the program and formulae. If the seal is broken the validity of the formulae and program calculations cannot be guaranteed any more. Therefore, we recommend that the authors be notified of any problems rather than the user attempting to rectify the problem by removing the protection facility.

To this end any modifications to the ARGUS EstateMaster DF program are prohibited without the express written approval of the authors EstateMaster Pty Ltd.

Also, we cannot guarantee that the program is or will remain error free for every possible input permutation. To retain the integrity of the programs we recommend you audit the models on a regular basis with manual reality checks on the output results.

Furthermore the program assumes certain tax assumptions such as rates of stamp duty. These may change in time and it is important for the user to keep abreast of such changes and know how they effect the model's assumptions.

1.2 System Requirements

To install and operate ARGUS EstateMaster DF efficiently, the following is recommended:

- A 64bit PC with a Quad Core CPU (Intel Core i5 / i7) and a clock speed of at least 2.8Ghz (or equivalent).
- Microsoft Windows 8.1 or later -or- Windows Server 2012 or later
- Microsoft .Net Framework 4.6 or higher.
- 8Gb RAM or higher.
- Internet connection (for downloading files and activating licences).

Note to Apple Mac Users: ARGUS EstateMaster DF can only run on Mac's via a Windows Virtualization tool such as VMWare or Parallels.

Part II

2 Introduction to Development Feasibility Analysis

2.1 Development Margin

Before the widespread use of personal computers the traditional approach to development analysis was to:

- Estimate the total development cost for a project in current dollars (non inflated) including interest on 100% borrowings;
- Estimate the sale prices (less selling costs) based on comparable sales or income capitalisation expressed in current dollars;
- Calculate the net profit by subtracting total development cost from revenue; and
- Calculate the development margin by dividing profit by total development cost:

$$\textbf{Development Margin} = \frac{\text{Net Profit} * 100\%}{\text{Total Development Cost}}$$

Through experience, a 15% to 30% development margin was considered adequate for a project to be viable, although this would vary according to the level of project, financial and market risk.

2.2 Time Value of Money

The traditional development method of project appraisal however was recognised to be flawed when one or more of the following factors were involved:

- Inflation and above inflation escalations occurred with costs and sale values;
- Project periods extended beyond two or more years;
- Other medium term investments competed for funds; and
- Costs and sales were staged giving variable cash flow exposures.

The analytical drawback is due to the fact that the traditional approach does not account for the time value of money. Usually, a dollar today is more valuable than a dollar next year. Future cash flows should therefore be reduced (discounted) in value to reflect their current (present) value.

To demonstrate the time value of money, consider the case in which an individual receives a sum of $1,000 and invests it at a return of 10% per annum compounded in Government Bonds. The $1,000 will grow to $1,100 at the end of year 1 and $1,210 at the end of year 2 and so on. It is assumed that this 10% return represents the best use for the funds at a risk free rate. In this example, the investor should value $1,100 in a years time or $1,210 in two years time as equivalent to $1,000 now (ie. its present value). The reduction of future dollars to its equivalent value in money today is known as discounting. Discounting is the reciprocal of compounding and is expressed in the following formula:

$$\textbf{PV=} \frac{FV}{(1+i)^n}$$

Where:
PV = Present Value;
FV = Future Value (predicted amount);
i = Discount Rate per period of time; and
n = number of periods.

2.3 Discounted Cash Flow Analysis

Discounted Cash Flow (DCF) analysis takes into account the time value of money in a much more detailed way than the developer's profit margin by considering the timing of all costs and incomes.

The first requirement of discounted cash flow analysis is to create a tabulation of money and time with cash flow items along one axis and time on the other axis. In other words the same cash items used in the traditional approach (except interest on finance), are tabulated against equal time periods (months, quarters or years) and the values of those cash items are recorded in the time period forecasted. Interest is excluded because it is incorporated in the discount rate as demonstrated above.

The value of all the cash items are then totalled for each time period (with cost items being negative and revenue items being positive) resulting in a net cash flow range through time. This range of net cash flows is discounted to present value. The resultant net present value (NPV) measures the difference between the discounted revenues and the discounted costs. This is the first and perhaps the most important performance indicator. A positive NPV implies the present value of incomes exceeds the present value of costs and the project is therefore feasible.

The other primary indicator is the internal rate of return (IRR). This is the discount rate at which the net present value equals zero. Possibly a better way to understand its meaning is to express it as the maximum interest rate that can be charged to a fully funded project before the project would show a net loss.

2.4 Performance Indicators

Development Margin

Is used as a reflection of profitability and is the percentage return of net profit over total development cost calculated in the following way:

$$\textbf{Development Margin} = \frac{\text{Net Profit} * 100\%}{\text{Total Development Cost}}$$

Where:
Net Profit = Total Revenue less Total Development Cost; and
Total Development Cost includes all finance and interest charges, land holding and selling costs.

Net Present Value

Is the sum of the present values of all project cash inflows and outflows over the life of the project. A positive NPV infers an Internal Rate of Return (IRR) greater than the discount rate. Interest on borrowings and interest received on re-investment of surplus funds and equity is ignored since this is incorporated in the discount rate. The formula is:

$$\textbf{NPV} = \sum_{n=t}^{n=0} \left[\frac{FV}{(1+i)^{n}} \right]$$

Where:
PV = Present Value;
FV = Future Value (predicted amount);
i = Discount Rate per period of time; and
n = number of periods.

Internal Rate of Return (IRR)

Is the discount rate at which the sum of the discounted negative cash flows equals the discounted positive cash flows, i.e. the discount rate at which the NPV equals zero. Simplistically the IRR represents the ACTUAL RETURN on funds invested. Interest on borrowings is ignored since this is incorporated in the discount rate.

2.5 Discount Rate

Discount Rate (or Target IRR) is simplistically the DESIRED RETURN on funds invested. For discounted cash flow analysis the discount rate is the rate at which future cash flows are discounted to present value. For a development to be feasible the discounted value of future cash flows (Net Present Value) must be greater than zero. A feasible project will have an internal rate of return (FORECAST RETURN) greater than the discount rate (DESIRED RETURN).

A simple and popular method for choosing a discount rate in discounted cash flow analysis is an "Opportunity Cost of Capital" rate, which is given, in the following formula:

Discount Rate = Inflation + Risk Free Rate of Return (Cost of Capital) + Risk Premium

The risk free rate of return or cost of capital reflects the opportunity cost in not proceeding with the development. It may be defined by the current 5-10 year Government Bond rate. Note this includes an expectation of long-term inflation. If a zero inflation model is adopted then a medium term market forecast of inflation should be subtracted from the Government Bond rate to calculate the real risk free rate of return.

Risk Premium

Risk Premium is the level of discounting over and above the risk free rate (or cost of capital), which reflects the level of risk in the project.

Weighted Average Cost of Capital

A more sophisticated method of calculating the discount rate is the WACC which is the weighted required rate of return on debt and equity funding. The formula is as follows:

$$\textbf{WACC} = \frac{D}{(D+E)} * R_D + \frac{E}{(D+E)} * R_E * (1-T_R)$$

Where:
D = Total Debt
E = Total Equity
R_D = Cost of Debt (risk free rate of return plus debt premium based on the credit rating of the company); and
R_E = Cost of Equity (required return on equity)
T_R = Corporate Tax Rate

A popular method of calculating the required return on equity is the capital asset pricing model (CAPM). The formula is:

$$\textbf{R}_\textbf{E} = R_F + ß * (R_M - R_F)$$

Where:
R_E = expected return on equity;
R_F = risk free rate of return (10 year Commonw ealth Bond rate);
ß = sensitivity of an investment's return to the return on the hypothetical market portfolio of shares;
R_M = expected nominal return on the market portfolio (approximated by the yield on the market portfolio of common equity shares); and

(R_M - R_F) = the market risk premium, or additional return demand by investors for holding risky assets.

2.6 Risk Assessment

Risk is usually dealt with in several ways:

- Incorporating a risk premium in the discount rate. This is based on the concept that developers and investors expect higher returns for more risky projects.
- Use of sensitivity testing whereby different low, medium and high values for risky variables are incorporated to test the effects on the performance indicators.
- Application of Scenario Analysis, which records the results from a combination of variations.
- Application of Probability Analysis to produce a probability distribution of outcomes.

The second method has an advantage over the first method since combinations of different values for different risky variables can provide a range of outcomes. However neither method provides a consideration of the probability of those outcomes. Monte Carlo method assigns probability distributions to the risky variables but because of its complexity and limitations this method is not often used in the property development industry.

2.7 Residual Land Values

There are two different methods of calculating Residual Land Values in ARGUS EstateMaster DF:

1. Calculated on the target development margin
2. Calculated on the target IRR (discount rate).

Given that the two methods are based on different principals and methods of calculation, they will most likely result in different values for the same development project. Sometimes the difference is minor, and a common practice would be to round the result for the indicative land value. However, the following question arises when the differences are quite significant – Which RLV do we use? The question is critical, not only for land acquisition purposes, but also for valuations.

RLV on Target Development Margin

The RLV on the Target Development Margin is the maximum price for the land that the developer would pay to make the calculated development margin equal the target hurdle rate. The target hurdle rate is essentially the developer's required return for the project, also referred to as a 'Profit and Risk Factor'. The Development Margin has been the traditional method of development feasibility analysis in the past and is beneficial for short term projects. However it does have its shortcomings – it does not account for the time value of money and its results can be misleading for projects that extended beyond two or more years. Two projects may have the same net profit, but due to differences in the timing of cash inflows and outflows, one project may be realising its profit earlier than the other. Therefore, it you take into account the old adage "a bird in the hand is worth two in the bush", then even though the projects have the same profit, a prudent developer/investor would chose the project that achieves its profit earlier.

RLV on Target IRR (Discount Rate)

The RLV on the Discount Rate (Target IRR) is the maximum price for the land that the developer would pay to make the calculated IRR equal the target hurdle rate or their Net Present Value (NPV) equal zero. Unlike the Development Margin, the IRR takes into account the dimension of time in its calculation and is used to differentiate projects of different cash flow exposures. It is more effective for longer term projects of more than 2 years, as it can be quite sensitive to small movements in time for short term projects. By adopting a suitable discount rate (Target IRR), the cash inflows and outflows are

discounted to determine their present value and then added together to form a Net Present Value for ease of comparison between other projects of dissimilar timings.

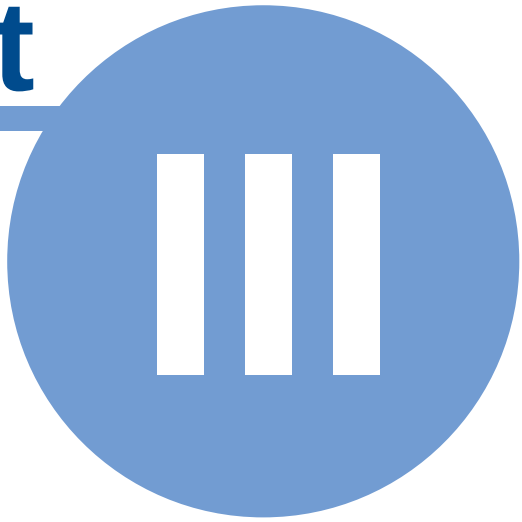
Hurdle Rates

After taking into consideration the duration of the project to determine which RLV calculation to adopt, another important factor is the actual hurdle rate that is applied for the Target Development Margin and Target IRR. These targets must be accurate and realistic, in particular the Target IRR which is sensitive to not only costs and revenues, but also time. Quite simply, if a higher return is required (and thus a higher hurdle rate is adopted), the RLV function will indicate that you would have to pay less for the land to achieve that target, and vice versa. Failure to adopt the correct hurdle rate, could result in miscalculation of the land value and subsequently an incorrect land acquisition cost.

So in summary, things to consider when adopting a RLV:

- The RLV based on the Development Margin is suitable for projects of approximately 2 years or less.
- The RLV based on the IRR/NPV is suitable for longer term projects of approximately 2 years or more.
- Ensure that accurate hurdle rates are applied.
- If applying the RLV on IRR/NPV, ensure that the correct annual to rest period conversion is applied.

Part



3 Starting the Application

3.1 The Application Launchpad

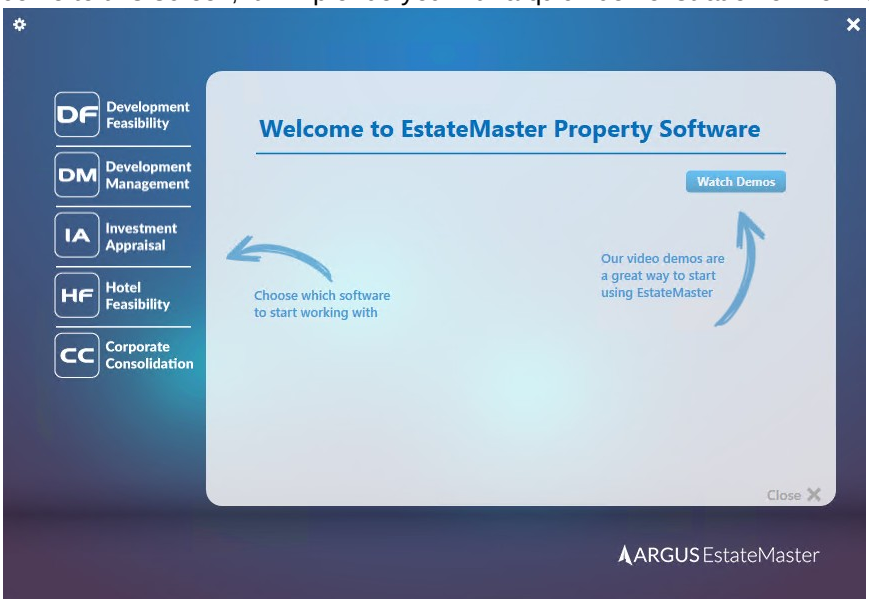
The entire ARGUS EstateMaster software suite now operates from a central launcher that is loaded from a single shortcut within Windows:

- Once loaded, you can select your installed applications, and it will display a list of files recently opened and saved by the user.
- There are also shortcuts to our extensive Sample File Library, Operations Manual and Training Courses Booking page on our website.
- For those applications not yet installed on the machine, there is information to learn more about them and even links to downloading a free trial .
- Live web content at the bottom also displays frequently updated update alerts, important news and other items of interest, such as the release of new training courses or tutorial videos.

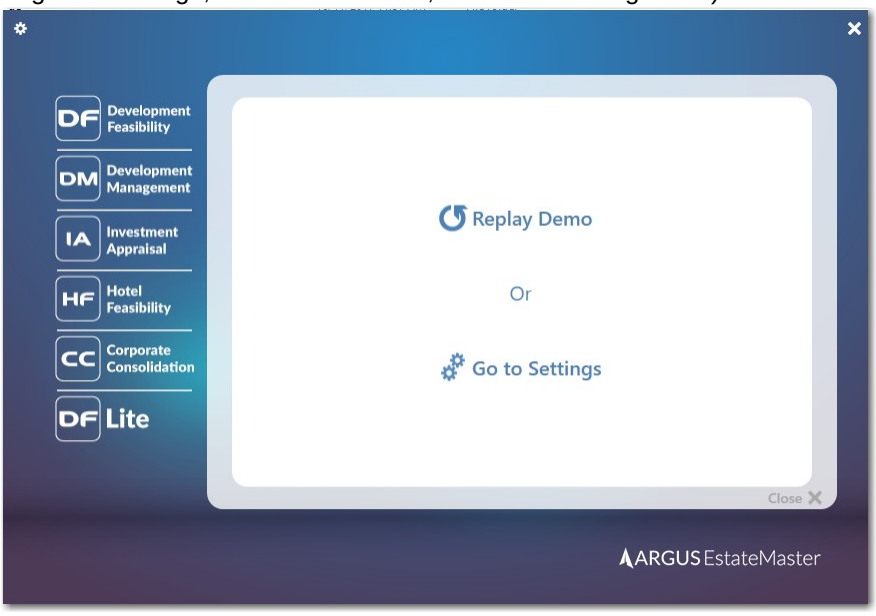
Starting ARGUS EstateMaster

1. In Windows go to the [Start] ➔ [Programs] ➔ [EstateMaster] ➔ and click on 'EstateMaster'

2. The ARGUS EstateMaster Application Launchpad will appear. If this is the first time you have come to this screen, it will provide you with a quick demonstration on how it works.



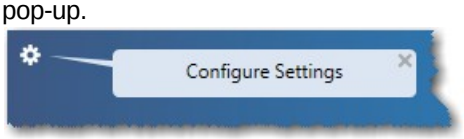
3. At the end of the demonstration, it will prompt you to replay the demo or go to the Settings (e.g. Regional Settings, Chart of Accounts, Database Management).



4. If you elect to do neither and press the [Close X] at the bottom right:

    a. The demo will not appear again for that user (it will appear for other users that start the Application Launchpad on that machine)

    b. A small pop-up reminder will appear to configure your settings.This will stop appearing either once the regional settings are set, or the user presses [X] in the pop-up.



3.2 Regional Settings

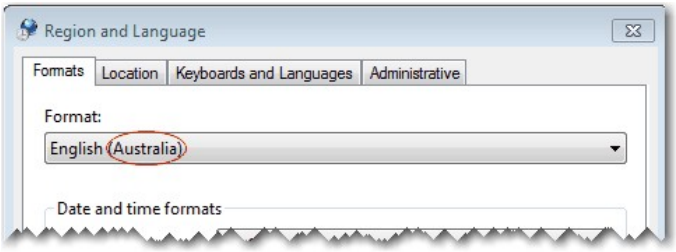
The Regional Settings wizard is a helpful tool to control common settings across all products in the ARGUS EstateMaster suite, including currency, taxation, stamp duty / land transfer taxes, etc. Once set, any new ARGUS EstateMaster file started will adopt these settings, saving you time in configuring files for your region. It is only compatible for the following versions:

- DF/DF Lite/DM: ver 6.10 and above.
- IA: ver 3.33 and above.
- HF: ver 2.10 and above.

To set the Regional Settings:

1. Either click on the [Go to Settings] link at the end of the initial Application Launchpad demo, or click on the gear icon at the top-left of the Application Launchpad.

2. Using the 'Country' drop-down list, select the country/region where your projects will be *mainly* located in. If you work on projects in many countries/regions, just choose the most common one (you can edit these settings on a file-by-file basis later)
Note: The country setting automatically defaults to the 'Region and Language' Format setting in Windows



3. Default settings will be loaded for that country, and you can adjust/override them if required. At any point in time, you can reset any manual overrides back to their defaults by pressing the [Reset] button.
4. Once the settings have been defined, press [OK], and it will save them on the active machine.
5. From that point onwards, any *new* file started in any ARGUS EstateMaster application on that machine will adopt these settings.It will not apply these settings when:
    a. An existing file is 'Opened'
    b. A template is opened from the 'New File from Template' option (settings applied within the Template take precedence)
6. Once a new file is started, you are able to adjust any of these settings on a file-by-file basis, just by go to the application's Preferences and changing the related setting there.

Sharing Regional Settings with other Users

Since these settings are machine-specific, you may want to share these settings with other ARGUS EstateMaster users in your organisation. To do so:

1. Ensure you have set and saved the settings you desire. It is advised you start an ARGUS EstateMaster application to ensure the settings are behaving as desired.

2. Close the Application Launchpad.
3. Browse to the following directory on the machine: "*C:\Program Files\Estate Master*" (or "*C:\Program Files (x86)\Estate Master*" on a 64-bit OS)
4. Copy the file *RegionalSettings.ini*
5. Send it to other ARGUS EstateMaster users, with the instruction to place it in the same folder on their machine (overwrite any existing file if it exists)

3.3 Chart of Accounts

The Chart of Accounts utility in ARGUS EstateMaster is a helpful tool to manage a list of the transaction accounts from a company's General Ledger. Setting up the Chart of Accounts in ARGUS EstateMaster allows you to easily assign the corresponding cost/account code to the related project cost or revenue line item via an interactive pop-up dialog. This is essential if you wish to import actuals in ARGUS EstateMaster DM while tracking live projects, but can also be used to build proforma templates for development feasibilities in ARGUS EstateMaster DF.

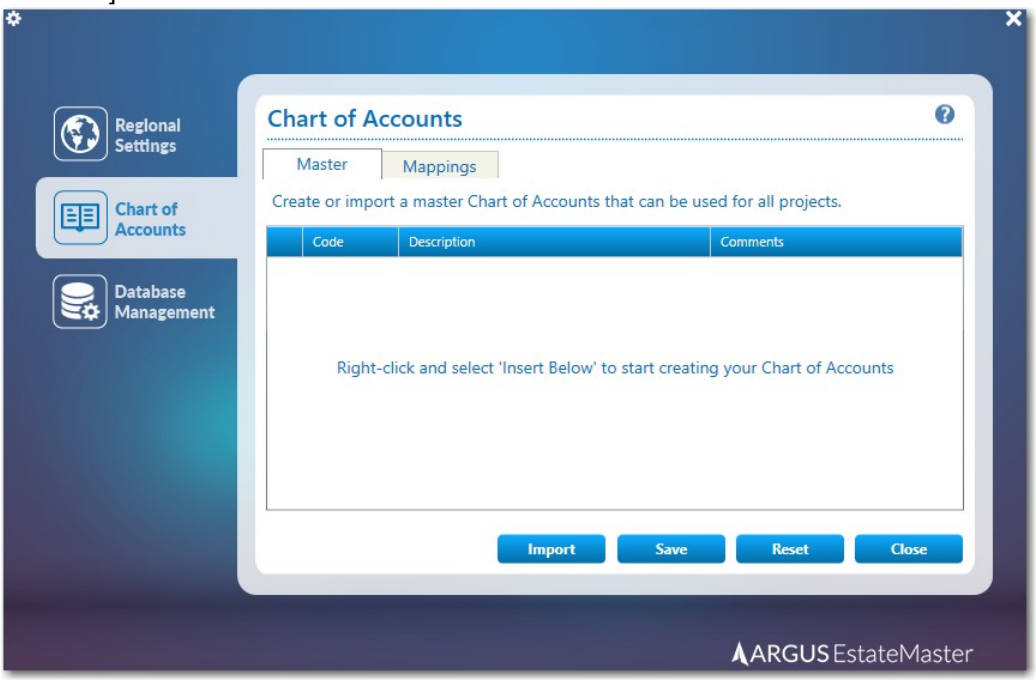
It is only compatible for the following applications/versions:

- ARGUS EstateMaster DF: ver 6.40 and above.
- ARGUS EstateMaster DM: ver 6.40 and above.

Setting up the Master Chart of Accounts\

The 'Master' Chart of Accounts is the one that is adopted by ARGUS EstateMaster DF for applying to individual cost and revenue line items within the application.

1. Either click on the [Go to Settings] link at the end of the initial Application Launchpad demo, or click on the gear icon at the top-left of the Application Launchpad, then click on the [Chart of Accounts] tab.



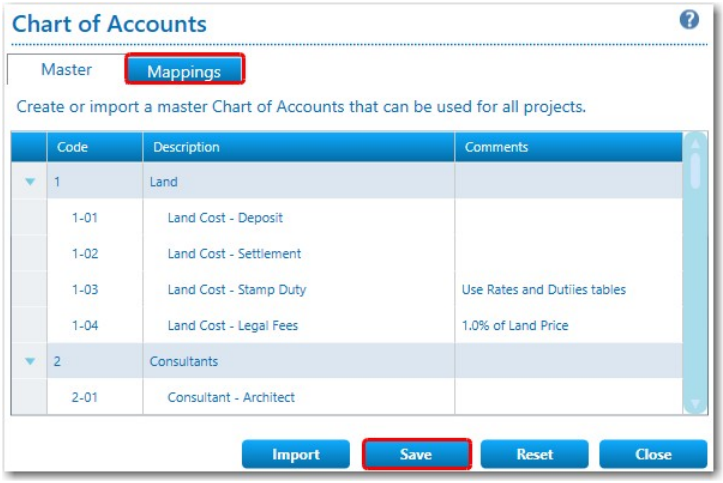
2. On the 'Master' tab, you can:
   a. Create a new Chart of Account list, by entering each account (Code, Description and option Comments), one by one. This is done by inserting new rows by the right-click context menu.

b. Import an existing Chart of Account list, from an Excel, CSV or TXT file.

3. Once completed:

   a. Press the [Save] button to save the settings to your machine.

   b. Select the 'Mappings' tab to create a mapping between the Master Chart of Accounts, and another set of Cost Codes (only used with the ARGUS EstateMaster DM integration with Acconting Systems)



More Info: For additional instructions for the above, click on the button at the top-right of the page to load the Help file.

Sharing the Master Chart of Accounts with other Users

Since the Chart of Accounts settings are machine-specific, you may want to share these settings with other ARGUS EstateMaster users in your organisation. To do so:

1. Browse to the directory where the ARGUS EstateMaster application is installed on the machine: (by default C:\Program Files\Estate Master)
2. Copy the following files:
   - SQL_CoA.xml
   - SQL_CoADetail.xml
3. Send them to other ARGUS EstateMaster users, with the instruction to place them in the same folder on their machine (overwrite any existing file if it exists)

Using the Master Chart of Accounts within ARGUS EstateMaster DF

Once the Chart of Accounts settings have been configured on the active machine, they will now be usable within ARGUS EstateMaster DF to allocate individual costs codes to a specific account. Refer to the Cost Codes topic for more information.

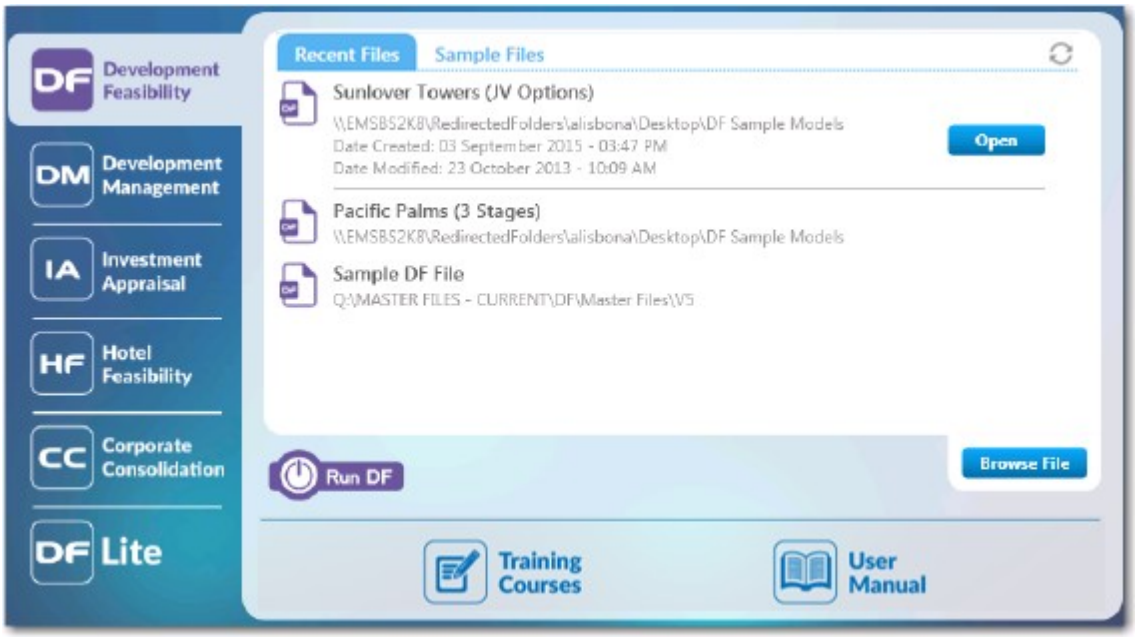
3.4 Product Tabs

The tabs for each ARGUS EstateMaster product will display different information, depending on whether it is installed on the active machine or not. To customise the experience for each user, each time the Application Launchpad is started, it will always revert to the last tab selected by that user on that machine.

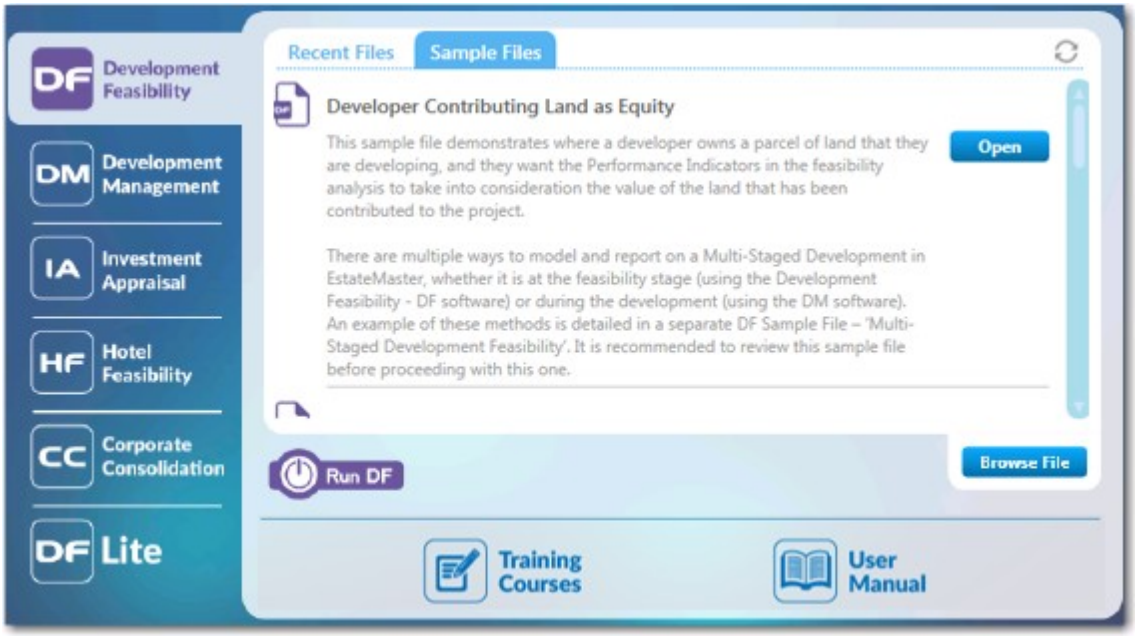
Software is Installed

When the software is installed on the active machine, the following will be displayed on the product tab:

- A list of 'Recent Files' opened or saved by the active user (a list is stored for each user on the machine). To open one of these files, either double-click on it, or select it to expand the file details and then click the [Open] button.
- A list of 'Sample Files' provided to demonstrate the use of the software in different scenarios. These are automatically sourced from our online Sample Files Library, so an internet connection is required for them to appear on the Application Launchpad and always be up-to-date with the latest samples.
- A [Browse] button to manually search for and open an ARGUS EstateMaster DF file .
- A [Run] button to start the ARGUS EstateMaster DF application with a blank new file.
- Links to view the Training Course online booking site and open the User Manual (PDF).



Recent Files List

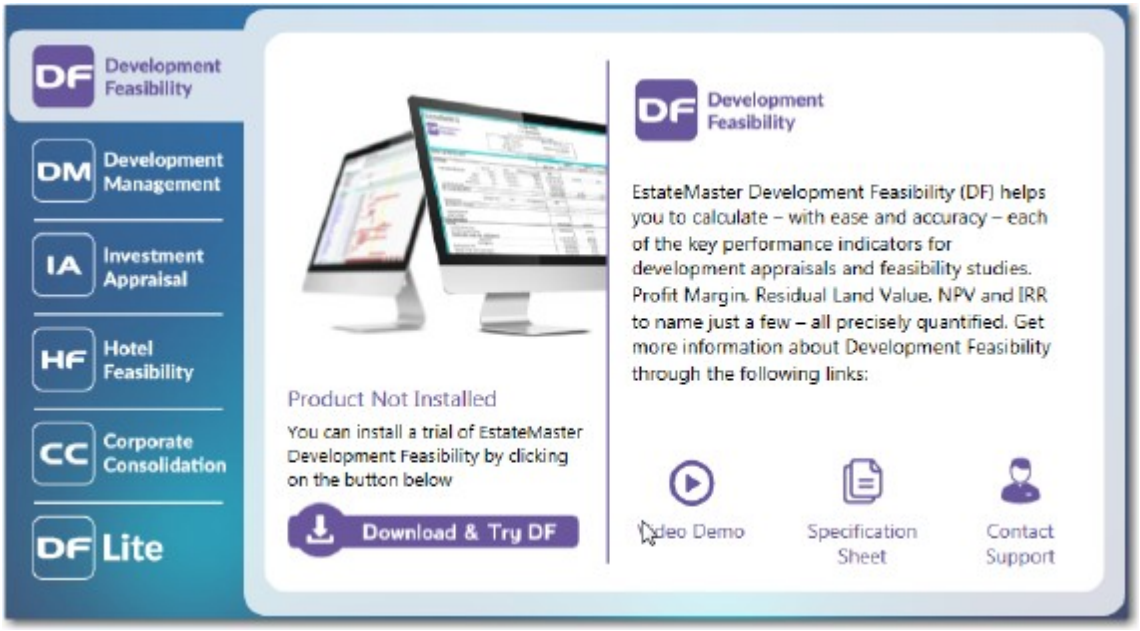


Sample Files List

Software is not Installed

When the software is not installed on the active machine, the following will be displayed on the product tab:

- A brief summary of the product, with links to a demonstration video, software data sheet and contact details.
- A link to download a 14-day free trial of the software.



Part IV

4 Navigation

4.1 Quick Start

1. Run the ARGUS EstateMaster DF program from the ARGUS EstateMaster Application Launchpad.
2. Open an existing ARGUS EstateMaster DF data file (*.emdf) using the [File] ➔ [Open] command or start inputting data to create a new data file.
3. Enter preliminary data into 'Intro' sheet, such as Project Name, Address, etc. Please note that many of the fields on this sheet are mandatory, and you will not be able to save a file if they haven't been entered.
4. Set Preferences by running the 'Preferences' function from the Ribbon Menu (or by pressing [F12]).
5. Navigate around the program by selecting the relevant worksheet tabs.

6. Enter data into input cells with a font colour of **blue**, **red** or **purple**. Fixed cells (non input) have a **black** font colour. The worksheets are locked, so the program will only allow you to enter data into the relevant input cells.
7. Check for any data input issues, such as input cells with red backgrounds 50 or error warnings Error Input. This indicates that the wrong type of data has been entered (e.g. text in a number field) or the value is not allowed (e.g. a negative value in a positive-only field). Run on the Validate function Validate on the Ribbon Menu to check for other issues, such as Circular References.
8. When data input is complete, you may run the Residual Land Value Analysis, Sensitivity Analysis or Probability Analysis by clicking on the button on the relevant worksheets.
9. When you are satisfied that the information has been entered correctly you may select the Printing Options Print on the Ribbon Menu to print the reports.
10. Save your changes using the [File] ➔ [Save/Save As] command Save Save As on the Ribbon Menu.

4.2 Opening and Closing Files

Opening a New ARGUS EstateMaster DF Data File

1. Click [Run] in the ARGUS EstateMaster DF tab of the Application Launchpad.
2. Use the [New] command New to load a new blank workbook window.
3. Click on the [New File from Template] button in the 'Templates' menu (if any Templates have been created).

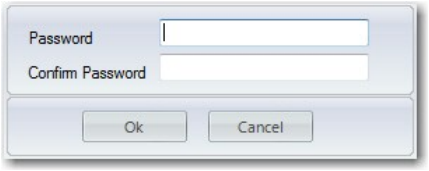
Note: You can open up to 4 new workbook windows in the ARGUS EstateMaster DF application.

Opening an Existing ARGUS EstateMaster DF Data File

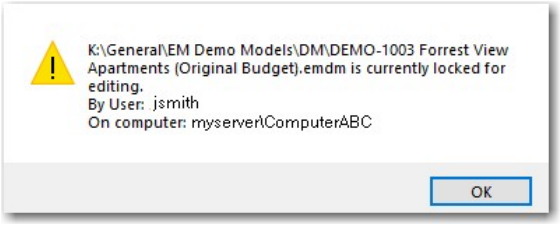
1. Open an existing ARGUS EstateMaster DF data file (*.emdf) either by:
   a) Double-click a file in the 'Recent Files' list or click [Browse] to find another file, in the ARGUS EstateMaster DF tab of the Application Launchpad.
   b) Using the [Open] command 

to browse to and open the file. You can also open ARGUS EstateMaster DF Lite files (*.emdfll)with this method.
   c) Browsing Windows Explorer and double-clicking on a data file 

to open it.
2. If the file was previously saved with a password, then it will prompt you to enter the password before opening it.



3. If the file is open by another user, a message will be displayed indicating which user on which machine has locked the file.



Note: You can open up to 4 new workbook windows in the ARGUS EstateMaster DF application.

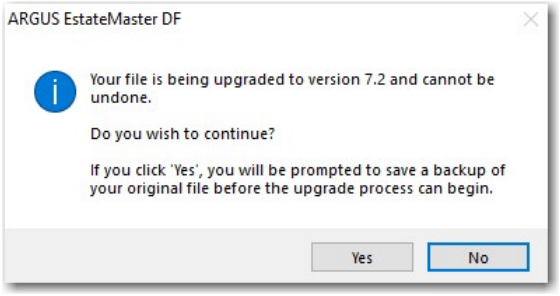
Opening Previous Version Files

As part of software upgrades, the base ARGUS EstateMaster DF template may sometimes incorporate the following changes:

- Rows inserted or deleted.
- Columns inserted or deleted.
- Input fields moved (moved on the same worksheet tab, or a different one).
- Input fields 'split' into multiple input fields.
- Worksheets inserted, renamed or deleted.

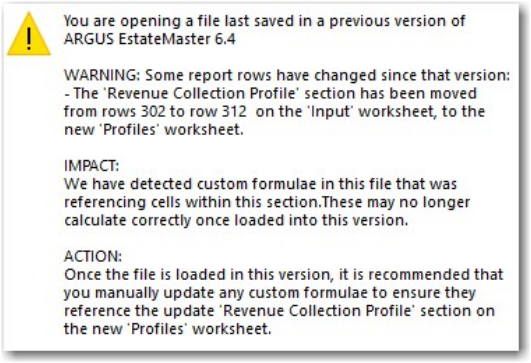
These changes to the template may impact the integrity of any custom formulae that the you have entered into input fields or custom worksheets (inserted or externally linked) in previous version data files. To minimise the impact of such upgrades, during the file 'Open' process, the ARGUS EstateMaster DF application will attempt to update your custom formulae to reflect such changes.

If an update to the file is required, a message such as this will appear:

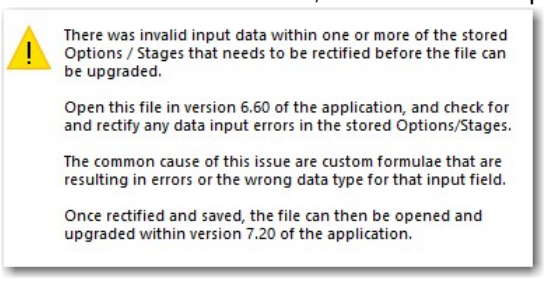


If you select 'Yes', the application will then commence to upgrade your data file to the latest version:

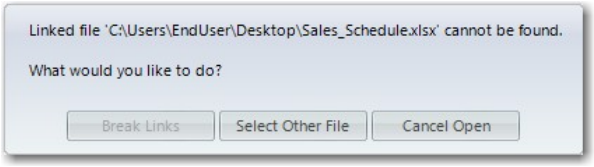
- If for some reason the application is unable to automatically update your custom formulae, a warning such as this may appear, prompting you to manually update the file after it has opened.



- If the upgrade process has detected an error with your custom formulae that has been entered into input fields, the upgrade process can no longer continue. A warning such as this may appear, prompting you to manually repair the data file using the version of ARGUS EstateMaster DF that it was last saved in, before it can be opened in the latest version.

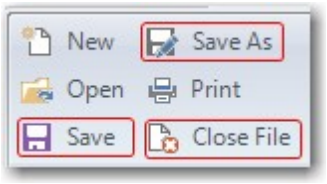


- If the data file has 'Incoming' links from an external Excel file, and that Excel file cannot be located, then a message such as this will appear, prompting you to either select another Excel to link to, or cancel the file opening process altogether. Breaking Links is not supported while upgrading a previous version file, which is why that option is disabled during this process.



Saving and Closing an ARGUS EstateMaster DF Data File

1. After using the program, save the file if required by one of many different buttons on the Toolbar.



2. Please note that some of the fields on the 'Intro' and 'Input' sheets are mandatory, and you will not be able to save a file if they haven't been entered.
3. If you have elected to save files with a password in the application settings, then it will prompt you to enter the password and confirm it before saving.
4. Close the currently active DF file by using the [Close File] command 

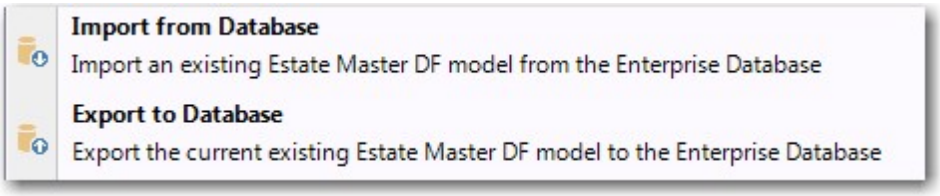
Exiting from ARGUS EstateMaster DF

1. When finished, close the application either by:
   a) clicking on [X] in the top right corner of the application window,
   b) double clicking the ARGUS EstateMaster DF icon in the top left corner or
   c) selecting [Exit] from the Application Menu.

Saving to File vs Exporting to Database

In addition to saving a DF datafile (*.EMDF), the user can also save (export) the DF data to the ARGUS EstateMaster Enterprise Database. This database must be set up by an IT Administrator before attempting to Export/Import DF data.

The Save function only saves the DF data to a standalone file (useful for sharing data amongst other users), however using the Import/Export functions, the user can also export all their DF data to the central database for archiving, retrieval and advanced reporting using the ARGUS EstateMaster CC software.



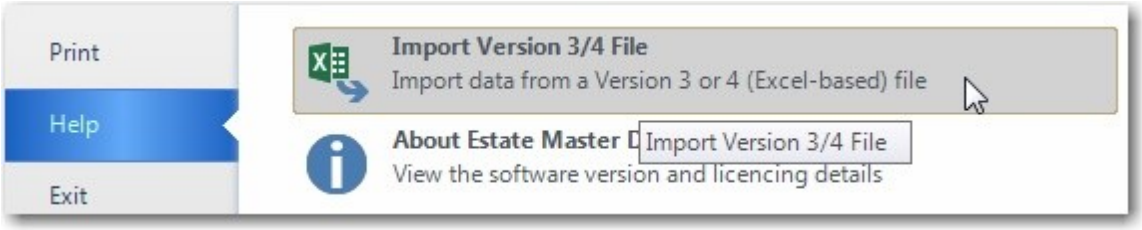
4.3 Importing Data from Versions 3 and 4

After installing the new .Net-based version of the software, it is recommended that any job files that were created in previous Excel-based versions of the software be transferred to the new version.

Using the Enterprise Database Import function

1. If you have used the Enterprise Database software to store you previous ARGUS EstateMaster DF cash flows, then use the Import function to import data to your new ARGUS EstateMaster DF template file.
2. If you are not a Enterprise Database user, you can use the 'Import From Version 3/4' function (below).

Using the Automatic Import from Version 3/4 Feature



1. Open the latest version of ARGUS EstateMaster DF go to the Application Menu.
2. Go to 'Help' and select ‘Import Version 3/4 File'.
3. The program will then prompt you to select the working file created in the previous version and it will import the relevant data from it into the new version.

4. Follow the prompts to complete the process and take note of any warnings or messages.
5. If a message appears claiming that the file is not compatible for importing, you must manually import data (below).

Manually Importing Data

1. Open the new version and any job file that was created in previous Excel-based versions of the software.
2. While having both files opened (new version and old version) you can manually copy inputs from the old version and paste them into the new version. It is recommended to set the input preferences and resizing of the model before transferring the data across.
3. Remember that you may need to transfer data from the following sheets: Input, Tenants, Manual-Input, Cash Flow (manual equity injections, principal repayments, rate interest variations), any user-inserted worksheets and any Option/Stages stored.
4. Once all the data for one file is transferred, save it under a new file name and rename the old file to avoid confusion (eg. Feasibility - OLD.xls).
5. Complete this process for all existing working files. Once it is satisfied that all data has been successfully transferred, it is recommended that you delete/archive any old files.

4.4 Navigation

The ARGUS EstateMaster DF program is subdivided into a series of worksheets.To navigate around the ARGUS EstateMaster DF program, click on the relevant worksheet tabs (below or above workbook area).

Intro	Introduction page. Enter project name and other details.
Input	Primary data input sheet. This is where the majority of assumptions regarding costs and revenues are entered. The Gantt chart for viewing project timeline is also generated on this sheet.
Tenants	Tenancy Schedule input sheet: rents, leasing costs and incentives, capitalisation rates, etc.
Cash Flow	Contains the detailed cash flow outputs. This is where optional manual cash flow inputs can also be entered.
Stage CF	Provides the user with a stage-by-stage break-up of all the costs and revenues and the ability to allocate 'global' costs across the stages.
Summary	The development financial summary sheets for the developer and land owner (if a joint venture).
Stage Summary	'Provides the user with a stage-by-stage break-up of all the costs, revenues and KPIs at a summary level.
Charts	Project cash flow charts for the developer and land owner (if a joint venture) and charts for the Consolidation of Stages or Comparison of Options.
Financials	Profit and Loss and Balance Sheet reporting.
Consolidate	Consolidates or compares up to 8 different stages or options that have been stored.

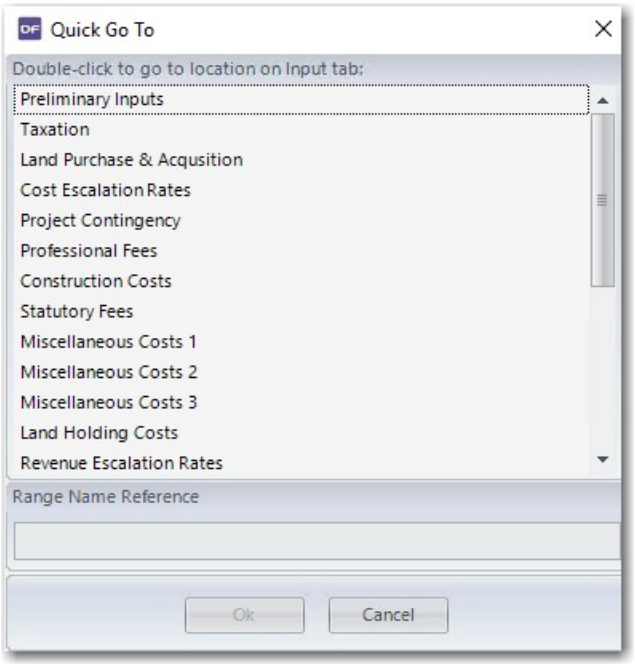
Sensitivity	The tables and charts from the Sensitivity Analysis.
Probability	The Probability Analysis inputs and distribution profiles of the Development Margin and IRR.
Profiles	The tables for the development cost drawdown (s-curve) profiles and revenue collection profiles
Taxes & Duties	The adjustable stamp duty and lax tax calculation tables.

Quick Go To

To assist with navigating to specific input and reporting areas of the ARGUS EstateMaster DF program, a Quick Go To navigation tool is provided via the F5 keyboard shortcut.

The Quick Go To dialog will allow you to:

- Go to one of the defined input or reporting areas that exist in the active tab, just by double-clicking an item in the list, or selecting it and pressing [OK]
- Go to a defined range name in the application, by entering its name in the 'Range Name Reference' field, and press [OK]. This is helpful if you wish to navigate to a range (visible ones only) that is being referenced in a formula.



Navigating to Related Input Assumptions from Reports

When reviewing some reports in ARGUS EstateMaster DF, you may want to quickly revert to the input assumptions related to an output or set of outputs on the report. To do so, simply click on the ↵ arrow next to the related report output, and you will be taken to the specific worksheet tab and input section / input field.

4.5 Keyboard Shortcuts

The following are some keyboard shortcuts to assist in navigation, data entry and working with cells and worksheets.

Files

Ctrl + N	Start a new file
Ctrl + O	Open an existing data file
Ctrl + S	Save the current model to a data file
Ctrl + W	Close the application
Ctrl + P	Load the printing menu

Navigation

Page Down / Page Up	Move one screen down / one screen up in a worksheet
Tab / Shift+Tab	Move one cell to the right / to the left in a worksheet
Ctrl+Arrow Keys	Move to the edge of next data region (cells that contains data)
Home	Move to the beginning of a row in a worksheet
Ctrl+Home	Move to the beginning of a worksheet
End	Move to the end of a row in a worksheet
Ctrl+End	Move to the last cell with content on a worksheet
Ctrl+f	Display the Find and Replace dialog box
F5	Display the 'Go To' dialog box to navigate to defined range names

Working with Cells

Shift+Space	Select the entire row
Ctrl+Space	Select the entire column
Shift+Arrow Keys	Extend the selection by one cell
Ctrl+Shift+Arrow Key	Extend the selection to the last cell with content in row or column
Shift+Page Down / Shift+Page Up	Extend the selection down one screen /up one screen
Shift+Home	Extend the selection to the beginning of the row
Ctrl+Shift+Home	Extend the selection to the beginning of the worksheet
Ctrl+Shift+End	Extend the selection to the last used cell on the worksheet (lower-right corner)

Insert and Edit Data

Ctrl+z	Undo last action (on the active worksheet)
Ctrl+y	Redo last action (on the active worksheet)
Ctrl-c	Copy contents of selected cells
Ctrl+x	Cut contents of selected cells (custom worksheets only)
Ctrl-v	• On standard worksheets: Paste 'Values' from clipboard into selected cell • On custom worksheets: Paste 'Formulae and Formatting' from clipboard into selected cell

F2	Edit the active cell with cursor at end of the line
Alt+Enter	Start a new line in the same cell
Enter	Complete a cell entry and move down in the selection
Shift+Enter	Complete a cell entry and move up in the selection
Tab / Shift+Tab	Complete a cell entry and move to the right / to the left in the selection
Ctrl+d	Fill complete cell down (copy above cell)
Ctrl+r	Fill complete cell to the right (copy cell from the left)

Formatting (Custom Worksheets only)

Ctrl+b	Apply or remove bold formatting
Ctrl+i	Apply or remove italic formatting
Ctrl+u	Apply or remove an underline

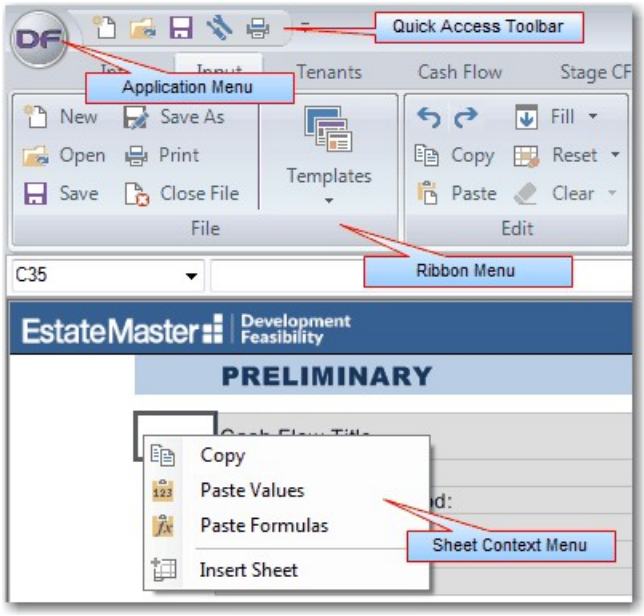
Other

F1	Load the ARGUS EstateMaster DF Help File
F12	Load the ARGUS EstateMaster DF Preferences Form

4.6 Menus and Toolbars

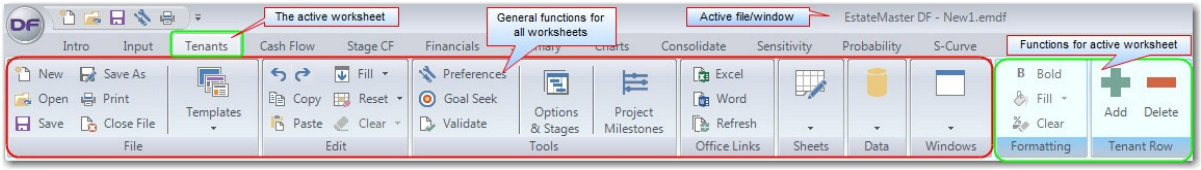
There are 4 main menus and toolbars in the ARGUS EstateMaster DF application for the user:

1. The Ribbon Menu
2. The Quick Access Toolbar
3. The Application Menu
4. Sheet Context Menus



4.6.1 Ribbon Menu

The Ribbon Menu is located at the top of the application window and provides the user with the functions available in the program, and in particular, the functions related to specific sheets.



The Ribbon Menu has 2 definable parts:

1. Functions that apply to <u>all worksheets</u>:

- These are common functions that can be used on all worksheet and are replicated on all worksheet tabs.
- If any of these functions are greyed-out (disabled), then they are not applicable to the active worksheet.

2. Functions that apply to the currently selected worksheet:
   - These appear when a different tab/worksheet is selected.
   - They are identified by an aqua coloured menu button.

File Menu

New	Opens a ARGUS EstateMaster DF blank workbook in a new window..
Open	Prompts the user to opens an existing ARGUS EstateMaster DF data file (*.emdf) in a new window.
Save	Saves the current ARGUS EstateMaster DF model to a data file. 'Saving' a file is different to 'exporting' it to the ARGUS EstateMaster Enterprise Database.
Save As	Saves the current ARGUS EstateMaster DF model to a data file with a new file name.
Print	Loads the ARGUS EstateMaster DF Print Menu to allow the user to select what reports to print.
Close File	Closes the current ARGUS EstateMaster DF model window.
Templates	Create, use and edit ARGUS EstateMaster DF template files.

Edit Menu

Undo	Undo the last action.
Redo	Redo the last action.
Copy	Copy the select range to the clipboard.
Paste	Pastes the contents of the clipboard into the selected range. When the active sheet is standard sheet, then only values are pasted.
Fill	There are 3 options in this menu: 1. Fill Down: Copies the top cell of a selected range downwards. 2. Fill Right: Copies the left cell of a selected range rightwards. 3. Fill Series: Fills a series in a selected range based on a particular sequence of data.
Reset	This will clear all the inputs in the standard worksheets to the default. It will not remove user-inserted worksheets. In addition, it allows the user to reset to default or manual variations in interest rates, loan drawdowns or repayments and variable discount rate inputs made on the Cash Flow sheet.
Clear *	There are 3 options in this menu: 1. Clear All: Clears cell contents and formatting from the select range of cells. 2. Clear Formats: Clears cell formatting only from the select range of cells. 3. Clear Contents: Clears cell contents only from the select range of cells.

* These options are only available in user-inserted custom w orksheets.

Tools Menu

Preferences Opens the form for the user to select their data Preferences. These should be set before any data is entered but can be changed at any time.

Goal Seek This is an analysis feature that finds the value for a selected cell that would produce a given result from a calculation. Refer to 'Goal Seek' section for more information.

Validate Runs the Data Validation process to check for data integrity issues (e.g. such as Circular References) caused by user's inputs.

Options & Stages Runs the Store/Recall function. Store the current set of inputs as one of the eight available 'options/stages' in the program for comparison or consolidation purposes. Recall one of the 'options/stages' in the program back into the main input sheet for editing.

Project Milestones An interactive Microsoft Project-style Gantt Chart to control the timings of your costs and revenues across all Development (DF and DM) CashFlows in a Project.

Office Links Menu

Excel Loads the dialog where you can create and edit links to external Excel files.

Word Loads the dialog where you can create and edit links to external Word files.

Refresh Updates the values for all linked Excel and Word files.

Sheets Menu

Add Add a custom worksheet to the workbook.

Rename Rename the currently selected custom worksheet.

Delete Delete the currently selected custom worksheet.

Move Rearrange the order of the custom worksheets.

Hide/Unhide Change the visibility of the custom worksheets.

Tab Colour Change the tab colour of the custom worksheets from the default.

Protect / Unprotect Protect or unprotect the selected worksheet. When protecting, you will be prompted to enter in a password. If this is left blank, the the worksheet will still be protected, but with no password.)

Data Menu

Import from Database Import ARGUS EstateMaster DF input data from the ARGUS EstateMaster Enterprise Database.

Export to Database Export ARGUS EstateMaster DF input data to the ARGUS EstateMaster Enterprise Database. This is different to 'saving' an ARGUS EstateMaster DF datafile (*.emdf)

Export to Excel Export the entire file to Excel, either as a standalone file or appended to an existing file.

Windows Menu

Zoom	Allows the user to set the zoom of the worksheets with the following options: • **Default Zoom (Active Sheet)**: Resets the active sheet to the default zoom. The 'default zoom' is determined by the monitor size and resolution settings of the PC/Server running the application. • **Default Zoom (All Sheets)**: Resets all worksheets to their default zoom. • **Custom Zoom**: Allows the user to set their own zoom for the active worksheet. These settings are saved to the PC/Server that the ARGUS EstateMaster DF is installed on and will apply to all users running the application from that PC/Server.
Cascade / Tile / Minimize	Allows the user to change the layout of the windows.
File Listing	Displays a list of ARGUS EstateMaster DF files that are currently open and the user can switch to.

Customising the Ribbon Menu

- **To minimise the Ribbon**: Click on the arrow icon and select [Minimize the Ribbon], or double click on any of the menu tabs.

Once the Ribbon is minimised, it will only pop up when one of the tabs is selected, then hide again when deselected.

4.6.2 Quick Access Toolbar

The Quick Access Toolbar is located in the top-left corner of the application window and provides the user with shortcuts to the various functions available in the program.

By default, there are 5 functions that can be operated from this toolbar, however any button on the Ribbon menu can be added to it.

Customising the Quick Access Toolbar

- **To remove an item from the Toolbar**: Right click the icon and select [Remove from Quick Access Toolbar]

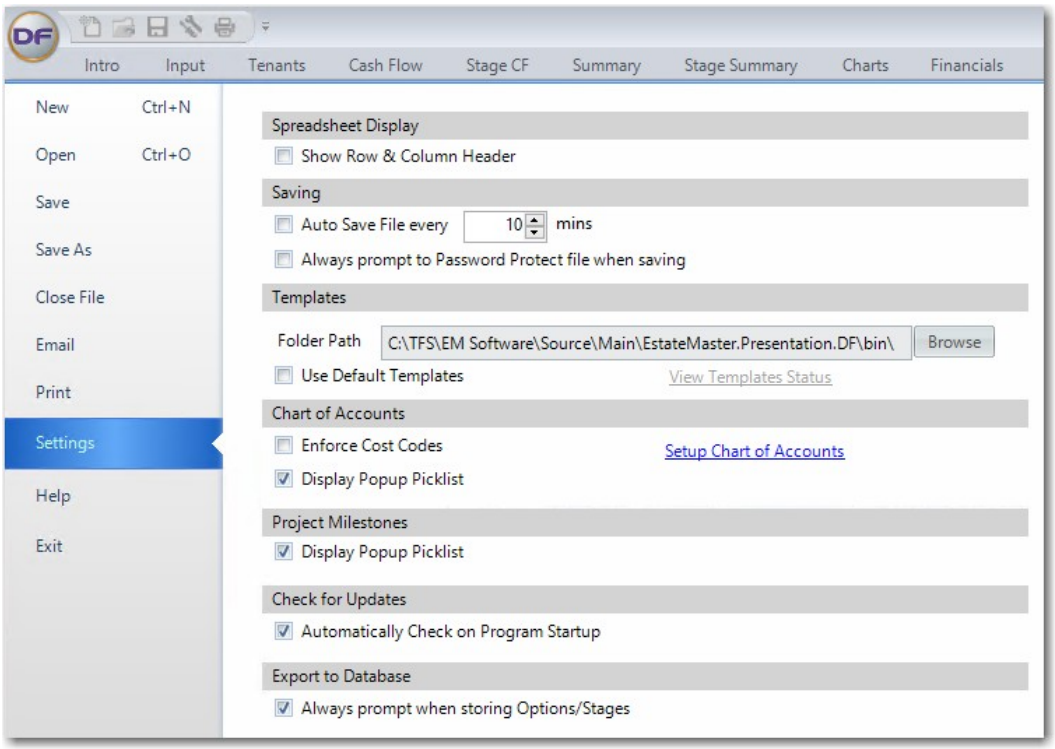
- **To add an item to the Toolbar**: Right click the icon in the Ribbon and select [Add to Quick Access Toolbar]

- **To move the Toolbar below or above the Ribbon**: Click on the arrow icon and select [Show Below/Above the Ribbon]

4.6.3 Application Menu

The Application Menu is located in the top-left corner of the application window (indicated by the ARGUS EstateMaster DF icon) and provides the user with access to the various File functions available in the program, as well as the application settings and the Help features.

Settings



Spreadsheet Display

Hide or show the row and column headers on the standard worksheets. For custom worksheets, you can use the context menu to toggle the row and column headers on each one

Saving

Auto Save

Set the software to automatically save the active file every X minutes (minimum 5mins).

- If there are multiple ARGUS EstateMaster DF files open in the application, the auto-save only applies to the file that is currently active.
- If the user is performing a time-consuming task in the application (which coincides with a scheduled auto-save), the auto-save in that instance may be skipped.

Save with Password

Select this option to always prompt the user to password protect data files when saving.

Templates

Folder Path

Set the location where the application templates should be stored. By default when the application is run for the first time, this folder path will be set as *<directory where ARGUS EstateMaster DF is installed>*/Templates.

To change the location, click the 'Browse' button and select a new folder when prompted. Once it is changed, any templates that were stored in the original folder will need to be manually re-saved as templates in the new folder.

Use Default Templates

This indicates whether a template set as a 'default' is to be used when the application is started or when a new file is started.

Chart of Accounts

Enforce Cost Codes

This ensures that when a Cost Codes is edited for a line item item, it matches one that has been set up in the Chart of Accounts. This validation will occur when the user:

1. Manually edits a Cost Code in the input field.
    a. If the Cost Code being entered doesn't match, a warning message will appear and the user will have to fix the code or cancel the edit (ESC key).
2. Pastes a Cost Code into the input field from the clipboard.
    a. If one or more Cost Codes being pasted don't match, a warning message will appear and paste will be 'undone' (reverting to the original inputs)

Note: If the Chart of Accounts have not been configured yet, then this preference will be ignored and a 'Setup Chart of Accounts' link will appear, allowing the user to navigate the Chart of Accounts tab in the the Application Launchpad

Display Popup Picklist

This determines whether the 'Select Cost Codes' popup picklist automatically appears every time a 'Code' or 'Description' input field is selected.

Disabling it will not change the behaviour of 'Code' or 'Description' fields when they are manually updated by the user (e.g. if you manually type in a Code that exists in the Chart of Accounts list, the ‘Description’ input field will be automatically populated , and vice versa).

Project Milestones

Display Popup Picklist

This determines whether the 'Select Milestones' popup picklist automatically appears every time a 'Period Start' input field is selected.

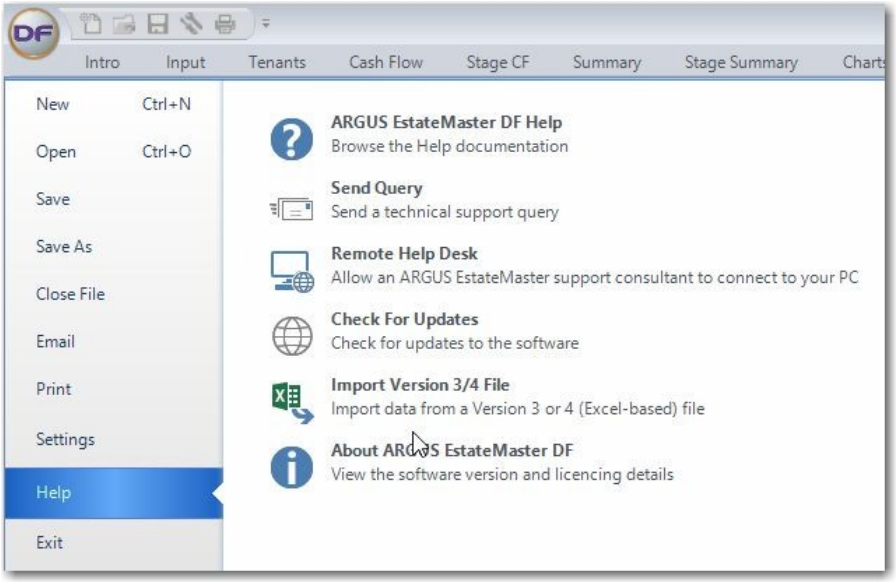
Check for Updates

Set the software to automatically check for updates over the internet every time it is started or not.

Export to Database

Set the software to always prompt the user to store the data into the Enterprise Database when storing an option/stage.

Help



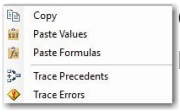
ARGUS EstateMaster DF Help	Opens the ARGUS EstateMaster DF Help program.
Send Query	Send a technical support query via email/internet
Remote Help Desk	Allow an ARGUS EstateMaster Support Officer to remotely connect to your PC/Server for troubleshooting and assistance. You must contact an ARGUS EstateMaster Support Officer before attempting any connection (Powered by TeamViewer).
Check for Updates	Check the latest version of the software online (requires internet connection).
Import Version 3/4 File	Import data from a version 3.xx or 4.xx file (Excel-based versions)
About ARGUS EstateMaster DF	Allows the user to view the current licence details and re-register an existing licence. It also lists what 'Integration Modules' are enabled for the current licence.

4.6.4 Sheet Context Menus

Context Menus pop up when clicking an item on the worksheet area, offering a list of options which vary depending on the item selected. These menus are invoked with a right-click of a mouse.

Standard Sheets

The context menu on the Standard sheets is invoked by right-clicking a cell, row or column.

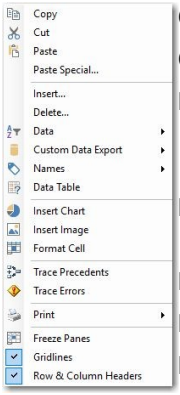


Copy	Copies the currently selected range of cells to the clipboard.
Paste Values	Pastes the content of the clipboard (values only, not formulas or formatting) in the currently selected range.
Paste Formulas	Pastes the content of the clipboard (formulas only, no formatting) in the currently selected range.
Insert Comment	Prompts the user to enter a comment in the active cell. It is only enabled when certain cells are selected. Refer to Inputting Data for more information about Cell Comments.
Trace Precedents	Traces cells/ranges that provide data to the formula (precedents) of the active cell. It is only enabled if the active cell contains a formula. Refer to Formula Auditing for more information about Tracing Precedents.

Trace Errors Traces the potential source of an error in a formula. It is only enabled if the active cell contains a formula which equates to an error. Refer to Formula Auditing for more information about Tracing Errors.

User Inserted Sheets

The context menu on the User Inserted sheets is invoked by right-clicking a cell, row or column.



Copy Copies the currently selected range of cells to the clipboard.

Cut Cuts the currently selected range of cells to the clipboard.

Paste Pastes the content of the clipboard in the currently selected range. When the active sheet is a standard sheet, then only values are pasted.

Paste Special Allows the user to select what content from the clipboard (values, formatting, comments, etc) to paste in the currently selected range.

Insert ... Inserts a column or row next to the currently selected range.

Delete ... Deletes the currently selected column or row.

Data

Sort Ascending/Descending: Sorts the selected cells vertically. If there are multiple columns selected in the range, the user will be prompted to select which column to sort by.

Apply Auto-Filter: Applies an auto-filter to the selected range. If an Auto-Filter already exists on the active sheet, then a 'Remove Filter' option will be available.

Group/Ungroup: Group selected data by rows and columns using 'outlines'.

Clear Outline: Clears all the outlines (groupings) on the active worksheet.

Custom Data Export

Define: Define a range of cells to be exported to the Enterprise Database

Edit: Edit or delete existing Custom Data Export range names on the user-inserted sheet.

Names

Define: Define a local range name for the currently selected cells.

Edit: Edit or delete existing range names on the user-inserted sheet.

Data Table Insert a one-variable or two-variable data table that evaluates changing variables in a single formula. It is used for developing simple 'what-if' scenarios. It is set up similar to how Data Tables are configured in Microsoft Excel (online tutorial)

Note: When a Data Table is inserted, it will calculate in 'Semi Automatic' mode to ensure that all other background calculations are not adversely impacted. This means that a Data Table will not automatically calculate if a dependent variable changes; any time you require the results in the Data Table to be updated/refresh, you will need to press the F9 button.

Insert Chart Insert a chart on the worksheet.

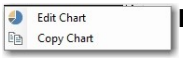
Insert Image Insert an image (*.jpg, *.jpeg or *.bmp) on the worksheet.

Format Cell Change the format of the currently selected range, including number format, font, borders, colour, conditional formats, etc.

Trace Precedents	Traces cells/ranges that provide data to the formula (precedents) of the active cell. It is only enabled if the active cell contains a formula. Refer to Formula Auditing for more information about Tracing Precedents.
Trace Errors	Traces the potential source of an error in a formula. It is only enabled if the active cell contains a formula which equates to an error. Refer to Formula Auditing for more information about Tracing Errors.
Print	**Set Print Area:** Define what part of the worksheet to print by setting the currently selected range as the 'Print **Page Setup:** Change the settings for how the page is to be printed, such as orientation, zoom, margins, headers, footers, etc. **Print:** Print the active user-inserted sheet.
Freeze / Unfreeze Panes	Freeze panes at the selected row, column or cell, or unfreeze (clear) panes on the active sheet.
Gridlines	Toggle the gridlines on the active sheet.
Row & Column Headers	Toggle the row and column headers on the active sheet.

Charts

If you are right-clicking on any Chart, either or a Standard or custom sheet, you will be given the following options:

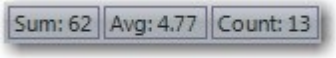


Edit Chart	(Charts on custom sheets only) To edit the chart settings, including the source data, chart type, format, etc, either double click the chart or right-click on it and select 'Edit Chart' to load the Chart Explorer dialog.
Copy Chart	Copies the selected chart to the clipboard as an image, so it can be pasted in other documents.

4.7 Status Bar

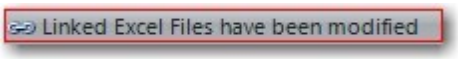
The Status Bar is located at the bottom of the application. It has the following definable parts:

1. **Statistics:** This part of the status bar provides a Sum, Average and Count of the currently selected cells (excludes text formatted cells). These update instantly.

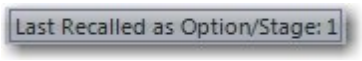


2. **Locked Cells Warning:** This part of the status bar provides a warning if any input cells on the currently active worksheet are locked via the 'Protection' Preferences. By clicking this button, it will load the Preferences so the user can see which input ranges have been locked.

3. **Linked Excel Files Warning:** This part of the status bar provides a warning if an external Excel file that has 'incoming' links has been modified since the last 'refresh'. By clicking this button, it will refresh all the links.



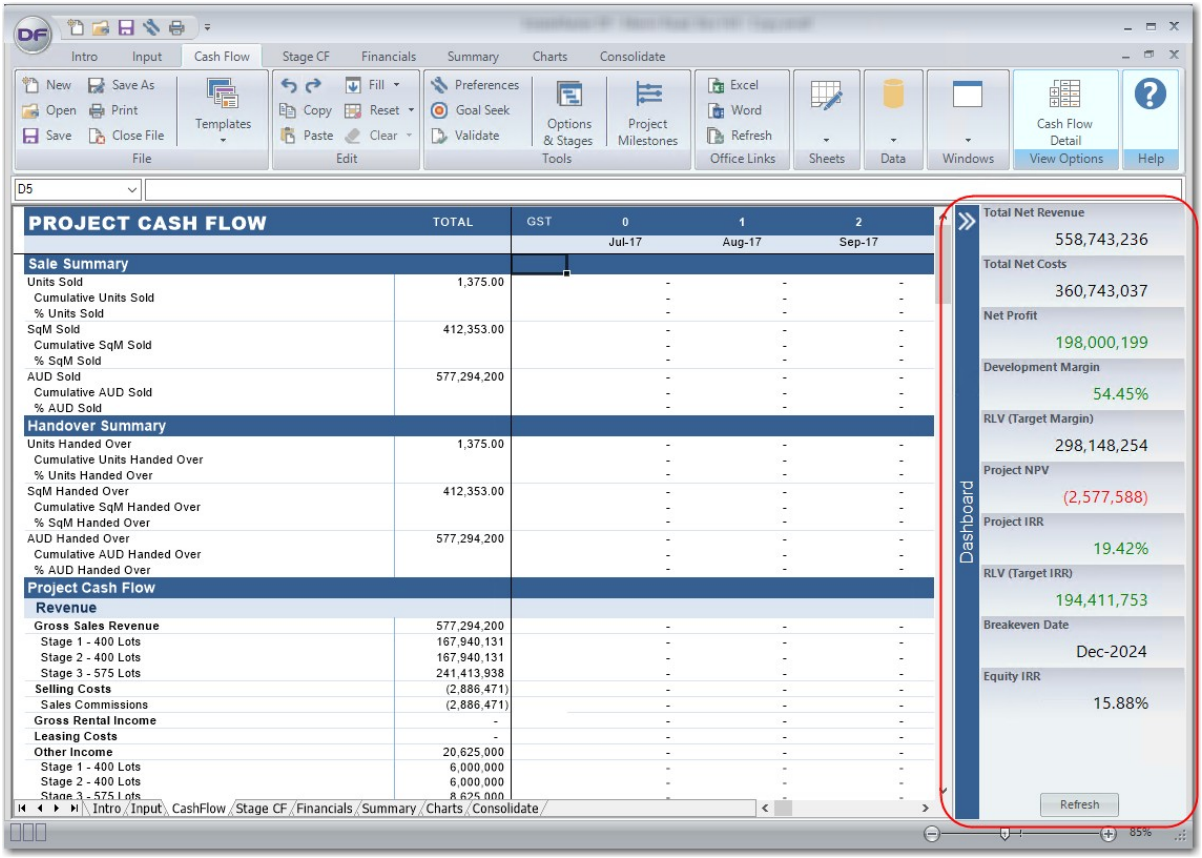
4. **Options/Stages Status:** This part of the status bar alerts the user what the last Option/Stage was either recalled or stored as.



4.8 Dashboard

The dashboard, located on the right-side of the application in a collapsible panel, provides a summary of the key performance indicators of the Cash Flow, including Net Profit, Development Margin, NPV, IRR and Residual Land Values.

The results will automatically update when opening files, or switching between windows. Any other time, they can be updated by clicking on the left [Refresh] button.



Thresholds

Some of the KPIs have thresholds, where the result will be displayed in:

- red font if it is **below** the threshold,
- green font if it is **above** the threshold.

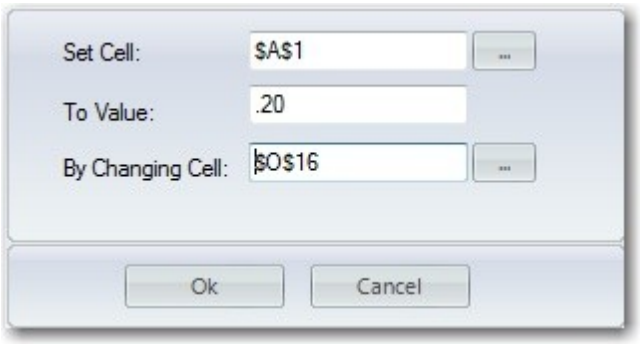
KPI	Threshold
Net Profit	0
Development Margin	Target Margin
Project NPV	0
NPV of Future Cash flows	0
Project IRR	Target IRR (Discount Rate)

4.9 Goal Seek

Goal Seek is sometimes called what-if analysis. When you know the desired result of a single formula but not the input value the formula needs to determine the result, you can use the Goal Seek feature available by clicking 

on the Ribbon Menu menu.

When goal seeking, the program varies the value in one specific cell until a formula that's dependent on that cell returns the result you want.



- **Set Cell:** The cell that contains the formula that you want to settle/resolve. That cell must always contain a formula or a function, not a value.
- **To Value:** The value you want the formula (in the Set Cell) to change to.
- **By Changing Cell:** The part of the formula that you wish to change. That cell must contain a value only, not a formula or function.

4.10 Resizing the Model

The ARGUS EstateMaster DF model can be resized in two areas:

1. Adding more time periods (45 to 480)
2. Adding more cost and revenue rows (5 to 200, depending on section).

Resize Time Periods

Resizing the time periods is controlled via the the Preferences.

1. Go the Ribbon Menu and click on 

or just press F12.
2. Go to the 'Cash Flow Periods' tab.
3. Expand or reduce the number of time periods. Only add what you need as it will impact on the size of the file.
4. Click on OK and it will make the appropriate changes to the file.

Resize Cost/Revenue Rows

Resizing the input rows is controlled via the the Ribbon Menu when the Input or Tenancy sheet is selected.

Inserting Rows:

1. Click on the Input Rows 'Add' button, and select from the list which section you would like to add rows to.
2. The program will then prompt how many rows you would like to insert - up to 50 at a time.
3. Click OK to the number, and the model will then resize, adding rows to the end of the section (above the last row).

Deleting Rows:

1. Click on the Input Rows 'Delete' button, and select from the list which section you would like to add rows to.
2. Click OK, and the model will then delete the rows from the end of the section (above the last row - the last row does not get deleted).
3. If these rows have any data in them, it will delete these rows, so please check before deleting them.

4.11 Data Validation

A function has been provided that can run a validation check against the input data, checking for the following types issues:

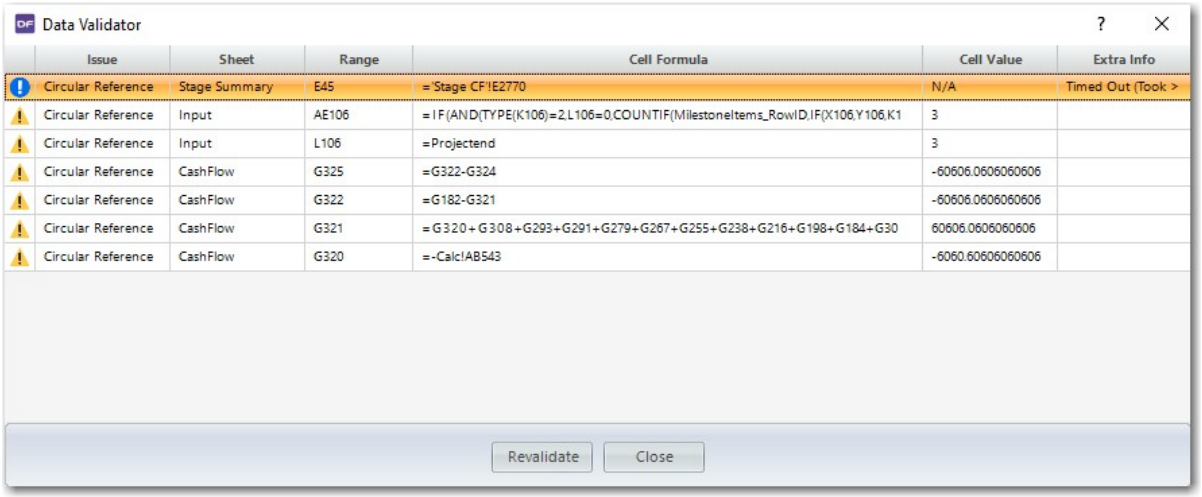
1. **Circular References**, possibly caused by user-inserted formulas (Note: This test requires MS Excel to be installed on the machine).

The validation process will run across all standard ARGUS EstateMaster DF worksheets, as well user custom worksheets inserted by the user.

Running the Validation

By pressing the Run on the 

button on the Ribbon Menu, the validation process is executed. If any issues are detected, the following Data Validator form will be displayed.



Issue Describes the type of issue detected (e.g. circular reference, etc)

Sheet / Range The worksheet and the cell/range address that the issue has been found on.

Cell Formula The formula in the related cell.

Cell Value The calculated value in the related cell.

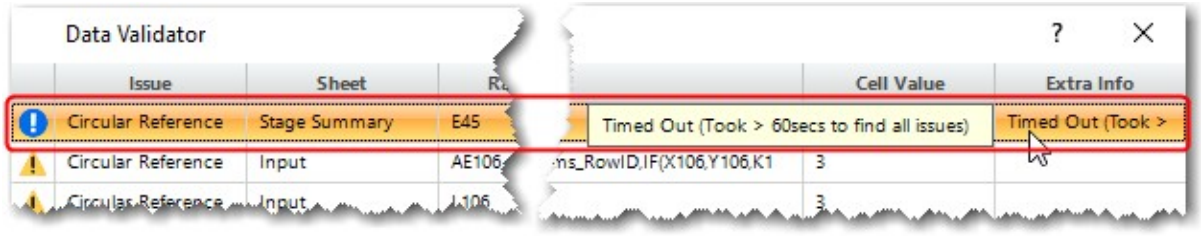
State Describes the current state of that sheet/range (e.g. is it visible or hidden)

Extra Information Additional information about the issue, such as:

- If the related cell/range is **hidden**, either by being located in a hidden column, row or worksheet, or hidden from view by a frozen pane (and therefore cannot be navigated to)
- If the related cell formula is **referencing an external Excel file** (i.e. using the Excel Links feature), it will display the path to that file.
- If there were any **errors** encountered while checking for Circular References, such as a Timeout or other issues related to Excel.

