
PROCOST — Evaluation Pack

This evaluation system will assist you in assessing **PROCOST** prior to purchasing a full user licence.

Any commercial use of the evaluation system, or attempt to copy, transfer, adapt or reproduce the code, displays, or ideas contained within the program, contravenes the licence purchase agreement and will cause material damage to **PROCON Construction Systems**.

The evaluation program has a number of restrictions and capacity limitations. These are:—

- It is useable for **90 days** only.
- Each job you enter may be accessed only **SIX** times.
- Report **header** cannot be changed.
- **Capacity** is limited to the tutorial size.
- **Digitiser** use can only be simulated.

Install the evaluation system on your hard disk by placing the program disk in drive A, then change to drive A by typing **A:**
Enter. Then type **I****N****S****T****A****L****L** **Enter**
and follow the directions.

Part B — Tutorial

Preamble

If you have not yet installed **PROCOST** on your harddisk, read **Getting Started** in *Appendix 1*.

If you have not viewed the **PROCON** “slide show” **DEMONSTRATION** program describing **PROCOST**, you may wish to look at it *before* starting the tutorial.

Running the Demo

When you install **PROCOST**, the demonstration is automatically installed on your harddisk. To run it just type `CD \PROCON` and press to change to the directory, type **DEMO** and press . If the demonstration has been removed—or you wish to install it on another machine—place the program or demonstration disk in **drive A**, type to change to that drive. Then type **DEMO**, press , and follow the instructions.

The Tutorial

The tutorial assumes that the program is installed on **drive C:** and that you are using the directories suggested by the installation program. If this is not the case, interpret the following instructions appropriately. The tutorial introduces **PROCOST** and covers the basic functions you will need to *set up a job*, *enter progress quantities and costs*, *enter materials prices and usage* and *produce reports* showing cost and materials variances.

It is assumed that you understand the terminology of *Job Costing* and *Valuation, Cost and Material variances, etc.*, and have some acquaintance with the computer and operating system. If you are not familiar with the terminology of *cost reporting, progress measurement, valuation and variances*, read *Appendix 3* before continuing.

If you have already used other **PROCON** software packages—such as the **PROBID Cost Estimating & Tendering System**, the **PROBILL Contract Billing System**, the **PROVAL Job Valuation System** or the **PROPLAN Project Scheduling System**—you will be able to cover the early material very quickly, as the user interaction with each program is similar.

The tutorial is designed to illustrate *principles* so the examples are deliberately non-specialist in nature. This does not mean that **PROCOST** is not applicable to more specialised types of work—it is just that the tutorial must be comprehensible to a wide range of users.

Starting PROCOST

If you are running **PROCOST** from **Windows**, click on the **PROCOST** desktop icon. (If you are working from the command line, type `CD \PROCOST\SYS` and press `[Enter]` to change to the **system** directory. Then type `PROCOST` and press `[Enter]`.) The program logo appears with some system information and then...

Menu System

The **PROCOST** header line and menu system appear. The **Master menu** is currently active. It will look like this:–

```

PROCOST - JOB COSTING SYSTEM                System date: Wed, 18JAN06
MASTER      UTILITY      EXPORT      ITEM      MATERIAL      HELP
=====
New Job
ConSolidation
Print Reports
List Jobs
Edit Job
Remove Job
Data Directory
Customisation

```

PROCOST is menu driven. The menus are “intelligent” and try to suggest to you the most appropriate continuation at all times. Currently this is the **Customisation** option—which allows you to *choose a printer, define cost types, set currency formats*, and change other program parameters to suit your preferences.

Selecting from Menus

You do not have to accept a suggested menu option. An alternative choice may be made from the same menu in several different ways:–

- by keying the **highlighted letter** shown for the **desired choice**, or...
- by keying the **number** of the **desired choice**, or...
- by **moving the highlight** to the **choice** and pressing `[Enter]`.

`[Spacebar]` or `[↓]` move the highlight *down*. (If the keyboard does not have a separate cursor keypad, make sure `[NumLock]` is off.) `[↑]` moves the highlight up. (The highlight “rolls around” if you go beyond the *top* or *bottom* selections.) `[PgUp]` and `[PgDn]` move directly to the *first* or *last* choice.

Field Information Messages

As you move from field to field, you will notice that specific information appears on the bottom “status” line. Press **[PgUp]** to return to the first field—the **Report Header**.

Help System—**[F1]**

[F1] is always the **HELP** key. Press it to obtain help with the current field. A window of information on the **Report Header** field appears in the centre of the screen. The *help system* explains that the **Report Header** appears on all printed reports and suggests that—in commercial versions of the program—you might use your organisation or department name here.

The *help system* allows you to **list key assignments** and *help topics*, **find help topics**, or **follow** a *hypertext chain* through the screens, etc. For more details hit **[F5]** while still within *help* and enter the keyword “**HELP**”—or see **Getting Help** on *page C-5*.

The **[Esc]**ape key **CANCELS** a function, so press it to remove the help window and return to the **Report Header** field.

Field Editing

Spend a minute to familiarise yourself with text entry. To make editing as easy as possible, input is in a special “word processor” mode. **[←]** and **[→]** move the cursor *one character* left or right.

[End] moves to the *end of any text in the field*. If the cursor is already at the end of the text—or the field is blank—it moves to the *right edge of the field*. If pressed again, it moves to the *last field*. **[Home]** returns the cursor to the *left margin*. If pressed a second time, it moves to the *first field* on the screen.

[Del]ete *removes* the character under the cursor and moves text back to close the gap. **[BkSp]**—usually marked with a large left arrow—moves the *cursor and text to the left*, overwriting any character there. **[Ins]**ert toggles between *overstrike* and *insert* mode. The cursor is a full block—like this **█**—in insert mode.

[Caps Lock] can be toggled, enabling *upper case* characters to be typed without using the **[Shift]** keys. While it is engaged, a small **CAP** is shown in the bottom right corner of the screen and the cursor changes to a half block—like this **▣**.

Experiment with the edit keys. If you change a field, hit **[Esc]**ape to *restore its original contents*. Newly entered—or changed—text is “*highlighted*” (bright yellow) to draw your attention to amendments. If you change several fields, you can use **[F10]**—the **CANCEL** key—to restore the complete screen.

Single Character Fields

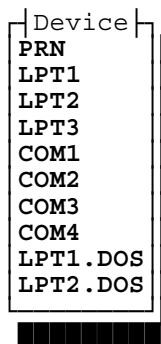
Press **[Enter]** to move to the **Shade Headers?** field. (This field setting will determine whether the title line on reports is *background shaded*. Shading can improve the appearance of reports but not all printers do it effectively. More on this later...)

When a *single character field* offers several alternatives, use the **[Spacebar]** to roll through the choices and hit **[Enter]**—or just the *first letter* of your choice. (Upper or lower case responses are accepted so don't worry about **[Shift]** or **[Caps Lock]**.) Your selection *expands* to “**Yes**” or “**No**” and the cursor moves on to the next field.

Selection Lists—**[F6]**

The **Device** field allows you to change the *print destination*. You could change this setting by typing in the new value. However, typing is *tedious* and *error prone*. As there are only a limited number of valid entries it is better to get **PROCOST** to list them.

To do this hit **[F6]**—the **SELECT** key, (or the *left* mouse button). A small *picklist* opens near the field and lists all valid choices for this field. It looks like this:—



Hit **[Esc]** to *remove* the list *without* changing the field's contents. (This setting should always be left at **PRN** if your printer is connected to the standard parallel port—or if a serial port has been configured to emulate the parallel port.)

Don't know what a device is? It really doesn't matter. **PROCOST** can direct reports to printers on different “devices” or “ports”. **PRN** almost always works and is usually the *best* setting...

Press **[Enter]** (or the *right* mouse button) to move on to the **Laser Printer?** field.

Laser Printers

Hit **[F6]** (or the *left* mouse button) to pop up a *picklist*.

A *trivial* list when there are only *two* choices! But it illustrates the point that a picklist is *always* available from fields offering a limited range of choices...

You may choose from these simple lists in several ways. The *first letter* of a choice—from the highlight down—selects it. (So you can still select **Yes** by pressing **[Y]**.) The

highlight can be moved with and . (and) reposition the window itself.) Pressing —or the *right* mouse button—transfers your choice into the field and removes the window. Hitting the key—or pressing the *left* and *right* mouse buttons together—cancels the function.

If you are using an **HP Laserjet** compatible printer, select es. Fields appear for the printer's **Paper Size**—usually the same as the **tray size**—and to indicate whether it supports **Scalable Fonts**—as most newer laser printers do.

If you have to change the paper tray size, hit to list the various paper size options and choose a paper size. Leave the **Scalable Fonts?** field set to es unless you know your printer doesn't have scalable fonts. Then skip forward to **Recording a Screen**. **PROCOST** directly manages laser printers to relieve you of printer control worries...

Printer Selection Field

If you set the **Laser Printer?** field to “no” the cursor moves on to the **Printer** field. Press —the **SELECT** key—to pop up a *picklist* of pre-defined printers.

You *can* provide **PROCOST** with all the page size and control code information for your printer by directly entering it in fields in the lower portion of this screen. However, selecting from a list is much easier. (If you *do* wish to provide these details yourself—perhaps because you have an unusual printer, or wish to add some special enhancements to reports—see **Printer Setup, page D-23** for more information on these fields).

The list is too long to show *all* printers—even on a 50 line display. This is shown by an arrow at the *top* and *bottom* of the *right side* of the “frame”. Scroll through the list with the cursor keys. (The rectangular “scroll bar” shows the relative position of the current choice in the list by its position between the top and bottom of the frame. The figure at the *top left* of the window is the total number of choices in the selection list.) If you type the first few characters of a printer's name, the list sorts alphabetically and the highlight advances to the first choice matching the characters entered.

This list is actually “user definable”. You could change it or even delete it and create your own list covering only the printers your organisation uses. The list of *devices* mentioned earlier is another example. **User Defined lists** are discussed in more detail later...

