EXAMPLE: Calculation of painting contract liability and cyclical maintenance provision

Background

In 2017 the Kiwi Park School Board signed an agreement with Scheduled Maintenance Services Ltd (the contractor) for an agreed programme of work covering an eight-year period. The programme provides for an interior and exterior repaint of the Ministry-owned buildings in 2019, with regular maintenance in subsequent years.

Both a contract liability for work completed but not yet paid for *and* a provision for cyclical maintenance to cover future work to be completed will need to be calculated and recorded.

Painting Contract Liability

Step 1: From your current painting contract, extract and update the following information:

- Term of the contract [C5]
- Commencement date [C6]
- Amount per year [C7]

The total value of the contract automatically calculates [C8]. Confirm that the calculation matches the contract. If it doesn't, this may be due to uneven payments throughout the term of the contract, in this instance you will need to overwrite the cell with the value [C8].

Painting contract terms	
Term	8 years
Commencement	2/01/2019
Amount per Year	$16,754
Value	**$134,032**

Step 2: Extract out from your painting contract the following:

- Annual percentage of work completed
- Annual billing by year

From review of the contract, the first year of the contract, 2019, is the full repaint. This represents the cyclical maintenance portion of the contract. The remainder of the contracted years relates to repairs and maintenance work on the school buildings to prolong the life of the paint job and see it through until the next repaint.

Step 3: Using the data from the table of work and billing located in the painting contract, the table below is updated [C12:C26, D12:D26]

Table of Work and Billing (from contract)

Year	Annual Percentage of Work Completed	Annual Billing Percentage	Balance Due to Contractor (%)
1	57.82%	12.50%	45%
2	8.49%	12.50%	41%
3	7.66%	12.50%	36%
4	5.44%	12.50%	29%
5	5.51%	12.50%	22%
6	5.60%	12.50%	16%
7	4.95%	12.50%	8%
8	4.53%	12.50%	0%
		0.00%	
		0.00%	
Total	100.00%	100.00%	

The full repaint is the only portion of the painting expenditure that is cyclical in nature and so needs to be taken to the provision calculation sheet. The touch-ups for the years in between including wash-downs are charged directly to repairs and maintenance expenditure.

Step 4: Once the table of work and billing is completed, the calculation of annual painting contract liability table (below) will auto-populate for you to review.

Enter in 2019 as the start year [B32], which then populates all the remaining years (in first column).

Review the rest of the table. Specifically, checking:

- Total annual payments have transferred down from table above [C32:C46]
- Annual work matches the table above [D32:D46]
- Total liability at 31 December is reducing each year as payments are made by expected amount [H32:H46]
- Total of current ($) due within one year is the lower of the total liability and the annual payment value [I32:I46]
- The total of current and non-current equals the total liability at 31 December

The most important information from this table is the current year's total balance split by current and non-current.

Calculation of annual painting contract liability							Split	
Year	Total annual payments ($)	Annual Work	Total Due to PMS %	Total Due to PMS $	Paid	Total Liability @ 31 December	Current ($) [Due within 1 year]	Non-Current ($) [Due after 1 year]
2019	16,754	57.82%	57.82%	77,497	16,754	60,743	16,754	43,989
2020	16,754	8.49%	66.31%	88,871	33,508	55,363	16,754	38,609
2021	16,754	7.66%	73.96%	99,133	50,262	48,871	16,754	32,117
2022	16,754	5.44%	79.40%	106,419	67,016	39,403	16,754	22,649
2023	16,754	5.51%	84.90%	113,799	83,770	30,029	16,754	13,275
2024	16,754	5.60%	90.50%	121,299	100,524	20,775	16,754	4,021
2025	16,754	4.95%	95.45%	127,934	117,278	10,656	10,656	-
2026	16,754	4.55%	100.00%	134,032	134,032	-	-	-
	134,032							

Note: Capturing the cost of the work in 2019

When the paint job was completed in 2019, to record the cost of work completed, the following journal was entered:

Debit	Painting Expense	$77,497.30	
Credit	Painting Contract Liability		$77,497.30
Narrative: Journal to recognise the paint job completed during the year			
The current cyclical maintenance provision is reversed against this cost now that the work has been completed. The balance of painting at the end of the year would only include the annual provision for cyclical maintenance and any difference in the actual cost of painting in 2019 and the cyclical maintenance provision at that date. The total provision in the accounts at the end of 2018 was $65,625. The following journal reversing cyclical maintenance provision from end of 2018 was entered.			
Debit	Cyclical Maintenance Provision	$65,625	
Credit	Painting Expense		$65,625
Narrative: Journal to reverse cyclical maintenance provision against cyclical maintenance painting work completed during the year.			

