

Real Price Effects

NIW CPMO Updated Analysis

25th June 2024

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Approved by:	Infrastructure Delivery
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0. Document Information

Version	Date	Description	Authorised for Issue
0.1	26/06/24	Final Issue	Stephen Mc Caul

1. Executive Summary

This report summarises the additional cost analysis undertaken by NIW CPMO since the original RPE submission, to address the concerns raised by the UR.

Since our original submission, we have expanded our analysis into three approaches to offer a more robust triangulated approach comprising:

Approach 1 - PAFI Approach (updated submission): using our original methodology, we have adjusted based on comments received from the Utility Regulator (UR), updated our cost data based on the findings from our Key Materials analysis and we have updated the analysis using the latest PAFI indices. (Detailed in Section 3.0).

Approach 2 - Key Materials: we have undertaken comprehensive analysis of the relevant key materials by tracking actual cost changes over the two-year period. The data was collated from NI Water Framework Contractors open book invoices and supplier quotations. (Detailed in Section 5.0).

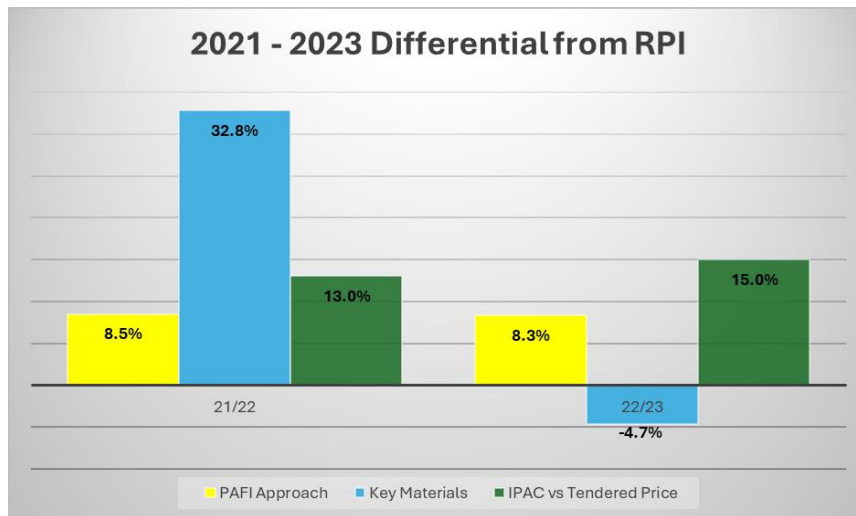
Approach 3 - IPAC vs Tendered Price (8 projects): we undertook an analysis of 8 x representative projects that were tendered during the two-year period to establish any differential between nominal IPAC cost (uplifted to the date of award using RPI) and the Tendered Cost. (Detailed in Section 6.0).

Table 1 below and Graph 1 below summarise the results, showing the in-year differential above RPI.

Table 1 – Summary RPI Differentials for Three Approaches

Differential to RPI	2021 - 2022	2022 - 2023
<i>PAFI Approach (Original Submission)</i>	7.2%	10.5%
PAFI Approach (Updated Submission)	8.5%	8.3%
Key Materials (Invoices / Quotations)	32.8%	-4.7%
IPAC vs Tendered Price (8 projects)	13.0%	15.0%

Graph 1 – Summary RPI Differentials for Three Approaches



2. Introduction

This Report relates to a resubmission of our original RPE submission, of the “Real Price Effects – An Indicative Summary of Inflationary Impacts April ‘21 – March ‘23 Preliminary Analysis Rev 1” issued June 12th, 2023.

Since our original submission, NIW CPMO have undertaken further cost analysis for the periods 21/22 and 22/23, summarised into three areas:

Approach 1 - An updated PAFI Approach (updated submission): using our original methodology we have made adjustments based on UR comments, updated our cost data based on the findings from our Key Materials analysis and we have updated using the latest indices. (Detailed in Section 3.0).

Approach 2 - Key Materials Cost Analysis: we have undertaken comprehensive analysis of the relevant key materials by tracking actual cost changes over the two-year period. The data was collated from NI Water Framework Contractors open book invoices and supplier quotations. (Detailed in Section 4.0).

