

## Harvesting 2021-22

### A. Introduction

This Rates and Costs Schedule (Schedule) is published under section 14 of the *Owner Drivers and Forestry Contractors Act 2005* (Vic). Under the Act, hirers must give this Schedule to all harvesting contractors at least three business days before the contractor is engaged for a period of at least 30 days; or on the thirtieth day if the contractors are engaged for a total period of at least 30 days in any three-month period.

**This Schedule applies to contractors harvesting forest products<sup>1</sup> in both native and plantation forests.**

**This Schedule is a general guide only.** Contractors are strongly advised to seek professional accounting advice relevant to their own situation and discuss all issues with their hirer to ensure both parties are clear on the details of the agreement, and in particular payment structures.

This Schedule is reviewed annually. Hirers must provide harvesting contractors with **any revised Schedule as soon as practicable after it is published.**

This Schedule does not set minimum rates that must be paid. Rather, this Schedule sets out a costing model based on typical costs. The Schedule seeks to help contractors and their hirers better understand the operating costs of a harvesting business. Contractors can then use the Schedule as a guide to plan and develop an individual cost structure accounting for their own circumstances.

### How to use this Schedule

The Schedule provides the cost per hour to run a range of suitable forestry machines for a small-scale harvesting operation. The fixed costs as well as the variable (running costs) per hour are estimated for each machine.

The machinery costs are described independent of production, that is to say the figures have no direct relation to the volume of timber harvested or processed. It is assumed that the hourly cost of equipment will remain relatively constant for a given contractor from harvest site to harvest site.

What will change between harvest sites is the volume of timber produced per productive hour. Variables in the rate of production or harvesting will have an impact on the cost per unit volume of production. Contractors need to understand the impact of this variable on production and correctly factor it in when costing their service.

The first part of this Schedule details the assumptions that have been made in determining fixed or overhead costs to a per hour cost rate, as well as detailing factors impacting the productivity of a harvesting operation. The second part of this Schedule sets out the fixed and variable cost of operating various pieces of forestry equipment that may be required in a harvest operation.

## **B. Assumptions**

To the extent that such assumptions are necessary to determine per hour fixed and variable costs for machinery operation, the following assumptions have been made:

1. a standard small-sized forestry unit of 5 machines and 5 machine operators
2. 235 operating days per annum
3. 9 hours of machine operation per day
4. 35,000m of timber product harvested annually
5. a yield of 600-1,000m of total product per hectare

### **The schedules detail the capital cost of operating ‘new’ front line equipment**

The schedules are based on the recovery of the cost of equipment over the operational life of a new piece of equipment.

While the capital cost of a used piece of equipment may be lower than that of new, it is assumed that a used piece of equipment has a shorter operational life as well as a lower, if any, used value. The shorter operational life and marginal resale value reduces the period over which the cost of finance can be amortised. If a piece of equipment is to be a critical front-line machine, any down-time will significantly impact production. More down-time can be expected with used equipment compared with new, so the choice between the two should be carefully considered.

There may be periods of time where a used machine may be capable of performing at the production level required of a front-line piece of machinery. However, viewed over an appropriate period the use of second-hand machinery in frontline roles may not reflect the cost of commercially providing that service.

There are roles within the harvesting operation where used equipment could be considered and may be the most appropriate given they are not used full time, for example, tail hold machines, ancillary support equipment such as bulldozers for earth works, and ancillary loading or snagging equipment.

The balance between new and used equipment should be carefully considered when determining the equipment used for any particular harvest operation.

### **What finance arrangements have been assumed?**

The standard approach to costing throughout the schedules has been to adopt a 'new' purchase price and amortise this over the effective frontline life of the equipment, arriving at the average of capital invested after deducting the current used price for the relevant piece of equipment.

Where the use of second-hand equipment may be prudent, used prices are specified.

The schedules assume finance is obtained on a capital financed basis. The use of other financing models such as leasing may change the cost profile of capital as well as the risk profile. However, the underlying capital costs will incorporate the same factors: capital cost, depreciation, residual value and a rate of return to the capital provider.

### **Why have cash flow hourly costs been included?**

Providing an estimated cash flow hourly cost for the operation of a piece of machinery recognises the cost of employing capital as well as the change in nature of assets of the business from cash to plant as part of the capital repayment process.

From a profit and loss perspective, principal repayments of plant are a change in the nature of the asset to the business from cash flow to an asset. It is important to note from a cash flow perspective that this is to occur and to acknowledge that the cash flow per hour rate required to operate the business will be affected by this transfer. Note further that if a business were to contract solely on the basis of operating costs additional owner's equity or a line of credit would need to be employed to cover the cash flow shortfall until such time as the asset is liquidated.

The use of an estimated cash flow cost per hour gives the contractor a per hour rate where the cash flow cost of operating their business is estimated to be met by the per hour rate contracted for.

## C. Cost per unit volume variables

While input costs and per hour costs to operate pieces of equipment can be quantified, assessing the cost per unit of production (either cubic meters or tonnes) can vary significantly between harvest sites or with differing harvesting techniques.