Circular Reference DetectionTimeout

When the validation process attempts to detect any circular reference issues, it may take a while to trace the formulas on a worksheet to identify where the circular reference occurs. By default, if it knows there is a circular reference on a worksheet, but cannot find the cell where it is located in, it will timeout after 60 seconds.



This timeout setting can be manually changed by editing the value for the `CircularReferenceTimeout` configuration (measured in seconds) found in the **EstateMasterDF.exe.config** file, located in the folder where the ARGUS EstateMaster DF application is installed.

Fixing Issues

To attempt to fix issues in the list, double-click a row and it will navigate you to to the related sheet/range. Attempt to fix each issue while the list is displayed, and then then press [Revalidate] button to run the checks again. If all issues have been rectified, the list will be cleared.

There are certain limitations where you cannot navigate to a cell/range:

- If it is hidden (i.e. located in a hidden column, row or worksheet, or hidden from view by a frozen pane)
- If it is located in an external Excel file.

Finding the Source of Circular Reference Issues

The results in the Data Validator list are an indication of where issues are located within the file. However, in relation to Circular Reference issues, each Range indicated in the list *may* not necessarily be the **cause** of the issue, but just be within the 'loop' of a circular reference. It is therefore recommended that you navigate to each Range in the list related to Circular References, and assess whether the formula in that range could possibly cause the issue.

The following are examples of Ranges that will most likely not be the cause of the circular reference, and therefore can be skipped:

- If the Range is a standard (and therefore locked) ARGUS EstateMaster DF calculation cell.
- If the location of the Range is in a hidden row or column that has not been intentionally hidden by the user via a software setting (e.g. via Cash Flow View Options).

The following are examples of Ranges that have a higher probability of being the cause of the circular reference (because they contain formulas created by the user), and therefore should be closely examined:

- If the Range is standard input field (i.e, blue, purple, red or green font inputs) that contains a formula entered by the user.
- If the Range is a formula cell located on a custom worksheet.

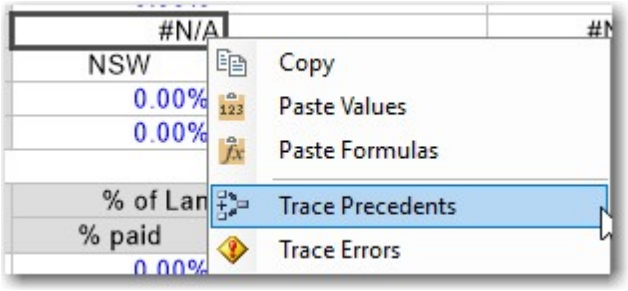
Any easy way to determine if a Range is the cause of a circular reference, is to simply replace the formula in the cell with a value, and click the [Revalidate] button; if that was the cause of the issue, then no issues will be reported. However if circular reference issues still persist, you will need to repeat the process until no further issues are found. You will then need to determine whether you wish to create a modified formula that avoids a circular reference, or just keep a 'value' in the cell.

4.12 Formula Auditing

The following tools are available in ARGUS EstateMaster DF to help you audit formulas, be it the default ones in the application, or custom ones that the user creates:

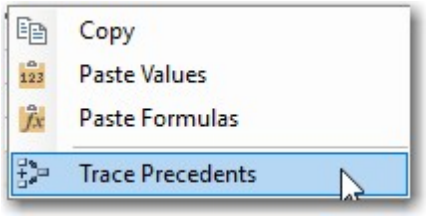
- **Trace Precedents:** This function displays the relationships between a formula and the cells that provide data to it (i.e. its precedents). It is a useful tool for checking formulas for accuracy or finding the source of an error.
- **Trace Errors:** This function displays the source(s) of an error in the formula.

The above tools are available in the Sheet Context Menus when you right-click a cell, and are enabled if that cell contains a formula and/or error.

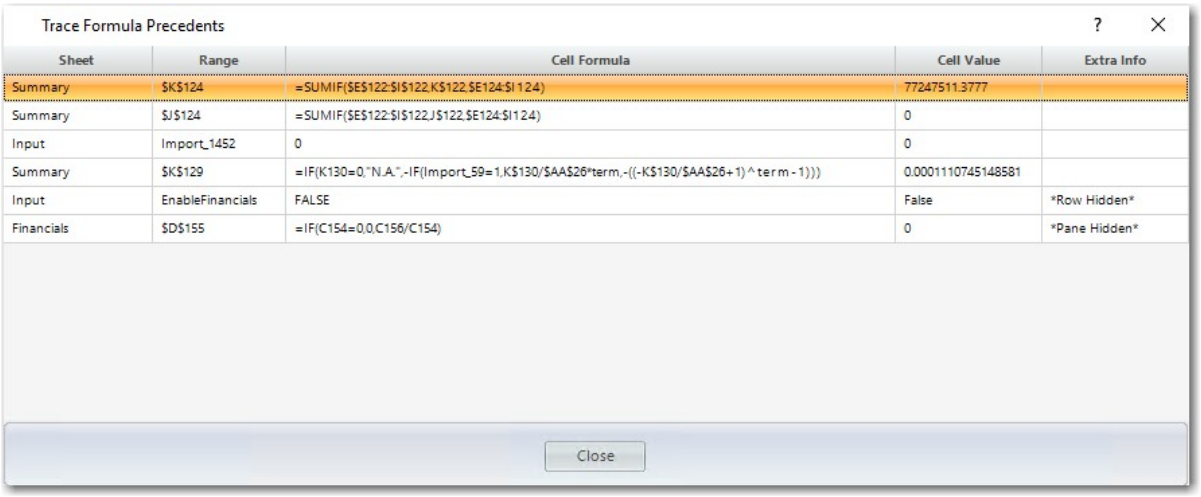


4.12.1 Trace Precedents

When any cell containing formula is selected (default application formula, or user-inserted custom formula), a 'Trace Precedents' option will appear in the right-click Context Menu.



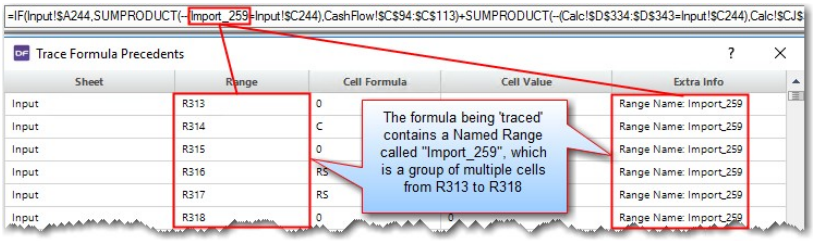
By selecting 'Trace Precedents', the following form will be displayed:



Sheet The worksheet where the precedent cell/range is located.

Range The precedent cell address, or range name.

- If the formula being traced contains a multi-cell Named Range (i.e. a defined name for a group of cells), then every individual cell within that Named Range will be listed separately, and the Named Range it belongs to will be indicated in the 'Extra Info' column.



Cell Formula	The formula in the precedent cell/range. • If the cell has a hard-coded value, and not a formula, then the value of that cell will be displayed.
Cell Value	The calculated/inputted value in the precedent cell/range.
Extra Info	Additional information about the precedent, such as: • If the related cell/range is **hidden**, either by being located in a hidden column, row or worksheet, or hidden from view by a frozen pane (and therefore cannot be navigated to) • If the related cell/range is **part of a multi-cell Named Range**, it will display that Named Range. • If the related cell formula is **referencing an external Excel file** (i.e. using the Excel Links feature), it will display the path to that file.

Navigating to a Precedent

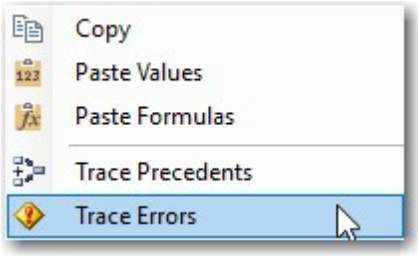
To navigate to a precedent cell/range, just double-click it in the list provided in the form, and the related cell/range will be activated in the background.

There are certain limitations where you cannot navigate to a cell/range:

- If it is hidden (i.e. located in a hidden column, row or worksheet, or hidden from view by a frozen pane).
- If it is located in an external Excel file.

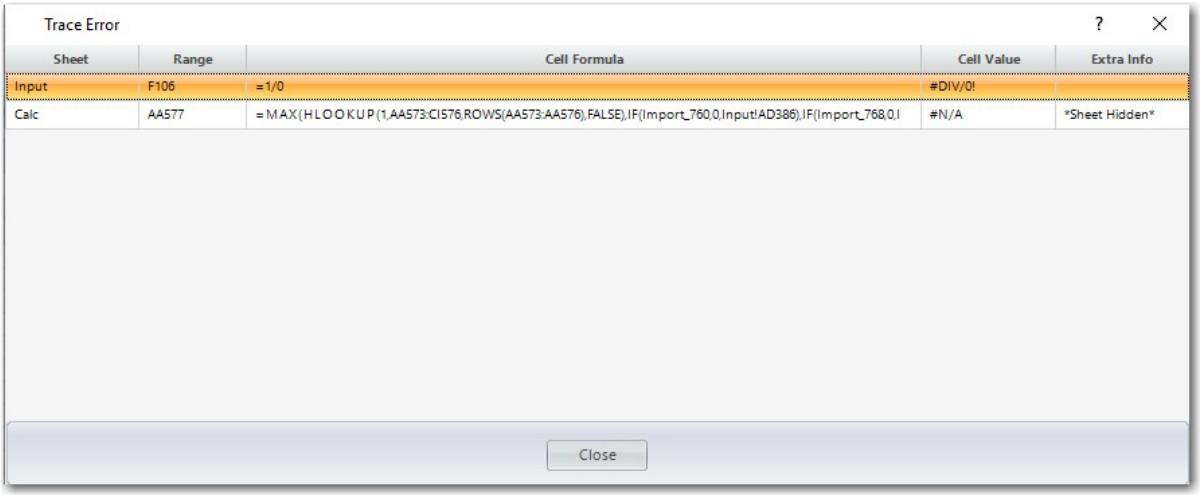
4.12.2 Trace Errors

When any cell containing an erroneous formula is selected (default application formula, or user-inserted custom formula), a 'Trace Errors' option will appear in the right-click Context Menu.



By selecting 'Trace Errors', it will trace the precedents of the selected formula and attempt to find the source of the error. If it cannot find any errors with the direct precedents, it will then search through the next level of precedents, and so on, until it finds the possible source.

If it successfully finds the source of the errors, the following form will be then displayed:



Sheet The worksheet where the erroneous cell/range is located.

Range The erroneous cell/range address, or range name.

Cell Formula The formula in the erroneous cell/range.

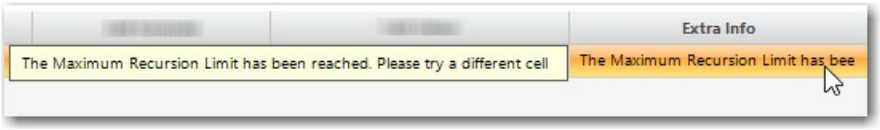
Cell Value The calculated/inputted value in the erroneous cell/range (if it is a single-cell range)

Extra Info Additional information about the erroneous cell/range, such as:

- If the related cell/range is **hidden**, either by being located in a hidden column, row or worksheet, or hidden from view by a frozen pane (and therefore cannot be navigated to)
- If the related cell formula is **referencing an external Excel file** (i.e. using the Excel Links feature), it will display the path to that file.

Unable to find the Error

If it cannot find the possible source of the error within 100 levels of precedents (an acceptable level before application performance may be affected), it will stop attempting to trace the error and show this message in the form.



If this occurs, it is recommended to try tracing the error on different erroneous formulas cells on different worksheets, in particular ones where data entry is conducted.

Navigating to an Error

To navigate to a error cell/range, just double-click it in the list provided in the form, and the related cell/range will be activated in the background.

There are certain limitations where you cannot navigate to a cell/range:

- If it is hidden (i.e. located in a hidden column, row or worksheet, or hidden from view by a frozen pane)
- If it is located in an external Excel file.

Fixing Errors

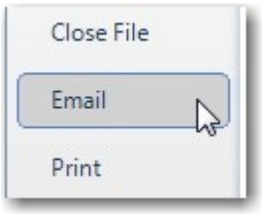
To attempt to fix an error, navigate to each erroneous cell/range displayed in the list and modify it's formula until it no longer generates an error (e.g. #DIV/0!, #REF!, #VALUE!, etc). Once those issues have been resolved, go back to the original cell that was selected and check if it is still calculating an error:

- If it doesn't, then the formula(s) that were modified were the only cause of the error.
- If it does, then there could be other cells along the precedent chain that may be contributing to the error. Therefore, just run the 'Trace Error' on the same cell again, and review/fix the new results it will display. Repeat the process until the original cell no longer is displaying an error.

4.13 Emailing Files

The program has inbuilt emailing functionality to allow you to email files without having to save them and then attach them manually to an email message. No other email software (such as Outlook, Lotus Notes, etc) is required, only an internet connection and valid SMTP (Simple Mail Transfer Protocol) settings.

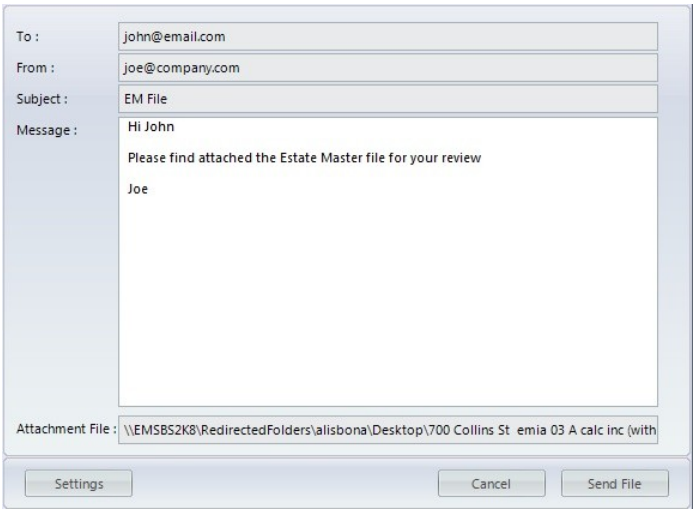
The email function is found in the Application Menu.



When 'Email' is clicked, it may first prompt you to save your file (if there have been any changes to your file since the last save). Once the file is saved, it will load a form where the user can enter the following information (* denotes mandatory fields):

- **TO*** email address(s): You can enter multiple email address in this field, separated by by a '**;**' semi-colon (e.g john@email.com; pete@email.com)
- **FROM*** email address. Only one email address can be entered here. This is also the email address that the recipient can reply to.
- **SUBJECT*** of the email.
- **MESSAGE** text for the body of the email.

You will notice that the data file is already attached to the email message.



Before any files can be emailed through this feature, the SMTP settings must be configured. This is done by clicking on the 'Settings' button and entering in the following information:

- **SMTP Server**: Your SMTP server name (e.g. smtp.yourISP.com)
- **Port**: The TCP (Transmission Control Protocol) port that the SMTP server uses. This is usually port 25.
- **Encrypted Connection**: Select this if your SMTP server name uses a SSL (Secure Sockets Layer) connection.
- **Use Default Credentials**: Specifies whether the default user credentials should be used to access the SMTP mail server. If it is not selected, then the you must enter in a username and password.
- **Username**: The user name to use for authentication to the SMTP mail server.
- **Password**: The password to use for authentication to the SMTP mail server.

Please note:

- These settings are application and machine specific, therefore you will need to configure them for each ARGUS EstateMaster application installed on a PC/Server, and each PC/Server that has the software installed.
- If you do not know your SMTP settings, please consult your IT Administrators or your Internet Service Provider.

Once these settings have been configured, the software is ready to email files. When the 'Send' button is clicked, it will validate the email address(s) and the SMTP settings you have entered.

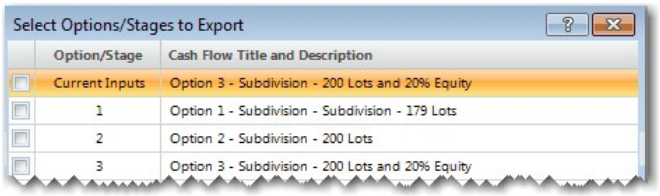
- If the email was successfully sent, a message will appear to inform you.
- If there was any error in trying to send the file, a message like this may appear: If you receive an error, please consult your IT Administrator to verify that the SMTP settings have been entered correctly or to use an alternative SMTP server.

4.14 Exporting to Excel

Since ARGUS EstateMaster DF is built on a spreadsheet user interface, you can export the entire file to Excel, allowing you use that file and its data in any way you require. To export the file, go to the Ribbon Menu and click on [Data] ➔ [Export to Excel]

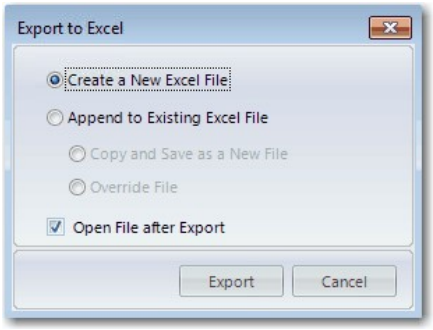
Selecting Stored Options/Stages

If there are stored Options/Stages in the file, you will be given the option to select which specific Options/Stages, as well as the current set of inputs, to export to Excel.



- If only **one item is selected in the list**, you will be given the option to either:
  - Export it as a New Excel File, or
  - Append it to an Existing Excel File
- If **more than one item is selected in the list:**
  - Each set of data (either the Current Inputs or the selected Options/Stages), will be automatically exported to a new Excel file.
  - The Current Inputs (if selected) will adopt the base file name provided by you (e.g. MyFile.xlsx).
  - The selected Options/Stages will have "*_OptStg_<option/stage number>*" appended to the base file name provided by you (MyFile_OptStg_1.xlsx).

Export Options



Create a New Excel File

When an ARGUS EstateMaster DF file is exported to a new Excel file:

- You will be promoted to save the file in Excel 2007+ compatible format (*xlsx or *.xlsm).
- The file is exported as values only and contain no formulas (except on custom add-on worksheets, where custom formulas are kept intact), so changing inputs in an exported file will not impact on the results.

Append to Existing Excel File

When an ARGUS EstateMaster DF file is appended to an existing Excel file:

- You will be given the option to copy the existing Excel file and save it is a new one (useful when working with templates), or override the file being selected.
- You will be promoted to select which Excel 2007+ compatible file (*xlsx or *.xlsm) to append the ARGUS EstateMaster DF worksheets to.
- The ARGUS EstateMaster DF worksheets are exported as values only and contain no formulas (including on custom add-on worksheets)

- Some features that are not completely supported by this spreadsheet interface used by ARGUS EstateMaster DF may be stripped from the selected Excel file after appending to it, and saving it. These features include, but not limited to, items such as:
  - Form/ActiveX Controls
  - Pivot Tables & Charts
  - Cell Comments
  - Cell Gradients
  - Excel 2007-style Tables and Structured References
  - OLE objects (Camera, Embedded Documents, etc)
  - Shape fill effects and shadows
  - Worksheet Protection Access Options

Command Line Automation

ARGUS EstateMaster DF supports exporting to Excel via the Windows command line, using the **ExportFile** command.

The command utilises the following switches and parameters:

Switch and Parameter	Required	Description	Example
/F: *DataFile*	✓	• The path to the ARGUS EstateMaster DF data file (emdf) to export. • Note: If the path contains spaces, it should be enclosed in double quotes.	/F: "C:\MyData\SampleFile.emdf"
/P: *Password*		• The password required to open the data file (if applicable) • Note: If the password contains spaces, it should be enclosed in double quotes.	/P "password1"
/E: *ExcelFile*		• The path of the output Excel file (*.xlsx) • If this switch is not used, the Excel file will be given the same file name and saved to the same directory as the selected data file.	/E: "C:\Users\Guest\Desktop\SampleFile.xlsx"
/O: *OptionStage*		• The selected Option/Stage number to export (e.g. "2" for Option/Stage 2). • If used, must be a value between 1 and 8 • If this switch is not used, it will export the current data that was live in the file, last time it was saved.	/O "4" or /O "Option4"
/M:		• Determines whether a newer version of the Project Milestone should be retrieved from the EstateMaster Database (if available) when the data file is open. It is only applicable if: o Project Milestones have been used in the selected data file, and o ARGUS EstateMaster DF is currently connected to the Enterprise Database. • If this switch is not used, it will use the Project Milestone Profile that was last saved with the data file.	/M:

Example

- Exporting the current set of data for a file with no password:

```
C:\Program Files\Estate Master\DF7\EstateMasterDF.exe ExportFile /F: "C:
\MyData\SampleFile.emdf" /E: "C:\Users\Guest\Desktop\SampleFile.xlsx"
```

- Exporting the current set of data for a file a password:

```
C:\Program Files\Estate Master\DF7\EstateMasterDF.exe ExportFile /F: "C:
\MyData\SampleFile.emdf" /E: "C:
\Users\Guest\Desktop\SampleFile.xlsx" /P: "password1"
```

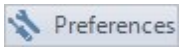
- Exporting Option/Stage 4 for a file with no password:

```
C:\Program Files\Estate Master\DF7\EstateMasterDF.exe ExportFile /F: "C:
\MyData\SampleFile.emdf" /E: "C:
\Users\Guest\Desktop\SampleFile.xlsx" /O: 4
```

Part V

5 Preferences

The program allows flexibility by the way of user preferences. These are operated by:

1. Clicking on [Preferences] 

on the Ribbon Menu or Quick Access Toolbar,
2. Pressing the [F12] key.

Locking Preferences

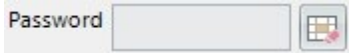
Each preference can be individually set and locked with password protection, allowing the user to standardise settings and minimise the risk of incorrectly changing them.

To Lock a Preference

1. Set the preference and then click on the  button located to the right of it.
2. It will the be shown as 'locked'  and the selected preference will then be disabled.
3. A Password field will be displayed at the bottom on the Preferences form.


4. The user must enter in a password before they can click 'OK' and save their changes.

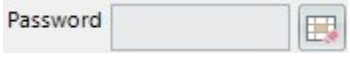
To unlock a Preference

1. As soon as the Preferences are open, a Password field will be displayed at the bottom on the form. 

2. The user must enter in a password before they can unlock any Preference.
3. Go to the preference and then click on the  button located to the right of it.
4. It will the be shown as 'unlocked'  and the selected preference can then be changed by the user.

To Reset the Password

Once a password has been used to lock the Preferences, the same password will remain with that file and will be used for any future locking/unlocking until it is reset by the user. To reset the password:

1. As soon as the Preferences are open, if any Preferences were 'locked', then a Password field with a 'Reset' button will be displayed at the bottom on the form 

2. Enter in the current password and click on the  button.
3. The current password on the Preferences will then be cleared, and a new password must be then set.

Printing an Assumptions Report

To check what preferences and settings have been defined in the model, an Assumptions Report is available to be printed in the Print Menu.

5.1 General

5.1.1 Regional Settings

Currency

Set the currency format. This is important if the ARGUS EstateMaster CC software is used to consolidate cash flows that are based on different currencies.

Taxation Format

Set the taxation format to be used in the model:

- **GST (Goods and Services):** A consumption (as opposed to income) tax levied on the purchases of goods and services. GST can be applied to all costs and revenues in the program
- **VAT (Value Added Tax):** Similar to GST, however there is no option to adopt the Margin Scheme when this option is applied.
- **Sales Tax:** This is a tax applied to end sales only. No tax is applied to costs in the program when this option is selected.

If 'Nil Tax' is selected, then the tax inputs are hidden.

Stamp Duty

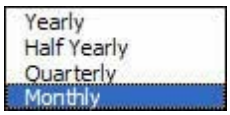
Stamp duty is automated based upon the location you select, and whether it is calculated on the land price including or excluding tax. The rates used to calculate duties can be changed in the 'Taxes & Duties' sheet.

Input Number Formats

Select the number of decimal places for the input cells.

5.1.2 Cash Flow Periods

Cash Flow Rest Period Nominate the rest periods for the cash flow. This option will determine how the Start and Span dates are to be entered and how the cash flow will be displayed.



Changing the rest period after you have started a model will not affect any existing values for Start and Span dates for individual cost and revenue items.

For example, say you change 'Monthly' rests to 'Quarterly' rests - a cost item that started Month 4 and spanned 3 months will now start Quarter 4 and span 3 quarters, so it will need to be manually updated by the user to start Quarter 1 and span 1 quarter.

Resize Time Periods Increase or decrease the number of timer periods in the model to suit user preference (45 to 480).

Financial Year End Month Select what month is to represent the end of Financial Year. This is used for the setting of Escalation Tables and for Financial reporting.

5.1.3 Stage Cash Flow

Global Cost Allocation Method This enables you to select how the Global Costs are apportioned to a Stage's cashflow.

- **As per Global Costs Cash Flow:** The global costs are apportioned to the Stage as-is, based on the time period they are to be spent/received.
- **Upfront at start of Stage:** The global costs allocated to that Stage as a lump sum amount at the commencement of the Stage (i.e. the time period in the 'Net Cash Flow Pre Allocation' line for the Stage where the first activity occurs)

- **Spread evenly over Stage:** The global costs allocated to that Stage are spread evenly over the Stage duration (i.e. the duration of the 'Net Cash Flow Pre Allocation' for the Stage)
- **Upfront at start of Stage Construction phase:** The global costs allocated to that Stage as a lump sum amount at the commencement of the Construction phase for that Stage (i.e. the time period in the 'Construction Costs (exc Contingency)' line for the Stage where the first activity occurs)
- **Spread evenly over Stage Construction phase:** The global costs allocated to that Stage are spread evenly over the Construction phase for that Stage (i.e. the duration of the 'Construction Costs (exc Contingency)' for the Stage)

Stage IRR/NPV Calculation

Nominate at what point the IRR and NPV calculations for each Stage are to be calculated from:

- Calculate from Start of Project
- Calculate from Start of Stage NCF (After Allocation)

5.1.4 Spreadsheet Display

Input Sheets and Report Sheets to Display

Select the worksheets which are to be displayed. Deselect to hide worksheets that you are not working on or do not intend to display making navigation around the workbook a little easier. Hiding sheets does not impede in the operation of the program

Input Field Width

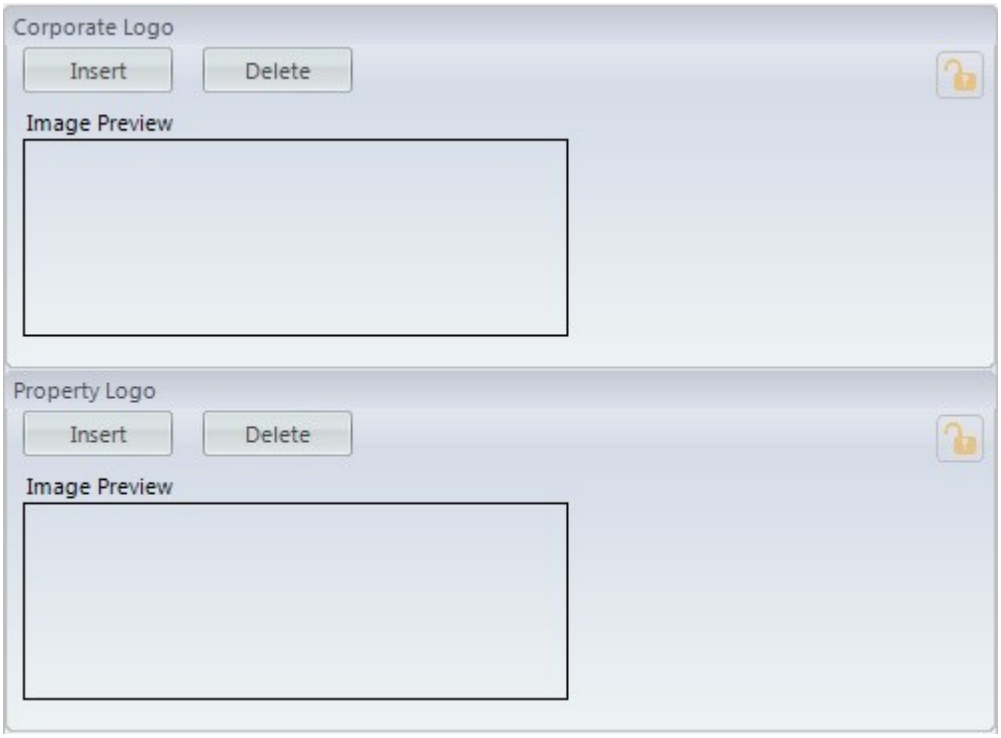
Select the preferred field width setting for the 'Cost Code' and 'Stage' inputs. The field width can either be:

- Default size
- Large size (200% of default size)

5.1.5 Disclaimer

Disclaimer on Title Page — Enter the text, if applicable, for any disclaimer to be displayed on the Title page. The maximum characters allowed are 2,500.

5.1.6 Logos

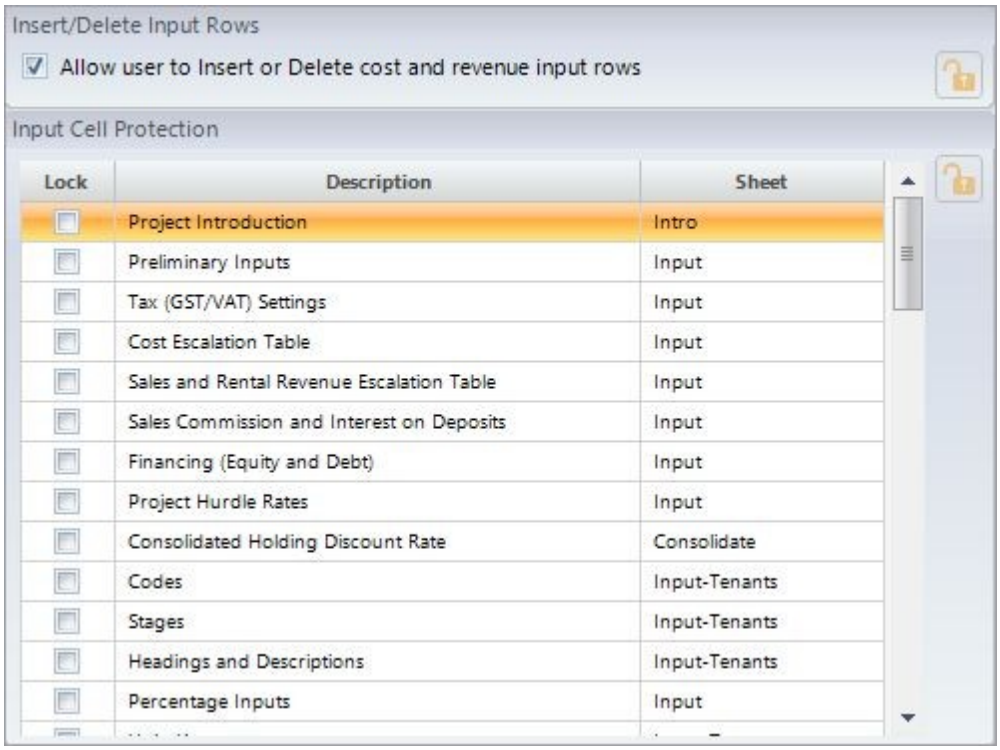


Corporate Logo and **Property Photo**

Insert your own corporate logo on the report sheets and Title Page and insert a photo/image of the subject property/project on the Intro tab and Title Page

- Only jpeg and bmp files can be inserted.
- There are no file/image size restrictions.
- The program will automatically downscale the image if it is too large to fit in the allocated area.
- If the image is smaller than the allocated, it will not be upscaled to avoid distortion.

5.1.7 Protection



Insert/Delete Input Rows

Enable the user to insert/delete rows on the Cash Flow sheet.

Input Cell Protection

This allows you to Lock various input cells throughout the program. Once this is done, the input cell will change to a 'black' font and a warning will appear on the status bar to indicate the active sheet has locked input cells.

Warning on Status Bar - clicking this warning will load the Preferences

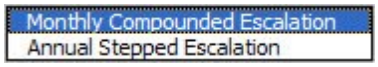
This is helpful if you wish to standardise the inputs and create a template.

5.2 Calculations

5.2.1 Escalation

Escalation Method

Select how the escalation on Costs and Revenue (exc Rent Review Escalation) in the model operates.



Escalation can either be applied on a:

- ***Period* Compounded Escalation** basis

  For example, if 5% is entered in for a particular year in the escalation table, this then equates to approx 0.41% per month (if using monthly rest periods), and each cost/revenue occurring in each month for that year, is escalated by 0.41% compounded.

- **Annual Stepped Escalation** basis (e.g. 5% per month if using monthly rest periods).

  For example, if 5% is entered in for a particular year in the escalation table, then each cost/revenue occurring in each period for that year, is escalated by 5%.

The Escalation tables on the Input can also be set up in one of two ways:

- **Cash Flow Period Years:** This option is where the model assumes that the annual escalation rates are defined by the Project Start Date month, and starts on that date.

  For example, if Date of First Period (Project Start) is Jan-2007, then Escalation Table starts from Jan-2007.

- **Based on Financial Years:** This option is where the model assumes that the annual escalation rates are defined by the Financial Year End month, and commences from the start of the Financial Year that the project is starting in.

  For example, if Date of First Period (Project Start) is Jan-2007 and Financial Year End is June, then Escalation Table starts from Jul-2006.

5.2.2 Project Costs

Development Management Fee

The Development Management Fee can be expressed as a percentage of:

- **Gross Sales Revenue:** Includes items included in the Sales input section and Capitalised Sales from the Tenants section. Is inclusive of any GST/VAT/Sales Tax if applicable.
- **Net Sale Revenue:** Gross Sales less Selling Costs
- **Project Costs including Land**
- **Project Costs excluding Land**

Project Costs exclude: Selling Costs (except PreSale Commissions reported as a Project Cost), Leasing Costs, Finance Costs (inc Interest and Fees) and GST/VAT if applicable.

Miscellaneous Costs

If entering any cost in the 'Miscellaneous' sections as a percentage, the percentage basis can be different for each Miscellaneous Cost section:

- **Construction Costs (exc Tax):** Construction costs including contingency, but excluding GST/VAT if applicable.
- **Gross Sale Revenue:** Gross Sales Revenue includes items included in the Sales input section and Capitalised Sales from the Tenants section. They are inclusive of any GST/VAT/Sales Tax if applicable, but exclusive of any GST that is being withheld by the purchaser (only relevant if the 'GST' Taxation Format is selected in the Preferences)
- **Net Sale Revenue (exc Selling Costs):** Gross Sales Revenu *less* Selling Costs.

Sales Commissions

Sales Commissions can be expressed as a percentage of:

- **Gross Sales Values (inclusive of Tax)**: Sales Price including GST/VAT/Sales Tax

- **Net Sales Values (exclusive of Tax)**: Sales Price excluding GST/VAT/Sales Tax

Reporting Pre-Sale Commissions as Project Cost

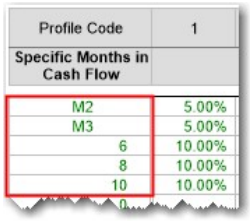
Tick the checkbox if you wish to report all Pre-Sale Commissions (those incurred at time of Exchange) as a Project Costs (as opposed to a negative Revenue). This will impact how the Development Margin is reported, and where other cost items are a % of Project Costs.

5.2.3 Revenue Collection Profile

Sales Revenue Collection Profile

This option allows you to decide how the instalment milestones for the Sales Revenue Collection Profile are defined. They can either be base on:

- **Specific Time Periods in Cash Flow**: Where you can define a time period (e.g Month 6, Month, 12, etc) or a Milestone ID (e.g. M1, M2, etc) to indicate when revenue is collected.

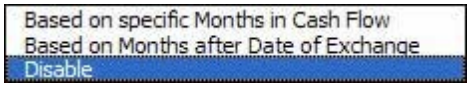


Profile Code	1
Specific Months in Cash Flow	
M2	5.00%
M3	5.00%
6	10.00%
8	10.00%
10	10.00%

- **Periods after Date of Exchange**: A certain number of months after the Date of Exchange for each sale item.

Profile Code	1
Months after Date of Exchange	
2	5.00%
4	5.00%
6	10.00%
8	10.00%
10	10.00%

If Sales Revenue Collection Profiles are not required, there is an option to 'disable' it.

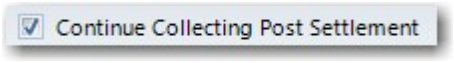


Continue Collecting Post Settlement

By default, revenue collection using this function occurs between Pre-Sale Exchange and Settlement Dates for each sales revenue item, as defined in the Sales and Capitalised Sales input sections.

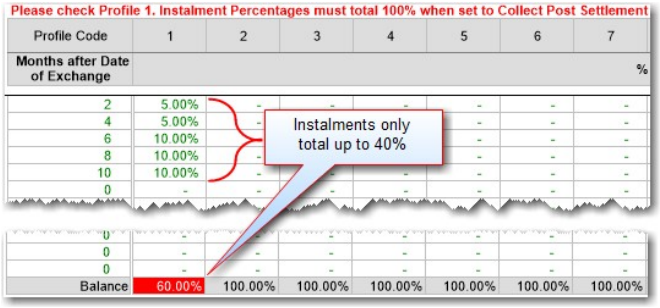
Therefore any instalment milestone that extends beyond a Settlement Date for a sales revenue item, will be ignored, and the remaining balance will be collected at that Settlement Date.

If you wish to continue collecting revenue beyond the defined Settlement Dates for all sales revenue items, then enable this option.



When this is enabled:

- The instalment % inputs for each Sales Revenue Collection Profile must total to 100%. If they don't, a warning will appear, because the cash flow will be excluding the balance (which would have normally been collected automatically at the defined Settlement Dates).

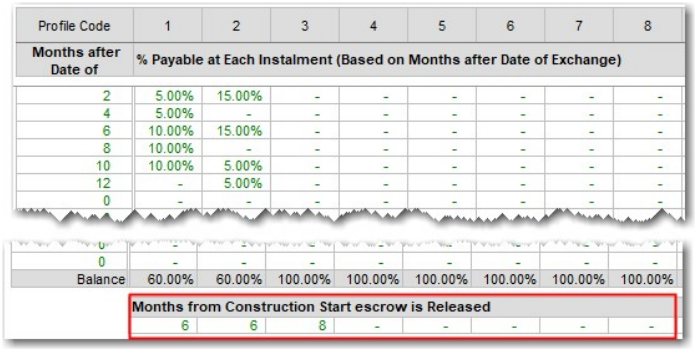


- The Handovers in the Stock Summary will still display that the sales 'settled' at the defined Settlement Dates.

Release from Escrow

This stipulates when to release sales revenue that is collected via the 'Revenue Collection Profile' instalments, which can either be:

- **On Receipt of Instalment**: Revenue is collected in the cash flow at the defined instalment milestones, as long as those milestones are:
  - After the Pre-Sale Exchange Date for a Sales item.
  - Before the Settlement Date for a Sales item (if the 'Continue Collecting Post Settlement' option is disabled)
- **Linked to Construction Start**: Revenue collection is potentially delayed based on the number of time periods (e.g Months) after Construction Start (i.e. the earliest construction cost). When this option is selected, a new set of inputs appear at the bottom of the Sales Revenue Collection Profile input table.



Profile Code	1	2	3	4	5	6	7	8
Months after Date of	% Payable at Each Instalment (Based on Months after Date of Exchange)							
2	5.00%	15.00%	-	-	-	-	-	-
4	5.00%	-	-	-	-	-	-	-
6	10.00%	15.00%	-	-	-	-	-	-
8	10.00%	-	-	-	-	-	-	-
10	10.00%	5.00%	-	-	-	-	-	-
12	-	5.00%	-	-	-	-	-	-
0	-	-	-	-	-	-	-	-
0	-	-	-	-	-	-	-	-
Balance	60.00%	60.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Months from Construction Start escrow is Released								
	6	6	8	-	-	-	-	-

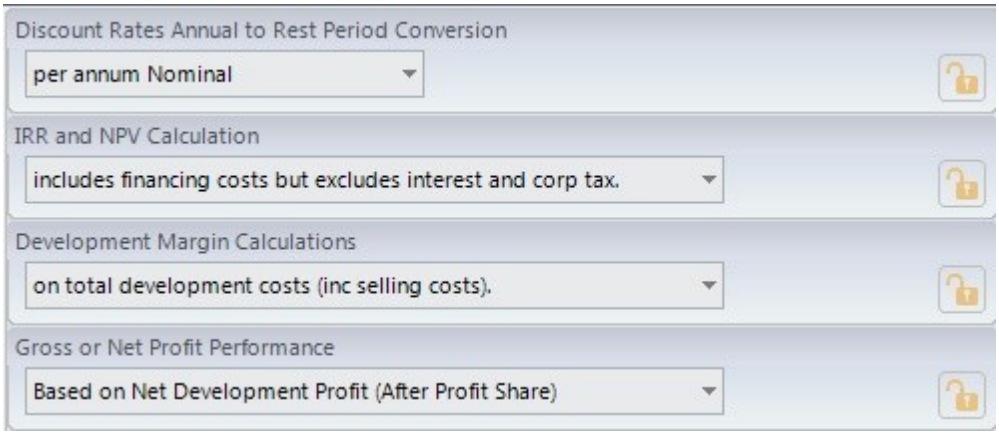
- **Via Insured Deposit Loan**: The instalments collected via the via the 'Revenue Collection Profile' are not released as sales revenue. Instead, they are used to facilitate an 'Insured Deposit' Loan, and the full sales revenue amount is recognised in the cash flow at the nominated settlement period. When this option is selected, the following changes also occur:
  - o The 'Deposit Summary' section appears in the CashFlow, summarising the deposit instalments that were collected, what has been utilised by an 'Insured Deposit' Loan and the remaining balance.
  - o The option to designate one or more of the loan facilities as an 'Insured Deposit' Loan is enabled.

Limited to Cumulative Construction Costs

If the 'Linked to Construction Start' option is selected, by default, revenue is released as per the revenue instalments, but no earlier than the number of periods form the Construction Start.

Alternatively, if you wish to stipulate that the release from escrow is limited to the *cumulative* construction costs, then enable this option.

5.2.4 Hurdle Rates



Discount Rate Conversion

This enables you to select the method of conversion from the annual discount rate (that is entered by the user) to the periodic discount rate (monthly, quarterly or half yearly depending upon the rest period you selected). The difference is given in the following formulae:

Nominal Conversion	D/T
Effective Conversion	$[(D + 1)^{1/T}]-1$

Where:
D = is the annual discount rate.
T = The number of rest periods per annum (i.e Monthly = 12, Quarterly = 4, etc)

Note:

- It is imperative that a universal usage for the conversion of the discount rate be adopted for all evaluations.
- The first formula simply divides the annual discount rate by 12 while the second formula is the effective conversion and takes into account the compounding on a monthly, quarterly, half yearly basis depending on the cash flow being modelled.
- This only affects the NPV and IRR calculation - not the development margin.

IRR and NPV Calculation

Nominate if Finance Costs, Interest Charges or Corporate Tax are to be included in the calculation of the Project IRR and NPV.

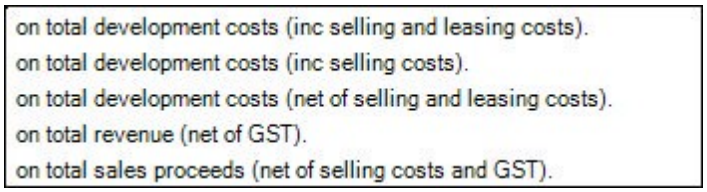
excludes all financing costs, interest and corp tax.
includes financing costs but excludes interest and corp tax.
includes all financing costs and interest but excludes corp tax.
includes all financing costs, interest and corp tax.
includes corporate tax but excludes financing costs and interest.

- **Financing Costs** = Cost defined in the 'Financing Costs' section and Fees (e.g Application, Line and Standby) associated for each loan.
- **Interest** = Interest charged on equity or the loan facilities.
- **Corp Tax** = Corporate Tax on project profit that is applied on the Financials sheet (as opposed to GST/VAT/Sales Tax)

The options that **include interest** are generally not recommended as discounting an after interest cash flow is a form of double-counting interest cost.

Development Margin Calculation

Nominate what forms the basis of calculating the Development Margin.

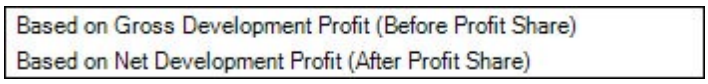


The following defines the exact components of the Summary Report that are used in the calculation of each option:

- **Development Costs (inc Selling and Leasing Costs)** = 'Total Costs' *plus* 'Selling Costs' and 'Purchasers Costs'
- **Development Costs (inc Selling Costs)** = 'Total Costs' (exc GST/VAT reclaims on any Leasing Costs) *plus* 'Selling Costs' and 'Purchasers Costs'
- **Development Costs (net of Selling and Leasing Costs)** = 'Total Costs' (exc GST/VAT reclaims on any 'Selling and Leasing Costs')
- **Total Revenue net of GST/VAT/Sales Tax** = 'Total Sales Revenue' *plus* 'Rental Income' *plus* 'Interest Received' *plus* 'Other Income' *less* 'GST/VAT/Sales Tax Paid'
- **Total Sales Proceeds (net of Selling Costs and GST/VAT/Sales Tax)** = 'Net Sales Proceeds' *less* 'GST/VAT/Sales Tax Paid' on Sales only (not Rental or Other Income)

Gross or Net Profit Performance

Determines how any Profit Share that is paid to other parties (Land Owner or Lenders) are treated in the calculation of various performance indicators. This is only relevant if the profit share to land owner and/or profit share to mezzanine lender.



This will impact the calculations for Development Margin, NPV, IRR, Residual Land Values, Sensitivity and Probability Analysis.

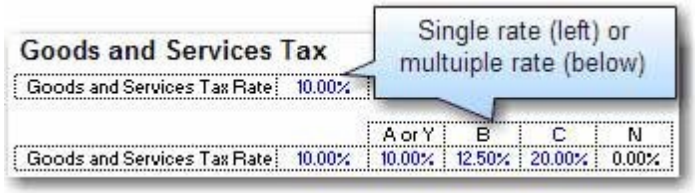
5.3 Taxation

5.3.1 Tax Type

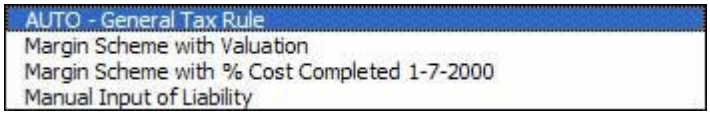
Tax Rate Type

Indicate whether the GST/VAT scheme is based on a single or multiple tax rate structure.

- If **Single Rate** is selected, then the user will have the option to enter 1 tax rate in the Input sheet, and then nominate a 'Y' (Yes), or 'N' (No) for each cost and revenue item, if that tax rate is to be applied to it or not
- If **Multiple Rate** is selected, then the user will have the option to enter up to 3 different tax rates in the Input sheet, and then nominate a 'A or Y' (first rate), 'B' (second rate), 'C' (third rate) or 'N' (No) for each cost and revenue item, if that tax rate is to be applied to it or not



Tax Liability Calculation Type Choose whether the model calculates the GST/VAT liability automatically or via a manual input by the user.



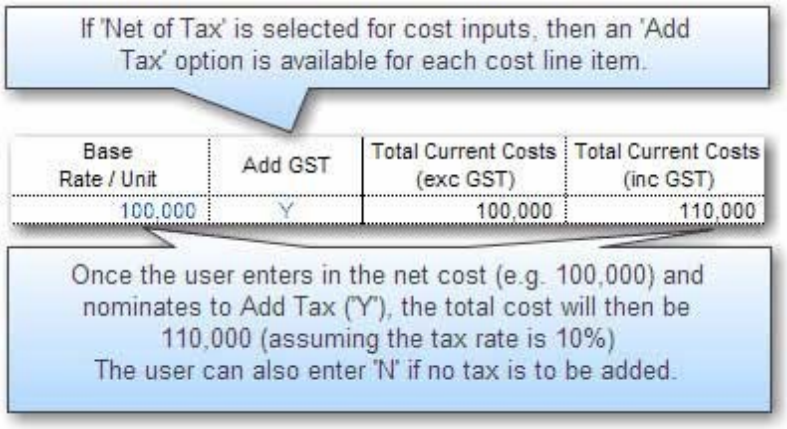
- **AUTO - General Tax Rule:** The program automatically calculates the GST/VAT liabilities and credits depending on what the user entered into the GST/VAT cell for each cost and revenue line item.
- **Margin Scheme with Valuation (GST Model Only):** The user is prompted to enter the margin value for the calculation of GST liability. The program will then automatically calculate the GST liabilities and credits depending on what the user entered into the GST cell for each cost and revenue line item.
- **Margin Scheme with % Cost Completed 1-7-2000:** Based on the user's inputs in the cost sections, the model will determine by default the % of costs that have been incurred before 1-7-2000. It then applies the Margin Scheme with Valuation calculation to determine input credits and liabilities.
- **Manual Input of Liability:** The program automatically calculates the GST/VAT credits depending on what the user entered into the GST/VAT cell for each cost line item, but the user must manually input the lump sum liability with start and span dates.

5.3.2 Cost and Revenue Inputs

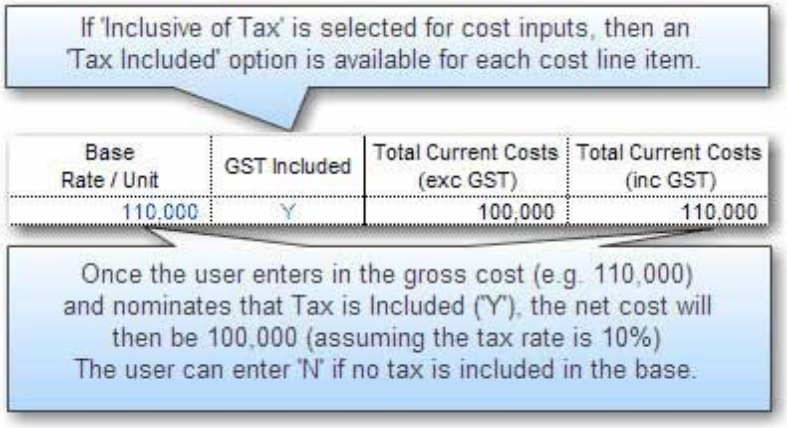
Cost and Revenue Input Method

Select how costs and revenues are to be entered in the model.

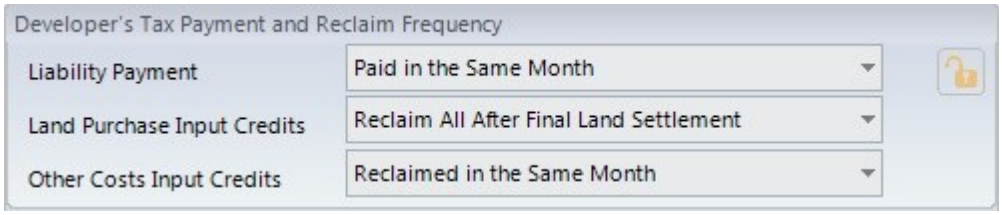
- If **Exclusive of Tax** is selected, then the model will assume that amounts entered in the inputs **exclude** tax and if a GST/VAT rate is applied to that item then it will automatically add the tax amount to the item in the cash flow and reclaim tax credits or pay tax liabilities appropriately.



- If **Inclusive of Tax** is selected, then the model will assume that amounts entered in the inputs **include** tax and if a GST/VAT rate is applied to that item then it will reclaim tax credits or pay tax liabilities appropriately.

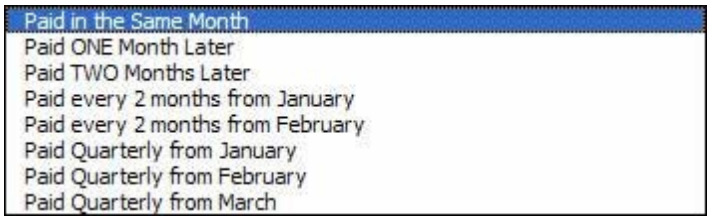


5.3.3 Liabilities and Reclaims



Tax Payment and Reclaim Frequency

These options allow the user to nominate the delay between expenditure of costs and the reimbursement of the GST/VAT credits and the delay between receipt of revenues and the payment of the GST/VAT liabilities for the Developer and Land Owner (in a Joint Venture model).



Tax Liability Frequency

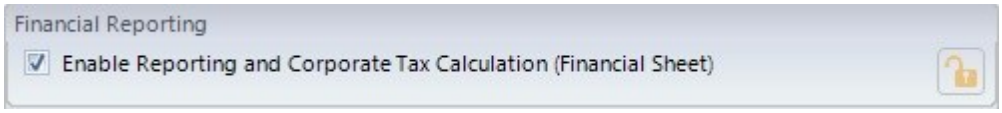
In addition to different timings (i.e monthly, quarterly, etc), the tax credit reclaims have two other distinct options:

- **Offset Against Liability at Sale:** No credits are reclaimed until sales occur.
- **Calculated but not Reclaimed:** The tax paid on costs is shown on the Summary report as a separate line item, but is not effectively reclaimed by the developer.

A separate option is also available to determine the GST/VAT reclaim frequency for the land cost.

5.4 Financial Reporting

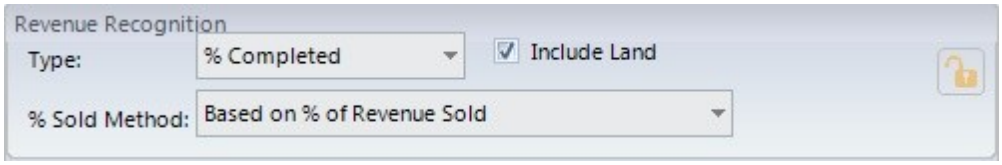
5.4.1 Financial Reporting



Financial Reporting

To enable Profit & Loss Statements, Balance Sheet and Corporate Tax reporting click the 'Enable Reporting and Corporate Tax Calculation' option.

5.4.2 Revenue Treatment



Revenue Recognition

Type

There are 2 calculation options for the Recognition of Revenue:

- **On Completion:** As settlements occur revenue is recognised in the Profit and Loss Statement in proportion to the % settled.
- **% Completed:** Revenue is recognised on a weighted percentage of construction completed and percentage sold. Effectively you are recognising revenue for the proportion of the building which is complete for which you have sold. E.g. If the property is 50% sold and 50% built, the revenue recognised in the P&L is 25% (50% x 50% = 25%)

Include Land

This option is used to either include or exclude Land from the Works in Progress calculations. If the 'On Completion' revenue recognition method is selected, this option is set to always include the Land, and the option to change it is disabled.

If Land and Acquisition is included in the '% Completed' Revenue Recognition method through the Preferences, then it will be summarised under the 'Development Costs for WIP Calculation heading, otherwise it will be under 'Other Costs'.

% Sold Method

There are 2 options for the method for calculating the % Sold in the Profit Realisation Analysis.

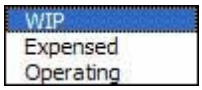
- % of Revenue Sold (by value)
- % of Area Sold

5.4.3 Cost Treatment

Work in Progress, Expensed or Operating Cost

For each of the cost and revenue sections you have the option to:

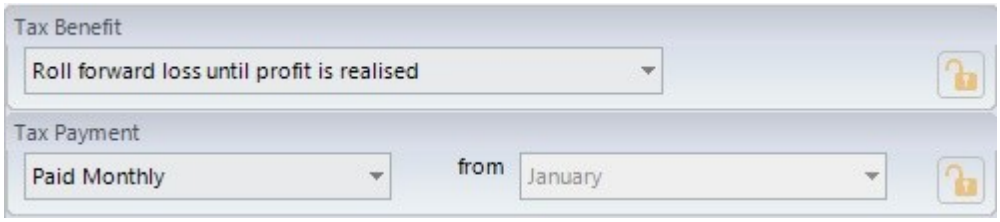
- **Expensed:** Directly expense the cost at the date it is incurred in the 'Cost of Sales' section of the Profit and Loss statement, impacting how the Project Margin is calculated.
- **WIP:** Add it to the Work in Progress. This defers the recognition of the cost in the Profit and Loss statement until such time that the defined threshold levels are reached. Until the thresholds are reached, these costs appear as a 'Current Asset' in the Balance Sheet called 'Work in Progress'.
- **Operating:** Define the cost as an Operating Cost. These are expensed to the Profit and Loss statement in the 'Operating Expenses' section. The difference between an Operating expense and a Cost of Sales expense (as defined above) is that an Operating expense is not included in the Project Margin calculation. It is however included in the overall Profit and Loss calculation.



Selecting an item as an Operating Cost will impact on where it is shown in the P&L. Operation Costs in the P&L are displayed below the Margin line.

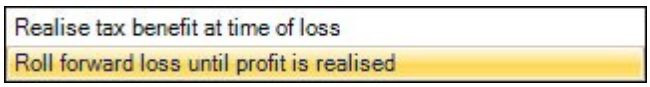
Items in Work in Progress will be expensed in accordance with selections in the Revenue Recognition settings.

5.4.4 Tax Treatment



Tax Benefit

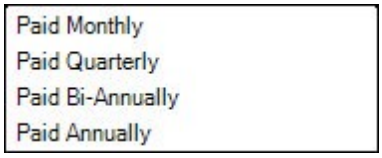
There are 2 calculation options for the treatment of a tax benefit.



- **Realise Tax Benefit at time of loss:** If the project is making a loss, a tax benefit is calculated at the time of that loss.
- **Roll forward loss until profit is realised:** If the project is making a loss,it is rolled forward until such time that the project makes a profit, and the loss is then offset against such profit to calculate the tax liability.

Tax Payment

There are 4 calculation options for the payment timing of tax liabilities.

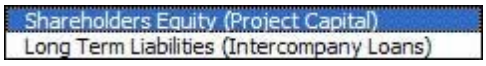


If an Paid Quarterly, Bi-Annually or Annually, is selected, then an additional option to select which month that payments start on will be enabled.

5.4.5 Equity Treatment

Project Equity Treatment

The are 2 options on how to treat project equity in the Balance Sheet:



- **Shareholders Equity (Project Capital):** Developer's equity contributions appear as 'Project Capital' in the 'Shareholders Equity' section of the Balance Sheet.
- **Long Term Liabilities (Intercompany Loan):** If using this option, the Developer's equity contributions are treated as an Intercompany Loan and appear in the Balance Sheet under the 'Long Term Liabilities' section. If this option is selected, the user will also need to input in the Balance Sheet the paid up Share Capital of the company.

5.5 Joint Venture

5.5.1 Development Type

Development Type

Select whether or not the working file is to be used for a joint venture project, whereby the costs and revenues can be apportioned between two parties:

1. A Land Owner, where they may contribute the land to the project in part or in whole.
2. A Developer.

If a Joint Venture model is chosen:

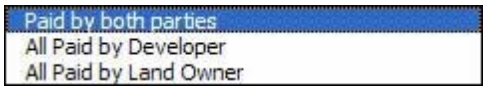
- All red input cells will appear on the input sections.
- The Financials Report is disabled and hidden.

- Additional reports will be available to the user, such as the Land Owners Summary, Cash Flow and Charts

5.5.2 Tax Treatment

Tax Liability Apportionment
(GST and VAT mode only)

Determine which party in a Joint Venture is liable for the GST/VAT payments on the sales revenue received.



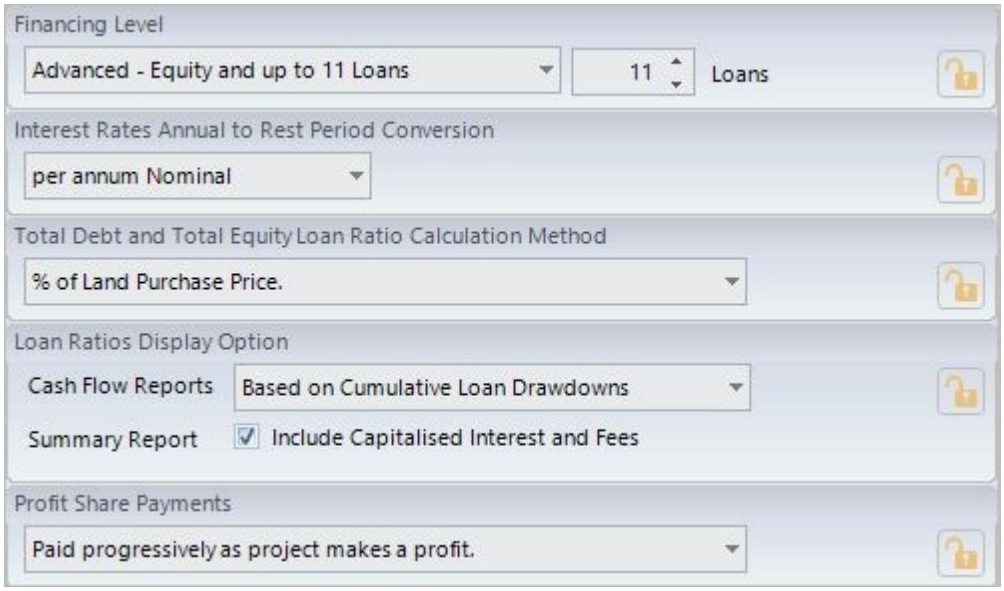
If **Paid by Both Parties** is selected, then each party pays the liability that is associated with the revenue they are entitled to. Otherwise, it can be selected that either the Developer or Land Owner pays all tax liabilities, regardless of their revenue share entitlement.

Tax Payment and Reclaim Frequency

Indicate when the Land Owner is to reclaim their GST/VAT input credits and pay their liabilities.

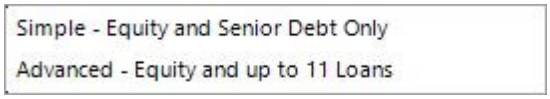
5.6 Financing

5.6.1 Global Settings



Financing Level

This options allows the user to toggle between two finance layouts:



- **Simple**: Use Equity and Senior Loan only. When clicked it resets and hides the other Loans 1 to 10 from the input and output sheets.
- **Advanced**: Use the spin-button to set the number of funding facilities (maximum 11).

Interest Rate Conversion

This is to do with the method for converting all the in the model interest rates from their annual rate to the selected rest period (months, quarters, half years or years) for all interest payable and receivable.

Nominal Conversion	D/T
Effective Conversion	$[(D + 1)^{1/T}]-1$

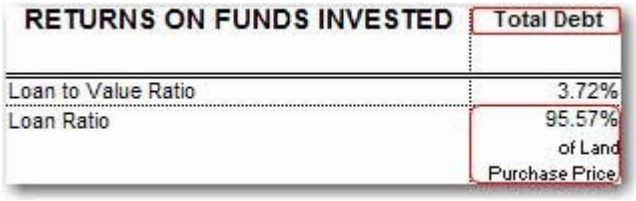
Where:
D = is the annual interest rate.
T = The number of rest periods per annum (i.e Monthly = 12, Quarterly = 4, Half Yearly = 2)

Note:

- It is imperative that a universal usage for the conversion of the interest rate be adopted for all evaluations.
- The first formula simply divides the annual interest rate by 12 while the second formula is the effective conversion and takes into account the compounding on a monthly, quarterly, half yearly basis depending on the cash flow being modelled.

Total Debt Loan Ratio Calculation Method

Indicate the denominator for the loan ratio calculation for the total debt overdraft. This is only used to show the Loan Ratio on the Reports.

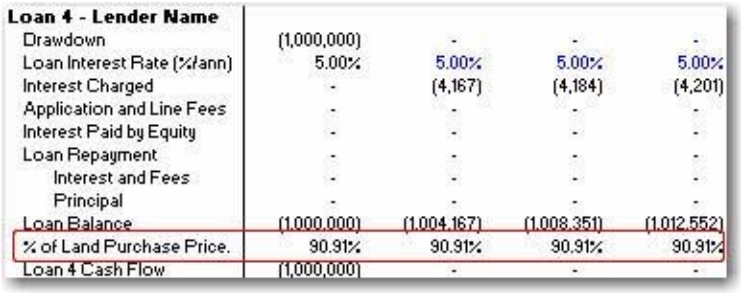


Summary Total Debt Loan Ratio

Loan Ratios Display

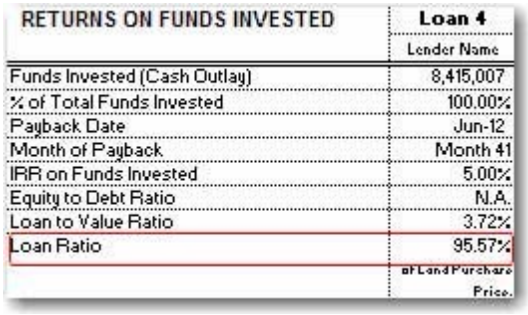
This options allows you to set how the Loan Ratios are displayed on the following reports:

- **Cash Flow Report:** Set the Loan Ratio to be calculated on either cumulative loan drawdowns, or on the current loan balance (which may include capitalised interest and fees)
- **Summary Report:** Set the Loan Ratio to be calculated on total funds invested, either including or excluding capitalised interest and fees.



Loan 4 - Lender Name				
Drawdown	(1,000,000)	-	-	-
Loan Interest Rate (%/ann)	5.00%	5.00%	5.00%	5.00%
Interest Charged	-	(4,167)	(4,184)	(4,201)
Application and Line Fees	-	-	-	-
Interest Paid by Equity	-	-	-	-
Loan Repayment	-	-	-	-
Interest and Fees	-	-	-	-
Principal	-	-	-	-
Loan Balance	(1,000,000)	(1,004,167)	(1,008,351)	(1,012,552)
% of Land Purchase Price.	90.91%	90.91%	90.91%	90.91%
Loan 4 Cash Flow	(1,000,000)	-	-	-

Cash Flow Loan Ratio



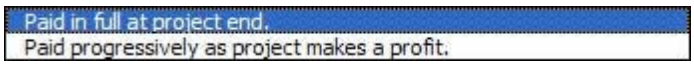
RETURNS ON FUNDS INVESTED	Loan 4 Lender Name
Funds Invested (Cash Outlay)	8,415,007
% of Total Funds Invested	100.00%
Payback Date	Jun-12
Month of Payback	Month 41
IRR on Funds Invested	5.00%
Equity to Debt Ratio	N.A.
Loan to Value Ratio	3.72%
Loan Ratio	95.57% of Land Purchase Price.

Summary Loan Ratio

Profit Share Payment

If there are any profit share payments to the Land Owner or Lenders, then this options allows you to select when the profit share is paid out:

- **Paid in full at project end**: The model waits till the end of the project before any profit share payments are distributed.
- **Paid Progressively:** As soon as the project makes a profit (all Loans are repaid), then any profit share payments will be distributed progressively. This option will only work if the option for 'Equity Repayment' is set to 'repay when available' as well, otherwise it will default to paying it at the end of the project.



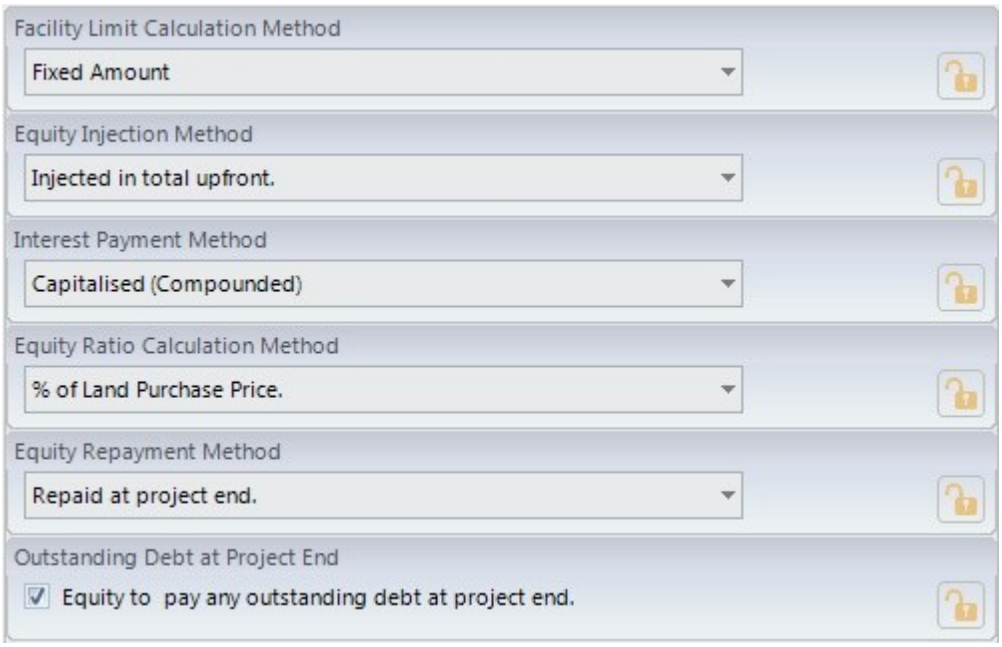
5.6.2 Hard Costs

Hard Costs

Select which project costs are classified as 'Hard Costs' for the purpose of loan ratios or facility limits that are based on 'Total Hard Costs' (as below).

If the tax component (GST/VAT) of the selected hard costs are to be excluded from amount, then make sure the last check box is ticked.

5.6.3 Equity



Facility Limit

Nominate the limit of funds injected into the cash flow. This amount excludes interest and fees. The limit can either be based on a:

- Fixed amount.
- Ratio of project costs or revenues (unless otherwise stated, these are inclusive of any tax).

Equity Injection Method

Indicate how the Equity is injected into the project:

- Fully upfront at project commencement.
- Progressively injected when required.

Interest Payment Method

Indicate how the interest charged on the funds is paid:

- **Accrued not Capitalised (Simple Interest):** Where interest is only calculated on the equity drawn down and not on any interest.
- **Capitalised (Compound Interest):** Where interest is calculated on the loan balance that includes any capitalised interest.

Equity Ratio Calculation Method

Indicate the denominator for the ratio calculation for equity cash flow. This is only used to show the Loan Ratio on the Reports.

Equity Repayment Method

Nominate when the equity is repaid back to the project:

- **At Project End:** Where any excess funds are deposited into the surplus cash account until such period.
- **When Available (retain cash for future costs):** Where equity is repaid progressively as it is realised. The cash flow

may retain funds in the surplus cash account if it identifies future costs that may need to be funded.

- **When Available (do not retain cash for future costs):** Where equity is repaid progressively as it is realised. Any future costs that may need to be funded are ignored and no cash is retained to fund these.

Any manual equity repayment adjustments in the cash flow table will override the preferences.

Outstanding Debts at Project End

You can elect to have equity pay any outstanding debts at the end of the project, rather than leave them unpaid.

5.6.4 Loans 1 to 10

Loan Type

Nominate the type of loan facility:

- **Debt**: The loan will impact all Debt-related performance indicators (e.g Peak Debt Exposure, etc)
- **Equity**: The loan will impact all Equity-related performance indicators (e.g Equity IRR, etc)
- **Insured Deposits**: The loan utilises deposits collected via the 'Revenue Collection Profile' that have been subsequently insured by a 3rd party and allowed to act as a source of funds for the project. When this option is selected, the following changes or limitations are applied to the additional preferences:
  - The 'Facility Limit Calculation Method' will be limited to only 'Fixed Amount' or '% of Deposits Collected'

- The 'Loan Drawdown Method' will be limited to only 'Progressively, limited to cumulative deposits collected'
- The 'Loan Ratio Calculation Method' will have '% of Deposits Collected' as an additional option.

Facility Limit Calculation Method

Nominate the limit of funds injected into the cash flow. This amount excludes interest and fees. The limit can either be based on a:

- Fixed amount.
- Ratio of project costs or revenues (unless otherwise stated, these are inclusive of any tax).
- % of Deposits Collected *

** Only available when the Loan Type is set to 'Insured Deposits'*

Loan Drawdown Method

Indicate how the loans are drawn down into the project:

- **Upfront:** Funds are drawn down in total at project commencement (or Commencement Month if used).
- **Progressively:** Funds are drawn down as and when when required.
- **Progressively, limited to cumulative facility limit:** This option is only available if a facility limit is based on a % ratio of project costs or revenues. It will draw down funds in line with the cumulative facility limit (eg if a % of Construction Costs is chosen as the facility limit, then funds will only be drawn down during the period that construction costs are incurred).
- **Progressively, limited to cumulative deposits collected:** This option is only available if a Loan Type is set to 'Insured Deposits'. It will draw down funds in line with the cumulative deposits that have been collected via the 'Revenue Collection Profile' (and that appear in the 'Deposit Summary' section in the CashFlow), but only up to a maximum of what has been set as the facility limit and what is still available (i.e. collected but not used/drawn down yet).

Payment Methods

Interest: Indicate how the interest charged on the funds is paid:

- **Paid for by equity:** Where interest is paid by equity as soon as it is charged, either from the surplus cash account (if funds are available) or from additional equity injections (once the surplus cash account has been exhausted).
- **Accrued not Capitalised (Simple Interest):** Where interest is only calculated on the drawn downs and not on any interest.
- **Capitalised (Compound Interest):** Where interest is calculated on the loan balance that includes any capitalised interest.
- **Principal and Interest:** With this type of loan, the repayments are made up of the periodic interest on the outstanding balance plus an amount which will reduce the principal. If this option is selected:

- The Loan Drawdown Method automatically reverts to 'Upfront'.
- The user must set a manual 'Maturity Period', which is used to determine the term for the loan.

Using the Principal and Interest Option

Line Fees: Indicate how Line Fees are paid:

- **In Arrears**: Paid during the period that interest is due.
- **In Advance**: Paid during the period that the loan balance is in deficit (i.e. in advance).

Loan Ratio Calculation Method

Indicate the denominators for the loan ratio calculation for each loan. This is only used to show the Loan Ratio on the Reports.

Refinancing at Maturity or **Principal and Interest Repayments**

This option may display one of two labels:

- **Refinancing at Maturity:** This option is only applicable if you have chosen a manual Maturity Month for that loan. Nominate which other source of funding is to refinance the loan at the nominated Maturity Month.
- **Principal and Interest Repayments:** If a Principal and Interest loan is selected, then this option will prompt the user to define which loan facility is to fund the periodic repayments for the subject facility.

5.6.5 Senior Loan

Loan Type

Nominate whether the Loan is a Debt or Equity facility

- By Selecting 'Debt', the loan will impact all Debt-related performance indicators (e.g Peak Debt Exposure, etc)
- By Selecting 'Equity', the loan will impact all Equity-related performance indicators (e.g Equity IRR, etc)

Facility Limit Calculation Method

Nominate the limit of funds injected into the cash flow. This amount excludes interest and fees.

- **No Limit - Use as an Overdraft Facility**: This is a line of credit facility and there is no limit on the borrowed amount. No facility limit is required and the input is disabled.
- **Set Fixed Limit - Use Equity as the Overdraft Facility**: A facility limit can be set on the Senior Loan as a fixed amount, and then any additional funding is sourced from Equity.

Payment Methods

Interest: Indicate how the interest charged on the funds is paid:

- **Paid for by equity:** Where interest is paid by equity as soon as it is charged, either from the surplus cash account (if funds are available) or from additional equity injections.
- **Accrued not Capitalised (Simple Interest):** Where interest is only calculated on the drawn downs and not on any interest.
- **Capitalised (Compound Interest):** Where interest is calculated on the loan balance that includes any capitalised interest.

The interest rate can be manually varied for different periods in the cash flow tables.

Line Fees: Indicate how Line Fees are paid:

- **In Arrears**: Paid during the period that interest is due.
- **In Advance**: Paid during the period that the loan balance is in deficit (i.e. in advance).

Loan Ratio Calculation Method

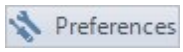
Indicate the denominators for the loan ratio calculation for each loan. This is only used to show the Loan Ratio on the Reports.

Part VI

6 Input Assumptions

6.1 Set Preferences

It is recommended that before entering any data in the 'Input' sheet, the user set their preferences. This can be done by:

- Clicking on [Preferences] 

on the Ribbon Menu or Quick Access Toolbar,
- Pressing the [F12] key.

6.2 Inputting Data

Input Cell Types

Enter data into input cells with a font colour of blue, red or green. Fixed cells (non input) have a black font colour. Since the worksheets are protected and locked, the model will only allow you to enter into the relevant input cells.

- **Blue Font Cells:** Cells with blue font are the main input cells in the program.
- **Green Font Cells:** Cells with green font relate to presales and are not relevant if you are not taking presales into account.
- **Purple Font Cells:** Cells with purple font relate to inputs that are entered via a list selector. When selecting the cell, a drop-down arrow will appear. Click the arrow and a list of options for that input cell will be displayed.
- **Red Font Cells:** The red input cells are only relevant where the program is being used to model a hypothetical joint venture arrangement (between a "Developer" and a "Land Owner"). If the program is being used to model a single developing party (i.e. no joint venture), which is usually the case for valuation purposes for example, then these cells will not impact the calculations. For JV models, putting numbers in these cells apportions some of the costs and revenues to the Land Owner. If the model is not being used for a joint venture, make sure "Single Entity" is selected in the Joint Venture tab of the Preferences. This will remove all red input cells relating to Joint Ventures.

Period Start and Span

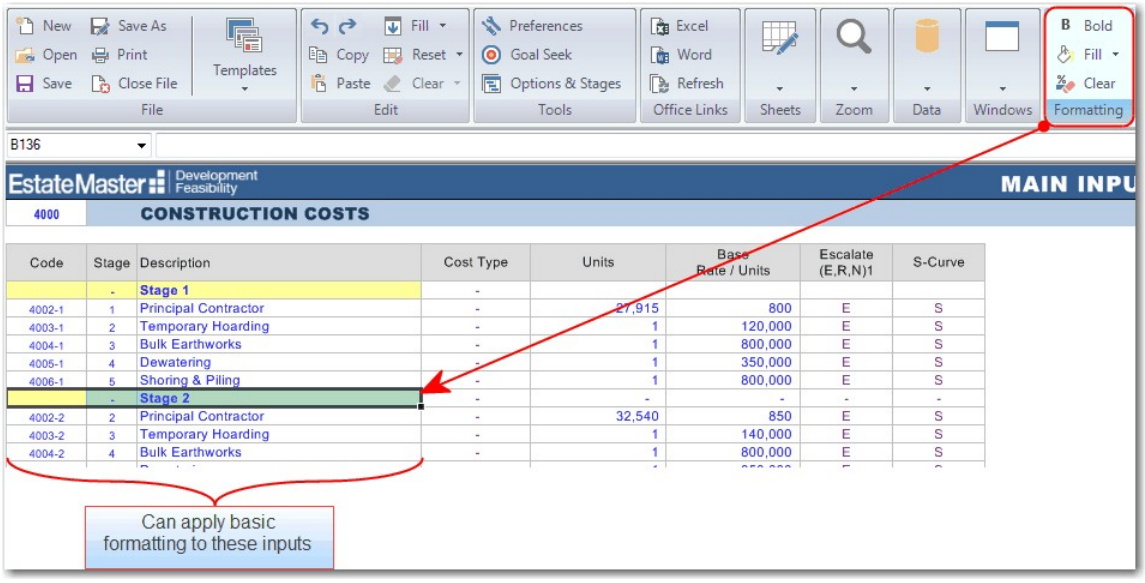
For every payment and revenue it is necessary to put a start date and span period, or else the program will not add the payment to the cash flow.

- The **Start Date** must be a number between zero (0) (which represents the first or current period) or an applicable letter (i.e. "L" for land costs or "C" for Professional Fees).
  - If using the Project Milestone feature, the Period Start can also be linked to a Milestone Tasks using the unique Milestone ID.
- The **Span Period** must be greater than but not equal to zero.

The start and span numbers must not add up to more than the maximum time periods in the model - or else you will exceed the program's limits.

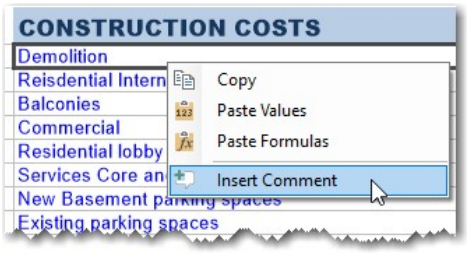
Formatting Cells

When certain input worksheets are activated, a 'Formatting' menu will appear. It allows the user to apply simple formatting such as bold fonts and coloured cells in the 'Code', 'Stage' and 'Description' input cells for each line item.