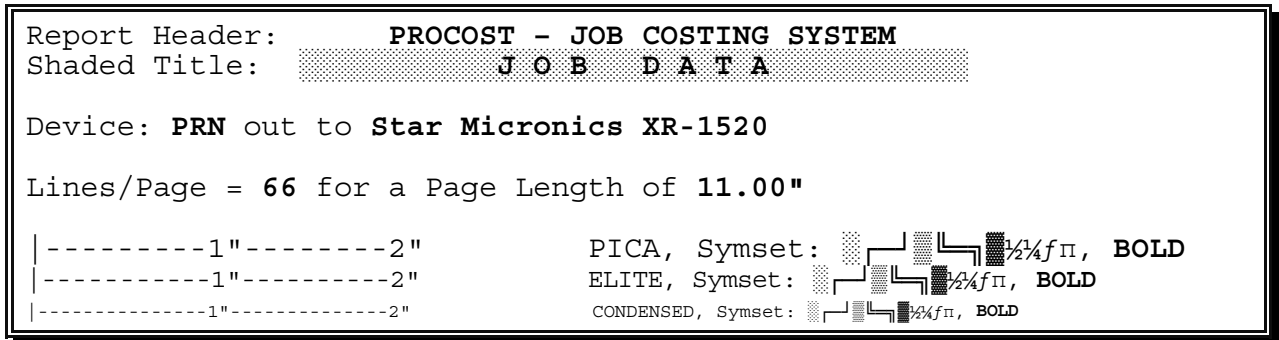
Select a printer. (If your printer is not included in the list, choose one of the **EPSON** printers. Most dot matrix and line printers can emulate an **EPSON FX** or **LQ** printer.) Lower fields are filled with the correct information for the printer you have chosen.

Recording a Screen—

Press —the **RECORD** key—to save the changes made to this screen.

IMPORTANT! Screen changes are *not* saved until you hit to **RECORD** them!

A prompt appears:– “Print a Test Sheet? (Y/N)”. Switch your printer *on* and respond es. The printer will print a *test page* that should look like this:–

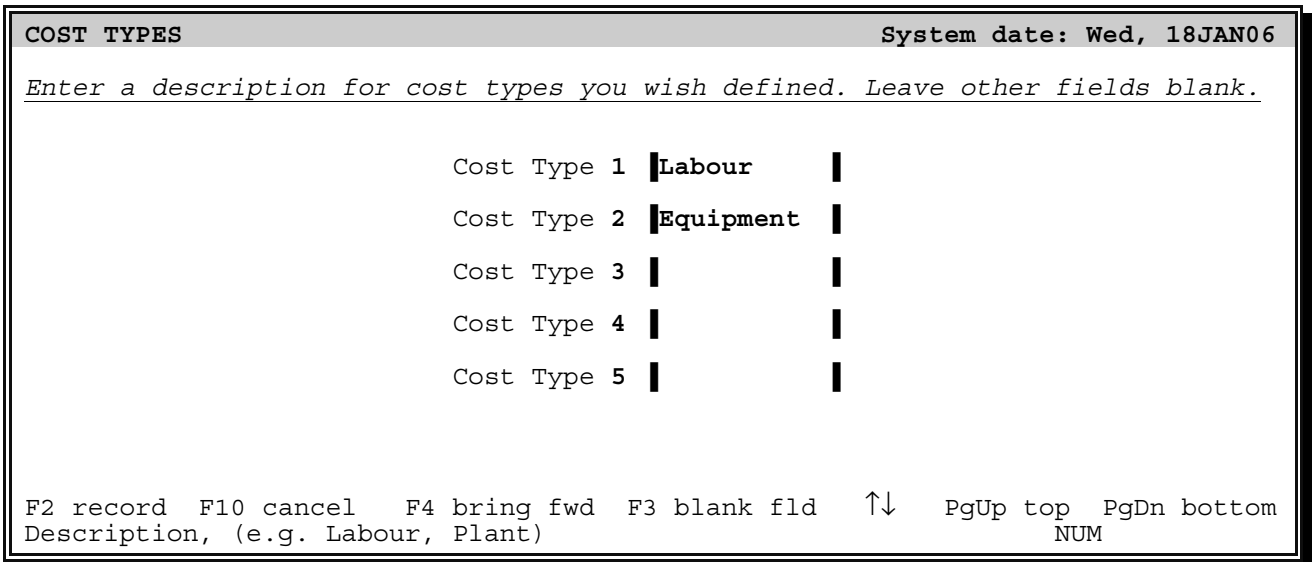


(Laser printer output is slightly different.) Check that the pitch setting commands are producing approximately the correct pitch; that the characters in the symbol set match those shown, and that the shaded header is legible. Confirm the settings are correct by answering es to the prompt. (If the printout shows the codes are *not* correct, select o to return to the screen. See *Printer Setup, page D-23* for more information.)

PROCOST returns to the **Master menu**. Select **Customisation** and then **Cost Types**.

Defining Cost Types

The **Cost Types** definition screen appears.



The screen has *five* identical fields. (Each field may contain a “**cost type**” description, *Labour, Plant, Equipment, Transport, Shop Labour*, etc. The descriptions can reflect industry or job specific cost breakdowns—perhaps into separate classes of labour or owned versus rented equipment.)

Default descriptions are provided for two cost types, but you can define your own. Let’s do this now...

Cut & Paste— Alt D — Alt I

In the tutorial we will be using different cost types for *internal* (company owned) and *external* (rented) plant—and we will *not* be using the general *Equipment* cost type.

The required changes and additions are:—

<u>Existing:</u>	<u>Required:</u>
Labour	Labour
Equipment	Own eqpt Rented eqpt

Amend the second field to read **Own eqpt**. You could retype *all* changed fields. However, this is a good time to introduce some additional edit functions. Sets of *identical fields*—such as these cost types—can be **inserted** and **deleted**. “**Cut and paste**” techniques can be used to move and rearrange the fields. The third field will be similar to the second, so key Alt D to delete the field you have just typed!

Alt D means hold down the Alt key and then press D. The Alt and Ctrl keys are used like the Shift key to change the meaning of standard keys. Lower fields move up to close the gap. The deleted field is saved in a hidden “cut buffer” and can be recalled.

Key Alt I *twice* to insert the cut buffer into *two* fields. Move to the third field and change it to **Rented eqpt**. Then press F2 to **RECORD** the screen.

PROCOST returns to the **Master menu**. Select **Customisation** and then **System Defaults** from the picklist that appears.

Changing System Defaults

The **System Defaults** screen looks like this:—

SYSTEM DEFAULTS		System date: Wed, 18JAN06	
Colour ON?	(Y/N) Yes	Sound ON?	(Y/N) Yes
Password facility ON?	(Y/N) Yes	Archive facility ON?	(Y/N) Yes
Gestalt matching ON?	(Y/N) Yes	Standard VIDEO lines?	(Y/N) Yes
Switch MOUSE Buttons?	(Y/N) No	MOUSE Sensitivity Level	4
"Manhours" Symbol	MH	"Manhours" Name	Manhours
Department/Project Name			
F2 record F10 cancel		F4 bring fwd	F3 blank fld
No if text is unclear		↑↓	PgUp top PgDn bottom NUM

(*System defaults*, page D-34 explains all these fields in detail. In the tutorial, we will leave most at their default values.) Press **[PgDn]** to move to the last field—the **Department/Project Name** field.

Department or Project Name

Sensible defaults avoid the need to key the same information into every new job. For instance, assume all users belong to just one section—*Northern Regions*.

Enter:— “**Northern Regions Division**”. (A “beep” indicates that the cursor is at the end of the field.) Press **[F2]** to **RECORD** the changes. The **Master menu** returns.

Creating a Job

Initial Setup

18JAN06

Hit **[N]** to select **New Job**. A prompt appears for the “**New Job Name**”. (*Page A/1 of Appendix A—Cost Plan* in *Part D* of the Manual—contains a sample cost budget for a simplified job. Please refer to that now.)

Job Name & Password

Type in the job name

BIRDSVILLE - OONADATTA M25 FREEWAY

and press **[Enter]**. (The name appears on reports—so the full name should be given.) The **Password** option in **System defaults** was left *on* so you are prompted to enter a *password*. Leave the field *blank* and press **[Enter]**.

A password restricts access to the job. Any word or phrase *could* be used. You would then be required to provide the password each time you accessed the job. Passwords should only be used if they are properly secured and there is no danger of forgetting them!

Job Details Screen

The **Job Details** screen then appears for entry of some *general project details*.

JOB DETAILS		System date: Wed, 18JAN06	
Department or Project Code	NO	Department	Northern Regions Division
Job Number	██████████	Round Extended Amounts to	Dollar
Round Manhour Rates to	3 places	Round Extended Manhours to	1 places
Total Item Cost Value	\$ ██████████		
Tracked Materials Value	\$ ██████████		
Job Name	BIRDSVILLE - OONADATTA M25 FREEWAY	Password	██████████
ADD Mode Alt Notepad Alt Jotter Alt = PROCALC Alt - Calendar F2 record F10 cancel F4 bring fwd F3 blank fld ↑↓ PgUp top PgDn bottom Identify overall department OR project responsible NUM			

Change the **Department code** to **NR**—for **Northern Region**—and move down to the **Job Number** field and enter **M06/12345**. Bypass the next three fields and enter **1872731** in the **Total Item Cost Value** field.

Numeric Fields

The **Total Item Cost Value** field only accepts *numeric* input. Other keys just produce warning beeps. Entry is “free form” and whole dollars may be entered without cents. Values may be *left* or *right justified* and spaces can be used to “set off” the thousands.

Before moving on to the other fields, let’s assume that there are a few *job costing details* you would also like to record. There are no specific fields for *general text* but you can use one of the **PROCOST** “tools”. Press **Alt** **N** and...

NOTEPAD— **Alt** **N** or **F11**

A **NOTEPAD** appears over the primary screen. It allows you to attach “free form” notes to records. (The visible window is only part of the available **NOTEPAD**.) Text is entered in much the same way as in single line fields. Hit **F1** for **HELP** on the extended editing and formatting functions. Then **Esc**ape from **HELP** and enter the following notes:–

Job duration expected to be 90 weeks.
 Site offices required for 92 weeks.

The **NOTEPAD** can be used for many purposes—as a reminder of *special costing provisions*; to record *problems encountered*; as a convenient way of appending “tickler notes” to reports sent to people involved in the *job*—or as a *job diary*, or “aide memoire”.

Press **F2** to save the **NOTEPAD** and close the window.

Tracked Materials Value

Move to the **Tracked Materials Value** field and enter **8895857**. (These budget figures are all optional.)

Press **F2** to **RECORD** the **Job Details** screen. (If you press **Enter** with the cursor in the last field, you will be queried “**Proceed? (Y/N)**”. Answering **Y**es to this prompt also **RECORDs** the screen.) **PROCOST** will move directly to **Add Items** mode—as it assumes that this is the next logical step.

PROCOST can be configured to automatically read in a standard list of *items* and *material definitions* every time a new *job* is created (See *Appendix 8—Customising PROCOST*.) However, the tutorial assumes that this has *not* been done and so we will have to create this detail as we go...