Assessing the cost per unit of production requires a significant level of knowledge and expertise regarding harvesting techniques, planning and operations management as well as machine and worker capacity.

Set out below are several factors and their likely impact on production. It is important to be aware of these. Any of the factors cannot be considered in isolation. More often than not they must be considered together as their effects may be compounding.

### Yield

Yield is the amount of product recovered from any given area. This will be different for every harvest site.

Yield is affected by:

- the type of harvesting operation, for example, selective, thinning or clearfell.
- the type of forest to be harvested, for example, native, plantation – pine or eucalypt.
- the size and form of trees (height, diameter and extent of branching).
- the number of stems per hectare.

Lower yield generally increases the cost per unit of production.

When operating in low-yield stands, in any given period of time, say one year, to produce a particular quantity of product, more harvest sites will be required than if operating in high-yield stands. Relocation, down-time and set-up time will need to be factored in when considering costs of operating in low-yield stands.

### Productivity of equipment and work planning

Optimal productivity can be achieved by well-matched equipment and well-planned work practices. However, this can be significantly affected by the skill and experience of each machine operator.

The most efficient operations have the production capacity of each item of equipment and associated system of work aligned to minimise any bottlenecks that may slow overall production.

Work planning, particularly in terms of the positioning of landing sites, the construction of roads to reduce skidding distance to landings, the design of snigging tracks to reduce soil compaction or a choice to use of cable log extraction, can have a significant impact on the efficiency of a harvest operation and can affect overall production.

### Terrain

The nature of the terrain will significantly impact both the costs of production and the quantity of production in any given period of time.

Steeper terrain, natural obstacles or extensive rock cover will increase the cost of, and reduce the amount of, production.

Flatter terrain allows for more efficient ground-based logging techniques. Heavily sloped, undulating or inaccessible terrain may require expensive cable logging systems or heavy side cutting, which will increase costs or slow production.

## **Season**

Each season can have different impacts on production that need to be considered.

Summer is drier, allowing for high levels of production. But if it is too dry, barking logs becomes more difficult and there is a higher chance of stoppage due to fires or high-fire danger days.

Production during winter is normally reduced compared with summer, given the additional environmental care required to protect soils. There is potential for production stoppages due to wet weather.

## **Type of silviculture**

The type of silviculture for any particular harvest site will have a significant impact on the type of equipment required, the cost of production and the amount of production.

Silvicultural treatment may vary from: clearfell, selective logging, seed tree retention, variable retention, habitat tree retention, clump retention or thinning.

Different suites of equipment will better suit different types of silvicultural treatment.

The impact on production and cost of the silvicultural treatment for a site and the equipment required will need to be carefully considered when estimating costs for any particular site.

## **Piece size and form**

Piece size and form will impact the cost of production and amount produced.

Small trees can be difficult to bark and time consuming to handle, resulting in significant drops in production, increased fuel expense and repair costs. Large trees can be difficult to fell and process. Depending on the size of the mechanical harvester, they may be too big for the machine to safely handle and may require hand falling.

## **Cut-to-length harvesting systems**

Cut-to-length harvesting or processing at the stump is typically engaged in thinning operations in the plantation sector. It has many advantages over whole-of-tree systems in terms of nutrient retention, minimising soil disturbance and the impact of the thinning operation on retained trees. A typical cut-to-length system uses a harvester to fell the tree and process it (debark and cut the log to length) at the stump, with the log extraction then performed by a forwarder.

Engaging cut-to-length processing, particularly in a thinning operation, may be undertaken in preference to whole-of-tree log extraction in order to reduce damage to remaining trees.

However, the system requires an increased capital outlay and in a native forest clearfell scenario is less productive than whole-of-tree log extraction.