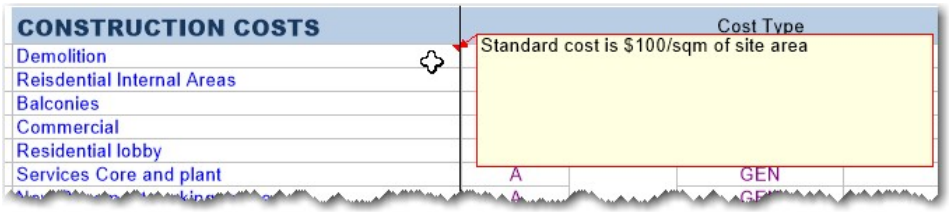


Cell Comments

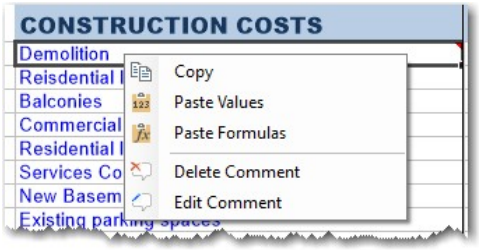
In addition to custom formatting, the 'Code', 'Stage' and 'Description' input cells also support the ability to insert Cell Comments. By right-clicking any of these cells, an 'Insert Comment' button will appear, allowing the user to insert a maximum 255 character comment in that cell.



Once a comment has been inserted, a red indicator will appear in the top-right of the cell, and when it is hovered over, the comment will appear (Please Note: a frown pane may cause a comment to not or only partially appear).



Any cell that has a comment, will then have an 'Edit' and 'Delete' option available in the right-click menu.



6.3 Project Introduction

When you open an ARGUS EstateMaster DF file it will open on the 'Intro' sheet.

Input preliminary information such as the project title, address, etc in the cells shown in blue font. These cells are only text cells and have no impact on the cash flow calculations.

Mandatory Inputs

There are mandatory input cells on the Introduction Worksheet. The model will not allow you to save the project unless these cells have information inputted into them.

Mandatory Inputs are highlighted in red

Project Name (Mandatory)	Enter the name of the project that the property belongs to. 'Project' may be interpreted as a 'development project', an 'investment project, a 'valuation project', etc.
Project Number (Mandatory)	Enter the unique project number related to the project.
Account Code (Optional)	Enter in the unique reference code that this project belongs to in your accounting system (if applicable). It may be the same as the Project Number.
Street Address, City/Suburb , **Zip/Post Code, State/County** and **Country** (Optional)	Enter the physical address of the subject property.
Prepared By (Optional)	Enter in who this report was prepared by.
Prepared For (Optional)	Enter in who this report was prepared for.
Developer (Optional)	Enter the name of the developer.
Land Owner (Optional)	Enter in the name of the land owner (JV models only).

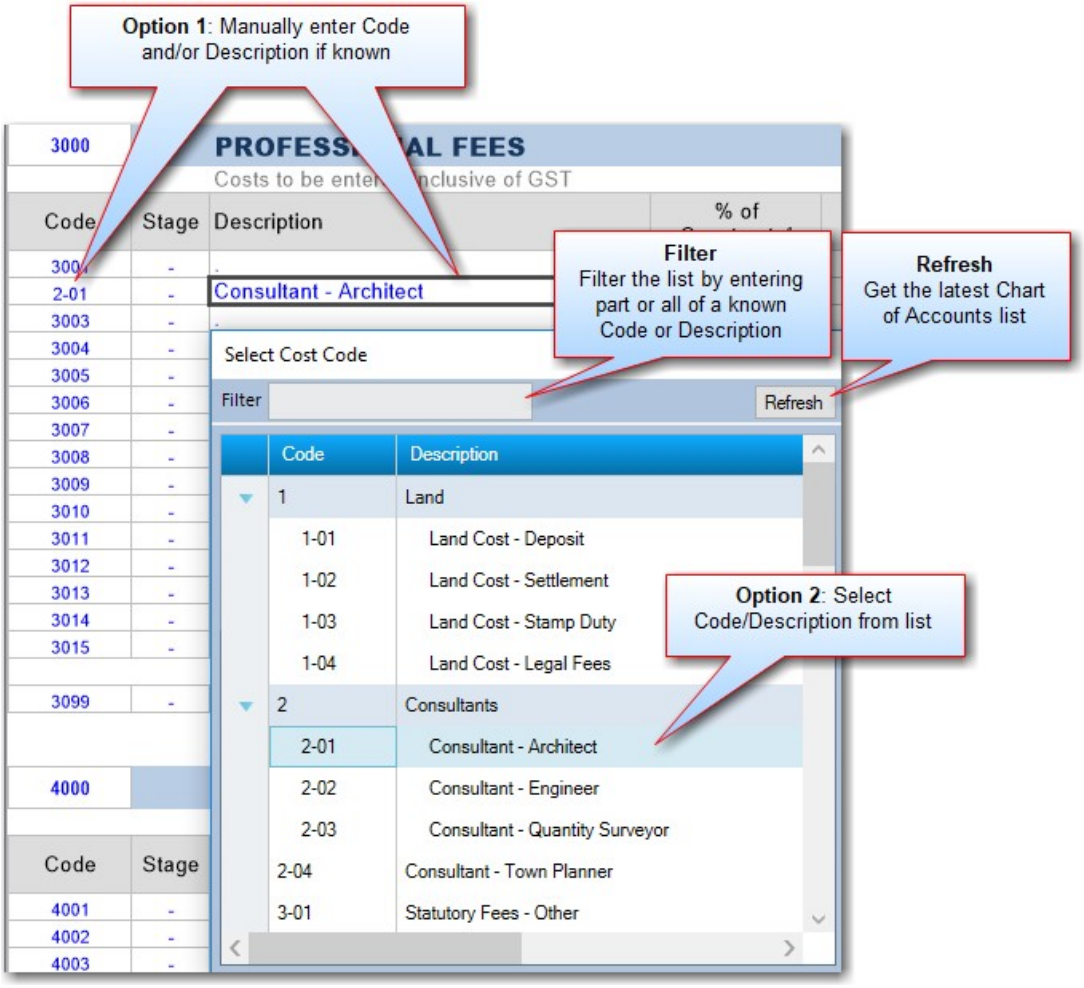
6.4 Cost Codes

If the Chart of Accounts have been configured on the active machine, they will now be usable within ARGUS EstateMaster DF to allocate individual costs codes to a specific line item.

Simply by selecting the ‘Code’ or 'Description' input cell for any cost or revenue item, by default the 'Select Cost Code' list will automatically pop-up.

You will then have 3 options to assign a Code and its Description to that line item:

1. **Manually type in the Cost Code**, in the 'Code' input field of the ARGUS EstateMaster DF file and press the [Enter ↵] or [Tab ⇆].
   a. If that Code exists in the Chart of Accounts list, the 'Description' input field will be automatically populated with the Description set in the Chart of Accounts for that specific code, overriding any existing Description set in that field.
   b. If you want to ensure the user enters a valid Cost Code that exists in the Chart of Accounts, enabled to the 'Enforce Cost Code' setting.
2. **Manually type in the Cost Code Description**, in the 'Description' input field of the ARGUS EstateMaster DF file and press the [Enter ↵] or [Tab ⇆].
   a. If that Description exists in the Chart of Accounts list (and is unique), the 'Code' input field will be automatically populated with the Cost Code set in the Chart of Accounts for that specific Description, overriding any existing Description set in that field.
3. **Find the Code/Description in the pop-up list**, and double-click it.
   a. If the list is large, you can start typing in a known Code or Description in the Filter field, and the list will continually update to show only the matching records.
   b. If the Chart of Accounts have been updated since you started ARGUS EstateMaster DF, you can press 'Refresh' to get the latest list.



Once you select any other cell, or application tab, the pop-up list will automatically close.

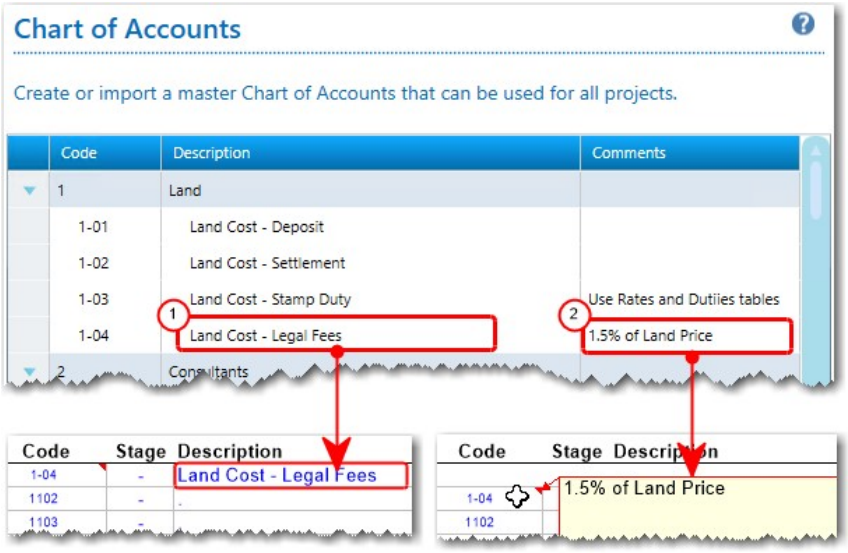
Disabling the Popup Picklist

If you do not wish to have the picklist automatically appear when you select a 'Code' or 'Description', you can deselect the 'Display Popup Picklist' setting.

If the Chart of Accounts have been configured, but the popup picklist has been disabled, the behaviour of 'Code' or 'Description' fields when they are manually updated by the user, will still remain (e.g. if you manually type in a Code that exists in the Chart of Accounts list, the 'Description' input field will be automatically populated , and vice versa).

Comments

Once a Cost Code and Description has been applied to a line item using either of the options above, the application will then automatically insert a cell comment (red indicator in the corner of the cell) in the 'Code' input field with the Comment set in the Chart of Accounts for that specific code (if it exists), overriding any existing cell comments that may already be in that input field. The comment will appear when the user hovers over the red indicator.



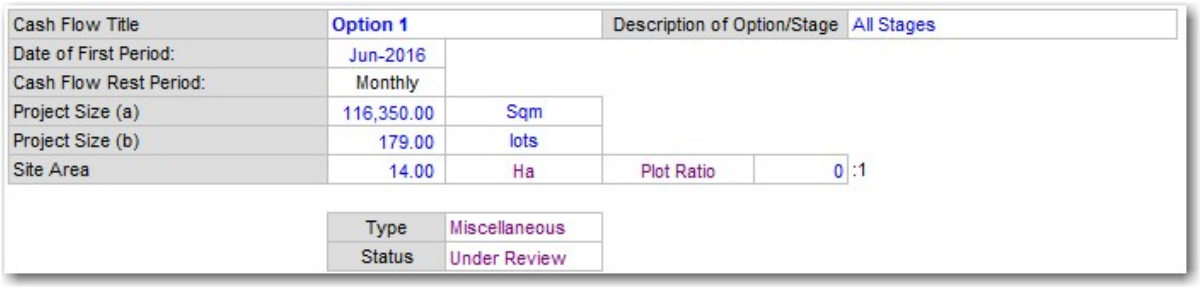
Locked Fields

This functionality will behave differently in the following scenarios:

- The pop-up list will only appear if the active Code or Description input cell is unlocked/editable.
- If the selected Code or Description input cell has been locked, due to Input Cell Protection via the Preferences, the pop-up list will not appear.
- If the selected Code input cell is unlocked/editable, and a Cost Code is selected via a double-click in the pop-up list:
  - The active Code input cell will be updated
  - If the related Description cell is:
    - Unlocked/editable, the Description will be updated.
    - Read-only (i.e a default label, not an actual input field), the Description will not be updated.
    - Locked, due to Input Cell Protection, the Description will not be updated.
- If the selected Description input cell is unlocked/editable, and a Cost Code is selected via a double-click in the pop-up list:
  - The active Description input cell will be updated

- If the related Code cell is:
  - Unlocked/editable, the Code will be updated.
  - Locked, due to Input Cell Protection, the Code will not be updated.

6.5 Preliminary



Cash Flow Title (Mandatory) — Enter the name of the project that the property belongs to. 'Project' may be interpreted as a 'development project', an 'investment project, a 'valuation project', etc.

Description/Option/Scenario (Mandatory) — Enter the description of the option, scenario or stage of the development.

Date of First Period (Mandatory) — Enter the date of the first period in the cash flow. The first period is time period Zero (0).

Cash Flow Rest Period — The cash flow rest period (monthly, quarterly, half-yearly or yearly) is set using the Preferences.

Enter Project Size (Optional) — Project size relates to the size of the developable area, land area, gross building area, net lettable area, gross floor area or number of lots, dwellings, apartments, etc. You may enter any type of measurement to summarise the development. These do not affect the cash flow and are only used for reporting purposes on the' Summary' sheet.

Enter Site Area (Optional) — Enter the land area based on the units of measurement in the list selection (purple font cell).

Floor Area Ratio (Optional) — Select from the list the appropriate terminology to be used for a floor area ratio and then enter the ratio to calculate a Gross Floor Area from the given Site Area.

Type (Optional) — Nominate the type of development from the list selection (purple font cell). This is useful for distinguishing different development options.

Status (Optional) — Nominate the status of the project to identify at what stage of the analysis it is at.

6.6 Taxation (GST,VAT,etc)

The options for GST/VAT are set using the Preferences.

Tax Liability Calculation Method

The program allows for 4 calculation methods:

- **AUTO - General Tax Rule:** The program automatically calculates the GST/VAT liabilities and credits depending on what the user entered into the GST/VAT cell for each cost and revenue line item.
- **Margin Scheme with Valuation (GST Model Only):** The user is prompted to enter the margin value for the calculation of the GST liability. The program will then automatically calculate the GST liabilities and credits depending on what the user entered into the GST cell for each cost and revenue line item.
- **Margin Scheme with % Cost Completed 1-7-2000:** Based on the user's inputs in the cost sections, the model will determine by default the % of costs that have been incurred before 1-7-2000. It then applies the Margin Scheme with Valuation calculation to determine input credits and liabilities.
- **Manual Input of Liability:** The program automatically calculates the GST/VAT credits depending on what the user entered into the GST/VAT cell for each cost line item, but the user must manually input the lump sum liability with start and span dates.

Tax Rates

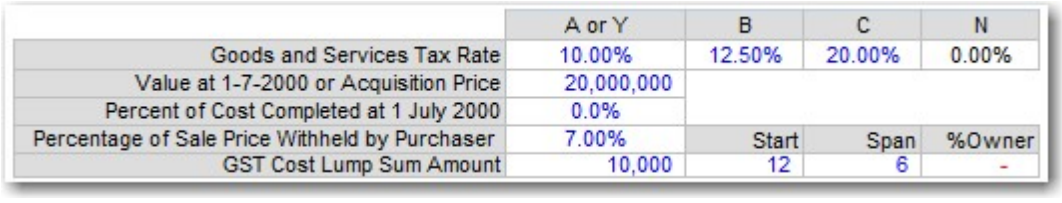
The program allows for up to 3 different default GST/VAT rates. In the GST/VAT cell for each line item, the user may enter:

- **A, B or C:** To correspond with the different default rates entered (if Multiple Rate option is selected in the Preferences).
- **Y or N:** Y will implement the rate entered in the GST/VAT rate cell of the Input Sheet and N will be 0%.
- **%:** If a user requires a GST/VAT rate that is not in either A, B or C, then they may enter the rate manually as a percentage in the GST/VAT cell for any line item.

Timing

The Preferences can also allow the user to nominate the delay between expenditure of costs and the reimbursement of the GST/VAT credits and the delay between receipt of revenues and the payment of the GST/VAT liabilities for the developer and land owner (in a joint venture model), such as:

- Reclaimed/Paid in the same month, 1 month or 2 months later.
- Reclaimed/Paid bi-monthly or quarterly.
- Reclaims offset against the GST/VAT liability at sale.
- Calculated but not reclaimed in the cash flow (input credits only).



	A or Y	B	C	N
Goods and Services Tax Rate	10.00%	12.50%	20.00%	0.00%
Value at 1-7-2000 or Acquisition Price	20,000,000			
Percent of Cost Completed at 1 July 2000	0.0%			
Percentage of Sale Price Withheld by Purchaser	7.00%	Start	Span	%Owner
GST Cost Lump Sum Amount	10,000	12	6	-

Tax Rate (Optional)

The program allows for up to 3 different default GST/VAT rates. In the GST/VAT cell for each line item, the user may enter:

- **A**, **B** or **C**: To correspond with the different default rates entered (if Multiple Rate option is selected in the Preferences).

- **Y** or **N**: Y will implement the rate entered in the GST/VAT rate cell of the Input Sheet and N will be 0%.
- %: If a user requires a GST/VAT rate that is not in either A, B or C, then they may enter the rate manually as a percentage in the GST/VAT cell for any line item.

Value at 1-7-2000 or Acquisition Price (Optional)

You may enter either a valuation figure or leave the default formula in the cell, which is the maximum of land purchase price or costs spent up to the GST commencement Date (1/7/2000).

This is only relevant if the 'Margin Scheme with Valuation' option is selected in the Preferences.

Percent of Cost Completed at 1st July 2000 (Optional)

You may enter either a percentage or leave the default formula in the cell. The default is based on the user's inputs in the cost sections and the % of costs that have been incurred before 1-7-2000. It then applies the Margin Scheme with Valuation calculation to determine input credits and liabilities.

This is only relevant if the 'Margin Scheme with % Cost Completed 1-7-2000' option is selected in the Preferences.

Percentage of Sale Price Withheld by Purchaser (Optional)

When the Margin Scheme 'Margin Scheme' Tax Liability Calculation Type is adopted, enter the default percentage of the Sale Price that is intitially withheld by the Purchaser at settlement.

This will be applied to all Sales line items where 'Y' has been set for the 'Withheld by Purchaser' input.

GST	
Included on Sales	Withheld by Purchaser
Y	Y
Y	Y
Y	N
Y	N

Note: This will not change the total Tax Liability that is calculated on a Margin Scheme basis:

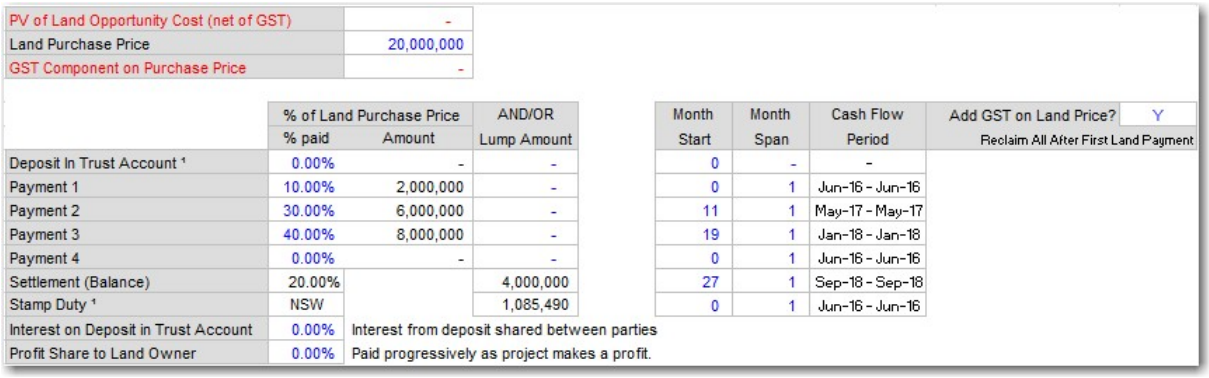
- If the Margin Scheme logic calculates a tax rate that is lower than this default percentage rate (i.e. the purchaser has withheld/remitted a tax amount that is higher than the eventual tax liability on a Sale line item), the developer will receive a credit for the difference.
- If the Margin Scheme logic calculates a tax rate that is higher than this default percentage rate (i.e. the purchaser has withheld/remitted a tax amount that is lower than the eventual tax liability on a Sale line item), the developer will have an additional tax liability for the difference.

Lump Sum Amount (Optional)

The program automatically calculates the GST/VAT credits depending on what the user entered into the GST/VAT cell for each cost line item, but the user must manually input the lump sum liability with start and span dates.

This is only relevant if the 'Manual Input of Liability' option is selected in the Preferences.

6.7 Land Purchase and Acquisition Costs



PV of Land Opportunity Cost (net of GST)	-
Land Purchase Price	20,000,000
GST Component on Purchase Price	-

	% of Land Purchase Price		AND/OR	Month	Month	Cash Flow	Add GST on Land Price? Y
	% paid	Amount	Lump Amount	Start	Span	Period	Reclaim All After First Land Payment
Deposit In Trust Account [1]	0.00%	-	-	0	-	-	
Payment 1	10.00%	2,000,000	-	0	1	Jun-16 - Jun-16	
Payment 2	30.00%	6,000,000	-	11	1	May-17 - May-17	
Payment 3	40.00%	8,000,000	-	19	1	Jan-18 - Jan-18	
Payment 4	0.00%	-	-	0	1	Jun-16 - Jun-16	
Settlement (Balance)	20.00%		4,000,000	27	1	Sep-18 - Sep-18	
Stamp Duty [1]	NSW		1,085,490	0	1	Jun-16 - Jun-16	
Interest on Deposit in Trust Account	0.00%	Interest from deposit shared between parties					
Profit Share to Land Owner	0.00%	Paid progressively as project makes a profit.					

PV of Land Opportunity Cost (Optional)

This cell is only relevant for joint venture models to calculate returns to the Land Owner. This cell is used to benchmark the performance of the Joint venture in relation to the land contributed by the land owner.

This is only relevant if the 'Joint Venture' option is selected in the Preferences.

Land Purchase Price (Optional)

Input the land purchase price in the second input item. It is not necessary to input a land purchase price if you are trying to determine the residual land value of the development, you will however need to input settlement dates for the residual land value to be calculated at.

GST Component on Purchase Price (Optional)

Represents the Vendor's GST liability when using the Margin Scheme method.

This is only relevant if the 'Joint Venture' and 'GST Margin Scheme' options are selected in the Preferences

Deposit and Payments (Optional)

You can stage your land acquisition payments - deposit plus multiple staged payments either as a percentage and/or an amount. Each payment is a transfer of funds from the Developer to the Land Owner. Note that Deposit in a trust account is different from a payment because the land owner does not receive it until settlement or the first payment date.

Stamp Duty (Optional)

The automatic stamp duty is calculated for the total purchase price. An option in the Preferences is available to select whether stamp duty is calculated on the land including or excluding GST/VAT. You will need to input the start and span dates for the payment of stamp duty.

If several acquisitions are involved then you should set the automatic stamp duty to NIL and manually calculate each stamp duty payment and enter them in 'Other Acquisition Costs'.

Interest on Deposit in Trust Account (Optional)

Interest may be earned on that deposit during the time it sits in the trust account and the interest is divided evenly between the seller (Land Owner) and the buyer (Developer). Both the deposit percentage and interest on deposit are optional inputs.

Profit Share to Land Owner (Optional)

You can also nominate a percentage of your development profit to be paid to the land owner at the completion of the project, irrespective if you a modelling a joint venture or not. By entering a

percentage for profit share, it will impact your performance indicators and risk assessment, depending on what option you nominate in the Preferences for the calculation of Development Profit - Gross (before profit share) or Net (after profit share).

Other Acquisition Costs

Other Acquisition Costs	% of Land Price inc Tax		AND/OR	Month	Month	Cash Flow	Add GST
	% paid	Amount	Lump Amount	Start	Span	Period	
Legals	1.00%	200,000	-	L	-	Jun-16 - Sep-18	Y
Valuation	0.00%	-	55,000	1	1	Jul-16 - Jul-16	Y
.	0.00%	-	-	0	-	-	Y
.	0.00%	-	-	0	-	-	Y
.	0.00%	-	-	0	-	-	Y

% Paid and **Lump Amount** (Optional)

For other acquisition costs, such as legal fees, survey costs, etc, you may elect to either enter:

- A percentage of the land's purchase price, and/or
- A lump sum amount.

If entering a % of the land price and running the model in either GST or VAT mode then:

- The cost will be based on the land price excluding GST/VAT when using the General Tax Rule.
- The cost will be based on the land price including GST when using the Margin Scheme (GST Mode only).

Start and **Span** (Mandatory)

For each item's Start and Span, you have the following options:

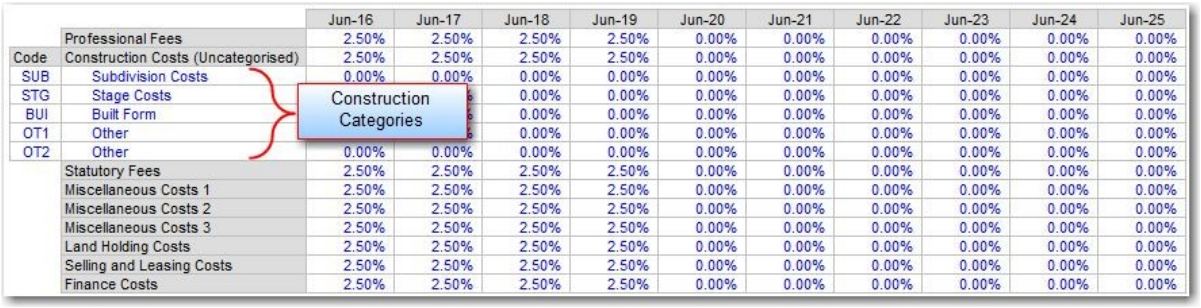
- Enter a number to nominate the start and span manually, or
- Enter "**L**" as the start date to have the cost paid pro-rata with land payments. If "L" is chosen, the span date is ignored.

GST/VAT (Optional)

Select "Y" or "A", "B", or "C" in the GST/VAT column if the cost is GST/VAT inclusive and the developer or JV will claim a percentage of the cost as an input credit.

- If the header shows 'Add GST/VAT' the model will automatically escalate the cost entered to include tax in the cash flow and reclaim tax credits.
- If the header shows 'GST/VAT Included', then the model will only reclaim tax credits based on the cost amount entered.

6.8 Cost Escalation Rates



Code		Jun-16	Jun-17	Jun-18	Jun-19	Jun-20	Jun-21	Jun-22	Jun-23	Jun-24	Jun-25
	Professional Fees	2.50%	2.50%	2.50%	2.50%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Code	Construction Costs (Uncategorised)	2.50%	2.50%	2.50%	2.50%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
SUB	Subdivision Costs	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
STG	Stage Costs			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
BUI	Built Form			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
OT1	Other			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
OT2	Other	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	Statutory Fees	2.50%	2.50%	2.50%	2.50%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	Miscellaneous Costs 1	2.50%	2.50%	2.50%	2.50%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	Miscellaneous Costs 2	2.50%	2.50%	2.50%	2.50%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	Miscellaneous Costs 3	2.50%	2.50%	2.50%	2.50%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	Land Holding Costs	2.50%	2.50%	2.50%	2.50%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	Selling and Leasing Costs	2.50%	2.50%	2.50%	2.50%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	Finance Costs	2.50%	2.50%	2.50%	2.50%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Escalation Rates can be defined for different categories of costs in the escalation table. Escalation rates can be set up in different ways:

- Either on a **Periodic Compounded Escalation** basis (e.g. 5% per annum, which equates to 0.41% compounded monthly) or **Annual Stepped Escalation** basis (e.g. 5% per month for the year).
  - Either by **Cash Flow Period Years** or **Financial Years.**
  - As a **Positive** (inflation) or **negative** (deflation) percentage.

Please note, when entering a cost that is a percentage of another cost item, it will be a percentage of the total escalated cost. Therefore, by entering an escalation for that cost item, it will be 'double escalated'.

Please refer to the Preferences on configuring the different escalation options.

Construction Cost Types

In the Cost Escalation table, there is provision to further classify Construction Costs into 5 separate categories. These categories can be manually defined by the user by setting a 3 character code and a short description. Apart from being able to define specific escalation rates for each category, the user can then defined each Construction Cost lines item to that category for reporting purposes.

Description	Cost Type
Subdivision	SUB
Construction Contract	BUI

Application of Escalation Rates for Costs

The method of application of escalation can vary for each cost item. Below is the method of applying escalation rates.

- **E** = Escalates the cost to its start date;
- **R** = Escalates the cost to its start date and continues the escalation through the span period; and
- **N** = Does not apply escalation (this is the default if you leave the escalation input blank).

Escalation Examples

Say there is a $60,000 cost that starts in month 4 and has a 6 month duration and escalates 5% per annum. Using the different methods of escalation, the following cash flows would be created:

Current Amount	Month Start	Month Span	Current Amount (per Month)
60,000	4	6	10,000

Month 0	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9
5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Escalation Factor Compounded Monthly (= Previous Months Escalation Factor x $(1+5\%)^{(1/12)}$)									
100.00%	100.41%	100.82%	101.23%	101.64%	102.05%	102.47%	102.89%	103.31%	103.73%

Code	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Total
N	10,000	10,000	10,000	10,000	10,000	10,000	**60,000**
E	10,164	10,164	10,164	10,164	10,164	10,164	**60,984**
R	10,164	10,205	10,247	10,289	10,331	10,373	**61,608**

- When "E" is selected, the Month 4 Escalation Factor (101.64%) is applied to the non-escalated amount per month (10,000) for the entire span.
- When "R" is selected, the Month 4 - 9 Escalation Factors are applied to the non-escalated monthly amount (10,000) for that specific month.

6.9 Project Contingency

In this item you may put in a project contingency factor (or project reserve) as an amount and/or a percentage of development costs (inclusive of any GST/VAT), which are defined as:

- Professional Fees
- Construction Costs
- Statutory Fees
- Miscellaneous Costs 1, 2 and 3
- PreSale Commissions (reported as a project cost).

This contingency cost is automatically paid pro-rata with the aforementioned development costs.

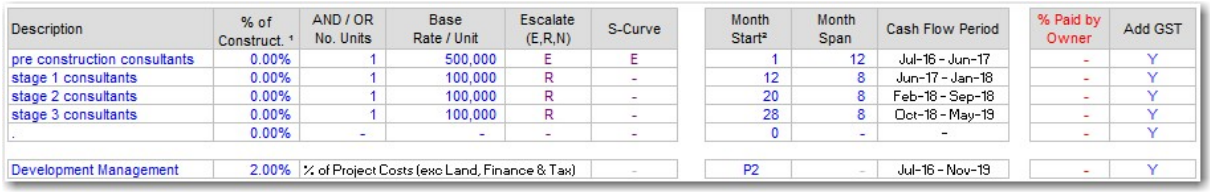
GST/VAT on Project Contingency

There is no separate input for nominating whether GST/VAT is applied to Project Contingency - it is dependant on the costs that are a part of Project Contingency and whether they have GST/VAT on them.

Since Project Contingency is based on various project costs, and all those costs may not necessarily always have GST/VAT on them, it gets the weighted average GST/VAT rate on all those items to forecast the GST/VAT on Project Contingency.

For example, if the base GST/VAT rate was 10% and if half of the cost items excluded GST/VAT, then a background calculation will determine that the weighted average GST/VAT rate to apply to the Project Contingency is actually 5% (1/2 x 10%).

6.10 Professional Fees



Description	% of Construct. [1]	AND / OR No. Units	Base Rate / Unit	Escalate (E,R,N)	S-Curve	Month Start[2]	Month Span	Cash Flow Period	% Paid by Owner	Add GST
pre construction consultants	0.00%	1	500,000	E	E	1	12	Jul-16 - Jun-17	-	Y
stage 1 consultants	0.00%	1	100,000	R	-	12	8	Jun-17 - Jan-18	-	Y
stage 2 consultants	0.00%	1	100,000	R	-	20	8	Feb-18 - Sep-18	-	Y
stage 3 consultants	0.00%	1	100,000	R	-	28	8	Oct-18 - May-19	-	Y
.	0.00%	-	-	-	-	0	-	-	-	Y
Development Management	2.00%	% of Project Costs (exc Land, Finance & Tax)			-	P2	-	Jul-16 - Nov-19	-	Y

% of Construction and/or Amount (Mandatory)

For each cost item it is mandatory to input:

- A percentage of total construction cost (excluding GST/VAT if applicable), and/or
- The number of units (e.g sqm) and base rate per unit (e.g $/sqm).

If you do not input a number in the 'number of units' cell, the program will interpret the number as being zero (0) and consequently the cost will not be included in the cash flow. If you choose to enter the cost as a % of another cost this will not apply.

Escalation (Optional)

You may elect to apply escalation on any cost items.

- Enter "**E**" to escalate to start, or
- Enter "**R**" to escalate to start and continue escalation through span period, or
- Leave blank or enter "**N**" to assume the cost is fixed, hence no escalation.

S-Curve (Optional)

You may elect to span the cost payments evenly through the span period or apply a cumulative S-shape curve.

- Leave blank or enter "**E**" to evenly spread the cost, or
- Enter one of the codes (**S**, **S1** to **S10**) for the 11 client customisable S-Curves. You can modify the S-curve profiles in the 'Profiles' tab.

Start and **Span** (Mandatory)

For each item's Start and Span, you have the following options:

- Enter a number to nominate the start and span manually, or
- Enter "**C**" as the start date to have the cost paid pro-rata with construction costs. If "C" is chosen, the span date is ignored.

% Paid by Land Owner (JV mode only)

You may elect a percentage of the cost item to be paid for by the Land Owner if you are modelling a joint venture arrangement.

GST/VAT (Optional)

Select "Y" or "A", "B", or "C" in the GST/VAT column if the cost is GST/VAT inclusive and the developer or JV will claim a percentage of the cost as an input credit.

- If the header shows 'Add GST/VAT' the model will automatically escalate the cost entered to include tax in the cash flow and reclaim tax credits.
- If the header shows 'GST/VAT Included', then the model will only reclaim tax credits based on the cost amount entered.

Development Management Fee (Optional)

Scroll down the last professional fee item to input a percentage for Development Management. Using the Preferences, you can change the fee to be expressed as a percentage of either:

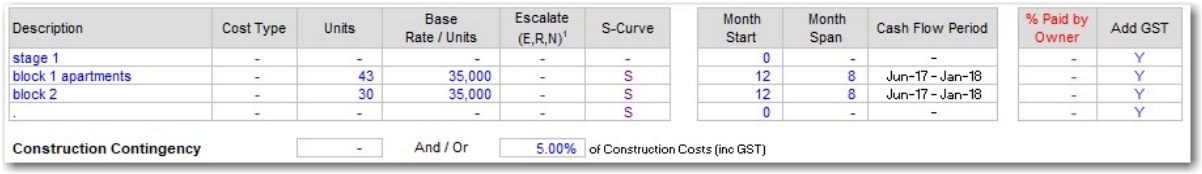
- Total Gross Sales Revenue,
- Total Net Sales Revenue (Gross Sales *less* Selling Costs),
- Total Project Costs including Land, or
- Total Project Costs excluding Land.

- Project costs exclude finance costs and GST/VAT if applicable.

The Development Management Fee can also be spread in the cash flow in five different ways:

- Enter a start and span period manually.
- Enter "**C**" as the start date to have the cost paid pro-rata with Construction Costs.
- Enter "**P1**" as the start date to have the cost paid pro-rata with Project Costs (inc Land).
- Enter "**P2**" as the start date to have the cost paid pro-rata with Project Costs (exc Land).
- Enter "**S**" as the start date to have the cost paid pro-rata with Sales Settlements.

6.11 Construction Costs



Description	Cost Type	Units	Base Rate / Units	Escalate (E,R,N)[1]	S-Curve	Month Start	Month Span	Cash Flow Period	% Paid by Owner	Add GST
stage 1	-	-	-	-	-	0	-	-	-	Y
block 1 apartments	-	43	35,000	-	S	12	8	Jun-17 - Jan-18	-	Y
block 2	-	30	35,000	-	S	12	8	Jun-17 - Jan-18	-	Y
.	-	-	-	-	S	0	-	-	-	Y

Construction Contingency - And / Or 5.00% of Construction Costs (inc GST)

Cost Type (Optional)

Enter the relevant Code defined in the Construction Cost Type section. This will categorise the Construction Costs and report them appropriately on the Summary Report. It also allows the user to apply different escalation rates to different components of construction.

Leave blank or enter in 0 (Zero) if you do not wish to allocate this item to any specific cost type.

Amount and **Start** and **Span** (Mandatory)

For each cost item it is mandatory to input:

- The number of units (e.g sqm) and base rate per unit (e.g $/sqm), and
- The start and span periods.

If any of the above are entered as zero (0), then the program will not include the cost in the cash flow.

Escalation (Optional)

You may elect to apply escalation on any cost items.

- Enter "**E**" to escalate to start, or
- Enter "**R**" to escalate to start and continue escalation through span period, or
- Leave blank or enter "**N**" to assume the cost is fixed, hence no escalation.

S-Curve (Optional)

You may elect to span the cost payments evenly through the span period or apply a cumulative S-shape curve.

- Leave blank or enter "**E**" to evenly spread the cost, or
- Enter one of the codes (**S**, **S1** to **S10**) for the 11 client customisable S-Curves. You can modify the S-curve profiles in the 'Profiles' tab.

Start and Span (Mandatory)

For each item, you must enter the start and span periods. If the span periods is zero (0) then the program will not include the cost in the cash flow.

% Paid by Land Owner (JV mode only)

You may elect a percentage of the cost item to be paid for by the Land Owner if you are modelling a joint venture arrangement.

GST/VAT (Optional)

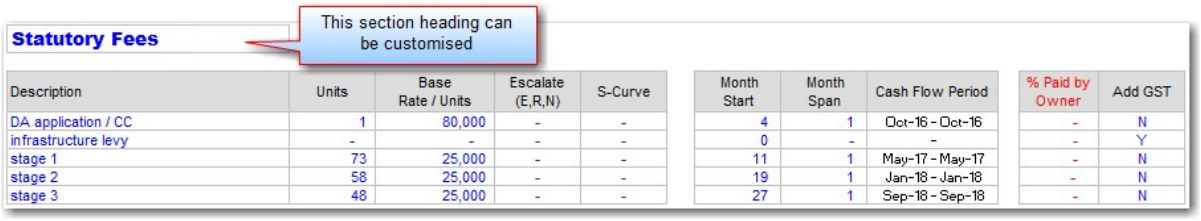
Select "Y" or "A", "B", or "C" in the GST/VAT column if the cost is GST/VAT inclusive and the developer or JV will claim a percentage of the cost as an input credit.

- If the header shows 'Add GST/VAT' the model will automatically escalate the cost entered to include tax in the cash flow and reclaim tax credits.
- If the header shows 'GST/VAT Included', then the model will only reclaim tax credits based on the cost amount entered.

Construction Contingency (Optional)

Scroll down the last construction cost item to input a percentage for Construction Contingency (optional) as an amount and/or a percentage of construction costs (inclusive of any GST/VAT if applicable). This cost is automatically paid pro-rata with the construction costs.

6.12 Statutory Fees and Contributions



Description	Units	Base Rate / Units	Escalate (E,R,N)	S-Curve	Month Start	Month Span	Cash Flow Period	% Paid by Owner	Add GST
DA application / CC	1	80,000	-	-	4	1	Oct-16 - Oct-16	-	N
infrastructure levy	-	-	-	-	0	-	-	-	Y
stage 1	73	25,000	-	-	11	1	May-17 - May-17	-	N
stage 2	58	25,000	-	-	19	1	Jan-18 - Jan-18	-	N
stage 3	48	25,000	-	-	27	1	Sep-18 - Sep-18	-	N

Amount and **Start** and **Span** (Mandatory)

For each cost item it is mandatory to input:

- The number of units (e.g sqm) and base rate per unit (e.g $/sqm), and
- The start and span periods.

If any of the above are entered as zero (0), then the program will not include the cost in the cash flow.

Escalation (Optional)

You may elect to apply escalation on any cost items.

- Enter "**E**" to escalate to start, or
- Enter "**R**" to escalate to start and continue escalation through span period, or
- Leave blank or enter "**N**" to assume the cost is fixed, hence no escalation.

S-Curve (Optional)

You may elect to span the cost payments evenly through the span period or apply a cumulative S-shape curve.

- Leave blank or enter "**E**" to evenly spread the cost, or
- Enter one of the codes (**S**, **S1** to **S10**) for the 11 client customisable S-Curves. You can modify the S-curve profiles in the 'Profiles' tab.

Start and Span (Mandatory)

For each item, you must enter the start and span periods. If the span periods is zero (0) then the program will not include the cost in the cash flow.

% Paid by Land Owner (JV mode only)

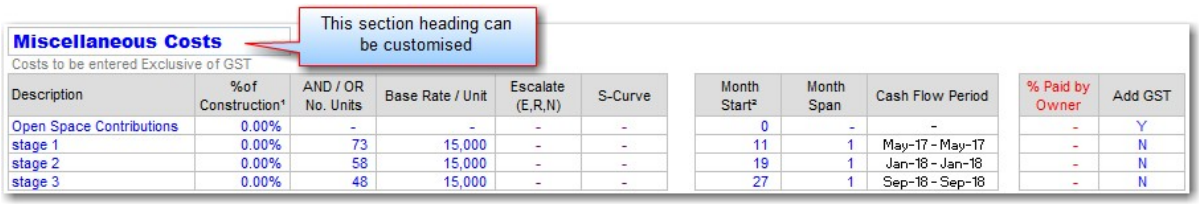
You may elect a percentage of the cost item to be paid for by the Land Owner if you are modelling a joint venture arrangement.

GST/VAT (Optional)

Select "Y" or "A", "B", or "C" in the GST/VAT column if the cost is GST/VAT inclusive and the developer or JV will claim a percentage of the cost as an input credit.

- If the header shows 'Add GST/VAT' the model will automatically escalate the cost entered to include tax in the cash flow and reclaim tax credits.
- If the header shows 'GST/VAT Included', then the model will only reclaim tax credits based on the cost amount entered.

6.13 Miscellaneous Costs



Miscellaneous Costs

Costs to be entered Exclusive of GST

Description	%of Construction[1]	AND / OR No. Units	Base Rate / Unit	Escalate (E,R,N)	S-Curve	Month Start[2]	Month Span	Cash Flow Period	% Paid by Owner	Add GST
Open Space Contributions	0.00%	-	-	-	-	0	-	-	-	Y
stage 1	0.00%	73	15,000	-	-	11	1	May-17 - May-17	-	N
stage 2	0.00%	58	15,000	-	-	19	1	Jan-18 - Jan-18	-	N
stage 3	0.00%	48	15,000	-	-	27	1	Sep-18 - Sep-18	-	N

There are 3 miscellaneous sections. The title to these sections may be changed to suit the user's requirements. All references to these sections in other areas of the program will be changed automatically (ie. 'Summary' sheet, Cash Flow, etc).

% and/or Amount (Mandatory)

For each cost item it is mandatory to input:

- A percentage (based on the options below), and/or
- The number of units (e.g sqm) and base rate per unit (e.g $/sqm).

The percentage basis is selected via an option in the Preferences, and can be different for each Miscellaneous Cost section.

Escalation (Optional)

You may elect to apply escalation on any cost items.

- Enter "**E**" to escalate to start, or
- Enter "**R**" to escalate to start and continue escalation through span period, or
- Leave blank or enter "**N**" to assume the cost is fixed, hence no escalation.

S-Curve (Optional)

You may elect to span the cost payments evenly through the span period or apply a cumulative S-shape curve.

- Leave blank or enter "**E**" to evenly spread the cost, or
- Enter one of the codes (**S**, **S1** to **S10**) for the 11 client customisable S-Curves. You can modify the S-curve profiles in the 'Profiles' tab.

Start and **Span** (Mandatory)

For each item's Start and Span, you have the following options:

- Enter a number to nominate the start and span manually, or
- Enter "**C**" as the start date to have the cost paid pro-rata with construction costs, or
- Enter "**S**" to have the cost paid pro-rata with sales settlements.

If "C" or "S" is chosen, the span date is ignored.

% Paid by Land Owner (JV mode only)

You may elect a percentage of the cost item to be paid for by the Land Owner if you are modelling a joint venture arrangement.

GST/VAT (Optional)

Select "Y" or "A", "B", or "C" in the GST/VAT column if the cost is GST/VAT inclusive and the developer or JV will claim a percentage of the cost as an input credit.

- If the header shows 'Add GST/VAT' the model will automatically escalate the cost entered to include tax in the cash flow and reclaim tax credits.
- If the header shows 'GST/VAT Included', then the model will only reclaim tax credits based on the cost amount entered.

6.14 Land Holding Costs

Description	No. Units	Base Rate /unit/term	Term [1]	Escalate (E,R,N)	Month Start	Month Span[2]	Cash Flow Period	% Paid by Owner	Add GST
Rates and taxes	-	-	Y	-	0	-	-	-	Y
stage 1	73	190	Q	E	2	DS	Aug-16 - Jan-20	-	N
stage 2	58	190	Q	E	2	DS	Aug-16 - Jan-20	-	N
stage 3	48	190	Q	E	2	DS	Aug-16 - Jan-20	-	N

Amount (Mandatory)

For each cost item it is mandatory to input:

- The number of units (e.g sqm), and
- Base rate per unit per term (e.g $/sqm/month), where the term is identified in the following input column.

If any of the above are entered as zero (0), then the program will not include the cost in the cash flow.

Term (Mandatory)

This is the payment frequency for the nominated amount:

- **M** = Monthly
- **BM** = Bi-Monthly
- **Q** = Quarterly
- **BA** = Bi-Annually
- **Y** = Yearly

Escalation (Optional)

You may elect to apply escalation on any cost items.

- Enter "**E**" to escalate to start, or
- Enter "**R**" to escalate to start and continue escalation through span period, or
- Leave blank or enter "**N**" to assume the cost is fixed, hence no escalation.

Start and **Span** (Mandatory)

For each item, you must enter the start and span periods. In the case of the span period you may elect to input a number span or the letters DS or DR.

- **DS** = The span period will indicate to the model that you would like to diminish the land holding costs proportionally with sales.
- **DR** = The span period will indicate to the model that you would like to diminish the land holding costs proportionally with the take-up of leases/rental income.

% Paid by Land Owner (JV mode only)

You may elect a percentage of the cost item to be paid for by the Land Owner if you are modelling a joint venture arrangement.

GST/VAT (Optional)

Select "Y" or "A", "B", or "C" in the GST/VAT column if the cost is GST/VAT inclusive and the developer or JV will claim a percentage of the cost as an input credit.

- If the header shows 'Add GST/VAT' the model will automatically escalate the cost entered to include tax in the cash flow and reclaim tax credits.
- If the header shows 'GST/VAT Included', then the model will only reclaim tax credits based on the cost amount entered.

6.15 Revenue Escalation Rates

Code	Category	Jun-16	Jun-17	Jun-18	Jun-19	Jun-20	Jun-21	Jun-22	Jun-23	Jun-24	Jun-25
RS1	Residential - 1 Bedroom Units	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
RS2	Residential - 2 Bedroom Units	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
RS3	Residential - 3 Bedroom Units	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
RDD	Detached Dwellings Lots	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
RTH	Townhouse Lots	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
COM	Commerical Office	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
RET	Retail Shops	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
IND	Industrial Units	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
STW	Storage & Warehousing	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%
OTH	Other	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%	2.50%

Escalation Rates can be defined for different categories of sales and rental revenue in the escalation table. Escalation rates can be set up in different ways:

- Either on a **Periodic Compounded Escalation** basis (e.g. 5% per annum, which equates to 0.41% compounded monthly) or **Annual Stepped Escalation** basis (e.g. 5% per month for the year).
  - Either by **Cash Flow Period Years** or **Financial Years.**
  - As a **Positive** (inflation) or **negative** (deflation) percentage.

Please refer to the Preferences on configuring the different escalation options.

Escalation Rates

For each relevant category you may enter up to 10 years of escalation rates.

- **For Sales:** Escalation rates apply to end sale values from the first escalation month. Where the user has assumed pre-sales, escalation applies up to the exchange dates, otherwise it applies up to the settlement dates.
- **For Rents (Pre Lease)**: Escalation rates apply to rental values from the first escalation month up to the lease start date. For escalation on rents during the lease period, refer to the rent review table in the Rental input section.

Where the **first escalation month** is identified as the first month in the escalation table, and may changing depending on the preference to set escalation based on Cash Flow Period Years or Financial Years.

Code and Category

You have ability to define your own property categories (eg. "Residential") and codes (eg. "RS") for multiple escalation rates. There are 10 different property categories that can all have different escalation rates; the code for each property category is defined by the user (1-3 character length allowed). Negative escalation rates can be inputted.

6.16 Selling Costs

	Sales Commission	Sales Comm[1]	% of Comm. Pre-sales[2]	Deposits (% of Price)[3]	% Paid by Owner	Add GST
RS1	Residential - 1 Bedroom Units	2.25%	50.00%	10.00%	-	Y
RS2	Residential - 2 Bedroom Units	2.25%	50.00%	10.00%	-	Y
RS3	Residential - 3 Bedroom Units	2.25%	50.00%	10.00%	-	Y
RDD	Detached Dwelllings Lots	0.00%	0.00%	0.00%	-	Y
RTH	Townhouse Lots	0.00%	0.00%	0.00%	-	Y
COM	Commerical Office	0.00%	0.00%	0.00%	-	Y
RET	Retail Shops	0.00%	0.00%	0.00%	-	Y
IND	Industrial Units	0.00%	0.00%	0.00%	-	Y
STW	Storage & Warehousing	0.00%	0.00%	0.00%	-	Y
OTH	Other	0.00%	0.00%	0.00%	-	Y

Pre-sale Comm are reported as a	Project Cost
Interest Rate on Deposits Invested in Trust Account	5.00%
% of Interest retained by Developer upon Settlement	50.00%

Sales Commission (Optional)

For each relevant category you may enter sales commission. The first input column refers to sales commission as a percentage of End Sale Values that can be applied to:

- Revenue items in the 'Sales' input section.
- Capitalised Sales entered in the 'Tenants' section.

Select via the Preferences whether it the rate is applied to:

- Gross Sale Values (i.e sales price inclusive of any GST/VAT/Sales Tax)
- Net Sale Values (i.e sales price exclusive of any GST/VAT/Sales Tax)

% of Commission at Pre-Sale (Optional)

The second input column (green font) is only relevant for pre-sales and refers to the proportion of sales commission that is paid at

exchange date (date of pre-sale). Typically selling agents require a proportion of their commission to be paid on exchange of contracts.

Deposit (Optional)

The third input column (green font) is only relevant for pre-sales and refers to the size of the deposits to be met by the end buyers. The model assumes that all pre-sale deposits are deposited in trust until settlement.

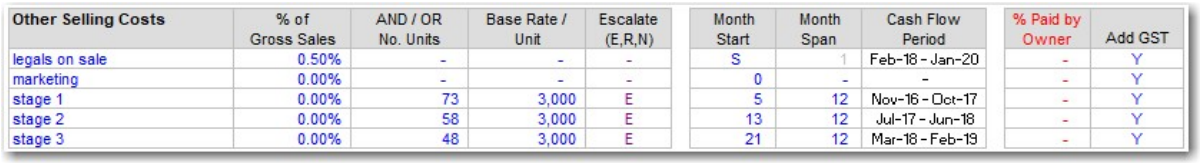
In addition to setting the deposit amount, you can nominate:

- Any interest earned on the deposit. The interest on deposits is calculated from the middle of the exchange period to the middle of the settlement period and spread evenly through the settlement period.
- The proportional split of the interest earned between the buyers and the seller (developer). By inputting 100% the developer would retain all the interest earned on the deposit. Typically contracts specify a 50:50 split.

Report Pre-Sale Commissions as Project Cost (Optional)

Select via the Preferences to report all Commissions incurred at time of Exchange as either a positive Project Costs or a negative Revenue. This will impact how the Development Margin is reported, and where other cost items are a % of Project Costs.

Other Selling Costs



Other Selling Costs	% of Gross Sales	AND / OR No. Units	Base Rate / Unit	Escalate (E,R,N)	Month Start	Month Span	Cash Flow Period	% Paid by Owner	Add GST
legals on sale	0.50%	-	-	-	S	1	Feb-18 - Jan-20	-	Y
marketing	0.00%	-	-	-	0	-	-	-	Y
stage 1	0.00%	73	3,000	E	5	12	Nov-16 - Oct-17	-	Y
stage 2	0.00%	58	3,000	E	13	12	Jul-17 - Jun-18	-	Y
stage 3	0.00%	48	3,000	E	21	12	Mar-18 - Feb-19	-	Y

% Paid and/or Amount (Mandatory)

For each selling costs item, such as marketing, advertising, legals etc, it is mandatory to input:

- A percentage of Gross Sale Values (i.e sales price inclusive of any GST/VAT/Sales Tax), and/or
- The number of units (e.g lots) and base rate per unit (e.g $/lot).

Escalation (Optional)

You may elect to apply escalation on any cost items.

- Enter "**E**" to escalate to start, or
- Enter "**R**" to escalate to start and continue escalation through span period, or
- Leave blank or enter "**N**" to assume the cost is fixed, hence no escalation.

Start and **Span** (Mandatory)

For each item, you must enter the start and span periods. In the case of the span period you may elect to input a number span or the letters S or E.

- Enter **"S"** to have the cost paid pro-rata with settlements or instalments (if using the Sales Revenue Collection Profile function), or

- Enter **"E"** to have the cost paid pro-rata with pre-sale exchanges (if used, otherwise it will be highlighted red).

If "S" or "E" is chosen, the span date is ignored.

% Paid by Land Owner (JV mode only)

You may elect a percentage of the cost item to be paid for by the Land Owner if you are modelling a joint venture arrangement.

GST/VAT (Optional)

Select "Y" or "A", "B", or "C" in the GST/VAT column if the cost is GST/VAT inclusive and the developer or JV will claim a percentage of the cost as an input credit.

- If the header shows 'Add GST/VAT' the model will automatically escalate the cost entered to include tax in the cash flow and reclaim tax credits.
- If the header shows 'GST/VAT Included', then the model will only reclaim tax credits based on the cost amount entered.

6.17 Leasing Costs

Other Leasing Costs	% of Gross Rent	AND / OR No. Units	Base Rate / Unit	Escalate (E,R,N)	Month Start	Month Span	Cash Flow Period	% Paid by Owner	Add GST
Management Fees'	5.50%	-	-	-	R	-	Jun-19 - May-20	-	Y
Outgoings	0.00%	1	1,200	-	36	12	Jun-19 - May-20	-	Y
.	0.00%	-	-	-	0	-	-	-	Y
.	0.00%	-	-	-	0	-	-	-	Y

% Paid and/or Amount (Mandatory)

For other leasing costs that are not entered on the Tenants sheet, it is mandatory to input:

- A percentage of Total Gross Rents collected over the nominated lease terms for each Tenant. (i.e total gross rental income received inclusive of any GST/VAT/Sales Tax), and/or
- The number of units (e.g unit) and base rate per unit (e.g $/unit).

Escalation (Optional)

You may elect to apply escalation on any cost items.

- Enter "**E**" to escalate to start, or
- Enter "**R**" to escalate to start and continue escalation through span period, or
- Leave blank or enter "**N**" to assume the cost is fixed, hence no escalation.

Start and Span (Mandatory)

For each item's Start and Span, you have the following options:

- Enter a number to nominate the start and span manually, or
- Enter "**R**" as the start date to have the cost paid pro-rata with rental income. If "R" is chosen, the span date is ignored.

% Paid by Land Owner (JV mode only)

You may elect a percentage of the cost item to be paid for by the Land Owner if you are modelling a joint venture arrangement.

GST/VAT (Optional)

Select "Y" or "A", "B", or "C" in the GST/VAT column if the cost is GST/VAT inclusive and the developer or JV will claim a percentage of the cost as an input credit.

- If the header shows 'Add GST/VAT' the model will automatically escalate the cost entered to include tax in the cash flow and reclaim tax credits.
- If the header shows 'GST/VAT Included', then the model will only reclaim tax credits based on the cost amount entered.

6.18 Tenants

Rental Income

Description	Land Use Code	Units	Total Area SqM	Current Rent /SqM/annum	Outgoings and Vacancies Amount /SqM/annum	% of Rent	Total Per Annum	Pre-Commit Month	Lease Month Start	Lease Month Span	Escalated Rent at Lease Start /SqM/annum
Ground Floor Café	RET	1	167	340	-	5.00%	2,839	-	22	12	340
Ground Floor Office	COM	1	706	340	10	0.00%	7,060	-	22	22	340

Land Use Code (Optional)

By detailing the land use code for a tenant, it will apply the following:

- **Escalation on rental income**, up until the lease start, based on the rates entered for that specific land use in the Revenue Escalation table.
- **Sales Commissions** for capitalised sales, based on the rates entered for that specific land use in the Selling Costs section.

If you neglect to enter a land use code, the rental and capitalised sales revenue will still be calculated, however:

- It will exclude escalations and sales commissions, and
- It will be shown as 'Not Classified' on the Summary Report rather than be grouped under a specific land use type.

Units (Mandatory)

The number of tenancies for that will share the same lease structure.

Total Area (Mandatory)

Enter the total size of tenancy (if multiple 'units' are entered in a line, then this is 'total' size of that quantity of tenancies) based on the unit of measurement from the list selector (purple font) such as number sqm, sqft, etc.

This information is used for further analysis on the Summary, Cash Flow (Stock Summary for Capitalised Sales) and Consolidate Reports (Yield Analysis).

Current Rent (Mandatory)

Enter in the current rent based on the unit of measurement selected and either as a weekly, monthly, or annual rate (chosen from the list selector).

Outgoings and Vacancies (Optional)

You may select outgoing expenses and vacancy allowances either as:

- A lump sum per week/month/annum, and/or
- Percentage of gross rent.

Outgoings and Vacancies are shown as a 'Leasing Cost' in the Summary and Cash Flow reports are paid during the nominated lease start and span.

Pre-Commitment (Optional)

You may enter a lease pre-commitment period that is before the Lease Start month. When adopting a pre-commitment:

- Escalation on rental income will be applied up until the pre-commitment period only.
- A portion of the nominated Letting Fee can be paid at that point in time.

Lease Start and **Span** (Mandatory)

To calculate a rental income stream,enter a lease start date and lease span period. If the span period is zero (0) then the program will not include the rental revenue in the cash flow.

Once the Current Rent and Lease Start is entered, the 'Escalated Rent as at the Lease Start' will be displayed. It is the Current Rent that has been escalated from the Revenue Escalation rates table. To escalate rents once the leases commence, use the Rental Review Escalation table.

Rental Review Escalation Rates by Year (Commence 1 year after Lease Start)									
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10 +
0.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
0.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%

Rental Review Escalation (Optional)

For each tenant you may enter up to 10 years of rental review escalation rates. Escalation rates are applied on the anniversary month (Lease Start month) on a yearly basis (as opposed to cost escalation which is applied on each time period) and commence 1 year after Lease Start (ie the first 12 months of rent are calculated based on the rent value at the lease start date).

Rental Review Escalation is in addition to the Pre-Lease Rental Escalation that is calculated via the land use codes (ie RS1, COM, etc). It allows the user to enter in rent reviews during the lease period, whereas Pre-Lease Rental Escalation applies escalation to the current rent up until the lease start date.

Letting Fee			Incentives			Add GST	
% of Gross Rent	% paid at PreCommit	Total Amount	Rent Free Months	Fit out Cost	Month Start	on Costs	on Rents
5.00%	50.00%	2,839	2	-		N	N
0.00%	0.00%	-	-	50,000	20	N	N

Letting Fee (Optional)

You may enter a letting fee expressed as a percentage of the gross annual rent. It is default to be paid in full at the start of the lease, otherwise you may elect to enter in a percentage that is paid at Pre-Commitment.

Letting Fees are shown as a 'Leasing Cost' in the summary and cash flow reports.

Lease Incentives (Optional)

You may enter leasing incentives as:

- Rent Free Periods (calculated from the lease start date), or
- Fit-out Costs (calculated from the project start date to the start of the lease).

Lease Incentives are shown as a 'Leasing Cost' in the summary and cash flow reports.

GST/VAT on Costs and **Rents** (Optional)

Select "Y" or "A", "B", or "C" in the GST/VAT column if the rents and leasing costs are GST/VAT inclusive and the developer or JV will pay/receive a percentage of the revenue/cost as a tax liability/credit.

- If the header shows 'Add GST/VAT' the model will automatically escalate the rents and/or costs entered to include tax in the cash flow and and reclaim tax credits (costs) or pay liabilities (rents).
- If the header shows 'GST/VAT Included', then the model will only reclaim tax credits or pay liabilities based on the rent and/or cost amount entered.

Capitalised Sales

Residual Cap. Rate	Pre-Sale Exchange Month	Settlement Month	Leasing Up Period		Purchaser's Costs	GST Included on Sales [1]
			Months Vacant	Discount Rate		
6.50%	-	-	6	8.00%	2.75%	N
6.50%	22	27	-	0.00%	0.00%	N

Residual Capitalisation Rate (Optional)

Entering a capitalisation rate credits the project with a terminal or residual value (i.e. sale revenue) at the end of the rental period (lease start plus span) or at the optional Settlement date (which takes precedence over lease start + span).

The Capitalised Value is calculated by the following formula:

Capitalised Value = Net Rental Income / Residual Capitalisation Rate

Where:
Net rental Income = Gross Rental Income less GST/VAT, Outgoings and Vacancies. Letting Fees and Incentives are not capitalised and therefore do not impact then Capitalised Value.
Residual Capitalisation Rate = A capitalisation rate (also now as 'Yield') that has been adopted from comparable evidence and research.

If there no actual rental income to be received by the developer for a specific tenancy (e.g it is not leased out or is sold on completion) and you only want to indicate a capitalised sale, the lease span should be left at ZERO and the capitalised value is calculated at the lease start (unless a Settlement date later than the lease start is entered).

Pre-Sale Exchange (Optional)

You may enter a Pre-Sale Exchange date for capitalised sales. If it is adopted, you should be aware of the following:

- Any revenue escalation selected for that sale item will only apply up to the date of exchange. If no pre-sale date is entered then the escalation rates apply up to the date of settlement (lease start plus span or at the optional Settlement date, whichever is later).

- No capitalised sales revenue is actually collected by the developer until settlement. At pre-sale exchange, any deposit that is paid by the buyer is actually paid into a trust account and is not received by the developer until settlement.
- Any deposits collected and invested in the trust account can earn interest at a user-defined rate.
- The dates entered for the pre-sale exchange will impact the 'Sales Summary' on the Stock Summary report on the Cash Flow sheet.

Settlement (Optional)

This is used to nominate a settlement date (i.e. when the terminal capitalised sale value is accounted for in the cash flow). If this is left as zero, then the end of the lease start and span will be used as the settlement.

You should be aware of the following in relation to settlements:

- If the user has adopted pre-sale exchanges for a sale item and has elected to earn interest on any deposits collected at pre-sale, the interest earned will be apportioned between the developer and purchaser at time of settlement.
- The dates entered for the settlements will impact the 'Handover Summary' on the Stock Summary report on the Cash Flow sheet.

Leasing Up Period / Letting Void (Optional)

This allows the user to make an adjustment to the capitalised end sale value to take into account a known or expected vacancy period. Entering a Leasing Up Period (also known as 'Letting Void') requires two optional inputs:

- **Period Vacant:** Nominate the duration of the letting up (known/expected vacancy) period. The value of that vacancy is then determined by the following formula: Period Vacant x Forecasted Rental Income per Period
- **Discount Rate:** Given that the leasing up period may occur over more than one period, its 'present value' (as at the date of sale) can be calculated by adopting a discount rate.

The escalated end sale value will then be adjusted by the equivalent rental value (discounted by the optional discount rate).

For example: If you were to sell an office building that has a current rental of $100k per annum on a capitalised basis for say $1mil, and there is a known vacancy at the time of sale (e.g it is vacant for the next 6 months), then you can enter in '6' as the 'Months Vacant' period. The capitalised value of $1mil will actually be reduced by $50k (being 6 months rent), therefore the adjusted end sale price will be $950k. If a discount rate has been adopted (say 14%), then the present value of the $50k over 6 months will be calculated at approx $48k, therefore the adjusted capitalised value in that instance will be approx $952k.

Purchasers Costs (VAT mode only)

'Purchasers Costs' are calculated on the escalated gross end sale value and take into consideration items such as Stamp Duty, Legal and Agency Fees and Survey Fees. This input is mainly used in the

UK property market. If it is used, Purchasers Costs should be factored into the Residual Capitalisation Rate.

% Paid by Land Owner (JV mode only)

You may elect a percentage of the costs to be paid for by the Land Owner if you are modelling a joint venture arrangement.

GST/VAT on Sale (Optional)

Select "Y" or "A", "B", or "C" in the GST/VAT column if the revenue is GST/VAT inclusive and the developer or JV will pay a percentage of the revenue as a tax liability.

6.19 Sales

Description	No. Units	Total Area SqM	Current Sale Price	Sales Calc Method	Pre-Sale Exchange Month Start	Pre-Sale Exchange Month Span	Settlements Month Start	Settlements Month Span	Settlements Cash Flow Period	Sales Rate Units / SqM per Month	% Split to Owner	GST Included on Sales	GST Withheld by Purchaser	Land Use Code	Revenue Collection Profile
Stage 1	-	-	-	Per Unit	0	-	0	-	-	-	-	Y	N	RS1	-
block 1 apartments	43	4,730	220,000	Per Unit	6	12	20	1	Jul-17 - Jul-17	3.58	-	Y	N	RS2	-
block 1 apartments	30	3,300	220,000	Per Unit	0	-	20	8	Jul-17 - Feb-18	3.75	-	Y	N	RS2	1
	-	-	-	Per Unit	0	-	0	-	-	-	-	Y	N	RS2	-
Stage 1	-	-	-	Per Unit	0	-	0	-	-	-	-	Y	N	RS2	-
block 1 apartments	14	4,900	310,000	Per Unit	6	12	28	1	Mar-18 - Mar-18	1.17	-	Y	N	RS2	-
block 1 apartments	7	2,450	310,000	Per Unit	0	-	28	8	Mar-18 - Oct-18	0.88	-	Y	N	RS2	2

Units and **Area** (Mandatory)

For each sale item it is mandatory to enter:

- The total quantity (no. of lots, units, etc), and
- The total size of all sale items for that line item (sqm, sqft, ha, etc) based on the unit of measurement from the list selector (purple font), such as number of units or sqm, NLA, GFA, etc.

This information is used for further analysis on the Summary, Cash Flow (Stock Summary) and Consolidate Reports (Yield Analysis).

Current Sale Price (Mandatory)

This is the current non-escalated sale price.This must be based on either the Units or Area measurement (ie $/unit or $/area)

Sale Calc Method (Mandatory)

Indicate the method of calculating the total sale value. It is based on how the 'Current Sale Price' has been entered:

- If 'Current Sale Price' has been entered in as a $/sqm, then select "Per Sqm" from the list selector in the Sales Rate column. The unit of measurement (sqm, sqft, etc) is based on the option selected in the 'Total Area' column.
- If 'Current Sale Price' has been entered in as a lump amount, then select "Per Unit" from the list selector.

Pre-Sale Exchange Start and **Span** (Optional)

You may enter an exchange start date and span period, which is relevant only for pre-sales (items sold before completion).

If you nominate a pre-sale exchange for a sales line item, the program assumes all items in that line are pre-sold. Alternatively, you can split sales into two line items if you wish - those pre-sold and those sold after completion of development (i.e pre-sale exchange is ignored).

You should be aware of the following when adopting pre-sale exchanges:

- Any revenue escalation selected for that sale item will only apply up to the date of exchange. If no pre-sale date is entered then the escalation rates apply up to the date of settlement.

- Unless the Sales Revenue Collection Profile feature is used, no revenue is actually collected by the developer until settlement. At pre-sale exchange, any deposit that is paid by the buyer is actually paid into a trust account and is not received by the developer until settlement.
- Any deposits collected and invested in the trust account can earn interest at a user-defined rate.
- The dates entered for the pre-sale exchange will impact the 'Sales Summary' on the Stock Summary report on the Cash Flow sheet.

Settlement Start and **Span** (Mandatory)

It is mandatory to enter the settlement date and span period for each sale item, otherwise the program will not include the revenue in the cash flow.

You should be aware of the following in relation to settlements:

- If the user has adopted pre-sale exchanges for a sale item and has elected to earn interest on any deposits collected at pre-sale, the interest earned will be apportioned between the developer and purchaser at time of settlement.
- When using the Sales Revenue Collection Profile feature, the final payment/instalment to the developer is made at the earliest milestone reached between the final nominated sales collection profile instalment and the settlement date.
- The dates entered for the settlements will impact the 'Handover Summary' on the Stock Summary report on the Cash Flow sheet.

% Paid by Land Owner (JV mode only)

You may elect a percentage of the revenue to be received by the Land Owner if you are modelling a joint venture arrangement.

GST/VAT (Optional)

Select "Y" or "A", "B", or "C" in the GST/VAT column if the revenue is GST/VAT inclusive and the developer or JV will pay a percentage of the revenue as a tax liability.

Withheld by Purchaser (Optional)

If there is a Tax liability for a Sale line item, indicate whether it is being withheld by the Purchaser:

- **Y**: Yes, Purchaser will withhold tax component of gross sale price, and remit it to the relevant taxation authority. When this option is selected:
  - The settlement amount received by the developer from the purchaser will be reduced, and it be reflected in the Summary and Cash Flows reports.
- **N:** No, Purchaser will no withhold tax component of gross sale price. The settlement amount paid to the developer will include tax (if applicable), and it will be the developer's responsibility to remit any tax liability to the relevant taxation authority.

This is only relevant if the 'GST' Taxation Format is selected in the Preferences.

Land Use Code (Optional)

By detailing the land use code for a sale item, it will apply the following:

- **Escalation on sales**, based on the rates entered for that specific land use in the Revenue Escalation table.
- **Sales Commissions**, based on the rates entered for that specific land use in the Selling Costs section.

If you neglect to enter a land use code, the sales revenue will still be calculated, however:

- It will exclude escalations and sales commissions, and
- It will be shown as 'Not Classified' on the Summary Report rather than be grouped under a specific land use type.

Revenue Collection Profile (Optional)

Enter a Profile Number defined in the Sales Revenue Collection Profile table. If this is left as Zero, then revenue is only received during the defined Settlement Start and Span dates.

This option is only available if the Sales Revenue Collection Profile feature is enabled via the Preferences

Interpreting the Sales Rate

A 'Sales Rate' calculation is provided for each sale line item. It is calculated depending on how something is sold:

No. Units	Total Area Sqm	Current Sale Price	Sales Calc Method	Pre-Sale Exchange Month Start	Pre-Sale Exchange Month Span	Settlements Month Start	Settlements Month Span	Sales Rate Units / Sqm per Month
-	-	-	Per Unit	0	-	0	-	-
43	4,730	220,000	Per Unit	6	12	20	1	3.58
30	3,300	220,000	Per Unit	0	-	20	8	3.75
-	-	-	Per Unit	0	-	0	-	-

- If a sale item is pre-sold (i.e. Pre-Sale dates are defined), then the model will display the 'Sales Rate' for the pre-sale span period (i.e the rate of sale by quantity or area per period)

  In the example above, 35 units are pre-sold over a 6 month span, equating to a sales rate of 5.83 units per month (35 / 6)

- If a sale item is sold on completion (no Pre-Sale dates are defined), then the model will display the 'Sales Rate' for the settlement sale span period (i.e the rate of sale by quantity or area per period)

  In the example above, 150 units are sold on completion over an 8 month span, equating to a sales rate of 18.75 units per month (150 / 8)

6.20 Other Income

Description	Land Use Code	Units	Base Rate / Units	Month Start	Month Span	Cash Flow Period	% Split to Owner	Add GST
Rebates	-	1	20,000	36	1	Jun-19 - Jun-19	-	Y
Misc Income	OTH	1	58,880	30	12	Dec-18 - Nov-19	-	Y
.	-	-	-	0	-	-	-	Y
.	-	-	-	0	-	-	-	Y

Land Use Code (Optional)

By detailing the land use code you are able to apply varying escalation rates to each revenue item. If you neglect to enter the category code (eg "RS"), escalations will not be applied. Unlike

items in the 'Sales' section, the Land Use Code does not calculate commissions on items in the 'Other Income' section.

Amount and **Start** and **Span** (Mandatory)

For each revenue item it is mandatory to input:

- The number of units (e.g sqm) and base rate per unit (e.g $/sqm), and
- The start and span periods.

If any of the above are entered as zero (0), then the program will not include the revenue in the cash flow.

% Paid by Land Owner (JV mode only)

You may elect a percentage of the revenue to be received by the Land Owner if you are modelling a joint venture arrangement.

GST/VAT (Optional)

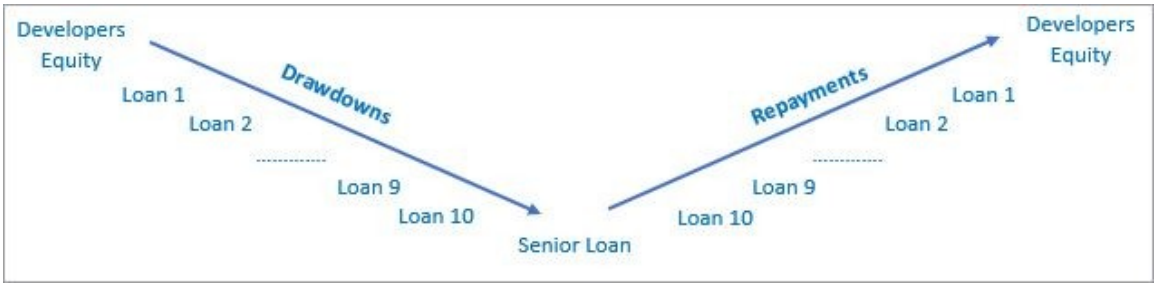
Select "Y" or "A", "B", or "C" in the GST/VAT column if the revenue is GST/VAT inclusive and the developer or JV will pay a percentage of the revenue as a tax liability.

6.21 Financing

Default Funding Priority

The program accommodates up to 11 sources of financing - Developer's Equity and 11 other Loans. The program assumes the following default funding priority (this can be manually adjusted in the cash flow tables):

1. Developer's Equity is drawn down first as costs are expended.
2. Thereafter money is borrowed from Loans 1 to 10 (if used), either fully upfront or drawdown progressively, until the maximum amount of these loans is borrowed.
3. Money is then borrowed from the Senior Loan (by default, acts as a Line of Credit facility).
4. As the project receives net revenue this reduces Loan 10 until the loan is fully paid.
5. Thereafter revenue pays back Loan 9, then Loan 8, etc, until all Loans are repaid.
6. Thereafter revenue pays back Developer's Equity.
7. Thereafter the project pays profit shares (if applicable) and then retains the balance as profit.



Default Funding Priority

Funding Limits and Loan Ratios

Throughout the Finance Preferences, the user will have the ability to set:

- **Loan Facility Limits:** These are the defined drawdown limits for a loan, and

- **Loan Ratios:** The denominator for working out the % that is borrowed for reporting purposes only. It may be different to the Facility Limit.

It is therefore important to understand the options that are available for these preferences:

Option	Description	Facility Limits	Loan Ratios
Fixed Amount	The loan limit is manually entered on the Finance input section.	●	○
% of Purchase Price	A percentage of the Land Purchase price only, inclusive of GST/VAT.	●	●
% of Land Acquisition Costs	A percentage of the Land Purchase price and any associated acquisitions costs (Stamp duty, Legal Fees, etc), inclusive of GST/VAT.	●	●
% of Project Costs	A percentage of all Project Costs (exclusive of GST/VAT), which exclude Selling Costs, Leasing Costs, Interest Charges and Fees (e.g Application, Line and Standby).	●	●
% of Project & Finance Costs	A percentage of all Project Costs (exclusive of GST/VAT), which exclude Selling Costs and Leasing Costs but include Interest Charges, Application Fees and Line Fees.	○	●
% of Hard Costs	A percentage of costs that have defined as 'Hard Costs' as per the 'Global' section of the Finance Preferences.	●	●
% of Construction Costs	A percentage of total Construction Costs and Contingencies inclusive of GST/VAT.	●	●
% of Gross Sales	A percentage of Gross Sales Revenue (including Capitalised Sales) inclusive of GST/VAT/Sales Tax.	●	●
% of Sales (net of Tax)	A percentage of Sales Revenue (including Capitalised Sales) exclusive of GST/VAT/Sales Tax.	●	●
% of Sales (net of Selling Costs and Tax)	A percentage of Sales Revenue (including Capitalised Sales) exclusive of GST/VAT/Sales Tax and Selling Costs.	●	●
% of Value of Pre-Sales	A percentage of all Sales Revenue (including Capitalised Sales) that have been sold at a defined pre-sale exchange date.	●	●
% of Debt Funding	A percentage of total funds invested by all debt Lenders.	○	●*
% of Net Profit	A percentage of total net development profit (after profit share has been paid out).	○	●*
% of Deposits Collected	A percentage of deposits that have been collected via the 'Revenue Collection Profile' (and that appear in the 'Deposit Summary' section in the CashFlow)	●	●#

** Only applicable for 'Equity' Loans.*

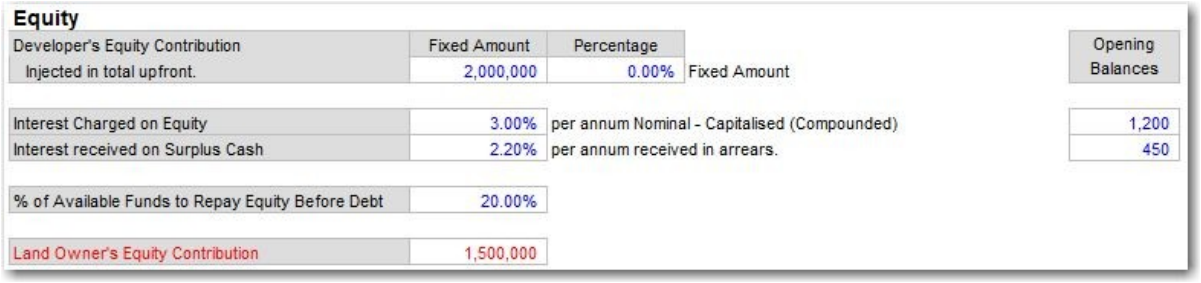
 # Only applicable for Insured Deposit' Loans.

Finance Preferences

Before you commence inputting finance information for your project you will need to setup the finance to suit your project.

You do this in the "Finance Preferences". See Preferences section for more details on how to do this.

6.21.1 Equity Inputs



Developer's Equity Contribution

You can nominate an equity contribution by the Developer, either by a fixed amount or a on a percentage loan ratio, and can either be injected upfront or progressively when required. These options are set via the Finance Preferences.

Alternatively you can manually stage the equity injections/repayments in the cash flow table (click on the relevant button).

You cannot manually inject equity after the last date that the cumulative cash flow turns positive. Any date before then, you can put a:

- **Negative amount (repayment)**, where the equity owner is extracting equity from the project (i.e. equity owner cash inflow and project cash outflow), or
- **Positive amount (injection)**, where the equity owner is contributing to the project (i.e. equity owner cash outflow and project cash inflow.

Interest Charged on Equity

There is provision to nominate a per annum interest rate charged on the equity loan balance. The way that interest is paid is set via Finance Preferences.

Interest received on Surplus Cash

There is provision to nominate a per annum interest rate earned on surplus cash reserves.

% of Available Funds to Repay Equity Before Debt

Enter a % of available funds (positive net cash flow) that is used to repay equity before repaying debt.

- Equity will only be repaid via this option if it has been set in the Finance Preferences that equity is 'repaid when available'. If it has been set that equity is 'repaid at project end' and the user has entered a % in this input, then rather than repay equity, the nominated % of funds will be placed in the surplus cash account.
- If the % is too high, debt may never be able to be repaid due to interest being higher than available repayments.

Equity Contributed by Land Owner

The program allows equity to be provided by the land owner in a joint venture model. The equity contribution by the land owner is upfront and can not be staged.