Item Entry

Add Items Mode

The **Item entry** screen looks like this:–

Job: BIRDSVILLE - OONADATTA M25 FREEWAY				System date: Wed, 18JAN06	
#1	CODE	DESCRIPTION		<div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;">JOB DATA</p> <p>Initial Setup</p> <p>0 Items</p> <p>0 Materials</p> </div>	
Group					
Section					
Item	L I				
Measure Unit		Planned Qty			
Cost Type		Job Value	Total Value	Manhours	Total MH
Labour	\$	/	\$	/	
Own eqpt	\$	/	\$	/	
Rented eqpt	\$	/	\$	/	
TOTALS	\$	/	\$	/	
Forecast	\$	/	\$	/	

Group Codes

Before entering items you should give some thought to the way in which they will be *subtotalled* and *sorted*. **PROCOST** allows you to organise **items** into **sections** and, in turn, sections into **groups**.

Subtotals will be given at both *section* and *group* level. **Groups**, **sections** and **items** may be sorted *alphanumerically by code*. It is therefore important that you use a

logical structure and coding scheme for all codes. *Page A/1 of Appendix A in Part D* is the *Cost Plan* for this job. (It is not meant to be a good example of consistent item numbering—but it does illustrate some different coding schemes.) This document has a *natural structure* so we should follow it. The **STORM DRAINAGE** and **ROADWORKS** divisions are logical *groups* which may be further subdivided into *sections*.

Press **Home** to move the cursor to the *first field*—the **Group code**. Enter **04** and press **Enter** to move to the **Group description** field. Key in **STORM DRAINAGE**.

Section Codes

Press **Enter** again to move down to the **Section** line. Enter the **section code 2000** and the **section description Pipelaying**.

Obviously, when this is sensible—and produces correctly sorted groups and sections, you should follow the numbering given in the cost plan or budget documents. (When keying in group, section, or item codes, be careful to distinguish between 0 and o, 1, 1 and I, etc.).

Item Codes

Move down and enter the **item code A40**. Press **Enter** to move to the **description** field and enter **Excavate & Lay 300mm Pipe**.

Group, section, and item codes may use any **alphanumeric** character. *Case and position* are both significant. Be sure the item code is “right justified” in the five character field like this, **A40** rather than **A40**, and has not been entered as **a40**. (If the item code is *not* right justified, return to the code field and hit **Shift F4**—the **RIGHT JUSTIFY** command.)

Measure Unit

Enter the **Measure Unit**—“**LM**” (an abbreviation for *Linear Metres*).

Note that the **Measure Unit** field is another “must fill” or mandatory field. You *must* provide *some* entry here or the program will prevent you from leaving the field.

Planned Quantity

Enter the **Planned Quantity** of **2280**. Quantities can be in *any* position in the field. **PROCOST** saves quantities in the format you enter. Move down to the **Job Value** fields.

Job Value

Enter a **Labour** unit **Job Value** of **2.50**. Press **↓** to move down to the **Own eqpt** field below. Enter **6**. (You may enter integral rates without cents.)

A unit “Job Value” is the budget unit cost for that cost type. Check the data—correcting it if necessary by moving around with \uparrow and \downarrow , and editing the fields. Note that extensions and totals are calculated and displayed when you leave each **Unit Job Value** field so always check these figures against the budget values for the item.

PROCOST also allows you to track “Manhours” for each item. As this facility is optional—and will only be used by some contractors—it is not covered in the tutorial. (Of course, “Manhours” can be redefined to suit your needs. Mining contractors may be more interested in tracking “Litres” of diesel fuel).

Forecast Unit Cost

When you move down to the **Forecast Unitcost** field it defaults to **\$8.50/LM**—the total unit **Job Value**. Leave this field unchanged at this stage.

Press $\boxed{F2}$ to **RECORD** the screen. The item is saved—with a distinctive sound—and the fields blanked for entry of the next item. Many fields for the second item are similar to the first, so you should be able to “short cut” the typing...

Bringforward Command— $\boxed{F4}$

Press $\boxed{F4}$. In **ADD** mode, this copies fields from the previous item. (If pressed in the *first* field, *all* fields are “brought forward”. In subsequent fields only the current field is copied.)

BRINGFORWARD is particularly handy when entering *repetitive* items. Editing a “template” is both *quicker* and *less error prone* than re-keying data. If you are interrupted, it also serves as a “bookmark” reminding you of your position in a list of items. (Note: **BRINGFORWARD** does *not* copy forward any **NOTEPAD** or **PROCALC** sheets attached to the previous record.)

Amend the item details to:— **A41 Excavate & Lay 600mm Pipe**, with a **Quantity** of **1745** and **Unit Job Values** of **3.60**, **9.40** and **0.75** for **Labour**, **Own eqpt** and **Rented eqpt** respectively. Make sure the item code is *right justified* and that the *quantity* and *Job Values* are correct. To attach a note to the item, key $\boxed{Alt}\boxed{N}$ (or $\boxed{F11}$) and type in:—

```
Rented trench shield required.
Total rental cost $1300.
```

Press $\boxed{F2}$ (or $\boxed{Alt}\boxed{N}$ or $\boxed{F11}$) to **RECORD** the note.

Record Number & NOTEPAD Indicator

The record number—#2 N—appears at the *top left* of the screen. The “N” indicates that this item has a **NOTEPAD** entry. (If your display is set for 50 lines, the text remains visible in the lower part of the screen.) Now hit **[F2]** again to **RECORD** the item itself.

Press **[F4]** to **BRINGFORWARD** the *previous* item details. Hit **[F8]** to **INCREMENT** the item code **A41** to **A42**. Press **[Enter]** to move to the **Item description** and change it to read **Excavate & Lay 900mm Pipe**.

Enter the **Quantity** and **Job Values** for this item but do *not* record it yet. (See *Page A/1, Appendix A, Part D*. for the details). Move down to the **Forecast Unitcost** field. This is the first item that has a **Forecast Unitcost** that differs from its total **Job Value**. We could just enter the value of **\$27.43/LM** but figures like this are often calculated from other data, so let’s see how **PROCOST** can help us with calculations...

PROCALC Formula Evaluator—**[Alt]=** or **[Shift][F12]**

PROCOST has a built-in *arithmetic expression evaluator*—**PROCALC**—with capabilities far surpassing any desktop calculator, and more flexibility and convenience than any spreadsheet. **[Alt]=** produces an input field into which *arithmetic formulae* may be entered. Formulae can include *parentheses, user variables, trigonometric, power, logarithmic, logical, date/time*, and other expressions, as well as specific “takeoff” functions. (As usual, **[F6]** *lists* all the functions and will transfer your selection into the calculation field.) As a simple example, let’s calculate the *tonnage of ballast in a conical stockpile*. Height is **13.500m**, angle of repose **35** degrees and the loose density is **1600 kg/m³**. Type in:—

```
H=13.50:A=35:D= 1600/1000: D × H × ACIRC(2 * H/TAN(RAD(A)))/3
```

and press **[Enter]** to switch to full screen mode and show the result of **8408.07** tonnes.

Let’s quickly look at a few examples of the types of calculations that can be performed—and documented—in **PROCALC**. Hit **[Alt][R]** restore. A picklist of previously saved, multi-line **PROCALC** “template sheets” appears. (The installation program copied these sample files into the **system** directory.) Select **EXAMPLE.PCL**. Page through the screens and key **[Alt][P]** to print the full file. Hit **[Esc]**ape to exit from **PROCALC** ...

PROCALC field version— [Alt][C] or [F12]

When the cursor is in a *numeric* field—**quantity**, **cost**, **usage**, or whatever—you can access a “*field specific*” version of **PROCALC** with [Alt][C] (or [F12]). Key [Alt][C] in the **Forecast Unitcost** field and type in:–

192/7.0 [Crew cost \$192/hour at 7.0 LM/Hr]

Comments within PROCALC

[] or { }

Text within square brackets (or curly braces) is treated as a *comment* and is ignored in all calculations. However, it can be *invaluable* in documenting the **rationale** and **assumptions** behind a calculation.

PROCALC Formula Flag

f

Use [Alt][C] to close the window. The calculated unit cost of **27.428571428/LM** appears in the **Forecast Cost** field. A small ‘*formula flag*’—*f*—appears to the *left* of the field—indicating a formula is “*tied*” to it.

Just as there is a *general PROCALC* facility as well as a *field specific* version, there is also a *general NOTEPAD* facility (the **JOTTER**—accessed with [Alt][J]) and a *record specific* version (accessed with [Alt][N]).

Sensible use of “*tied*” **PROCALC** formulae help in documenting cost plans and progress. They also make it easier to amend calculations by changing just one parameter.

Press [F2] to **RECORD** the item and then *start* on the items in the **Concrete Structures** section—using a section code of **6000**...

Press [F2] to **RECORD** the item and then complete the item entry by continuing with the items in the **Concrete Structures** section—using a section code of **6000**...

If all this typing doesn’t appeal to you—and you are confident you *fully* understand the key commands involved—you may take a shortcut by using a copy of the tutorial project provided by the installation program. To do this, [Esc]ape to the menu system. Hit [Ctrl][Home] to “shell” to DOS, and type **COPY \PROCOST\TUTE*.* \PROCOST\DATA**. Then type **EXIT** and press [Enter] to return to the menus. Hit [Alt][I] to move to the **Item menu** and [A] to return to **ADD** mode.

Switching Modes— [F9]

Press [F9]—the mode **SWITCH** key. A one line “menu” appears at the bottom of the screen offering choices of:–

Progress items, **A**dd items, **C**hange, **D**elete or **B**rowse.

with a default of **B**rowse indicated by the reverse video highlighting and displayed letter “**B**”. You can always *select the default* by pressing **[Enter]**, return to the *original mode* by pressing **[Esc]**ape or *select another mode* by pressing the **first letter of your choice**—or move the highlight and press **[Enter]** as usual. Press **[Enter]** for the default—**B**rowse.

Switching “modes” is an alternative to exiting and making a choice from the main menu system. Despite the route followed, the destination is the same!

Browse Mode

Browse mode is a convenient *passive* way of viewing records. **[Home]** and **[End]** move to the *first* and *last* record respectively, while the arrow keys (and **[F7]**–**[F8]**) move *backwards* and *forwards* through the records. If you go past the first or last record, the record number “wraps around”.

Record Date Stamping

The **Record Changed** field at the centre right is maintained by **PROCOST**—it “date stamps” items when they are *created* or *modified*. “Date stamping” helps you keep track of changes.

Move to any item in group **04**, hit **[F5]**, key in **10b** and **[Enter]** to search for that item. That record becomes the new point for browsing. Repeat the process but key in item code **Z42**.