## D. Machine costing

### Front-line machines

	Tracked Feller Buncher	Grapple Skidder	Grapple Skidder	Shovel- Excavator	Shovel- Purpose Built
	150-225 kw	110-130 kw	180-210 kw	180-200 kw	250-275 kw
Current New Price	\$ 900,000	\$ 400,000	\$ 500,000	\$ 700,000	\$ 900,000
Hours Per Day	9.00	9.00	9.00	9.00	9.00
Hours Per Year	2,115	2,115	2,115	2,115	2,115
Years to be Owned	5.0	5.0	5.0	5.0	5.0
Gives Hours to be Owned	10,575	10,575	10,575	10,575	10,575
Current Used Price	\$ 180,000	\$ 80,000	\$ 100,000	\$ 140,000	\$ 180,000
Average Capital Invested	\$ 720,000	\$ 320,000	\$ 400,000	\$ 560,000	\$ 720,000
New Tyre Price (Set)	\$ -	\$ -	\$ 32,000		\$ -
Tyre Life (hrs)	-	-	8,000		-
New Tracks Price (Set)	\$ 40,000	\$ 40,000	\$ -	\$ 40,000	\$ 40,000
Tracks Life (hrs)	8,000	8,000	-	8,000	8,000
Wire Rope	\$ -	\$ -	\$ -	\$ -	\$ -
Wire Rope Life	-	-	-	-	-
Proportion of ACI as Loan	100%	100%	100%	100%	100%
Proportion of ACI as Owners Equity	0%	0%	0%	0%	0%
Loan Interest Rate	6.25%	6.25%	6.25%	6.25%	6.25%
Owners Interest Rate	6.25%	6.25%	6.25%	6.25%	6.25%
Melbourne Diesel Terminal Gate Price – Average 25 September to 25 October 2021	\$ 1.4635	\$ 1.4635	\$ 1.4635	\$ 1.4635	\$ 1.4635
GST	\$ 0.10	\$ 0.10	\$ 0.10	\$ 0.10	\$ 0.10
Fuel Tax Credit	\$ 0.433	\$ 0.433	\$ 0.433	\$ 0.433	\$ 0.433
Fuel Price (\$ per litre - Net of Rebate)	\$ 0.93	\$ 0.93	\$ 0.93	\$ 0.93	\$ 0.93
Litres Per Hour	35	20	25	30	35
Repairs and Maintenance (pa)	\$ 84,600	\$ 63,450	\$ 63,450	\$ 63,450	\$ 84,600
<b>Fixed Costs/Hr</b>					
Depreciation	\$ 68.09	\$ 30.26	\$ 37.83	\$ 52.96	\$ 68.09
Interest	\$ 14.21	\$ 6.32	\$ 7.89	\$ 11.05	\$ 14.21
Insurance	\$ 6.81	\$ 2.27	\$ 2.84	\$ 3.97	\$ 5.11
	\$ 89.10	\$ 38.84	\$ 48.56	\$ 67.98	\$ 87.40

Cont.

	Tracked Feller Buncher	Grapple Skidder	Grapple Skidder	Shovel- Excavator	Shovel- Purpose Built
	150-225 kw	110-130 kw	180-210 kw	180-200 kw	250-275 kw
<b>Running Costs/Hr</b>					
Fuel	\$ 32.55	\$ 18.60	\$ 23.25	\$ 27.90	\$ 32.55
Oil/Grease	\$ 0.47	\$ 0.27	\$ 0.33	\$ 0.40	\$ 0.47
Repairs and Maintenance	\$ 40.00	\$ 30.00	\$ 30.00	\$ 30.00	\$ 40.00
Tracks	\$ 5.00	\$ 5.00	\$ -	\$ 5.00	\$ 7.50
Wire Rope	\$ -	\$ -	\$ -	\$ -	\$ -
Tyres	\$ -	\$ -	\$ 4.00	\$ -	\$ -
	\$ 78.02	\$ 53.87	\$ 57.58	\$ 63.30	\$ 80.52
<b>Direct Machine Costs/Hr</b>	<b>\$ 167.12</b>	<b>\$ 92.71</b>	<b>\$ 106.14</b>	<b>\$ 131.28</b>	<b>\$ 167.92</b>
Labour Per Machine Hour	\$ 69.15	\$ 69.15	\$ 69.15	\$ 69.15	\$ 69.15
Service & Support Vehicles	\$ 5.63	\$ 5.63	\$ 5.63	\$ 5.63	\$ 5.63
Overhead Allocation	\$ 15.76	\$ 15.76	\$ 15.76	\$ 15.76	\$ 15.76
<b>Estimated Total Hrly Cost</b>	<b>\$ 257.66</b>	<b>\$ 183.25</b>	<b>\$ 196.68</b>	<b>\$ 221.82</b>	<b>\$ 258.46</b>
<b>Estimated Cash Flow</b>					
Hourly Fixed Costs	\$ 89.10	\$ 38.84	\$ 48.56	\$ 67.98	\$ 87.40
Less: Depreciation	\$ 68.09	\$ 30.26	\$ 37.83	\$ 52.96	\$ 68.09
Less: Interest	\$ 14.21	\$ 6.32	\$ 7.89	\$ 11.05	\$ 14.21
	\$ 6.81	\$ 2.27	\$ 2.84	\$ 3.97	\$ 5.11
Add:					
Finance Costs – Principal	\$ 900,000	\$ 400,000	\$ 500,000	\$ 700,000	\$ 900,000
Term (yrs.)	5.0	5.0	5.0	5.0	5.0
Interest Rate	6.3%	6.3%	6.3%	6.3%	6.3%
Monthly Repayment	\$ 17,504	\$ 7,780	\$ 9,725	\$ 13,614	\$ 17,504
Annual Repayment	\$ 210,052	\$ 93,356	\$ 116,696	\$ 163,374	\$ 210,052
Hourly Repayment	\$ 99.32	\$ 44.14	\$ 55.18	\$ 77.25	\$ 99.32
Total Hourly Fixed Costs - Cash Flow	\$ 106.12	\$ 46.41	\$ 58.01	\$ 81.22	\$ 104.42
Add: Variable Costs	\$ 78.02	\$ 53.87	\$ 57.58	\$ 63.30	\$ 80.52
<b>Direct Hourly Cash Flow Cost</b>	<b>\$ 184.14</b>	<b>\$ 100.28</b>	<b>\$ 115.59</b>	<b>\$ 140.55</b>	<b>\$ 184.94</b>
Add:					
Labour Per Machine Hour	\$ 69.15	\$ 69.15	\$ 69.15	\$ 69.15	\$ 69.15
Service & Support Vehicles	\$ 5.63	\$ 5.63	\$ 5.63	\$ 5.63	\$ 5.63
Overhead Allocation	\$ 15.76	\$ 15.76	\$ 15.76	\$ 15.76	\$ 15.76
<b>Estimated Total Cash Flow Hrly Cost</b>	<b>\$ 274.68</b>	<b>\$ 190.82</b>	<b>\$ 206.13</b>	<b>\$ 231.09</b>	<b>\$ 275.48</b>