Note: In the year that the paint job is undertaken, the spreadsheet does not calculate an amount for the cyclical maintenance provision as it releases it back to the statement of comprehensive income and expenditure.

Step 5: Update the year of calculation to represent the year you are preparing the accounts for. The current and non-current split of the liability will populate.

Year of calculation	2021	<--- Reflects year of calculation
Current Liability	16,754	This looks at the annual painting contract liability table and selects the current liability for the year of calculation.
Non-Current Liability	32,117	This looks at the annual painting contract liability table and selects the non-current liability for the year of calculation.

Step 6: When payment is made each month (*note*: this could be any frequency) this is taken directly from your bank account (via direct debit) and it is recorded directly against the painting contract liability. Below is the journal you prepare. [Note: GST is ignored in this example]

Journal Entry #1

Debit	Painting Contract Liability	$1,396.17	
Credit	Bank		$1,396.17
Narrative: Journal to recognise the monthly payment to the painting contractor for the painting contract.			

(Note: this journal is posted a total of 12 times throughout the year to total the $16,754 contracted annual repayments)

Step 7: The painter had visited during the year and completed general paint maintenance work to prolong the life of the paint job, so a portion of the amount paid as part of the annual fee actually relates to general maintenance and not the repayment of cyclical maintenance.

To account for this correctly a journal is required to record the maintenance in the accounts. From review of the table of work and billing, you can see that 7.66% of the total work completed of the entire contract relates to maintenance work in 2021.

Total Value of Contract	$134,032
Annual Work Completed %	7.66%
Total maintenance work completed	**$10,261**
Total payment to contractor	**$16,754**
Reduction in painting contract liability	**$6,493**

To record the portion which should be recorded against the property expense account prepare and post the below journal entry based on the above calculation.

Journal Entry #2

Debit	Painting Repairs and Maintenance (Property Expense)	$10,261	
Credit	Painting Contract Liability		$10,261
Narrative: Journal to recognise the annual maintenance work completed by the painting contractor (annual % of work completed * annual Value of Contract).			

REMINDER: Although you have a painting contract you also need to create a provision for cyclical maintenance to put aside funding for when the next full paint job needs to occur. Remember, a painting contract is paying for work already done, cyclical maintenance is putting aside funds to pay for painting that is needed in the future.

Painting Contract - Cyclical Maintenance Provision

You can obtain the cost of the last repaint from the existing painting contract. Because this price is set eight years prior to the next time the paint job will be completed, and the contract will be resigned this will need to be adjusted for price increases. This could be adjusted through an inflation adjustment OR you could request an estimate of cost from

Schedule Maintenance Services Ltd (the contractor) for what it will cost in future. Note: If you obtain the estimate of cost from the contractor you will need to keep this as evidence.

Step 1: On the 'Painting CM Provision' tab review the 'update of estimated cost' box to reflect inflation. Recent review of the inflation averages as provided by the Reserve Bank New Zealand (RBNZ) for the purposes of this example the inflation calculator shows the three-year average is 1.7%. [https://www.rbnz.govt.nz/monetary-policy/inflation-calculator] *Note* that the estimated cost last repaint has come through from the prior tab which related to the calculation of the painting contract provision.

Update of estimated cost			
Estimated cost last repaint	77,497		
Years till next repaint	8		
Inflation adjustments per contract	1.1444	Assume 1.7% per year	<--- Based on 3-year average inflation
Estimated current cost	$88,686		

From the painting contract, the next repaint is going to be completed in eight years from the date it was last completed being 2027.

Step 2: Update all inputs in the cyclical maintenance provision spreadsheet by updating the cyclical maintenance project, year last completed, and year next completed. The 'Estimated Cost ($)' captured in the table below is referenced to the 'Estimated current cost' above.