Approach 3 - Repricing of 8 x Tendered Projects – Nominal IPAC vs Tendered Price: re-pricing of 8 x representative projects that were tendered during the two-year period to establish any differential between nominal IPAC cost (uplifted to the date of award using RPI) and the Tendered Cost. (Detailed in Section 5.0).

3. Approach 1 - PAFI Approach (updated submission)

a. *Response to NI Water's Feedback Comments on Draft RPE Report dated (12th March 2024)*

The update to the PAFI Approach Submission has been based on the following responses to UR queries:

- NIW-RPE-001: General [1]: We remain of the opinion that the sample projects selected represent NI Water's Basket of Goods and are a representative example of the component splits. These sample projects were available to us at the time of our original analysis. In terms of using BEAMA and PAFI, at the time of our original analysis BEAMA was deemed to be more reflective of the types of the MEICA works undertaken as indicated by our supply chain vendors.
- NIW-RPE-002: Sample size relating to real costs above RPI: As outlined previously, we have undertaken further analysis which is detailed below in this Report in Sections 5.0 and 6.0.
- NIW-RPE-003: 'Real Cost Component' v 'Key PAFI Components' – Material Costs: This analysis is detailed below in Sections 5.0 and 7.0.
- NIW-RPE-004: Sample size relating to real costs above RPI: This analysis is detailed below in Section 6.0.
- NIW-RPE-006: Ref: 3.4.1.1: Selection of Data Sample: We have increased our sample size through the use of the IPAC comparison of awarded projects in the period March 2021 - March 2023 (Section 6.0) and materials invoices / quotations analysis (Section 5.0).
- NIW-RPE-007: Ref: 3.4.1.2: Escalation Clause: The escalation clauses are in relation to tendered 'people' and 'plant' only and as such do not relate to material costs. Material costs in excess of RPI were experienced as demonstrated in this report.
- NIW-RPE-008: Ref 3.4.1.3: Extra-Over Allowance – This was not given to the supply chain, merely an allowance included in our analysis.
- NIW-RPE-009: Ref 3.4.1.5: Removal of Red Diesel Rebate – We have removed the red diesel allowances from this current submission. Impact detailed in Table 2 below.
- NIW-RPE-010: Ref 3.4.1.5: Additional 2% Allowance on Demolition – We have removed the 2% allowance in this resubmission. Impact detailed in Table 2 below.
- NIW-RPE-011: Ref 3.4.1.8: Deflation and Inflation Adjustments – We would stand by our original assertion that this has no material impact on the overall results, as the most important factor is getting a representative cost component.

3. Approach 1 – PAFI Approach (updated submission) Cont'd

b. Changes from Original Submission to Current Submission

Below is a list of changes made from our Original Submission (Appendix 1 – RPE Analysis) to the current submission (Appendix 1 – RPE Analysis Rev 2.0).

Change	Location	Reason	Overall Impact
Remove 2.3% addition to Tamlaght.	Tab 2 - Subprogramme Data: Cell (M12).	Removed in the interest of consistency.	-0.235%
Removal of Red Diesel Rebate & Fuel Fluctuations Allowances.	Fofanny Front Sheet Index YoY: Cells (P72), (Q70 - 72).	Removed due to PAFI Indices having made provision for the impact of the red diesel rebate removal.	-1.131%
	Belfast Front Sheet Index YoY: Cells (Q74) & (Q75).		
	Ravenhill Front Sheet Index YoY: Cells (P37), (Q35 - Q37).		
	Tamlaght Front Sheet Index YoY: Cells (P72), (Q70 - Q72).		
	Mtfield Front Sheet Index YoY: Cells (P72), (Q70 - Q72)		
	Dungannon Front Sheet Index YoY: Cells (P77), (Q75 - Q77).		
Removal of 2% allowance to Year 2 Demolition.	Combined Index: Cell (CF56).	Removed due to PAFI Indices having made provision for the impact of the red diesel rebate removal.	- 0.0006%
Removal of adjustments to 'Aggregates excluding Levy'.	Combined Index: Cells (CE22) & (CF22).	Removed in the interest of consistency as this item is not used in the analysis. Therefore, no impact. Included in this table for informational purpose only.	0.00%
Revision to Ready Mix Concrete.	Combined Index: Cell (CE25) & (CF25).	Adjusted to align with outcome of materials invoices / quotations analysis. 25% Year 1 and 12% Year 2 vs. previous 19% Year 1 and 34% Year 2.	-0.271%