This is certainly *not* the quickest way to *find* an item. **Change** mode is more convenient and also allows you to edit the item. But more on that later...

Gestalt Pattern Matching

Item **Z42** doesn’t exist so **PROCOST** has shown **A42**! It *searched* for the item but couldn’t find it. Knowing you thought it *did* exist, (you are in **Browse** mode not **Add** mode) **PROCOST** assumed that you had mistyped the code. It decided that—most likely—you meant to type **A42** and hit a **[Z]** instead of an **[A]**.

This “Gestalt” capability is used throughout **PROCOST** (unless turned *off* in the **Customisation, System defaults** screen) and makes finding *codes* and *keywords*, etc., easier. For example, key **[F1]** for **HELP** and **[F5]** to find a keyword. Enter “**ESTTT**”. **PROCOST** guesses you meant “**GESTALT MATCHING**” and provides help on that topic.

Suppose you want to *amend* an item? Perhaps *change* the **quantity** or **description**? [Esc]ape from **HELP** and hit [F9]—the mode **SWITCH** key—then [C] for **Change items**.

Change Mode

The displayed item is the one last viewed in **Browse** mode. Move the cursor to the *item description*, edit it in some way, and press [F2] to **RECORD** the change. Amendments are as simple as that!

Changing Codes

To change the *item code* itself—or its *group* or *section* code—just amend the entry and press [F2] to **RECORD** the change.

If the code change would cause duplication, **PROCOST** will veto it. Codes *must be unique*—although the *same item code* may be used in different **sections**—just as the same **section code** may be used in more than one **group**. (A full **group-section-item** code is required to *uniquely* identify each item.)

Paging thru Items—[F7]-[F8]

Reverse any “experimental” changes you have made. In **Change** mode, you may still move through the items. Move the cursor to the *group*, *section*, or *item* code field. ([PgUp] returns to the first field.) [F7] and [F8] will “page” through the items.

Delete Mode

Delete mode is like **Change** mode but, *before* deleting a record, you will be asked to confirm that you really do wish to delete the record.

If you have reached this point without *at least* one interruption you must work in a very quiet office! Usually *telephone calls*, *emails*, *visits*, and other distractions will disturb your concentration. When these relate to the **current** item, the **NOTEPAD** provides a logical and convenient way to record the details. However, the current item would not be the appropriate place to attach general information. Fortunately, **PROCOST** has a similar facility for non-record specific “notes”...

JOTTER—[Alt][J] or [Shift][F11]

[Alt][J] will “popup” a **JOTTER** which is specific to the *current job* or—if no job is being worked on—just the **PROCOST** installation. Get rid of your paper scratch pads

and use the **JOTTER** while working through the tutorial! Record *telephone messages*, use it as an “aide-memoire”, etc.

Timestamping Notes—

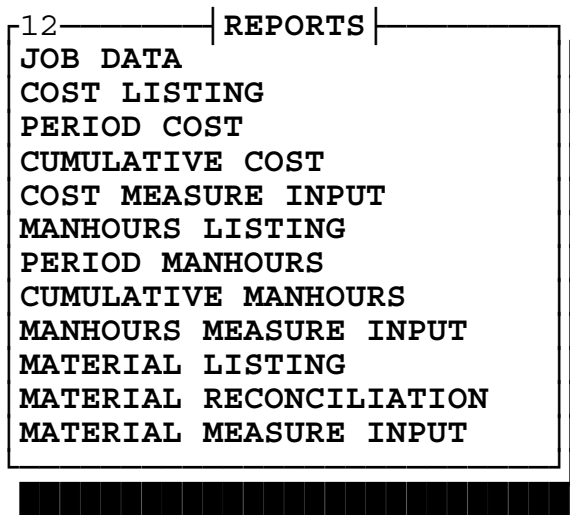
inserts the *time and date* in the **JOTTER** or **NOTEPAD** text so you may “timestamp” telephone messages, records of field work, etc.

CALENDAR— or

While exploring these “system-wide” facilities, also take a look at the built-in **CALENDAR**. will popup a calendar for the *current month*. (This is accessible even from inside the **JOTTER**—all **PROCON** tools can be overlaid one on another.) The arrow keys allow you to move through the *months* and *years*.

Printing Reports

Select **Print Reports** from the **Master menu**. A *report request screen* appears. The cursor drops to the **Report Name** field. (Ignore the fields on the line above this for the moment.) Hit for this picklist of *standard reports*:—



Requesting Reports

Select **COST LISTING** and press to move to the **More Reports?** field. Hit es. The screen will look like this:—

```

Job: BIRDSVILLE - OONADATTA M25 FREEWAY          System date: Wed, 18JAN06
Printer: Scalable font Laserjet
Batchfile Name ██████████ Report No 1
Report Name COST LISTING More Reports? Yes
Selection Mask █ █ █ Sort the Report? Yes
Consolidate Completed Items? No Suppress Items Not Started? No
Summary Only? No Video, Printer or File? Print
Orientation? Automatic Number of Copies 1
Pause between Pages? No
Show NOTEPAD text? No Show PROCALC lines? No
    
```

Note: This screen varies with the settings in **Customisation. Printer Setup**. (For example, if you are not using a *laser* printer, **Print Pitch** and **Header each Page?** fields will appear...)

Hit **[F2]** to **RECORD** the report request. (You could print one report and request more later, but it is more convenient to specify and print a *set of reports* as a “batch”.) Select **JOB DATA**, leave the **More Reports?** choice set to **[N]o**, and press **[F2]** again. **PROCOST** prints the two reports.

Check the **COST LISTING** against the figures given on *pages 1 and 2 of Appendix B*. If any item quantities *or values* are incorrect, return to **Change Items** mode and correct them before proceeding further.

Report Formatting Options

Return to the **Print Reports** screen. Report content may be *restricted* and the items may be *sorted*—or left in their original order. Reports sort by *item code* within **sections** and by *section code* within **groups**. *Groups* sort by **group code** and *page breaks* occur on each new group. (See *Appendix B* in **Part D** for some sample reports.) The other field choices are described in detail under **Print Reports, page C-33** in **Part C** of the manual. Normally you would accept most of the default values.

Print a **COST MEASURE INPUT** report. The *Measure Input* reports are *worksheet* or “*turnaround*” documents that simplify the task of **recording** progress and costs.

Exit to DOS—**[Esc]** and **[Y]** or just **[Ctrl][End]**

It is time to cover program *exit* and *entry* procedures. Press **[Esc]**. A prompt appears asking you to confirm that you *do* wish to exit. Hit **[Y]es**. The **DOS** prompt reappears.

Queries of this type may be answered *positively* with **[Y]**, **[y]** or **[1]**, or *negatively* with **[N]**, **[n]**, **[0]** or **[Esc]**. The default reply may also be “*toggled*” with the arrow keys, the

[Spacebar] or the mouse. (You may also exit directly to DOS with [Ctrl][End] or [Alt][F4]. Confirmation is not required.)

Material Entry

Re-run the program by clicking on the desktop icon—or typing **PROCOST** from the command line and pressing [Enter]. (**PROCOST** automatically reloads the job you were working on when you exited.) Select **Add Materials** from the **Materials** menu.

PROCOST has a *Materials Reconciliation* facility that allows you to track *usage* and *price variances* on important **variable** materials. The tutorial includes several material types that are both important and variable in usage and so require monitoring.

This job obviously includes many materials of significant *cost*. However, most materials (**pipe, fittings, installed equipment**, etc.) will not show significant *usage* variances. These “fixed” materials are best managed by site inventory controls. It is the important “variable usage” materials (**concrete, aggregates, asphalt**, etc.) on which we must focus our efforts...

Add Materials Mode

The **Material entry** screen looks like this:–

Job: BIRDSVILLE - OONADATTA M25 FREEWAY		System date: Wed, 18JAN06	
#1	ADD MATERIALS SCREEN		
Material Code	L	Description	
Measure Unit		Budget Unit Cost	\$ /
Budget Quantity		Budget Value	\$

Page A/2 of Appendix A in Part D contains a list of materials that will be tracked in the tutorial.

Material Code

Enter the **Material Code** **PB020**. Press [Enter] to move to the **description** field and enter **Crushed Stone Pipe Bedding** and then a **Measure Unit** of “Tn” (for *Tonnes*).

The **Budget Unit Cost** (\$27.50/Tn), and **Budget Quantity** (1850.5 Tonnes), can be entered directly. However, as both these figures were obtained by calculation, you may wish to derive the figures yourself. To do this, hit [Alt][C] from the **Budget Unit Cost** field and type the following lines into **PROCALC**.

```
21.50 ; 20mm stone FOB Arniston Quarry, 6Km from job
2.50 ; Fixed load and haul cost for first Kilometre
(6-1) [6 Kilometre haul] * 0.70 [per Tonne Kilometre]
```

Tip: Key in the first line and press **[Enter]** or **[↓]** to switch **PROCALC** into full screen mode so you can enter all three lines. If the figures are entered correctly the total **Unit Cost** of 27.50 will appear at the bottom of the screen once you move onto the fourth line.

Hit **[Alt][C]** to attach the calculation sheet to the **Budget Unit Cost** field. Move to the **Budget Quantity** field and hit **[Alt][C]**.

The **Budget Quantity** calculation is less straightforward as it uses **PROCALC** variables to document and simplify some repetitive calculations. The calculation sheet is like this:-

```

; Pipe Bedding Quantity Calculation
T=1.75 [Tonnes/m3] x 115% [15% wastage] ;Tonnage Conversion
D=200/1000 ;Depth of Bedding 200mm
; P = Pipe OD = Pipe ID + wall thickness of 50mm
; W = Trench width = pipe OD + side clearance of 200mm
; Total Tonnage = Length x Width x Depth x Conversion
P=300/1000+2x0.050 : W=P+2x0.200 : 2280*W*D*T ; Item A40
P=600/1000+2x0.050 : W=P+2x0.200 : 1745*W*D*T ; Item A41
P=900/1000+2x0.050 : W=P+2x0.200 : 610*W*D*T ; Item A42
    
```

Want to avoid all this typing? Hit **[Alt][R]** restore. A list of “template sheets” appears. Select **BEDDING.PCL**. This previously saved calculation sheet will be copied into **PROCALC**. Make sure you understand the use of comments and arithmetic variables. If in doubt hit **[F1]** for **HELP** on **PROCALC** and read through the information on comments and variables.

Hit **[Alt][C]** to save the calculation sheet and **[F2]** to **RECORD** this material record.

Note: Material records—just like items—may also have **NOTEPAD** sheets attached to them.