Opening Balances

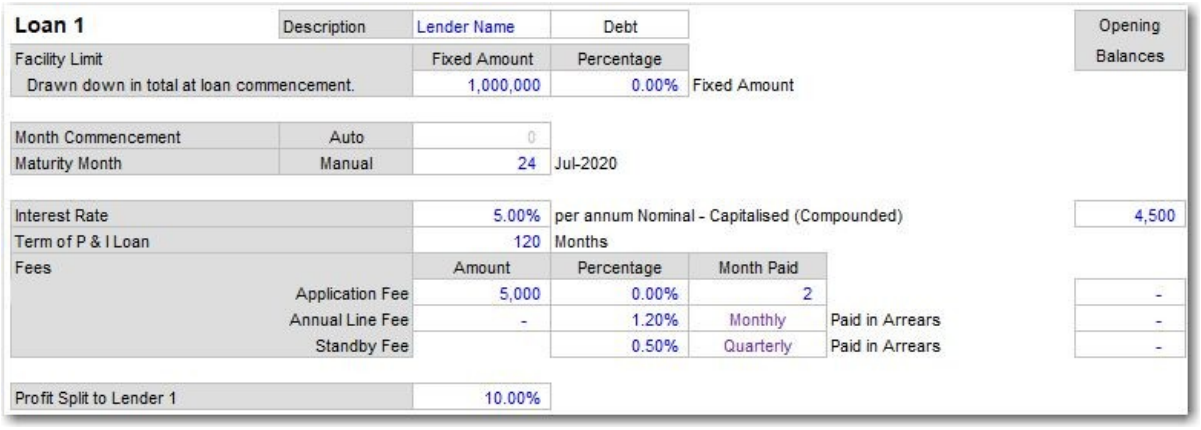
Enter in the opening balances for Interest Charged on Equity and Received on Surplus Cash.

These inputs can be used where:

- The funding facility is not solely used for this particular project, or
- The costs/revenue were incurred before the model's 'Date of First Period' (or Project Start).

6.21.2 Loans 1 to 10 Inputs

By default, Loans 1 to 10 are the next lending facilities after equity has been utilised. They may be commonly a first mortgage against the land or could also represent a quasi equity partner. There are certain items that are relevant if Loans 1 to 10 are used.



Loan 1	Description	Lender Name	Debt			Opening Balances
Facility Limit		Fixed Amount	Percentage			
Drawn down in total at loan commencement.		1,000,000	0.00%	Fixed Amount		
Month Commencement	Auto	0				
Maturity Month	Manual	24	Jul-2020			
Interest Rate		5.00%	per annum Nominal - Capitalised (Compounded)			4,500
Term of P & I Loan		120	Months			
Fees		Amount	Percentage	Month Paid		
	Application Fee	5,000	0.00%	2		-
	Annual Line Fee	-	1.20%	Monthly	Paid in Arrears	-
	Standby Fee		0.50%	Quarterly	Paid in Arrears	-
Profit Split to Lender 1		10.00%				

Facility Limit

This is the amount that is borrowed, either as a fixed amount or a on a percentage loan ratio. If there is no Loan required, set this to zero (0), or switch to Simple Mode. The user may also indicate whether the loan is drawn down at the loan commencement or progressively drawn down when required. These options are set via the Finance Preferences.

Alternatively you can manually stage the loan drawdowns/repayments in the cash flow table (click on the relevant button) by entering a:

- **Negative amount (drawdown),** where the developer is manually drawing down more funds from the lender.
- **Positive amount (repayment),** where the developer is manually repaying funds back to the lender.

Month Commencement

The commencement date (period start) for the loan.

- If nominating a commencement period, it must be later than the maturity period.
- If left as Auto (Automatic Commencement), the loan will be drawn down according to the default funding priority.

Maturity Month

Even though the program automatically pays back the loan, the user has the ability to set a maturity date (period end) for the loan.

- If nominating a maturity period, the user may also nominate which other funding source will be refinancing that loan at maturity via the Finance Preferences.

- If left as Auto (Automatic Maturity), the loan will cease according to the default funding priority.

This input is mandatory if a Principal and Interest facility is selected for a loan.

Interest Rate

There is provision to nominate a per annum interest rate charged on the loan, and it can be manually varied for different periods in the cash flow tables.

Term of P&I Loan

If a Principal and Interest loan is selected as the Interest Payment Type in the Preferences, then enter in the term of the loan to work out the periodic repayments. This does not determine when the loan matures - the loan will mature according to the nominated 'Maturity Month'.

Fees

There are two types of fees (entered as either an amount or a % of the facility limit) that can be paid to a lender:

- **Application Fees:** These are a one-off payment and paid at the nominated period.
- **Line Fees:** These are entered as a per annum amount and:
  - Charged and paid either monthly or quarterly, based on the selected option. (Note: The option to select Monthly/Quarterly payment frequency is only available when the cash flow rest periods of the model is set to 'Monthly')
  - Occur during the period that interest is due (i.e. in arrears) or during the period that the loan balance is in deficit (i.e. in advance), option you nominate in the Preferences for Line Fee Payment.
- **Standby Fees:** These are entered as a percentage per annum rate, calculated on the undrawn loan amount, and:
  - Charged and paid in arrears either monthly or quarterly, based on the selected option. (Note: The option to select Monthly/Quarterly payment frequency is only available when the cash flow rest periods of the model is set to 'Monthly')
  - Occur until the entire Facility Limit of the loan is drawn down in full, or until the loan is repaid in full, whichever occurs first.

:

Profit Split

A percentage rate can be inputted to split a portion of the profit to the lender as a form of 'success fee'.

By entering a percentage for profit share, it will impact your performance indicators and risk assessment, depending on what option you nominate in the Preferences for 'Gross or Net Profit Performance'.

Opening Balances

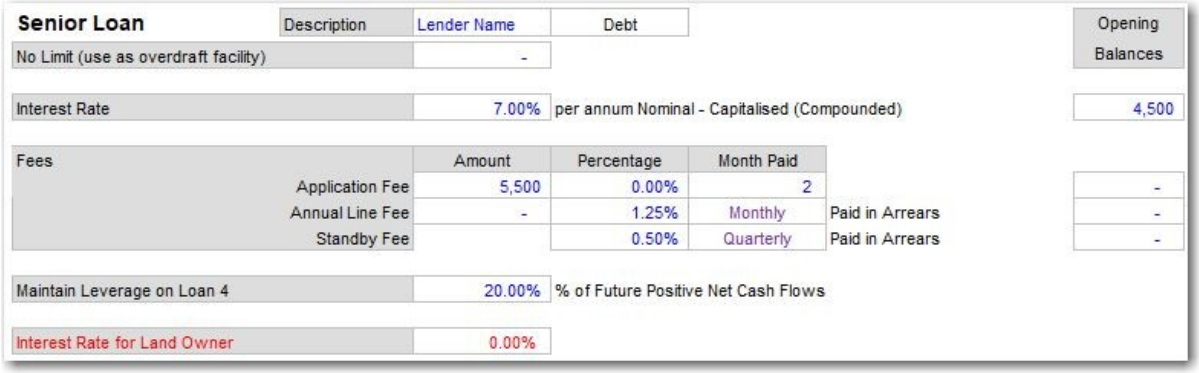
Enter in the opening Interest and Fee Balances for the Debt accounts.

These inputs can be used where:

- The funding facility is not solely used for this particular project, or
- The costs were incurred before the model's 'Date of First Period' (or Project Start).

6.21.3 Senior Loan Inputs

The Senior Loan is drawn down when all equity and Loans 1 to 10 have been fully used.



Senior Loan	Description	Lender Name	Debt		Opening Balances
No Limit (use as overdraft facility)		-			
Interest Rate		7.00%	per annum Nominal - Capitalised (Compounded)		4,500
Fees		Amount	Percentage	Month Paid	
	Application Fee	5,500	0.00%	2	-
	Annual Line Fee	-	1.25%	Monthly	Paid in Arrears -
	Standby Fee		0.50%	Quarterly	Paid in Arrears -
Maintain Leverage on Loan 4		20.00%	% of Future Positive Net Cash Flows		
Interest Rate for Land Owner		0.00%			

Facility Limit

The use of the facility limit can be changed via the Finance Preferences:

- **Used as an Overdraft Facility:** By default, this is a line of credit facility and there is no limit on the borrowed amount. No facility limit is required and the input is disabled.
- **Use Equity as the Overdraft Facility:** A facility limit can be set on the Senior Loan as a fixed amount, and then any additional funding is sourced from Equity.

The funds draw down for the Senior Loan are automatically progressively drawn down as and when required. This cannot be changed by any manual inputs, unlike Loans 1 to 10.

Interest Rate

There is provision to nominate a per annum interest rate charged on the loan, and it can be manually varied for different periods in the cash flow tables.

Fees

There are two types of fees that can be paid to a lender:

- **Application Fees:** These are a one-off payment and paid at the nominated period.
- **Line Fees:** These are entered as a per annum amount and:
  - Charged and paid either monthly or quarterly, based on the selected option. (Note: The option to select Monthly/Quarterly payment frequency is only available when the cash flow rest periods of the model is set to 'Monthly')
  - Occur during the period that interest is due (i.e. in arrears) or during the period that the loan balance is in deficit (i.e. in advance), option you nominate in the Preferences for Line Fee Payment.

- **Standby Fees:** These are entered as a percentage per annum rate, calculated on the undrawn loan amount, and:
  - Charged and paid in arrears either monthly or quarterly, based on the selected option. (Note: The option to select Monthly/Quarterly payment frequency is only available when the cash flow rest periods of the model is set to 'Monthly')
  - Occur until the entire Facility Limit of the loan is drawn down in full, or until the loan is repaid in full, whichever occurs first.

Note: If the loan is setup to be used as an overdraft facility, then these fees can only be entered as an amount, otherwise if a facility limit can be set, then they can also be entered as a % of the facility limit.

Maintain Leverage on Senior Loan

To maintain a certain level of leverage on the Senior Loan, enter in a % of future positive net cashflows.

This will ensure that some leverage is maintained and enable quicker repayments to equity and hence improve the return on equity.

Interest Rate for Land Owner

Input the interest rate for the land owner in a joint venture model. The interest is fixed through the term of the loan.

Opening Balances

Enter in the opening Interest and Fee Balances for the loans.

These inputs can be used where:

- The funding facility is not solely used for this particular project, or
- The costs were incurred before the model's 'Date of First Period' (or Project Start).

6.21.4 Other Finance Costs

Financing Costs To be entered Inclusive of GST	No. of Units	Base Rate / Unit	Escalate (E,R,N)	Month Start	Month Span	Cash Flow Period	% Paid by Owner	GST Included
Establishment Fee	1	12,000	-	2	1	Mar-19 - Mar-19	-	Y
Mortgage Duty	1	3,450	-	4	1	May-19 - May-19	-	Y
.	-	-	-	0	-	-	-	Y
.	-	-	-	0	-	-	-	Y

Amount and **Start** and **Span** (Mandatory)

For each finance cost item such as application fees, legal fees, mortgage stamp duty, etc, it is mandatory to input:

- The number of units (e.g sqm) and base rate per unit (e.g $/sqm), and
- The start and span periods.

If any of the above are entered as zero (0), then the program will not include the cost in the cash flow.

Escalation (Optional)

You may elect to apply escalation on any cost items.

- Enter "**E**" to escalate to start, or

- Enter "**R**" to escalate to start and continue escalation through span period, or
- Leave blank or enter "**N**" to assume the cost is fixed, hence no escalation.

% Paid by Land Owner (JV mode only)

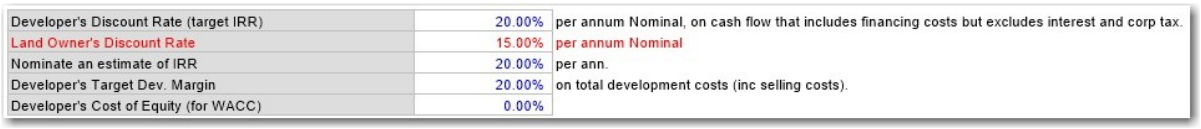
You may elect a percentage of the cost item to be paid for by the Land Owner if you are modelling a joint venture arrangement.

GST/VAT (Optional)

Select "Y" or "A", "B", or "C" in the GST/VAT column if the cost is GST/VAT inclusive and the developer or JV will claim a percentage of the cost as an input credit.

- If the header shows 'Add GST/VAT' the model will automatically escalate the cost entered to include tax in the cash flow and reclaim tax credits.
- If the header shows 'GST/VAT Included', then the model will only reclaim tax credits based on the cost amount entered.

6.22 Project Hurdle Rates



Developer's Discount Rate (target IRR)	20.00%	per annum Nominal, on cash flow that includes financing costs but excludes interest and corp tax.
Land Owner's Discount Rate	15.00%	per annum Nominal
Nominate an estimate of IRR	20.00%	per ann.
Developer's Target Dev. Margin	20.00%	on total development costs (inc selling costs).
Developer's Cost of Equity (for WACC)	0.00%	

Project Discount Rate (Target IRR)

The discount rate or target IRR only affects three performance indicators on the 'Summary' sheet:

- Project Net Present Value (NPV),
- Residual Land Value (based on a Zero NPV), and
- Benefit Cost Ratio.

You can use the Preferences to change the discount rate calculation method (include or exclude finance costs and interest) and also the method of conversion from the annual discount rate to the monthly discount rate (quarterly or half yearly depending upon the rest period you selected).

Land Owner Discount Rate (JV mode only)

This is the discount rate (target IRR) for the land owners cash flow. It is only relevant for Joint Venture models.

Nominate an Estimate of IRR

This is a number that you guess is close to the result of IRR. The model uses an iterative technique for calculating IRR. Starting with the estimate, it cycles through the calculation until the result is accurate within 0.00001 percent. If it can't find a result that works a predetermined number of iterations, the #NUM! error value is returned.

In most cases you do not need to provide the estimate for the IRR calculation. If it is omitted, it is assumed to be 0.1 (10 percent).

Important Note About Multiple IRRs:

- When cash flows of a project change sign more than once (e.g. cash outflow followed by cash inflows followed by cash outflow), there may be multiple (and technically valid and correct) IRRs for that cash flow.

- The IRR that ARGUS EstateMaster DF will *attempt* to adopt, will be the one that is calculated using the user-defined 'guess rate' in the aforementioned input field.
- However, in the circumstance where such IRR calculation results in a #NUM! error value (cannot find a result after the iterative calculation process), ARGUS EstateMaster DF will use different 'guess rates' in the background, until it finds a result.
- These start from 0%, and then using 3 different +ve and -ve percentages based on the user-defined 'guess rate'. For example, if the user-defined 'guess rate' of 20% cannot find a result, then background process will attempt to find a result, using the following 'guess rates': 0%, 10% (1/2 of the user-defined 'guess rate'), -10% (the inverse of the previous 'guess rate'), 40% (2 x the user-defined 'guess rate'), -40% (the inverse of the previous 'guess rate'), 60% (3 x the user-defined 'guess rate') and -60% (the inverse of the previous 'guess rate').
- If a result is found using such process (most likely), this is the one that is reported in ARGUS EstateMaster DF. However, if a result is still not found after this process, the IRR will be reported with an "N.A." value.
- A note will be displayed in this input section if multiple IRRs have been detected and/or an alternative guess rate was required to achieve a result.

Developer's Target Margin The Developers Target Development Margin is the required profit margin calculated on either total development costs net of selling costs or including selling costs, total sales and rental income or on total net sales proceeds. These options can be chosen on the 'Hurdle Rates' tab of the Preferences.

The target margin is used to calculate the residual land value to achieve the desired profit margin (Developer Target Development Margin); it does not take into consideration the time value of money.

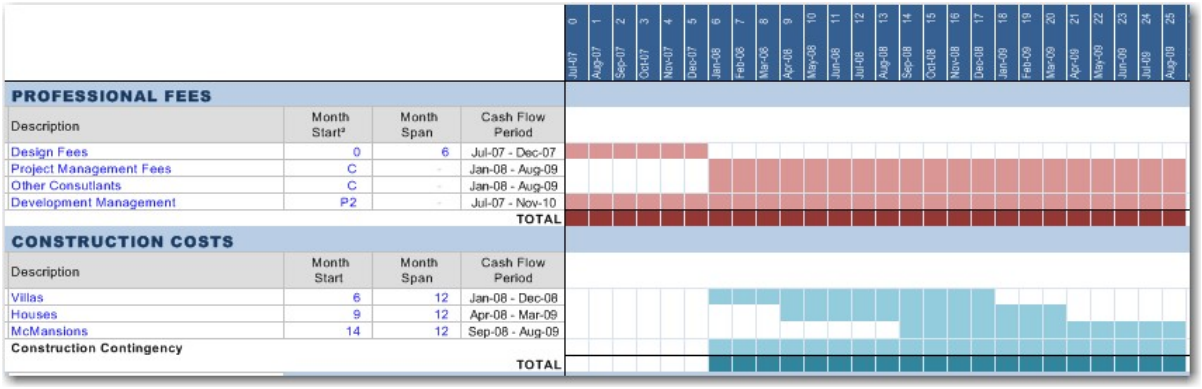
Developer's Cost of Equity Enter in the desired cost of the developer's equity.

This is used to calculate the Weighted Average Cost of Capital on the Summary Report

6.23 Project Timeline (Gantt Chart)

The Input sheet can be toggled between the dynamic Gantt chart and Inputs by clicking on the 'Show Gantt' button on the Ribbon Menu.

It provides a project timeline based on the data in all the starts and spans. While in Gantt view mode, the user can adjust the starts and spans for costs and revenue items and instantly view the impact of the adjustments to the project time line.



Once time adjustments have been made, the user can revert back to the main Inputs by clicking on the 'Show Inputs button on the Ribbon Menu.

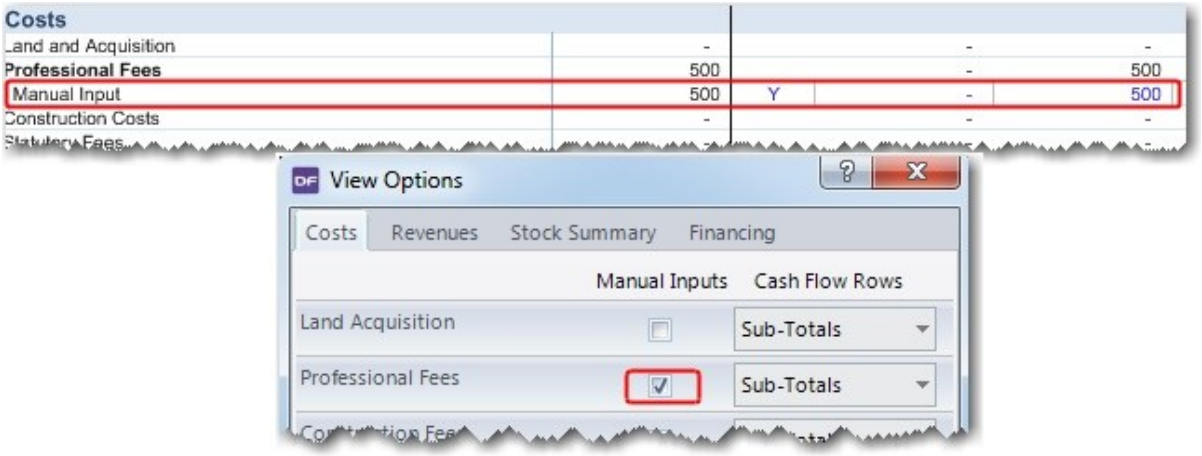
6.24 Manual Cash Flow Inputs

The Cash Flow sheet gives you the opportunity to manually input amounts in a cash flow table for the following items:

- **All Project Revenues and Costs**
- **Financing:** Such as adjustments for drawdowns and repayments and interest rates variations for the loan facilities.
- **Discount Rate Variations**

Project Revenues and Costs

The manual input rows for the revenues and costs can be hidden or shown via the 'Cash Flow Detail' utility on the Cash Flow.



Notes about Manual Inputs:

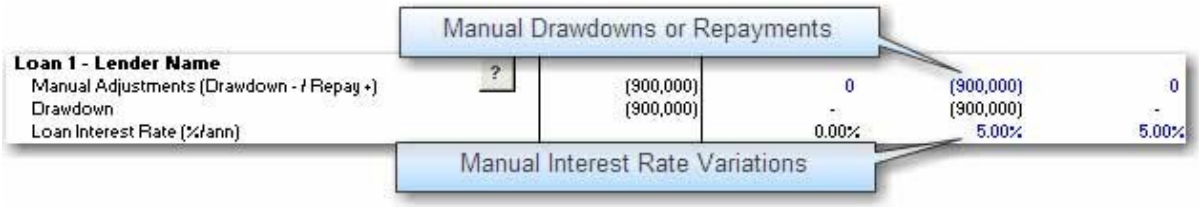
- All amounts put in the 'Manual Input' rows are added to the sub totals for that cost or revenue section.
- The manual inputs have no provision for any escalation in costs and revenues over the period prescribed.
- You may elect a percentage of the revenue/cost to be received/paid by the Land Owner if you are modelling a joint venture arrangement.

- Select "Y" or "A", "B", or "C" in the GST/VAT column if the revenue/costs are GST/VAT inclusive and the developer or JV will pay/receive a percentage of the revenue/cost as a tax liability/credit.
- The amounts in the 'Manual Input' rows are affected by variations in land cost, development cost and sale/rental values during the sensitivity testing, but does not vary according to construction period or sales span period sensitivity testing.

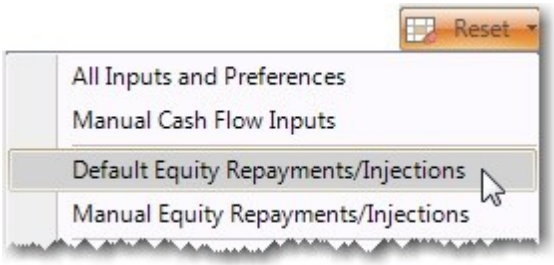
Financing

Manual input rows are readily available in the Financing component of the Cash Flow sheet to make adjustments to the following:

- Developer's Equity injections (positive) and repayments (negative).
- Drawdowns (negative) and repayments (positive) for Loans 1 to 10.
- Periodic interest rate variations for Loans 1 to 10 and the Senior Loan.

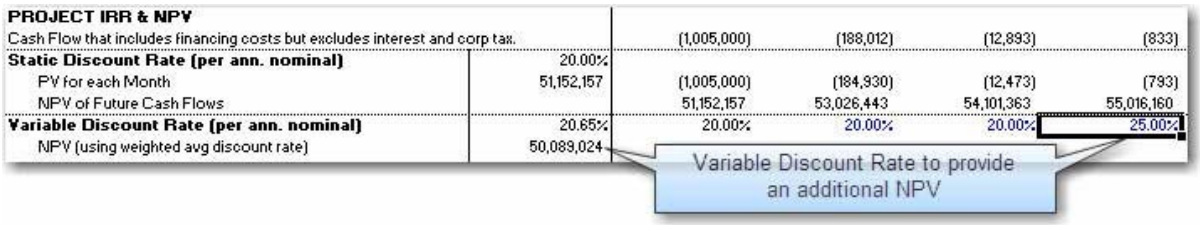


If making manual adjustments in the Financing area, the 'Reset' function in the Ribbon Menu allows the user to toggle the rows between their default inputs or manual variations.



Discount Rate

At the bottom of the Cash Flow sheet, there is provision to have a variable discount rate throughout the life of the cash flow.



- The discount rate that was entered in the Hurdle Rates input section is known as the **'Static Discount Rate'** and that will form the basis of all IRR and NPV calculations on other reports, such as the Summary, Sensitivity and Probability reports. In addition, it will also be used to report the following in the Cash Flow:
  - The Present Value (PV) of net cash flow for each time period.
  - The Net Present Value (NPV) of all future cash flows at each time period.
- The Static Discount Rate then forms the starting point for the **'Variable Discount Rate'** inputs, where the user can manually adjust the discount rate up or down to reflect different levels of risk

at different points in time in the project. Using the Variable Discount Rates entered by the user, a weighted average discount rate is calculated, and then it is used to calculate an NPV.

6.25 Taxes & Duties

It is recommended that the user regularly checks their relevant Statutory Revenue Office for recent changes to taxes and duties. ARGUS EstateMaster DF has inbuilt Stamp Duty and Land Tax calculators based on tables for different regions that can be easily updated by the user when required.

Please Note: The software does not automatically update these table when the rates/thresholds change - this is the responsibility of the user to manually maintain.

Updating the Stamp Duty and Land Tax Tables

1. Click on the 'Taxes & Duties' worksheet tab.
2. There will be tables for each region. Each table has the following columns:
    - **Rating Land Value Thresholds:** The upper value of the dutiable land value range.
    - **Tax Amount:** The fee that is payable in addition to the rate.
    - **Rate:** The percentage marginal rate on the dutiable value of land.

Stamp Duty Example

Say Stamp Duty is calculated as per the following rates:

- $0 - $14,000: $1.25 for every $100 or part of the dutiable value
- $14,001 - $30,000 $175 plus $1.50 for every $100 or part , by which the dutiable value exceeds $14,000
- $30,001 - $80,000 $415 plus $1.75 for every $100 or part, by which the dutiable value exceeds $30,000
- $80,001 - $300,000 $1,290 plus $3.50 for every $100 or part, by which the dutiable value exceeds $80,000
- $300,001 - $1m $8,990 plus $4.50 for every $100 or part, by which the dutiable value exceeds $300,000
- over $1m $40,490 plus $5.50 for every $100 or part, by which the dutiable value exceeds $1,000,000

Rating Land Value Thresholds			Tax Amount	Rate
0	to	14,000	0	1.25%
14,001	to	30,000	175	1.50%
30,001	to	80,000	415	1.75%
80,001	to	300,000	1,290	3.50%
300,001	to	1,000,000	8,990	4.50%
1,000,001		and above	40,490	5.50%

Land Tax Example

If there is a tax free threshold - this is indicated by entering '0"s in the first row of a land tax table.

- Example: This year a $368,000 threshold will apply to owners of liable land. The land tax rate will be $100 plus 1.6% on the combined value of all taxable land in excess of $368,000.

Rating Land Value Thresholds			Tax Amount	Rate
0	to	368,000	0	0.00%
368,001	to	2,250,000	100	1.60%
2,250,001		and above	30,212	2.00%

If there is no tax free threshold - this is usually indicated by entering only a % rate in the first row of a land tax table.

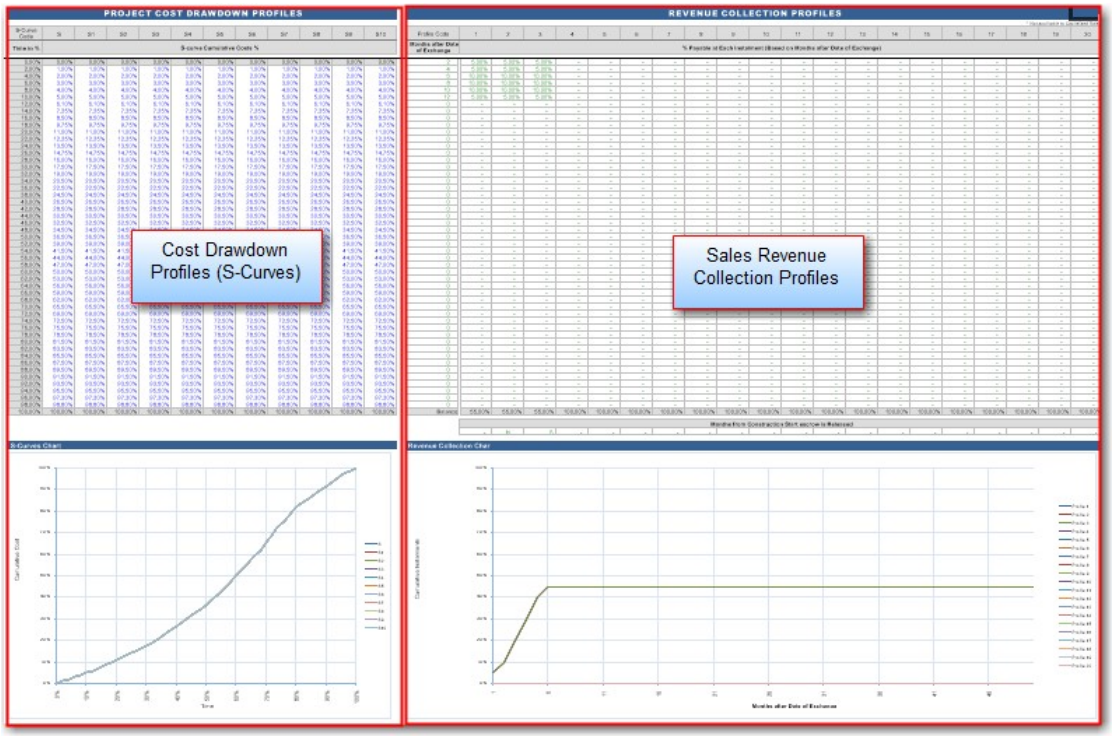
- Example: There is no threshold for land tax this year. Taxable land is assessed at the following rates:
  - Not more than $75,000: 0.6%
  - Between $75,001 and $150,000: $450 plus 0.89% on the taxable value that exceeds $75,000
  - Between $150,001 and $275,000: $1,118 plus 1.15% on the taxable value that exceeds $150,000
  - More than $275,001: $2,555 plus 1.4% on the taxable value that exceeds $275,000 Rating Land Value

Rating Land Value Thresholds			Tax Amount	Rate
0	to	75,000	0	0.60%
75,001	to	150,000	450	0.89%
150,001	to	275,000	1,118	1.15%
275,001		and above	2,555	1.40%

6.26 Profiles

The 'Profiles' tab contains the input tables for the following:

1. Cost Drawdown Profiles (S-Curves)
2. Sales Revenue Collection Profiles



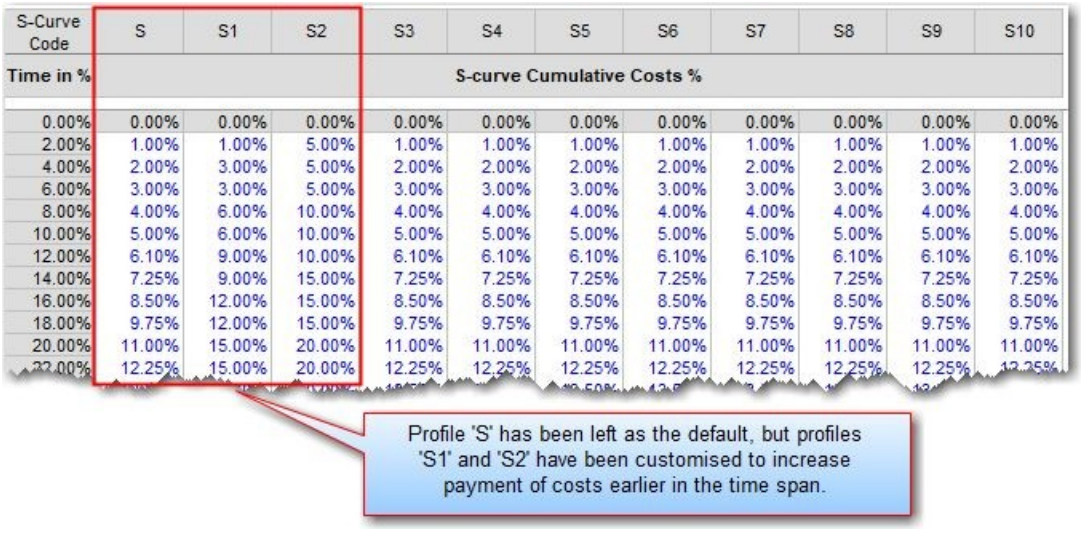
6.26.1 Cost Drawdown Profiles (S-Curves)

The S-Curve profiles are based on cumulative cost and cumulative time.

For example, in using the default S-Curve in the model (see Profile 'S' below), and assuming construction occurs over 10 months, then it would assume

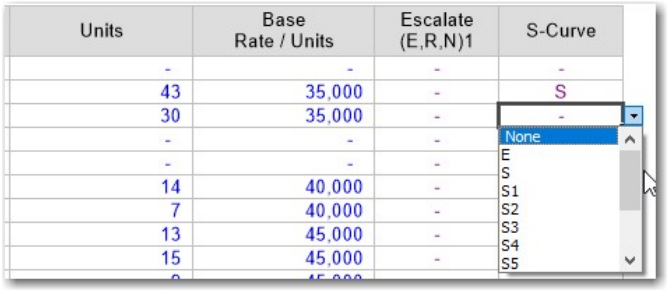
- After 10% of the cumulative time (or 1 month over a 10 month span), 5% of the cumulative costs should have been drawn down (paid) in the cash flow to date.
- After 20% (or 2 months over a 10 month span), 11% of the cumulative costs should have been drawn down, comprising of the 5% after one month and an additional 6%, and so on.

To show a cost drawdown that is skewed towards the earlier months of a span (more is paid earlier or quicker) ensure that the %'s increase earlier (see Profile 'S1' or 'S2' below



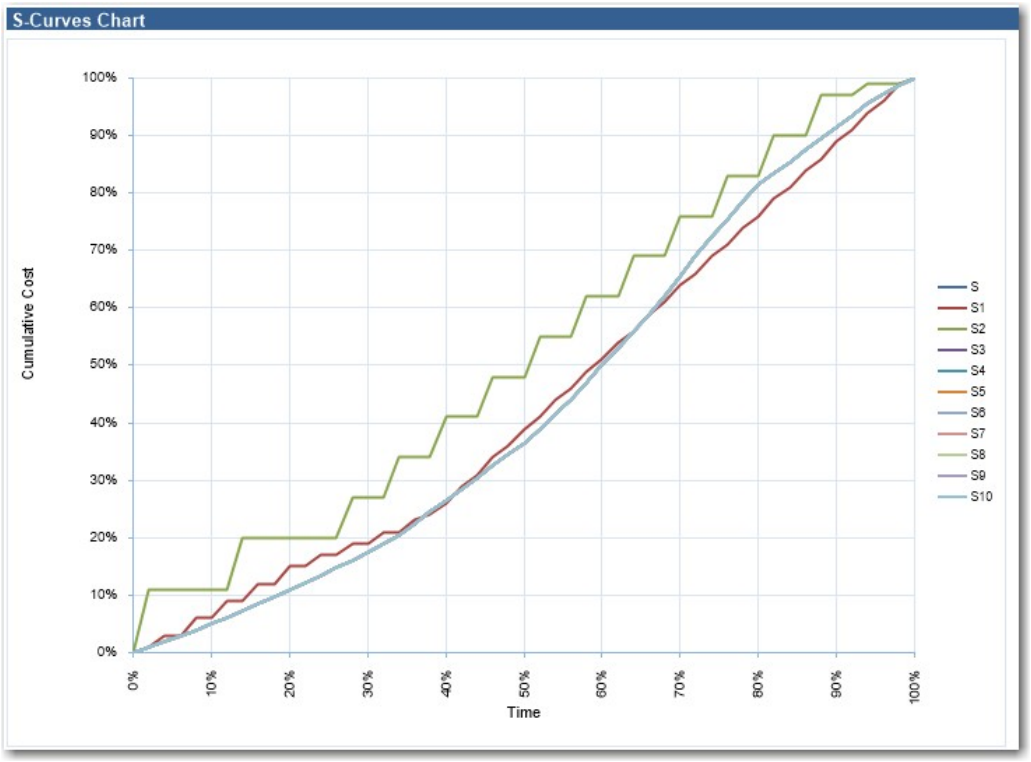
S-Curve Code	S	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
Time in %	S-curve Cumulative Costs %										
0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
2.00%	1.00%	1.00%	5.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
4.00%	2.00%	3.00%	5.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
6.00%	3.00%	3.00%	5.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
8.00%	4.00%	6.00%	10.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
10.00%	5.00%	6.00%	10.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
12.00%	6.10%	9.00%	10.00%	6.10%	6.10%	6.10%	6.10%	6.10%	6.10%	6.10%	6.10%
14.00%	7.25%	9.00%	15.00%	7.25%	7.25%	7.25%	7.25%	7.25%	7.25%	7.25%	7.25%
16.00%	8.50%	12.00%	15.00%	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%
18.00%	9.75%	12.00%	15.00%	9.75%	9.75%	9.75%	9.75%	9.75%	9.75%	9.75%	9.75%
20.00%	11.00%	15.00%	20.00%	11.00%	11.00%	11.00%	11.00%	11.00%	11.00%	11.00%	11.00%
22.00%	12.25%	15.00%	20.00%	12.25%	12.25%	12.25%	12.25%	12.25%	12.25%	12.25%	12.25%

There are 11 profiles that can be customised ('S', 'S1' to 'S10') in this table and then subsequently applied to individual cost line items, using the drop-down input field.



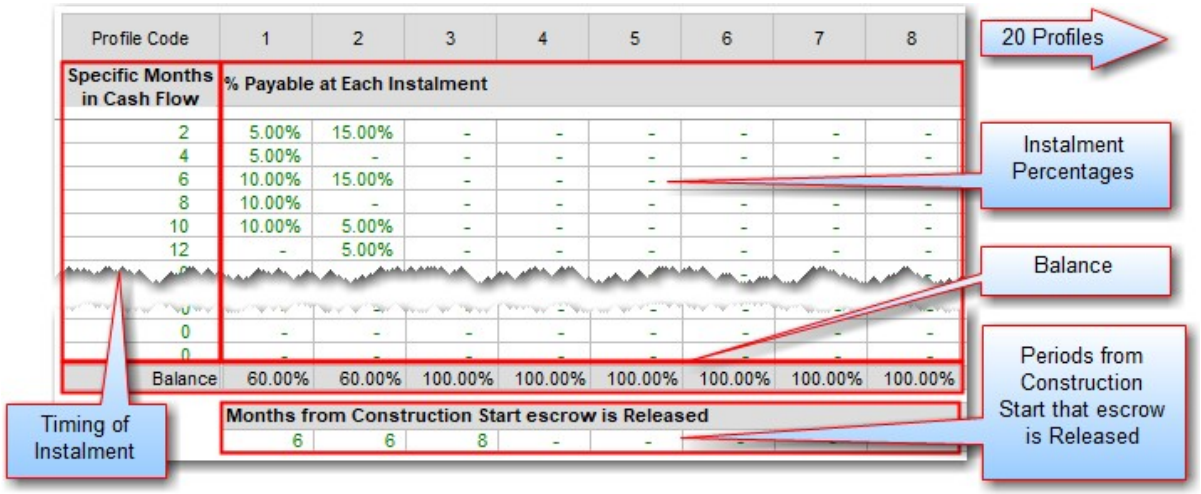
Units	Base Rate / Units	Escalate (E,R,N)1	S-Curve
-	-	-	-
43	35,000	-	S
30	35,000	-	-
-	-	-	None
-	-	-	E
14	40,000	-	S
7	40,000	-	S1
13	45,000	-	S2
15	45,000	-	S3
			S4
			S5

A chart below the input table graphically displays each S-Curve Profile



6.26.2 Sales Revenue Collection Profiles

The Sales Revenue Collection Profile feature is enabled via the Preferences. It allows you to set milestones for receiving multiple payment instalments from purchasers, either based on specific time periods in the cash flow, or on certain number of months after the Date of Exchange for each sale item. There are up to 20 different Sales Revenue Collection Profiles that can be set.



Timing of Instalment

The Preferences allows you to set whether instalments are base on:

- Specific Time Periods in the Cash Flow, which can either be a hard-coded time period (e.g Month 6, Month, 12, etc) or a Milestone ID (e.g. M1, M2, etc).
- A certain number of months after the Date of Exchange for each sale item.

When setting the instalment timings, each subsequent instalment must be later than the previous. There are up to 50 instalments that can be set.

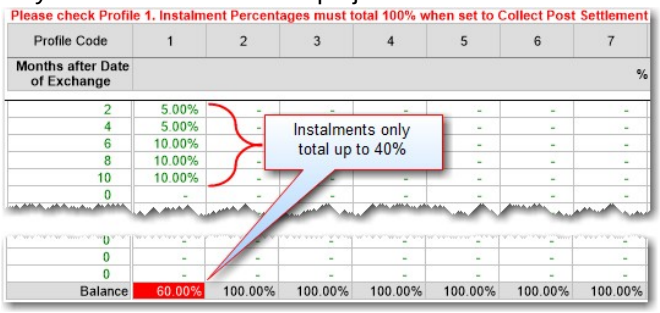
Instalment %

This is the % amount of the sale value that is paid by the purchaser and collected by the developer at the nominated instalment milestone.

Balance

This shows the outstanding amount that is payable. Based on the 'Continue Collecting Post Settlement' setting in the the Preferences, it will impact the calculations differently:

- If 'Continue Collecting Post Settlement' is **disabled/unticked** (default): The 'Balance' indicates the remaining percentage that will paid to the developer on Settlement, for Sales that adopt that profile. The Settlement Dates defined in the Sales section take precedence, and any future collection profiles (instalments set to occur after a settlement date) are ignored.
- If 'Continue Collecting Post Settlement' is **enabled/ticked**: The 'Balance' indicates the remaining percentage that still needs to be accounted for in that profile. The Settlement Dates defined in the Sales section are ignored in this instance, and therefore there will be a warning if this profile has been adopted for a Sales item, and it still has a remaining balance. If this is not rectified by inputting instalment percentages that total 100%, some sales revenue may be not recorded in the project cash flow.



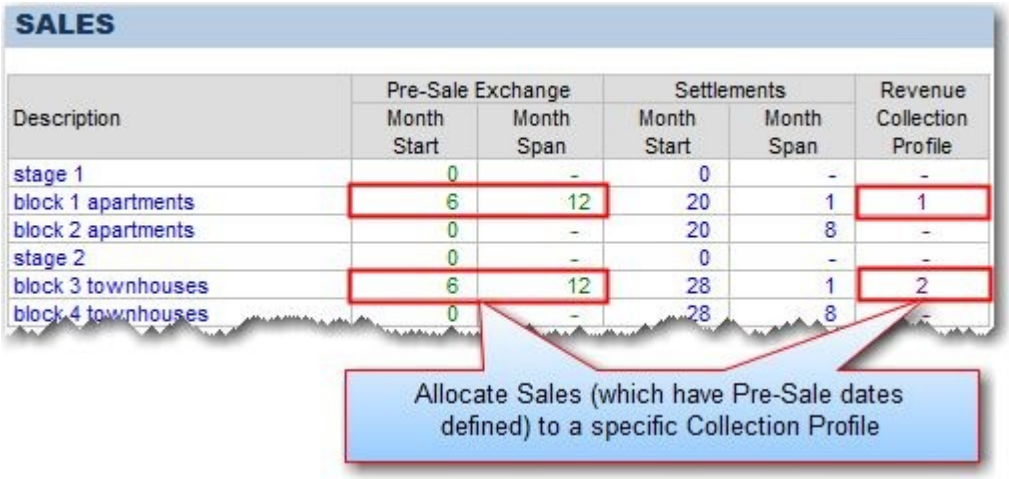
Periods from Construction Start Escrow is Released

These inputs are only displayed if 'Linked to Construction Start' is selected for the Release from Escrow Preferences.

For each profile you can nominate the number of time periods (e.g Months) after Construction Start that the developer can start to receive instalments that have been paid via the Revenue Collection Profile. Until that time, the instalments are just accumulated kept in escrow.

If this input is set as 'N', then the revenue is released to the developer at the same time the revenue instalments are made.

Once the profiles have been created, in the Sales input section, enter in 1 - 20 in the Revenue Collection Profile column.



There are a few rules in relation to using this feature:

- A Sales Revenue Collection Profile can only be applied to a sale item if Pre-sale Exchanges start and span dates are set for that item.
- If a Sales Revenue Collection Profile is applied to a sale item, then any Pre-Sale Exchange Deposits and Interest on Deposits are ignored for that item.
- This functionality is not available for Capitalised Sales entered in the Tenants section.

Collection Profile Examples

- There are 3 x $1,000,000 sales occurring, using the collection profile set below.
- There is a 10% Deposit payable on exchange, and that deposit earns interest at 5%.

Months in Cash Flow	4	5	6	7	8	9	10	18
Instalment %	20%	10%	10%	5%	10%	10%	5%	10%

Scenario	**Pre-Sale Exchange**				**Settlement**		**Results**
	Deposit	**Interest on Deposit**	**Start**	**Span**	**Start**	**Span**	
Sale 1 Pre-Sale Exchange Start is before first instalment and Settlement is before last instalment.	10%	5%	2	4	14	6	• No 10% deposit is collected from purchaser at month 2 and placed in a trust account to earn interest. • The first payment to the developer is made in month 4 as per collection profiles. • Outstanding amounts are paid in full at settlement month 14 over a 6 month span, irrespective of the future collection profiles in month 18.
Sale 2 Pre-Sale Exchange Start occurs at the same time as the first instalment and Settlement Start occurs at the same time as the last instalment, but is spread over several months.	10%	5%	4	4	18	6	• No 10% deposit is collected from purchaser at month 4 and placed in a trust account to earn interest. • The first payment to the developer is made in month 4 as per collection profiles. • Final payment is collected in month 18 as per collection profile irrespective of the nominated Settlement dates.
Sale 3 Pre-Sale Exchange Start is after the	10%	5%	6	4	20	6	• No 10% deposit is collected from purchaser at month 6 and placed in a trust account to earn interest.

first instalment and Settlement Start is after last instalment.							• In month 6, instalments 1 (20%), 2 (10%) and 3 (10%) are collected, equating to total back-pay of 40%. • Final payment is collected in month 18 as per the collection profile irrespective of the nominated Settlements dates.

Release from Escrow Example

- A developer receives $50,000/mth in escrow from period 0 to period 12 (driven by the 'Sales Revenue Collection Profile' settings/inputs)
- Construction starts in month 5 and the developer wants to release funds from escrow 3 months after that date (limited to the cumulative Construction Costs)
- In month 8 the developer has cumulated $360,000 in Construction Costs, but has $450,000 in escrow. Therefore only a maximum of 360,000 can be released from escrow for that month.
- As soon as construction finishes in Month 10, the amount of money that can be released from escrow has been exhausted, so future revenue collection profile instalments stay in escrow until the Sales settlement date in the future, where the balance is released to the developer.

Month	0	1	2	3	4	5	6	7	8	9	10	11	12
Construction Cost	-	-	-	-	-	100,000	200,000	30,000	30,000	30,000	40,000	-	-
Cumulative						100,000	300,000	330,000	360,000	390,000	430,000	430,000	430,000
Collection Profile Instalments	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
Released from Escrow	-	-	-	-	-	-	-	-	360,000	30,000	40,000	-	-
Balance left in Escrow	50,000	100,000	150,000	200,000	250,000	300,000	350,000	400,000	90,000	110,000	120,000	170,000	220,000

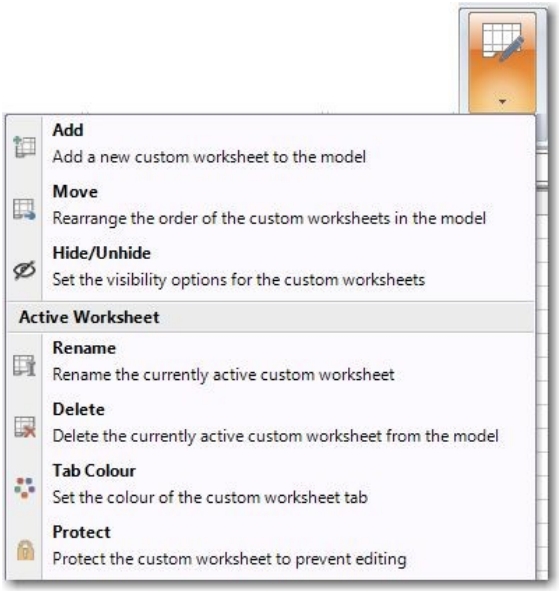
Part VII

7 Custom Worksheets

The ARGUS EstateMaster DF program is based on a spreadsheet interface and allows you to insert additional blank worksheet into the model.

Adding a Custom Sheet

Adding custom sheets is conducted via the 'Sheets' section in the Ribbon Menu.



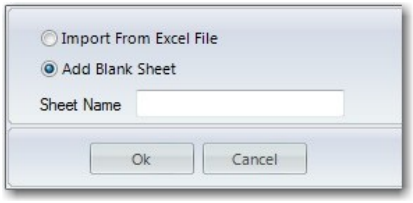
When you click on 'Add', there will be 2 options for adding a custom worksheet into the model:

1. **Importing a sheet(s) from another Excel file**: This will prompt you to browse to an Excel file and select one or more worksheets in that file to import.

   Important Notes:

   - If you attempt to import a worksheet that has formula links to another worksheet, you will be required to import the other worksheet to avoid any links being broken, otherwise you will not be able to import the worksheet.
   - If you attempt to import a protected worksheet that has password on it, you will be prompted to enter in the password before the worksheet can be imported. Once the worksheet is successfully imported, it will be protected again and can be unprotected using the sheet context menu.
   - Any 'Global' range names (those that are global to a workbook) that exist on the worksheet to be imported will be removed. Only 'local' range names (those that are local to a worksheet) will be imported with the worksheet. If you have a range name on the worksheet and you want it to be imported into ARGUS EstateMaster DF, you will need to ensure they 'local'. Refer to this Microsoft Article about using Global and Local range names: http://support.microsoft.com/kb/274504
   - Any 'Local' range names (that exist on the worksheet to be imported) that refer to an external Excel workbook will be removed.
   - Any 'Local' range names (that exist on the worksheet to be imported) that have the same name as a standard ARGUS EstateMaster DF Global Name will be renamed with "_RENAMED" appended to the end of the name. This means that any formulae that was referencing this name will be automatically adjusted.

2. **Adding a blank worksheet**: This will add a blank unprotected worksheet to the model.



Please Note:

- Custom sheets are file specific. The are not separately stored with storing Options/Stages. Therefore, since each Option/Stage may have different numbers of input rows and time periods between them, be careful when linking data from the standard sheets to the custom sheets, as the same cell reference may be referring to different items between them.

  Therefore, if you are using Options/Stages and are linking inputs to the custom sheets, then you should either:

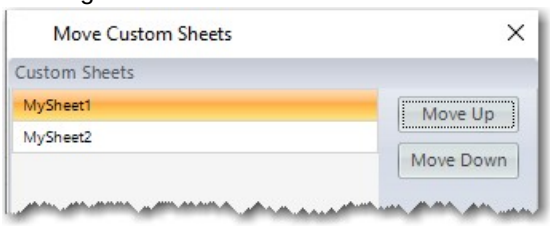
  1. Not delete any rows/columns on the custom worksheet once you have stored an Option/Stage
  2. Have a separate worksheet for each Option/Stage, and only edit it while that specific Option/Stage is live

- Custom worksheets will be saved to the data file (*.emdf), however they will not be stored in the Enterprise Database when Exporting.

Working with Existing Custom Sheets (Rename, Delete, etc)

Once a sheet is added, you can do the following to it via the Ribbon Menu:

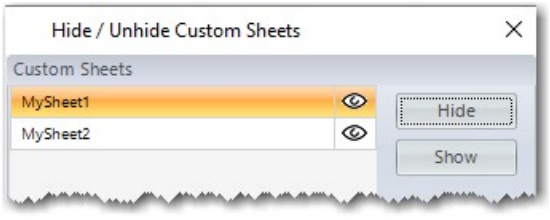
- **Rename**: Click on 'Rename', and a prompt will appear asking you to give the active sheet a different name.
- **Delete**: Click on 'Delete', and it will ask you to confirm the deletion of the active sheet.
- **Move:** Click on 'Move', and a list of all the custom sheets in the model will appear where you can rearrange their order.



- **Hide/Unhide:** Click on 'Hide/Unhide' and a list of all the custom sheets in the model will appear where you can change the visibility setting.

  indicates that the sheet is hidden

  indicates that the sheet is visible

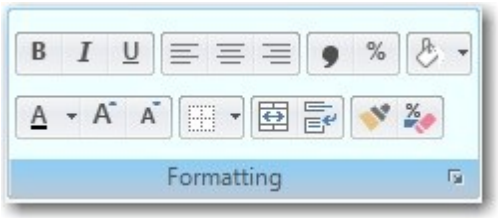


- **Change the Tab Colour:** Click on 'Tab Colour', and a colour picker will appear to allow you to customise the sheet's tab colour.
- **Protect / Unprotect:** Click on 'Protect' or 'Unprotect' (will differ, based on the current protection status of the sheet) to either protect the sheet with a password, or unprotect it.

Renaming or Deleting Sheets when using Options/Stages
Deleting/Renaming a custom worksheet will make any custom formulae that you have created in your Options/Stages inputs that refer to this sheet, invalid. That is because, when that Option/Stage is recalled, it may have formulae that refer to a sheet name that no longer exists. Any invalid formulae will then be converted to its corresponding 'value' the next time the Option/Stage is recalled.

Custom Sheets Formatting Menu

In addition to the context menu available for custom sheets, there is also a Ribbon Menu item that appears when a custom sheet is activated to assist with cell formatting.



It contains the following functions:

- Setting the font to Bold, Italics and Underlined.
- Left, centre or right aligning text.
- Changing the number format to Comma (#,###.00) or Percentage Style (#.00%).
- Setting the Fill colour of the cell.*
- Setting the Font colour.*
- Increasing or decreasing font size.
- Merge and Centre across cells and text wrapping.
- Format Painter (copies formatting of current selection and pastes it onto the next selected cell(s))
- Clearing cell formatting.

* When setting colours to fill or font, the previously selected colour will be displayed when hovering over the menu item.

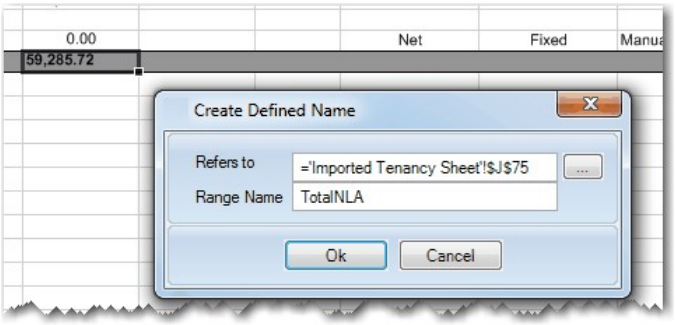
For a complete menu of all formatting available for custom sheets, click on the button at the bottom right of the menu.

7.1 Names

This feature allows you to create a named range or a named constant/formula to use them in other formulas. By using 'Names', you can make your formulas much easier to understand and maintain, and more importantly, make them dynamic.

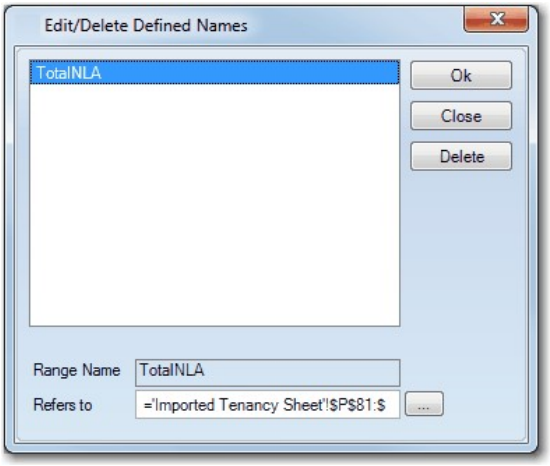
Defining a Range Name

1. On the custom sheet, select the cell(s) you want to define with a Name
2. Right-click and select 'Names > Define'
3. A form will appear with two fields:
    a. **Refers to:** This defaults to the cell address that is currently selected and that the Name is being applied to. This can be updated to a different cell address if required, or alternatively edited to be formula (e.g. to build dynamic range names) or hardcoded with value.
    b. **Range Name**: This is the actual Name applied to it. It must have no spaces in the text and not already exist.
4. Once completed, click [OK]. This will apply it as a 'Local' Name in the active worksheet.



Editing a Range Name

1. On the custom sheet, right-click and select 'Names > Edit'
2. A form will appear listing all the Names located on the active worksheet.
3. You can select an individual Name and either:
    a. Click [Delete] to remove it from the worksheet. Any formulae referencing it will then become invalid and will need to be updated.
    b. Edit the 'Refers to' details to change where the Name is pointing to or its formula/value.



Using Names

The Names that are created by this function are 'Local'; meaning that it is available by default only on the sheet where it is defined, whereas 'Global' Names are available to the whole workbook. This means that when using your custom Names in user-inserted formulae:

- If the formula is on the *same* worksheet where the Name is located, you can just type in the name in the formula (e.g. =TotalNLA)
- If the formula is on a *different* worksheet where the Name is located, you must include the sheet name (within single quotes if the sheet name has spaces) with an exclamation point (!) before the Name (e.g. ='Imported Tenancy Sheet'!TotalNLA)

Please Note: Unlike Excel, where it automatically resolves a cell address to a Name (if it has one) when you are editing a formula, ARGUS EstateMaster DF will not behave like this. You will need to manually type in the Name, whether it be a custom or standard one, in a formula to use it.

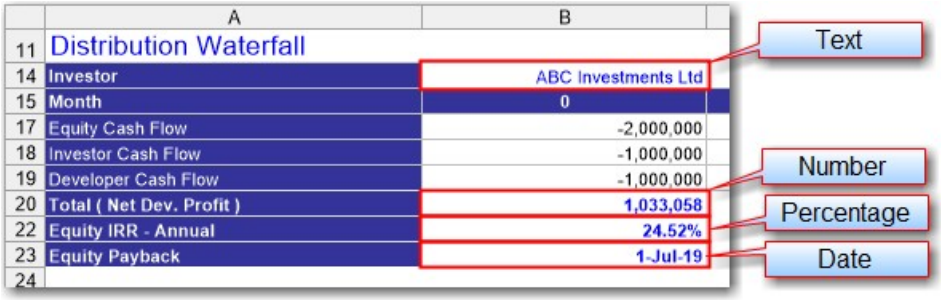
7.2 Exporting Data to the Enterprise Database

When exporting to the Enterprise Database, by default, only data on standard worksheets is exported. If there is any data on your custom worksheets that you want exported to the Enterprise Database for consolidated analysis, you can use this feature to define a data range that you wish to include in the export process.

Types of Data that can be Exported

Single-Cell Data

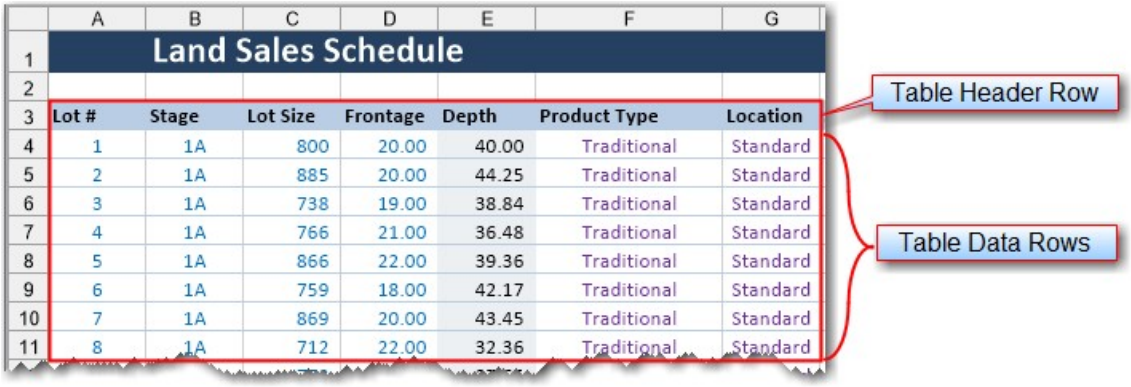
These are single-cell outputs which can either be a Date, Number, Percentage (must contain a '%' sign) or Text.



Multi-Cell Data (Tables)

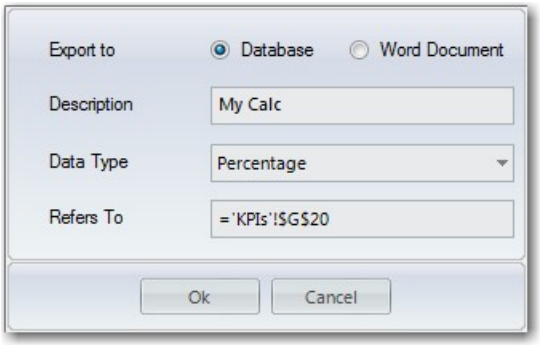
These are multi-cell outputs that are configured in a table layout. There is no restriction on the type of data that can be inserted in these tables, however there are certain rules that must be followed:

- Table orientation must be 'vertical' (column headers at the top, and data entered top to bottom)
- The first row in the Table must always be a single-row header and have no merged cells or empty cells.
- There must be at least 2 rows in the table; 1 Header row and at least 1 row of data.
- If a row has data in at least 1 column (including a '0' value), it will be exported to the database. Only rows that have no data for ALL columns will be skipped.
  - Note: If there are formulas in the table, you may need to change them so that they return empty text rather than zero, if you wish to skip those rows when they are not used.



Creating a Custom Database Export Range

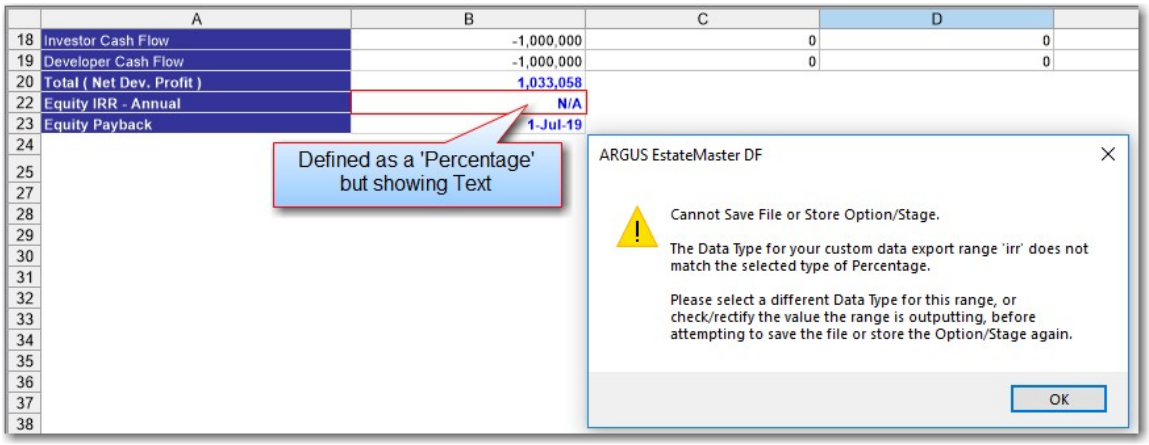
1. On the custom sheet, select the data you want to export to the Enterprise Database.
2. Right-click and select 'Custom Data Export > Define'
3. A form will appear with four fields:
   a. **Export to:** Select 'Database' option
   b. **Description:** A unique description for the data you want to export. You cannot use the same 'Description' more than once in a file.
   c. **Data Type:** The format of the data selected:
      i. If you have selected a single cell range, then you will have the option to select 'Date', 'Number', 'Percentage' or 'Text' from the drop-down.
      ii. If you have selected a table range, then this drop-down will automatically set to 'Table'.
   d. **Refers to:** This is the range address that is currently selected, but can be updated if required just by selecting a different range in the custom worksheet behind the form.
4. Once completed, click [OK]. This will flag the data so it is is included in the database export process.



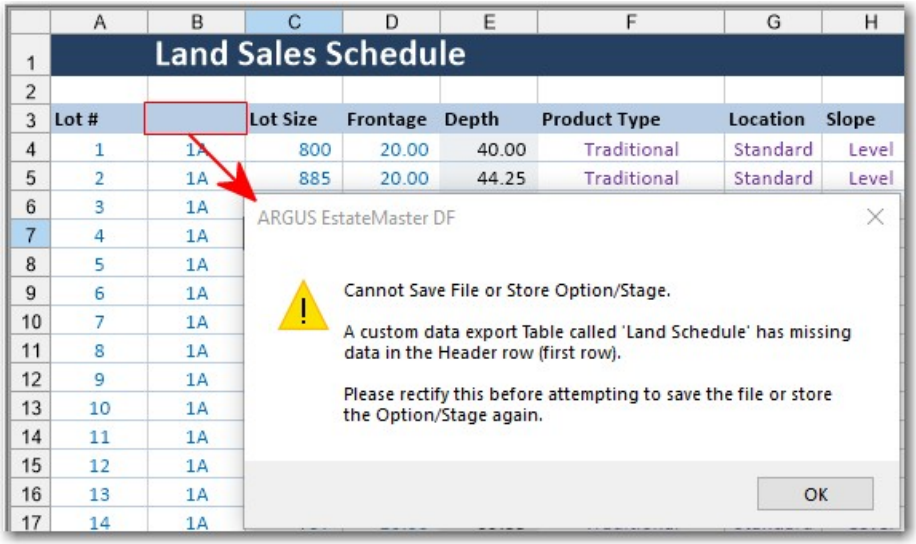
Validation Checks on File Save

Upon attempting to save a file, all custom export ranges will be validated to ensure there are no issues.

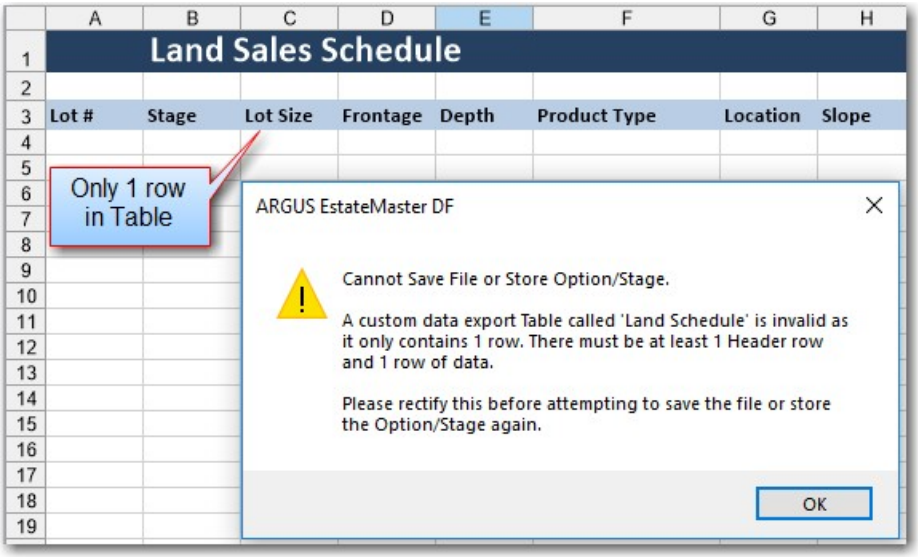
- **Data Type (Single-Cell Data):** If it finds that there is a conflict with the Data Type selected by the user and the actual data type of the cell, a warning will appear.



- **Header Rows (Table Data):** If it finds that the first row of the table contains empty/merged cells, a warning will appear.



- **Header Rows (Table Data):** If it finds that the table does not meet the minimum size requirements of 2 rows, a warning will appear.



Editing a Custom Database Export Range

1. On the custom sheet, right-click and select 'Custom Data Export > Edit'
2. A form will appear listing all the Custom Data Export ranges (exporting to both Database and Word) on the active worksheet only.
3. If you select one that is used for exporting to the Database, you can either:
    a. Click [Delete] to remove it from the worksheet and stop the data from being exported to the database (any existing data in the database will not be affected)
    b. Edit the 'Description', 'Data Type' or 'Refers to' details.
        i. Note: The 'Data Type' can only be changed form one single-cell data type to another single-cell data type, and before it has been stored in an Option/Stage. If you wish to change a table range to a single-cell range, or vice versa, or after it has been stored in an Option/Stage, you must delete the original name first and then recreate the new range with the different data type.

Exporting the Data

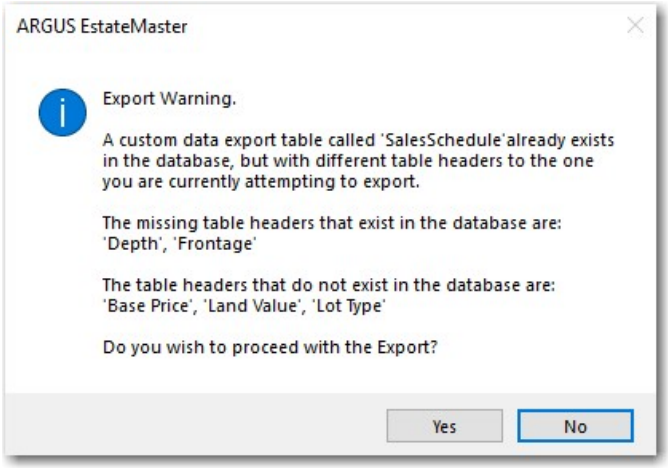
The data on the custom sheet that has been defined using the above steps, will only be exported to the Enterprise Database when the ARGUS EstateMaster DF file itself is being exported.

Validation Checks on File Export

Upon attempting to export a file to the database, all custom export ranges will be validated to ensure there are no issues.

- **Same Description, different Data Type:** If data has already been exported to the database that has the same 'Description' but different 'Data Type', a warning will appear and the export process will terminate.

- **Different Table Headers (Table Data):** If a Table has already been exported to the database that has the same 'Description', but different columns (i.e. a column has been deleted/added/renamed since the last export), a warning will appear with the option to proceed or not.



Accessing Exported Data

When the file is exported to the Enterprise Database, any Custom Database Export Ranges that have been defined on custom worksheets will automatically be exported as well, updating the following tables and fields in the Enterprise Database:

Table	Field	Description
CustomDataExportRange	RangeName	A unique range name given to the cell
	RangeDescription	The description entered by the user
	DataType	The data type entered by the user
CustomDataExportRangeValue *Applies to Single-cell Data Only*	CustomDataExportRangeID	The ID of the CustomDataExportRange record that this child record belongs to
	RangeValue	The cell value
	CashFlow ID	The ID of the Cash Flow record that this child record belongs to
	SheetName	The name of the custom sheet that the value existed on
CustomDataExportRangeTable *Applies to Table Data Only*	CustomDataExportRangeID	The ID of the CustomDataExportRange record that this child record belongs to
	CashFlow ID	The ID of the Cash Flow record that this child record belongs to

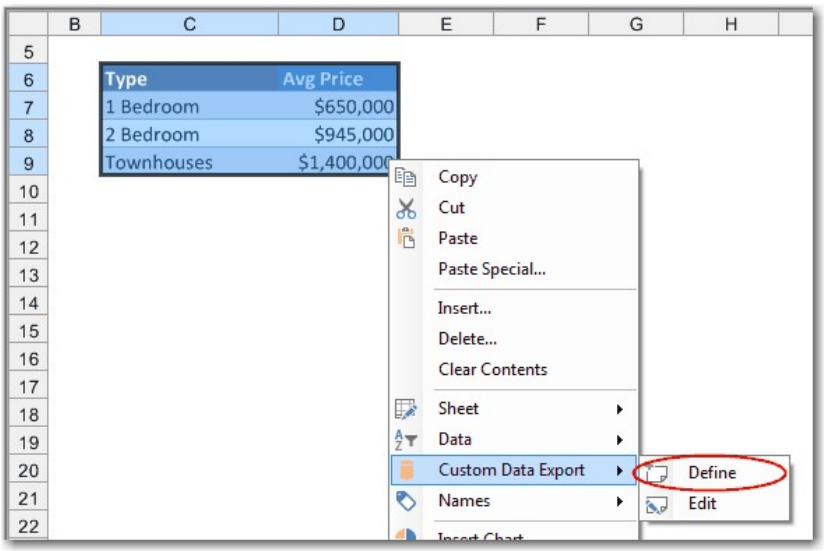
	SheetName	The name of the custom sheet that the Table existed on
	ColumnName	The names of each column in the Table
CustomDataExportRangeTableData *Applies to Table Data Only*	CustomDataExportRangeTableID	The ID of the CustomDataExportRangeTable record that this child record belongs to. A different ID is given to each different column in a Table.
	Row Number	The actual row number of the table that the data exists in. Rows that are ignored during the export process are skipped.
	CellValue	The data that exists in that row for the specified column (i.e. CustomDataExportRangeTableID)

7.3 Exporting Data to a Word Document

When using the Office Links feature to link ARGUS EstateMaster DF data to a Word Document, by default, only the standard outputs in the Word Bookmarks Directory can be exported to a Word Document. If there is any data on your custom worksheets that you want exported to a linked Word Document, you can use this feature to a define a range of cells that you wish to include in the export process.

Creating a Custom Word Export Range

1. On the custom sheet, select the cell or range of cells you want to export to a linked Word Document.
2. Right-click and select 'Custom Data Export > Define'



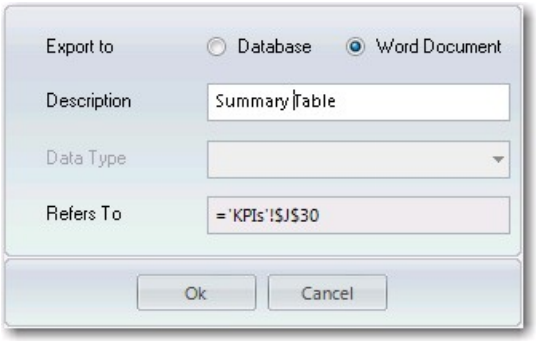
3. A form will appear with four fields:
    a. **Export to:** Select 'Word Document' option
    b. **Description:** A unique description for the data you want to export. You cannot use the same 'Description' more than once in a file.

c. **Data Type:** This is not required when 'Word Document' option is selected.

d. **Refers to:** This defaults to the cell/range address that is currently selected but can be updated to a different cell/range address if required.

Please Note: Single-cell data will data will be exported as a 'text value' into the linked Word Document, while multi-cell data will be exported as an image.

4. Once completed, click [OK]. This will flag the cell so its value is included in the export process.



Editing a Custom Word Export Range

1. On the custom sheet, right-click and select 'Custom Data Export > Edit'
2. A form will appear listing all the Custom Data Export cells on the active worksheet.
3. If you select one that is used for exporting to a linked Word Document, you can either:

   a. Click [Delete] to remove it from the worksheet and stop the data from being exported to the database (any existing data in the database will not be affected)

   b. Edit the 'Description' or 'Refers to' details.

Exporting the Data

The data on the custom sheet that has been defined using the above steps, will only be exported to a Word Document that has been linked to the ARGUS EstateMaster DF file using the 'Office Links' feature.

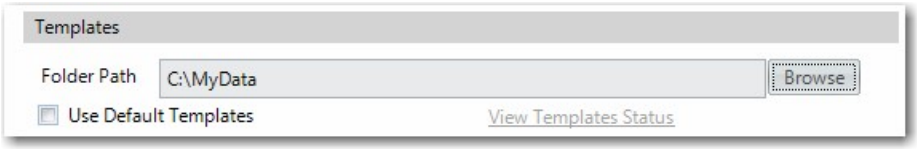
Part VII

8 Application Templates

Templates are a 'sample' ARGUS EstateMaster DF file that already have some inputs/preferences in place, which can be later adapted by the user (that is added/completed, removed or changed). Once a template is created, the user can save, edit and manage the result as an ordinary ARGUS EstateMaster DF file in a centralised location for other users to access. ARGUS EstateMaster DF templates enable the ability to bypass the initial setup and configuration time necessary to create standardised ARGUS EstateMaster DF files for various uses and objectives. For example, templates can be created for different 'types' of projects (i.e. residential, commercial, retail, etc), where each may have a different format or base assumptions.

8.1 Selecting a Template Folder

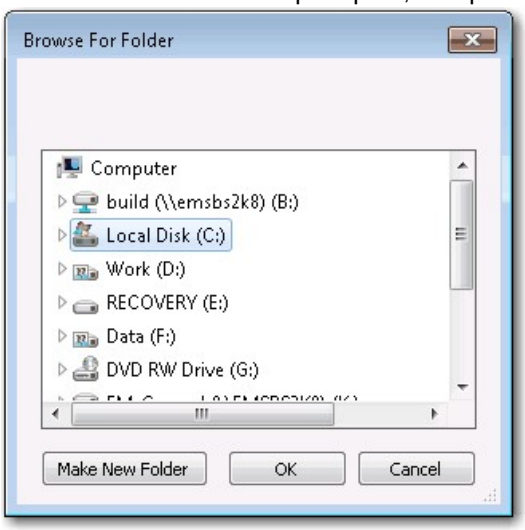
The first step that should be completed before creating any templates, is defining where they should be stored on your local machine or network. This is set in the 'Template Folder Path' application setting.



By default when the application is run for the first time, this folder path will be set as ***<directory where ARGUS EstateMaster DF is installed>*\Templates**. This may be sufficient for single standalone users, however for multi-user environments it is highly recommended that it be changed to a network location that all necessary users have access to.

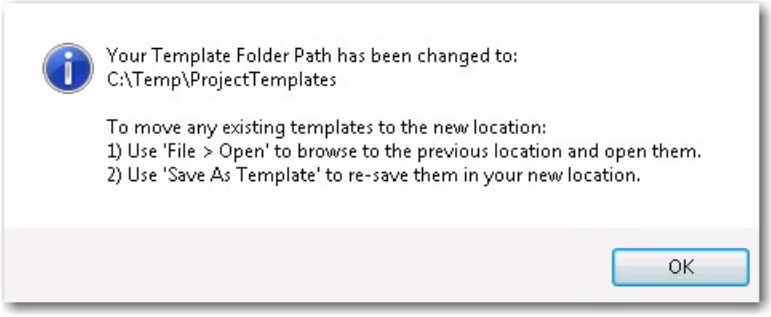
To change the location:

1. Click the 'Browse' button.
2. Select a new folder when prompted, and press 'OK' to confirm.



3. A message will appear alerting the user that the change has occurred and any templates that were stored in the original folder will need to be manually re-saved as templates in the new

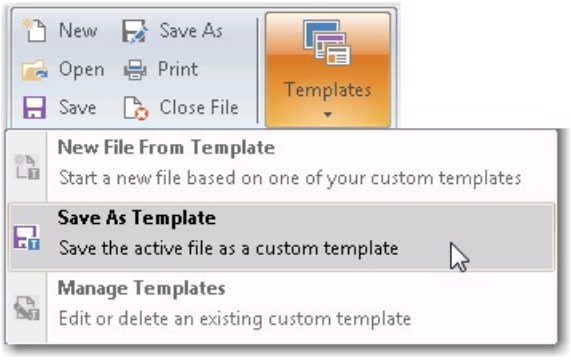
folder.



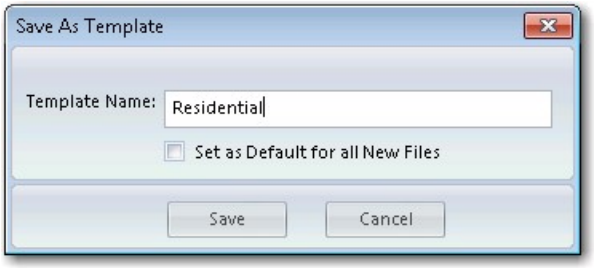
8.2 Creating a Template

A Template is just a normal ARGUS EstateMaster DF file that is stored in a centralised location that can be shared and used for starting new projects. To create a template:

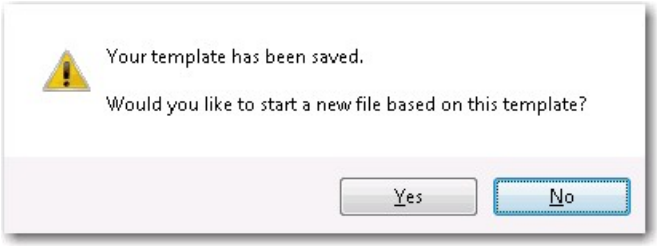
1. Start ARGUS EstateMaster DF - a template can be created from scratch, or you can open an existing file to create a template from it.
2. Make the necessary adjustments to the file to start building up your template, this can include, but not limited to:
    a. Setting preferences (taxation format, currency, calculation options, etc)
    b. Entering inputs (base escalation rates, discount rates, chart of accounts, etc)
    c. Inserting custom worksheets (custom calculations and/or reports)
3. Once you have completed setting up your template, in the Ribbon menu, click on File > Templates > Save as Template



4. A dialog will appear, prompting you to name the template and indicate if the template should be set as a 'default' for all new files.



5. Once you click 'Save', the file will be saved in the designated Template Folder and you will be asked whether you wish to start a new file based on that template.



   a. If 'Yes', the current template file will close, and a new file will be started, based on the newly created template.

   b. If 'No', the current template file will close.

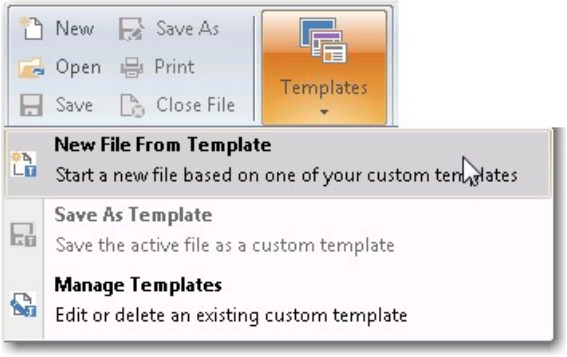
8.3 Using a Template

There are 2 ways of using a template to start a new file:

1. Using the 'New File from Template' function, or
2. Setting a Template as a 'default' so it is used every time the application is started or File-New is clicked.

Manually Starting a New File from Template

1. In the Ribbon menu, click on File > Templates > New File from Template (Note: If this button is disabled, it means there are no templates saved in the Template Folder).