	Forwarder Small	Forwarder – Medium	Cable – Tower	Cable – Swing	Harvester/ Rubber Tyred Medium
	15 -18t	20t+	>300 kW	>300 kW	170-200 kw
Current New Price	\$ 510,000	\$ 580,000	\$ 1,500,000	\$ 2,000,000	\$ 770,000
Hours Per Day	9.00	9.00	9.00	9.00	9.00
Hours Per Year	2,115	2,115	2,115	2,155	2,155
Years to be Owned	5.0	5.0	5.0	5.0	5.0
Gives Hours to be Owned	10,575	10,575	10,575	10,575	10,575
Current Used Price	\$ 102,000	\$ 116,000	\$ 375,000	\$ 500,000	\$ 154,000
Average Capital Invested	\$ 408,000	\$ 464,000	\$ 1,125,000	\$ 1,500,000	\$ 616,000
New Tyre Price (Set)	\$ 40,000	\$ 52,000	\$ -	\$ -	\$ 30,000
Tyre Life (hrs)	9,000	9,000	-	-	8,000
New Tracks Price (Set)	\$ -	\$ -	\$ 60,000	\$ 60,000	\$ -
Tracks Life (hrs)	-	-	10,000	10,000	-
Wire Rope	\$ -	\$ -	\$ 40,000	\$ 45,000	\$ -
Wire Rope Life	-	-	1,500	1,500	-
Proportion of ACI as Loan	100%	100%	100%	100%	100%
Proportion of ACI as Owners Equity	0%	0%	0%	0%	0%
Loan Interest Rate	6.25%	6.25%	6.25%	6.25%	6.25%
Owners Interest Rate	6.25%	6.25%	6.25%	6.25%	6.25%
Melbourne Diesel Terminal Gate Price – Average 25 September to 25 October 2021	\$ 1.463	\$ 1.463	\$ 1.463	\$ 1.463	\$ 1.463
GST	\$ 0.10	\$ 0.10	\$ 0.10	\$ 0.10	\$ 0.10
Fuel Tax Credit	\$ 0.433	\$ 0.433	\$ 0.433	\$ 0.433	\$ 0.433
Fuel Price (\$ per litre - Net of Rebate)	\$ 0.93	\$ 0.93	\$ 0.93	\$ 0.93	\$ 0.93
Litres Per Hour	17	19	25	25	18
Repairs and Maintenance (pa)	\$ 52,875	\$ 63,450	\$ 63,450	\$ 74,025	\$ 84,600
<b>Fixed Costs/Hr</b>					
Depreciation	\$ 38.58	\$ 43.88	\$ 106.38	\$ 141.84	\$ 58.25
Interest	\$ 8.05	\$ 9.16	\$ 23.68	\$ 31.58	\$ 12.16
Insurance	\$ 2.89	\$ 3.29	\$ 7.98	\$ 14.18	\$ 4.37
	\$ 49.53	\$ 56.32	\$ 138.04	\$ 187.60	\$ 74.78
<b>Running Costs/Hr</b>					
Fuel	\$ 15.81	\$ 17.67	\$ 23.25	\$ 23.25	\$ 16.74
Oil/Grease	\$ 0.23	\$ .25	\$ 0.33	\$ 0.33	\$ 0.24



Cont.