Year of calculation	2021						
Cyclical maintenance project	**Year last completed**	**Year next expected**	**Cycle (years)**	**Years since last completed**	**Estimated cost ($)**	**Annual cost ($)**	**Provision ($)**
Full repaint of all buildings	2019	2027	8	2	88,686	11,086	22,171
Total					88,686	11,086	22,171

	Current Year		*Prior Year*		*Movement*	
Cyclical maintenance project	**Current ($) [Due within 1 year]**	**Non-Current ($) [Due after 1 year]**	**Current ($) [Due within 1 year]**	**Non-Current ($) [Due after 1 year]**	**Current ($) [Due within 1 year]**	**Non-Current ($) [Due after 1 year]**
Full repaint of all buildings	-	22,171	-	11,086	-	11,086
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
Total	-	22,171	-	11,086	-	11,086

Step 3: Pull out prior year balances recorded in both current and non-current liabilities in your accounts and compare these to the revised numbers. Note: The total for current and non-current cyclical maintenance provision should match your financial statements for the prior year.

Note: It doesn't matter if you don't have the details broken down for last year as you only need to compare the aggregated current and non-current liability totals however going forward you will have the information available to compare at a CM project level.

Recording the provision in your accounts

Step 4: Record the revised provision in the financial statements through reviewing the movement from the prior year accounts to the current year calculation.

- The total provision as at the end of 31 December needs to reflect $22,171.

- Review the balance of the general ledger and confirm balance of $11,086 in non-current (due after 1 year).
- The total for the journal is $11,086 and is represented as a non-current liability only due to the work being completed in six years' time.

Post the following journal:

Journal Entry #3

Debit	Cyclical maintenance (property expense)	$11,086	
Credit	Provision for cyclical maintenance (liability)		$11,086
Narrative: Journal to recognise the annual charge for cyclical maintenance.			

Below is an extraction from the Kiwi Park School accounts after the above journals have been posted.

Kiwi Park School
Statement of Comprehensive Revenue and Expenditure
For the year ended 31 December 2021

	Notes	2021 Actual $	2021 Budget (Unaudited) $	2020 Actual $
Expenses				
Property	8	687,903	688,000	691,700

Kiwi Park School
Statement of Financial Position
As at 31 December 2021

	Notes	2021 Actual $	2021 Budget (Unaudited) $	2020 Actual $
Current Liabilities				
Painting Contract Liability	19	16,754	16,000	16,754
Non-Current Liabilities				
Painting Contract Liability	19	32,117	31,000	38,609
Provision for Cyclical Maintenance	18	22,172	22,000	11,086

Note the difference here is the movement in the provision which is the difference between the payment made and the amount of upkeep work completed during the period.

Kiwi Park School
Notes to the Financial Statements
For the year ended 31 December 2021

8. Property	2021 Actual $	2021 Budget (Unaudited) $	2020 Actual $
Caretaking and Cleaning Consumables	1,887	2,000	2,351
Consultancy and Contract Services	33,470	36,000	33,722
Cyclical Maintenance Provision	**11,086**	**12,000**	**11,086**
Grounds	4,811	4,000	2,598
Heat, Light and Water	20,112	21,000	21,242
Painting Repairs & Maintenance	**10,261**	**10,500**	**11,374**
Repairs and Maintenance	61,664	60,000	33,042
Use of Land and Buildings	504,191	500,000	534,729
Security	7,634	7,500	6,556
Employee Benefits - Salaries	32,787	35,000	35,000
	687,903	**688,000**	**691,700**

18. Provision for Cyclical Maintenance	2021 Actual $	2021 Budget (Unaudited) $	2020 Actual $
Provision at the Start of the Year	11,086	11,200	-
Increase/ (decrease) to the Provision During the Year	**11,086**	**12,000**	**11,086**
Use of the Provision During the Year	-	-	-
Provision at the End of the Year	**22,172**	**23,200**	**11,086**
Cyclical Maintenance - Current	-	-	-
Cyclical Maintenance - Term	22,172	22,000	11,086
	22,172	**22,000**	**11,086**

19. Painting Contract Liability	2021 Actual $	2021 Budget (Unaudited) $	2020 Actual $
Due within one year	16,754	16,000	16,754
Due after one year	32,117	31,000	38,609
	48,871	47,000	55,363