2. In the dialog that appears, it will display:

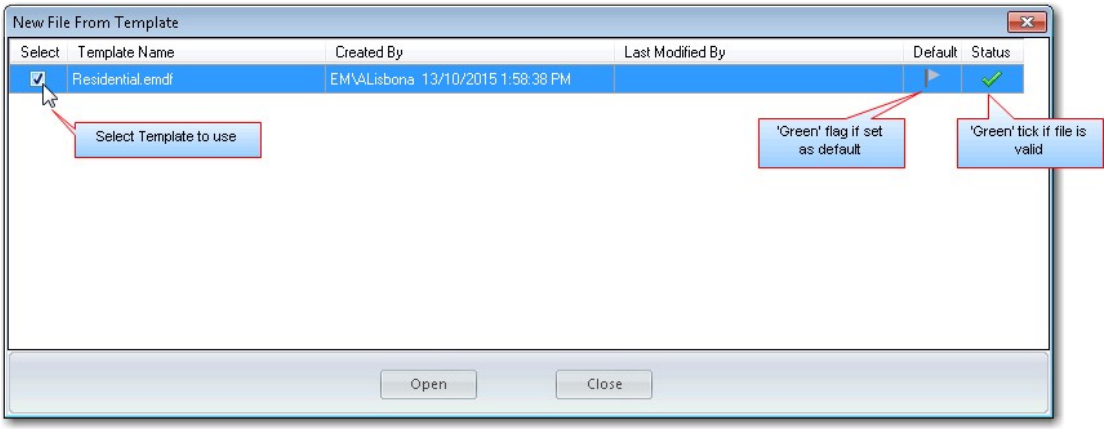
   a. The list of templates that have been created in the designated Template Folder

   b. When they were created and last modified, and by whom

   c. Which template (if any) is marked as the 'default'

   d. The status of the templates (they physically exist in the Template Folder)

Select the template you wish to use, and click 'Open'.



3. A new file will then be started, based on the selected template.

Setting and Using Default Templates

Being able to use Default Templates is a two-step process:

1. Setting a specific template as a 'Default' either when you are creating a new template, or editing an existing template in the 'Manage Templates' form.
2. Enabling the 'Use Default Templates' setting in the application settings.

Once these step are completed, the template that is designated as the 'default' will be used when:

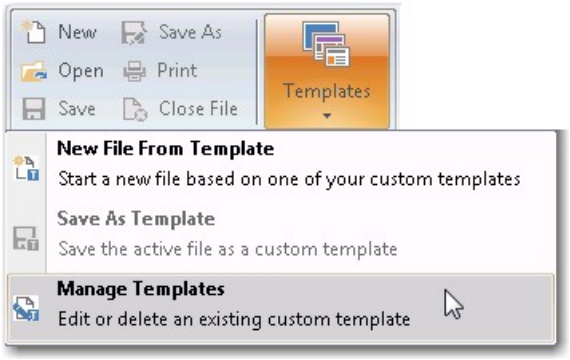
1. Each time the ARGUS EstateMaster DF application is started.
2. Each time File > New is pressed in the Ribbon menu

8.4 Managing Templates

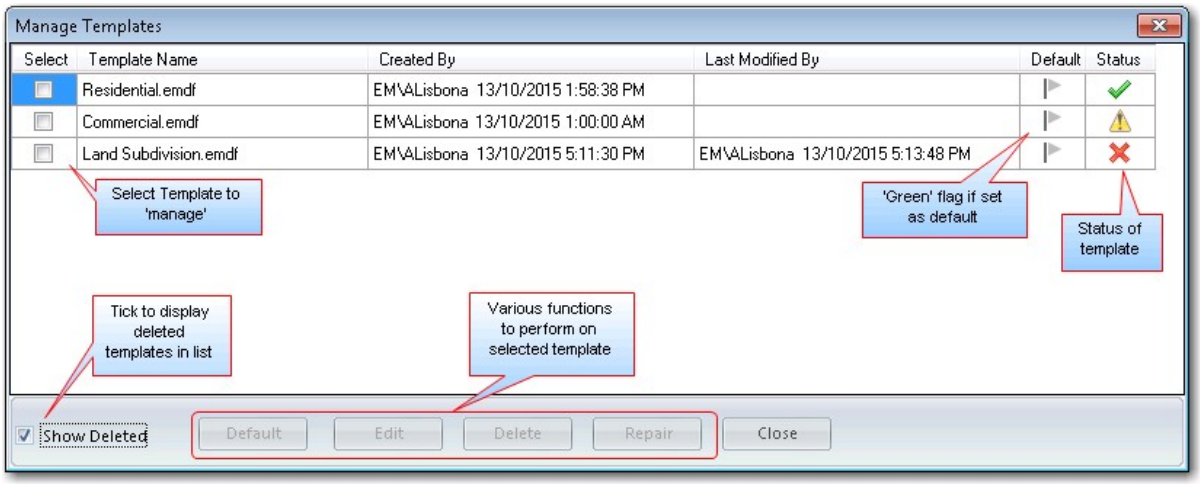
The Manage Templates function allows the user to make certain changes to their application templates, such as:

- Toggling which template is set as the 'default'
- Deleting templates permanently
- Edit a template file
- 'Repairing' and invalid template (e.g. a template that has moved from the Template Folder or has been deleted)

To load the Manage Templates function, in the Ribbon menu, click on File > Templates > Manage Templates (Note: If this button is disabled, it means there are no templates saved in the Template Folder).



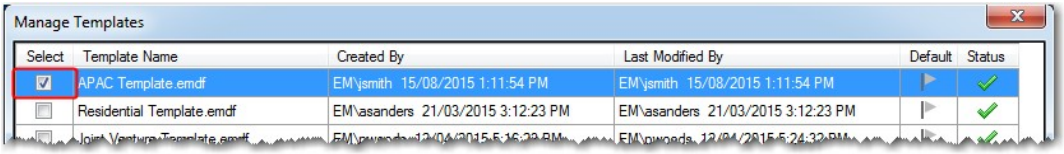
The following dialog will then appear:



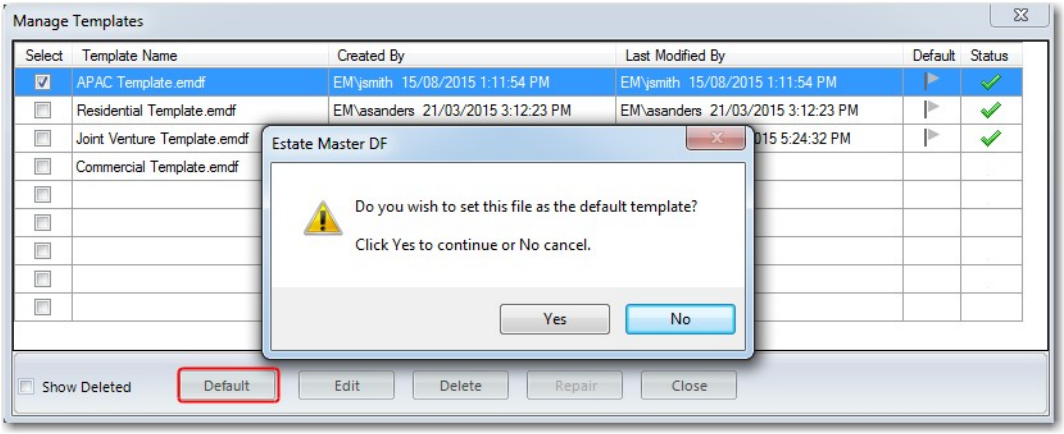
8.4.1 Setting a Default Template

To set a template as a default:

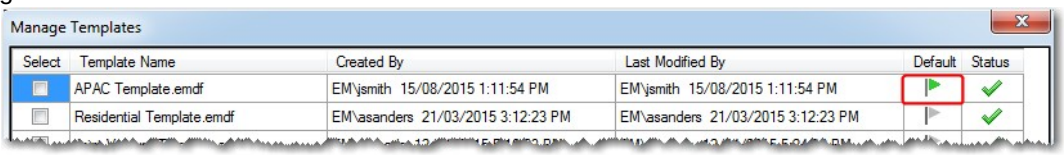
1. Select the desired template from the 'Manage Templates' form - it must be a valid template with a green tick in the 'Status'



2. Click on the [Default] button. A message will appear.



3. If you click 'Yes', it will check to see if any other template is set as the default and remove it from that, before setting your selected template as the default, and changing the 'Status' to a green tick.



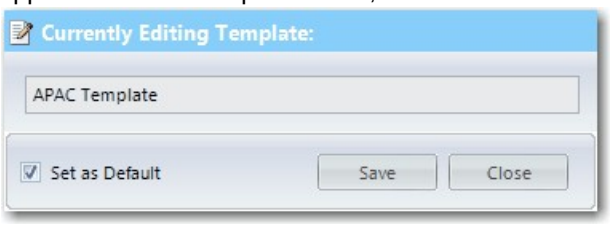
Important Note:

- Even though this process marks which template is the 'default', the 'Use Default Templates' setting in the application settings still needs to be enabled to for it to be implemented.

8.4.2 Editing a Template

To set a template as a default:

1. Select the desired template from the 'Manage Templates' form - it must be a valid template with a green tick in the 'Status'.
2. Click on the [Edit] button. The template will then open in 'Edit' mode, and a floating dialog appears with the template name, the 'Set as Default' checkbox and a 'Save' and 'Close' button.



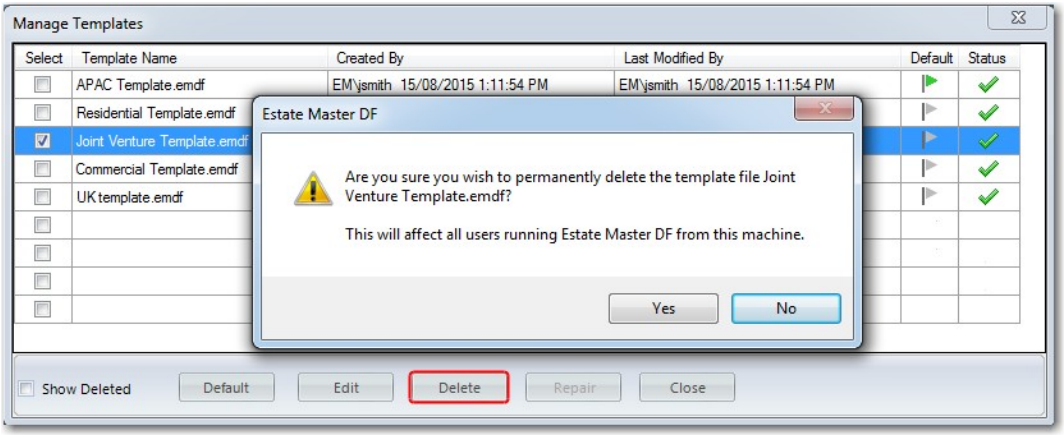
3. While the template is in 'Edit' mode, you can make all the changes to the file just like any ordinary file, except:
    a. You cannot switch to another file window
    b. Use the standard 'File' menu to start a new file, open an existing file, save the file or close the file.
4. Once your edits are complete, if you wish to save the changes, click 'Save' on the floating dialog. If the template name is not changed, it will overwrite the existing template, otherwise a new template will be created with the new name, and the original template will be retained

8.4.3 Deleting a Template

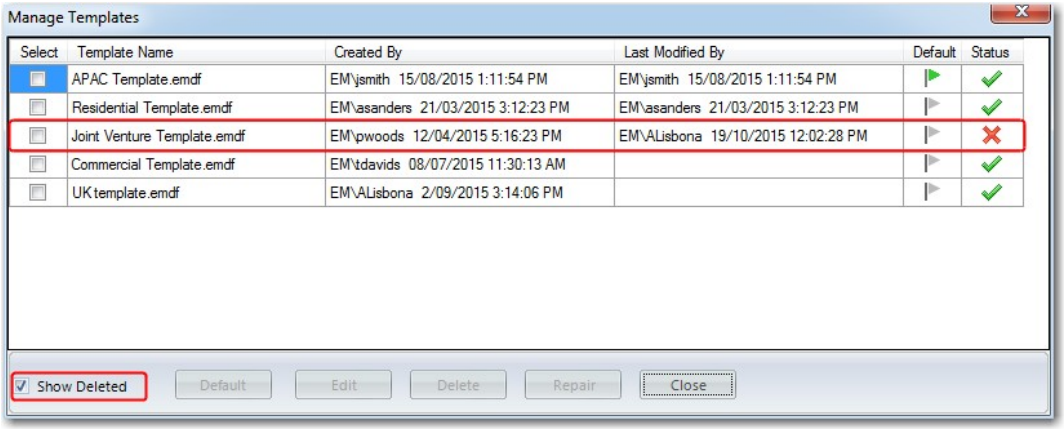
To set a template as a default:

1. Select the desired template from the 'Manage Templates' form - it must be a valid template with a green tick in the 'Status'.\

2. Click on the [Delete] button. A message will appear.



3. If you click 'Yes', it will physically delete the file from the template folder. It will however remain in the list and can be displayed when 'Show Deleted' is ticked; it will have a a red cross in the 'Status' field to indicate it has been deleted, and the 'Last Modified By' field will indicate who deleted the file, and when.



4. Once a template has been deleted using this method, the only option available to it in the 'Manage Templates function is to remove it from the list permanently or select another file for it, both via the 'Repair' function.

Important Note:

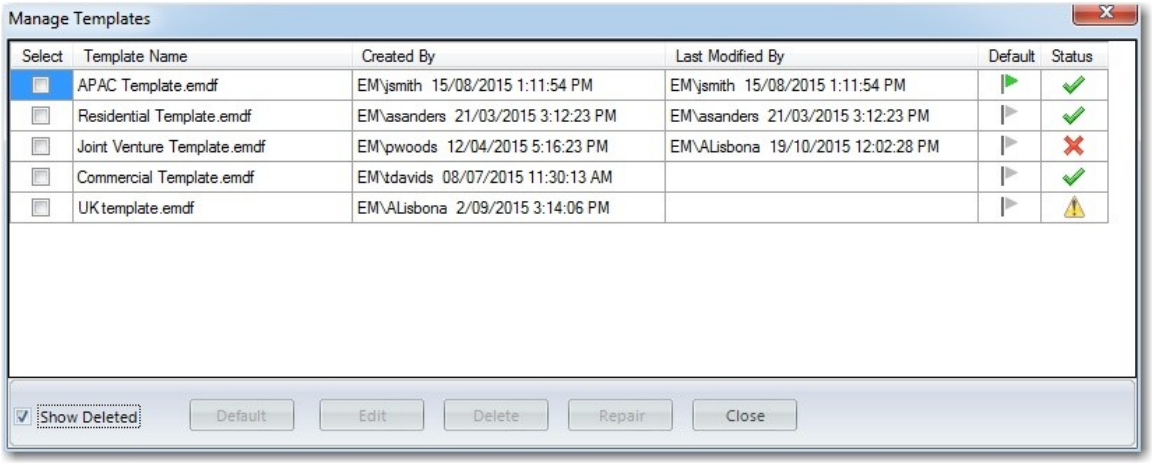
- Do not delete templates directly from the Template Folder via Windows Explorer - always use the 'Manage Templates' function to do so.
- If a template has been moved/deleted from the Template Folder via Windows Explorer, it will appear in the list marked with a warning icon in the 'Status' and it will need to be 'repaired' to either remove it from the list permanently or select another file for it.

8.4.4 Repairing Invalid Templates

An 'invalid' template is:

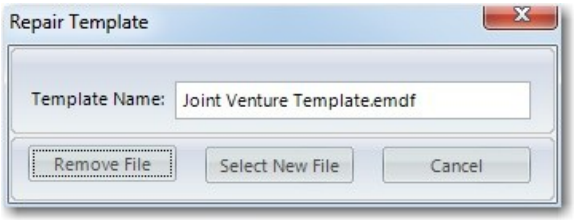
A template that has been deleted using the 'Delete' function in the Manage Templates form (these will appear when the 'Show Deleted' option is ticked, or

A template that was originally created, but can no longer be found by the ARGUS EstateMaster DF application. This could have been caused by the template file being manually moved or deleted by a user via Windows Explorer.



When an 'invalid' template is selected in the 'Manage Templates' form, the [Repair] button will be enabled.If this is clicked, the following options will be available for that template:

- **Remove File:** Permanently remove the template details from the 'Manage Templates' listing.
- **Select New File:** Browse for another ARGUS EstateMaster DF file to act as the selected template. If the file chosen has a different name than the invalid template being 'repaired', then it will be automatically renamed to match the original template name.

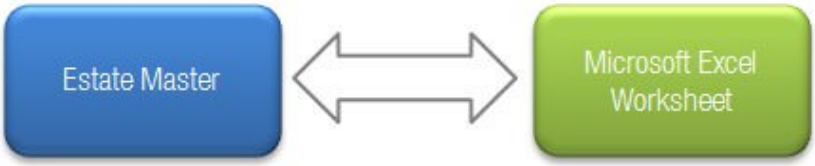


Part

9 Integration with Microsoft Excel and Word

9.1 Linking to Excel Files

Just like in Excel, you can use this feature to either create a formula in ARGUS EstateMaster DF that is referencing an external Excel file (an 'Incoming' link), or you can create a formula in an external Excel file that is referencing the ARGUS EstateMaster DF file (an 'Outgoing' link).

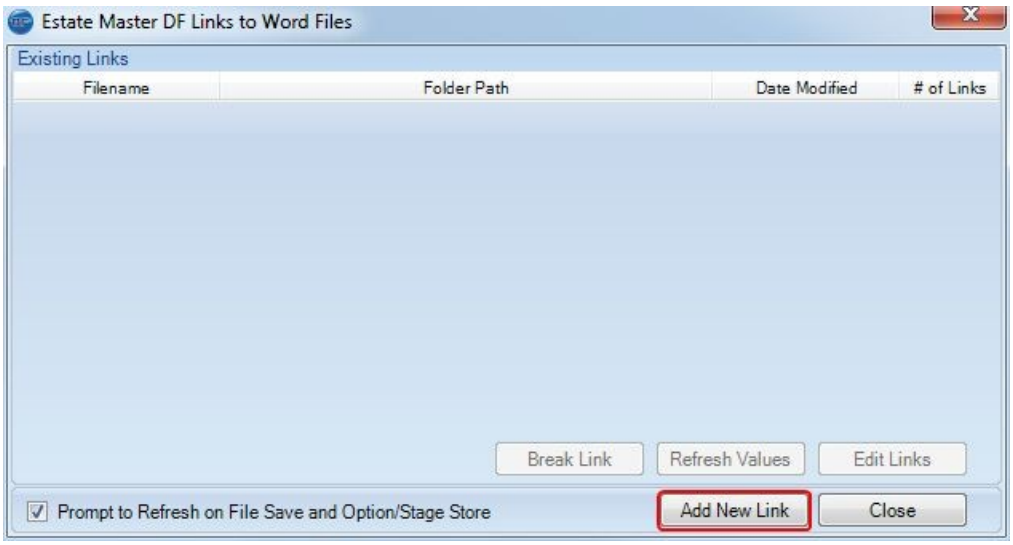


Creating an Excel Link

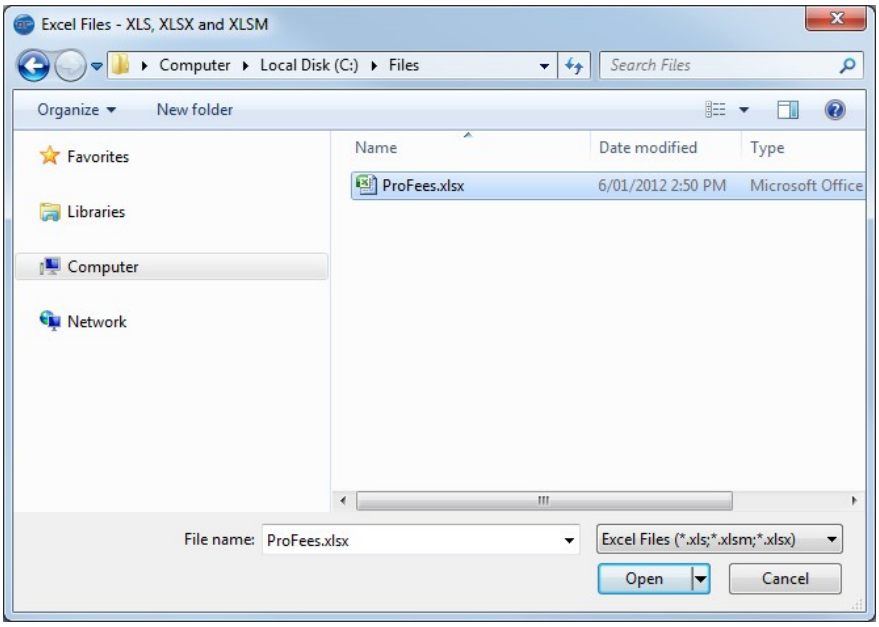
1. Click on the [Excel] button in the 'Office Links' menu.

2. A dialog will appear. Click on the [Add New Link] button.

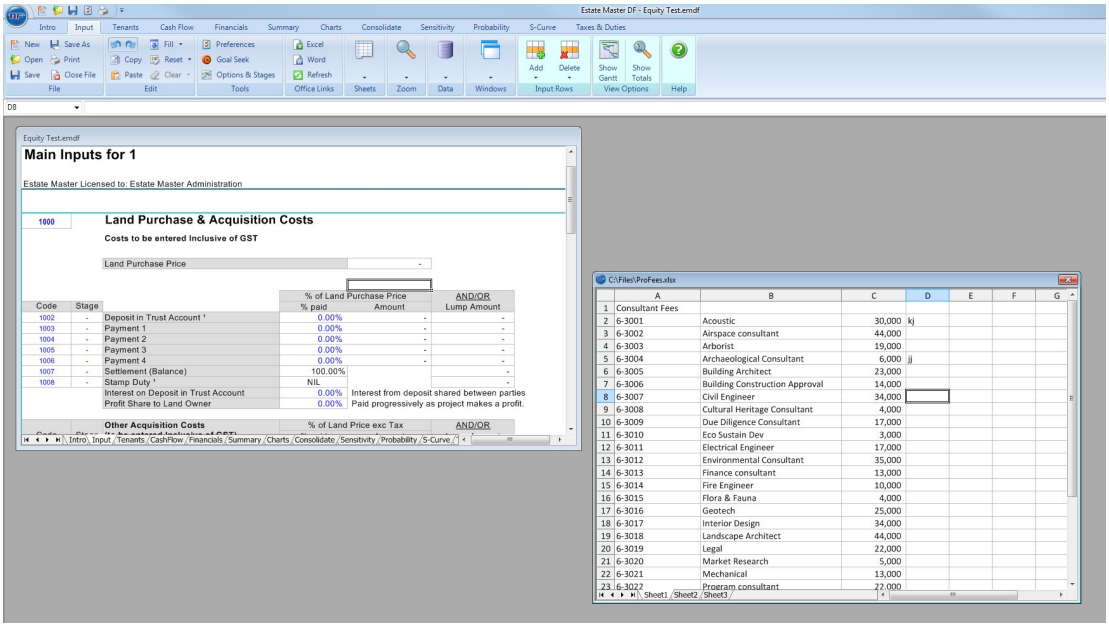
   Please Note: Only 1 ARGUS EstateMaster DF window (i.e file) can be open when loading an external Excel file. If there are multiple ARGUS EstateMaster DF windows open in the application, it will prompt you to close down the other windows before trying to add a new link.



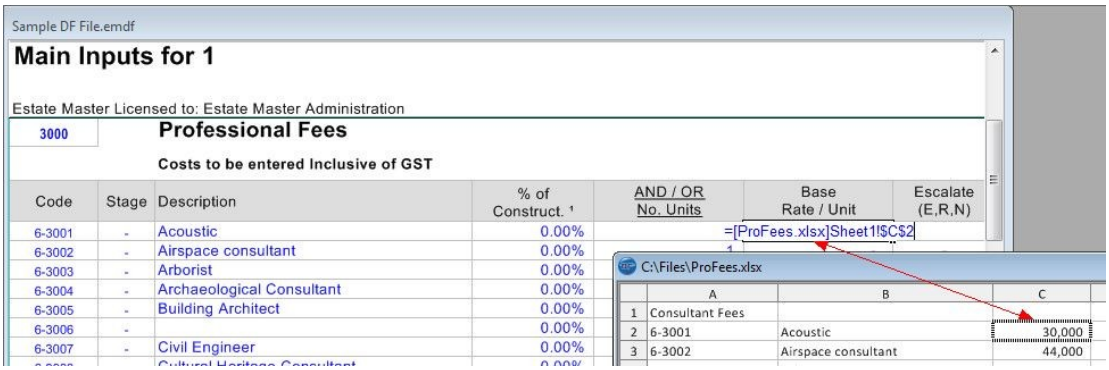
3. Browse to the Excel file you want to open and create links with. Select the file and press [Open].



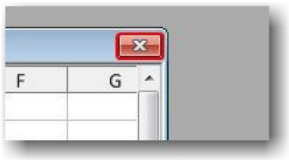
4. The ARGUS EstateMaster DF application window will re-adjust to show the ARGUS EstateMaster DF file and Excel file as individual cascading windows.



5. While these windows are displayed, you can write formulae in either one that reference the other, just by selecting a cell, starting to write a formula, and then selecting the other file to select a cell/range to refer to in that formula.



6. When you are completed linking your files, you will need to close the Excel file. This can be done by clicking on the Close button (red X) on the top right of the window.



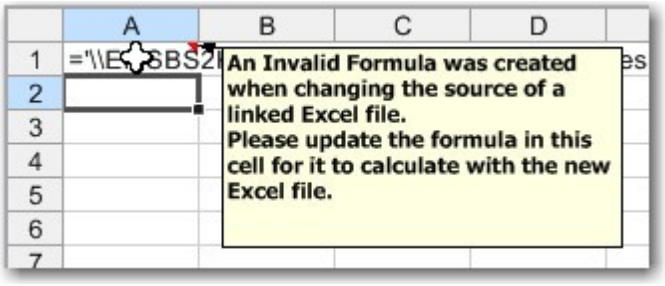
7. If any changes were made to the Excel file, it will ask you if you want to save these changes before closing the file.

   Please Note: If you save the file, some features that are not completely supported by this spreadsheet interface may be lost (including, but not limited to, items such as Form/ActiveX Controls, Pivot Charts, Cell Comments, Cell Gradients, Excel 2007-style Conditional Format options, Excel 2007-style Tables and Structured References, OLE objects (Camera, Embedded Documents, etc) and Shape fill effects and shadows).

8. At any time you can click on the [Excel] button in the 'Office Links' menu to reload the dialog where you can:

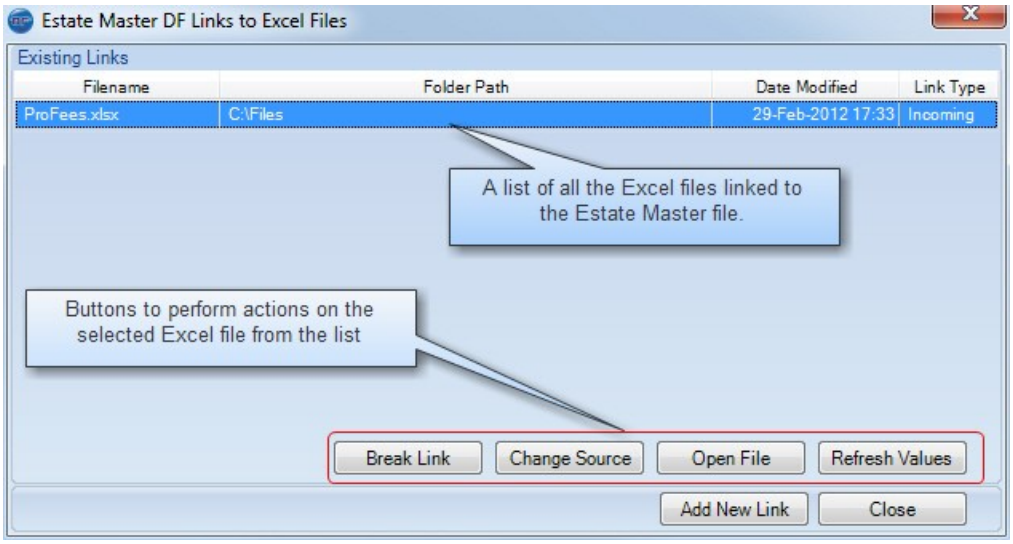
   - View a list of all files linking to the ARGUS EstateMaster DF file, where they are located and whether they have Incoming, Outgoing or multi-directional links.
   - Click **[Break Link]**, to remove the selected Excel file from being linked to the ARGUS EstateMaster DF files. After the file is saved and re-opened, any formulas in the ARGUS EstateMaster DF file that were referencing this Excel file will be:
     - On Standard Worksheets: Loaded as its last known calculated 'value' (no formula). This will allow the model to continue calculating without issues.
     - On Custom Worksheets: Converted to text, by adding an apostrophe before the '=' in the formula. This will allow the user to check and amend the formula where necessary.
   - Click **[Change Source]**, to change the location of the selected Excel file. This will prompt you to browse to another file, and the program will search for all formulae where the old Excel file was referenced, and replace it with the name of the newly selected Excel file. During such process, if any of the formulae becomes invalid (due to worksheet or range name that existed in the old Excel file, but not in the new one), there following will occur to such formulae:
     - On Standard Worksheets: Converted to its last known calculated 'value' (no formula). This will allow the model to continue calculating without issues.
     - On Custom Worksheets: Converted to text, by adding an apostrophe before the '=' in the formula. This will allow the user to check and amend the formula where necessary.

In addition, a warning will appear, listing the worksheets where such invalid formulae were found after the 'Change Source' process was completed, and cell comments will be added to the actual cells where the invalid formulae were processed.



Example showing a red cell comment where an invalid formula was created as a result of a 'Change Source'

- Click **[Open File**] to open the selected Excel file again to change/add links.
- Click **[Refresh Values]** to momentarily open the selected Excel file to refresh the results.
- Click **[Add New Link]** to add a link to another Excel file.



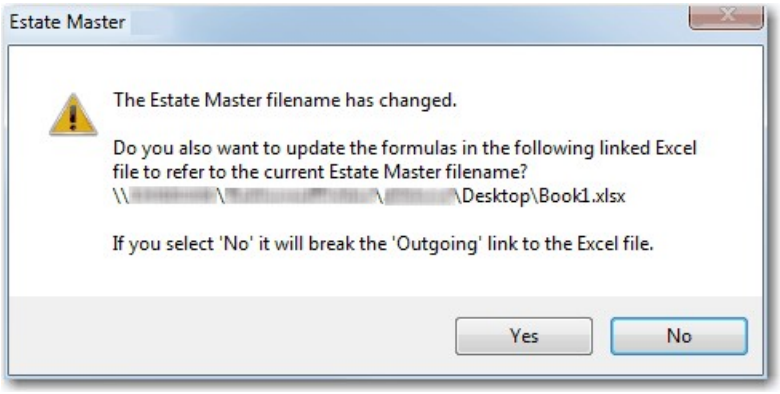
9. If there are an external Excel files that have 'Incoming' links (i.e. there is a formula in the ARGUS EstateMaster DF file that is referencing the Excel file), a warning will appear in the Status bar if the program has detected that the Excel file has been modified since the last refresh. Clicking this warning, will momentarily open the Excel file(s) to refresh the results.

Renaming or Moving ARGUS EstateMaster DF Files

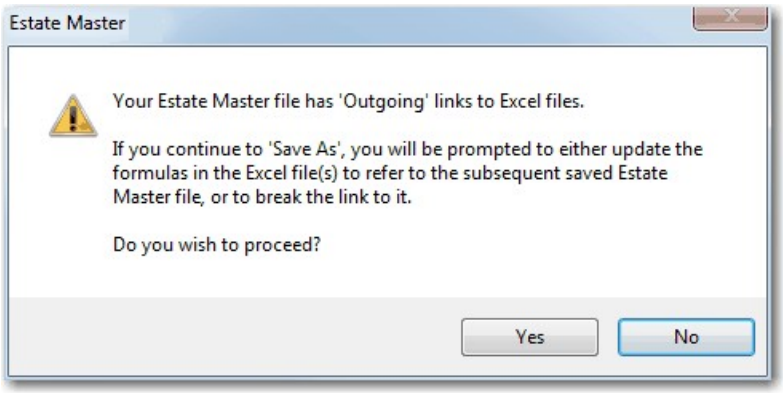
If you create a formula in an external Excel file that is referencing the ARGUS EstateMaster DF file (i.e. an 'Outgoing' link), the formula will contain the full path and file name of that ARGUS EstateMaster DF file. Therefore if the ARGUS EstateMaster DF file is renamed and/or moved, either manually in Windows Explorer, or during a Save-As process, to maintain the integrity of any formulae in the external Excel file, the following will occur:

1. **During File Open:** No warning will be given to the user, as Outgoing links are not critical to the opening of the ARGUS EstateMaster DF file.
2. **During Office Links > Excel > 'Refresh Values' or 'Open File':** If it has detected that the ARGUS EstateMaster DF file has been renamed/moved (most likely via Windows Explorer)

since the 'Outgoing' link was made to an Excel file, the user will be asked whether they wish to update the linked Excel files so any formulae now refer to the new one, or to break the link.



3. **During File Save:** As soon as the 'Save As' button is clicked, the user will be warned that the ARGUS EstateMaster DF file has 'Outgoing' links and if they continue with the 'Save As' and they change the file name and/or path, they will be prompted to either update the formulae in the linked Excel file(s) or break the link.



Using Square Brackets in File Names and Folders

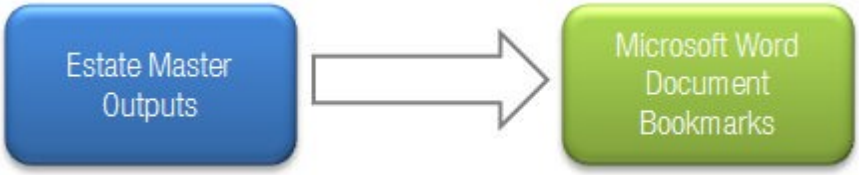
Formula links reserve the use of square brackets [ ] in its syntax to enclose the source file, for example =SUM(**[**Budget.xls**]**Annual!C10:C25). Therefore you cannot use these characters in the path to that source file, or in the file name itself. This applies to the Excel files used in an 'Incoming Link' to create a formula in ARGUS EstateMaster DF and also in ARGUS EstateMaster DF files used in an 'Outgoing Link' to create a formula in an Excel file.

Important Notes:

- If a user opens an ARGUS EstateMaster DF file that already had an 'Incoming' link to an Excel file that contained [and/or] in its file name or path (applies to previous versions of ARGUS EstateMaster DF) , then when it is next opened only values will be loaded into the input cells, not formulae.
- If an ARGUS EstateMaster DF file contains [and/or] in its file name or path, then the user will not be able to create any Excel Links at all.
- If an Excel file contains [and/or] in its file name or path, then the user will not be able to create any links to it.
- If the user attempts to save an ARGUS EstateMaster DF file with a file name or to a file path contains [and/or], they will not be able to.

9.2 Linking to Word Files

This feature allows you to populate fields in a Word document with data from an ARGUS EstateMaster DF file. This is done by selecting from a list of predefined ARGUS EstateMaster DF outputs and linking them to a Word document that contains the required Bookmarks. A Bookmark is a feature in Word that identifies a location or a selection of text that you name and identify for future reference.

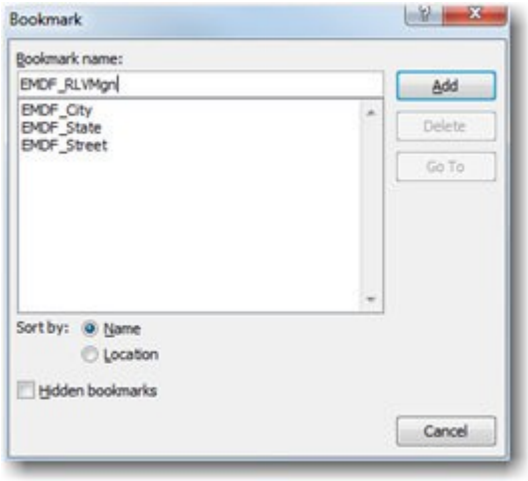


Creating Bookmarks in your Word Document

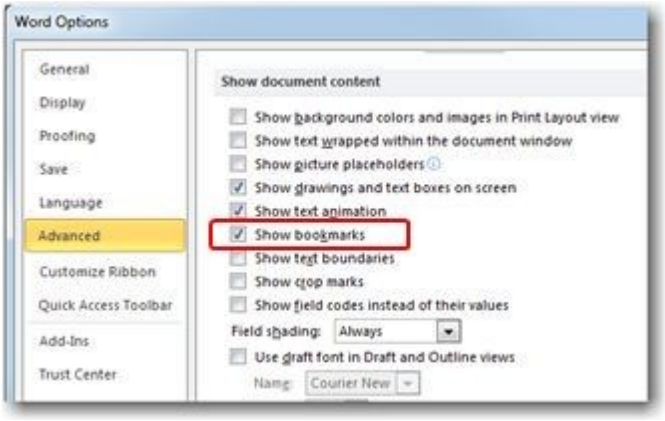
The first thing that needs to be done is to set up the Word document you wish to link to, with the required Bookmarks. Refer to the following Bookmarks Directory to see what ARGUS EstateMaster DF outputs are available and their corresponding Bookmark.

1. Open the document in Word.
2. Select a location, or highlight the text you wish to turn into a Bookmark.

3. Based on the ARGUS EstateMaster DF output that you want to appear in this location, type in the name of the Bookmark that corresponds to that output. For example, if you want to populate the selected location/text with the output of the 'Residual Land Value based on Target Margin' from the ARGUS EstateMaster DF file, the name of EMDF_RLVMgn must be given to that Bookmark. When done, press [Add].



4. If you wish to highlight the Bookmarks in a Word document so you can easily identify them, there is a setting in the Word Options, under the Advanced section called 'Show Bookmarks'



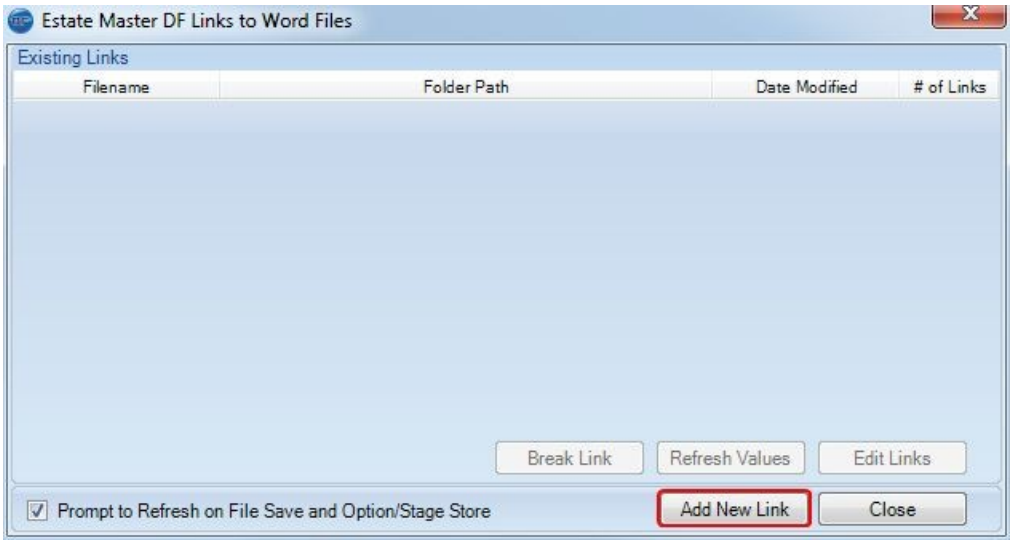
5. When selected, it will identify Bookmarks in the document with square brackets.

6. Once the Bookmarks have been created in the document, save and close the file.

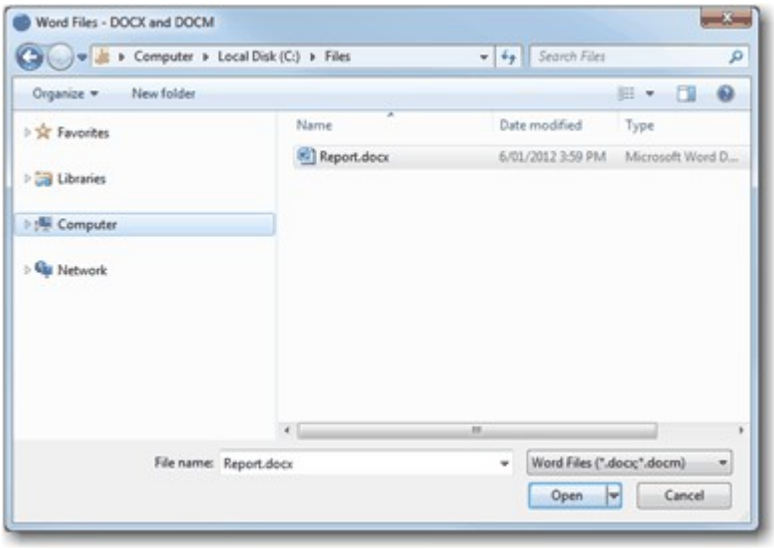
Setting up a Link to the Word Document

1. Click on the [Word] button in the 'Office Links' menu.

2. A dialog will appear. Click on the [Add New Link] button.



3. Browse to the Word file (*.docx, *.docm, *.dotx and *.dotm) you want to open and create links with. Select the file and press [Open].

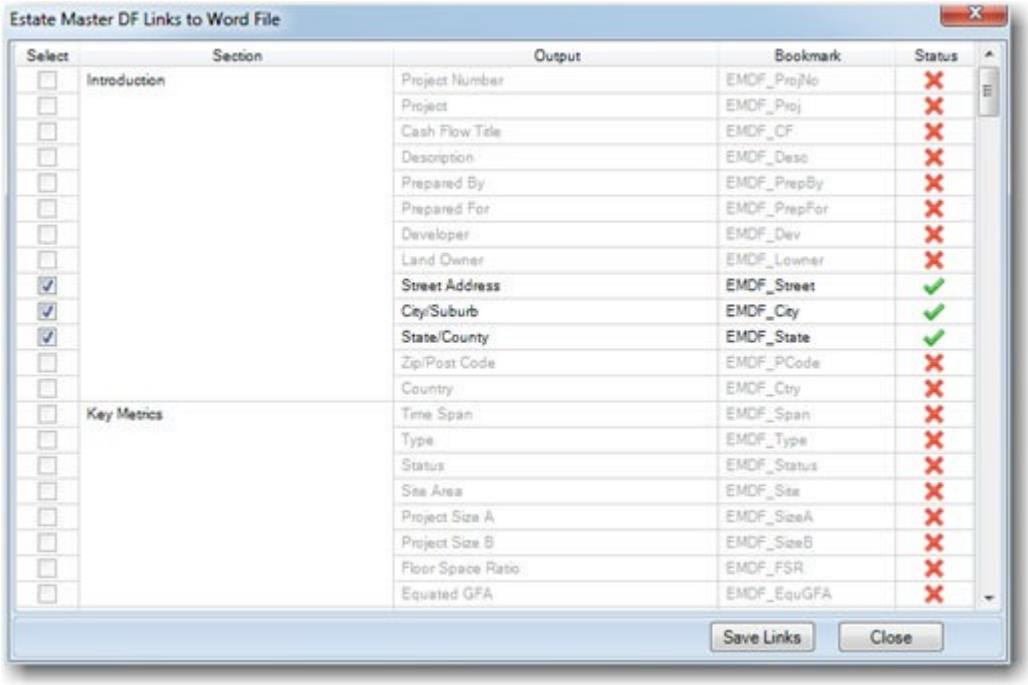


4. A new dialog will appear.

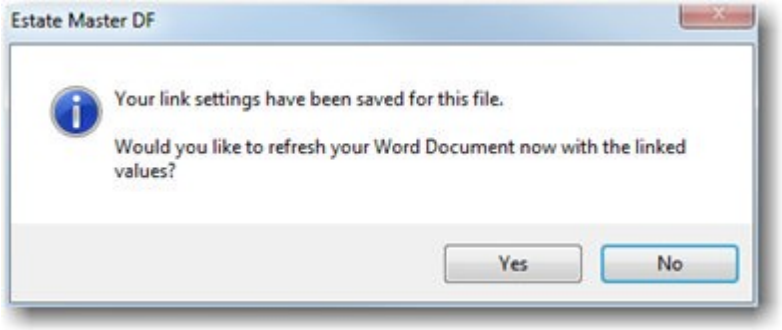
   It will list all the ARGUS EstateMaster DF outputs that can be linked to a Word document, what section they belong to in the ARGUS EstateMaster DF file, and the related Bookmark name that must be inserted into that Word document for the link to be created.

   The 'Status' will indicate if that Bookmark exists in that Word document already or not.

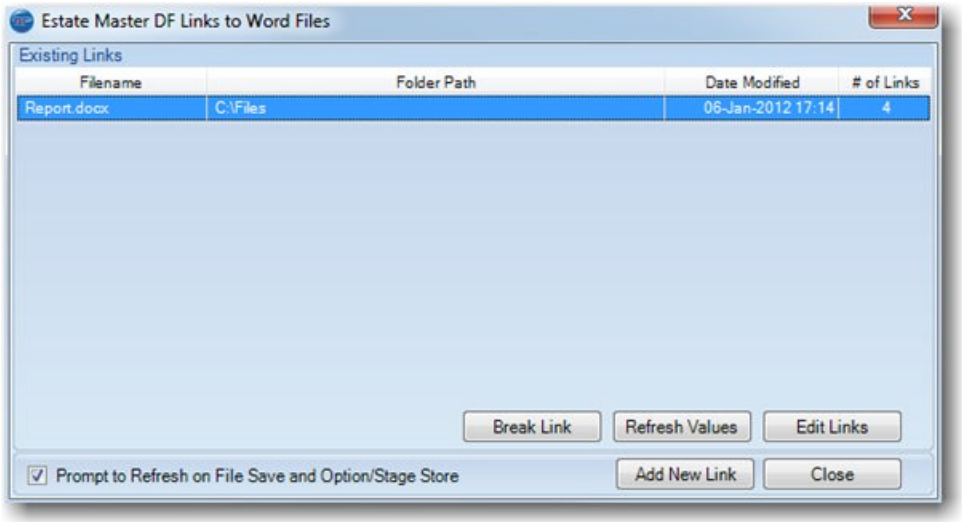
   - If it does exist (green tick ✓), you can select so the Word file is updated with that ARGUS EstateMaster DF output. By default, when a new Word document is linked to an ARGUS EstateMaster DF file, all Bookmarks that exist in such document will be automatically selected when this dialog loads.
   - If it doesn't exist (red cross ✗), but you do want to link to it, you will have to close the dialog and open the document in Word and add the bookmarks to that file before you can create the link.



5. Once you have selected the outputs you want to link, click [Save Links]. It will prompt you to refresh the Word document at that time.



6. If you click [Yes], it will programmatically update the bookmarks in that Word document with the results of the selected outputs.
7. If you open the document in Word, you can see the end result.
8. At any time you can click on the [Word] button in the 'Office Links' menu to reload the dialog where you can:
   - View a list of all files linking to the ARGUS EstateMaster DF file, where they are located and the number of outputs they are linked to.
   - Click [Break Link], to remove the selected Word file from being linked to the ARGUS EstateMaster DF files.
   - Click [Refresh Values] to momentarily refresh the Bookmarks in the selected Word file with update values.
   - Click [Edit Links] to change the Bookmarks being linked to in the selected Word file.
   - Click [Add New Link] to add a link to another Word file.
   - Select an option to prompt the user to refresh Word links when saving a file or storing an Option/Stage to ensure that the Word document always has the latest results.



9.2.1 Word Bookmarks Directory

This is a list of the outputs from ARGUS EstateMaster DF, and their relative Bookmark name, that can be used to populate Word documents.

Output Description	Bookmark
Introduction	
Property Photo	EMDF_PropPhoto
Project Number	EMDF_ProjNo
Project	EMDF_Proj
Cash Flow Title	EMDF_CF
Description	EMDF_Desc
Prepared By	EMDF_PrepBy
Prepared For	EMDF_PrepFor
Developer	EMDF_Dev
Land Owner	EMDF_Lowner
Street Address	EMDF_Street
City/Suburb	EMDF_City
State/County	EMDF_State
Zip/Post Code	EMDF_PCode
Country	EMDF_Ctry
Key Metrics	
Time Span	EMDF_Span
Type	EMDF_Type
Status	EMDF_Status
Site Area	EMDF_Site
Project Size A	EMDF_SizeA
Project Size B	EMDF_SizeB
FSR	EMDF_FSR
Equated GFA	EMDF_EquGFA
Revenues	
Gross Sales Revenue	EMDF_GrossSale
Selling Costs	EMDF_SellCost
Purchasers Costs	EMDF_PurchCost
Net Sale Proceeds	EMDF_NetSale
Gross Rental Income	EMDF_GrossRent
Outgoings & Vacancies	EMDF_OG
Letting Fees	EMDF_LetFee
Incentives (Rent Free and Fit-out Costs)	EMDF_Incent
Other Leasing Costs	EMDF_LeaseCost
Net Rental Income	EMDF_NetRent
Interest Received	EMDF_IntRec
Other Income	EMDF_OtherInc
Total Revenue (before Tax paid)	EMDF_RevBT
Tax paid on all Revenue	EMDF_RevTax
Total Revenue (after Tax paid)	EMDF_RevAT
Costs	
Land Purchase Cost	EMDF_Land
Land Transaction Costs	EMDF_OthLand
Construction (inc. Construct. Contingency)	EMDF_Construct
Contingency	EMDF_ConstCont
Professional Fees	EMDF_ProFee
Statutory Fees	EMDF_StatFee
Miscellaneous Costs 1	EMDF_Misc1
Miscellaneous Costs 2	EMDF_Misc2
Miscellaneous Costs 3	EMDF_Misc3
Project Contingency	EMDF_ProjCont
Land Holding Costs	EMDF_LandHold
Pre-Sale Commissions	EMDF_PreComm
Finance Charges (inc. Fees)	EMDF_FinChg
Interest Expense	EMDF_IntExp
Total Costs (before Tax reclaimed)	EMDF_CostBT
Tax reclaimed	EMDF_CostTax
Corporate Tax	EMDF_CorpTax
Total Costs (afterTax reclaimed)	EMDF_CostAT
Key Performance Indicators	
Gross Development Profit	EMDF_GrossProf
Net Development Profit	EMDF_NetProf

Development Margin	EMDF_DevMgn
Target Margin	EMDF_TgtMgn
Residual Land Value (based on Target Margin)	EMDF_RLVMgn
Net Present Value	EMDF_NPV
Discount Rate	EMDF_DiscRate
Benefit Cost Ratio	EMDF_BCR
Project Internal Rate of Return (IRR)	EMDF_IRR
Residual Land Value (based on NPV)	EMDF_RLVNPV
Weighted Average Cost of Capital (WACC)	EMDF_WACC
Breakeven Date for Cumulative Cash Flow	EMDF_BEDate
Yield on Cost	EMDF_YldCost
Rent Cover	EMDF_RentCvr
Profit Erosion	EMDF_ProfErn
Returns on Funds Invested - Equity	
Funds Invested (Cash Outlay)	EMDF_Eq_Funds
Peak Exposure	EMDF_Eq_Peak
Date of Peak Exposure	EMDF_Eq_DatePk
Weighted Average Interest Rate	EMDF_Eq_AvgRte
Interest Charged	EMDF_Eq_Int
Profit	EMDF_Eq_Prof
Margin on Funds Invested	EMDF_Eq_Mgn
Payback Date	EMDF_Eq_Pback
IRR on Funds Invested	EMDF_Eq_IRR
Loan to Value Ratio	EMDF_Eq_LVR
Returns on Funds Invested - Loans 1 to 10	Where # = the Loan Number (i.e. "1" to "10")
Lender Name	EMDF_L#_Name
Funds Invested (Cash Outlay)	EMDF_L#_Funds
Peak Exposure	EMDF_L#_Peak
Date of Peak Exposure	EMDF_L#_DatePk
Weighted Average Interest Rate	EMDF_L#_AvgRte
Interest Charged	EMDF_L#_Int
Line Fees Charged	EMDF_L#_Line
Application Fees Charged	EMDF_L#_App
Profit Share Received	EMDF_L#_Share
Total Profit to Funder	EMDF_L#_Prof
Margin on Funds Invested	EMDF_L#_Mgn
Payback Date	EMDF_L#_Pback
IRR on Funds Invested	EMDF_L#_IRR
Loan to Value Ratio	EMDF_L#_LVR
Returns on Funds Invested - Senior Loan	
Lender Name	EMDF_Snr_Name
Funds Invested (Cash Outlay)	EMDF_Snr_Funds
Peak Exposure	EMDF_Snr_Peak
Date of Peak Exposure	EMDF_Snr_DatePk
Weighted Average Interest Rate	EMDF_Snr_AvgRte
Interest Charged	EMDF_Snr_Int
Line Fees Charged	EMDF_Snr_Line
Application Fees Charged	EMDF_Snr_App
Total Profit to Funder	EMDF_Snr_Prof
Margin on Funds Invested	EMDF_Snr_Mgn
Payback Date	EMDF_Snr_Pback
IRR on Funds Invested	EMDF_Snr_IRR
Loan to Value Ratio	EMDF_Snr_LVR
Returns on Funds Invested - Total Debt	
Funds Invested (Cash Outlay)	EMDF_Debt_Funds
Peak Exposure	EMDF_Debt_Peak
Date of Peak Exposure	EMDF_Debt_DatePk
Weighted Average Interest Rate	EMDF_Debt_AvgRte
Interest Charged	EMDF_Debt_Int
Line Fees Charged	EMDF_Debt_Line
Application Fees Charged	EMDF_Debt_App
Profit Share Received	EMDF_Debt_Share
Total Profit to Funder(s)	EMDF_Debt_Prof
Margin on Funds Invested	EMDF_Debt_Mgn
Payback Date	EMDF_Debt_Pback
Equity to Debt Ratio	EMDF_Debt_IRR
Loan to Value Ratio	EMDF_Debt_LVR

Options/Stages	
Cash Flow Title (Option/Stage 1)	EMDF_CF_1
Cash Flow Title (Option/Stage 2)	EMDF_CF_2
Cash Flow Title (Option/Stage 3)	EMDF_CF_3
Cash Flow Title (Option/Stage 4)	EMDF_CF_4
Cash Flow Title (Option/Stage 5)	EMDF_CF_5
Cash Flow Title (Option/Stage 6)	EMDF_CF_6
Cash Flow Title (Option/Stage 7)	EMDF_CF_7
Cash Flow Title (Option/Stage 8)	EMDF_CF_8
Description (Option/Stage 1)	EMDF_Desc_1
Description (Option/Stage 2)	EMDF_Desc_2
Description (Option/Stage 3)	EMDF_Desc_3
Description (Option/Stage 4)	EMDF_Desc_4
Description (Option/Stage 5)	EMDF_Desc_5
Description (Option/Stage 6)	EMDF_Desc_6
Description (Option/Stage 7)	EMDF_Desc_7
Description (Option/Stage 8)	EMDF_Desc_8
Gross Sales Revenue (Option/Stage 1)	EMDF_GrossSale_1
Gross Sales Revenue (Option/Stage 2)	EMDF_GrossSale_2
Gross Sales Revenue (Option/Stage 3)	EMDF_GrossSale_3
Gross Sales Revenue (Option/Stage 4)	EMDF_GrossSale_4
Gross Sales Revenue (Option/Stage 5)	EMDF_GrossSale_5
Gross Sales Revenue (Option/Stage 6)	EMDF_GrossSale_6
Gross Sales Revenue (Option/Stage 7)	EMDF_GrossSale_7
Gross Sales Revenue (Option/Stage 8)	EMDF_GrossSale_8
Gross Rental Income (Option/Stage 1)	EMDF_GrossRent_1
Gross Rental Income (Option/Stage 2)	EMDF_GrossRent_2
Gross Rental Income (Option/Stage 3)	EMDF_GrossRent_3
Gross Rental Income (Option/Stage 4)	EMDF_GrossRent_4
Gross Rental Income (Option/Stage 5)	EMDF_GrossRent_5
Gross Rental Income (Option/Stage 6)	EMDF_GrossRent_6
Gross Rental Income (Option/Stage 7)	EMDF_GrossRent_7
Gross Rental Income (Option/Stage 8)	EMDF_GrossRent_8
Land Purchase Cost (Option/Stage 1)	EMDF_Land_1
Land Purchase Cost (Option/Stage 2)	EMDF_Land_2
Land Purchase Cost (Option/Stage 3)	EMDF_Land_3
Land Purchase Cost (Option/Stage 4)	EMDF_Land_4
Land Purchase Cost (Option/Stage 5)	EMDF_Land_5
Land Purchase Cost (Option/Stage 6)	EMDF_Land_6
Land Purchase Cost (Option/Stage 7)	EMDF_Land_7
Land Purchase Cost (Option/Stage 8)	EMDF_Land_8
Construction (Option/Stage 1)	EMDF_Construct_1
Construction (Option/Stage 2)	EMDF_Construct_2
Construction (Option/Stage 3)	EMDF_Construct_3
Construction (Option/Stage 4)	EMDF_Construct_4
Construction (Option/Stage 5)	EMDF_Construct_5
Construction (Option/Stage 6)	EMDF_Construct_6
Construction (Option/Stage 7)	EMDF_Construct_7
Construction (Option/Stage 8)	EMDF_Construct_8
Net Development Profit (Option/Stage 1)	EMDF_NetProf_1
Net Development Profit (Option/Stage 2)	EMDF_NetProf_2
Net Development Profit (Option/Stage 3)	EMDF_NetProf_3
Net Development Profit (Option/Stage 4)	EMDF_NetProf_4
Net Development Profit (Option/Stage 5)	EMDF_NetProf_5
Net Development Profit (Option/Stage 6)	EMDF_NetProf_6
Net Development Profit (Option/Stage 7)	EMDF_NetProf_7
Net Development Profit (Option/Stage 8)	EMDF_NetProf_8
Development Margin (Option/Stage 1)	EMDF_Dev Mgn_1
Development Margin (Option/Stage 2)	EMDF_Dev Mgn_2
Development Margin (Option/Stage 3)	EMDF_Dev Mgn_3
Development Margin (Option/Stage 4)	EMDF_Dev Mgn_4
Development Margin (Option/Stage 5)	EMDF_Dev Mgn_5
Development Margin (Option/Stage 6)	EMDF_Dev Mgn_6
Development Margin (Option/Stage 7)	EMDF_Dev Mgn_7
Development Margin (Option/Stage 8)	EMDF_Dev Mgn_8
RLV based on Target Margin (Option/Stage 1)	EMDF_RLVMgn_1
RLV based on Target Margin (Option/Stage 2)	EMDF_RLVMgn_2
RLV based on Target Margin (Option/Stage 3)	EMDF_RLVMgn_3
RLV based on Target Margin (Option/Stage 4)	EMDF_RLVMgn_4

RLV based on Target Margin (Option/Stage 5)	EMDF_RLVMgn_5
RLV based on Target Margin (Option/Stage 6)	EMDF_RLVMgn_6
RLV based on Target Margin (Option/Stage 7)	EMDF_RLVMgn_7
RLV based on Target Margin (Option/Stage 8)	EMDF_RLVMgn_8
NPV (Option/Stage 1)	EMDF_NPV_1
NPV (Option/Stage 2)	EMDF_NPV_2
NPV (Option/Stage 3)	EMDF_NPV_3
NPV (Option/Stage 4)	EMDF_NPV_4
NPV (Option/Stage 5)	EMDF_NPV_5
NPV (Option/Stage 6)	EMDF_NPV_6
NPV (Option/Stage 7)	EMDF_NPV_7
NPV (Option/Stage 8)	EMDF_NPV_8
Project IRR (Option/Stage 1)	EMDF_IRR_1
Project IRR (Option/Stage 2)	EMDF_IRR_2
Project IRR (Option/Stage 3)	EMDF_IRR_3
Project IRR (Option/Stage 4)	EMDF_IRR_4
Project IRR (Option/Stage 5)	EMDF_IRR_5
Project IRR (Option/Stage 6)	EMDF_IRR_6
Project IRR (Option/Stage 7)	EMDF_IRR_7
Project IRR (Option/Stage 8)	EMDF_IRR_8
RLV based on NPV (Option/Stage 1)	EMDF_RLVNPV_1
RLV based on NPV (Option/Stage 2)	EMDF_RLVNPV_2
RLV based on NPV (Option/Stage 3)	EMDF_RLVNPV_3
RLV based on NPV (Option/Stage 4)	EMDF_RLVNPV_4
RLV based on NPV (Option/Stage 5)	EMDF_RLVNPV_5
RLV based on NPV (Option/Stage 6)	EMDF_RLVNPV_6
RLV based on NPV (Option/Stage 7)	EMDF_RLVNPV_7
RLV based on NPV (Option/Stage 8)	EMDF_RLVNPV_8
Sensitivity Analysis	
Land Acquisition Costs Hi Variation Rate	EMDF_SensLandHi
Land Acquisition Costs Lo Variation Rate	EMDF_SensLandLo
Land Acquisition Costs Hi Variation - Net Profit	EMDF_SensLandHi_Profit
Land Acquisition Costs Lo Variation - Net Profit	EMDF_SensLandLo_Profit
Land Acquisition Costs Hi Variation - NPV	EMDF_SensLandHi_NPV
Land Acquisition Costs Lo Variation - NPV	EMDF_SensLandLo_NPV
Land Acquisition Costs Hi Variation - Dev. Margin	EMDF_SensLandHi_Mgn
Land Acquisition Costs Lo Variation - Dev. Margin	EMDF_SensLandLo_Mgn
Land Acquisition Costs Hi Variation - Project IRR	EMDF_SensLandHi_IRR
Land Acquisition Costs Lo Variation - Project IRR	EMDF_SensLandLo_IRR
Land Acquisition Costs Hi Variation - Equity IRR	EMDF_SensLandHi_Equ
Land Acquisition Costs Lo Variation - Equity IRR	EMDF_SensLandLo_Equ
Construction Costs Hi Variation Rate	EMDF_SensConstHi
Construction Costs Lo Variation Rate	EMDF_SensConstLo
Construction Costs Hi Variation - Net Profit	EMDF_SensConstHi_Profit
Construction Costs Lo Variation - Net Profit	EMDF_SensConstLo_Profit
Construction Costs Hi Variation - NPV	EMDF_SensConstHi_NPV
Construction Costs Lo Variation - NPV	EMDF_SensConstLo_NPV
Construction Costs Hi Variation - Dev. Margin	EMDF_SensConstHi_Mgn
Construction Costs Lo Variation - Dev. Margin	EMDF_SensConstLo_Mgn
Construction Costs Hi Variation - Project IRR	EMDF_SensConstHi_IRR
Construction Costs Lo Variation - Project IRR	EMDF_SensConstLo_IRR
Construction Costs Hi Variation - Equity IRR	EMDF_SensConstHi_Equ
Construction Costs Lo Variation - Equity IRR	EMDF_SensConstLo_Equ
Construction Period Hi Variation Rate	EMDF_SensConPeriodHi
Construction Period Lo Variation Rate	EMDF_SensConPeriodLo
Construction Period Hi Variation - Net Profit	EMDF_SensConPeriodHi_Profit
Construction Period Lo Variation - Net Profit	EMDF_SensConPeriodLo_Profit
Construction Period Hi Variation - NPV	EMDF_SensConPeriodHi_NPV
Construction Period Lo Variation - NPV	EMDF_SensConPeriodLo_NPV
Construction Period Hi Variation - Dev. Margin	EMDF_SensConPeriodHi_Mgn
Construction Period Lo Variation - Dev. Margin	EMDF_SensConPeriodLo_Mgn
Construction Period Hi Variation - Project IRR	EMDF_SensConPeriodHi_IRR
Construction Period Lo Variation - Project IRR	EMDF_SensConPeriodLo_IRR
Construction Period Hi Variation - Equity IRR	EMDF_SensConPeriodHi_Equ
Construction Period Lo Variation - Equity IRR	EMDF_SensConPeriodLo_Equ
End Sale Values Hi Variation Rate	EMDF_SensSalesHi
End Sale Values Lo Variation Rate	EMDF_SensSalesLo
End Sale Values Hi Variation - Net Profit	EMDF_SensSalesHi_Profit
End Sale Values Lo Variation - Net Profit	EMDF_SensSalesLo_Profit

End Sale Values Hi Variation - NPV	EMDF_SensSalesHi_NPV
End Sale Values Lo Variation - NPV	EMDF_SensSalesLo_NPV
End Sale Values Hi Variation - Dev. Margin	EMDF_SensSalesHi_Mgn
End Sale Values Lo Variation - Dev. Margin	EMDF_SensSalesLo_Mgn
End Sale Values Hi Variation - Project IRR	EMDF_SensSalesHi_IRR
End Sale Values Lo Variation - Project IRR	EMDF_SensSalesLo_IRR
End Sale Values Hi Variation - Equity IRR	EMDF_SensSalesHi_Equ
End Sale Values Lo Variation - Equity IRR	EMDF_SensSalesLo_Equ
Cap Rate Hi Variation Rate	EMDF_SensCapHi
Cap Rate Lo Variation Rate	EMDF_SensCapLo
Cap Rate Hi Variation - Net Profit	EMDF_SensCapHi_Profit
Cap Rate Lo Variation - Net Profit	EMDF_SensCapLo_Profit
Cap Rate Hi Variation - NPV	EMDF_SensCapHi_NPV
Cap Rate Lo Variation - NPV	EMDF_SensCapLo_NPV
Cap Rate Hi Variation - Dev. Margin	EMDF_SensCapHi_Mgn
Cap Rate Lo Variation - Dev. Margin	EMDF_SensCapLo_Mgn
Cap Rate Hi Variation - Project IRR	EMDF_SensCapHi_IRR
Cap Rate Lo Variation - Project IRR	EMDF_SensCapLo_IRR
Cap Rate Hi Variation - Equity IRR	EMDF_SensCapHi_Equ
Cap Rate Lo Variation - Equity IRR	EMDF_SensCapLo_Equ
Sales Span Hi Variation Rate	EMDF_SensSpanHi
Sales Span Lo Variation Rate	EMDF_SensSpanLo
Sales Span Hi Variation - Net Profit	EMDF_SensSpanHi_Profit
Sales Span Lo Variation - Net Profit	EMDF_SensSpanLo_Profit
Sales Span Hi Variation - NPV	EMDF_SensSpanHi_NPV
Sales Span Lo Variation - NPV	EMDF_SensSpanLo_NPV
Sales Span Hi Variation - Dev. Margin	EMDF_SensSpanHi_Mgn
Sales Span Lo Variation - Dev. Margin	EMDF_SensSpanLo_Mgn
Sales Span Hi Variation - Project IRR	EMDF_SensSpanHi_IRR
Sales Span Lo Variation - Project IRR	EMDF_SensSpanLo_IRR
Sales Span Hi Variation - Equity IRR	EMDF_SensSpanHi_Equ
Sales Span Lo Variation - Equity IRR	EMDF_SensSpanLo_Equ
Rental Income Hi Variation Rate	EMDF_SensRentHi
Rental Income Lo Variation Rate	EMDF_SensRentLo
Rental Income Hi Variation - Net Profit	EMDF_SensRentHi_Profit
Rental Income Lo Variation - Net Profit	EMDF_SensRentLo_Profit
Rental Income Hi Variation - NPV	EMDF_SensRentHi_NPV
Rental Income Lo Variation - NPV	EMDF_SensRentLo_NPV
Rental Income Hi Variation - Dev. Margin	EMDF_SensRentHi_Mgn
Rental Income Lo Variation - Dev. Margin	EMDF_SensRentLo_Mgn
Rental Income Hi Variation - Project IRR	EMDF_SensRentHi_IRR
Rental Income Lo Variation - Project IRR	EMDF_SensRentLo_IRR
Rental Income Hi Variation - Equity IRR	EMDF_SensRentHi_Equ
Rental Income Lo Variation - Equity IRR	EMDF_SensRentLo_Equ
Debt Interest Rates Hi Variation Rate	EMDF_SensDebtHi
Debt Interest Rates Lo Variation Rate	EMDF_SensDebtLo
Debt Interest Rates Hi Variation - Net Profit	EMDF_SensDebtHi_Profit
Debt Interest Rates Lo Variation - Net Profit	EMDF_SensDebtLo_Profit
Debt Interest Rates Hi Variation - NPV	EMDF_SensDebtHi_NPV
Debt Interest Rates Lo Variation - NPV	EMDF_SensDebtLo_NPV
Debt Interest Rates Hi Variation - Dev. Margin	EMDF_SensDebtHi_Mgn
Debt Interest Rates Lo Variation - Dev. Margin	EMDF_SensDebtLo_Mgn
Debt Interest Rates Hi Variation - Project IRR	EMDF_SensDebtHi_IRR
Debt Interest Rates Lo Variation - Project IRR	EMDF_SensDebtLo_IRR
Debt Interest Rates Hi Variation - Equity IRR	EMDF_SensDebtHi_Equ
Debt Interest Rates Lo Variation - Equity IRR	EMDF_SensDebtLo_Equ
Discount Rates Hi Variation Rate	EMDF_SensDiscHi
Discount Rates Lo Variation Rate	EMDF_SensDiscLo
Discount Rates Hi Variation - NPV	EMDF_SensDiscHi_NPV
Discount Rates Lo Variation - NPV	EMDF_SensDiscLo_NPV

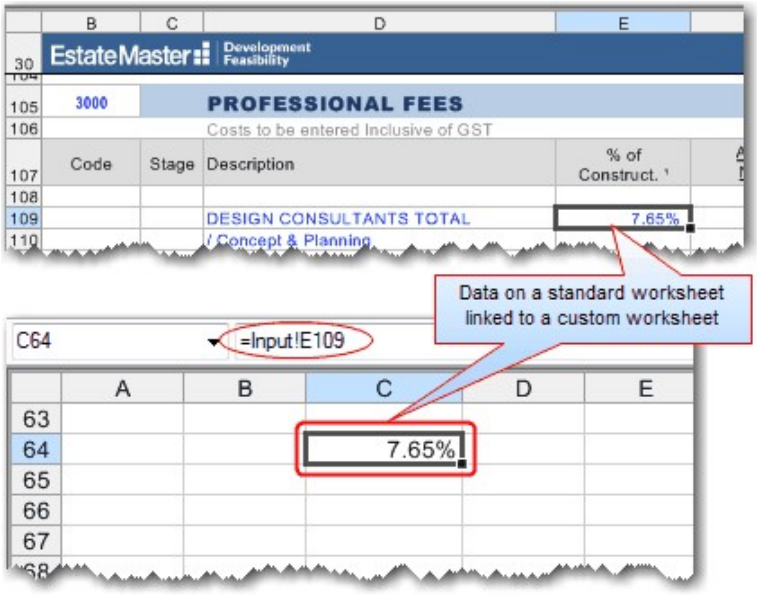
9.2.2 Creating Custom Bookmarks

If there is data in the ARGUS EstateMaster DF file that is not listed in the standard Word Bookmarks Directory, and you wish to have it linked to a Word Document, you can use the Custom Data Export feature to define this data and have it selectable in a 'Custom' Word Bookmarks Directory. This makes

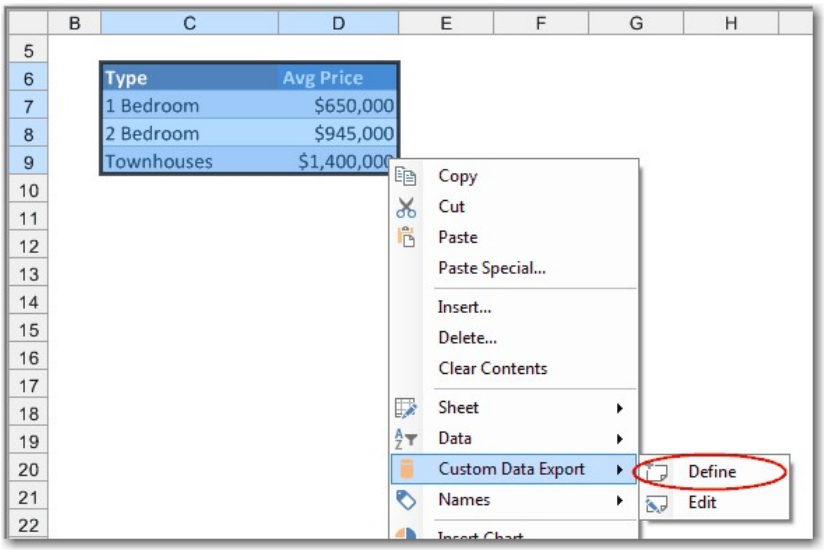
the amount of ARGUS EstateMaster DF file data being able to be linked to a Word Document almost endless.

Data (Values, Tables, Reports, etc)

1. If the data exists on a standard ARGUS EstateMaster DF worksheet, you will need to first link it on a custom worksheet, including any formatting you want to apply to it. If the data does not exist anywhere yet (i.e. a custom calculaiton), prepare it on a custom worksheet.



2. Once the formatted data is on a custom worksheet, use the Custom Data Export feature to define the cell or range of cells that you wish to assign a custom bookmark to, and give it a Description.



3. The Bookmark that will be assigned to it will be **EM**_*<Product Initials>*_**C**_*<Description with underscores replacing spaces>*

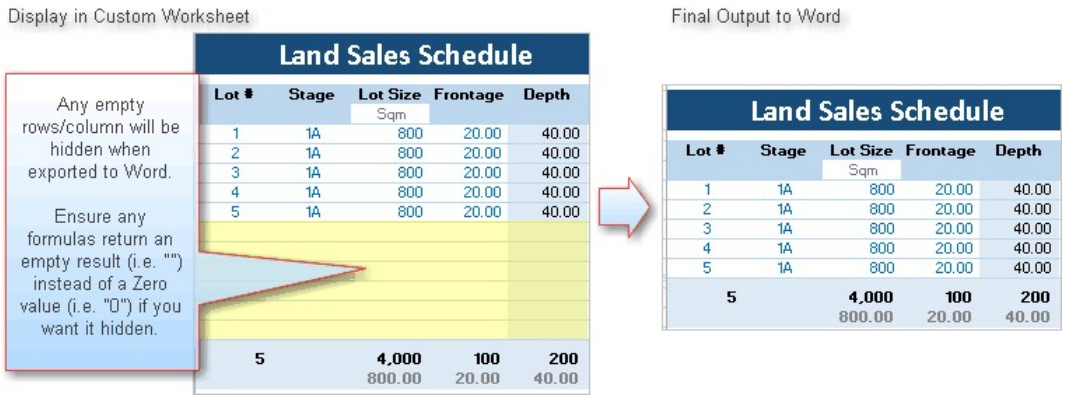
Dynamic Table Data

In-built into the functionality of exporting tabular (mult-cell) data to a linked Word Document, is a feature where any blank rows or columns in a defined range of cells is automatically hidden before the table is

exported to Word, and then unhidden back to its original state after the process is completed. This allows the user to create tables that dynamically expand/contract based on the data they have calculated/entered in them.

The feature works by searching the cell contents of each cell for each row and column; if an entire row/column has no values in the cells (including formulas which may return an 'empty' value), then it is hidden from the final output that is exported to Word. Therefore, if you wish to intentionally have an empty row/column included in the export, just ensure that at least one cell in that row/column has any value in it - if you do not want this visible, then change the font colour to the same as the cell background.

To take advantage of this feature, ensure that any formulas return an empty result (i.e. "") instead of a Zero value (i.e. "0") in all cells in the row/column if you want it hidden.



Charts

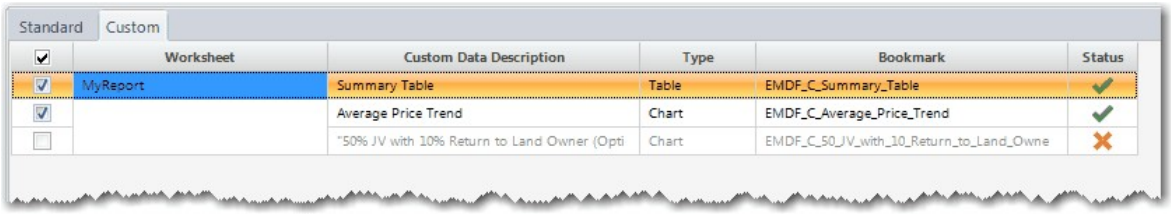
1. If there are any Charts on a custom worksheet, these will automatically have the following Bookmark assigned to it: **EM**_*<Product Initials>*_**C**_*<Chart Title with underscores replacing spaces and special characters removed>*.

2. Since the program uses the Chart Title for the Bookmark Name, it is important to ensure that Charts on custom worksheets are all given unique Titles, and are not left blank.

Linking to a Custom Bookmark

The custom Bookmarks created will be selectable on the 'Custom' tab, when editing links for a particular linked Word Document. When exporting the data to the Word Document during a 'refresh':

- Single-cell Data will data will be exported as a text value.
- Multi-cell Data will be exported as an image.
- Charts will be exported as an image.



Part

10 Storing and Recalling Options/Stages

10.1 Using the Options/Stages Function

Using the 'Options and Stages' function 

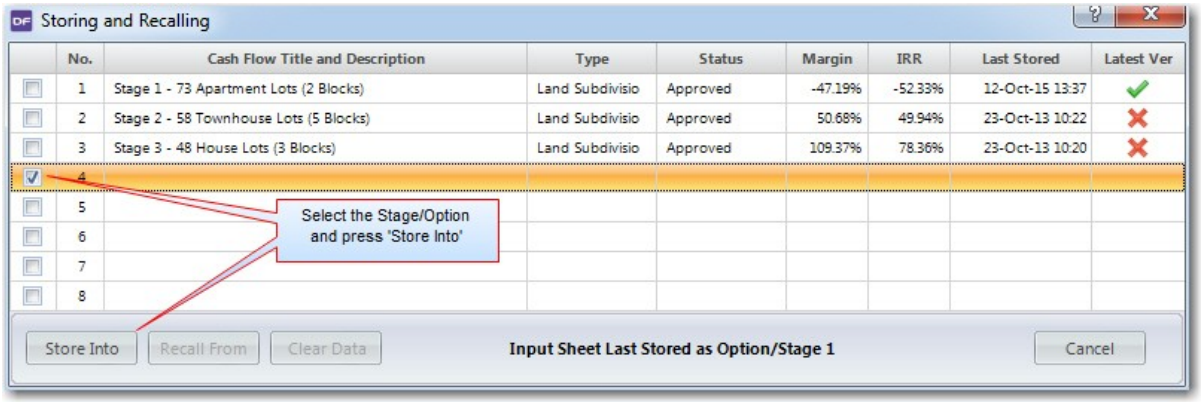
on the Ribbon Menu , you may compare up to eight different development options or amalgamate up to eight project stages using the 'Consolidate' report within the one ARGUS EstateMaster DF file.

Examples of how Options/Stages could be used	Option/Stage 1	Option/Stage 2, etc
Development Options	10 residential lots	20 town houses
Feasibility / Sensitivity Scenarios	no escalation on sales	5% per annum escalation
Stages of the Project	Stage 1	Stage 2
Phases	Acquisition and Holding	Development and Disposal

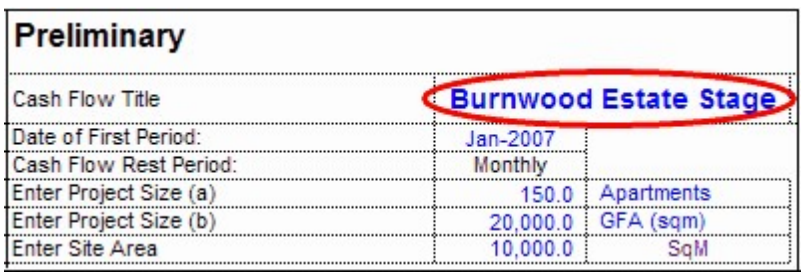
10.2 Storing

Once you are satisfied that all the inputs have been entered for a particular Option/Stage, you may store this by using the 'Options and Stages' function 

and selecting where to store the data before clicking on the 'Store Into' button.



Before the storing process will begin, the program will check that the user has entered a unique 'Cash Flow Title' in the Preliminary input section. If it is blank, or not unique to the other Options/Stages that have been stored already, it will not proceed.



On successful execution, the following input data ranges are stored:

- 'Input' sheet data;
- 'Tenant' sheet data;
- 'Manual Input' data from the Cash Flow tables (includes manual adjustments to the financing and variable discount rates);
- S-Curve and Revenue Collection Profile tables;
- Taxes and Duties tables;
- Sensitivity and Probability Analysis settings; and
- All Preferences.

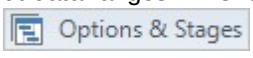
Storing enables you to make changes to the input data while retaining the original data. Once a change is made, storing it as Option/Stage 2 can create a new option/stage. The original Option/Stage 1 can be retrieved at a later date for further analysis.