3. Approach 1 – PAFI Approach (updated submission) Cont'd

Change	Location	Reason	Overall Impact
Revision to Precast Concrete Non-Structural.	Combined Index: Cell (CE26) & (CF26).	Removed adjustment in the interest of consistency as this item is not used in the analysis. Now aligned with PAFI indices. Therefore, no impact. Included in this table for informational purpose only.	0.00%
Revision to Precast Concrete Structural Components (including pipes).	Combined Index: Cell (CE27) & (CF27).	Adjusted to align with outcome of materials invoices / quotations analysis. 10% Year 1 and 31% Year 2 vs. previous 25% Year 1 and 28% Year 2.	-0.179%
Revision to Steel for Reinforcement.	Combined Index: Cell (CE30) & (CF30).	Adjusted to align with outcome of materials invoices / quotations analysis. 132% Year 1 and -11% Year 2 vs. previous 67% Year 1 and 10% Year 2.	0.410%
Revision to Cast and Spun Iron Products.	Combined Index: Cell (CE34) & (CF34).	Adjusted to align with outcome of materials invoices / quotations analysis. 26% Year 1 and 16% Year 2 vs. previous 7% Year 1 and 32% Year 2.	0.006%
Revision to Plastic Products.	Combined Index: Cell (CE36) & (CF36).	Adjusted to align with outcome of materials invoices / quotations analysis. 12% Year 1 and 6% Year 2 vs. previous 13% Year 1 and 11% Year 2.	-0.0004%
Pieweb Indice	All PE components	Outcome of materials invoices / quotations analysis indicated 26% impact v 75% Pieweb. However, due to the volatility in period, it is deemed that pieweb gave a better average than the invoice sample.	0%

3. Approach 1 – PAFI Approach (updated submission) Cont'd

Change	Location	Reason	Overall Impact
Adjusted for Latest PAFI	All used PAFI Components	Latest Submission include PAFI as Oct 23	
Revision to Aggregates including Levy.	Combined Index: Cell (CE21) & (CF21).	Adjusted to align with outcome of materials invoices / quotations analysis. 35% Year 1 and 6% Year 2 vs. Previous: 8% Year 1 and 37% Year 2.	-0.0009%

Appendix B shows an updated comparison of the NIW PAFI Approach vs RPI vs BCIS Water Sewage Indices.

4. Approach 2 - Key Materials Cost Analysis

We sought to establish the real price increases experienced by NI Water Contractors in Northern Ireland over the two year period from 2021 to 2023. We identified the seven key material types that have the biggest impact on overall materials costs to NI Water and gathered real evidence to benchmark costs over the period.

The results are summarised in the table below:

	RPE: 21 – 22 % Differential	RPE: 22 - 23 % Differential	PAFI: 21 - 22 % Differential	PAFI: 22 - 23 % Differential
Concrete	25%	12%	6%	22%
Aggregates	35%	6%	2%	28%
Rebar	132%	-11%	67%	10%
Precast	10%	31%	25%	28%
DI	26%	16%	7%	39%
PE	31%	0%	75%	0%
Plastics	12%	4%	13%	11%
Average	39%	8%		
Above RPI	32.8%	-4.7%		

Approach 2 - Key Materials Cost Analysis Cont'd

The costs of the items have been collated for the years 2021, 2022 and 2023 and the % increase or decrease, per item, has been calculated to show a differential for the period 2021 to 2022 and 2022 to 2023.

Actual material costs, in the form of invoices and supplier quotations, were compiled to show price changes over the two year period. Evidence was gathered from open book NI Water projects and from NI Water Framework Contractors and Suppliers.

Appendix A contains a full list of all the individual components used to determine the price increases for each of the seven categories. Appendix C shows the differential between RPI and each material actual cost increase.

5. Approach 3 - Repricing of 8 x Tendered Projects – Nominal IPAC vs Tendered Price:

8 Projects were selected to carry out a re-pricing exercise to compare the outcome using IPAC+RPI against the tendered price to identify any differential.