Press **[F4]** to **BRINGFORWARD** the previously entered record’s details. Enter the data for the material **GS075, Type B Granular Subbase**. Save it and complete the entry of the other materials listed in **Page A/2 of Appendix A in Part D**.

When you have finished entering all the materials, exit from the **Materials screen** and **Print Reports** from the **Master menu**. Print a **MATERIAL LISTING** report and a **MATERIAL MEASURE INPUT** report. (See **Page B/4 of Appendix B**).

Then hit **[Ctrl][End]** or **[Alt][F4]** to exit **PROCOST**.

Cost Progress Reporting

First Costing	4 FEB 06
----------------------	-----------------

The job has now started, so you have *progress* to report and *costs* to enter. The first **COST MEASURE INPUT** document (**Page B/3 of Appendix B in Part D** of the Manual) shows these handwritten notations for the cost update to **3 February 2006**. *Re-run* **PROCOST** and select **Progress Items** from the **Item menu**.

Tip: Go there *quickly* when you know where you are going! [Alt][I] moves *directly* to the **Item menu** and [P] selects **Progress**.

Costing Date

A small window will appear with a prompt for: **THIS Update Date**. Key in **3FEB06**.

Dates may be entered in several different ways. One is the “International” format using entries like **25SEP05** or **9jan06**. **PROCOST** has sophisticated date validation that allows wide latitude in entry, (e.g., **9 Jan 06**, **9JAN2006**, **09jan 06** will all be accepted as valid), while invalid dates such as **29FEB06**, **31NOV05**, etc., will *not* be accepted and you will be alerted by an error message. Dates may also be entered in **d/m/y**, **m/d/y** or **y/m/d numeric** format—depending upon the numeric date setting in **Customisation, Country Setup**—they will still be displayed in International format.

Progress Items Mode

Press [Enter]. You are now in **Progress Item** mode. **PROCOST** will display the *last* item you were working on. Hit [F8] to “roll around” to the *first* item, and [F8] twice more to advance to the *third* item:– **04–2000– A42**.

You “find” an existing item by entering the full code; “paging” through the records with [F7]–[F8]; moving to the **item code** field and using [F6] to pop up a *picklist*; or entering part of the code and hitting [F5] to force a Gestalt “**best match**”...

Press [Enter] three times to move down to the **Quantity Todate** field. Key in a quantity of **220**. Move down to the **Period Cost** fields and key in dollar amounts of **2430**, **323**, and **4107** for the **Labour**, **Own eqpt** and **Rented eqpt** costs respectively. (See the annotated **COST MEASURE INPUT** document on *Page B/3 of Appendix B*.)

When you press [Enter] in the last **Period Cost** field the screen will look like this:–

Job: BIRDSVILLE - OONADATTA M25 FREEWAY						System date: Sat, 4FEB06	
#3	CODE	DESCRIPTION		JOB DATA			
Group	04	STORM DRAINAGE		Costing No 1			
Section	2000	Pipelaying		To Sat 4FEB06			
Item	A42	Excavate & Lay 900mm Pipe		NOT Consolidated			
				13 Items			
				5 Materials			
Measure Unit	LM	Planned Qty	610	LM	Final Qty	610	LM
Quantity Todate		220	LM	Quantity This Period		220	LM
Value Todate	\$	5256		Period Value	\$	5256	
Is Complete?	No	36.07% Complete at 3FEB06		Record Changed		18JAN06	
Cost Type		Period Cost		Cost Todate		Period MHS	MHS Todate
Labour	\$	2430		\$ 2430		MH	
Own eqpt	\$	323		\$ 323		MH	
Rented eqpt	\$	4107		\$ 4107		MH	
TOTALS	\$	6860		\$ 6860		MH	

Press [F2] to **RECORD** the progress against this item. Then use [F8] to move forward several items to the next progressed item—**1.1 Place Type B Granular Subbase**.

Enter a **Quantity This Period** of 48300 and the period costs listed in the worksheet. **RECORD** the item. (Progress quantities may be entered as *cumulative* or *period* quantities—given one figure, **PROCOST** calculates and displays the other.)

Now enter the progress data for the three **SITE OVERHEAD** items. Hit **[F9]** to **SWITCH** to **Browse** mode and check all the entries you have made.

Press **[Esc]** to return to the menus and select **Print Reports** from the **Master menu**. Print a **COST MEASURE INPUT** document. The new worksheet should be compared with the old annotated document to confirm that all *progress quantities* have been *correctly* entered. There is no point in printing more reports until this is done! The worksheet should then be put aside and used to record figures for the *next* period. (Consequently, it is often called a “turnaround” document.)

Now print a **PERIOD COST** report and check that all *period costs* are correct.

Also set the **Summary Only?** field in the **Reports Screen** to “**Yes**” to print **Summary** versions of all these reports. The summary form excludes some record details but, if the missing detail is not critical, the compact form can be more readable and convenient. (Some summaries exclude columns and some have fewer lines. See the **Help** system for specifics on each report.) The reports start on *Page B/3* of *Appendix B*.

More Progress

Second Cost Update

10FEB06

Go to the next **COST MEASURE INPUT** report (*Page B/6* of *Appendix B—Costing No 1 to 3 February 06*.) A week has passed and more progress and cost has been recorded. The quantity entries are *period quantities*. (You can record *quantities todate* if you prefer—providing you are consistent.) Restart **PROCOST** if necessary. To prepare for the next costing you must *consolidate* the previous period quantities and costs.

Consolidation

Select **Consolidation** from the **Master menu**. Answer **yes** to the prompt **Archive the current cost files?** and **yes** to proceed with the consolidation.

PROCOST consolidates the data and then suggests **Progress Items** on the **Item menu** as the next logical choice. Accept this suggested selection and enter **10FEB06** in the: **Update Date** window.

Completed Items

Use the **COST MEASURE INPUT** document from *Page B/6* of *Appendix B* to enter the progress figures as you did on the first update. Note that item **A42** is now complete so, after entering the period quantity of **394.6**, set its **Is Complete?** field to *Yes*. (*PROCOST* then sets the **Final Qty** to **614.6** to equal the calculated **Quantity Todate**.)

Print a **COST MEASURE INPUT** and **PERIOD COST** report and check that all progress and costs have been correctly entered. Then print a **CUMULATIVE COST** report.

Suppress Unstarted Items

When printing the **CUMULATIVE COST** report, elect to **Suppress Items Not Started**. This—and the option to **Consolidate Completed items**—can reduce the *size* of reports and make it easier to focus on just those items requiring attention.

Materials

First Materials Reconciliation

15 FEB 06

As the job is well under way, it is time we entered some progress into the Materials Reconciliation module. The first **MATERIALS MEASURE INPUT** document (*Page B/4* of *Appendix B*) shows progress against some of the materials.

Select **Progress Materials** from the **Materials menu**, and enter a date of **15FEB06** in the: **Materials Update** window.

Item costing and **Material reporting** do not have to occur on the same *date*—or be performed at the same *intervals*. **Item costing** is dependent upon crew *timesheets* and so is often done *weekly*. (sometimes *daily*—or for each *shift*—if plant and labour costs are large). **Material reporting** depends upon *delivery records* and so reporting intervals can be more flexible. When usage of variable materials is low, *monthly* reporting may be adequate. When materials usage is high (e.g., concrete paving projects), *daily* reporting may be essential.

Hit **F6** in the **Material code** field. A *picklist* of defined materials appears. Choose **GS075, Type B Granular Subbase**. The screen will look like this:–

Job: BIRDSVILLE - OONADATTA M25 FREEWAY		System date: Thu, 16FEB06	
#2	PROGRESS MATERIALS SCREEN		
Material Code	GS075	Description	Type B Granular Subbase, FOB
Measure Unit	Tn	Budget Unit Cost	\$ 4.60 /Tn
Budget Quantity	f 529788 Tn	Budget Value	\$ 2437025
Actual Unit Cost	\$ 4.60 /Tn	Price Variance	\$
Qty in Valuation	Tn	Qty Stockpiled	Tn
Qty Delivered Todate	Tn	Quantity Used	Tn
Quantity Saving	Tn	Qty Variance	\$
Final Quantity	529788 Tn	Is Cost Final?	No
		Record Changed	16JAN06

Use or to move down to the **Actual Unit Cost** field. Change it to **4.48** and move to the **Qty in Valuation** field. Hit to access **PROCALC** for this field. Enter:—

(2.1 x 106%) {Budget Allowance} x 133145.78 {m3}

The figure 2.1x106% (2.226 Tn/m3) is the planned—or allowed—tonnes per cubic metre. (See the original **PROCALC** calculation of this material’s **Budget Quantity**). The 133145 m3 would be obtained by field measurement and calculation. As—in principle—it is easier and preferable to record all these calculations in **PROCALC** the calculation sheet might be more detailed and look like this:—

T=2.1 x 106% ; Budget Allowance (Tonnes/m3)
 ; Lane Length x Lane Width x Depth x Tonnes/m3
 (2675 25 - 2147 50) x 3.82 x 300/1000 x T
 (4797 20 - 4022 10) x 3.75 x 250/1000 x T

Recording *all* the information used in calculating the **Budget Quantity** todate saves time in the long run as updating figures for the next period may only involve amending chainages. (Note that **PROCALC** ignores spaces—even within numbers—so it is possible to record road “chainages” as 2675 25—rather than 267525—if this makes the documentation clearer.)

Save the **PROCALC** entry with and move down to the **Quantity Delivered Todate** field and enter 310784. Press to **RECORD** the changes to this material.

Materials Variances

PROCOST shows the resulting *price* and *quantity variances* and the screen is like this:—

Job: BIRDSVILLE - OONADATTA M25 FREEWAY		System date: Thu, 16FEB06	
#2	PROGRESS MATERIALS SCREEN		
Material Code	GS075	Description	Type B Granular Subbase, FOB
Measure Unit	Tn	Budget Unit Cost	\$ 4.60 /Tn
Budget Quantity	f 529788 Tn	Budget Value	\$ 2437025
Actual Unit Cost	\$ 4.48 /Tn	Price Variance	\$ 37294
Qty in Valuation	f 296382.49 Tn	Qty Stockpiled	Tn
Qty Delivered Todate	310784 Tn	Quantity Used	310784 Tn
Quantity Saving	-14401.51 Tn	Qty Variance	\$ -66247
Final Quantity	529788 Tn	Is Cost Final?	No
55.94% Complete at 15FEB06		Record Changed 16FEB06	

Be *sure* you understand how these figures are derived! As an exercise, you may wish to check the calculations yourself. **Price variance** is the *saving in unit price* by the *quantity used*. Key **[Alt][=]** for the system version of **PROCALC**. Type in $(4.60 - 4.48) * 310784$ to see the result of \$37294. **Quantity variance** is *quantity saved* by *budget unit price*. Move down a line and enter $-14401.51 * 4.60$. The result is \$-66247. The net total of \$-28953 is, of course, the same as the difference between the total *planned cost* and the *actual cost*, i.e., $296382.49 * 4.60 - 310784 * 4.48$.