Storing Options/Stages
When using the Store and Recall feature to compare different development scenarios or to consolidate stages, it is recommended that you keep the following Hurdle Rate options in the Preferences the same so that the performance indicators which are calculated for each scenario or stage are consistent: 1. **Gross or Net Profit Performance:** Gross (before any profit share) or Net (after any profit share) 2. **The calculation of the developer's Target IRR and target Development Margin** 3. **The Annual to Rest Period Conversion for the Discount Rate:** Nominal or Effective

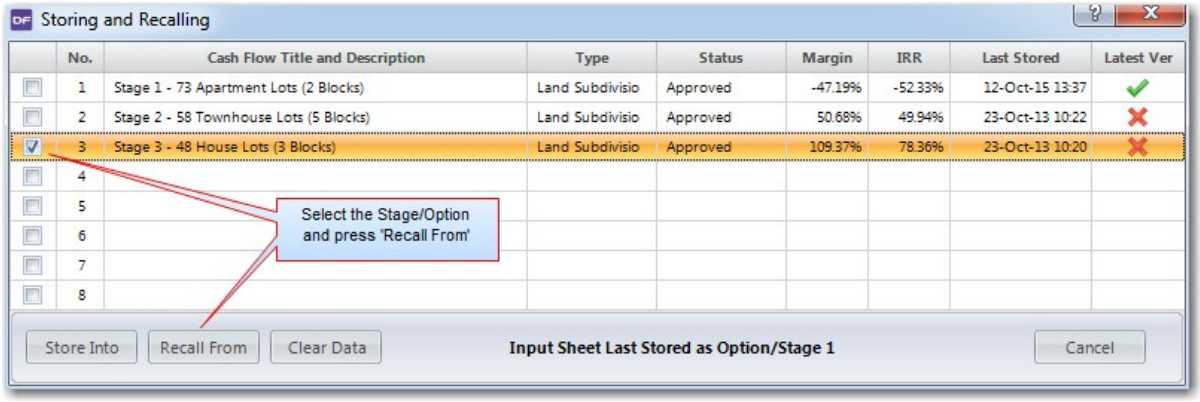
As well has comparing different development options or scenarios, you can use the 'Options and Stages' facility to split large projects into stages. This is beneficial when you have a project life exceeding the maximum time periods in the model (480).

If modelling a project in stages with staggered starting dates for each stage by using the Option sheets, a consolidation can be facilitated for a project of up to 30 years on a monthly cash flow. Each stage is limited to 480 time periods, and 30 years in total for up to eight consolidated stages.

10.3 Recalling

To change data in an option/stage that has been previously stored, it is recommended that you 'Recall' the relevant data back into the input data ranges. This is achieved by using the 'Recall From' option from the 'Options and Stages' function 

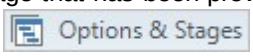
and deciding what Option/Stage to recall.



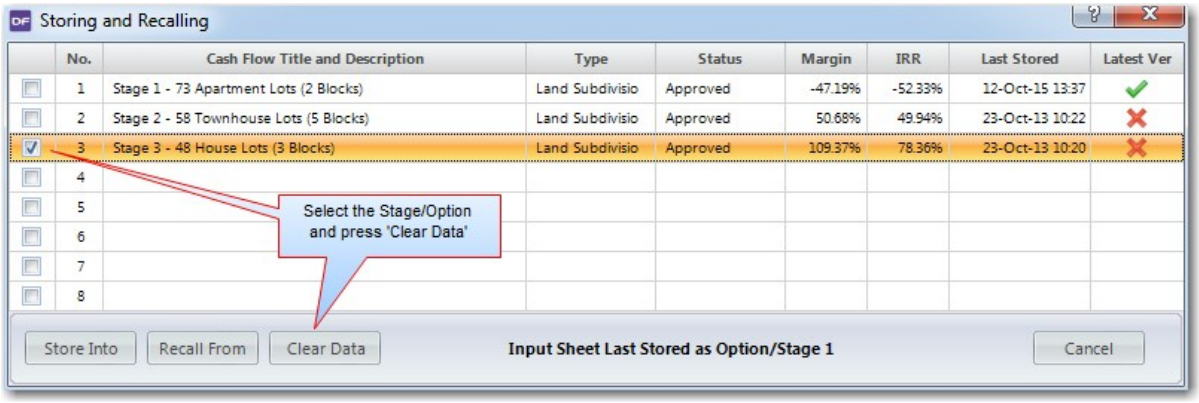
When recalling options, the model will replace the existing data in the input ranges with that of the option being restored.

Remember to store information in the input ranges to an option sheet prior to recalling an option.

10.4 Clearing Data

To delete all data for an option/stage that has been previously stored, use the 'Clear Data' option from the 'Options and Stages' function 

and deciding what Option/Stage to clear.

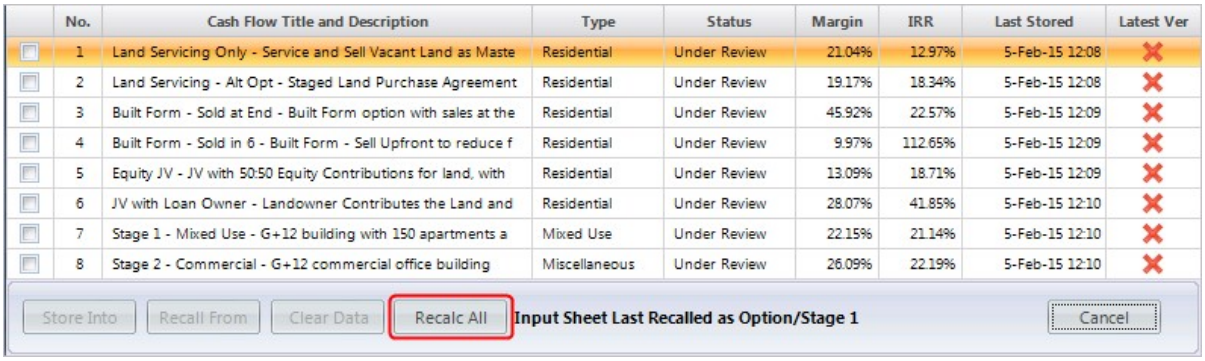


When using this function, be carefully not to accidental clear the wrong Option/Stage, as the data cannot be retrieved once it has been cleared (unless you have a backup of the file).

10.5 Recalc All

The 'Recalc All' function automatically recalls each Option/Stage, lets it recalculate, and then re-stores it back. It is useful when:

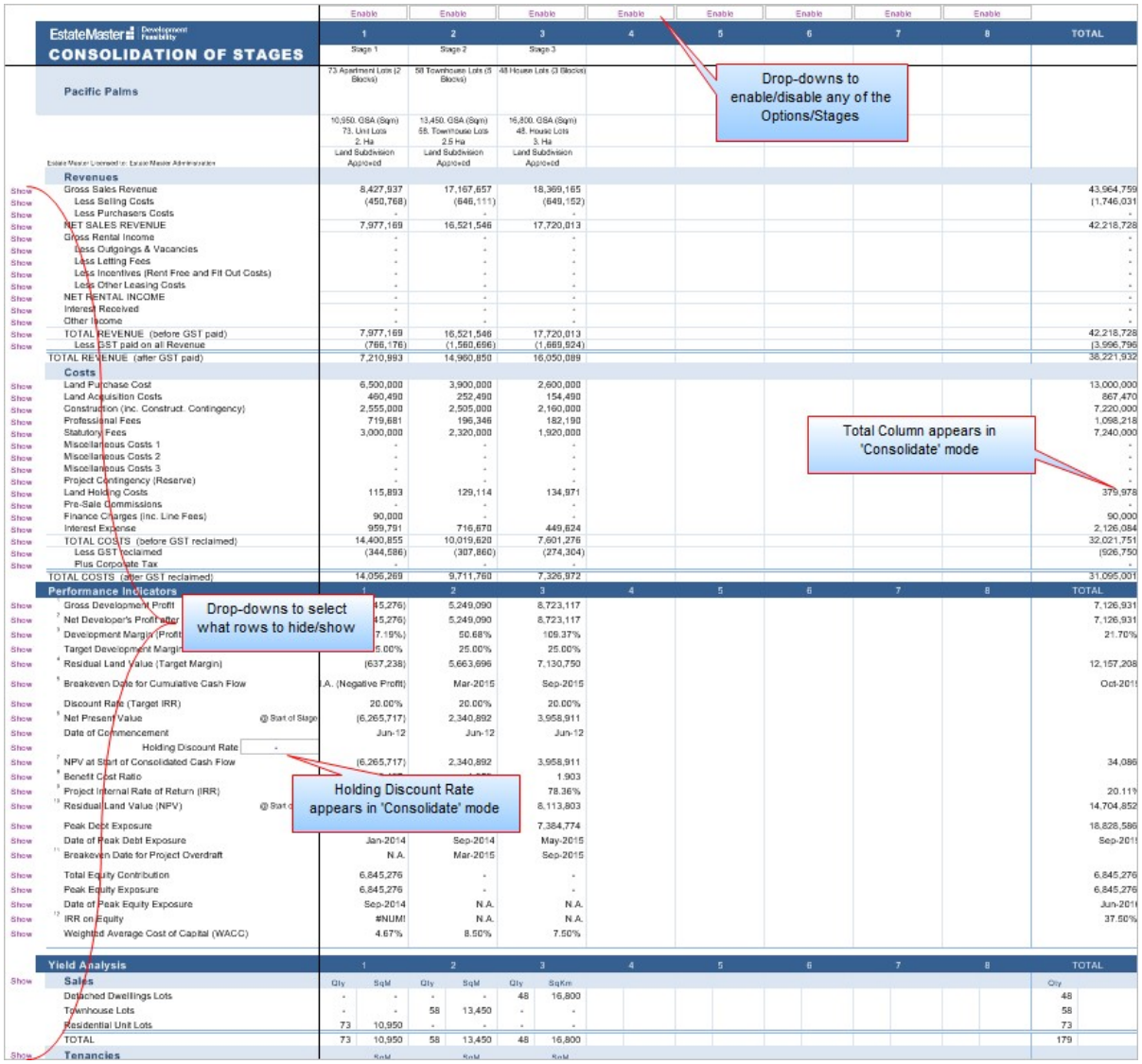
- There are custom worksheets or external Excel links that have data linking *into* the input cells of the Option/Stages, and you want to change that data and see the impact it has on the Options/Stages on a click of a button.
- You have opened an ARGUS EstateMaster DF file that has Options/Stages stored in a previous version (indicated by the red **X** in the 'Latest Ver' column in the form), and you want to update all the Options/Stages to the latest version. This is important to ensure that the Options/Stages are calculated using the latest calculation engine.



Once the 'Recalc' button is clicked, it will do the following:

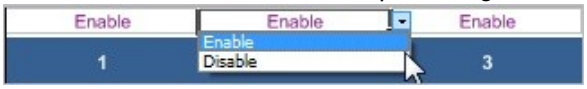
1. Prompt the user to store any active Option/Stage currently recalled to the Input sheet
2. For every Option/Stage currently stored, begin the process of recalling it into the input sheets, letting it recalculate and refresh any formula links, and then re-store it back
3. Recall back the original Option/Stage

10.6 The Consolidate Report



Using the 'View Comparison/Consolidate' button at the top of the 'Consolidate' report, the user can change how the results are reported:

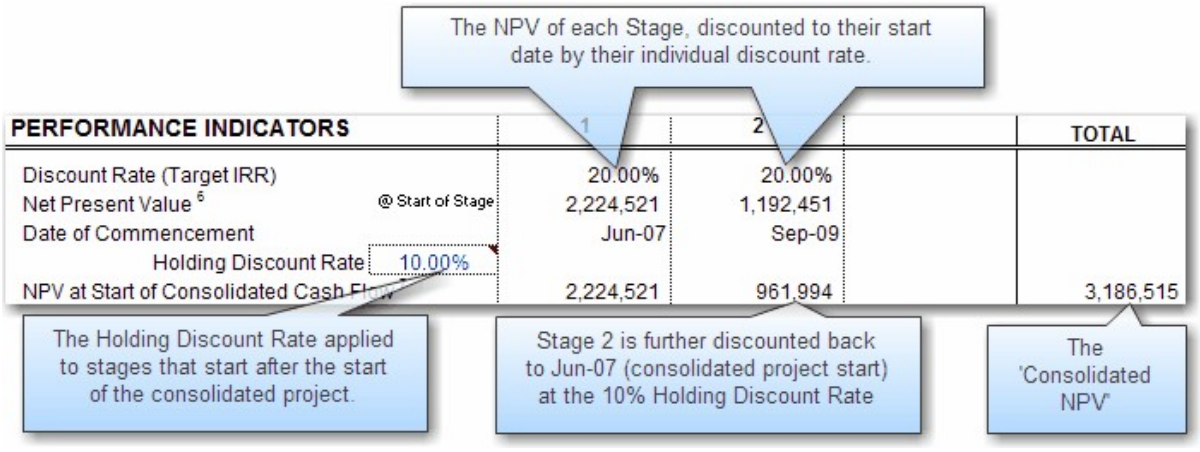
- **Comparing the 'Options'**, where up to 8 columns of reporting data is made available for each scenario, providing a summary of the performance indicators for all Options or Scenarios that where previously stored.
- **Consolidating the 'Stages'**, where an additional 'Total' column is provided to report on the consolidated performance of up to 8 individual stages. This is only relevant if the data stored are stages or precincts within the one larger project. It enables the user to model long term projects (up to 30 years using monthly rests) in smaller stages.

Toggling an Option/Stage
To hide an option/stage on the 'Consolidate' sheet when it is printed, you can use the drop-down to select 'Enable' or 'Disable' above each option/stage in the report.  Disabling will not delete the data stored. It will only vary the report outputs. For example, if you wanted to excluded a number of stages from the consolidated report, disabling these will adjust the total costs, revenues and performance indicators calculated for the total project as displayed in the Consolidate report. To restore the options/stages in the report, just select 'Enable' for the relevant option/stage.

Holding Discount Rate

The Consolidate report also allows the user to input a 'Holding Discount Rate' for the consolidated cash flow of all the stages stored. Since each stage may have different start dates, the NPV's for each stage cannot simply be added until they are discounted to a common date - that is the start of the consolidated project.

This is the rate that is applied to discount the NPV of each stage to present value at the start of the consolidated cash flow. Since there is little or no development risk during the holding period, a lower discount rate is usually applied (i.e. lower than the rate applied during the development period).



Cash Flow Charts

Depending on how the user has indicated how the Consolidate report is used, there is a cash flow chart on the Chart sheet, either displaying a:

- **Comparison Chart**, displaying the cash flows for each option stored in the Chart sheet.
- **Consolidate Chart**, displaying the cash flow for the consolidated stages that have been stored in the Chart sheet.

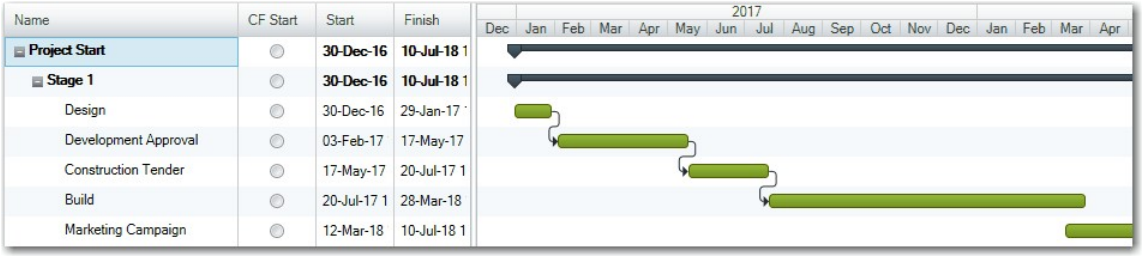
Part XI

11 Project Milestones

This features allows you to leverage the power of an interactive Gantt Chart to control the timings of your costs and revenues across all Development (DF and DM) CashFlows in a Project.

Using the Enterprise Database to act as the shared repository for the milestone data, users can easily manipulate timings for an entire Project using a common Gannt chart, rather than having to manually adjust period numbers in the Start and Span inputs in each file.

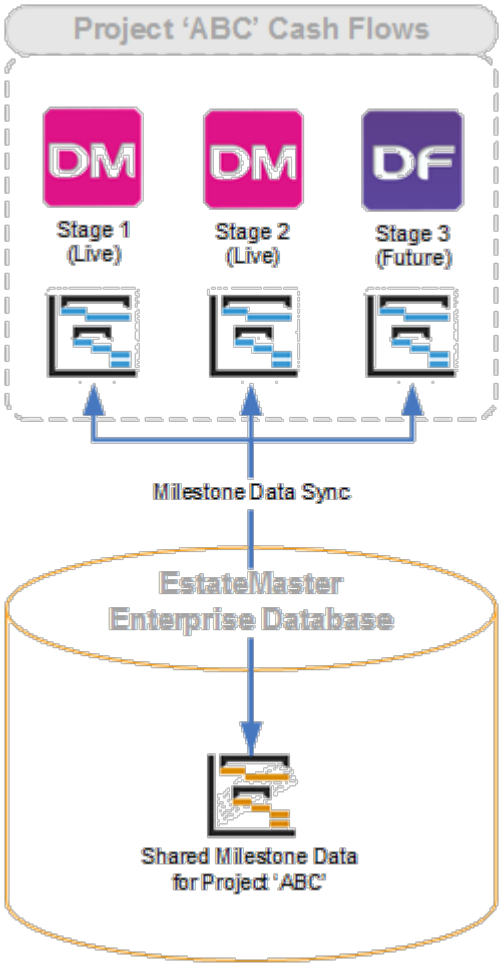
This is helpful if you are modelling a multi-stage project in individual files, and the timings of stages are dependent on one another. As you make changes to a Milestone Profile in one stage, the next time you open the file for a subsequent stage, the milestone data will be synchronized and the timings in your cash flow will be automatically updated.



Example Scenario

- You are working on a 3-stage project, and you have decided to model each stage in separate ARGUS EstateMaster models.
- Stage 1 and 2 have already commenced, so therefore they are being modeled in ARGUS EstateMaster DM.
- Stage 3 has not commenced yet, so therefore its forecast is being modeled in ARGUS EstateMaster DF.
- Cost and revenue timings would *normally* be controlled via numerical 'Start Period' and 'Span' inputs in each model, with the ability to link these inputs with others in the same file only, using basic spreadsheet formulae (e.g. start cost 'x' when cost 'y' finishes). If there was a delay in receiving development approval for the development of Stage 2, which therefore delayed the timing of construction and pushed out the date of practical completion, then the timings for sales revenue would need to be adjusted *manually* or linked to the other inputs.

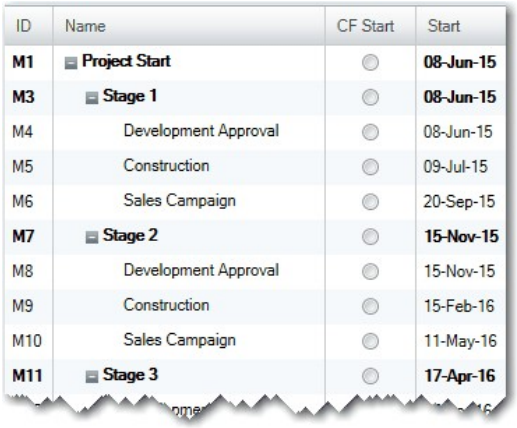
Description	Month Start	Month Span
CONSTRUCTION COSTS		
Demolition	12	4
Constructrion	16	18
SALES REVENUE		
Commercial	34	6
Level 2	34	1
Level 3	34	1



- If these delays would also impact on the ability to start Stage 3, then the 'Date of First Period' in the ARGUS

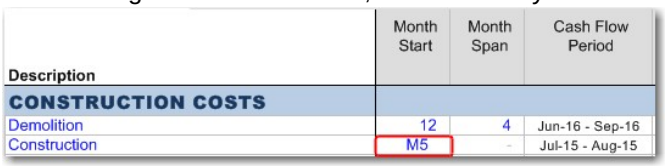
EstateMaster DF model would need to be *manually* adjusted as well.

- Using the Project Milestones function, you can build up a shared project schedule to drive the cash flow start date and timings of cost and revenue activities across all three models.



ID	Name	CF Start	Start
M1	**Project Start**		**08-Jun-15**
M3	**Stage 1**		**08-Jun-15**
M4	Development Approval		08-Jun-15
M5	Construction		09-Jul-15
M6	Sales Campaign		20-Sep-15
M7	**Stage 2**		**15-Nov-15**
M8	Development Approval		15-Nov-15
M9	Construction		15-Feb-16
M10	Sales Campaign		11-May-16
M11	**Stage 3**		**17-Apr-16**

- In the input assumptions, rather than entering/adjusting manual start and span periods, cost and revenue items that are dependent on any of the milestones can be linked to them, using their related ID (e.g. "M5" to link to Construction" timeline). The timing of that cost will then adopt the same timings as that milestone, with the ability to override the span period if you desire.



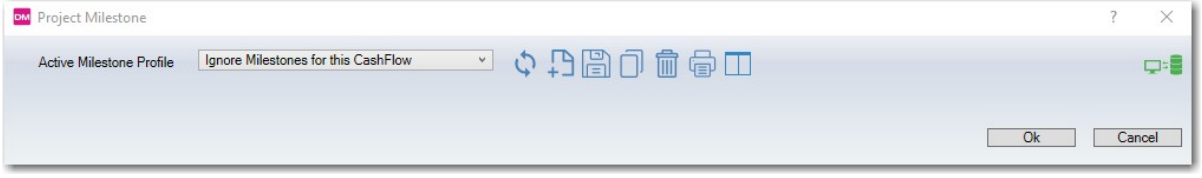
Description	Month Start	Month Span	Cash Flow Period
CONSTRUCTION COSTS			
Demolition	12	4	Jun-16 - Sep-16
Construction	M5	-	Jul-15 - Aug-15

- Timings for these items are now administered by the Project Milestones feature, you can reschedule them using its Gantt chart. You can do this by either manually editing the Start and Finish dates, or physically dragging the task bars across the timeline.
- Using the ARGUS EstateMaster Enterprise Database to act as the shared repository for the milestone data, when you open up the Stage 3 feasibility file in ARGUS EstateMaster DF, it will syncronise with the database, get the most up to Milestone data. This can then be used to drive the cash flow start and timings of the costs and revenues for Stage 3.

11.1 Milestone Profiles

The first thing you will need to do to use the Project Milestone feature is to create your custom your 'Milestone Profile' for your Project; a custom Gantt schedule comprising of a selection of Tasks that can be eventually used to drive the timings of your cash flow.

When you press the Project Milestones button in the ribbon menu, a form will appear where you can start to create 'Milestone Profiles'. By default, the 'Active Milestone Profile' will be set to 'Ignore Milestones for this CashFlow'. This means that you do not want to use a Milestone Profile for this file, and therefore only standard 'Start Period' inputs are expected in the cost and revenue line items.

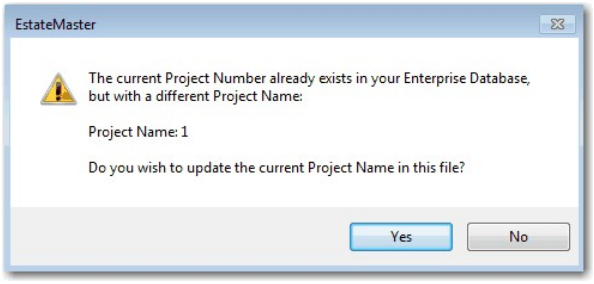


Online vs Offline Profiles

When the form loads, ARGUS EstateMaster DF will attempt to detect if there is an active connection to an ARGUS EstateMaster Enterprise Database:

✓ If there is a connection:

- The Project Milestone feature will operate in **ONLINE** mode and the  icon will appear in the top-right corner of the form.
- The Project Number and Name entered on the ARGUS EstateMaster DF 'Intro' sheet will be validated against any existing Projects in the database. If it finds a Project with a matching number, but with a different name, the user will be prompted to update the details on the 'Intro' sheet.



- All Milestone Profiles data for that Project will be synced with the ARGUS EstateMaster Enterprise Database, as well as saved to the local file.

✘ If there is no connection:

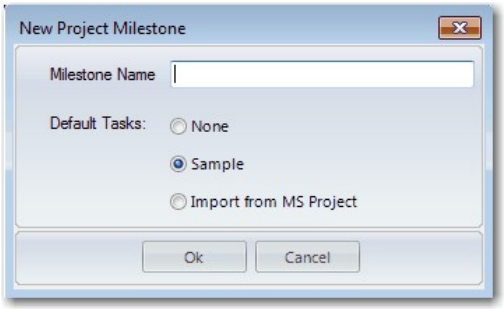
- The Project Milestone feature will operate in **OFFLINE** mode and the  icon will appear in the top-right corner of the form.
- All Milestone Profiles data will only be saved to the local file.

Create a New Milestone Profile

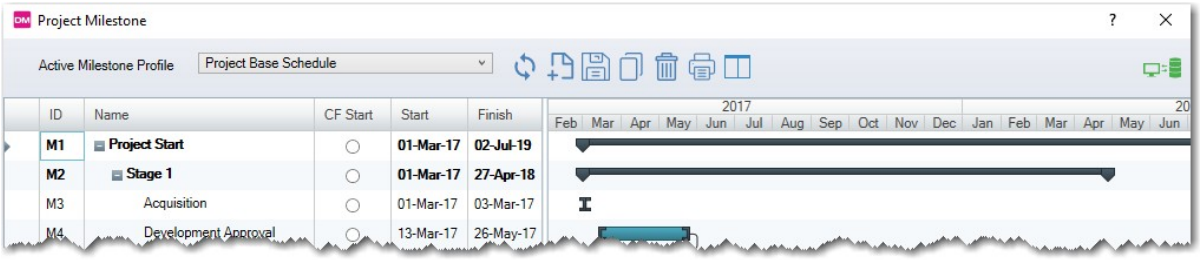
To create a new Milestone Profile, click on the  button.

You will be prompted to give it a name, and select whether you want to load the Gantt Chart with:

- No default Tasks (blank)
- Sample default Tasks
- Data from a Microsoft Project MPP or XML data file.If this option is selected, you will be prompted to browse to the *.mpp or *.xml file. If you select an *.mpp file, the import process will only work if Microsoft Project is installed on the same machine.



When [OK] is pressed, the Gantt chart will load.

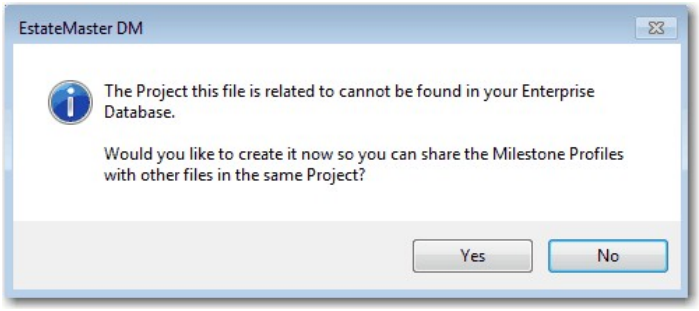


Saving the Active Milestone Profile

Once the individual Tasks have been created, click the button to save the data to your file, so you can begin utilising the Milestones in your Start and Span Inputs.

Database Sync Actions

1. The application will search the database to see if a Project exists with the same Project Name and Number, as entered on the 'Intro' sheet.
    a. If one **does exist**, it will save that Milestone data to that Project, so other CashFlows that belong to that same Project, can use it.
    b. If one **does not exist**, it will prompt you to create a Project.



i. If you select [No]:
    1. The Milestone data will be saved locally,and can only be used for that file.
    2. If at a later date, you export the same file to the Enterprise Database, you will be prompted to create a new Project at that point in time, or assign to an existing Project.

Clone/Copy an Existing Milestone Profile

This is a helpful feature if you wish to build model scenarios based on different project schedules. To copy the selected Milestone Profile and save it as a new one, click on the button.

You will prompted to save any existing changes before proceeding to give a name for the new Milestone Profile. Once it has been copied, the newly created one will be selected.

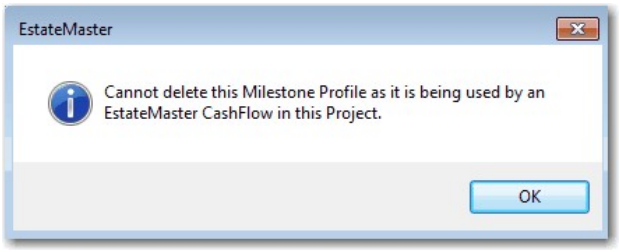
Delete an Existing Milestone Profile

To delete the selected Milestone Profile, click on the button.

You will prompted to confirm the deletion. If you click [Yes], that Milestone Profile will be deleted from that file.

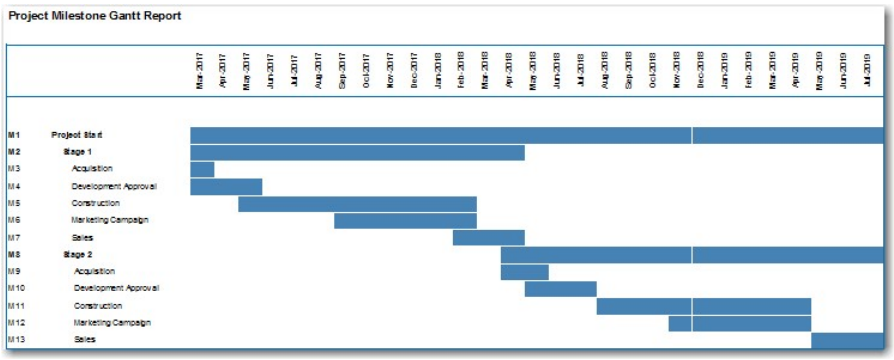
Database Sync Actions

1. The application will search the database to see if another ARGUS EstateMaster file that has been exported to the database, is using that particular Milestone Profile. If there is, then it will not be able to be deleted.



Print the Gantt Chart

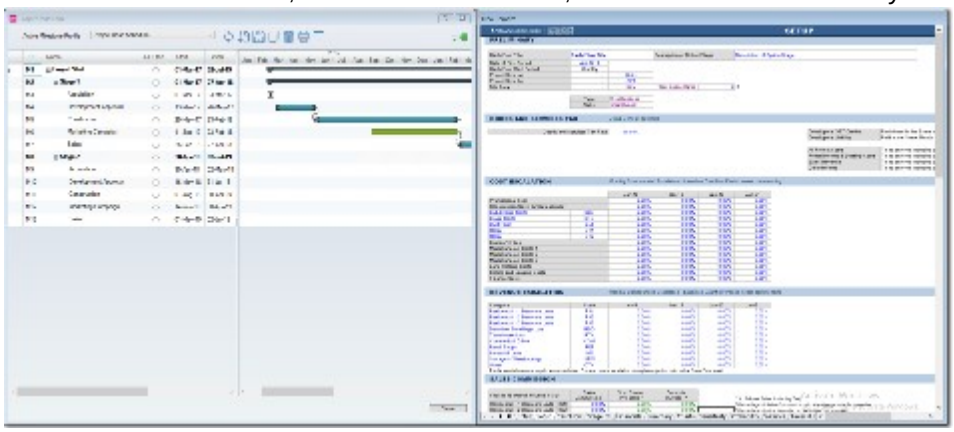
To print the gantt chart generated by the the active Milestone Profile, click on the button. It will load the gantt chart in the report viewer screen, where you have the options to change the page setup, print the report or save it to a file (e.g. xlsx, pdf)



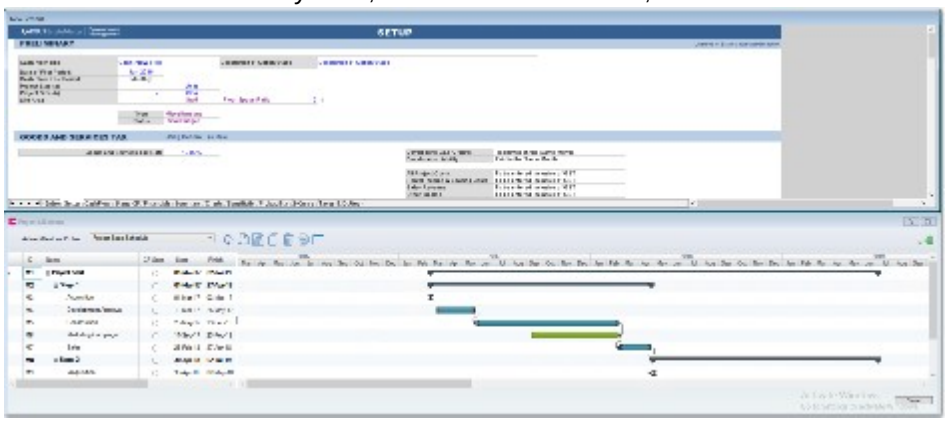
Dock/Tile the Windows

By default, when the Project Milestone form is first loaded, it will appear on top of your active ARGUS EstateMaster DF. If you wish to tile/dock it next to your ARGUS EstateMaster DF file so you can interact with both at the same time, your can toggle different tile/dock options.

- While in the 'default' view, click on the button, to tile the windows vertically.



- While in the 'tiled vertically' view, click on the button, to tile the windows horizontally.



- While in the 'tiled horizontally' view, click on the button, to restore it to the default view.

While the windows are tiled (either horizontally or vertically), you can make changes to the active Milestone Profiles (change dates, add tasks, etc), and by pressing the 'Save' button, the changes are instantly reflected in your ARGUS EstateMaster DF file.

Refresh the Active Milestone Profile

To refresh the data for all Milestone Profiles in the list, click on the button.

This will undo any pending changes to the currently selected Profile, and refresh it to its last-saved state.

Database Sync Actions

1. The application will search in that database and retrieve any more recent updates to the Milestone Profiles for that Project.
2. If more recent versions are found, the data in the Gantt Chart will be updated.

Background Database Synchronisations

Once you have started to create and use Milestone Profiles, the Milestone data in your ARGUS EstateMaster DF file will always be syncronising with the data in the Enterprise Database in the following instances:

- When opening a ARGUS EstateMaster DF file.
- When Recalling an Option/Stage (DF only).
- When the [Project Milestone] button is clicked on the Ribbon Menu
- When the [Save] button is clicked for a Milestone Profile.
- When a ARGUS EstateMaster DF file is being exported to the Enterprise Database.

This ensures that if another user has changed any details for a Milestone Profile in another file the same Project, your local copy will get updated with this information, and vice versa. The Milestone Profile data that was updated most recently, whether it be in the local file or database, will take precedence.

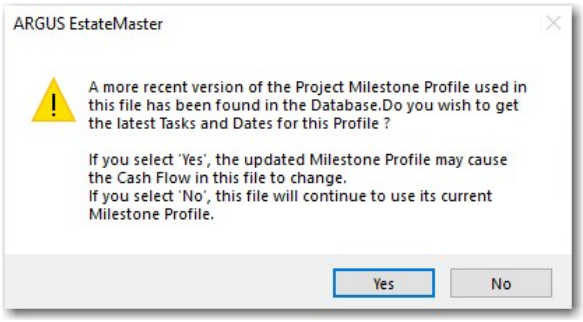
While offline (not connected to the database), you are able to open and make changes to Milestone Profiles in a file. The next time ARGUS EstateMaster DF can connect to the database, it will attempt to synchronise the changes.

Pausing Synchronisations when Opening Files

There may be a situation where you wish to open an existing ARGUS EstateMaster DF file in its last-saved state, and ignore any recent updates to the Milestone Profile that have been synchronised with the the Enterprise Database since that file was last saved (i.e. updated within a different file that belongs to the same project).

When a file is opened, it will check the Enterprise Database (assuming there is a current connection to it) if there is a newer version of the Milestone Profile that has been applied to that file.

If there is a more recent version of the Milestone Profile, the following will be displayed to the user:

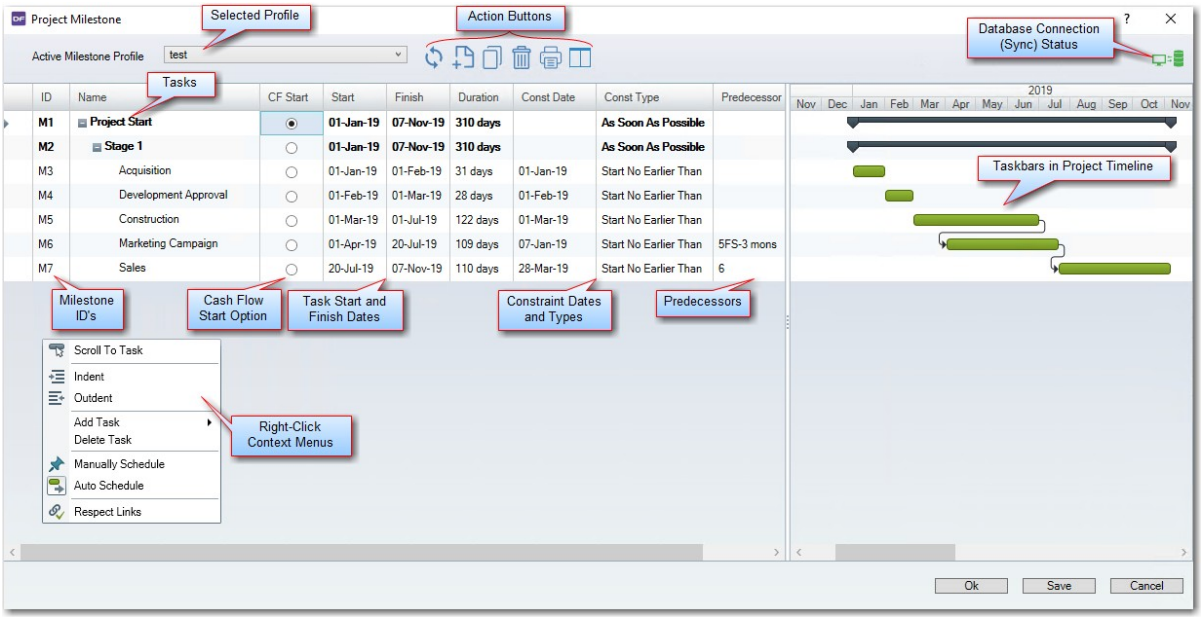


- If [**Yes**] is selected:
  - The latest data for the Milestone Profile (Tasks, Dates, Dependencies, etc) will be retrieved from the database, and the ARGUS EstateMaster DF file will be updated.
  - This may result in changes to the Cash Flow, and subsequently the outputs/results of that file.
- If [**No**] is selected:
  - The Milestone Profile will operate in **PAUSED** mode (i.e. not synchronise with the database) and the icon will appear in the top-right corner of the form. While in this 'Paused' state:
    - No data will be retrieved from the database, and the ARGUS EstateMaster DF file will continue to use the Milestone Profile data that it was last saved with.
    - The Milestone Profile will be read-only; it cannot be edited (e.g. Tasks changed) or deleted.
    - You can create a new Milestone Profile or copy the existing one, but it will remain in a 'Paused' state.
    - You can decide to synchronise with the database by clicking on the button, at which point you will be prompted with the same options above.

11.2 The Gantt Chart

The Gantt Chart the the Project Milestone feature uses a scheduling engine that works very similar to Microsoft Project 2010 and higher. *(See 'How scheduling works in Project')*

When you start to create a new Milestone Profile, some default tasks will be pre-populated to get you started. You can then continue to build up all the Tasks and their time frames related to that Project.



Gantt Chart Features

Active Milestone Profile

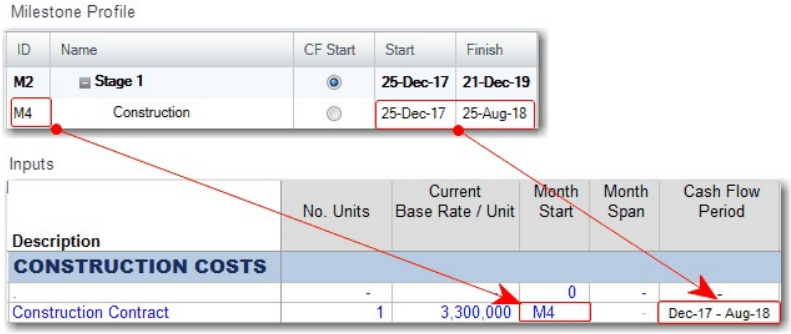
This indicates the the currently active profile being displayed. You can create multiple profiles for a Project, which is beneficial when doing scenario analysis based on variations on key milestones.

Action Buttons

Refresh, delete or add new Milestone Profiles.

Milestone ID

This is an auto-generated ID prefixed with "M". It is these IDs that you will be inputting in cost and revenue line items, to link them to a Milestone.



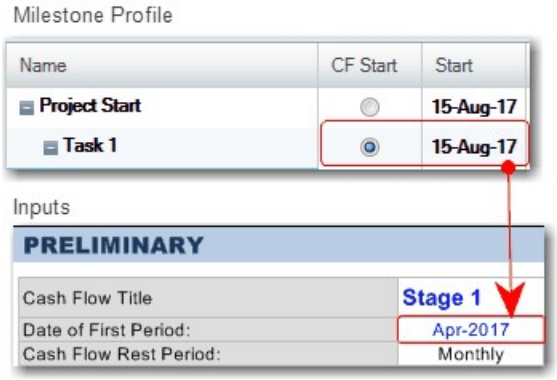
Tasks

These can be any type of activity or task in your project that you would like to incorporate in this Gantt. They can be indented/outdented toggle them between child/parent Tasks.

CF Start

This is an optional setting, that allows you to select which Task is to drive the the 'Date of First Period' input (i.e. the Cash Flow start date for the active ARGUS EstateMaster DF file). If selected, the 'Start' date for the selected Task is then set on the 'Date of First Period'

cell.



Then if that Milestone is adjusted in the future, the start of the cash flow will also be adjusted.

If you do not require the 'Date of First Period' to be linked to a Milestone any more, just manually adust the input assumption to you desired 'fixed' date, and it will then remove the 'CF Start' option on any Milestone Task.

Start and Finish

These are the Start and End Dates for the Tasks. They can be manually entered, or set using the date picker.

Tasks can be set to be:

- **Manually Scheduled:** This is useful during the early stages of creating a project while some of the project's details are unclear. You can place a manually scheduled task placed anywhere in your schedule, and the Gantt Chart won't move it.
- **Auto Scheduled:** The engine calculates the start and finish dates based upon the task dependencies. By default all tasks are created are set a 'Auto Scheduled'.

Duration

The duration of the Tasks, entered in either of the following formats:

- Days: **d, dy, dys, day, days**
- Weeks: **w, wk, wks, week, weeks**
- Months: **mo, mon, mons, month, months**

Start	Finish	Duration
01-Jan-19	**19-Jun-21**	**30 mons**
01-Jan-19	**19-Jun-21**	**30 mons**
01-Jan-19	14-Mar-19	72 days
13-Mar-19	03-Jul-19	16 wks
30-Jun-19	19-Jun-21	24 mons

Note:

- The Gantt chart assumes 30-day months for all months in the calendar.
- Therefore you may see some inconsistent 'Durations'
- For example, if a 'Start' date occurs at the beginning of a month and a 'Finish' date occurs at the beginning of the next month, it will only show a "1 mon" Duration if the Start month contains 30 days. If it contains 31 days, it will show a "1.03 mons" Duration, and if it contains 28 days, it will show a "0.9 mons" Duration.

Start	Finish	Duration
01-Jan-19	**01-Jun-19**	**5.03 mons**
01-Jan-19	**01-Jun-19**	**5.03 mons**
01-Jan-19	01-Feb-19	1.03 mons
01-Feb-19	01-Mar-19	0.9 mons
01-Mar-19	01-Apr-19	1.03 mons
01-Apr-19	01-May-19	1 mon
01-May-19	01-Jun-19	1.03 mons

Assumes 30-days for all Months

Constraint Date and Constraint Type

Constraints can be used to create a link between a task and a particular date. By default all tasks are created with the Constraint type 'As Soon As Possible' set. This allows Gantt Chart to schedule the task on the basis of its duration and dependencies, rather than against a particular date.

The constraint types available are:

- **As Soon As Possible**: The task starts on or after the project's start date and the start date of any ancestor summary tasks that are manually scheduled.
- **As Late As Possible**: The task finishes on or before the project's finish date, task deadline (if specified), the finish date of any manually scheduled ancestor summary tasks, and the deadlines of any automatically scheduled ancestor summary tasks.

The following constraints have a priority over dependencies:

- **Must Start On**: The task must/should start on the specified constraint date.
- **Must Finish On**: The task must/should finish on the specified constraint date.
- **Start No Earlier Than**: The task must/should start no earlier than the specified constraint date.

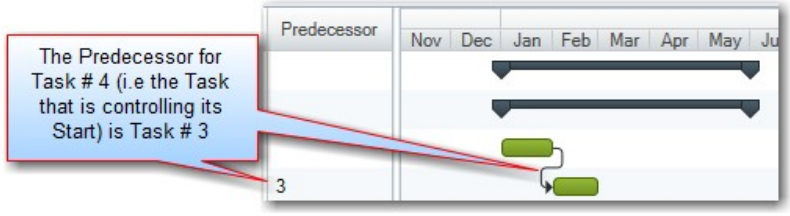
- **Start No Later Than**: The task must/should start no later than the specified constraint date.
- **Finish No Earlier Than**: The task must/should finish no earlier than the specified constraint date.
- **Finish No Later Than**: The task must/should finish no later than the specified constraint date.

Note: These settings only apply to 'Automatically Scheduled' Tasks.

Predecessor

Dependencies allow you to define relationships between tasks (a predecessor and a successor) and visualize the sequence in which they must be completed in order to close a project.

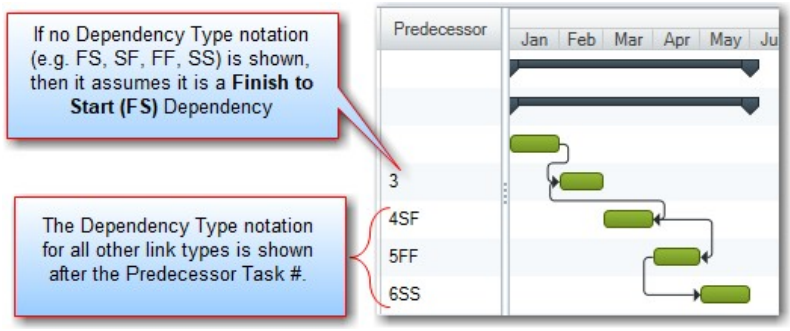
The Predecessor field in this process indicates which task (by its row # in the Gantt) is controlling the start or end date of the active task. So in the example below, Task #4 has Task #3 as its Predecessor, meaning that Task #3 is controlling when Task #4 starts (i.e. a 'Finish To Start' dependency)



Types or Dependencies

There are 4 types of dependencies, each having its own 2-character notation:

- **Finish to Start (FS)**: The Task's Start date is dependent upon its predecessor's Finish date. If not otherwise specified, this is the default link type.
- **Finish to Finish (FF)**: The Task's Finish date is dependent upon its predecessor's Finish date.
- **Start to Finish (SF)**: The Task's Finish date is dependent upon its predecessor's Start date
- **Start to Start (SS)**: The Task's Start date is dependent upon its predecessor's Start date.



Creating Dependencies

These dependency links can be created by either:

- Dragging the icon that appears at the start or end of a task when hovering over its taskbar, to the start or end of another task.

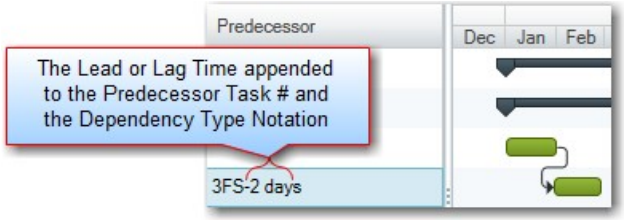
- Manually defining the link in the Predecessor field, which includes defining the row # of the Predecessor Task, and the dependency type (e.g. FS, SF, FF, SS). Using this approach, you can also specify a lead and lag time of the dependency as well.

Lead and Lag Times

In addition to defining the type of dependency between two Tasks, you can also specify dependency lead and lag time.

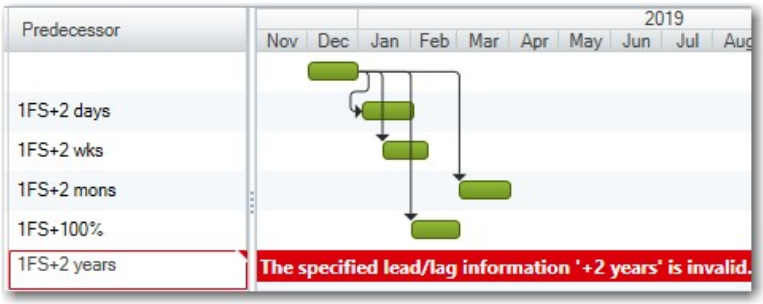
- **Lead** time is a value of negative duration indicating the amount of overlap between the tasks.
- **Lag** time is a value of positive duration indicating a delay between the task's links fields.

The lead and lag time can be defined as a **duration** (days, weeks, months, years, etc) or as a **percentage** of the predecessor task duration. For example, if you enter for Task #4 "3FS-2 days" in the Predecessors column, this means that there is a 2 days lead-time meaning that Task #4 must start 2 days before the finish of the Task #3.



The dependency lead and lag time must be manually entered in the Predecessor field in one of the supported formats, otherwise a red validation message will appear. The supported formats are:

- Days: **d, dy, dys, day, days**
- Weeks: **w, wk, wks, week, weeks**
- Months: **mo, mon, mons, month, months**
- Percent: **%**



Taskbars

The task timeline can be adjusted here, just by dragging a taskbar, or resizing it.

You can also set dependencies between two tasks, just by dragging the icon that appears at the start or end of a task when hovering over its taskbar, to the start or end of another task.

11.2.1 Context Menus

Task Menu

- **Scroll to Task:** Highlights the Taskbar for the selected Task in the timeline.
- **Indent:** Changes the selected Task to become a 'child' Task.
- **Outdent**: Changes the selected Task to become a 'parent' Task.
- **Add Task:** Ability to add a new Task either as a 'sibling' (underneath the selected task on the same level), or a subtask (underneath the selected task as a 'child' task). A maximum of 400 Tasks per Profile can be added.
- **Delete Task:** Deletes the selected Task
- **Manually Schedule:** Change the Task to be Manually scheduled.
- **Auto Schedule:** Change the Task to be Auto scheduled.
- **Respect Links:** Recalculates the selected task's information based on its dependencies.

Timeline Menu

If you right-click a Taskbar, you will get the following task-related options:

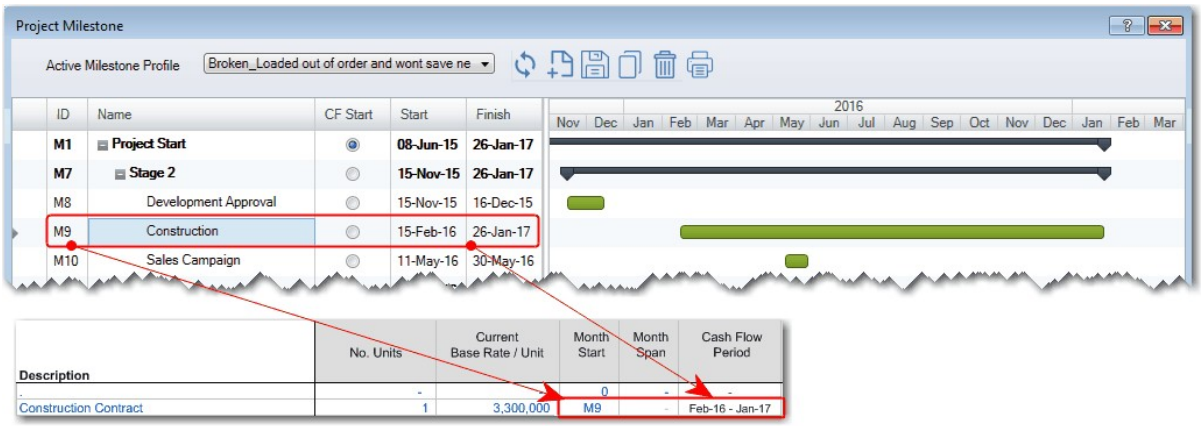
- Manually Schedule
- Auto Schedule
- Respect Links

If you right-click a Link, you will get the following dependency-related options:

- **Delete Link:** Deletes the dependency between the two Tasks
- **Scroll To Predecessor:** Highlights the task where the link is coming 'from'
- **Scroll To Successor:** Highlights the task where the link is going 'to'

11.3 Using Milestones in Input Assumptions

After you create your Milestone Profiles, you can start using the Task IDs prefixed with "M" to drive the timings for all your cost and revenue line items.



This can be done by either:

1. **Setting the "M" ID in the 'Period Start'** inputs and leaving the **'Period Span' Empty**: This will start the cost/revenue on the same date as the Milestone Task 'Start' date and automatically span it until the Milestone Task 'Finish' date.

Description	No. Units	Current Base Rate / Unit	Month Start	Month Span	Cash Flow Period
.	-	-	0	-	-
Construction Contract	1	3,300,000	M9		Feb-16 - Jan-17

2. **Setting the "M" ID in the 'Period Start'** inputs and **entering a custom 'Period Span'** Input: This will start the cost/revenue on the same date as the Milestone Task 'Start' date, but span it according to the defined input.

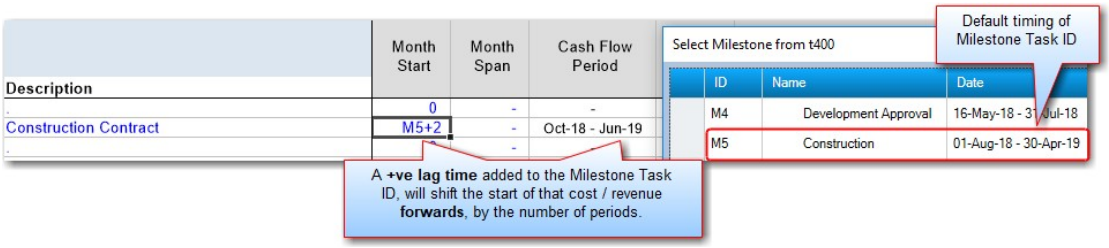
Description	No. Units	Current Base Rate / Unit	Month Start	Month Span	Cash Flow Period
.	-	-	0	-	-
Construction Contract	1	3,300,000	M9	8	Feb-16 - Sep-16

Whenever the timings are changed for Tasks in the active Milestone Profile for that file, any cost and revenue inputs that have been configured this way will then have their cash flow duration automatically adjust.

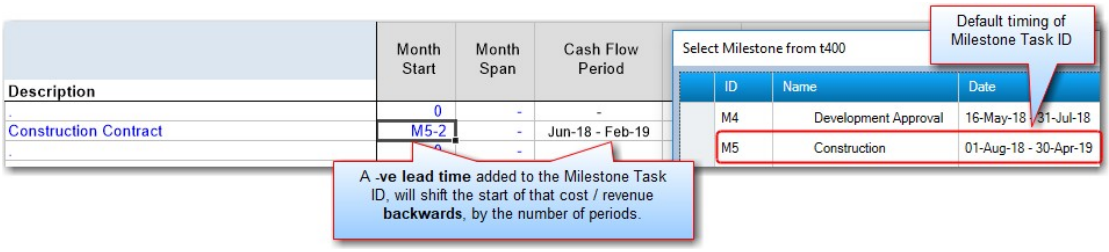
Adding a Lead Time or Lags

If a cost or revenue input needs to adopt a lead or lag time relative to a give Milestone Task, then this can be achieved by entering either:

1. "**+**" followed by the number of period, after the "M" ID, to indicate a **lag**

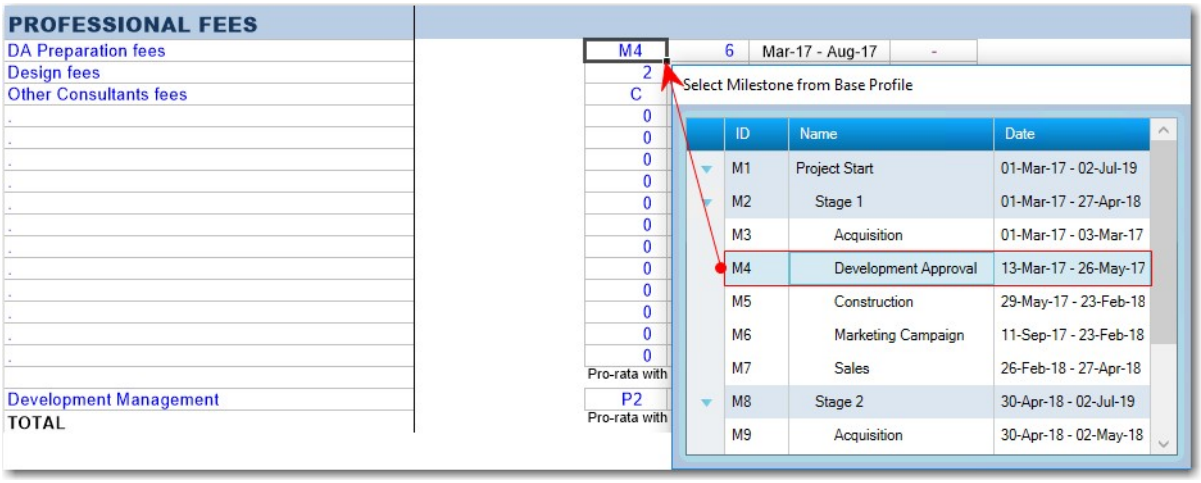


2. "**-**" followed by the number of periodd, after the "M" ID, to indicate a **lead time**



Milestone Popup List

To assist with linking cost and revenue inputs to Milestone Tasks, and popup list will automatically appear after you assign a Milestone Profiles to your active file.



Simply by selecting the 'Period Start' input cell for any cost or revenue item, the 'Select Milestone' list will automatically pop-up. You will then have 2 options to assign a Milestone ID to that Period Start input:

1. Manually type in the Milestone "M" ID in the input field and press the [Enter ↵] key.
2. Find the Milestone in the pop-up list, and double-click it. If you do this, the application will then automatically populate both Period Start input field with the related "M" ID.

Once you select any other cell, or application tab, the pop-up list will automatically close.

If you do not want the pop-up to automatically appear, it can be disabled in the application settings.

Locked Fields

This functionality will behave differently in the following scenarios:

- The pop-up list will only appear if the active Period Start input cell is unlocked/editable.
- If the selected Period Start input cell has been locked, due to Input Cell Protection via the Preferences, the pop-up list will not appear.
- If the selected Period Start input cell is unlocked/editable, and a Cost Code is selected via a double-click in the pop-up list, the active Period Start input cell will be updated

11.4 Sharing Milestone Profiles across Files

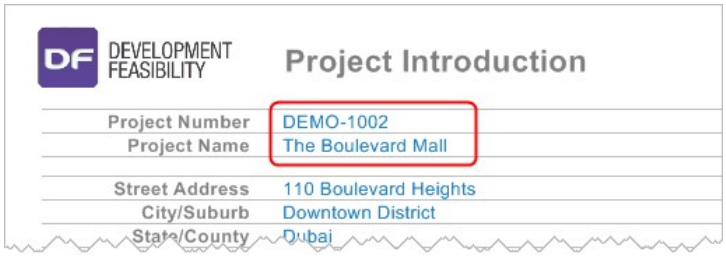
The real power of the Project Milestones feature is using it to control the timings across multiple DF and DM cash flows in **the same Project**.

If you are using the Enterprise Database to act as the shared repository for the milestone data, you can easily adopt a Milestone Profile that has been originally created in one DF/DM file, and use it in another DF/DM file in the same Project.

How Does it Work?

When the Project Milestones feature syncs with the Enterprise Database, it relies on the Project Details on the 'Intro' sheet of the DF/DM file to know which Project in the database to store it against, prompting the user to create one if it doesn't exist.

Once a Project has been created in the database, and the Milestone data has been stored against it, any other DF/DM file that has the same Project Number and Name entered on the 'Intro' sheet, will sync with the Enterprise Database and retrieve the Milestone Profile(s) created for that Project.



Multiple DF/DM files can share the same Milestone Profile, so if you make an edit to it via one file, the next time the other file syncs (file open, opening Project Milestone feature, etc)

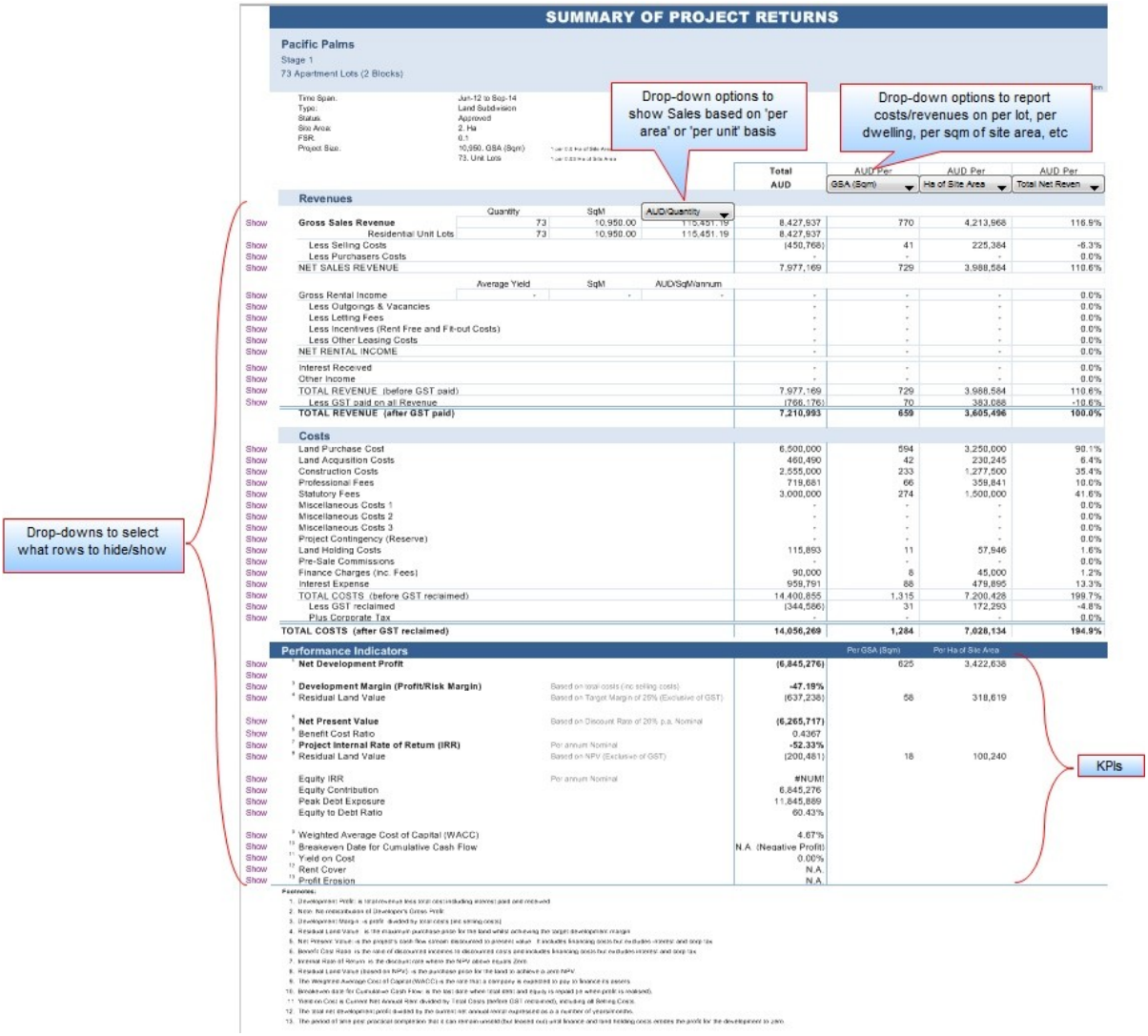
Part XII

12 Tracking Performance

12.1 Development Financial Summary

This report will display either the:

- **Project Returns**, if in Single Entity Mode,
- **Developer Returns**, if in Joint Venture Mode, with the Land Owner's returns provided on a separate report.



Performance Indicators

Gross Development Profit

Total Project Revenue less Total Project Costs (after GST/VAT/Sales Tax paid and reclaimed, but before any profit share/split has been made to either the land owner or lender at the completion of the project).

Net Development Profit

Gross Development Profit less any profit share/split to either the land owner or lenders.

Development Margin (profit/risk margin)

The ratio of Development Profit to:

- Development Costs (inc Selling and Leasing Costs), or
- Development Costs (inc Selling Costs), or
- Development Costs (net of Selling and Leasing Costs), or
- Total Revenue net of GST/VAT/Sales Tax, or
- Total Sales Proceeds (net of Selling Costs and GST/VAT/Sales Tax).

These options can be chosen on the 'Hurdle Rates' tab of the Preferences.

Residual Land Value (Target Margin)

The maximum price that can be paid for the land (net of stamp duty and other acquisition costs) that will result in the development achieving the Target Development Margin.

Net Present Value

The project cash flow (excluding equity) discounted to present value at the nominated discount rate (Target IRR).

Benefit Cost Ratio

The ratio of discounted revenue to discounted costs.

Internal Rate of Return

The return on the development or the discount rate at which the NPV equals zero.

Residual Land Value (Target IRR)

It is the maximum price to be paid for the land (excludes stamp duty and other acquisition costs) that will result in the project being feasible – i.e. when the IRR equals the discount rate and NPV equals zero.

Equity IRR

The return on the developer's equity investment into the project.

Equity Contribution

The sum of all developer equity contributions (injections) into the project.

Peak Debt Exposure

The maximum cash flow exposure after equity and including capitalised interest.

Equity to Debt Ratio

The ratio of equity funding to debt funding in the project.

Weighted Average Cost of Capital (WACC)

The rate that a company is expected to pay to finance its assets. It is based on the following formula:

$$\text{WACC} = \frac{D}{(D+E)} * R_D + \frac{E}{(D+E)} * R_E$$

Where:
D = Total Debt
E = Total Equity
R_D = Cost of Debt (risk free rate of return plus debt premium based on the credit rating of the company); and

R_E = Cost of Equity (required return on equity)

T_R = Corporate Tax Rate

Breakeven Date for Cumulative Cash Flow	The date the cumulative cash flow first turns positive.
Rent Cover	The total Net Development Profit divided by the Current Net Annual Rental expressed as a a number of years/months. It is only applicable for developments with rental income.
Yield on Cost	Current Net Annual Rent divided by Total Costs (before GST reclaimed), including all Selling Costs.
Profit Erosion	The period of time post practical completion that it can remain unsold (but leased out) until finance and land holding costs erodes the profit for the development to zero. It is only applicable for developments with rental income.

Important Notes about the calculation of IRR and NPV's

To help understand how the NPV's and IRR's are calculated, please be aware of the following:

- The 'Project' IRR is based on the project's cash flow, including inflows (revenues) and outflows (costs).
- You can choose whether financing costs, interest expenses and corporate tax are included in the project cash flow to calculate the 'Project' NPV and IRR, using the settings on the 'Hurdle Rates' tab of the Preferences.
- It is based on the data in the 'Project IRR & NPV' section of the Cash Flow table, which summarises the cash flow lines that are included in the cash flow to calculate the Project NPV and IRR

PROJECT IRR & NPV					
Cash Flow that includes financing costs but excludes interest and corp tax.		(1,005,000)	(188,012)	(12,893)	(833)

- The 'Equity' IRR is different to the 'Project' IRR, as it looks at the return on equity contributor's cash inflows (injections) and outflows (repayments). It is based on the 'Equity Cash Flow' line in the Financing section in the Cash Flow table.

Equity Balance	(18,614,755)	(10,000,000)	(10,300,234)	(16,614,755)	(17,614,755)
Equity Cash Flow	(18,614,755)	(10,000,000)	(300,234)	(6,314,521)	(1,000,000)

- The 'Lenders' IRR is different to the 'Project' and 'Equity' IRR, as it looks at the return on lenders cash inflows (principal and interest repayments) and outflows (drawdowns). It is based on the 'Loan x Cash Flow' line for each lender in the Financing section in the Cash Flow table.

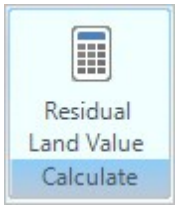
Loan Balance	-	-	-	(7,637,835)	(8,078,131)	(8,627,104)	(12,949,192)
% of Land Purchase Price.				47.7%	50.0%	52.9%	79.4%
Profit Share	-	-	-	-	-	-	-
Loan 1 Cash Flow	8,735,158	-	-	(7,637,835)	(363,917)	(468,192)	(4,235,818)

- All these indicators use the standard 'NPV' and 'IRR' functions (not XNPV or XIRR).
- When calculating the NPV, it assumes time period zero is not discounted .
- You can choose whether all NPV's and IRR's noted above are calculated on an Effective or Nominal basis, using the settings on the 'Hurdle Rates' tab of the Preferences.

Other Functions

You can customise the rows that are displayed in the Summary Report:

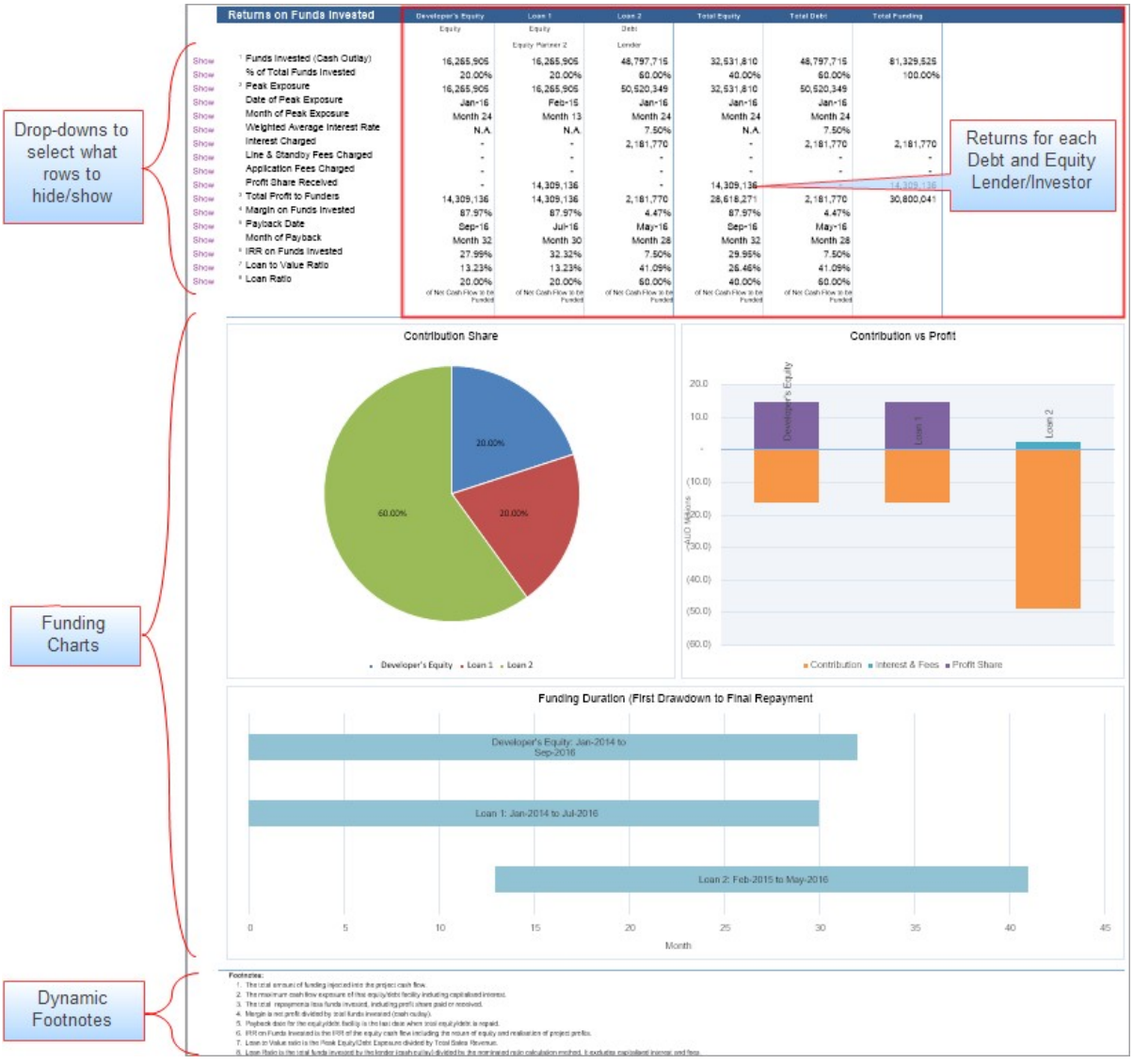
- **Hide Rows:** This will hide the rows that have be deselected using the checkbox on the left of the report.
- **Show Rows:** This will unhide all rows on the report. Any rows that were hidden will have their checkbox still deselected.



Update the Residual Land Values based on the Target Margin and Target IRR.

12.2 Returns on Funds Invested

This report will display the returns to each of the sources of funding in the project, including how much each investor contributes, what their fees and interest charges are, what their payback date is, and the profit and IRR they receive in return.



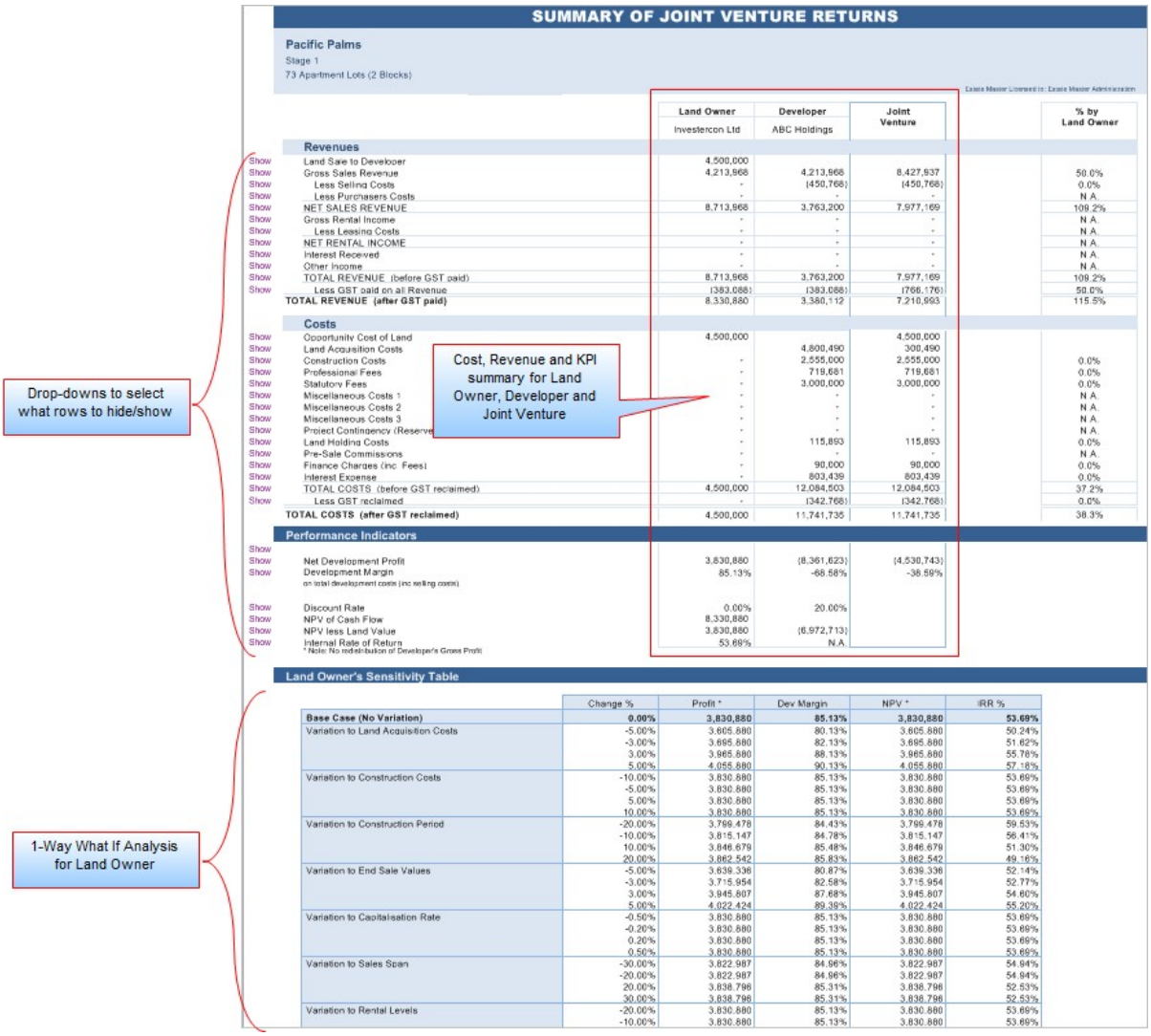
Important Note: The table containing the returns to each lender/investor is dynamic; each column automatically updates to reflect only the data for sources of funding that are being used, and the data for a specific funding source may not always appear in the same column. Therefore take care when referencing data in these columns in any custom formulae, and try to avoiding directly referencing cells in these columns if there is a possibility that the number of funding sources may change throughout the modelling process.

Return on Funds Invested

Funds Invested	The total amount of funding injected into the project.
Peak Exposure	The maximum cash flow exposure of the loan balance (including capitalised interest).
Weighted Average Interest Rate	The weighted average interest rate of the loan facilities, weighted by the size of their loan balances.
Interest and Fees Charged	The total interest, application and line fees that have been charged by the financier to the project.
Profit Share Received	Profit share entitlements to any of the financiers for Loans 1 to 10.
Total Profit to Funders	The total repayments less funds invested, including profit share paid or received.
Margin on Funds Invested	Margin is Total Profit to Funder divided by Funds Invested (Cash Outlay).
Payback Date	The last date when the loan is repaid.
IRR on Funds Invested	The IRR of the financier's cash flow. Refer to the Cash Flow sheet to view the cash flow data for each financier that is used to calculate their IRR.
Equity to Debt Ratio	The ratio of equity funding to debt funding in the project.
Loan to Value Ratio	Loan to Value ratio is the Peak Equity/Debt Exposure divided by Total Sales Revenue.
Loan Ratio	Loan Ratio is the total funds invested (cash outlay) divided by the nominated ratio calculation method. Use the Finance Preferences to determine if 'funds invested' includes or excludes capitalised interest for the purposes of this calculation.
Funding Charts	• Contribution Share: A pie chart that displays the % contribution by each lender. • Contribution vs Profit: A stacked column chart showing the amount contributed by each lender, and their profit composition (interest, fees, and profit share) • Funding Duration: A line chart that depicts the duration of each loan, commencing from when the first drawdown is made to the final repayment.

12.3 Joint Venture Summary

This report will only become available when Joint Venture Mode has been selected in the Preferences.



SUMMARY OF JOINT VENTURE RETURNS

Pacific Palms
Stage 1
73 Apartment Lots (2 Blocks)

	Land Owner Investercon Ltd	Developer ABC Holdings	Joint Venture	% by Land Owner
Revenues				
Land Sale to Developer	4,500,000			
Gross Sales Revenue	4,213,968	4,213,968	8,427,937	50.0%
Less Selling Costs	-	(450,768)	(450,768)	0.0%
Less Purchasers Costs	-	-	-	N.A.
NET SALES REVENUE	8,713,968	3,763,200	7,977,169	109.2%
Gross Rental Income	-	-	-	N.A.
Less Leasing Costs	-	-	-	N.A.
NET RENTAL INCOME	-	-	-	N.A.
Interest Received	-	-	-	N.A.
Other Income	-	-	-	N.A.
TOTAL REVENUE (before GST paid)	8,713,968	3,763,200	7,977,169	109.2%
Less GST paid on all Revenue	(383,088)	(383,088)	(766,176)	50.0%
TOTAL REVENUE (after GST paid)	8,330,880	3,380,112	7,210,993	115.5%
Costs				
Opportunity Cost of Land	4,500,000		4,500,000	
Land Acquisition Costs		4,800,490	300,490	
Construction Costs	-	2,555,000	2,555,000	0.0%
Professional Fees	-	719,681	719,681	0.0%
Statutory Fees	-	3,000,000	3,000,000	0.0%
Miscellaneous Costs 1	-	-	-	N.A.
Miscellaneous Costs 2	-	-	-	N.A.
Miscellaneous Costs 3	-	-	-	N.A.
Project Contingency (Reserve	-	-	-	N.A.
Land Holding Costs	-	115,893	115,893	0.0%
Pre-Sale Commissions	-	-	-	N.A.
Finance Charges (inc. Fees)	-	90,000	90,000	0.0%
Interest Expense	-	803,439	803,439	0.0%
TOTAL COSTS (before GST reclaimed)	4,500,000	12,084,503	12,084,503	37.2%
Less GST reclaimed	-	(342,768)	(342,768)	0.0%
TOTAL COSTS (after GST reclaimed)	4,500,000	11,741,735	11,741,735	38.3%
Performance Indicators				
Net Development Profit	3,830,880	(8,361,623)	(4,530,743)	
Development Margin on total development costs (inc selling costs)	85.13%	-68.58%	-38.59%	
Discount Rate	0.00%	20.00%		
NPV of Cash Flow	8,330,880			
NPV less Land Value	3,830,880	(6,972,713)		
Internal Rate of Return * Note: No redistribution of Developer's Gross Profit	53.69%	N.A.		