The 8 projects selected gave a representative spread across sub-programmes and were tendered across the two-year analysis period. The sample of 8 projects includes: 4 no. Sub-Programme 12 - Sewerage, 3 no. Sub-Programme 16 – Wastewater Treatment Works, 1 no. Water Treatment Works.

The scope of each project was rationalised based on the A3 tendered price to allow for a like for like comparison. (i.e. abnormal – 800 code / £1 cost curves and scope adjustments excluded).

The IPAC costs were uplifted to nominal prices based on the tender award date using RPI. The IPAC costs were then compared against the A3 award amount and show a varying % differential per project, shown in column 9 of the table below.

PC Sub-Programme	Proj No	Proj Name	Cont No	A3 Cost (k)	Date Approved	IPAC Code	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
							IPAC	IPAC Abnormals (800 codes)	IPAC excluding Abnormals	ECI (inc. Detailed design)	A3 - BASE	ECI + Main Contract Base (Excluding Risk)	IPAC uplifted excluding abnormals (RPI)	IPAC uplifted with abnormals (RPI)	Difference (excluding abnormals)
04a: Water Treatment Works - WTW	JA330	Altnahinch Treatability Improvements	112	£ 579	15/08/2022	1186	£ 319	£ -	£ 319	£ -	£ 484	£ 484	£ 396	£ 396	22%
12c: Sewerage Programme - WwPS (Capacity Increase)	KF378	Clonmore Road Sewerage	111	£ 631	01/03/2022	2739	£ 568	£ -	£ 568	£ 55	£ 600	£ 655	£ 660	£ 660	-1%
12c: Sewerage Programme - WwPS (Capacity Increase)	KL542	Ballymagory Wwps	111	£ 2,070	28/11/2022	2599	£ 1,502	£ -	£ 1,502	£ 126	£ 1,889	£ 2,015	£ 1,934	£ 1,934	4%
16a: Wastewater treatment (new start) - WwTW	KN681	Pomeroy WwTW	111	£ 2,538	22/08/2022	1338	£ 1,306	£ 90	£ 1,216	£ 120	£ 1,756	£ 1,876	£ 1,508	£ 1,620	24%
12c: Sewerage Programme - WwPS (Capacity Increase)	KA270	Neillsbrook WwPS Upgrade Appraisal	111	£ 921	07/02/2023	1066	£ 700	£ 50	£ 650	£ 84	£ 852	£ 936	£ 851	£ 917	10%
16a: Wastewater treatment (new start) - WwTW	KB552	Ballyronan WwTW	112	£ 4,210	28/03/2022	1358	£ 3,355	£ -	£ 3,355	£ 157	£ 4,110	£ 4,267	£ 3,900	£ 3,900	9%
16a: Wastewater treatment (new start) - WwTW	KB556	Grange WwTW	111	£ 4,252	16/03/2023	1038	£ 2,339	£ -	£ 2,339	£ 84	£ 3,924	£ 4,008	£ 3,086	£ 3,086	30%
12b: Sewerage Programme - WwPS / CSO Quality (UID)	KG183	Portadown Drainage Area Network Improvements Meadow Lane and Bann Street	111	£ 8,417	05/01/2023	2496	£ 5,277	£ 14	£ 5,263	£ 51	£ 7,621	£ 7,672	£ 6,814	£ 6,832	13%

Year 1 (above RPI)	13%
Year 2 (above RPI)	15%

Of the 8 projects sample, an average of 13% above RPI in Year 1 and 15% above RPI in Year 2, is demonstrated excluding abnormals.

APPENDIX A - Materials Analysis

Table 4 Cont'd:

	Item	UoM	2020	2021	2022	2023	21 - 22 %	22 - 23 %
Concrete	C32/40 20mm Agg Concrete	m3	£ 64	£ 77	£ 97	£ 115	25%	12%
	C16/20 20mm Agg Concrete	m3	£ 56	£ 69	£ 89	£ 96		
	C16/20CEM	m3	£ 97	£ 101	£ 115	£ 127		
	C40/50 20mm Agg Concrete	m3	£ 70	£ 83		£ 122		
	C12/15 20mm Agg Concrete	m3	£ 54	£ 67	£ 87	£ 96		
Aggregate	Type 1 Stone	t		£ 8		£ 14	35%	6%
	Type 3 Stone (816)	t	£ 8	£ 10	£ 14	£ 14		
	Type 3 Stone	t	£ 12	£ 12	£ 14	£ 15		
	Pipe Bedding	t	£ 14	£ 14	£ 15	£ 19		
	Pipe Bedding	t		£ 12	£ 18	£ 17		
	63mm crusher run	t		£ 9		£ 15		
	100mm crusher run	t		£ 9	£ 13	£ 14		
	14mm pipe bedding	t		£ 11	£ 15	£ 16		
	100mm spalls	t		£ 9		£ 14		
	0/4 GA Dust	t		£ 9		£ 16		
	10/20mm GC	t		£ 12		£ 16		
Rebar	Rebar - Cut & bent 20mm	t		£ 515	£ 1,195	£ 1,064	132%	-11%
	Rebar - Cut & bent 16mm	t		£ 515	£ 1,195	£ 1,064		
	Rebar - Cut to length 20mm	t		£ 515	£ 1,195	£ 1,064		
	Rebar - Cut to length 16mm	t		£ 515	£ 1,195	£ 1,064		
Precast	P00 0300mm Rocker CM 0.6M	nr		£ 43	£ 58	£ 74	10%	31%
	P00 0375mm Rocker CH 0.6M	nr		£ 75	£ 68	£ 96		
	P00 0375mm S&S PipeCH 2.5M	nr		£ 63	£ 68	£ 80		
	P00 0450mm Rocker CH 0.6M	nr		£ 66	£ 80	£ 113		
	P00 0450mm S&S PipeCH 2.5M	nr		£ 73	£ 80	£ 94		
	P00 0525mm Rocker CH 0.6M	nr		£ 83	£ 93	£ 136		
	P00 0525mm S&S PipeCH 2.5M	nr		£ 85	£ 93	£ 113		
	P00 0600mm Rocker CH 0.6M	nr		£ 126	£ 113	£ 163		
	P00 0600mm S&S PipeCH 2.5M	nr		£ 105	£ 155	£ 135		
	P00 0675mm Rocker CH 1.0M	nr		£ 129	£ 155	£ 231		
	P00 0675mm S&S PipeCH 2.5M	nr		£ 143	£ 173	£ 192		
	P00 0750mm Rocker CH 1.0M	nr		£ 159	£ 173	£ 272		
	P00 0750mm S&S PipeCH 2.5M	nr		£ 160	£ 173	£ 227		
	P10 Man Ring 1200x1000mm SR4 D/STEP	nr		£ 73	£ 79	£ 115		
	P10 Man Ring 1500x1000mm SR4 D/STEP	nr		£ 127	£ 137	£ 193		
	P10 Man Ring 1500x0500mm SR4 D/STEP	nr		£ 99	£ 107	£ 125		
	P15 Man Ring 1800x1000mm SR4 D/STEP	nr		£ 234	£ 253	£ 323		
	P15 Man Ring 2100x1000mm SR4 D/STEP	nr		£ 353	£ 380	£ 461		
	P10 Man Ring 1050x0250mm	nr		£ 32	£ 35	£ 55		
	P10 Man Ring 1050x0500mm	nr		£ 41	£ 44	£ 63		
	P10 Man Ring 1050x0750mm	nr		£ 55	£ 60	£ 73		
	P10 Man Ring 1050x1000mm	nr		£ 65	£ 70	£ 89		
	P10 Man Ring 1200x0250mm	nr		£ 37	£ 40	£ 48		
	P10 Man Ring 1200x0500mm	nr		£ 48	£ 52	£ 64		
	P10 Man Ring 1200x0750mm	nr		£ 60	£ 65	£ 83		
	P10 Man Ring 1200x1000mm	nr		£ 73	£ 79	£ 114		
	P10 Man Ring 1350x0500mm	nr		£ 73	£ 79	£ 109		
	P10 Man Ring 1350x0750mm	nr		£ 87	£ 94	£ 127		
	P10 Man Ring 1350x1000mm	nr		£ 107	£ 115	£ 163		
	P10 Man Ring 1500x0500mm	nr		£ 99	£ 107	£ 125		
	P10 Man Ring 1500x0750mm	nr		£ 112	£ 121	£ 164		
	P10 Man Ring 1500x1000mm	nr		£ 127	£ 137	£ 193		
	P15 Man Ring 1800x0500mm	nr		£ 167	£ 180	£ 210		
P15 Man Ring 1800x0750mm	nr		£ 203	£ 220	£ 274			
P15 Man Ring 1800x1000mm	nr		£ 234	£ 253	£ 323			
P15 Man Ring 2100x0500mm	nr		£ 222	£ 240	£ 300			
P15 Man Ring 2100x0750mm	nr		£ 275	£ 297	£ 392			
P15 Man Ring 2100x1000	nr		£ 353	£ 380	£ 461			