Now enter the progress data for material PB020, **Crushed Stone Pipe Bedding**. (See *Page B/4* of *Appendix B*).

The **Actual Unit Cost** has not changed (it defaulted to the **Budget Unit Cost** when the record was created) so skip this field. The **Qty in Valuation** figure of 782 tonnes can be entered directly, or through **PROCALC** with this calculation:–

```

; Pipe Bedding Valuation Quantity Calculation
T=1.75 [Tonnes/m3] x 115% [15% wastage] ;Tonnage Conversion
D=200/1000 ;Depth of Bedding 200mm
; P = Pipe OD = Pipe ID + wall thickness of 50mm
; W = Trench width = pipe OD + side clearance of 200mm
; Total Tonnage = Length x Width x Depth x Conversion
P=300/1000+2x0.050 : W=P+2x0.200 : 0*W*D*T ; Item A40
P=600/1000+2x0.050 : W=P+2x0.200 : 982*W*D*T ; Item A41
P=900/1000+2x0.050 : W=P+2x0.200 : 614.6*W*D*T ; Item A42
    
```

Does this look familiar? It should as it is essentially the same calculation sheet we used for the **Budget Quantity**. Only the pipe lengths are different. Rather than type it all in again, use **[Alt][R]**estore to retrieve the template sheet, **BEDDING.PCL**, and just amend the lengths. If this calculation looks needlessly complicated, simplify it to something like this:–

```

; Item: Tonnes/LM x Laid Length (LM)
[A40] 0.322 x 0
[A41] 0.443 x 982
[A42] 0.564 x 614.6
    
```

Save the **PROCALC** entry and move to the **Quantity Stockpiled** field, Enter **120** tonnes and then **854** tonnes in the **Quantity Delivered Todate** field.

Press **[F2]** to **RECORD** the update to this material and **[Esc]**ape to the menus.

Go to the **Print Reports** screen and print a **MATERIAL MEASURE INPUT** report and a **MATERIAL RECONCILIATION** report.

Tip: **[Alt][P]**rint takes you directly to the **Printer screen**—bypassing the **Master menu**.

Now that you have completed the tutorial, read the **Part C—Reference** section for more detailed information on **PROCOST**'s capabilities.

Cost Plan

Budget Unit Job Values

Project: **BIRDSVILLE – OONADATTA M25 FREEWAY**

Total Item Budget Job Value: **\$1,872,731**

Total Tracked Materials Value: **\$8,895,857**

Item	Description	Quantity	Labour	Own eqpt	Rented eqpt	Total Unit JV	Forecast UnitCost
Group 04 - STORM DRAINAGE							
Section 2000 Pipelaying							
A40	Excavate & Lay 300mm Pipe	2280 LM	2.50	6.00	0	8.50	
A41	Excavate & Lay 600mm Pipe	1745 LM	3.60	9.40	0.75	13.75	
Item Note: "Rented trench shield required. Total rental cost \$1300"							
A42	Excavate & Lay 900mm Pipe	610 LM	8.27	15.62	0	23.89	27.43
Calc Sheet for Forecast: 192/7.0 ; Crew cost \$192/hour at 7.0 LM/Hr							
Section 6000 Concrete Structures							
10a	Concrete Placing, Catchbasins	285.6 m3	16.40	0	6.90	23.30	
Calc Sheet for Quantity: 204 [Catchbasins] @ 1.40 [m3/ea]							
10b	Concrete Placing, Culverts	547.2 m3	9.15	0	4.10	13.25	
Group 12 - ROADWORKS							
Section A - Granulars							
1.1	Place Type B Granular Subbase	238000 m3	0.26	0.77	0	1.03	
1.2	Place Type A Granular Base	134600 m3	0.41	1.33	0	1.74	
; Takeoff quantities for Type A Granular Base							
162933.3 {m2} @ 150[mm]/1000 ; Access Ramps 150mm depth							
12.6[Kms] x 1000 x 16.2[m Wide] @ 200[mm]/1000 ; Road 4							
16.2[Kms] x 1000 x 21.4[m Wide] @ 200[mm]/1000 ; Road 10							
Section B - Pavements							
16.1	Place Concrete 200mm Pavement	114000 m2	2.43	4.06	1.10	7.59	
16.4	Asphalt Pavement	27000 Tn	1.68	2.67	0	4.35	
Group 0H - SITE OVERHEADS							
100	Setup Site Offices	100 %	126.55	208.40	0	334.95	
102	Remove Site Offices	1 LS	7450.00	8502.00	0	15952.00	
420	Site Telecoms	92 Wk	0	0	104.00	104.00	
500	Site Administrative Staff	90 Wk	2360.00	749.00	0	3109.00	
JOB VALUE TOTALS			698668	1033671	140191	1872731	

Materials List

Material Code	Material Description	Measure Unit	Budget Unit Cost	Budget Quantity	Total Value
PB020	Crushed Stone Pipe Bedding Calc Sheet for Unitcost: 21.50 ; 20mm stone FOB Arniston Quarry, 6Km from job 2.50 ; Fixed load and haul cost for first Kilometre (6·1) [6 Kilometre haul] * 0.70 [per Tonne Kilometre] Calc Sheet for Budget Quantity: ; Pipe Bedding Quantity Calculation T=1.75 [Tonnes/m3] x 115% [15% wastage] ;Tonnage Conversion D=200/1000 ;Depth of Bedding 200mm ; P = Pipe OD = Pipe ID + wall thickness of 50mm ; W = Trench width = pipe OD + side clearance of 200mm ; Total Tonnage = Length x Width x Depth x Conversion P=300/1000+2x0.050 : W=P+2x0.200 : 2280*W*D*T P=600/1000+2x0.050 : W=P+2x0.200 : 1745*W*D*T P=900/1000+2x0.050 : W=P+2x0.200 : 610*W*D*T	Tn	27.50	1850.5	50,889
GS075	Type B Granular Subbase, FOB Calc Sheet for Budget Quantity: 238000 [m3] x 2.1 [Tn/m3] x 106% [Wastage allowance]	Tn	4.60	529,788	2,437,025
GB050	Type A Granular Base, FOB Calc Sheet for Budget Quantity: 134600 [m3] x 2.25 [Tn/m3] x 104% [Wastage allowance]	Tn	9.65	314,964	3,039,403
C30	Concrete, 30MPa, FOB Calc Sheet for Budget Quantity: 287.5*120% + 547.2*105% ; Higher wastage on catchbasins	m3	190.00	919.56	174,716
C25	Concrete Pavement, 25MPa Calc Sheet for Budget Quantity: 114000 [m2] x 200/1000 [200mm depth] x 1.03 [3% Wastage}	m3	136.00	23,484	3,193,824
TOTAL VALUE TRACKED MATERIAL					8,895,857

Only materials that are both *significant* (i.e., of high value) and *variable* (i.e., usage difficult to control and forecast) should be included in this list. Should we bother tracking \$50000 worth of crushed stone pipe bedding on a project of this size? Probably so, as it is the type of material that is typically subject to great usage variation and many contractors insist on providing this feedback to their pipe laying crews.

JOB DATA REPORT at 18 Jan 06

1:44pm 18JAN06	PROCOST - JOB COSTING SYSTEM	Page 1
### JOB DATA ###		
Job: BIRDSVILLE - OONADATTA M25 FREEWAY		

Department or Project Code: NR	Department: Northern Regions Division	
Job Number: M06/12345	Total Item Cost Value: \$ 1872731.00	
	Tracked Materials Value: \$ 8895857.00	
Round Extended Amounts to Dollar		
Round Manhour Rates to 3 places		Round Extended Manhours to 1 places

13 Items	5 Materials	
Job duration expected to be 90 weeks. Site offices required for 92 weeks.		

Initial COST LISTING at 18 Jan 06 - Page 1 of 3

Printed 2:09pm 18JAN06	PROCOST - JOB COSTING SYSTEM	Page 1
### COST LISTING ###		
Job: BIRDSVILLE - OONADATTA M25 FREEWAY		Sorted

Group: 04	STORM DRAINAGE	
Item	Final	Job VALUE RATE/AMT
No	Quantity	Labour Own eqpt Rented eqpt

Section: 2000	Pipelaying	
A40	Excavate & Lay 300mm Pipe 2280 LM	8.50/LM 2.50 6.00 0.00
		19380 5700 13680
A41	Excavate & Lay 600mm Pipe 1745 LM	13.75/LM 3.60 9.40 0.75
		23994 6282 16403 1309
	Rented trench shield required. Total rental cost \$1300.	
A42	Excavate & Lay 900mm Pipe 610 LM	23.89/LM 8.27 15.62 0.00
		14573 5045 9528

Section: 2000	3 Items	57947 17027 39611 1309

Section: 6000	Concrete Structures	
10a	Concrete Placing, Catchbasins 285.6 m3	23.30/m3 16.40 0.00 6.90
		6654 4684 1971
	204 [Catchbasins] @ 1.40 [m3/ea] = 285.6	
10b	Concrete Placing, Culverts 547.2 m3	13.25/m3 9.15 0.00 4.10
		7250 5007 2244

Section: 6000	2 Items	13905 9691 0 4214

Group: 04	5 Items	71852 26717 39611 5523

Initial COST LISTING - Page 2 of 3

Printed 2:09pm 18JAN06		PROCOST - JOB COSTING SYSTEM				Page 2
*** COST LISTING ***						
Job: BIRDSVILLE - OONADATTA M25 FREEWAY						Sorted

Group: 12 ROADWORKS						
Item No	Item Description	Final Quantity	Job Total	Value Labour	Rate/Amt Own eqpt	Rate/Amt Rented eqpt

Section: A Granulars						
1.1	Place Type B Granular Subbase	238000 m3	1.03/m3	0.26	0.77	0.00
			245140	61880	183260	
1.2	Place Type A Granular Base	134600 m3	1.74/m3	0.41	1.33	0.00
			234204	55186	179018	
Section: A 2 Items			479344	117066	362278	0

Section: B Pavements						
16.1	Place Concrete 200mm Pavement	114000 m2	7.59/m2	2.43	4.06	1.10
			865260	277020	462840	125400
16.4	Asphalt Pavement	27000 Tn	4.35/Tn	1.68	2.67	0.00
			117450	45360	72090	
Section: B 2 Items			982710	322380	534930	125400