Land Owner's Sensitivity Table

	Change %	Profit *	Dev Margin	NPV *	IRR %
Base Case (No Variation)	**0.00%**	**3,830,880**	**85.13%**	**3,830,880**	**53.69%**
Variation to Land Acquisition Costs	-5.00%	3,605,880	80.13%	3,605,880	50.24%
	-3.00%	3,695,880	82.13%	3,695,880	51.62%
	3.00%	3,965,880	88.13%	3,965,880	55.76%
	5.00%	4,055,880	90.13%	4,055,880	57.18%
Variation to Construction Costs	-10.00%	3,830,880	85.13%	3,830,880	53.69%
	-5.00%	3,830,880	85.13%	3,830,880	53.69%
	5.00%	3,830,880	85.13%	3,830,880	53.69%
	10.00%	3,830,880	85.13%	3,830,880	53.69%
Variation to Construction Period	-20.00%	3,799,478	84.43%	3,799,478	59.53%
	-10.00%	3,815,147	84.78%	3,815,147	56.41%
	10.00%	3,846,679	85.48%	3,846,679	51.30%
	20.00%	3,862,542	85.83%	3,862,542	49.16%
Variation to End Sale Values	-5.00%	3,639,336	80.87%	3,639,336	52.14%
	-3.00%	3,715,954	82.58%	3,715,954	52.77%
	3.00%	3,945,807	87.68%	3,945,807	54.60%
	5.00%	4,022,424	89.39%	4,022,424	55.20%
Variation to Capitalisation Rate	-0.50%	3,830,880	85.13%	3,830,880	53.69%
	-0.20%	3,830,880	85.13%	3,830,880	53.69%
	0.20%	3,830,880	85.13%	3,830,880	53.69%
	0.50%	3,830,880	85.13%	3,830,880	53.69%
Variation to Sales Scan	-30.00%	3,822,987	84.96%	3,822,987	54.94%
	-20.00%	3,822,987	84.96%	3,822,987	54.94%
	20.00%	3,838,796	85.31%	3,838,796	52.53%
	30.00%	3,838,796	85.31%	3,838,796	52.53%
Variation to Rental Levels	-20.00%	3,830,880	85.13%	3,830,880	53.69%
	-10.00%	3,830,880	85.13%	3,830,880	53.69%

Performance Indicators

Profit before re-distribution — Total Project Revenue less Total Project Costs (after GST/VAT/Sales Tax paid and reclaimed and before any profit or revenue share distributed to the land owner share).

Profit after re-distribution — Total Project Revenue less Total Project Costs (after GST/VAT/Sales Tax paid and reclaimed and after any profit or revenue share distributed to the land owner share).

Development Margin (profit/risk margin) — The ratio of Development Profit to Total Project Costs (after GST/VAT reclaimed), Total Net Sale Proceeds or Total Sales and Rental Income. These options can be chosen on the 'Hurdle Rates' tab of the Preferences. You can also select whether or not selling costs are included as part of the total project costs. This will affect the margin slightly.

Net Present Value — The project cash flow (excluding equity) discounted to present value at the nominated discount rate (Target IRR). You can choose

	whether financing costs and interest expenses are included in the project cash flow to calculate the NPV on the 'Hurdle Rates' tab of the Preferences.
NPV less Land Value	NPV of cash flow less the opportunity cost of the land. If this is positive then the land owner achieves a return (IRR) greater than the discount rate. In this instance the joint venture would be more feasible than selling the property upfront. Not this has taken into account the time value of money.
Internal Rate of Return	The return on the development (includes the opportunity cost of the land) or the discount rate at which the NPV equals zero.

12.4 Cash Flow Table

Stock Summary

This reports on stock that has been 'Sold' and 'Handed Over' via the revenue inputs from the Sales section and the Capitalised Sales calculated from the Rental Income section.

- Stock is **'Sold'** at the defined 'Pre-Sale Exchange' date for a sale item, or if no pre-sale is nominated, then at the defined 'Settlement' date.
- Stock is **'Handed Over'** at the defined 'Settlement' date for a sale item.

		Jan-18	Feb-18	Mar-18
Sale Summary				
Units Sold	94.00	-	3.75	3.75
Cumulative Units Sold		57.00	60.75	64.50
% Units Sold		60.6%	64.6%	68.6%
Sqm Sold	15,380.00	-	412.50	412.50
Cumulative Sqm Sold		9,630.00	10,042.50	10,455.00
% Sqm Sold		62.6%	65.3%	68.0%
AUD Sold	23,373,222	-	859,661	861,431
Cumulative AUD Sold		14,130,811	14,990,471	15,851,903
% AUD Sold		60.5%	64.1%	67.8%
Handover Summary				
Units Handed Over	94.00	-	46.75	3.75
Cumulative Units Handed Over		-	46.75	50.50
% Units Handed Over		-	49.7%	53.7%
Sqm Handed Over	15,380.00	-	5,142.50	412.50
Cumulative Sqm Handed Over		-	5,142.50	5,555.00
% Sqm Handed Over		-	33.4%	36.1%
AUD Handed Over	23,373,222	-	10,546,434	861,431
Cumulative AUD Handed Over		-	10,546,434	11,407,865
% AUD Handed Over		-	45.1%	48.8%

Sales Summary displays the stock that has been sold at pre-sale (i.e. on completion)

Handover Summary displays the stock that has settled and ownership transferred

Deposit Summary

This reports deposits that have been collected via the 'Revenue Collection Profile' when the Release from Escrow preference is set as 'Via Insured Deposits'. It summarises:

- Deposits Received, grouped by Land Use Category.
- Cumulative Deposits Used (i.e. drawdowns via 'Insured Deposit' Loans)
- The remaining Balance.
  - o Note: If an 'Insured Deposit' Loan draws down more than what is available, thus causing the 'Balance Available' line to go negative, a red warning will appear indicating to check the loans. The most probable cause is a manual adjustment drawdown.

		Nov-17	Dec-17	Jan-18	Feb-18
Deposit Summary					
Deposits Received	8,172,000	-	-	-	-
Residential - 1 Bedroom Units	4,068,000	-	-	-	-
Residential - 2 Bedroom Units	4,104,000	-	-	-	-
Cumulative Received		8,172,000	8,172,000	8,172,000	8,172,000
Cumulative Used (via Insured Deposit Loan)		6,206,791	6,559,803	11,354,800	11,354,800
Balance Available	Check Loans	1,965,209	1,612,197	(3,182,800)	(3,182,800)

Costs and Revenues Cash Flow

This report will display a summary of all costs and revenues for either the:

- **Project Cash Flow**, if in Single Entity Mode,
- **Developer's Cash Flow**, if in Joint Venture Mode, with the Land Owner's Cash Flow provided on a separate table.

		Jan-18	Feb-18	Mar-18
Revenue				
Gross Sales Revenue	23,373,222	-	10,546,434	861,431
Selling Costs	(1,025,247)	(16,382)	(215,538)	(56,224)
Gross Rental Income	-	-	-	-
Leasing Costs	(1,320		-	-
Other Income	91,678			-
Interest Received*	17,424		424	-
GST Payments (Liabilities)	(951,355		508)	(34,755)
TOTAL NET REVENUE	21,58		811	770,452
Costs				
Land and Acquisition	21,365,990	8,088,000	-	-
Professional Fees	1,334,173	74,607	31,431	25,460
Manual Input	5,500	-	5,000	-
Construction Costs (inc. Contingency)	9,339,100	380,064	405,028	405,028
stage 1	-	-	-	-
block 1 apartments	1,738,275	199,902	-	-
block 2 apartments	1,212,750	139,466	-	-
block 3 townhouses	46,800	-	80,850	80,850
block 4 townhouses	52,400	-	40,425	40,425
block 5 houses		-	84,459	84,459
block 6 houses	79,625	-	97,453	97,453
block 7 houses	67,775	-	58,472	58,472
stage 3	-	-	-	-
block 8 houses	1,403,325	-	-	-
block 9	311,850	-	-	-
block 10	779,625	-	-	-
Statutory Fees	7,508,500	2,407,000	-	-
Miscellaneous Costs	2,685,000	109,269	116,446	116,446
Miscellaneous Costs 2	-	-	-	-
Miscellaneous Costs 3	-	-	-	-
Project Contingency (Reserve)	-	-	-	-
Land Holding Costs	252,954	-	18,696	-
Pre-Sale Commissions	119,874	-	-	-
Financing Costs (exc Fees)	99,000	-	-	-
GST Refunds (Input Credits)	(1,377,519)	(137,823)	(59,273)	(44,247)
TOTAL COSTS	41,327,071	10,921,117	512,329	502,688
Net Cash Flow (before Interest)	(19,822,669)	(10,937,499)	9,410,483	267,765
Cumulative Cash Flow		(28,110,972)	(18,700,489)	(18,432,725)

Each section has its own 'Manual Input' row that can be shown via the 'View Options' function

Sections can be expanded to show detail via the 'View Options' function

Financing Cash Flow

This reports on all the sources of funding that have been employed for the project, in particular:

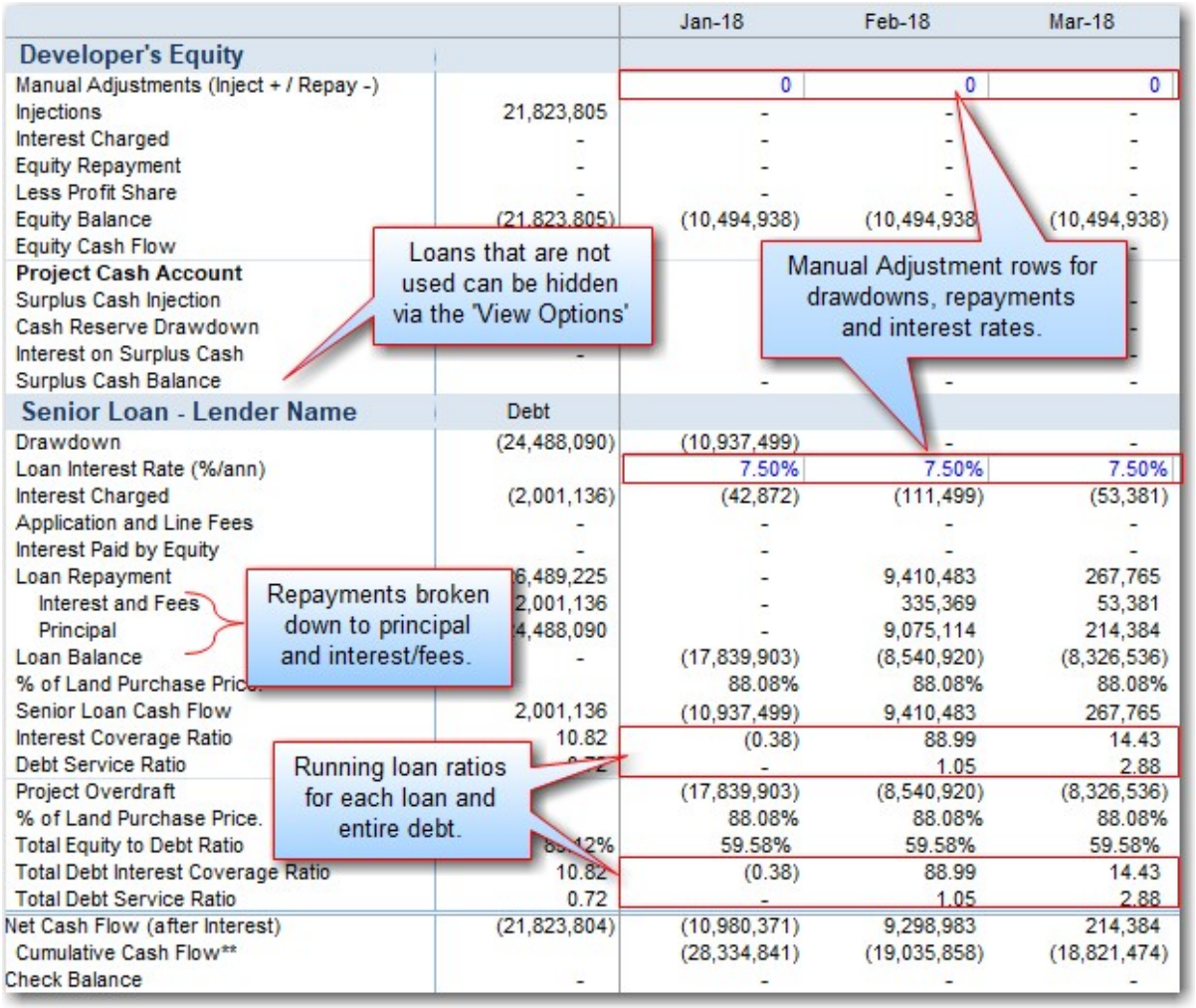
- The funds drawn down and any manual adjustments.
- The funds repaid back to the financier, broken up by interest and principal, and any manual adjustments.

- The interest rate for each period, and any manual adjustments.
- The cash flows for each financier, used as the basis for calculating their IRR.

  Lender Cash Flow = Drawdowns + Interest Paid by Equity + Loan Repayments + Profit Share
- The running Loan Ratios for each source of funding, which are set up via the Finance Preferences.
- The Interest Coverage and Debt Service Ratios.

  Interest Coverage Ratio = Total Net Revenue / (Interest Charged - Interest Paid by Equity + Loan Fees (e.g. Application, Line and Standby))

  Debt Service Ratio = Total Net Revenue / Loan Repayments



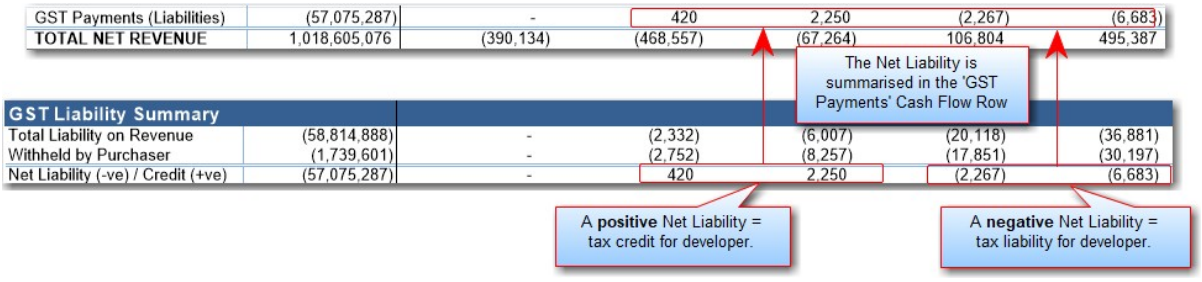
		Jan-18	Feb-18	Mar-18
Developer's Equity				
Manual Adjustments (Inject + / Repay -)		0	0	0
Injections	21,823,805	-	-	-
Interest Charged	-	-	-	-
Equity Repayment	-	-	-	-
Less Profit Share	-	-	-	-
Equity Balance	(21,823,805)	(10,494,938)	(10,494,938)	(10,494,938)
Equity Cash Flow				-
Project Cash Account				
Surplus Cash Injection				-
Cash Reserve Drawdown				-
Interest on Surplus Cash	-			-
Surplus Cash Balance		-	-	-
Senior Loan - Lender Name	Debt			
Drawdown	(24,488,090)	(10,937,499)	-	-
Loan Interest Rate (%/ann)		7.50%	7.50%	7.50%
Interest Charged	(2,001,136)	(42,872)	(111,499)	(53,381)
Application and Line Fees	-	-	-	-
Interest Paid by Equity	-	-	-	-
Loan Repayment	6,489,225	-	9,410,483	267,765
Interest and Fees	2,001,136	-	335,369	53,381
Principal	4,488,090	-	9,075,114	214,384
Loan Balance	-	(17,839,903)	(8,540,920)	(8,326,536)
% of Land Purchase Price		88.08%	88.08%	88.08%
Senior Loan Cash Flow	2,001,136	(10,937,499)	9,410,483	267,765
Interest Coverage Ratio	10.82	(0.38)	88.99	14.43
Debt Service Ratio		-	1.05	2.88
Project Overdraft		(17,839,903)	(8,540,920)	(8,326,536)
% of Land Purchase Price.		88.08%	88.08%	88.08%
Total Equity to Debt Ratio	12%	59.58%	59.58%	59.58%
Total Debt Interest Coverage Ratio	10.82	(0.38)	88.99	14.43
Total Debt Service Ratio	0.72	-	1.05	2.88
Net Cash Flow (after Interest)	(21,823,804)	(10,980,371)	9,298,983	214,384
Cumulative Cash Flow**		(28,334,841)	(19,035,858)	(18,821,474)
Check Balance	-	-	-	-

GST Liability Summary

This section is only enabled when the 'GST' Taxation Format is selected in the Preferences. It reports the GST Liability that is calculated on all revenue, and then the GST on Sales that are withheld by Purchasers. The difference is the developer's Net Liability:

- A **positive** Net Liability indicates that the purchasers have withheld a tax amount greater than actual tax liability, and therefore the developer is entitled to a credit for that amount.
- A **negative** Net Liability indicates that the purchasers have withheld a tax amount less than than actual tax liability, and therefore the developer is liable to pay that amount.

The Net Liability is then summarised in the 'GST Payments' Cash Flow Row in the Revenue section, impacting the 'Total Net Revenue' accordingly.



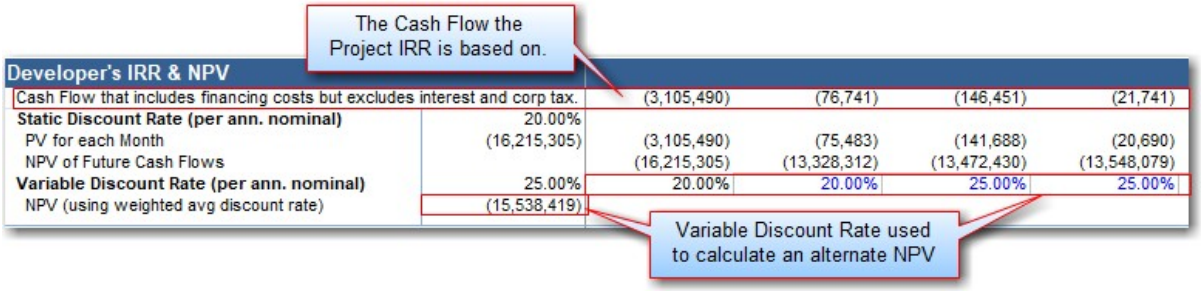
IRR and NPV

This reports on the calculation of the Project IRR and NPV, as well as providing the user to have a variable discount rate.

- The first row of data displays the cash flow that is being used to calculate the IRR and NPV, set via the Hurdle Rate options in the Preferences
- The discount rate that was entered in the Hurdle Rates input section is known as the **'Static Discount Rate'** and that will form the basis of all IRR and NPV calculations on other reports, such as the Summary, Sensitivity and Probability reports. In addition, it will also be used to report the following in the Cash Flow:

  The Present Value (PV) of net cash flow for each time period.

  The Net Present Value (NPV) of all future cash flows at each time period.
- The Static Discount Rate then forms the starting point for the **'Variable Discount Rate'** inputs, where the user can manually adjust the discount rate up or down to reflect different levels of risk at different points in time in the project. Using the Variable Discount Rates entered by the user, a weighted average discount rate is calculated, and then it is used to calculate an NPV.

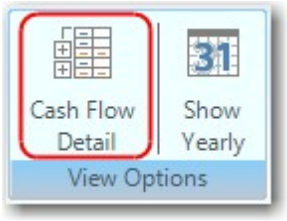


Land Owner's Cash Flow

This will report on all costs and revenues that belong to the land owner. It will only become available when Joint Venture Mode has been selected in the Preferences.

		Jan-18	Feb-18	Mar-18
Revenue				
Land Sale to Developer	20,000,000	8,000,000	-	-
Gross Sales Revenue	-	-	-	-
Gross Rental Income	-	-	-	-
Other Income and Interest Received	-	-	-	-
Less: Selling Costs	-	-	-	-
Less: Leasing Costs	-	-	-	-
Less: GST Liabilities	-	-	-	-
Profit Share	-	-	-	-
TOTAL NET REVENUE	20,000,000	8,000,000	-	-
Costs				
Opportunity Cost of Land	-			
Professional Fees (inc Development Management)	448,759	7,149	7,164	7,179
Construction Costs	-	-	-	-
Statutory Fees	-	-	-	-
Project Contingency	-	-	-	-
Miscellaneous Costs	-	-	-	-
Land Holding Costs	-	-	-	-
Financing Costs	-	-	-	-
Pre-Sale Commissions	-	-	-	-
Less: GST Input Credits Reclaimed	(40,796)	(649)	(650)	(651)
TOTAL COSTS	407,963	6,501	6,514	6,527
Net Cash Flow b/f Interest	19,592,037	7,993,499	(6,514)	(6,527)
Equity Cash Flow		7,993,499	(6,514)	(6,527)
Equity Balance	-	15,697,214	15,690,700	15,684,173
Loan Balance	-	-	-	-
Less: Interest Expense	-	-	-	-
Cumulative CF After Interest**		15,697,214	15,690,700	15,684,173

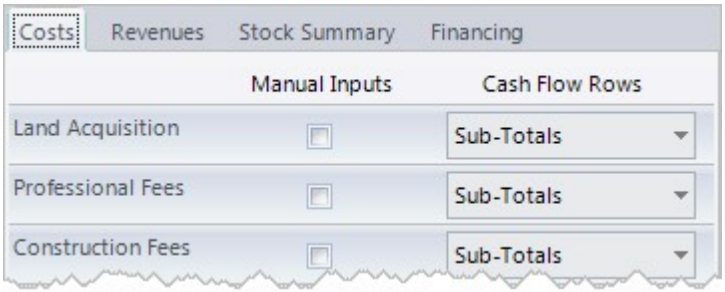
Cash Flow Detail



Costs

This feature on the Cash Flow sheet allows the user to change the way the cash flow input sections are displayed in relation to the rows. For each cost and revenue section, the user can select from the following row views:

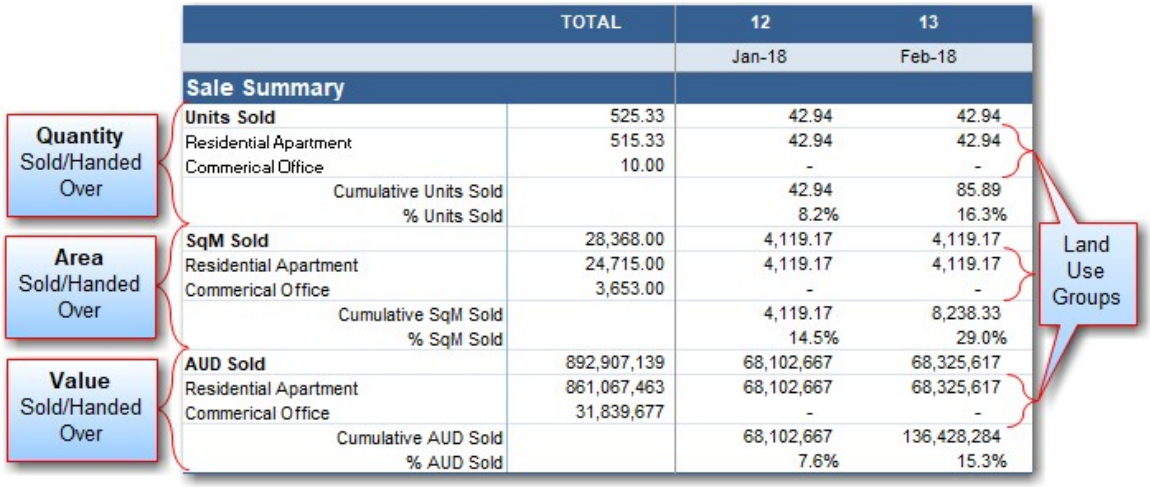
- **Manual Inputs:** Hide or show the separate Manual Input rows for each section.
- **All Rows:** Shows all rows (used and unused) for a particular input section.
- **Populated Rows:** Shows only used rows for a particular input section. A row is 'used' when there is an input description evident and/or there is data in any of the stored forecasts.
- **Sub Totals:** Hides all input rows for a section and only shows the heading and sub total row.



Stock Summary

For the Stock Summary report, the user can select from the following row views:

- **Quantity Sold/Handed Over:** Select to hide/show the exchanges and settlements by quantity.
- **Area Sold/Handed Over:** Select to hide/show the exchanges and settlements by area.
- **Value Sold/Handed Over:** Select to hide/show the exchanges and settlements by value.
- **Land Use Groups**: Select to hide/show the sub totals for quantity/area/value grouped by their Land Use Category.

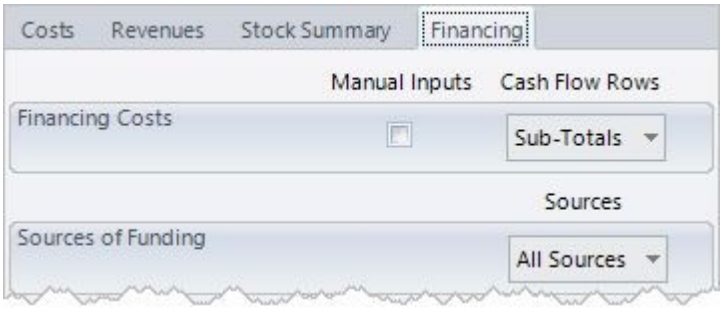


	TOTAL	12	13
		Jan-18	Feb-18
Sale Summary			
Units Sold	525.33	42.94	42.94
Residential Apartment	515.33	42.94	42.94
Commerical Office	10.00	-	-
Cumulative Units Sold		42.94	85.89
% Units Sold		8.2%	16.3%
SqM Sold	28,368.00	4,119.17	4,119.17
Residential Apartment	24,715.00	4,119.17	4,119.17
Commerical Office	3,653.00	-	-
Cumulative SqM Sold		4,119.17	8,238.33
% SqM Sold		14.5%	29.0%
AUD Sold	892,907,139	68,102,667	68,325,617
Residential Apartment	861,067,463	68,102,667	68,325,617
Commerical Office	31,839,677	-	-
Cumulative AUD Sold		68,102,667	136,428,284
% AUD Sold		7.6%	15.3%

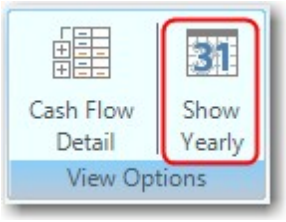
Financing

For the Financing Cash Flow, the user can select from the following row views:

- For Financing Costs:
  - **All Rows:** Shows all rows (used and unused) for a particular input section.
  - **Populated Rows:** Shows only used rows for a particular input section. A row is ‘used’ when there is an input description evident and/or there is data in any of the stored forecasts.
  - **Sub Totals:** Hides all input rows for a section and only shows the heading and sub total row.
- For Sources of Funding:
  - **All Sources:** All sources of funding are displayed in the Financing Cash Flow, regardless if they are used or not.
  - **Used Sources:** Only sources of funding that are 'used' are displayed. A source of funding is used if there are any drawdowns, repayments, interest charges or profit share payments



Yearly Cash Flow



This feature on the Cash Flow sheet allows the user to switch the Cash Flow to a Financial Year view, where each period represents the financial year ending at the nominated month as defined in the Preferences.

PROJECT CASH FLOW	TOTAL	GST	Year 0	Year 1	Year 2
			Jun-19	Jun-20	Jun-21
Project Cash Flow					
Revenue					
Gross Sales Revenue	8,500,000		-	-	8,500,000
Selling Costs	-		-	-	-
Gross Rental Income	-		-	-	-
Leasing Costs	-		-	-	-
Other Income	-		-	-	-
Interest Received*	-		-	-	-
GST Payments (Liabilities)	(772,727)		-	-	(772,727)
TOTAL NET REVENUE	7,727,273		-	-	7,727,273
Costs					
Land and Acquisition	2,000,000		2,000,000	-	-
Professional Fees	363,636		363,636	-	-
Construction Costs	5,000,000		-	5,000,000	-
Statutory Fees	-		-	-	-
Miscellaneous Costs 1	-		-	-	-
Miscellaneous Costs 2	-		-	-	-
Miscellaneous Costs 3	-		-	-	-
Project Contingency (Reserve)	-		-	-	-
Land Holding Costs	-		-	-	-
Pre-Sale Commissions	-		-	-	-
Financing Costs (exc Fees)	-		-	-	-
GST Refunds (Input Credits)	(669,421)		(214,876)	(454,545)	-
TOTAL COSTS	6,694,215		2,148,760	4,545,455	-
Net Cash Flow (before Interest & Corporate Tax)	1,033,058		(2,148,760)	(4,545,455)	7,727,273
Cumulative Cash Flow			(2,148,760)	(6,694,215)	1,033,058
Corporate Tax	-		-	-	-
	1,033,058		(2,14	4,545,45	7,727,273

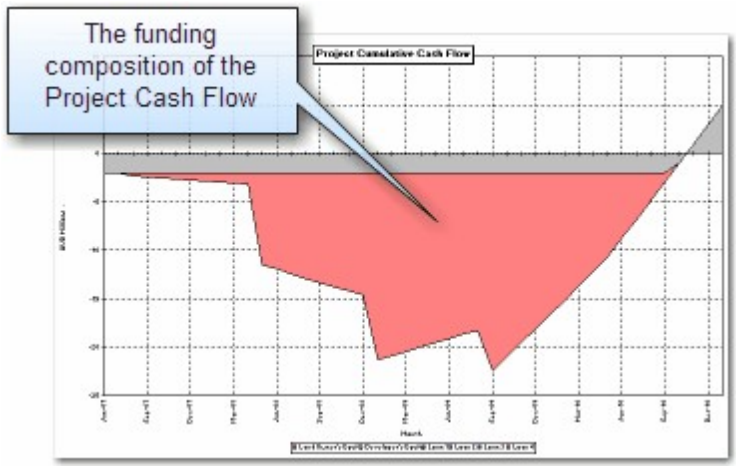
When the Yearly Cash Flow is enabled:

- The default periodic view (i.e. Monthly, Quarterly, etc) is hidden,
- Any manual input/adjustment rows are locked (manual inputs are only available in the default cash flow view)
- The menu button will display as 'Show Monthly/Quarterly/etc' (depending on the Rest Period setting), so the user can toggle back to the default view.

12.5 Cash Flow Charts

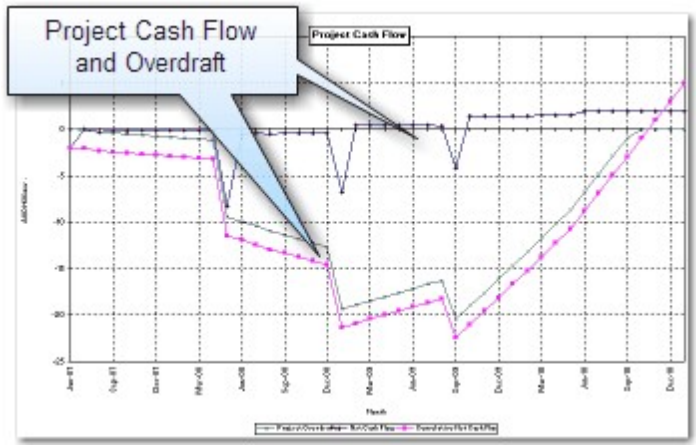
Cumulative Cash Flow

Highlighting the position of funding drawdowns and repayments through the project life. If the Joint Venture option is switched in, it will additionally track the cumulative cash flow position of the land owner's equity.



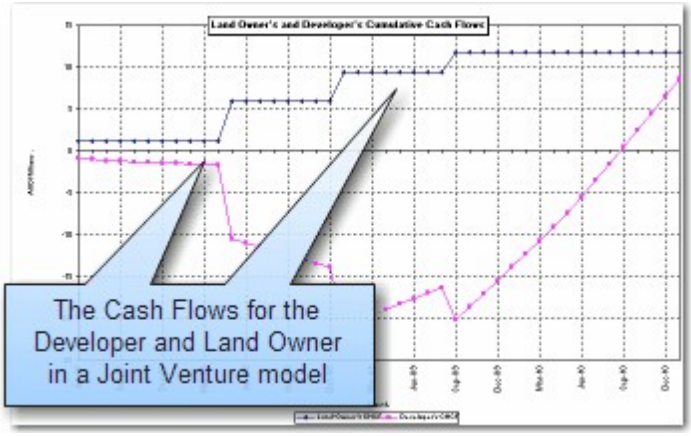
Project Cash Flow

This chart depicts the Project Overdraft, Net Cash Flow and Cumulative Net Cash Flow. If the Joint Venture option is switched in, this chart will only look at the developer's cash flow.



Joint Venture Chart

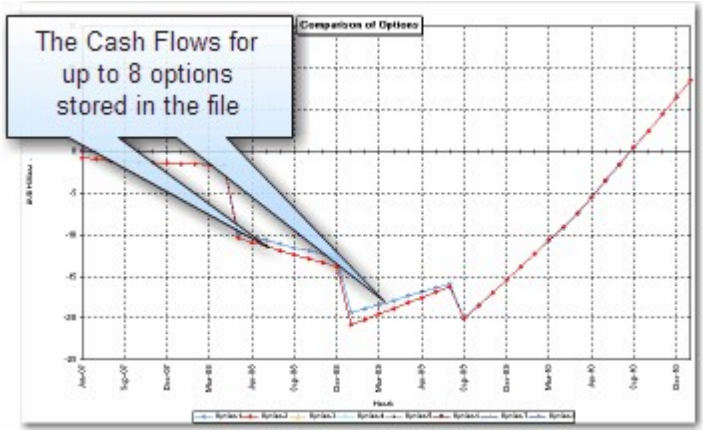
This chart will only appear if the Joint Venture option is switched in, and it displays the cumulative net cash flows for both the land owner and developer.



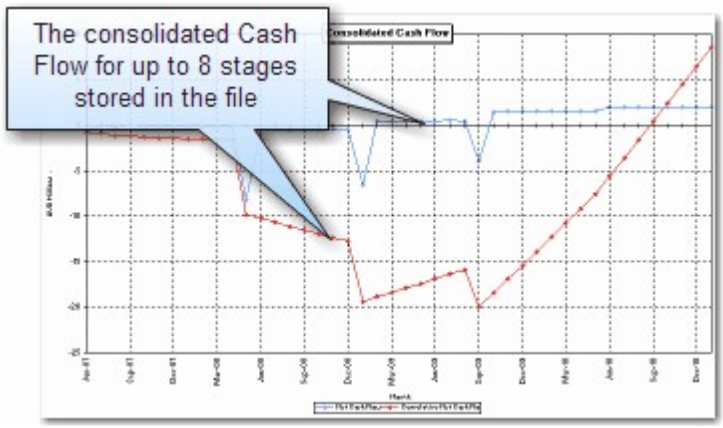
Consolidated Cash Flow or Comparison of Options

Depending on how the user has elected to report their Options/Stages in the Consolidate sheet, one of the following two charts will be displayed:

- **Comparison Chart:** Displaying the cash flows for each option stored.



- **Consolidate Chart:** displaying the net cash flow and cumulative net cash flow for the consolidated stages that have been stored.



Part XII

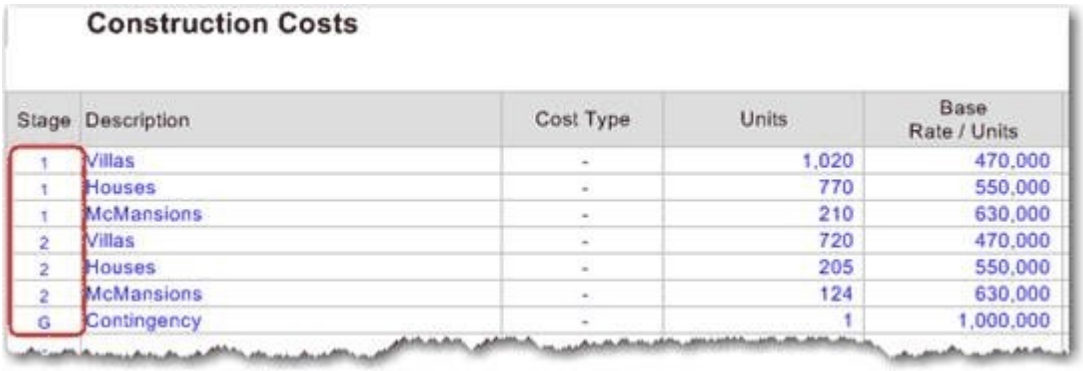
13 Stage Reporting

For multi-staged projects, where the entire project is modelled in a single ARGUS EstateMaster DF file, the 'Stage CF' and 'Stage Summary' reports provide the user with a stage-by-stage break-up of all the costs and revenues and the ability to allocate 'global' costs across the stages.

Assigning Costs & Revenues to a Stage

Before you can use the Stage Reporting, you need to ensure that the costs and revenue inputs for the project have been properly set up. To do this, all the costs and revenues must broken-up by stage, and then the appropriate stage code/number entered in the in ‘Stage’ column for each cost and revenue item.

If a cost/revenue is related to the entire project, then it can be assigned as a ‘global’ cost, and therefore the code ‘G’ should be entered in the ‘Stage’ column. If a cost/revenue line item does not have Stage input, then it is treated as a global cost for the purpose of the 'Stage CF' report.



Construction Costs

Stage	Description	Cost Type	Units	Base Rate / Units
1	Villas	-	1,020	470,000
1	Houses	-	770	550,000
1	McMansions	-	210	630,000
2	Villas	-	720	470,000
2	Houses	-	205	550,000
2	McMansions	-	124	630,000
G	Contingency	-	1	1,000,000

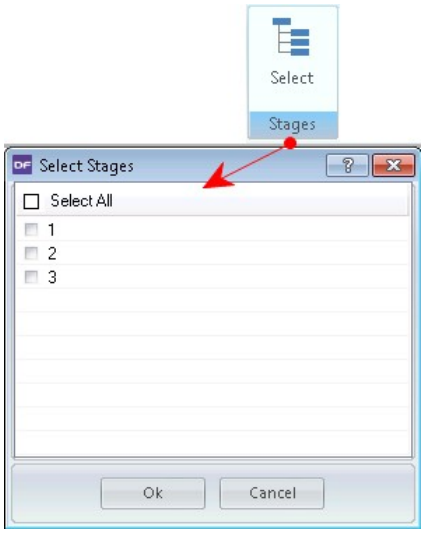
Default 'Global' Costs

The following Costs and Revenues by default are categorised as a 'Global' in ARGUS EstateMaster DF because their is no way to accurately allocate them to a Stage directly. Therefore, they must be apportioned to a Stage using the allocation percentage rates:

- **Revenues**
  - Sales Commissions
  - Outgoings, Vacancy Allowances, Incentives and Letting Fees
  - Interest Received on Deposits
  - GST/VAT/Sales Tax Payments
- **Costs**
  - Project Contingency
  - Construction Contingency
  - Loan Fees and Interest Charges
  - Pre-Sale Commissions
  - Corporate Tax
  - GST/VAT Input Credits

Toggle Stages on the Reports

By default, the 'Stage CF' and 'Stage Summary' reports will not display any data until the user selects what stages they want to report on. To do this, click on the ‘Stages’ button in the menu, select the stages to display in the popup dialog, and press ‘OK’



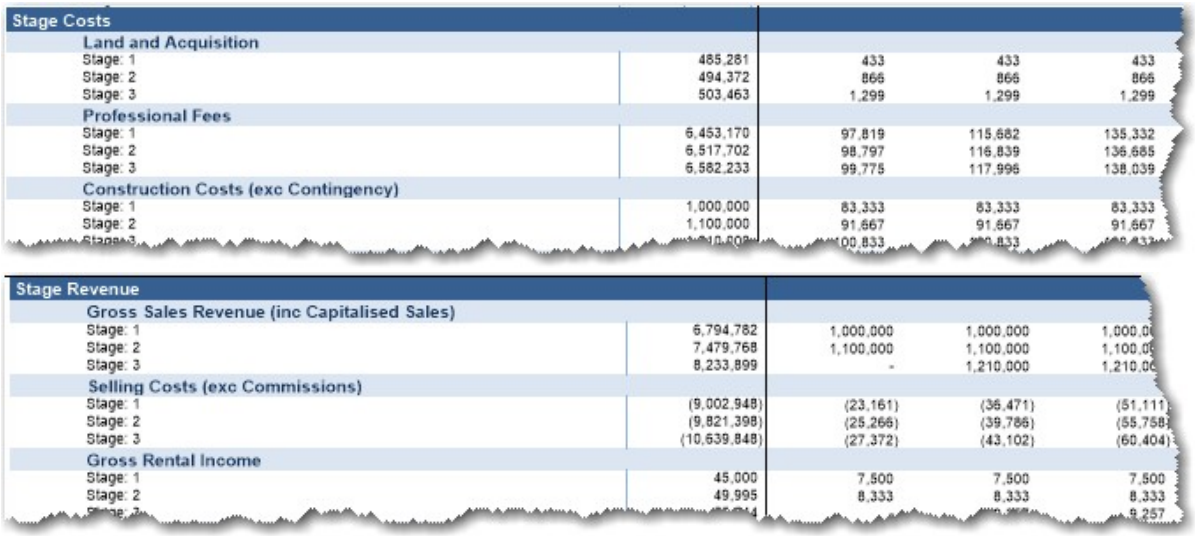
Both reports will refresh, and every cost and revenue section will then be grouping the data by that stage.

13.1 Stage Cash Flow

The 'Stage CF' report is broken up into 5 key components.

Stage Costs & Revenues

The costs and revenues that have been allocated to a Stage, will be grouped by their Stage under each cost and revenue heading.

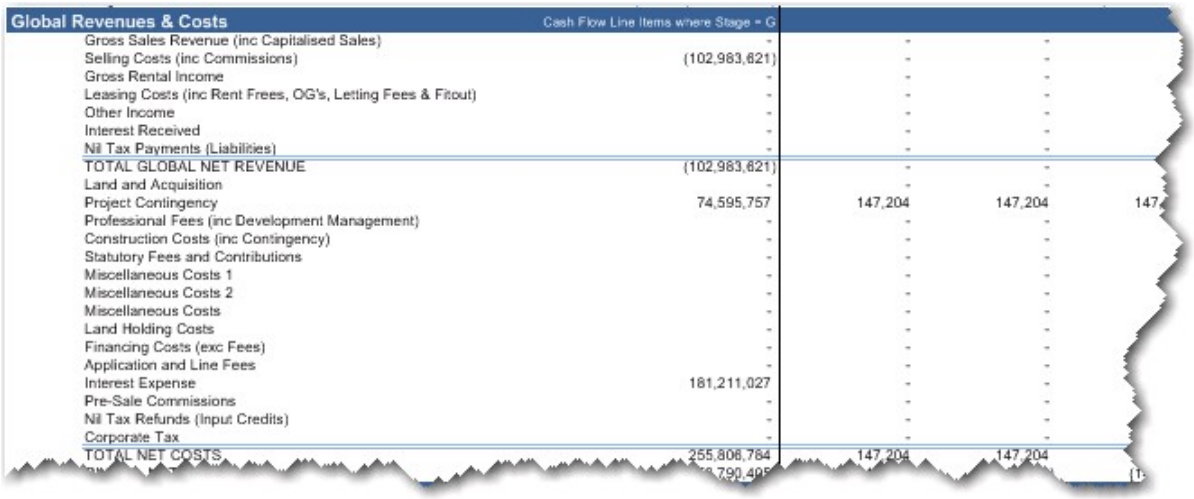


Stage Costs				
Land and Acquisition				
Stage: 1	485,281	433	433	433
Stage: 2	494,372	866	866	866
Stage: 3	503,463	1,299	1,299	1,299
Professional Fees				
Stage: 1	6,453,170	97,819	115,682	135,332
Stage: 2	6,517,702	98,797	116,839	136,685
Stage: 3	6,582,233	99,775	117,996	138,039
Construction Costs (exc Contingency)				
Stage: 1	1,000,000	83,333	83,333	83,333
Stage: 2	1,100,000	91,667	91,667	91,667

Stage Revenue				
Gross Sales Revenue (inc Capitalised Sales)				
Stage: 1	6,794,782	1,000,000	1,000,000	1,000,0
Stage: 2	7,479,768	1,100,000	1,100,000	1,100,0
Stage: 3	8,233,899	-	1,210,000	1,210,0
Selling Costs (exc Commissions)				
Stage: 1	(9,002,948)	(23,161)	(36,471)	(51,111)
Stage: 2	(9,821,398)	(25,266)	(39,786)	(55,758)
Stage: 3	(10,639,848)	(27,372)	(43,102)	(60,404)
Gross Rental Income				
Stage: 1	45,000	7,500	7,500	7,500
Stage: 2	49,995	8,333	8,333	8,333

Global Revenues & Costs

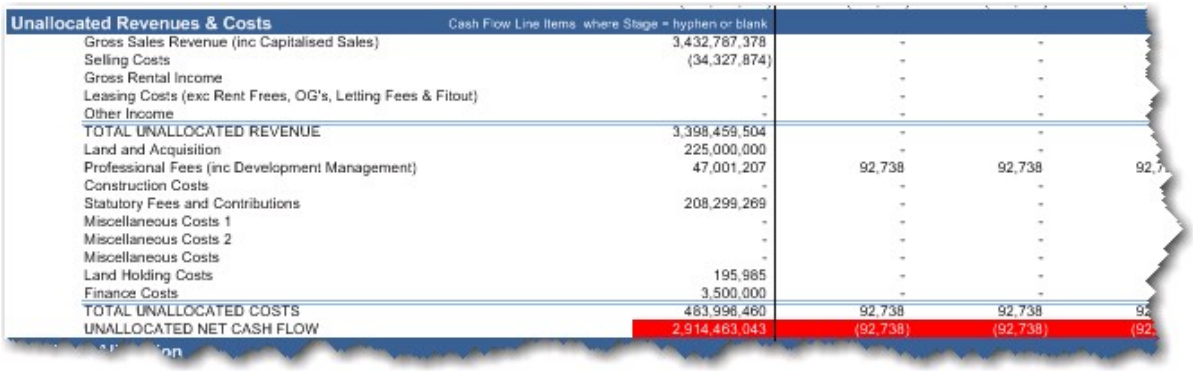
Any cost or revenue that has been allocated as ‘global’, either by the user entering the code ‘G’ for the Stage input, or the items that are treated as global by default, will be summarised in the ‘Global Revenues & Costs’ section



Global Revenues & Costs	Cash Flow Line Items where Stage = G			
Gross Sales Revenue (inc Capitalised Sales)	-	-	-	
Selling Costs (inc Commissions)	(102,983,621)	-	-	
Gross Rental Income	-	-	-	
Leasing Costs (inc Rent Frees, OG's, Letting Fees & Fitout)	-	-	-	
Other Income	-	-	-	
Interest Received	-	-	-	
Nil Tax Payments (Liabilities)	-	-	-	
TOTAL GLOBAL NET REVENUE	(102,983,621)	-	-	
Land and Acquisition	-	-	-	
Project Contingency	74,595,757	147,204	147,204	147
Professional Fees (inc Development Management)	-	-	-	
Construction Costs (inc Contingency)	-	-	-	
Statutory Fees and Contributions	-	-	-	
Miscellaneous Costs 1	-	-	-	
Miscellaneous Costs 2	-	-	-	
Miscellaneous Costs	-	-	-	
Land Holding Costs	-	-	-	
Financing Costs (exc Fees)	-	-	-	
Application and Line Fees	-	-	-	
Interest Expense	181,211,027	-	-	
Pre-Sale Commissions	-	-	-	
Nil Tax Refunds (Input Credits)	-	-	-	
Corporate Tax	-	-	-	
TOTAL NET COSTS	255,808,784	147,204	147,204	

Unallocated Revenues & Costs

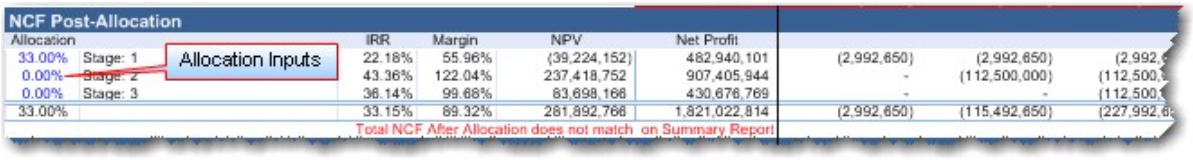
If any cost or revenue has not been properly allocated to a Stage, a summary of that data will be displayed in the 'Unallocated Revenues & Costs' section. The user will need to go back to the input assumptions and make any necessary fixes to ensure that the 'Unallocated Net Cash Flow' line shows a zero balance.



Unallocated Revenues & Costs	Cash Flow Line Items where Stage = hyphen or blank			
Gross Sales Revenue (inc Capitalised Sales)	3,432,787,378	-	-	
Selling Costs	(34,327,874)	-	-	
Gross Rental Income	-	-	-	
Leasing Costs (exc Rent Frees, OG's, Letting Fees & Fitout)	-	-	-	
Other Income	-	-	-	
TOTAL UNALLOCATED REVENUE	3,398,459,504	-	-	
Land and Acquisition	225,000,000	-	-	
Professional Fees (inc Development Management)	47,001,207	92,738	92,738	92,
Construction Costs	-	-	-	
Statutory Fees and Contributions	208,299,269	-	-	
Miscellaneous Costs 1	-	-	-	
Miscellaneous Costs 2	-	-	-	
Miscellaneous Costs	-	-	-	
Land Holding Costs	195,985	-	-	
Finance Costs	3,500,000	-	-	
TOTAL UNALLOCATED COSTS	483,996,460	92,738	92,738	92
UNALLOCATED NET CASH FLOW	2,914,463,043	(92,738)	(92,738)	(92

Global Cost & Revenue Allocation

At the bottom of the report, the user has the ability to allocate the global costs and revenues across the various Stages. To do this, the user will need to enter in an appropriate percentage in the 'Allocation' column of the 'NCF After Allocation' section. Once this is done, the KPI's such as IRR, Margin, NPV and Profit, can be reported on a stage-by-stage basis.

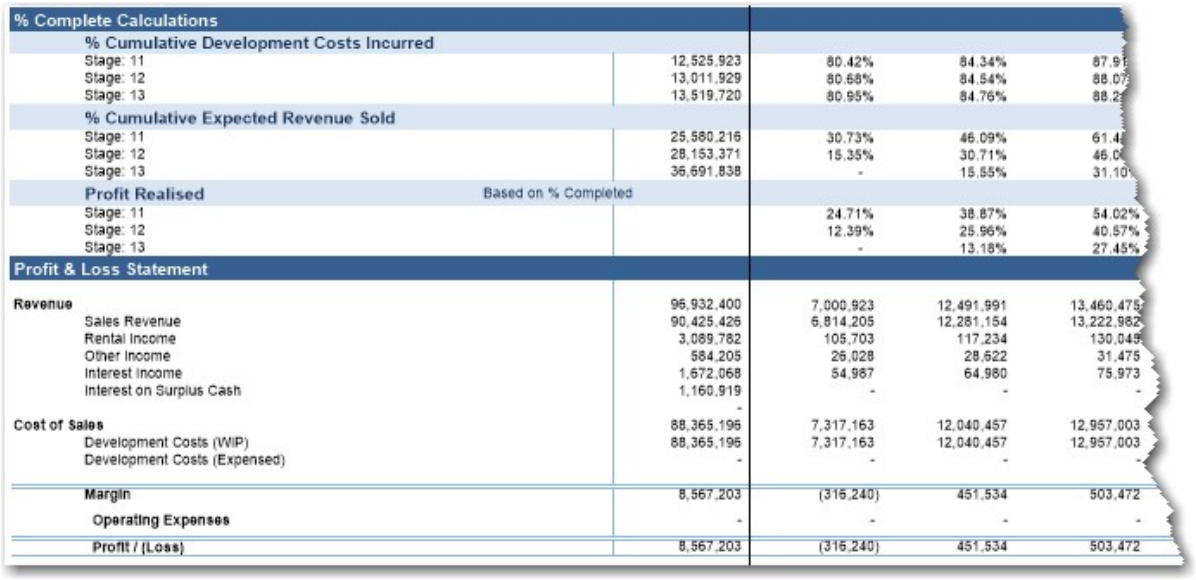


NCF Post-Allocation								
Allocation		IRR	Margin	NPV	Net Profit			
33.00%	Stage: 1	22.18%	55.96%	(39,224,152)	482,940,101	(2,992,650)	(2,992,650)	(2,992,
0.00%	Stage: 2	43.36%	122.04%	237,418,752	907,405,944	-	(112,500,000)	(112,500,
0.00%	Stage: 3	36.14%	99.68%	83,698,168	430,676,769	-	-	(112,500,
33.00%		33.15%	89.32%	281,892,768	1,821,022,814	(2,992,650)	(115,492,650)	(227,992,6
		Total NCF After Allocation does not match on Summary Report						

Stage Profit & Loss Statement

This provides an alternative to the Profit and Loss Statement on the Financials tab, as it calculates profit realisation on a stage basis, rather than on the project as a whole.

Important Note: This Profit & Loss Statement adopts the same Revenue Recognition preferences as use on the Financials tab (i.e. '% Completed' or 'On Completion'), however it will only calculate the '% Sold' based on the Revenue Sold.

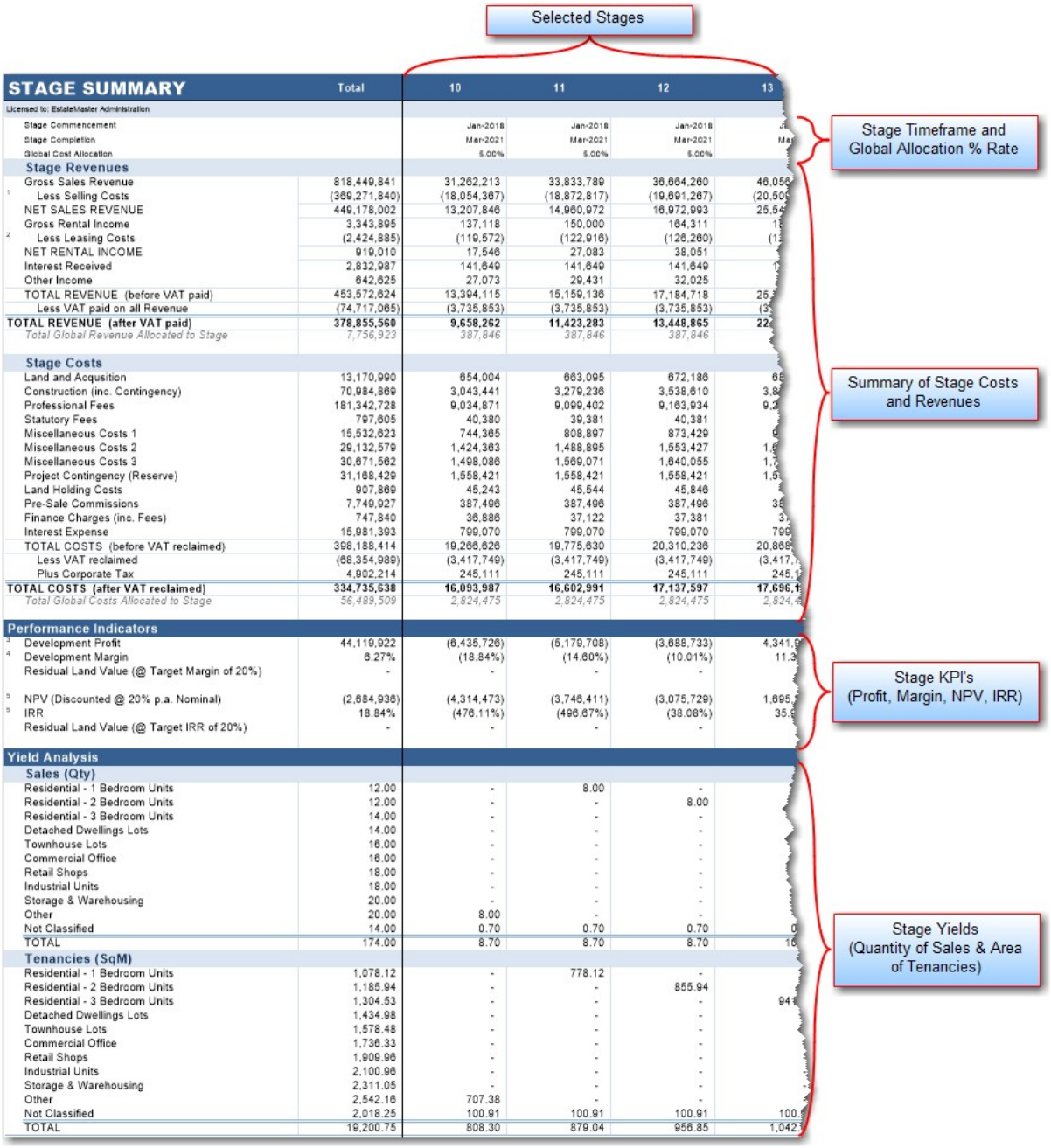


% Complete Calculations				
% Cumulative Development Costs Incurred				
Stage: 11	12,525,923	80.42%	84.34%	87.91
Stage: 12	13,011,929	80.68%	84.54%	88.07
Stage: 13	13,519,720	80.95%	84.76%	88.2
% Cumulative Expected Revenue Sold				
Stage: 11	25,580,216	30.73%	46.09%	61.4
Stage: 12	28,153,371	15.35%	30.71%	46.0
Stage: 13	36,691,838	-	15.55%	31.10
Profit Realised Based on % Completed				
Stage: 11		24.71%	38.87%	54.02%
Stage: 12		12.39%	25.96%	40.57%
Stage: 13		-	13.18%	27.45%
Profit & Loss Statement				
Revenue	95,932,400	7,000,923	12,491,991	13,460,475
Sales Revenue	90,425,426	6,814,205	12,281,154	13,222,982
Rental Income	3,089,782	105,703	117,234	130,049
Other Income	584,205	26,028	28,622	31,475
Interest Income	1,672,068	54,987	64,980	75,973
Interest on Surplus Cash	1,160,919	-	-	-
	-			
Cost of Sales	88,365,196	7,317,163	12,040,457	12,957,003
Development Costs (WIP)	88,365,196	7,317,163	12,040,457	12,957,003
Development Costs (Expensed)	-	-	-	-
Margin	8,567,203	(316,240)	451,534	503,472
Operating Expenses	-	-	-	-
Profit / (Loss)	8,567,203	(316,240)	451,534	503,472

13.2 Stage Summary

The 'Stage Summary' report is a concise view of the Stage Cash Flow data. It provides similar outputs to the 'Stage CF' report, but with the following subtle differences:

- All the Revenues, Costs and KPIs are grouped in their respective Stage columns, so side-by-side comparison is easier.
- For each Stage:
  - The Stage Commencement Date (first period of cash flow activity) and Stage Completion Date (last period of cash flow activity) are calculated.
  - The Cost and Revenue amounts represent a blend of the Cost and Revenues that were directly allocated to that Stage, as well as their allocation of Global Costs (based on the Global Cost Allocation % as entered in the 'Stage CF' report).
  - The Residual Land Value is apportioned to each Stage (based on the Global Cost Allocation % as entered in the 'Stage CF' report).
  - An additional 'Yield Analysis' is provided, breaking down Sales quantities and Tenancy areas by Stage.

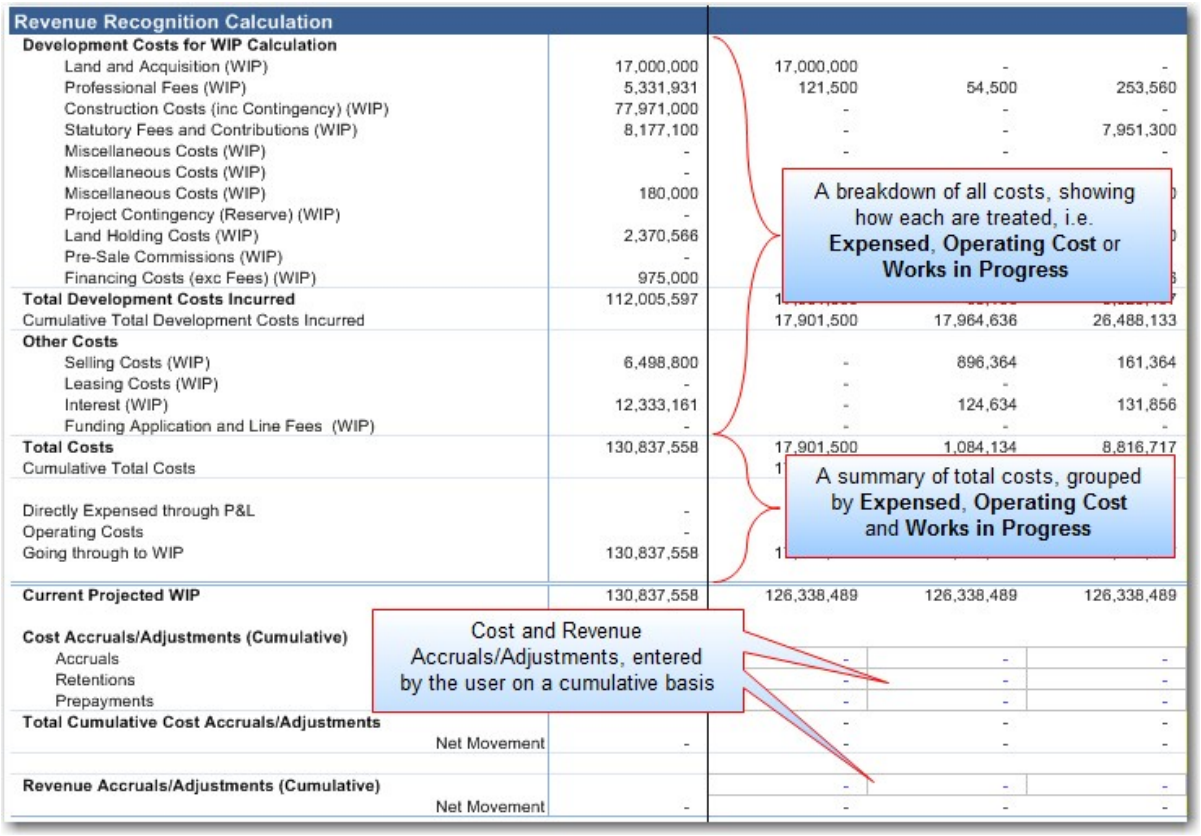


STAGE SUMMARY	Total	10	11	12	13
Licensed to: EstateMaster Administration					
Stage Commencement		Jan-2018	Jan-2018	Jan-2018	Ja
Stage Completion		Mar-2021	Mar-2021	Mar-2021	Ma
Global Cost Allocation		5.00%	5.00%	5.00%	
Stage Revenues					
Gross Sales Revenue	818,449,841	31,262,213	33,833,789	36,664,260	46,05
1 Less Selling Costs	(369,271,840)	(18,054,367)	(18,872,817)	(19,691,267)	(20,50
NET SALES REVENUE	449,178,002	13,207,846	14,960,972	16,972,993	25,54
Gross Rental Income	3,343,895	137,118	150,000	164,311	1
2 Less Leasing Costs	(2,424,885)	(119,572)	(122,916)	(126,260)	(1
NET RENTAL INCOME	919,010	17,546	27,083	38,051	
Interest Received	2,832,987	141,649	141,649	141,649	1
Other Income	642,625	27,073	29,431	32,025	
TOTAL REVENUE (before VAT paid)	453,572,624	13,394,115	15,159,136	17,184,718	25
Less VAT paid on all Revenue	(74,717,065)	(3,735,853)	(3,735,853)	(3,735,853)	(3
TOTAL REVENUE (after VAT paid)	**378,855,560**	**9,658,262**	**11,423,283**	**13,448,865**	**22**
Total Global Revenue Allocated to Stage	*7,756,923*	*387,846*	*387,846*	*387,846*	
Stage Costs					
Land and Acqusition	13,170,990	654,004	663,095	672,186	68
Construction (inc. Contingency)	70,984,869	3,043,441	3,279,236	3,538,610	3,8
Professional Fees	181,342,728	9,034,871	9,099,402	9,163,934	9,2
Statutory Fees	797,605	40,380	39,381	40,381	
Miscellaneous Costs 1	15,532,623	744,365	808,897	873,429	9
Miscellaneous Costs 2	29,132,579	1,424,363	1,488,895	1,553,427	1,6
Miscellaneous Costs 3	30,671,562	1,498,086	1,569,071	1,640,055	1,7
Project Contingency (Reserve)	31,168,429	1,558,421	1,558,421	1,558,421	1,5
Land Holding Costs	907,869	45,243	45,544	45,846	
Pre-Sale Commissions	7,749,927	387,496	387,496	387,496	38
Finance Charges (inc. Fees)	747,840	36,886	37,122	37,381	3
Interest Expense	15,981,393	799,070	799,070	799,070	799
TOTAL COSTS (before VAT reclaimed)	398,188,414	19,266,626	19,775,630	20,310,236	20,868
Less VAT reclaimed	(68,354,989)	(3,417,749)	(3,417,749)	(3,417,749)	(3,417
Plus Corporate Tax	4,902,214	245,111	245,111	245,111	245,
TOTAL COSTS (after VAT reclaimed)	**334,735,638**	**16,093,987**	**16,602,991**	**17,137,597**	**17,696,1**
Total Global Costs Allocated to Stage	*56,489,509*	*2,824,475*	*2,824,475*	*2,824,475*	*2,824,4*
Performance Indicators					
4 Development Profit	44,119,922	(6,435,726)	(5,179,708)	(3,688,733)	4,341,9
4 Development Margin	6.27%	(18.84%)	(14.60%)	(10.01%)	11.3
Residual Land Value (@ Target Margin of 20%)	-	-	-	-	
3 NPV (Discounted @ 20% p.a. Nominal)	(2,684,936)	(4,314,473)	(3,746,411)	(3,075,729)	1,695,
5 IRR	18.84%	(476.11%)	(496.67%)	(38.08%)	35.
Residual Land Value (@ Target IRR of 20%)	-	-	-	-	
Yield Analysis					
Sales (Qty)					
Residential - 1 Bedroom Units	12.00	-	8.00	-	
Residential - 2 Bedroom Units	12.00	-	-	8.00	
Residential - 3 Bedroom Units	14.00	-	-	-	
Detached Dwellings Lots	14.00	-	-	-	
Townhouse Lots	16.00	-	-	-	
Commercial Office	16.00	-	-	-	
Retail Shops	18.00	-	-	-	
Industrial Units	18.00	-	-	-	
Storage & Warehousing	20.00	-	-	-	
Other	20.00	8.00	-	-	
Not Classified	14.00	0.70	0.70	0.70	0
TOTAL	174.00	8.70	8.70	8.70	16
Tenancies (SqM)					
Residential - 1 Bedroom Units	1,078.12	-	778.12	-	
Residential - 2 Bedroom Units	1,185.94	-	-	855.94	
Residential - 3 Bedroom Units	1,304.53	-	-	-	94
Detached Dwellings Lots	1,434.98	-	-	-	
Townhouse Lots	1,578.48	-	-	-	
Commercial Office	1,736.33	-	-	-	
Retail Shops	1,909.96	-	-	-	
Industrial Units	2,100.96	-	-	-	
Storage & Warehousing	2,311.05	-	-	-	
Other	2,542.16	707.38	-	-	
Not Classified	2,018.25	100.91	100.91	100.91	100.
TOTAL	19,200.75	808.30	879.04	956.85	1,042


Part
XIV

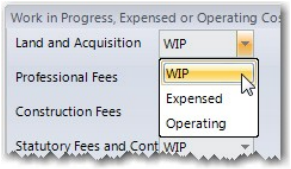
14 Financial Reporting

14.1 Revenue Recognition



Costs for WIP Calculation

This section summarises all the costs in the development and determines if they are treated as Work In Progress, Expensed or Operating Costs, as selected in the Preferences.



- **Expensed:** Directly expense the cost at the date it is incurred in the 'Cost of Sales' section of the Profit and Loss statement, impacting how the Project Margin is calculated.
- **WIP:** Add it to the Work in Progress. This defers the recognition of the cost in the Profit and Loss statement until such time that the defined threshold levels are reached. Until the thresholds are reached, these costs appear as a 'Current Asset' in the Balance Sheet called 'Work in Progress'.
- **Operating:** Define the cost as an Operating Cost. These are expensed to the Profit and Loss statement in the 'Operating Expenses' section. The difference between an Operating expense and a Cost of Sales expense (as defined above) is that an Operating expense is not included in the Project Margin calculation. It is however included in the overall Profit and Loss calculation.

If Land and Acquisition is included in the '% Completed' Revenue Recognition method through the Preferences, then it will be summarised under the 'Development Costs for WIP Calculation heading, otherwise it will be under 'Other Costs'.

Cost Accrual/Adjustments

This section allows the user to manually input any Accruals, Retentions or Prepayments to adjust the '% Completed' to reflect actual work completed as opposed to cash expended.

Ultimately this will impact:

- Work in Progress, Account Payables and Prepayments in the Balance Sheet.
- Revenue Recognition will also be affected if using the '% Completed' basis.

Adjustments in this section will need to be entered on a cumulative basis and reversed out by adjusting the cumulative amounts entered. At the end of the project all numbers in the section should be zero.

Revenue Accrual/Adjustments

This section allows the user to manually adjust revenue recognition in the Profit & Loss both in advance and in arrears. For example, if you have pre-sales deposits (collected by the developer) or sales collections during the construction, you may want to delay this income in the P&L until the building construction is completed or a stage is completed.

A negative sum entered in the top line of the “Revenue Accruals/Adjustments (Cumulative) will delay the revenue recognised in the Profit & Loss. The amount is cumulative, so if you want to delay recognition for 6 months you need to copy that sum across for 6 months. The line below (Net Movement) shows the net movement for the cumulative total. If a revenue amount is negated in the P&L by the Revenue Accrual this amount is take up in the Balance Sheet by a corresponding “Deferred Income” in the Liabilities Section. For a positive revenue accrual adjustment, the reverse is true, that is you bring forward revenue recognition in the P&L and the Balance Sheets shows a accrued income amount as opposed to Deferred Income.

14.2 Profit Realisation

% Complete Calculations

% Complete Calculations				
Total Dev Costs Post Adjust. (inc. Land and exc. Op Costs)	112,005,597	17,901,500	17,964,636	26,488,133
Total Expected Development Costs		106,950,656	106,950,656	106,950,656
% Cumulative Development Costs Incurred		16.74%	16.80%	24.77%
Total Expected Revenue		140,350,000	140,350,000	140,350,000
Total Expected Area Sold		17,500	17,500	17,500
Total Sold based on Revenue Sold		140,350,000	140,350,000	140,350,000

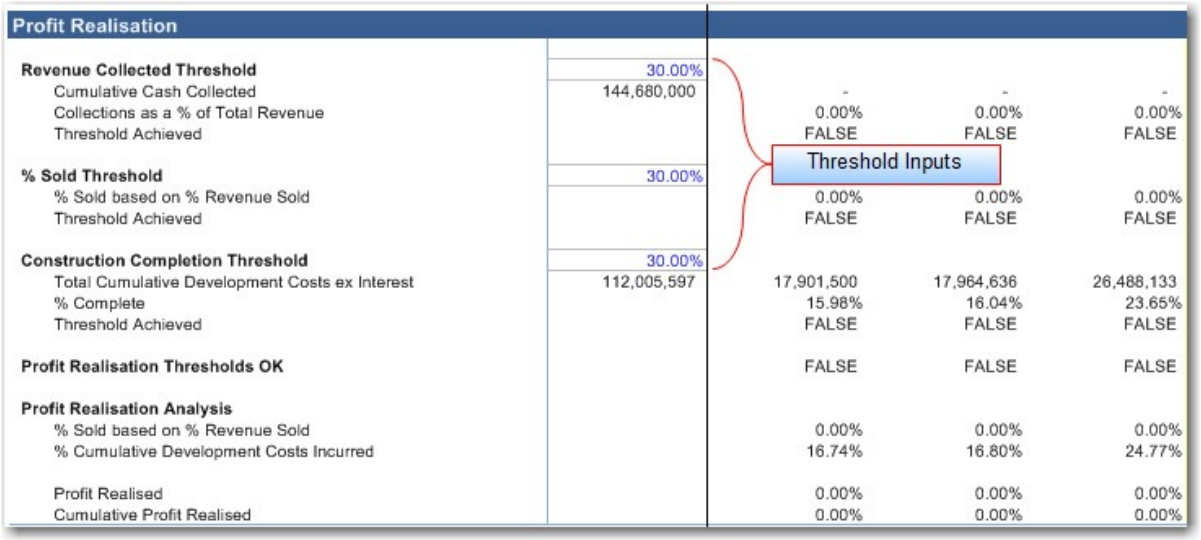
These are the calculations that are used when the '% Completed' Revenue Recognition method through the Preferences is adopted. If the 'On Completion' method is adopted, then this section will be hidden.

- **Total Expected Development Costs:** These are the development costs as defined in the 'Revenue Recognition section.

- **Total Expected Revenue:** This is the sales revenue collected, as per the 'Handover Summary' on the Cash Flow sheet.
- **Total Expected Area Sold:** This is the area of all sales settled, as per the 'Handover Summary' on the Cash Flow sheet.
- **Total Sold based on Area / Revenue Sold:** This line will change depending on whether the user has selected the '% Sold Method' for Revenue Recognition purposes to be based on either Revenue or Area in the Preferences.

Important Notes on Sales Revenue Manual Inputs
If there are any manual inputs for 'Gross Sales Revenues' on the Cash Flow sheet, these are only factored in the Total Expected Revenue' calculations (not Total Expected Area Sold, as there is no area associated with manual inputs). Therefore, they only taken into account when the '% of Revenue Sold' option is selected for the % Sold in the Profit Realisation Analysis in the Preferences)

Thresholds



Thresholds can be set to effectively delay the recognition of revenues until the project is substantially sold or under construction.

- If a **Revenue Collection Threshold** is utilised the model will delay the recognition of revenue until the specified % of revenue is collected.
- If a **% Sold Threshold** is utilised the model will delay the recognition of revenue until the specified % of sales have been achieved.
- If a **Construction Completion Threshold** is utilised the model will delay the recognition of revenue until the specified % of construction is completed.

14.3 Fixed Assets

Fixed Assets

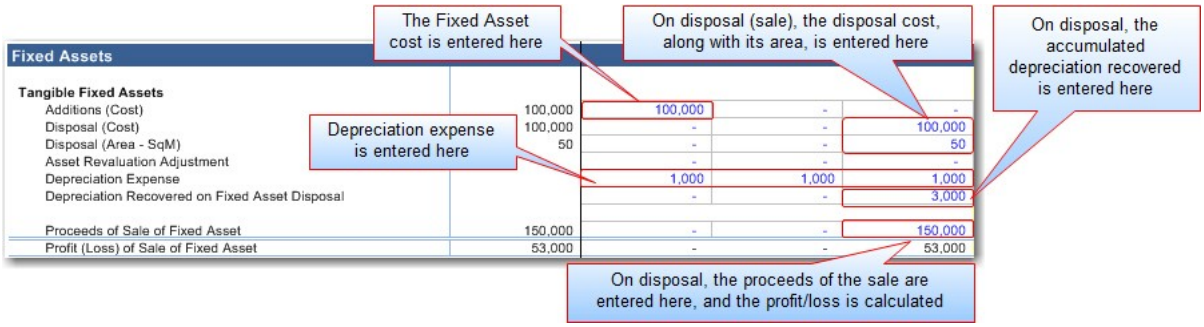
This section allows the user to manually add inputs to cater for items that are capitalised as 'Fixed Assets' (i.e. held and not sold on completion). All inputs are to be entered exclusive of GST/VAT/Sales Tax. Fixed Assets appear on the Balance Sheet.

- **Additions:** Fixed Assets are added to model (at cost) when they are completed and are ready to be used. Amounts entered in the Tangible Fixed Assets 'Additions (Cost)' line will reduce the Work in Progress by the same amount and will also impact on the Revenue Recognition calculations.
- **Disposal:** If a fixed asset item is subsequently sold, the cost of the item sold needs to be input into the Tangible Fixed Assets 'Disposal (Cost)' line and the area of the item sold into the Tangible Fixed Assets 'Disposals (Area)' line. In addition, the 'Proceeds of Sale' need to be manually input into the respective line so the model can calculate the profit or loss on the sale of the fixed asset.
- **Asset Revaluation Adjustment:** Asset revaluation adjustment is a manual adjustment line for fixed asset revaluation. For example you may have recognised out of your WIP, an asset for investment income. You recognise its cost in the Fixed Asset Register, but its value may be above or below that cost. The asset revaluation is the incremental change to that cost price. Upon sale of that asset you should negate out the asset revaluation for that asset.
- **Depreciation :** 'Depreciation Expense' is manually entered (we suggest that that the user adds in a depreciation schedule through the use of a user inserted worksheet to assist with these calculations) and flows directly to the Profit and Loss statement as a non-cash item. In addition, the accumulated 'Depreciation Recovered' on an item sold needs to be manually inputted into the respective line so the model can calculate the profit or loss on the sale of the fixed asset.
- **Profit (Loss):** Proceeds of Sale of Fixed Asset *less* Disposal (Cost) *plus* Depreciation Recovered on Fixed Asset Disposal

Fixed Asset Example

In the below example:

- A Fixed Asset with an area of 50sqm and a cost of $100,000 is added in Period 1.
- This is depreciated at $1,000 per month.
- In Period 4, the Asset is sold for $150,000

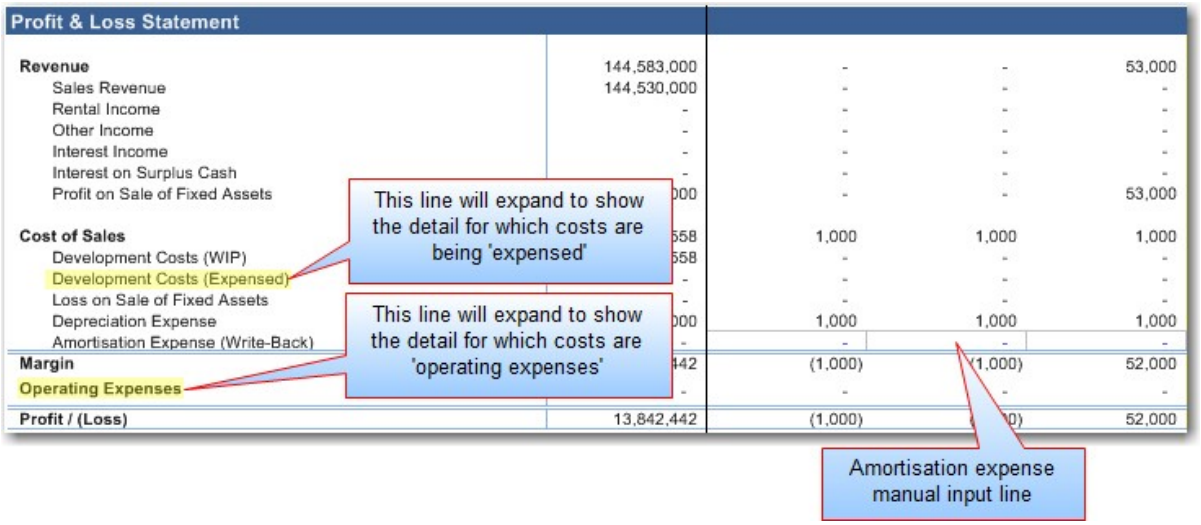


Fixed Assets				
Tangible Fixed Assets				
Additions (Cost)	100,000	100,000	-	-
Disposal (Cost)	100,000	-	-	100,000
Disposal (Area - SqM)	50	-	-	50
Asset Revaluation Adjustment		-	-	-
Depreciation Expense		1,000	1,000	1,000
Depreciation Recovered on Fixed Asset Disposal		-	-	3,000
Proceeds of Sale of Fixed Asset	150,000	-	-	150,000
Profit (Loss) of Sale of Fixed Asset	53,000	-	-	53,000

14.4 Profit and Loss Statement

The Profit and Loss Statement (P&L) is a financial statement that summarises the revenues, costs and expenses incurred during a specific period of time. The P&L statement is also known as a "statement of profit and loss", an "income statement" or an "income and expense statement".