	Forwarder Small	Forwarder – Medium	Cable – Tower	Cable – Swing	Rubber Tyred Medium
	15 -18t	20t+	>300 kW	>300 kW	170-200 kw
Repairs and Maintenance	\$ 25.00	\$ 30.00	\$ 30.00	\$ 35.00	\$ 40.00
Tracks	\$ -	\$ -	\$ 6.00	\$ 6.00	\$ -
Wire Rope	\$ -	\$ -	\$ 26.67	\$ 30.00	\$ -
Tyres	\$ 4.44	\$ 5.78	\$ -	\$ -	\$ 3.75
	\$ 45.48	\$ 53.7	\$ 86.25	\$ 94.58	\$ 60.73
<b>Direct Machine Costs/Hr</b>	<b>\$ 95.01</b>	<b>\$ 110.02</b>	<b>\$ 224.29</b>	<b>\$ 282.18.43</b>	<b>\$ 135.51</b>
Labour Per Machine Hour	\$ 69.15	\$ 69.15	\$ 69.15	\$ 69.15	\$ 69.15
Service & Support Vehicles	\$ 5.63	\$ 5.63	\$ 5.63	\$ 5.63	\$ 5.63
Overhead Allocation	\$ 5.76	\$ 15.76	\$ 15.76	\$ 15.67	\$ 15.76
<b>Estimated Total Hrly Cost</b>	<b>\$ 175.55</b>	<b>\$ 200.56</b>	<b>\$ 314.83</b>	<b>\$ 372.63</b>	<b>\$ 226.05</b>
<b>Estimated Cash Flow</b>					
Hourly Fixed Costs	\$ 49.53	\$ 56.32	\$ 138.04	\$ 187.60	\$ 74.78
Less: Depreciation	\$ 38.58	\$ 43.88	\$ 106.38	\$ 141.84	\$ 58.25
Less: Interest	\$ 8.05	\$ 9.16	\$ 23.68	\$ 31.58	\$ 12.16
	\$ 2.89	\$ 3.29	\$ 7.98	\$ 14.18	\$ 4.37
Add:					
Finance Costs – Principal	\$ 510,000	\$ 580,000	\$ 1,500,000	\$ 2,000,000	\$ 770,000
Term (yrs.)	5.0	5.0	5.0	5.0	5.0
Interest Rate	6.3%	6.3%	6.3%	6.3%	6.3%
Monthly Repayment	\$ 9,919	\$ 11,281	\$ 29,174	\$ 38,899	\$ 14,976
Annual Repayment	\$ 119,029	\$ 135,367	\$ 350,087	\$ 466,782	\$ 179,711
Hourly Repayment	\$ 56.28	\$ 64.00	\$ 165.53	\$ 220.70	\$ 84.97
Total Hourly Fixed Costs - Cash Flow	\$ 59.17	\$ 67.29	\$ 173.05	\$ 234.89	\$ 89.34
Add: Variable Costs	\$ 45.48	\$ 53.78	\$ 86.25.50	\$ 94.58	\$ 60.73
<b>Direct Hourly Cash Flow Cost</b>	<b>\$ 104.65</b>	<b>\$ 121.07</b>	<b>\$ 259.30</b>	<b>\$ 329.47</b>	<b>\$ 150.07</b>
Add:					
Labour Per Machine Hour	\$ 69.15	\$ 69.15	\$ 69.15	\$ 69.15	\$ 69.15
Service & Support Vehicles	\$ 5.63	\$ 5.63	\$ 5.63	\$ 5.63	\$ 5.56
Overhead Allocation	\$ 15.76	\$ 15.76	\$ 15.76	\$ 15.76	\$ 15.76
<b>Estimated Total Cash Flow Hrly Cost</b>	<b>\$ 195.19</b>	<b>\$ 211.61</b>	<b>\$ 349.84</b>	<b>\$ 420.01</b>	<b>\$ 240.54</b>

	Harvester/ Rubber Tyred - Medium	Harvester/ Tracked Base - Small	Harvester/ Tracked Base - Medium	Harvester/ Tracked Base - Medium	Harvester/ Tracked Base - Large
	200-225 kw	20 inch	22 inch	24 inch	26 inch
Current New Price	\$ 815,000	\$ 780,000	\$ 850,000	\$ 985,000	\$ 1,050,000
Hours Per Day	9.00	9.00	9.00	9.00	9.00
Hours Per Year	2,115	2,115	2,115	2,115	2,115
Years to be Owned	5.0	5.0	5.0	5.0	5.0
Gives Hours to be Owned	10,575	10,575	10,575	10,575	10,575
Current Used Price	\$ 163,000	\$ 156,000	\$ 170,000	\$ 197,000	\$ 210,000
Average Capital Invested	\$ 652,000	\$ 624,000	\$ 680,000	\$ 788,000	\$ 840,000
New Tyre Price (Set)	\$ 30,000	-			-
Tyre Life (hrs)	8,000	-			-
New Tracks Price (Set)	\$ -	\$ 35,000	\$ 40,000	\$ 50,000	\$ 60,000
Tracks Life (hrs)	-	7,000	7,000	7,000	7,000
Wire Rope	\$ -	\$ -	\$ -	\$ -	\$ -
Wire Rope Life	-	-	-	-	-
Proportion of ACI as Loan	100%	100%	100%	100%	100%
Proportion of ACI as Owners Equity	0%	0%		0%	0%
Loan Interest Rate	6.25%	6.25%	6.25%	6.25%	6.25%
Owners Interest Rate	6.25%	6.25%	6.25%	6.25%	6.25%
Melbourne Diesel Terminal Gate Price – Average 25 September to 25 October 2021	\$ 1.463	\$ 1.463	\$ 1.463	\$ 1.463	\$ 1.463
GST	\$ 0.10	\$ 0.10	\$ 0.10	\$ 0.10	\$ 0.10
Fuel Tax Credit	\$ 0.433	\$ 0.433	\$ 0.433	\$ 0.433	\$ 0.433
Fuel Price (\$ per litre - Net of Rebate)	\$ 0.93	\$ 0.93	\$ 0.93	\$ 0.93	\$ 0.93
Litres Per Hour	20	28	30	32	35
Repairs and Maintenance (pa)	\$ 95,175	\$ 74,025	\$ 84,600	\$ 95,175	\$ 108,750
<b>Fixed Costs/Hr</b>					
Depreciation	\$ 61.65	\$ 59.01	\$ 64.30	\$ 74.52	\$ 79.43
Interest	\$ 12.87	\$ 12.31	\$ 13.42	\$ 15.55	\$ 16.58
Insurance	\$ 4.62	\$ 4.43	\$ 4.82	\$ 5.59	\$ 5.96
	\$ 79.15	\$ 75.75	\$ 82.54	\$ 95.65	\$ 101.97
<b>Running Costs/Hr</b>					
Fuel	\$ 18.60	\$ 26.04	\$ 27.90	\$ 27.90	\$ 32.55