Group: 12 4 Items			1462054	439446	897208	125400

Initial COST LISTING - Page 3 of 3

Printed 2:09pm 18JAN06		PROCOST - JOB COSTING SYSTEM				Page 3
*** COST LISTING ***						
Job: BIRDSVILLE - OONADATTA M25 FREEWAY						Sorted

Group: OH SITE OVERHEADS						
Item No	Item Description	Final Quantity	Job Total	Value Labour	Rate/Amt Own eqpt	Rate/Amt Rented eqpt

100	Setup Site Offices	100 %	334.95/%	126.55	208.40	0.00
			33495	12655	20840	
102	Remove Site Offices	1 LS	15952.00/LS	7450.00	8502.00	0.00
			15952	7450	8502	
420	Site Telecoms	92 Wk	104.00/Wk	0.00	0.00	104.00
			9568			9568
500	Site Administrative Staff	90 Wk	3109.00/Wk	2360.00	749.00	0.00
			279810	212400	67410	
4 Items			338825	232505	96752	9568

Group: OH 4 Items			338825	232505	96752	9568

JOB TOTALS - 13 Items			1872731	698668	1033571	140491

Initial MATERIAL LISTING report at 18 Jan 06

Printed 5:06pm 18JAN06		PROCOST - JOB COSTING SYSTEM				Page 1
*** MATERIAL LISTING ***						
Job: BIRDSVILLE - OONADATTA M25 FREEWAY						Sorted
Code	Material Description	Budget Unit Cost	Budget Quantity	Budget Amount	Changed	
C25	Concrete, Pavement, 25MPa 114000 [m2] x 200/1000 [200mm depth] x 1.03 [3% wastage] = 23484	136.00/m3	23484 m3	\$ 3193824	16JAN06	
C30	Concrete, 30MPa, FOB 287.5*120%+547.2*105% = 919.56	190.00/m3	919.56 m3	\$ 174716	16JAN06	
GB050	Type A Granular Base, FOB 134600 [m3] x 2.25 [Tn/m3] x 104% [Wastage allowance] = 314964	9.65/Tn	314964 Tn	\$ 3039403	16JAN06	
GS075	Type B Granular Subbase, FOB 238000 [m3] x 2.1 [Tn/m3] x 106% [Wastage allowance] = 529788	4.60/Tn	529788 Tn	\$ 2437025	16JAN06	
PB020	Crushed Stone Pipe Bedding 21.50 ; 20mm stone FOB Arniston Quarry, 6Km from job 2.50 ; Fixed load and haul cost for first Kilometre (6-1) [6 Kilometre haul] * 0.70 [per Tonne Kilometre]	27.50/Tn	1850.5 Tn	\$ 50889	16JAN06	
					TOTAL = 27.50	
	; Pipe Bedding Quantity Calculation T=1.75 [Tonnes/m3] x 115% [15% wastage] ;Tonnage Conversion D=200/1000 ;Depth of Bedding 200mm ; P = Pipe OD = Pipe ID + wall thickness of 50mm ; W = Trench width = pipe OD + side clearance of 200mm ; Total Tonnage = Length x Width x Depth x Conversion P=300/1000+2x0.050 : W=P+2x0.200 : 2280*W*D*T = 734.16 P=600/1000+2x0.050 : W=P+2x0.200 : 1745*W*D*T = 772.60 P=900/1000+2x0.050 : W=P+2x0.200 : 610*W*D*T = 343.74 TOTAL = 1850.50					
JOB TOTALS - 5 Materials				8895857		

MATERIAL MEASURE INPUT Worksheet for Period Ending 15 Feb 06.

Printed 5:06pm 18JAN06		PROCOST - JOB COSTING SYSTEM				Page 1						
*** MATERIAL MEASURE INPUT ***												
Job: BIRDSVILLE - OONADATTA M25 FREEWAY						Updated on <u>16Feb06</u> by <u>NJK</u>						
Code	Material Description	Measure Unit	Total Required	UPDATED TOTAL	Valuation Quantity	UPDATED QTY	Quantity Delivered	UPDATED QTY	Rec No	Last Update	Material Complete	REMARKS
C25	Concrete, Pavement, 25MPa	m3	23484						5	16JAN06	No	
C30	Concrete, 30MPa, FOB	m3	919.56						4	16JAN06	No	
GB050	Type A Granular Base, FOB	Tn	314964						3	16JAN06	No	
GS075	Type B Granular Subbase, FOB	Tn	529788		296,382		310,784		2	16JAN06	No	Cost @4.48/Tn
PB020	Crushed Stone Pipe Bedding	Tn	1850.5		782		854		1	16JAN06	No	120 Tns On site
5 Materials												

PERIOD COST SUMMARY to 3 Feb 06 - Page 1 of 3

Printed 2:26pm 4FEB06		PROCOST - JOB COSTING SYSTEM						Page 1	
Costing to 3FEB06		*** PERIOD COST SUMMARY ***						Costing No 1	
Job: BIRDSVILLE - OONADATTA M25 FREEWAY								Sorted	
Group:	04 STORM DRAINAGE								
Item No	Item Description	Final Quantity	Unit Value	Total Value	Period Quantity	<<<< PERIOD COST >>>> Total Cost	Unit Cost	Period Earned	Period Gain
Section: 2000 Pipelaying									
A40	Excavate & Lay 300mm Pipe	2280 LM	8.50/LM	19380					
A41	Excavate & Lay 600mm Pipe	1745 LM	13.75/LM	23994					
A42	Excavate & Lay 900mm Pipe	610 LM	23.89/LM	14573	220 LM	6860	31.18/LM	5256	-1604
Section: 2000 3 Items				57947		6860		5256	-1604

Section: 6000 Concrete Structures									
10a	Concrete Placing, Catchbasins	285.6 m3	23.30/m3	6654					
10b	Concrete Placing, Culverts	547.2 m3	13.25/m3	7250					
Section: 6000 2 Items				13905		0		0	0
Group: 04 5 Items				71852		6860		5256	-1604

PERIOD COST SUMMARY - Page 2 of 3

Printed 2:26pm 4FEB06		PROCOST - JOB COSTING SYSTEM						Page 2	
Costing to 3FEB06		*** PERIOD COST SUMMARY ***						Costing No 1	
Job: BIRDSVILLE - OONADATTA M25 FREEWAY								Sorted	
Group:	12 ROADWORKS								
Item No	Item Description	Final Quantity	Unit Value	Total Value	Period Quantity	<<<< PERIOD COST >>>> Total Cost	Unit Cost	Period Earned	Period Gain
Section: A Granulars									
1.1	Place Type B Granular Subbase	238000 m3	1.03/m3	245140	48300 m3	45411	0.94/m3	49749	4338
1.2	Place Type A Granular Base	134600 m3	1.74/m3	234204					
Section: A 2 Items				479344		45411		49749	4338

Section: B Pavements									
16.1	Place Concrete 200mm Pavement	114000 m2	7.59/m2	865260					
16.4	Asphalt Pavement	27000 Tn	4.35/Tn	117450					
Section: B 2 Items				982710		0		0	0
Group: 12 4 Items				1462054		45411		49749	4338

PERIOD COST SUMMARY - Page 3 of 3

Printed 2:26pm 4FEB06		PROCOST - JOB COSTING SYSTEM						Page 3	
Costing to 3FEB06		*** PERIOD COST SUMMARY ***						Costing No 1	
Job: BIRDSVILLE - OONADATTA M25 FREEWAY								Sorted	
Group:	OH SITE OVERHEADS								
Item No	Item Description	Final Quantity	Unit Value	Total Value	Period Quantity	PERIOD COST Total Cost	Unit Cost	Period Earned	Period Gain
100	Setup Site Offices	100 %	334.95/%	33495	90 %	28166	312.96/%	30146	1980
102	Remove Site Offices	1 LS	15952.00/LS	15952					
420	Site Telecoms	92 Wk	104.00/Wk	9568	1 Wk	412	412.00/Wk	104	-308
500	Site Administrative Staff	90 Wk	3109.00/Wk	279810	0.7 Wk	4284	6120.00/Wk	2176	-2108
4 Items				338825		32862		32426	-436
Group: OH 4 Items				338825		32862		32426	-436
JOB TOTALS - 13 Items				1872731		85133		87431	2298

COST MEASURE INPUT SUMMARY for Period Ending 10 Feb 06 - Page 1 of 3

Printed 2:26pm 4FEB06		PROCOST - JOB COSTING SYSTEM						Page 1	
Costing to 3FEB06		*** COST MEASURE INPUT SUMMARY ***						Costing No 1	
Job: BIRDSVILLE - OONADATTA M25 FREEWAY								Updated on 10FEB06 by NJK	
Group:	04 STORM DRAINAGE								
Item No	Item Description	Final Quantity	Quantity Todate	PERIOD QUANTITY	Percent Comp	PERIOD COST Labour	Own eqpt	Rented eqpt	
Section: 2000 Pipelaying									
A40	Excavate & Lay 300mm Pipe	2280 LM			0.00%				
A41	Excavate & Lay 600mm Pipe	1745 LM		436	0.00%	1632	366		
A42	Excavate & Lay 900mm Pipe	610 LM	220 LM	394.6	36.07%	3058	614	6821	
Section: 2000 3 Items		Item A42 - 900mm Pipe - is now Complete.							