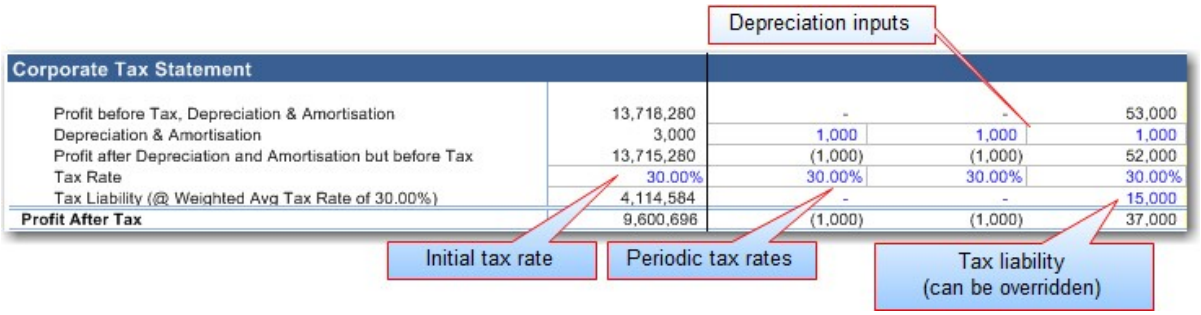
Both 'Revenue' and 'Cost of Sales' are treated in accordance with Preference settings set by the user.



Amortization Expense (Write-Back)

Amortization expense is a manual line in the P&L that allows you negate a cash flow item from the P&L and latter amortiSe (recognize) that expense/revenue according to your accounting or tax over a period of time. For example, expenditure relating to the raising of capital cannot be expensed immediately but rather for taxation purposes can be amortized at 20% per annum for years.

14.5 Corporate Tax



The model allows the user to calculate Corporate Tax, using the following inputs:

- **Depreciation:** In this line, the model defaults to the 'accounting' depreciation (as per the Profit and Loss statement). However if your 'tax' depreciation is different to your 'accounting' depreciation, the user can overwrite these amounts to estimate the tax.
- **Corporate Tax Rate:** Enter in a single tax rate to calculate tax on profits after depreciation. This can also be adjusted for each period. Please note, that if the Tax Rate for a period is set to zero, it will not calculate a tax loss or benefit for that period.
- **Tax Liability:** By default, the model will calculate the tax liability in this line, based on the inputs above and the various tax treatment preferences. However, there is also the option to manually override the tax liability, if a more customised calculation is required. If any manual adjustments are made, the remaining tax liability calculations will automatically re-forecast any bonus/shortfall to the next tax payment period.

Funding Tax through the Project Cash Flow

Any tax liability is calculated on the Financials sheet is carried through to the Project Cash Flow, allowing it to be funded just like any other project cost.

Net Cash Flow (before Interest & Corporate Tax)	556,110	(85,215)	(85,215)	(85,215)
Cumulative Cash Flow		1,067,402	982,187	896,972
Corporate Tax	92,528	2,670	2,589	2,508
Net Cash Flow (before Interest & after Corporate Tax)	463,582	(87,886)	(87,804)	(87,723)
Cumulative Cash Flow		989,182	901,378	813,655

14.6 Cash Flow & IRR

Cash Flow & IRR Statement					
Project Cash Flow before Interest, Finance Costs & Tax		27,150,603	(17,121,500)	(950,864)	(8,676,224)
	IRR	17.17%			
Finance Costs		(975,000)	(780,000)	(8,636)	(8,636)
Interest Earned		-	-	-	-
Interest Paid		(12,460,323)	-	(124,634)	(131,856)
Finance Application and Line Fees		-	-	-	-
Project Cash Flow after Interest but before Tax		13,715,280	(17,901,500)	(1,084,134)	(8,816,717)
	IRR	8.26%			
Corporate Tax		(4,114,584)	-	-	(15,000)
Project Cash Flow after Interest & Tax		9,600,696	(17,901,500)	(1,084,134)	(8,831,717)
	IRR	5.82%			
Equity Cash Flow		9,600,696	(5,100,000)	-	-
	IRR	46.96%			

The Cash Flow and IRR Statement summarises the following cash flows, and calculates their respective IRR:

- Project Cash Flow before Interest, Finance Costs and Corporate Tax
- Project Cash Flow after Interest and before Corporate Tax
- Project Cash Flow after Interest and Corporate Tax
- Equity Cash Flow

14.7 Balance Sheet

The Balance Sheet is a financial statement that summarises a company's assets, liabilities and shareholders' equity at a specific point in time to give investors an idea as to what the company owns and owes, as well as the amount invested by the shareholders.

The balance sheet follows the following formula: Assets - Liabilities (called Net Assets) = Shareholders' Equity

Balance Sheet				
Assets				
Current Assets				
Cash and Bank		-	-	-
Accrued Income		-	-	150,000
Work In Progress		17,801,500	18,885,634	27,702,351
Prepayments,Deposits and Other Receivables		-	-	-
Total Current Assets		17,801,500	18,885,634	27,852,351
Long Term Assets				
Tangible Fixed Assets - Cost (Owned Assets)		100,000	100,000	-
Tangible Fixed Assets - Revaluation Adj. (Owned Assets)		-	-	-
Less - Acc.Dep (Owned Assets) & Amortisation		(1,000)	(2,000)	-
Long Term Assets Total		99,000	98,000	-
TOTAL ASSETS		17,900,500	18,983,634	27,852,351
Liabilities				
Current Liabilities				
Accounts Payables		-	-	-
Deferred Income		-	-	-
Accrued Expenses		-	-	-
Total Current Liabilities		-	-	-
Long Term Liabilities				
Long Term Loans		12,801,500	13,885,634	22,717,351
Intercompany Loans		-	-	-
Total Long Term Liabilities		12,801,500	13,885,634	22,717,351
TOTAL LIABILITIES		12,801,500	13,885,634	22,717,351
NET ASSETS		5,099,000	5,098,000	5,135,000
Shareholders' Equity				
Project Capital		5,100,000	5,100,000	5,100,000
Asset Revaluation Reserve		-	-	-
Dividends		-	-	-
Retained Earnings (Accumulated Deficit)		-	(1,000)	(1,000)
P&L - Current Year		(1,000)	(1,000)	36,000
TOTAL SHAREHOLDERS' EQUITY		5,099,000	5,098,000	5,135,000
Check Balance	-	-	-	-

Shareholders' Equity

Depending on preference selected by the user for Project Equity Treatment in the Preferences,the Shareholder's Equity section will appear in the Balance Sheet as one of the below:

- **Shareholders Equity (Project Capital):** Developer's equity contributions appear as 'Project Capital' in the 'Shareholders Equity' section of the Balance Sheet.

Shareholders' Equity				
Project Capital		5,100,000	5,100,000	5,100,000
Asset Revaluation Reserve		-	-	-
Dividends		-	-	-
Retained Earnings (Accumulated Deficit)		-	(1,000)	(1,000)
P&L - Current Year		(1,000)	(1,000)	36,000
TOTAL SHAREHOLDERS' EQUITY		5,099,000	5,098,000	5,135,000
Check Balance	-	-	-	-

- **Long Term Liabilities (Intercompany Loan):** If using this option, the Developer's equity contributions are treated as an Intercompany Loan and appear in the Balance Sheet under the 'Long Term Liabilities' section. If this option is selected, the user will also need to input in the Balance Sheet the paid up Share Capital of the company.

Shareholders' Equity				
Share Capital	100,000	100,000	100,000	100,000
Asset Revaluation Reserve		-	-	-
Dividends		-	-	-
Retained Earnings (Accumulated Deficit)		-	(1,000)	(1,000)
P&L - Current Year		(1,000)	(1,000)	36,000
TOTAL SHAREHOLDERS' EQUITY		99,000	98,000	135,000
Check Balance	-	-	-	-

Part XV

15 Risk Assessment

15.1 Sensitivity Analysis

The Sensitivity Analysis is a risk assessment mechanism and allows the user to examine the impact on development performance indicators resulting from changes in a series of input variables.

There are 4 Sensitivity Analysis features available in the ARGUS EstateMaster DF program:

1. Scenario Analysis
2. One-Way What-If Analysis
3. Two-Way What-If Analysis
4. Three-Way What-If Analysis of Residual Land Values

Scenario Analysis

On the 'Sensitivity' sheet, the 'Scenario Analysis' allow you to input variations to each of the variables listed on the table. The 'Variation' column in the 'Scenario Analysis' table affects the calculation cells in the cash flow. You can put any combination of variations and see their impact on the various performance indicators. No function is required to be run as this alters the model directly.

Variable	Variation	Base + Variation
Land Acquisition Costs	0.00%	900,000,000
Construction Costs	5.00%	1,236,510,710
Construction Period	0.00%	Months 6 to 25
End Sale Values	-5.00%	3,261,148,009
Capitalisation Rate	0.00%	0.00%
Sales Span Period *	0.00%	Months 25 to 42
Rental Levels	0.00%	-
All Loan Interest Rates	0.50%	8.50%

* Includes Pre-Sale Exchange and Settlement Spans

Performance Indicator *	Result
Development Profit	335,614,473
Development Margin	11.47%
Maximum Debt Exposure	1,824,641,245
Date of Peak Exposure	Jul-2009
Breakeven Date of Cash Flow	Dec-2010
Project NPV	(604,370,201)
Project IRR	9.25%
Equity IRR	9.68%
WACC	5.55%

* Based on Gross Development Profit before Profit Share

Before commencing with further work, the values in the variations should be set back to zero. When you run the 'Sensitivity Analysis' function, the values in the 'Variation' column will return to zero automatically.

One-Way What-If Analysis

In the One-Way What-If Analysis table, put low, mid and high forecast variations for each of the variables.

- Using the 'Enable' dropdown options to select the variables you wish to test before running the sensitivity procedure. If 'No' is selected, the inputs will be greyed out and that rows for that variable will be hidden on the Sensitivity Table.
- Check for any warnings that the variations have caused the model to exceed the maximum time periods or that the variations have resulted in negative interest or capitalisation rates.

Sensitivity to Changes in:	Enable	Warnings	Low		Mid	High
Land Acquisition Costs	Yes		-5.0%	-3.0%	3.0%	5.0%
Construction Costs	No		-10.0%	-5.0%	5.0%	10.0%
Construction Period	Yes	Model exceeds 60 periods	-20.0%	-10.0%	10.0%	40.0%
End Sale Values	Yes		-5.0%	-3.0%	3.0%	5.0%
Capitalisation Rate	Yes		-0.5%	-0.2%	0.2%	0.5%
Sales Span Period	Yes		-30.0%	-20.0%	20.0%	30.0%
Rental Levels	Yes		-20.0%	-10.0%	10.0%	20.0%
All Debt Interest Rates	Yes		-2.0%	-1.0%	1.0%	3.0%
Developer's Discount Rate	Yes		18.0%	19.0%	20.0%	21.0%

Note that these variations do not affect the cash flow - only the outputs on the Sensitivity Table, which is generated when the 'Sensitivity Analysis' function is run.

	Change %	Gross Dev. Profit	NPV	Dev. Margin	Project IRR	Equity IRR	WACC	RLV (Target Margin)	RLV (Target IRR)
Base Case (No Variation)	0.00%	335,614,473	(604,370,201)	11.47%	9.25%	9.68%	5.55%	Not Computed	Not Computed
Land Acquisition Costs	-5.00%	641,678,361	(425,055,583)	22.99%	13.93%	17.40%	5.25%	852,779,221	452,573,070
	-3.00%	623,678,361	(443,055,583)	22.20%	13.54%	16.75%	5.21%	835,111,913	443,241,667
	3.00%	569,678,361	(497,055,583)	19.90%	12.41%	14.73%	5.10%	786,581,928	417,421,764
	5.00%	551,678,361	(515,055,583)	19.15%	12.04%	14.14%	5.06%	771,623,109	409,470,873

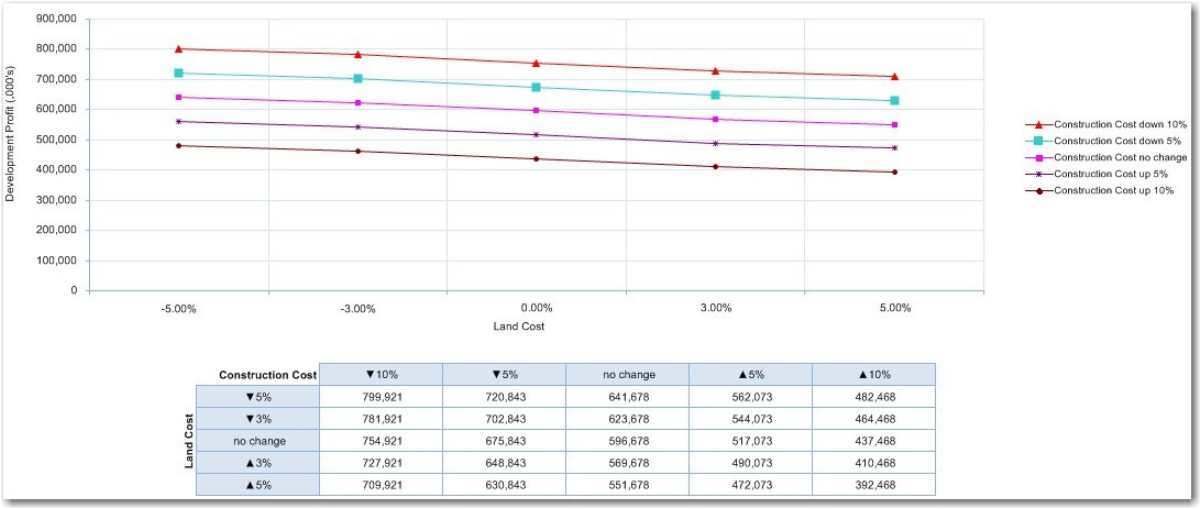
Two-Way What-If Analysis

In the 'Two-Way What-if Analysis' section there are dropdown options for setting parameters.

There are two charts each with three dropdown options:

- **Performance Indicator:** Select either 'Development Profit' or 'Net Present Value' for Chart 1 and either 'Project IRR', 'Equity IRR', WACC' or 'Development Margin' for Chart 2;
- **Variable 1:** Select either Land Costs, Construction Costs, End Sale Values, Construction Period, Selling Span Period, Rental Income, Loan Interest Rates, and Discount Rate (only relevant for Chart 1 if selecting net present value as your performance indicator); and
- **Variable 2:** Select either Land Costs, Construction Costs, End Sale Values or Rental Income.

These are translated into charts on the 'Sensitivity' sheet when the 'Sensitivity Analysis' function is run.



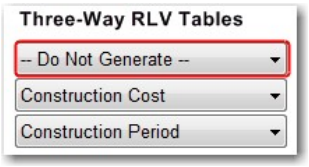
Land Cost \ Construction Cost	▼10%	▼5%	no change	▲5%	▲10%
▼5%	799,921	720,843	641,678	562,073	482,468
▼3%	781,921	702,843	623,678	544,073	464,468
no change	754,921	675,843	596,678	517,073	437,468
▲3%	727,921	648,843	569,678	490,073	410,468
▲5%	709,921	630,843	551,678	472,073	392,468

Three-Way What-If Analysis of Residual Land Values

The 'Three-Way What-if Analysis' is similar to the 'Two-Way', however it focuses on the two Residual Land Values that the application calculates; the RLV based on the Target Margin and the RLV based on the Target IRR.

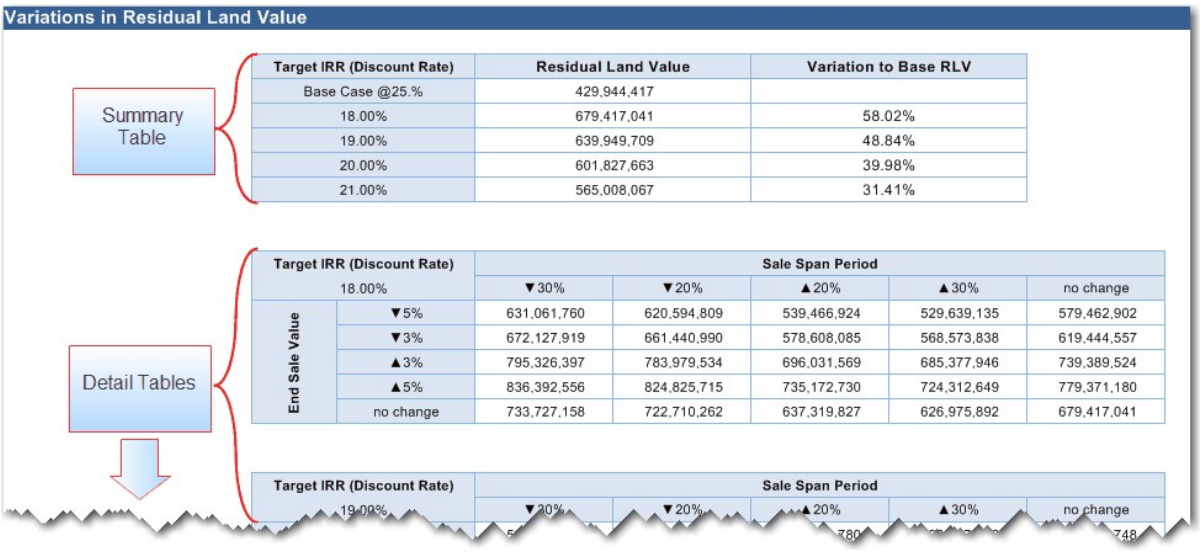
There are three dropdown options as well, however the main difference being that the first one allows you to select one of the two available Residual Land Value outputs as the Performance Indicator, which then automatically defines the third variable as either the Target Margin or Discount Rate.

By default, the Performance Indicator option is set to "Do No Generate", meaning that it will not generate the results for the Three-Way What If tables when the Sensitivity function is run, and it will not print that part of the report. This is recommended if you do not require this analysis, as it it time consuming to run.



The data generated by 'Sensitivity Analysis' function is run is a series of tables:

- A summary table, which looks at the 4 variations to the Target Margin or Target IRR, depending on the Residual Land Value selected from the dropdown option, and the resultant variation to the Base Residual Land Value (the Residual Land Value calculated based on the target hurdle defined on the 'Input' sheet)
- Four detailed tables, one for each variations to the Target Margin or Target IRR, displaying the impact to the Residual Land Value based on the variation to the other two variables defined.



Running the Sensitivity Function

Once you have finished making all input entries, click the Sensitivity Analysis button on the Ribbon Menu. The sensitivity function performs 5 key functions:

1. It resets the values in the 'Variation' column of the 'Scenario Analysis' to zero.
2. It updates the One-Way What-If sensitivity table on the developer's and land owner's (in the case of a joint venture) 'Sensitivity' sheets;
3. It generates the Two-Way What-If charts on the developer's 'Sensitivity' sheet;
4. It resizes the time scale on the developer's and land owner's (in the case of a joint venture) cash flow chart to the life of the project; and

5. It recalculates the residual land value based on developer's Target Margin & IRR.

The length of the operation will be dependant on the memory and speed of your PC, and may take from several seconds to several minutes to complete. You can improve waiting time by keeping as much memory free and closing unnecessary applications.

Variations to Costs and Revenues

Note that the Land Costs, Construction Costs, End Sale Values and Rental Levels sensitivity variables vary the data in the 'Manual Input' rows of the Cash Flow sheet as well as the 'Input' sheet. However data in the 'Manual Input' rows are not varied by the period/span variations (construction period and selling span).

Variations to Time

The sensitivity analysis varies the period/span variables by adjusting the timing of the cash flow.

Varying the time for the Construction Period has the following impact on the cash flow:

- **Construction Costs, Professional Fees, Statutory Contributions and Miscellaneous Costs:** Extends their starting period (exc Construction) and extends their span time periods.
- **Land Holding Costs:** Extends their span periods.
- **Sales and Rental Income:** Delays the starting date for settlements and the lease start for rentals.
- **Land Costs and Financing Costs:** No direct changes, except for any indirect impact on interest costs by varying debt exposure and funding requirements.

Varying the Sale Span Period only affects the span periods for pre-sale exchanges and settlements, but not the starting dates for each sale item.

Exceeding Time Periods During Sensitivity
Whilst the cash flow has a maximum time periods, it can accommodate an extra 15 periods for the Sensitivity Analysis. If you should select scenarios for period/span variables in the sensitivity table that will expand the cash flow beyond these additional time periods, you will get a warning message when you try to run the sensitivity analysis. If this happens you will probably need to check your assumptions in the 'Sensitivity' sheet, adjust your variations in the One-Way What-If Analysis table, select a different rest period (eg quarters instead of months) or insert more time periods by using the "Resize Model" function.

Land Owner's Sensitivity (Joint Venture Model Only)

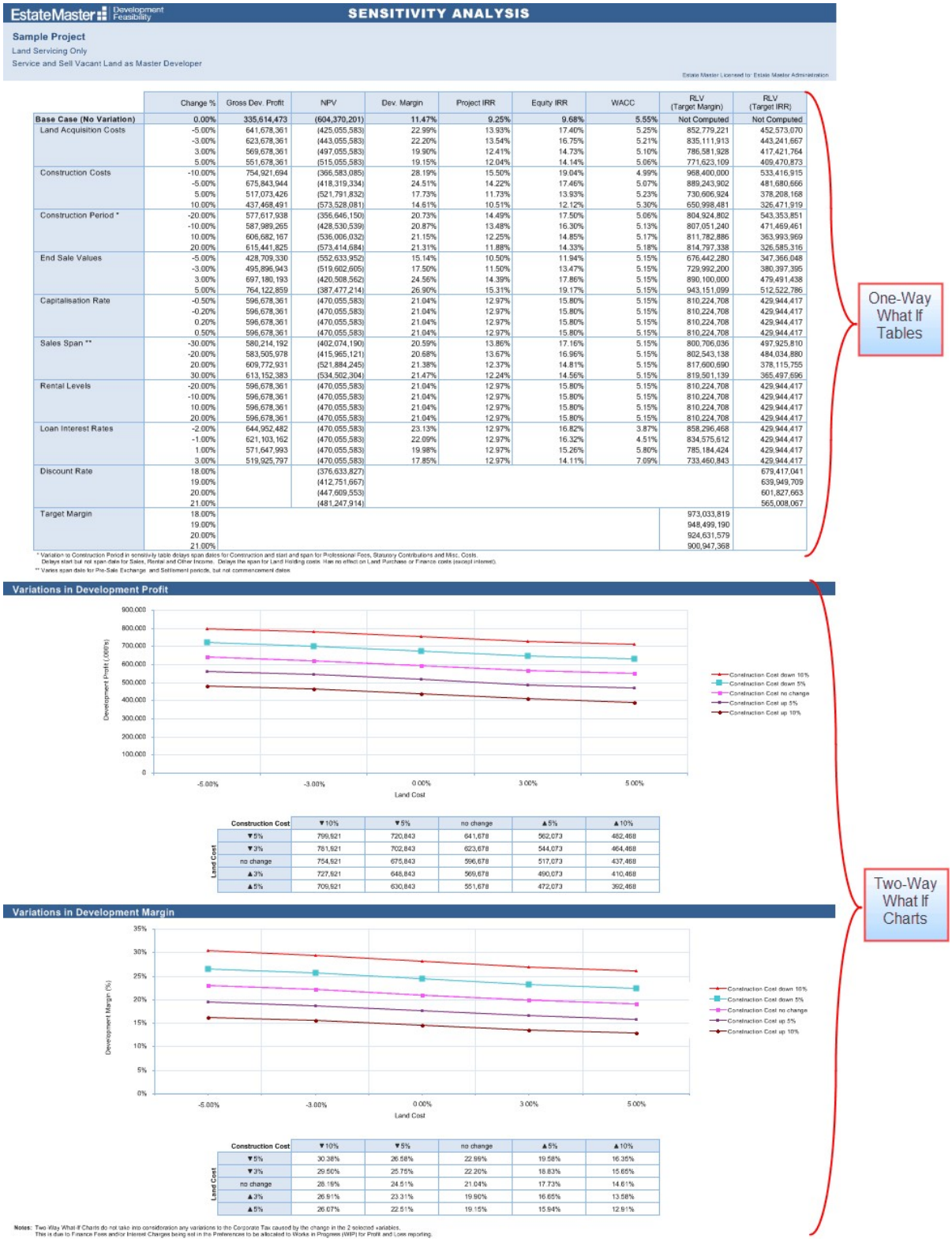
When the Joint Venture model is switched on, the Land Owner's summary will appear below the developer's on the 'Summary' sheet. There is provision for the user to run a one-way what-if sensitivity analysis on the returns to the land owner, utilising the low and high variations in the 'Sensitivity' sheet.

Reports

The Sensitivity Report consists of three sections:

1. **One-Way What-If Analysis Table:** The sensitivity table shows the effects on Profit, Development Margin, NPV, Equity IRR, Project IRR, WACC and the Residual Land Values to the high, mid and low variations (as selected in the Sensitivity settings towards the top of the sheet) for the various variables.
2. **Two-Way What-If Charts:** The two charts below the sensitivity table illustrate the sensitivity of the performance indicators to changes in the combinations of two variables as selected by the user in the relevant dropdown boxes.

3. **Three-Way What-If Tables of Residual Land Values:** These tables illustrate the sensivity of the residual land value to changes in the combinations of the target hurdle rate and two variables as selected by the user in the relevant dropdown boxes. This section of the report will be excluded from printouts, if the 'Do Not Generate' option is selected in the relevant dropdown.



EstateMaster Development Feasibility

SENSITIVITY ANALYSIS

Sample Project
Land Servicing Only
Service and Sell Vacant Land as Master Developer

Estate Master Licensed to: Estate Master Administration

	Change %	Gross Dev. Profit	NPV	Dev. Margin	Project IRR	Equity IRR	WACC	RLV (Target Margin)	RLV (Target IRR)
Base Case (No Variation)	0.00%	335,614,473	(604,370,201)	11.47%	9.25%	9.68%	5.55%	Not Computed	Not Computed
Land Acquisition Costs	-5.00%	641,678,361	(425,055,583)	22.99%	13.93%	17.40%	5.25%	852,779,221	452,573,070
	-3.00%	623,678,361	(443,055,583)	22.20%	13.54%	16.75%	5.21%	835,111,913	443,241,667
	3.00%	569,678,361	(497,055,583)	19.90%	12.41%	14.73%	5.10%	786,581,928	417,421,764
	5.00%	551,678,361	(515,055,583)	19.15%	12.04%	14.14%	5.06%	771,623,109	409,470,873
Construction Costs	-10.00%	754,921,694	(366,583,085)	28.19%	15.50%	19.04%	4.99%	968,400,000	533,416,915
	-5.00%	675,843,944	(418,319,334)	24.51%	14.22%	17.46%	5.07%	889,243,902	481,680,666
	5.00%	517,073,426	(521,791,832)	17.73%	11.73%	13.93%	5.23%	730,606,924	378,208,168
	10.00%	437,468,491	(573,528,081)	14.61%	10.51%	12.12%	5.30%	650,998,481	326,471,919
Construction Period *	-20.00%	577,617,938	(356,646,150)	20.73%	14.49%	17.50%	5.06%	804,924,802	543,353,851
	-10.00%	587,989,265	(428,530,539)	20.87%	13.48%	16.30%	5.13%	807,051,240	471,469,461
	10.00%	606,682,167	(536,006,032)	21.15%	12.25%	14.85%	5.17%	811,782,886	363,993,969
	20.00%	615,441,825	(573,414,684)	21.31%	11.88%	14.33%	5.18%	814,797,338	326,585,316
End Sale Values	-5.00%	428,709,330	(552,633,952)	15.14%	10.50%	11.94%	5.15%	676,442,280	347,366,048
	-3.00%	495,896,943	(519,602,605)	17.50%	11.50%	13.47%	5.15%	729,992,200	380,397,395
	3.00%	697,180,193	(420,508,562)	24.56%	14.39%	17.86%	5.15%	890,100,000	479,491,438
	5.00%	764,122,859	(387,477,214)	26.90%	15.31%	19.17%	5.15%	943,151,099	512,522,786
Capitalisation Rate	-0.50%	596,678,361	(470,055,583)	21.04%	12.97%	15.80%	5.15%	810,224,708	429,944,417
	-0.20%	596,678,361	(470,055,583)	21.04%	12.97%	15.80%	5.15%	810,224,708	429,944,417
	0.20%	596,678,361	(470,055,583)	21.04%	12.97%	15.80%	5.15%	810,224,708	429,944,417
	0.50%	596,678,361	(470,055,583)	21.04%	12.97%	15.80%	5.15%	810,224,708	429,944,417
Sales Span **	-30.00%	580,214,192	(402,074,190)	20.59%	13.86%	17.16%	5.15%	800,706,036	497,925,810
	-20.00%	583,505,978	(415,965,121)	20.68%	13.67%	16.96%	5.15%	802,543,138	484,034,880
	20.00%	609,772,931	(521,884,245)	21.38%	12.37%	14.81%	5.15%	817,600,690	378,115,755
	30.00%	613,152,383	(534,502,304)	21.47%	12.24%	14.56%	5.15%	819,501,139	365,497,696
Rental Levels	-20.00%	596,678,361	(470,055,583)	21.04%	12.97%	15.80%	5.15%	810,224,708	429,944,417
	-10.00%	596,678,361	(470,055,583)	21.04%	12.97%	15.80%	5.15%	810,224,708	429,944,417
	10.00%	596,678,361	(470,055,583)	21.04%	12.97%	15.80%	5.15%	810,224,708	429,944,417
	20.00%	596,678,361	(470,055,583)	21.04%	12.97%	15.80%	5.15%	810,224,708	429,944,417
Loan Interest Rates	-2.00%	644,952,482	(470,055,583)	23.13%	12.97%	16.82%	3.87%	858,296,468	429,944,417
	-1.00%	621,103,162	(470,055,583)	22.09%	12.97%	16.32%	4.51%	834,575,612	429,944,417
	1.00%	571,647,993	(470,055,583)	19.98%	12.97%	15.26%	5.80%	785,184,424	429,944,417
	3.00%	519,925,797	(470,055,583)	17.85%	12.97%	14.11%	7.09%	733,460,843	429,944,417
Discount Rate	18.00%		(376,633,827)						679,417,041
	19.00%		(412,751,667)						639,949,709
	20.00%		(447,609,553)						601,827,663
	21.00%		(481,247,914)						565,008,067
Target Margin	18.00%							973,033,819	
	19.00%							948,499,190	
	20.00%							924,631,579	
	21.00%							900,947,368	

* Variation to Construction Period in sensitivity table delays span dates for Construction and start and span for Professional Fees, Statutory Contributions and Misc. Costs.
Delays start but not span date for Sales, Rental and Other Income. Delays the span for Land Holding costs. Has no effect on Land Purchase or Finance costs (except interest).
** Varies span date for Pre-Sale Exchange and Settlement periods, but not commencement dates.

One-Way What If Tables

Variations in Development Profit

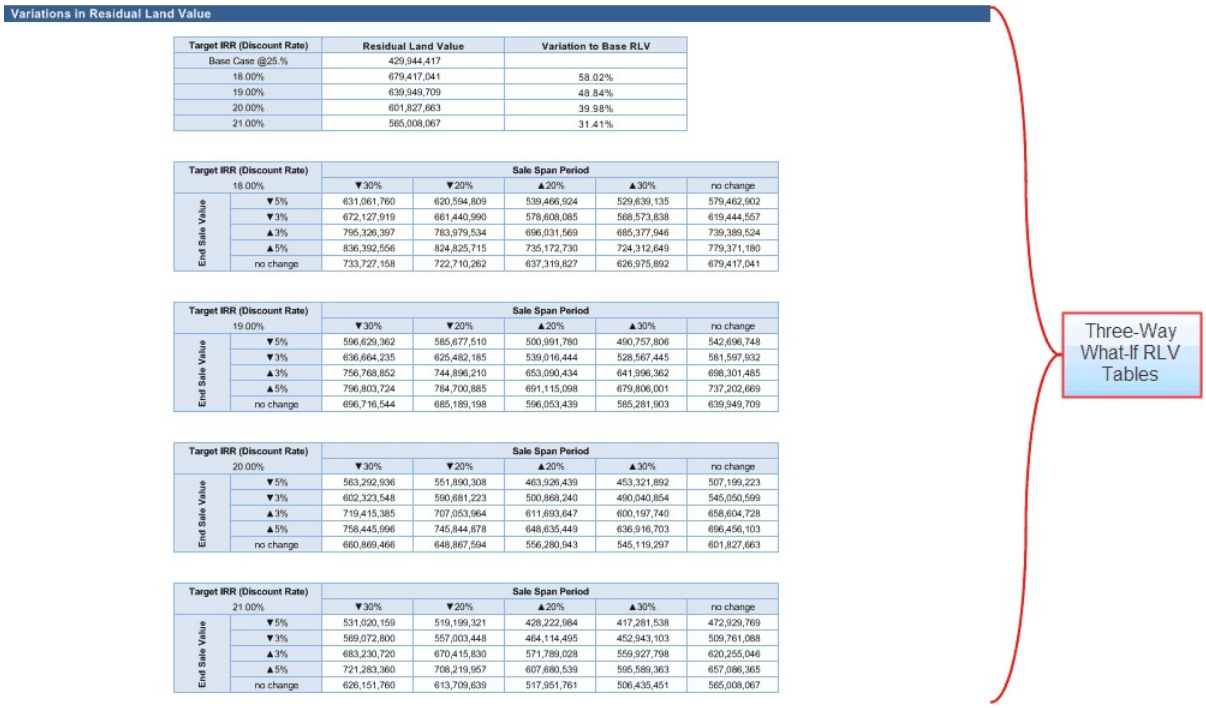
Land Cost \ Construction Cost	▼10%	▼5%	no change	▲5%	▲10%
▼5%	799,621	720,843	641,678	562,073	482,468
▼3%	781,921	702,843	623,678	544,073	464,468
no change	754,921	675,843	596,678	517,073	437,468
▲3%	727,921	648,843	569,678	490,073	410,468
▲5%	709,621	630,843	551,678	472,073	392,468

Variations in Development Margin

Land Cost \ Construction Cost	▼10%	▼5%	no change	▲5%	▲10%
▼5%	30.38%	26.58%	22.99%	19.58%	16.35%
▼3%	29.50%	25.75%	22.20%	18.83%	15.65%
no change	28.19%	24.51%	21.04%	17.73%	14.61%
▲3%	26.91%	23.31%	19.90%	16.65%	13.58%
▲5%	26.07%	22.51%	19.15%	15.94%	12.91%

Two-Way What If Charts

Notes: Two-Way What-If Charts do not take into consideration any variations to the Corporate Tax caused by the change in the 2 selected variables.
This is due to Finance Fees and/or Interest Charges being set in the Preferences to be allocated to Works in Progress (WIP) for Profit and Loss reporting.



Variations in Residual Land Value

Target IRR (Discount Rate)	Residual Land Value	Variation to Base RLV
Base Case @25.%	429,944,417	
18.00%	679,417,041	58.02%
19.00%	639,949,709	48.84%
20.00%	601,827,663	39.98%
21.00%	565,008,067	31.41%

Target IRR (Discount Rate) 18.00%		Sale Span Period ▼30%	▼20%	▲20%	▲30%	no change
End Sale Value	▼5%	631,061,760	620,594,809	539,466,924	529,639,135	579,462,902
	▼3%	672,127,919	661,440,990	578,608,085	568,573,838	619,444,557
	▲3%	795,326,397	783,979,534	696,031,569	685,377,946	739,389,524
	▲5%	836,392,556	824,825,715	735,172,730	724,312,649	779,371,180
	no change	733,727,158	722,710,262	637,319,827	626,975,892	679,417,041

Target IRR (Discount Rate) 19.00%		Sale Span Period ▼30%	▼20%	▲20%	▲30%	no change
End Sale Value	▼5%	596,629,362	585,677,510	500,991,780	490,757,806	542,696,748
	▼3%	636,664,235	625,482,185	539,016,444	528,567,445	581,597,932
	▲3%	756,768,852	744,896,210	653,090,434	641,996,362	698,301,485
	▲5%	796,803,724	784,700,885	691,115,098	679,806,001	737,202,669
	no change	696,716,544	685,189,198	596,053,439	585,281,903	639,949,709

Target IRR (Discount Rate) 20.00%		Sale Span Period ▼30%	▼20%	▲20%	▲30%	no change
End Sale Value	▼5%	563,292,936	551,890,308	463,926,439	453,321,892	507,199,223
	▼3%	602,323,548	590,681,223	500,868,240	490,040,854	545,050,599
	▲3%	719,415,385	707,053,964	611,693,647	600,197,740	658,604,728
	▲5%	758,445,996	745,844,878	648,635,449	636,916,703	696,456,103
	no change	660,869,466	648,867,594	556,280,943	545,119,297	601,827,663

Target IRR (Discount Rate) 21.00%		Sale Span Period ▼30%	▼20%	▲20%	▲30%	no change
End Sale Value	▼5%	531,020,159	519,199,321	428,222,984	417,281,538	472,929,769
	▼3%	569,072,800	557,003,448	464,114,495	452,943,103	509,761,088
	▲3%	683,230,720	670,415,830	571,789,028	559,927,798	620,255,046
	▲5%	721,283,360	708,219,957	607,880,539	595,589,363	657,086,365
	no change	626,151,760	613,709,639	517,951,761	506,435,451	565,008,067

Three-Way What-If RLV Tables

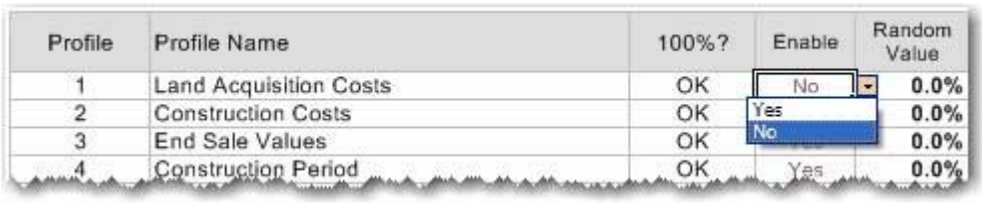
15.2 Monte Carlo (Probability) Analysis

The Probability Analysis provides a further tool for undertaking risk assessment and perhaps re-assessment of the hurdle rates.

Whilst the sensitivity testing provides a range of returns based on different scenarios it does not tell you the likelihood (or probability) of those returns or the effect of several scenarios occurring. The probability analysis overcomes this limitation by assigning probability profiles to the variables in the One-Way What-If table ('Sensitivity' sheet) and running multiple simulations to derive a probability range for the Development Margin and the IRR.

Running the Probability Function

Before running the Probability function, use the 'Enable' dropdown options to select the variables you wish to test. If 'No' is selected, the profile of that variable will not be factored into the results (i.e. it assumes that those variables remain fixed).



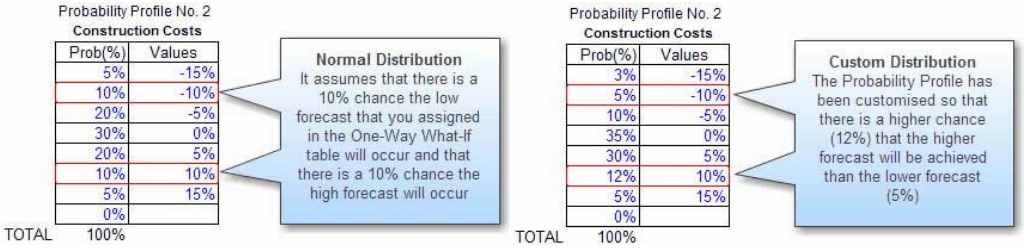
Profile	Profile Name	100%?	Enable	Random Value
1	Land Acquisition Costs	OK	No	0.0%
2	Construction Costs	OK	Yes / No	0.0%
3	End Sale Values	OK		0.0%
4	Construction Period	OK	Yes	0.0%

To run the simulations, click on the Probability Analysis button on the Ribbon Menu. A message box appears asking you how many simulations you wish to run. The higher the number of simulations the more statistically significant the results will be. However the more simulations the longer it will take to generate the results. The length of the operation will also be dependant on the memory and speed of your PC.

When you run the analysis, the model assigns an approximate normal distribution curve for each of the variables in the 'Scenario Analysis' table (Land Costs, Construction Costs, End Sale Values, Construction Period, Selling Span Period, Rental Income, Loan Interest Rates, and Discount Rate). It assumes that there is a 10% chance the low forecast that you assigned in the One-Way What-If table

will occur and that there is a 10% chance the high forecast will occur. You can scroll down the 'Probability' sheet to see the 'Probability Profiles of Variable Inputs'. In some cases the profiles will be skewed depending upon your inputs in the One-Way What-If table.

You can change the low and high forecasts in the One-Way What-If table on the 'Sensitivity' sheet before running the Probability Analysis. Alternatively, you can assign your own probability profile to each of the risk variables.



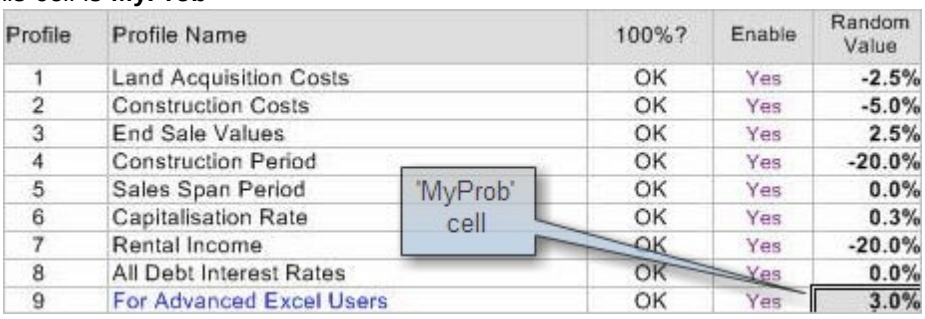
After the simulations are run you can scroll down to view the statistics and charts of the probability distribution of the Development Margin and the IRR. Note that in many cases the average Development Margin and IRR levels may be different from the development margin and IRR results on the 'Summary' Sheet.

Please note that despite its more sophisticated methodology there are limitations with the probability analysis. Firstly there is the limitation with the assigning of the probability profiles to the variables. Secondly the methodology assumes that the variables are totally independent.

Advanced Probability Users

The program provides an additional probability profile for advance users of Excel. Here the user can link input cells to each other and to the random value (MyProb) of the table in the 'Summary of Probability Variables'. Having done that you will need to provide a most likely estimate for the variable and assign a probability profile to the variable in the tables in the 'Probability Profile of Variable Inputs'. Before running the simulator you can elect to select which variables to set the random generator to.

1. Go to the 'Summary of Probability Variables' table. This will show a table for all the variables.
2. In the last row of the table it will have an item marked 'For Advanced Excel Users'. It will consist of:
    - **Profile Name:** Type in the description of the custom variable you want to add in the Probability function.
    - **Most Likely Estimate:** This allows you to enter a specific % variation, rather than randomly select a % in a specified range.
    - **Random Generator:** This allows you to select f you want to apply the random generator to the variable, and thus include it in the analysis. If the variable is not applicable or is assumed to be fixed, the check-box for that variable should be deselected.
    - **Random Value:** This is the random % variation that will be applied to the variable. It is a fixed field that is dependant on the 'Probability Profile' that is set for a variable. The name for this cell is **MyProb**



Profile	Profile Name	100%?	Enable	Random Value
1	Land Acquisition Costs	OK	Yes	-2.5%
2	Construction Costs	OK	Yes	-5.0%
3	End Sale Values	OK	Yes	2.5%
4	Construction Period	OK	Yes	-20.0%
5	Sales Span Period	OK	Yes	0.0%
6	Capitalisation Rate	OK	Yes	0.3%
7	Rental Income	OK	Yes	-20.0%
8	All Debt Interest Rates	OK	Yes	0.0%
9	For Advanced Excel Users	OK	Yes	3.0%

3. Go to the actual input variable that you want to include in the analysis.
4. If the input variable has been initially entered as a number (rather than a formula), then you will have to turn it into a formula to include the random variable value. For Example: If you have an amount of 1,000,000 entered in the Construction Cost section for a particular input, you would edit the cell so it would read: =1000000*(1+MyProb)
5. This shows that the 1,000,000 input would vary according to the random value being applied. So if in one probability scenario, -5% was the Random Value for that variable, then by editing the cell to include the formula as above, then it would affectively reduce the 1,000,000 by 5% for that scenario.
6. Once the input cell is linked to the Random Value, you can then edit the probability profile for that variable. Each variable has its own probability profile and includes the following fields:
    - **Prob(%):** This is the probability of the certain % variation being applied (indicated by the 'Values' column) to that variable when it runs a simulation.
    - **Values:** This is the Random Value that is being applied to the variable. The probability of this % value being applied is based on the first column (Prob(%)).
7. When amending the probability profiles, you must ensure that the % in the Prob(%) total to 100.
8. Once the profiles have been set, scroll down to the 'Run Monte Carlo Simulations' button, and click it and it will perform the probability analysis function with your custom variable included in the analysis.

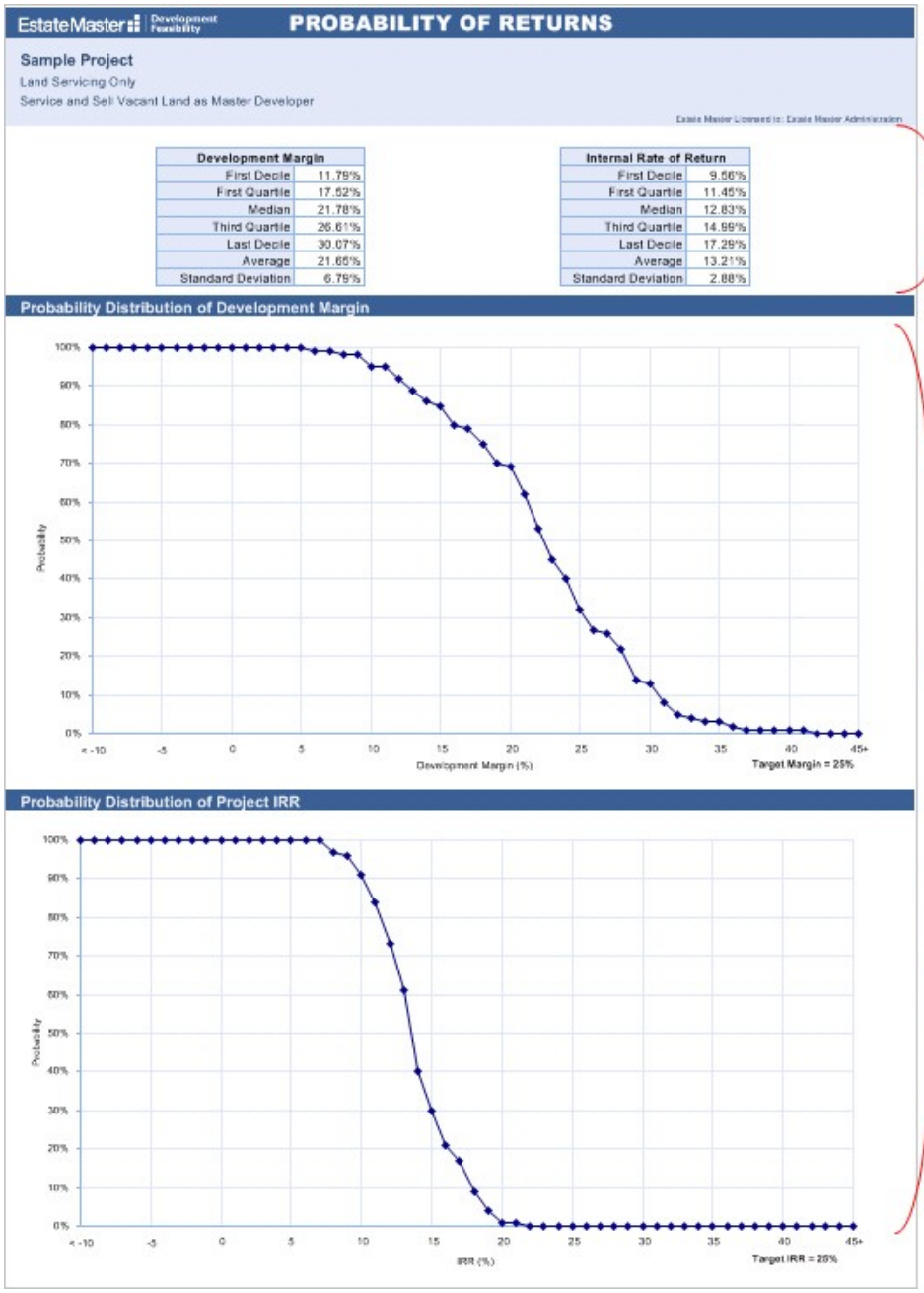
Reports

The Probability Report consists of three sections:

1. **Statistics Tables:** For both the Development Margin and Project IRR, the following is summarised:

- **First Decile:** This is the result where the lowest 10% of data in the simulation results gathered is cut-off. Also known as the the 10th percentile.
- **First Quartile:** This is the result where the lowest 25% of data in the simulation results gathered is cut-off.
- **Median:** The median is the value that has just as many values above it as below it. If there are an even number of values, the median is the average of the two middle values. The median is a measure of central tendency. The median can also be defined as the 50th percentile.
- **Third Quartile:** This is the result where the lowest 75% of data in the simulation results gathered is cut-off.
- **Last Decile:** This is the result where the lowest 90% of data in the simulation results gathered is cut-off. Also known as the the 90th percentile.
- **Average**: This is quite simply the average of the probability distribution results.
- **Standard Deviation:** This is a measure of the variability or dispersion of the probability distribution. A low standard deviation indicates that the data points tend to be very close to the same value (the mean), while high standard deviation indicates that the data are “spread out” over a large range of values.

2. **Probability Distribution for Development Margin:** This shows the probability of achieving a certain Development Margin, based on the results from the simulations performed.
3. **Probability Distribution for Project IRR:** This shows the probability of achieving a certain Project IRR, based on the results from the simulations performed.



Statistical Results

Probability Distribution curves for Development Margina and Project IRR

Part XVI

16 Printing Reports

Conducting a Final Check

There are numerous output report sheets in the ARGUS EstateMaster DF program that provide you with the performance indicators upon which the property's feasibility is assessed. You should do a reality check of these to make sure that there are no errors. Check the graphs to make sure that they look reasonable and make sure there are no numbers in the cash flow or summary reports, which appear to be unrealistic or wrong. If there are obvious errors, amend them accordingly and update the model if necessary.

Printing

- To print the reports, load the Print Menu by clicking on one of the Print buttons on the toolbars.
- When the Print Menu is activated, a series of check boxes will appear for each report.
- Select the reports that you wish to print and the paper size and then click [Print].
- If any results need to be updated, such as the Sensitivity, Probability or Residual Land Value analysis, the software will run these functions automatically before printing their respective reports.

Auto Page Breaks

On the Inputs, Gantt Cart, Cash Flow and Financials reports, 'Auto Page Breaks' can be set to apply page breaks at the start of certain cash flow sections so they start on a new page rather than have a continuous flow. Using Auto Page Breaks will provide neater report layouts, but may print out on more pages.

Selecting your Printer

Before printing any reports, check that the printer you wish to print to is the currently active printer (ie 'Currently Printing on.....'). If you need to select a different printer, then click on the [Select Printer] button.

PDF

ARGUS EstateMaster DF has its own built-in PDF writer. When you initially installed the software, a printer would have been added to your list if Printers called "EstateMaster PDF Printer". This is used to generate PDF files of the selected reports. When [PDF] is clicked:

- If multiple reports are selected, a single PDF file will generated containing all those reports in the orders as selected in the 'Print Sorting' tab.
- If multiple Options/Stages are selected in the 'Options/Stages' tab, then a separate PDF file for each Option/Stage will be created.

Warnings

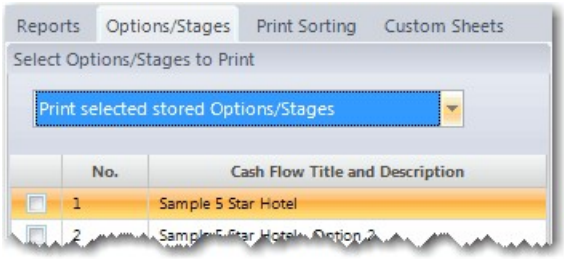
A warning may appear if it relates to data that needs to be updated on any of the selected reports. The program will provide a warning in the following circumstances:

- Variations in the Scenario Analysis are affecting the cash flow.
- The cash flow exceeds the maximum time periods or if the variations in the sensitivity test will extend the cash flow beyond the maximum time periods.
- The current set of inputs has not been stored and that the 'Consolidate' sheet is not up to date.

If you wish to ignore the warnings, click on the 'Proceed to Print' button, otherwise select 'Cancel' to rectify any of the issues before attempting to print again.

Printing Options/Stages

This feature allows the user to print the selected reports for either the current set of inputs, or any of the stored Options/Stages.



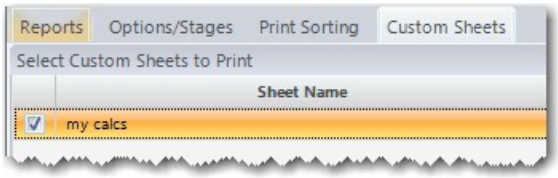
Print Sorting

Using the 'Move Up/Down' buttons, the user can sort the printing order of the selected reports.

Custom Sheets

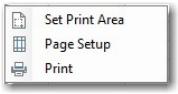
If there are any custom worksheets in the model, the user can select to print them here. They will be printed in the order they appear, after the standard reports are printed. If once of the custom worksheets are greyed out in this list, it indicates there is nothing to print on that sheet.

Before printing custom worksheets, it is advised that the Print Area and Page Setup be set for them via the options in the context menu of each custom sheet.



16.1 Custom Worksheets

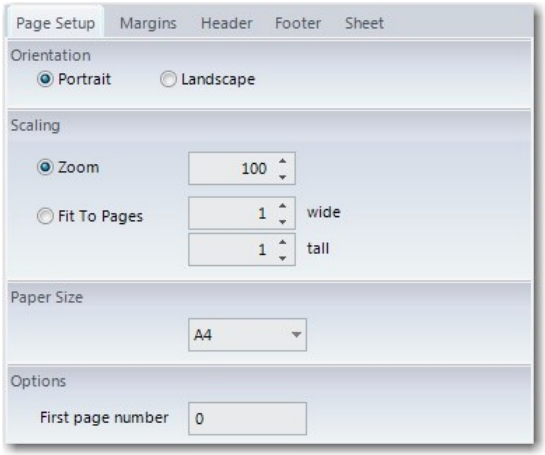
If using User-Inserted Worksheets, printing functionality is provided to customise how these worksheets are printed. This is available via the Sheet Context Menus. When right-clicking on a User-Inserted Worksheet, the following options are provided:



Set Print Area Define what part of the worksheet to print by setting the currently selected range as the 'Print Area'.

Page Setup Change the settings for how the page is to be printed, such as:

- Orientation (portrait or landscape)
- Zoom (percentage or 'Fit to Page')
- Paper Size
- Margins and Page Centring
- Headers and Footers
- Print Area
- Title Rows and Columns to repeat
- Page Order.



Print Print the active User Inserted sheet.

Part XVI

17 Using the Enterprise Database

17.1 Introduction to the Enterprise Database

The ARGUS EstateMaster Enterprise Database is a central data management tool that allows the user to archive development cash flows created in the ARGUS EstateMaster DF (Development Feasibility), DM (Development Management), IA (Investment Appraisal) and HF (Hotel Feasibility) software.

It is available to all users of ARGUS EstateMaster DF and DM version 3.xx and above, ARGUS EstateMaster IA 2.xx and ARGUS EstateMaster HF 2.xx and above.

When using it in conjunction with ARGUS EstateMaster CC (Corporate Consolidation), it allows users to generate consolidate or comparison reports for selected cash flows, projects or portfolios to calculate forecasted and actual investment returns including, development profit, internal rate of return and net present value.

The ARGUS EstateMaster Enterprise Database can be used to:

- Archive all input and cash flow data from ARGUS EstateMaster DF, DM, IA and HF files.
- Generate comparison summary and cash flow reports for unlimited number of development options (when used with EM CC).
- Generate consolidated summary and cash flow reports for unlimited number of development stages (when used with EM CC).

17.2 Preparing Data for Exporting

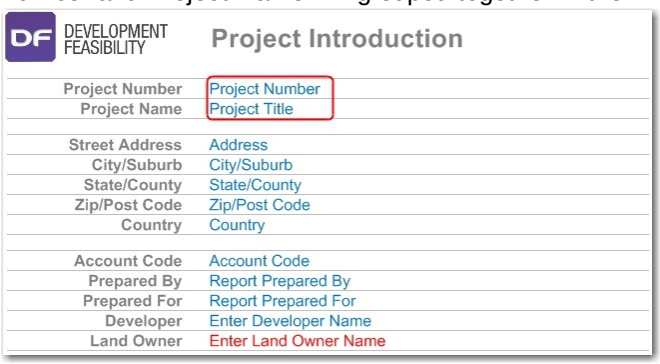
The ARGUS EstateMaster Enterprise Database is a powerful data repository and a robust framework for high level reporting. It is therefore recommended that the data that is exported to it is accurate and meaningful.

Before exporting your ARGUS EstateMaster DF file into the Enterprise Database, please ensure that the following key areas are set:

Intro Sheet

1. **Project Introduction**

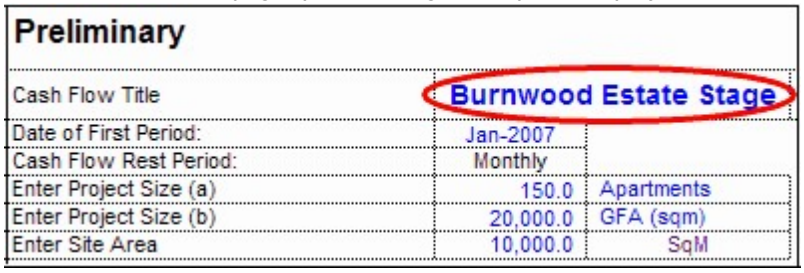
This is information that will be used in the Enterprise Database to identify your Project, please insure it is completed. The 'Project Number' and 'Project Title' are distinctive: This will be the most unique identifier of this Project that the cash flow belongs to. Any cash flows with the same Project Number and Project Name will grouped together in the Enterprise Database.



Input Sheet

1. Options/Stages

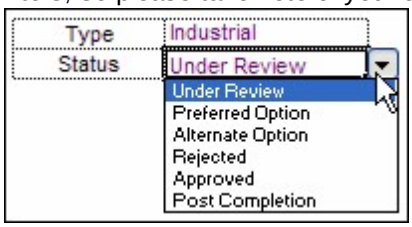
In ARGUS EstateMaster DF , you can only export cash flows that have been stored as Options/Stages. You will note, it will not allow you to store any cash flows as Options/Stages if they have the same Cash Flow Title in the Input/Setup Sheet. The Cash Flow Title is what distinguishes the cash flows within the same project, so please ensure that this is unique compared to other cash flows (e.g. options, stages, etc) in that project.



Preliminary		
Cash Flow Title	Burnwood Estate Stage	
Date of First Period:	Jan-2007	
Cash Flow Rest Period:	Monthly	
Enter Project Size (a)	150.0	Apartments
Enter Project Size (b)	20,000.0	GFA (sqm)
Enter Site Area	10,000.0	SqM

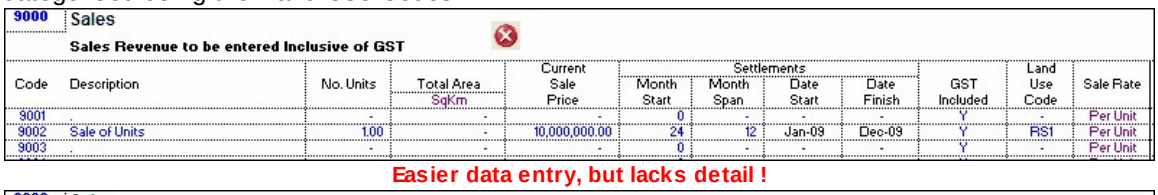
2. 'Type' and 'Status' Fields

The Type and Status fields will also be referenced in the Enterprise Database and used as search filters, so please take note of your choices and update them accordingly.



3. Revenue Data

For more feature-rich and detailed reporting, it is advised that revenue data is entered in detail and categorised using the 'Land Use Codes.

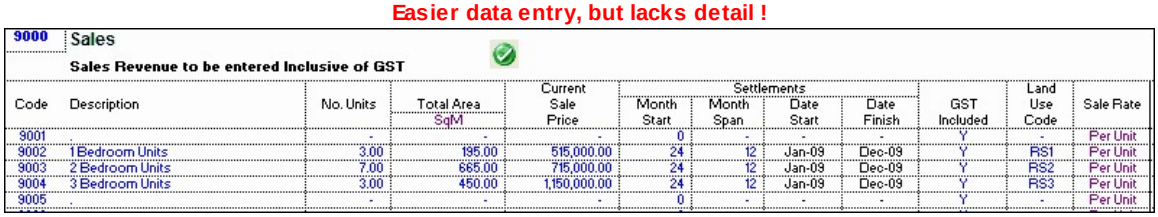


9000 Sales

Sales Revenue to be entered Inclusive of GST

Code	Description	No. Units	Total Area SqKm	Current Sale Price	Settlements Month Start	Settlements Month Span	Settlements Date Start	Settlements Date Finish	GST Included	Land Use Code	Sale Rate
9001		-	-	-	0	-	-	-	Y	-	Per Unit
9002	Sale of Units	1.00	-	10,000,000.00	24	12	Jan-09	Dec-09	Y	RS1	Per Unit
9003		-	-	-	0	-	-	-	Y	-	Per Unit

Easier data entry, but lacks detail !



9000 Sales

Sales Revenue to be entered Inclusive of GST

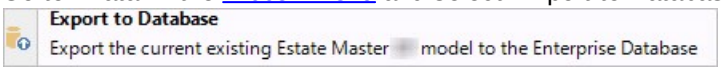
Code	Description	No. Units	Total Area SqM	Current Sale Price	Settlements Month Start	Settlements Month Span	Settlements Date Start	Settlements Date Finish	GST Included	Land Use Code	Sale Rate
9001		-	-	-	0	-	-	-	Y	-	Per Unit
9002	1 Bedroom Units	3.00	195.00	515,000.00	24	12	Jan-09	Dec-09	Y	RS1	Per Unit
9003	2 Bedroom Units	7.00	665.00	715,000.00	24	12	Jan-09	Dec-09	Y	RS2	Per Unit
9004	3 Bedroom Units	3.00	450.00	1,150,000.00	24	12	Jan-09	Dec-09	Y	RS3	Per Unit
9005		-	-	-	0	-	-	-	Y		Per Unit

Recommended Option: More input detail leads to more meaningful and effective reporting.

17.3 Exporting to the Database

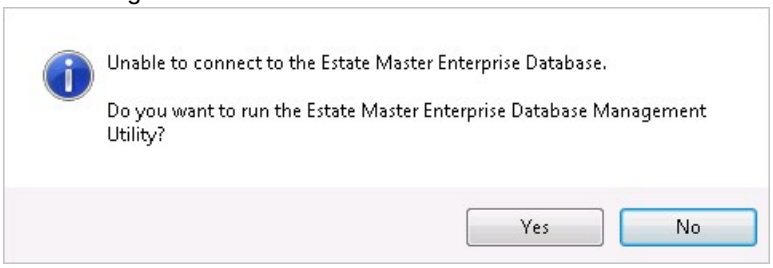
To export all the input data in your ARGUS EstateMaster DF file to the Enterprise Database, follow these steps:

1. Ensure that your data is ready and prepared to be exported.
2. Go to 'Data' in the Ribbon Menu and select 'Export to Database'



3. The program will detect any Options/Stages have been stored in the file. If there isn't, a prompt will appear, requesting the user to store the current set of data in the Input sheets before proceeding. Only stored Options/Stages can be exported to the Enterprise Database.

4. If the database configuration file (EMDB.ini) is not found on the system (and hence a connection to the Enterprise Database cannot be established), then the following error message will appear. It will prompt the user to run the Enterprise Database Management Utility to assist in setting up a connection. Please refer to the Enterprise Database Operations Manual for more information about configuration.

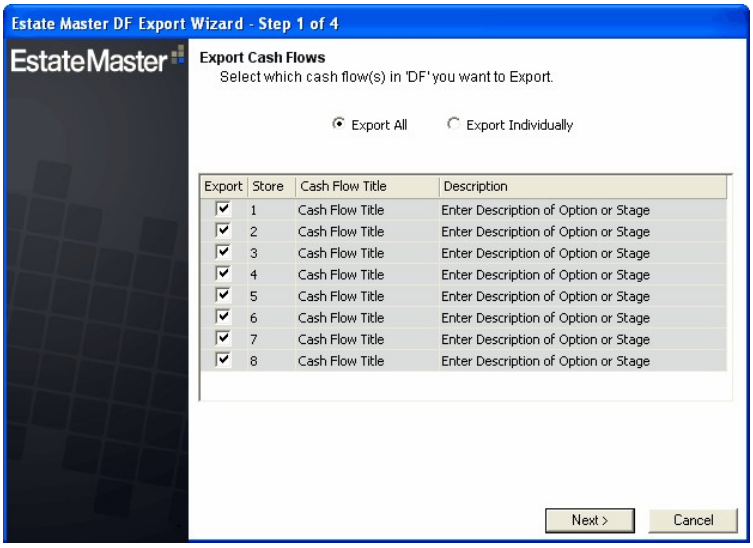


5. Once the connection is successful, an Export Wizard will appear.

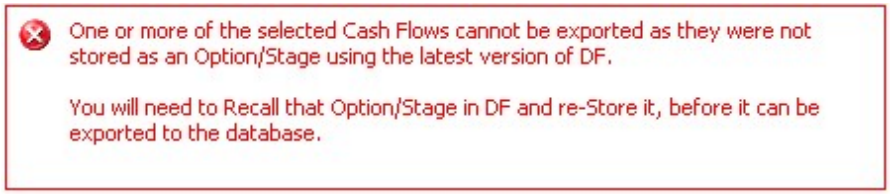
Step 1 - Export Cash Flows

1. The first step of the process prompts the user to select what they would like to export:
   - **Export All:** Exports all options in the ARGUS EstateMaster DF file, 1 through to 8.
   - **Export Individually:** Allows the user to select which specific options in the ARGUS EstateMaster DF file to export.

2. Once selected, click 'Next'.



Exporting a Previous Version File
If you install an update to your ARGUS EstateMaster DF software, and then open an existing file that has Option/Stages stored in it by a previous version, you may receive a similar message as below when attempting to export the file to the database, and the related Option/Stage checkbx in the export screen will be disabled.

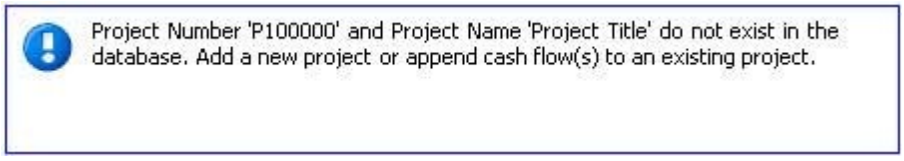


Since an update to your ARGUS EstateMaster DF software may include calculation changes, it is imperative that any stored Option/Stage is 'recalled' back into the input sheets, so its results can be recalculated using the last version, before being 'stored' back into the relevant Option/Stage and exported to the database.

Step 2 - Project Allocation

1. Using the Project Name and Project Number on the Intro sheet of the ARGUS EstateMaster DF file, it will attempt to find any records of that Project Name or Number in the database. If the project is already in the database, it will skip Step 2 and continue to Step 3. Otherwise, the following messages may appear on the wizard:

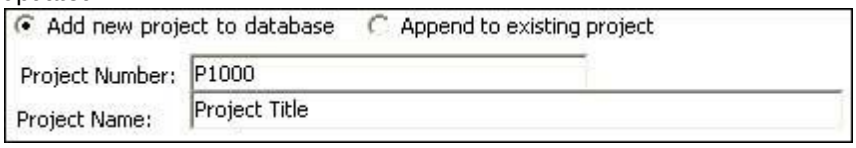
- **Project Number and Name Doesn't Exist**



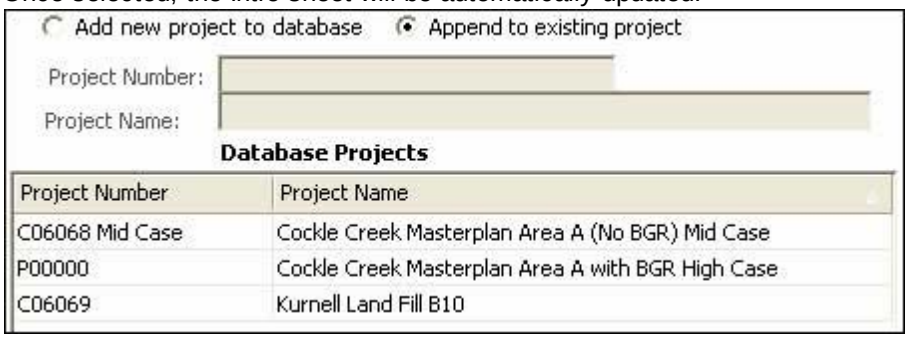
- **There is a mismatch between the details on the file and in the database**

2. If any of these messages appear, two options are available to the user:

   - **Add New Project to Database:** If this option is selected, by default, it will use the details on the Intro sheet of the ARGUS EstateMaster DF file as the Project Number and Name. The user can edit this if necessary directly in the wizard, and the Intro sheet will be automatically updated.

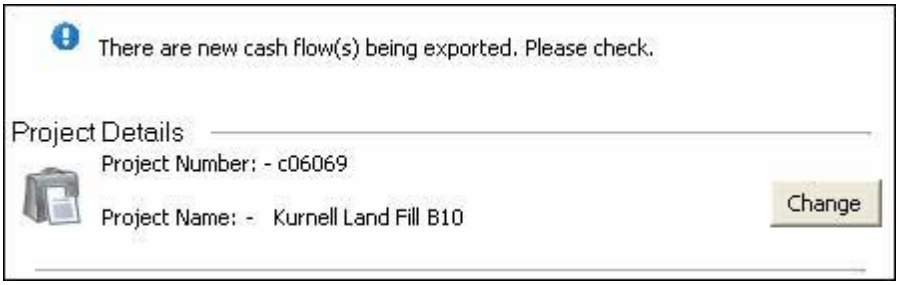


   - **Append to Existing Project:** If this option is chosen, the Project Number and Name fields are disabled, and the user is required to select a project that is already in the database. Once selected, the Intro sheet will be automatically updated.



Step 3 - Confirm Export Details

3. If the project is already in the database, it will go then the following messages may appear. The user has the ability to change the project the cash flow is being exported to if required. It will also inform the user if this is a new cash flow being exported, or if the cash flow already exists in the database.

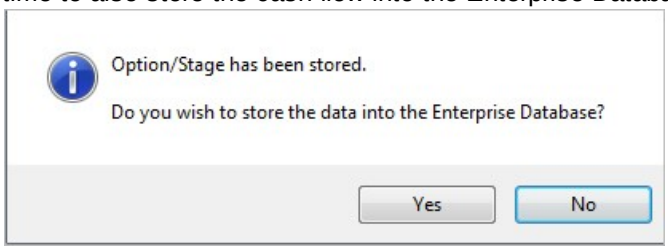


Step 4 - Export Data

1. Once satisfied with the details, click 'Export' to begin the data transfer process.

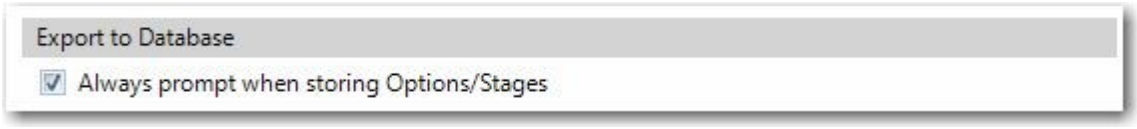
17.3.1 Exporting when Storing Options/Stages

When storing Options/Stages in an ARGUS EstateMaster DF model, the user may be prompted each time to also store the cash flow into the Enterprise Database at that point in time.



If the user clicks 'No', then if they ever need to export to the Enterprise Database, it must be done manually through the ARGUS EstateMaster DF Menu or Toolbar.

To select whether you wish this prompt always appears when storing Options/Stages or not, go to the application settings.

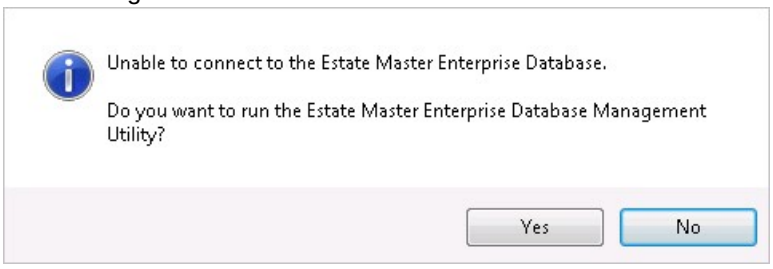


17.4 Importing from the Database

To import input data in your ARGUS EstateMaster DF file from the Enterprise Database, follow these steps:

1. Go to 'Data' in the Ribbon Menu and select 'Import from Database'

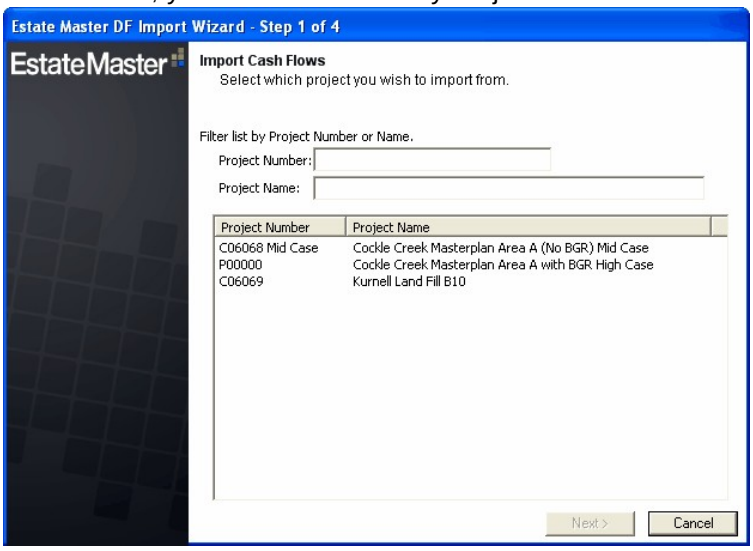
2. If the database configuration file (EMDB.ini) is not found on the system (and hence a connection to the Enterprise Database cannot be established), then the following error message will appear. It will prompt the user to run the Enterprise Database Management Utility to assist in setting up a connection. Please refer to the Enterprise Database Operations Manual for more information about configuration.



3. Once the connection is successful, an Import Wizard will appear.

Step 1 - Select Project

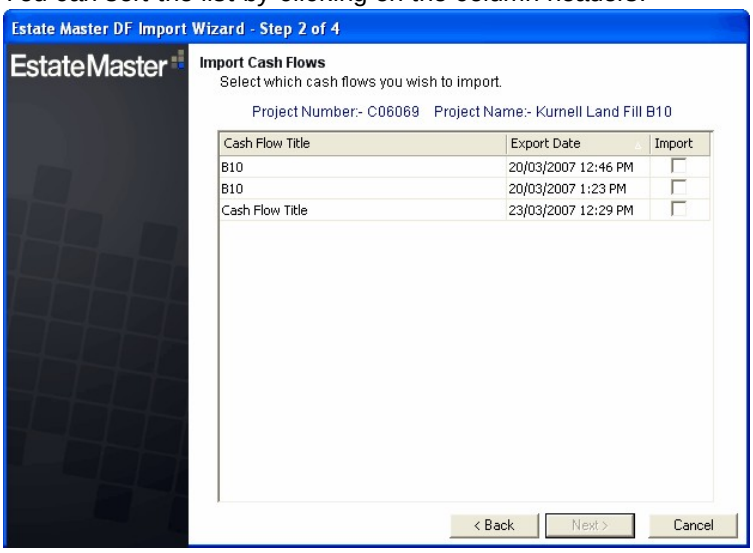
1. The first step will display a list of the Projects that exist in the Enterprise Database. If their is an extensive list, you can filter it either by Project Number or Name.



2. Select the appropriate project and click on 'Next'.

Step 2 - Select Cashlow

1. The next step will display <u>all</u> the cash flows that exist in the selected Project in the database. You can sort the list by clicking on the column headers.



2. Select the cash flows you wish to import. There is a maximum of **8** cash flows you can import into an ARGUS EstateMaster DF file from the database. Once selected, click 'Next'.

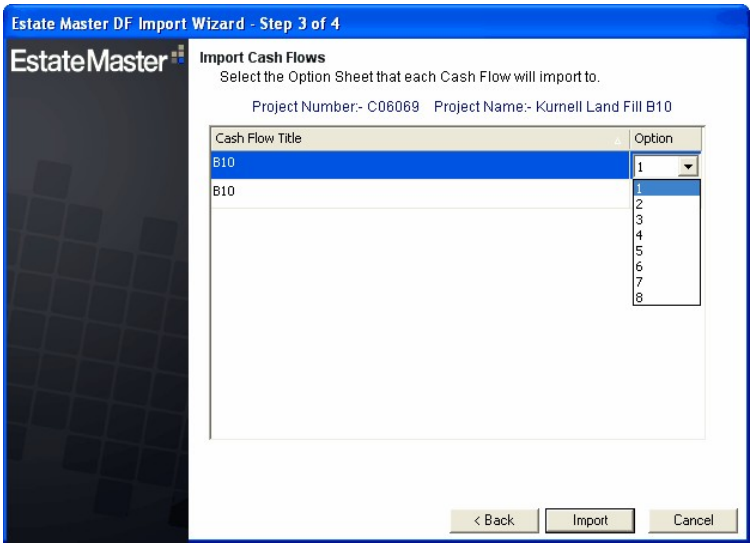
Step 3 - Select Stage/Option

1. The next step will allow the user to:

    a. Allocate the relevant Stage/Option they wish to import each cash flows into in the active ARGUS EstateMaster DF file.

    b. Indicate which Cash Flow to recall to the the current inputs after the import process has completed.

<u>Please note.</u> these selections will override any data that is currently stored in the Stages/Options and in the current inputs.



1. Clicking on the 'Option/Stage' numbers, provides the user with drop-down list from 1 to 8.

Step 4 - Import

1. Once the Options/Stages have been set, click on 'Import' to begin the file transfer process.The cash flow data will then be imported from the database into the ARGUS EstateMaster DF file in the Options/Stages allocated. To start using/editing the data for these cash flows, you just need to 'Recall' the Option/Stage to the Input sheet.

Part XVI

18 Troubleshooting and Support

18.1 Maximum Cash Flow Periods

For every payment and revenue item it is necessary to put a start date and span period else the program will not add the payment to the cash flow. The start date must be a number between zero (0) (which represents the first or current period) and the maximum time periods as shown on the bottom of the 'Setup' sheet. The span period must be one (1) or more.

The start and span numbers must not add up to more than the maximum time periods. If you exceed the maximum time periods a warning will be displayed.

If you find that the number of time periods are not enough for the project, re-examine the interval period nominated and adjust it to a greater interval period eg from months to quarters or insert more time periods by changing the 'Resize Time Periods' preference.

If you put too high variation for construction and/or sale span period in the sensitivity input table you will get an error message just to the right of the input cells. This occurs where the variation causes the cash flow to exceed the maximum number for the purpose of sensitivity analysis (15 more time periods than the cash flow depicts). You will need to either reduce the variation (high forecast percentage) or else select a longer interval period (eg quarters instead of months).

18.2 Entering the Correct Data

If you find that once all data has been entered and calculated, the performance indicators in the financial summary are returning a #VALUE or #NUM value. The reasons for this could be either of the following:

1. Incorrect data entered in the input cells. There is a safeguard built into the program against entering text in a cell that requires a numerical entry. If this is the case the cell will return 'Error Input' in red font or the cell will have a red background. The contents of the cell should be examined and edited appropriately.

   Examples of User Input Error Warnings

Description	% of Construct. '
Management Fees	Error Input
-	0.00%

Text entered in a numerical cell

GST Included	Land Use Code
Y	RS1
Y	-

Incorrect code entered

Total Area	Current Sale Price	Sales Calc Method
SqFt		
5,000	1,000,000	Per SqM
-	-	Per Unit

Incorrect unit of measurement used

2. The estimate of IRR in the 'Hurdle Rates' section of the 'Setup' sheet may be too far off and should be adjusted to a rate closer to the expected IRR.