	Harvester/ Rubber Tyred - Medium	Harvester/ Tracked Base - Small	Harvester/ Tracked Base - Medium	Harvester/ Tracked Base - Medium	Harvester/ Tracked Base - Large
	200-225 kw	20 inch	22 inch	24 inch	26 inch
Oil/Grease	\$ 0.27	\$ 0.37	\$ 0.40	\$ 0.43	\$ 0.47
Repairs and Maintenance	\$ 45.00	\$ 35.00	\$ 40.00	\$ 45.00	\$ 50.00
Tracks	\$ -	\$ 5.00	\$ 5.71	\$ 7.14	\$ 8.57
Wire Rope	\$ -	\$ -	\$ -	\$ -	\$ -
Tyres	\$ 3.75	\$ -	\$ -	\$ -	\$ -
	\$ 67.62	\$ 66.41	\$ 74.01	\$ 80.47	\$ 91.59
<b>Direct Machine Costs/Hr</b>	<b>\$ 146.79</b>	<b>\$ 142.16</b>	<b>\$ 156.55</b>	<b>\$ 176.12</b>	<b>\$ 193.56</b>
Labour Per Machine Hour	\$ 69.15	\$ 69.15	\$ 69.15	\$ 69.15	\$ 69.15
Service & Support Vehicles	\$ 5.63	\$ 5.63	\$ 5.63	\$ 5.63	\$ 5.63
Overhead Allocation	\$ 15.76	\$ 15.76	\$ 15.76	\$ 15.76	\$ 15.76
<b>Estimated Total Hrly Cost</b>	<b>\$ 237.33</b>	<b>\$ 232.70</b>	<b>\$ 247.09</b>	<b>\$ 266.66</b>	<b>\$ 284.10</b>
<b>Estimated Cash Flow</b>					
Hourly Fixed Costs	\$ 79.15	\$ 75.75	\$ 82.54	\$ 95.65	\$ 101.97
Less: Depreciation	\$ 61.65	\$ 59.01	\$ 64.30	\$ 74.52	\$ 79.43
Less: Interest	\$ 12.87	\$ 12.31	\$ 13.42	\$ 15.55	\$ 16.58
	\$ 4.62	\$ 4.43	\$ 4.82	\$ 5.59	\$ 5.96
Add: Finance Costs – Principal	\$ 815,000	\$ 780,000	\$ 850,000	\$ 985,000	\$ 1,050,000
Term (yrs.)	5.0	5.0	5.0	5.0	5.0
Interest Rate	6.3%	6.3%	6.3%	6.3%	6.3%
Monthly Repayment	\$ 15,851	\$ 15,170	\$ 16,532	\$ 19,158	\$ 20,422
Annual Repayment	\$ 190,214	\$ 182,045	\$ 198,382	\$ 229,890	\$ 245,061
Hourly Repayment	\$ 89.94	\$ 86.07	\$ 93.80	\$ 108.70	\$ 115.87
Total Hourly Fixed Costs - Cash Flow	\$ 94.56	\$ 90.50	\$ 98.62	\$ 114.28	\$ 121.83
Add: Variable Costs	\$ 67.64	\$ 66.41	\$ 76.01	\$ 80.47	\$ 91.59
<b>Direct Hourly Cash Flow Cost</b>	<b>\$ 162.20</b>	<b>\$ 156.91</b>	<b>\$ 1174.63</b>	<b>\$ 194.75</b>	<b>\$ 213.42</b>
Add:					
Labour Per Machine Hour	\$ 69.15	\$ 69.15	\$ 69.15	\$ 69.15	\$ 69.15
Service & Support Vehicles	\$ 5.63	\$ 5.63	\$ 5.63	\$ 5.63	\$ 5.63
Overhead Allocation	\$ 15.76	\$ 15.76	\$ 15.76	\$ 15.76	\$ 15.76
<b>Estimated Total Cash Flow Hrly Cost</b>	<b>\$ 252.74</b>	<b>\$ 247.45</b>	<b>\$ 265.17</b>	<b>\$ 285.29</b>	<b>\$ 303.96</b>

	Harvester/ Rubber Tyred - Medium	Harvester/ Tracked Base - Small	Harvester/ Tracked Base - Medium	Harvester/ Tracked Base - Medium	Harvester/ Tracked Base - Large
	200-225 kw	20 inch	22 inch	24 inch	26 inch