Section: 6000 Concrete Structures									
10a	Concrete Placing, Catchbasins	285.6 m3			0.00%				
10b	Concrete Placing, Culverts	547.2 m3			0.00%				
Section: 6000 2 Items									
Group: 04 5 Items									

PERIOD COST SUMMARY to 10 Feb 06 - Page 1 of 3

Printed 3:39pm 11FEB06		PROCOST - JOB COSTING SYSTEM						Page 1	
Costing to 10FEB06		*** PERIOD COST SUMMARY ***						Costing No 2	
Job: BIRDSVILLE - DONADATTA N25 FREEMAY									
Group: 04 STORM DRAINAGE									
Item No	Item Description	Final Quantity	Unit Value	Total Value	Period Quantity	<<<< PERIOD COST >>>> Total Cost	Unit Cost	Period Earned	Period Gain
Section: 2000 Pipelaying									
A40	Excavate & Lay 300mm Pipe	2280 LM	8.50/LM	19380					
A41	Excavate & Lay 600mm Pipe	1745 LM	13.75/LM	23994	436 LM	1998	4.58/LM	5995	3997
A42	Excavate & Lay 900mm Pipe	614.6 LM	23.89/LM	14683	394.6 LM	10493	26.59/LM	9427	-1066
Section: 2000 3 Items				58057		12491		15422	2931
Section: 6000 Concrete Structures									
10a	Concrete Placing, Catchbasins	285.6 m3	23.30/m3	6654					
10b	Concrete Placing, Culverts	547.2 m3	13.25/m3	7250					
Section: 6000 2 Items				13905		0		0	0
Group: 04 5 Items				71961		12491		15422	2931

PERIOD COST SUMMARY - Page 2 of 3

Printed 3:39pm 11FEB06		PROCOST - JOB COSTING SYSTEM						Page 1	
Costing to 10FEB06		*** PERIOD COST SUMMARY ***						Costing No 2	
Job: BIRDSVILLE - DONADATTA N25 FREEMAY									
Group: 12 ROADWORKS									
Item No	Item Description	Final Quantity	Unit Value	Total Value	Period Quantity	<<<< PERIOD COST >>>> Total Cost	Unit Cost	Period Earned	Period Gain
Section: A Granulars									
1.1	Place Type B Granular Subbase	238000 m3	1.03/m3	245140	54200 m3	47562	0.88/m3	55826	8264
1.2	Place Type A Granular Base	134600 m3	1.74/m3	234204					
Section: A 2 Items				479344		47562		55826	8264
Section: B Pavements									
16.1	Place Concrete 200mm Pavement	114000 m2	7.59/m2	865260					
16.4	Asphalt Pavement	27000 Tn	4.35/Tn	117450					
Section: B 2 Items				982710		0		0	0
Group: 12 4 Items				1462054		47562		55826	8264

PERIOD COST SUMMARY - Page 3 of 3

Printed 3:39pm 11FEB06		PROCOST - JOB COSTING SYSTEM						Page 1	
Costing to 10FEB06		*** PERIOD COST SUMMARY ***						Costing No 2	
Job: BIRDSVILLE - DONADATTA N25 FREEMAY									
Group: OH SITE OVERHEADS									
Item No	Item Description	Final Quantity	Unit Value	Total Value	Period Quantity	<<<< PERIOD COST >>>> Total Cost	Unit Cost	Period Earned	Period Gain
100	Setup Site Offices	100 %	334.95/%	33495	10 %	672	67.20/%	3350	2678
102	Remove Site Offices	1 LS	15952.00/LS	15952					
420	Site Telecoms	92 Wk	104.00/Wk	9568	1 Wk	83	83.00/Wk	104	21
500	Site Administrative Staff	90 Wk	3109.00/Wk	279810	1 Wk	2853	2853.00/Wk	3109	256
Group: OH 4 Items				338825		3608		6563	2955
JOB TOTALS - 13 Items				1872840		63661		77810	14149

CUMULATIVE COST to 10 Feb 06 - Page 1 of 3

Printed 3:39pm 11FEB06		PROCOST - JOB COSTING SYSTEM										Page 1
Costing to 10FEB06		*** CUMULATIVE COST SUMMARY ***										Costing No 2
Job: BIRDSVILLE - OONADATTA M25 FREEWAY												
Group:	04	STORM DRAINAGE		Final	Unit	Total	CUMULATIVE TODATE				Percent	Last
Item	No	Item Description	Quantity	Value	Value	Quantity	Total Cost	Unit Cost	Earned	Gain	Complete	Update
Section:		2000	Pipelaying									
A40		Excavate & Lay 300mm Pipe	2280 LM	8.50/LM	19380							10JAN06
A41		Excavate & Lay 600mm Pipe	1745 LM	13.75/LM	23994	436 LM	1998	4.58/LM	5995	3997	24.99%	11FEB06
A42		Excavate & Lay 900mm Pipe	614.6 LM	23.89/LM	14683	614.6 LM	17353	28.23/LM	14683	-2670	100.00%	11FEB06
Section:		2000	3 Items			58057	19351		20678	1327	35.62%	
Section:		6000	Concrete Structures									
10a		Concrete Placing, Catchbasins	285.6 m3	23.30/m3	6654							18JAN06
10b		Concrete Placing, Culverts	547.2 m3	13.25/m3	7250							18JAN06
Section:		6000	2 Items			13905	0		0	0	0.00%	
Group:		04	5 Items			71961	19351		20678	1327	28.73%	

CUMULATIVE COST - Page 2 of 3

Printed 3:39pm 11FEB06		PROCOST - JOB COSTING SYSTEM										Page 2
Costing to 10FEB06		*** CUMULATIVE COST SUMMARY ***										Costing No 2
Job: BIRDSVILLE - OONADATTA M25 FREEWAY												
Group:	12	ROADWORKS		Final	Unit	Total	CUMULATIVE TODATE				Percent	Last
Item	No	Item Description	Quantity	Value	Value	Quantity	Total Cost	Unit Cost	Earned	Gain	Complete	Update
Section:		A	Granulars									
1.1		Place Type B Granular Subbase	238000 m3	1.03/m3	245140	102500 m3	92973	0.91/m3	105575	12602	43.07%	11FEB06
1.2		Place Type A Granular Base	134600 m3	1.74/m3	234204							13JAN06
Section:		A	2 Items			479344	92973		105575	12602	22.02%	
Section:		B	Pavements									
16.1		Place Concrete 200mm Pavement	114000 m2	7.59/m2	865260							12JAN06
16.4		Asphalt Pavement	27000 Tn	4.35/Tn	117450							23DEC05
Section:		B	2 Items			982710	0		0	0	0.00%	
Group:		12	4 Items			1462054	92973		105575	12602	7.22%	

CUMULATIVE COST - Page 3 of 3

Printed 3:39pm 11FEB06		PROCOST - JOB COSTING SYSTEM										Page 3
Costing to 10FEB06		*** CUMULATIVE COST SUMMARY ***										Costing No 2
Job: BIRDSVILLE - OONADATTA M25 FREEWAY												
Group:	0H	SITE OVERHEADS		Final	Unit	Total	CUMULATIVE TODATE				Percent	Last
Item	No	Item Description	Quantity	Value	Value	Quantity	Total Cost	Unit Cost	Earned	Gain	Complete	Update
100		Setup Site Offices	100 %	334.95/%	33495	100 %	28838	288.38/%	33495	4657	100.00%	11FEB06
102		Remove Site Offices	1 LS	15952.00/LS	15952							23DEC05
420		Site Telecoms	92 Wk	104.00/Wk	9568	2 Wk	495	247.50/Wk	288	-287	2.17%	11FEB06
500		Site Administrative Staff	90 Wk	3109.00/Wk	279810	1.7 Wk	7137	4198.24/Wk	5285	-1852	1.89%	11FEB06
Section:			4 Items			338825	36470		38988	2518	11.51%	
Group:		0H	4 Items			338825	36470		38988	2518	11.51%	
JOB TOTALS - 13 Items					1872840	148794		165241	16447	8.82%		

MATERIAL MEASURE INPUT Worksheet Printed 16 Feb 06.

Printed 1:41pm 16FEB06		PROCOST - JOB COSTING SYSTEM										Page 1
Update to 15FEB06		*** MATERIAL MEASURE INPUT ***										Update No 1
Job: BIRDSVILLE - DONADATTA M25 FREEMAY		Updated on _____ by _____										
Code	Material Description	Measure Unit	Total Required	UPDATED TOTAL	Valuation Quantity	UPDATED QTY	Quantity Delivered	UPDATED QTY	Rec No	Last Update	Material Complete	REMARKS
C25	Concrete, Pavement, 25MPa	m3	23484						5	16JAN06	No	
C30	Concrete, 30MPa, FOB	m3	919.56						4	16JAN06	No	
GB050	Type A Granular Base, FOB	Tn	314964						3	16JAN06	No	
CS075	Type B Granular Subbase, FOB	Tn	529788		296382.49		310784		2	16FEB06	No	
	T=2.1 x 106% ; Budget Allowance (Tonnes/m3) ; Lane Length x Lane Width x Depth x Tonnes/m3 (2675 25 - 2147 50) x 3.82 x 300/1000 x T = 134628.81 (4797 20 - 4022 10) x 3.75 x 250/1000 x T = 161753.68 TOTAL = 296382.49											
PB020	Crushed Stone Pipe Bedding	Tn	1850.5		781.66		854		1	16FEB06	No	
	; Item: Tonnes/LM x Laid Length (LM) [A40] 0.322 x 0 = [A41] 0.443 x 982 = 435.83 [A42] 0.564 x 614.6 = 346.63 TOTAL = 781.66											
5 Materials												

MATERIAL RECONCILIATION at 15 Feb 06

Printed 3:04pm 16FEB06		PROCOST - JOB COSTING SYSTEM										Page 1		
Update to 15FEB06		*** MATERIAL RECONCILIATION ***										Update No 1		
Job: BIRDSVILLE - DONADATTA M25 FREEMAY		Sorted												
Code	Material Description	Measure Unit	Total Required	Valuation Quantity	Quantity Delivered	Material On Site	Quantity Saving	Percent Saving	Budget UnitCost	Actual UnitCost	Quantity Variance	Price Variance	Total Variance	Projected Variance
C25	Concrete, Pavement, 25MPa	m3	23484				0	0.00%	136.00	136.00	0	0	0	0
C30	Concrete, 30MPa, FOB	m3	919.56				0	0.00%	190.00	190.00	0	0	0	0
GB050	Type A Granular Base, FOB	Tn	314964				0	0.00%	9.65	9.65	0	0	0	0
CS075	Type B Granular Subbase, FOB	Tn	529788	296382.49	310784		-14401.51	-4.86%	4.60	4.48	-66247	37294	-28953	63575
	T=2.1 x 106% ; Budget Allowance (Tonnes/m3) ; Lane Length x Lane Width x Depth x Tonnes/m3 (2675 25 - 2147 50) x 3.82 x 300/1000 x T = 134628.81 (4797 20 - 4022 10) x 3.75 x 250/1000 x T = 161753.68 TOTAL = 296382.49													
PB020	Crushed Stone Pipe Bedding	Tn	1850.5	781.66	854	120	47.66	6.10%	27.50	27.50	1311	0	1311	0
	; Item: Tonnes/LM x Laid Length (LM) [A40] 0.322 x 0 = [A41] 0.443 x 982 = 435.83 [A42] 0.564 x 614.6 = 346.63 TOTAL = 781.66													
	21.50 ; 20mm stone FOB Arniston Quarry, 6Km from job = 21.50 2.50 ; Fixed load and haul cost for first kilometre = 2.50 (6-1) [6 kilometre haul] * 0.70 [per Tonne kilometre] = 3.50 TOTAL = 27.50													
JOB TOTALS - 5 Materials											-64936	37294	-27642	63575