	Loader	Loader
	19-22t	28-34t
Current New Price	\$ 300,000	\$ 350,000
Hours Per Day	9.00	9.00
Hours Per Year	2,115	2,115
Years to be Owned	5.0	5.0
Gives Hours to be Owned	10,575	10,575
Current Used Price	\$ 60,000	\$ 70,000
Average Capital Invested	\$ 240,000	\$ 280,000
New Tyre Price (Set)	\$ -	\$ -
Tyre Life (hrs)	\$ -	\$ -
New Tracks Price (Set)	\$ 35,000	\$ 40,000
Tracks Life (hrs)	10,000	10,000
Wire Rope	\$ -	\$ -
Wire Rope Life	-	-
Proportion of ACI as Loan	100%	100%
Proportion of ACI as Owners Equity	0%	0%
Loan Interest Rate	6.25%	6.25%
Owners Interest Rate	6.25%	6.25%
Melbourne Diesel Terminal Gate Price – Average 25 September to 25 October 2021	\$ 1.463	\$ 1.463
GST	\$ 0.10	\$ 0.10
Fuel Tax Credit	\$ 0.433	\$ 0.433
Fuel Price (\$ per litre - Net of Rebate)	\$ 0.93	\$ 0.93
Litres Per Hour	21	23
Repairs and Maintenance (pa)	\$ 52,875	\$ 63,450
<b>Fixed Costs/Hr</b>		
Depreciation	\$ 22.70	\$ 26.48
Interest	\$ 4.74	\$ 5.53
Insurance	\$ 1.70	\$ 1.99
	\$ 29.13	\$ 33.99

Table continued

	Loader	
	19-22t	28-34t
<b>Running Costs/Hr</b>		
Fuel	\$ 19.53	\$ 21.39
Oil/Grease	\$ 0.28	\$ 0.31
Repairs and Maintenance	\$ 25.00	\$ 30.00
Cont.		)
Wire Rope	\$ -	\$ -
Tyres	\$ -	\$ -
	\$ 48.31	\$ 55.70
<b>Direct Machine Costs/Hr</b>	<b>\$ 77.44</b>	<b>\$ 89.69</b>
Labour Per Machine Hour	\$ 69.15	\$ 69.15
Service & Support V	\$ 5.63	\$ 5.63
Overhead Allocation	\$ 15.76	\$ 15.76
<b>Estimated Total Hrly Cost</b>	<b>\$ 167.98</b>	<b>\$ 180.23</b>
Estimated Cash Flow		
Hourly Fixed Costs	\$ 29.13	\$ 33.99
Less: Depreciation	\$ 22.70	\$ 26.48
Less: Interest	\$ 4.74	\$ 5.53
	\$ 1.70	\$ 1.99
Add:		
Finance Costs – Principal	\$ 300,000	\$ 350,000
Term (yrs.)	5.0	5.0
Interest Rate	6.3%	6.3%
Monthly Repayment	\$ 5,835	\$ 6,807
Annual Repayment	\$ 70,017	\$ 81,687
Hourly Repayment	\$ 33.11	\$ 38.62
Total Hourly Fixed Costs - Cash Flow	\$ 34.81	\$ 40.61
Add: Variable Costs	\$ 48.31	\$ 55.70
<b>Direct Hourly Cash Flow Cost</b>	<b>\$ 83.12</b>	<b>\$ 96.31</b>
Add:		
Labour Per Machine Hour	\$ 69.15	\$ 69.15
Service & Support Vehicles	\$ 5.63	\$ 5.63
Overhead Allocation	\$ 15.76	\$ 15.76
<b>Estimated Total Cash Flow Hrly Cost</b>	<b>\$ 173.66</b>	<b>\$ 186.85</b>

## Second-line machines

	Dozer - Support	Tail Hold Machine	Loader
Current Used Price	\$ 225,000	\$ 150,000	\$ 150,000
Hours Per Day	5.00	5.00	5.00
Hours Per Year	1,175	1,175	1,175
Years to be Owned	5.0	5.0	5.0
Gives Hours to be Owned	5,875	5,875	5,875
Current Used Price	\$ 67,500	\$ 45,000	\$ 45,000
Average Capital Invested	\$ 157,500	\$ 105,000	\$ 105,000
New Tyre Price (Set)	-	-	-
Tyre Life (hrs)	-	-	-
New Tracks Price (Set)	\$ 25,000	\$ 25,000	\$ 25,000
Tracks Life	7,000	7,000	7,000
Wire Rope	\$ -	\$ -	\$ -
Wire Rope Life	-	-	-
Proportion of ACI as Loan	100%	100%	100%
Proportion of ACI as Owners Equity	0%	0%	0%
Loan Interest Rate	6.25%	6.25%	6.25%
Owners Interest Rate	6.25%	6.25%	6.25%
Melbourne Diesel Terminal Gate Price – Average 25 September to 25 October 2021	\$ 1.463	\$ 1.463	\$ 1.463
GST	\$ 0.10	\$ 0.10	\$ 0.10
Fuel Tax Credit	\$ 0.433	\$ 0.433	\$ 0.433
Fuel Price (\$ per litre - Net of Rebate)	\$ 0.93	\$ 0.93	\$ 0.93
Litres Per Hour	\$ 25	\$ 25	\$ 25
Repairs and Maintenance (pa)	\$ 47,000	\$ 47,000	\$ 47,000
<b>Fixed Costs/Hr</b>			
Depreciation	\$ 26.81	\$ 17.87	\$ 17.87
Interest	\$ 6.39	\$ 4.26	\$ 4.26
Insurance	\$ 2.01	\$ 1.34	\$ 1.34
	\$ 35.21	\$ 23.48	\$ 23.48
<b>Running Costs/Hr</b>			
Fuel	\$ 23.25	\$ 23.25	\$ 23.25
Oil/Grease	\$ 0.33	\$ 0.33	\$ 0.33
Repairs and Maintenance	\$ 40.00	\$ 40.00	\$ 40.00
Tracks	\$ 3.57	\$ 3.57	\$ 3.57
Wire Rope	\$ -	\$ -	\$ -
Tyres	\$ -	\$ -	\$ -
	\$ 67.15	\$ 67.15	\$ 67.15

Cont.

	Dozer - Support	Tail Hold Machine	Loader
<b>Direct Machine Costs/Hr</b>	<b>\$ 102.36</b>	<b>\$ 90.63</b>	<b>\$ 90.63</b>
Labour Per Machine Hour	\$ 69.15	\$ 69.15	\$ 69.15
Service & Support Vehicles	\$ 5.63	\$ 5.63	\$ 5.63
Overhead Allocation	\$ 15.76	\$ 15.76	\$ 15.76
<b>Estimated Total Hrly Cost</b>	<b>\$ 192.90</b>	<b>\$ 181.17</b>	<b>\$ 181.17</b>
Estimated Cash Flow Cost/Hr			
Hourly Fixed Costs	\$ 35.21	\$ 23.48	\$ 23.48
Less: Depreciation	\$ 26.81	\$ 17.87	\$ 17.87
Less: Interest	\$ 6.39	\$ 4.26	\$ 4.26
	\$ 2.01	\$ 1.34	\$ 1.34
Add; Finance Costs – Principal	\$ 225,000	\$ 150,000	\$ 150,000
Term (yrs.)	5.0	5.0	5.0
Interest Rate	6.3%	6.3%	6.3%
Monthly Repayment	\$ 4,376	\$ 2,917	\$ 2,917
Annual Repayment	\$ 52,513	\$ 35,009	\$ 35,009
Hourly Repayment	\$ 44.69	\$ 29.79	\$ 29.79
Total Hourly Fixed Costs – Cash Flow	\$ 46.70	\$ 31.14	\$ 31.14
Add: Variable Costs	\$ 67.15	\$ 67.15	\$ 67.15
<b>Direct Hourly Cash Flow Cost</b>	<b>\$ 113.85</b>	<b>\$ 98.29</b>	<b>\$ 98.29</b>
Add:			
Labour Per Machine Hour	\$ 69.15	\$ 69.15	\$ 69.15
Service & Support Vehicles	\$ 5.63	\$ 5.63	\$ 5.63
Overhead Allocation	\$ 15.76	\$ 15.76	\$ 15.76
<b>Estimated Total Cash Flow Hrly Cost</b>	<b>\$ 204.39</b>	<b>\$ 188.83</b>	<b>\$ 188.83</b>

## E. Labour costs

Labour costs are based on an average wage payment of \$60 per/hour for all machinery operators in a five person harvesting team inclusive of the owner-manager position outlined below. As detailed in **Part B** of this Schedule, an experienced operator of a front-line piece of equipment such as a feller-buncher, harvester or processor has a significant impact on productivity and profitability. Increased productivity as well as decreased damage to forest products result in experienced machinery operators achieving a premium for their services.

The average is an average of skill and experience levels ranging from entry level up to a manager or logging team leader (LTL) engaged in machinery operation as well as planning and management.

## F. Payment for the business owner's labour

This Schedule incorporates a salary of \$114,319 for an owner-manager's work in managing the business and acting as a logging team leader and machinery operator in a five person logging team. However, the owner may take payment for their labour in the form of a wage, profits, trust distributions, dividends or a combination of these, depending on their accountant's advice.

The work of the owner-manager is assumed to include the following tasks:

- machinery operation
- supervising and training harvesting crews
- coupe harvest planning, including roading, landing location and coupe boundary trails
- coupe rehabilitation, afforestation and environmental impact planning
- liaising with forest grower/manager
- planning and implementing safety management systems, including hazard identification, fatigue management, safe work systems, tool box meetings, coupe visitor compliance, coupe safety audits and documentation of all of the above
- fire management and fire-fighting compliance
- responding to protest action

### Footnotes:

<sup>1</sup> 'Harvesting Contractor' and 'forest products' are defined in the *Owner Drivers and Forestry Contractors Act 2005*.