Table 4 Cont'd:

Item	UoM	2020	2021	2022	2023	21 - 22 %	22 - 23 %
11.25 Degree Double Flanged Bend - 100Mm	nr		£ 15	£ 19	£ 22	26%	16%
22.5 Degree Double Flanged Bend	nr		£ 18	£ 24	£ 28		
45 Degree Double Flanged Bend	nr		£ 18	£ 24	£ 27		
90 Degree Double Flanged Short Radius Bend	nr		£ 19	£ 25	£ 29		
90 Degree Duckfoot Bend	nr		£ 28	£ 37	£ 43		
90 Degree Long Radius Bend	nr		£ 29	£ 38	£ 43		
Blank Flange	nr		£ 8	£ 10	£ 12		
Double Flanged Branch Tee X 80Mm	nr		£ 28	£ 37	£ 42		
Double Flanged Branch Tee X 100Mm	nr		£ 31	£ 40	£ 47		
Double Flanged Concentric Taper X 50Mm	nr		£ 15	£ 20	£ 23		
Double Flanged Concentric Taper X 80Mm	nr		£ 15	£ 19	£ 22		
Double Flanged Pipe X 100mm	nr		£ 14	£ 18	£ 21		
Double Flanged Pipe X 150mm	nr		£ 15	£ 19	£ 22		
Double Flanged Pipe X 200mm	nr		£ 16	£ 21	£ 24		
Double Flanged Pipe X 250mm	nr		£ 18	£ 23	£ 27		
Double Flanged Pipe X 300mm	nr		£ 19	£ 25	£ 29		
Double Flanged Pipe X 400mm	nr		£ 22	£ 29	£ 33		
Double Flanged Pipe X 500mm	nr		£ 25	£ 32	£ 37		
Double Flanged Pipe X 600mm	nr		£ 27	£ 36	£ 41		
Double Flanged Pipe X 1000mm	nr		£ 45	£ 59	£ 69		
Double Flanged Pipe X 2000mm	nr		£ 113	£ 144	£ 184		
Double Flanged Pipe X 3000mm	nr		£ 128	£ 163	£ 209		
Flange Spigot	nr		£ 15	£ 20	£ 23		
Galvanised Bolt Set Di/Di	nr		£ 3	£ 3	£ 3		
Galvanised Bolt Set Di/Pe	nr		£ 4	£ 4	£ 4		
Full Face Epdm Gasket	nr		£ 1	£ 1	£ 1		
Vj Coupling	nr		£ 26	£ 26	£ 33		
Vj Flange Adaptor	nr		£ 21	£ 21	£ 24		
Gatevalve Cap Operated	nr		£ 67	£ 72	£ 84		

Table 4 Cont'd:

	Item	UoM	2020	2021	2022	2023	21 - 22 %	22 - 23 %
	Electrofusion Coupling 90Mm	nr		£ 3	£ 4	£ 4		
	Electrofusion Bend X 45 Degree	nr		£ 8	£ 10	£ 11		
	Electrofusion Bend X 90 Degree	nr		£ 4	£ 10	£ 11		
	Electrofusion Reducer X 63Mm	nr			£ 4	£ 5		
	Electrofusion Equal Tee	nr		£ 10	£ 12	£ 12		
	Electrofusion Tapping Saddle X 32Mm Outlet	nr		£ 8	£ 8	£ 8		
	Electrofusion Tapping Saddle X 63Mm Outlet	nr		£ 19	£ 20	£ 22		
	Stub Flange Long Spigot For Electrofusion Only	nr		£ 8	£ 10	£ 11		
	Electrofusion End Cap	nr		£ 21	£ 24	£ 24		
	Electrofusion Branch Saddle With 90Mm Outlet	nr		£ 28	£ 34	£ 37		
	Stub Flange Sdr17 Puppod	nr		£ 18	£ 21	£ 19		
	Hydrant Branch Saddle Kit	nr		£ 80	£ 95	£ 105		
	Mitred Pe Bend Sdr17 X 22.5 Degree	nr		£ 18	£ 18	£ 23		
	Mitred Pe Bend Sdr17 X 45 Degree	nr		£ 26	£ 26	£ 28		
	Mitred Pe Bend Sdr17 X 90 Degree	nr		£ 37	£ 37	£ 41		
PE	PE Pipe X 6 Metre Sdr17 - 90mm	nr		£ 21	£ 28	£ 26		
	PE Pipe X 6 Metre Sdr17 - 110mm	nr		£ 31	£ 42	£ 39		
	PE Pipe X 6 Metre Sdr17 - 125mm	nr		£ 39	£ 54	£ 50		
	PE Pipe X 6 Metre Sdr17 -160mm	nr		£ 65	£ 89	£ 83		
	PE Pipe X 6 Metre Sdr17 - 180mm	nr		£ 82	£ 112	£ 104		
	PE Pipe X 6 Metre Sdr17 - 225mm	nr		£ 129	£ 177	£ 165	31%	0%
	PE Pipe X 6 Metre Sdr17 - 250mm	nr		£ 157	£ 214	£ 200		
	PE Pipe X 6 Metre Sdr17 - 315mm	nr		£ 250	£ 341	£ 318		
	PE Pipe X 50 Metre Sdr17 (Single Coils) - 90mm	nr		£ 185	£ 218	£ 252		
	PE Pipe X 100 Metre Sdr17 (Single Coils) - 90mm	nr		£ 369	£ 537	£ 503		
	PE Pipe X 6 Metre Sdr11 - 90mm	nr		£ 30	£ 41	£ 39		
	PE Pipe X 6 Metre Sdr11 - 125mm	nr		£ 58	£ 80	£ 74		
	PE Pipe X 6 Metre Sdr11 - 160mm	nr		£ 96	£ 131	£ 122		
	PE Pipe X 6 Metre Sdr11 - 180mm	nr		£ 121	£ 165	£ 154		
	PE Pipe X 6 Metre Sdr11 - 225mm	nr		£ 189	£ 258	£ 241		
	PE Pipe X 6 Metre Sdr11 - 250mm	nr		£ 259	£ 317	£ 296		
	PE Pipe X 6 Metre Sdr11 - 315mm	nr		£ 369	£ 503	£ 470		
	PE Pipe X 100 Metre Sdr11 (Single Coils) - 90mm	nr		£ 539	£ 784	£ 735		
	PE Pipe X 100 Metre Sdr11 (Single Coils) - 125mm	nr		£ 1,036	£ 1,507	£ 1,413		
	PE Pipe X 100 Metre Sdr11 (Single Coils) - 180mm	nr		£ 2,145	£ 3,120	£ 2,925		
	PE PIPE X 100 METRE SDR17 (SINGLE COILS) - 110mm	nr		£ 549	£ 799	£ 503		
	PE PIPE X 100 METRE SDR17 (SINGLE COILS) - 125mm	nr		£ 700	£ 1,018	£ 954		
	PE PIPE X 100 METRE SDR17 (SINGLE COILS) - 180mm	nr		£ 1,452	£ 2,112	£ 1,980		
	PE PIPE X 100 METRE SDR11 (SINGLE COILS) - 90mm	nr		£ 539	£ 637	£ 735		
	PE PIPE X 100 METRE SDR11 (SINGLE COILS) - 125mm	nr		£ 1,036	£ 1,224	£ 1,413		
	PE PIPE X 100 METRE SDR11 (SINGLE COILS) -180mm	nr		£ 2,145	£ 2,535	£ 2,925		

Table 4 Cont'd:

	Item	UoM	2020	2021	2022	2023	21 - 22 %	22 - 23 %
Plastic	110mm Black Sealed Duct	m	£ 1			£ 3		
	160mmSewer pipe	m	£ 4		£ 6	£ 7		
	Geotextile	roll			£ 194	£ 205		
	180mm HDPE Pipe SDR17	m		£ 18		£ 24		
	180mm stub flanges	nr		£ 28		£ 40		
	Gunmetal Tapping Saddle X 25Mm	nr		£ 18	£ 27	£ 23		
	Gunmetal Tapping Saddle X 32Mm	nr		£ 28		£ 36		
	15-21Mm X 25Mm Universal Transition Coupling Compression	nr		£ 6	£ 6	£ 6		
	21-27Mm X 25Mm Universal Transition Coupling Compression	nr		£ 6	£ 6	£ 6		
	27-34Mm X 25Mm Universal Transition Coupling Compression	nr		£ 7	£ 7	£ 7		
	25Mm X 3/4" Male Adaptor Compression	nr		£ 3	£ 3	£ 3		
	25Mm X 3/4" 90Deg Elbow Metric/Imperial Compression	nr		£ 4	£ 4	£ 4		
	25Mm X 3/4" Female Adaptor Compression	nr		£ 3	£ 3	£ 3		
	25Mm X 1" Bsp Female Adaptor Metric/Imperial Compression	nr		£ 3	£ 3	£ 3		
	20Mm Insert For Mdpe Pipe	nr		£ 0	£ 0	£ 0		
	25Mm X 90Deg Bend Pe*Pe Compression	nr		£ 5	£ 5	£ 5		
	32Mm X 90Deg Bend Pe*Pe Compression	nr		£ 7	£ 7	£ 7		
	25Mm Straight Coupling Pe*Pe Compression	nr		£ 3	£ 3	£ 3		
	32Mm X 25Mm Reducing Coupling Pe*Pe Compression	nr		£ 7	£ 7	£ 7		
	25Mm Equal Tee Pe*Pe*Pe Compression	nr		£ 3	£ 3	£ 3		
	25Mm Stop End Pe Compression	nr		£ 4	£ 4	£ 4		
	25Mm X 3/4" Ferrule	nr		£ 11	£ 12	£ 14		
	300Mm Extension Spindle	nr		£ 15	£ 20	£ 20		
	500Mm Extension Spindle	nr		£ 16	£ 23	£ 23		
	1000Mm Extension Spindle	nr		£ 21	£ 34	£ 34		
	Sluice Valve Surface Box (150X150) Sv Lid	nr		£ 13	£ 16	£ 17		
	Concrete Section For Sluice Valve	nr		£ 3	£ 4	£ 4		
	Concrete Section For Fire Hydrant	nr		£ 6	£ 7	£ 7		
	Concrete Base Slab For Sluice Valve	nr		£ 10	£ 12	£ 12		
	Concrete Base Slab For Fire Hydrant	nr		£ 10	£ 14	£ 14		
	Concrete Marker Post Water	nr		£ 8	£ 15	£ 15		
	Concrete Boundary Box Surround	nr		£ 10	£ 10	£ 10		
	Air Valve Surface Box	nr		£ 36	£ 43	£ 47		
	Hydrant Surface Box	nr		£ 34	£ 43	£ 47		
	Meter Surface Box	nr		£ 36	£ 43	£ 47		
	80Mm Double Air Valve C/W Isolating Ballvalve	nr		£ 166	£ 166	£ 166		
	80Mm Fire Hydrant Belfast Outlet	nr		£ 62	£ 68	£ 72		
	25Mm Boundary Box - Matrix	nr		£ 27	£ 27	£ 27		
	25Mm Boundary Box - Ebco	nr		£ 27	£ 27	£ 27		
	Detectable Blue Marker Tape X 100M Roll	nr		£ 18	£ 21	£ 21		
	2 Port Boundary Box	nr		£ 117	£ 128	£ 128		
	4 Port Boundary Box	nr		£ 364	£ 428	£ 428		
	6 Port Boundary Box	nr		£ 411	£ 486	£ 486		
	25Mm Mini Boundary Box	nr		£ 29	£ 37	£ 49		
	32Mm Boundary Box	nr		£ 37	£ 50	£ 50		
	Sliding Head Ebco	nr		£ 24	£ 26	£ 26		
	Sliding Head Atplas	nr		£ 24	£ 26	£ 30		
	600MM X 450MM AV COVER AND FRAME	nr		£ 79	£ 107	£ 114		
	600MM X 450MM UNBADGED COVER AND FRAME	nr		£ 79	£ 107	£ 114		

12%

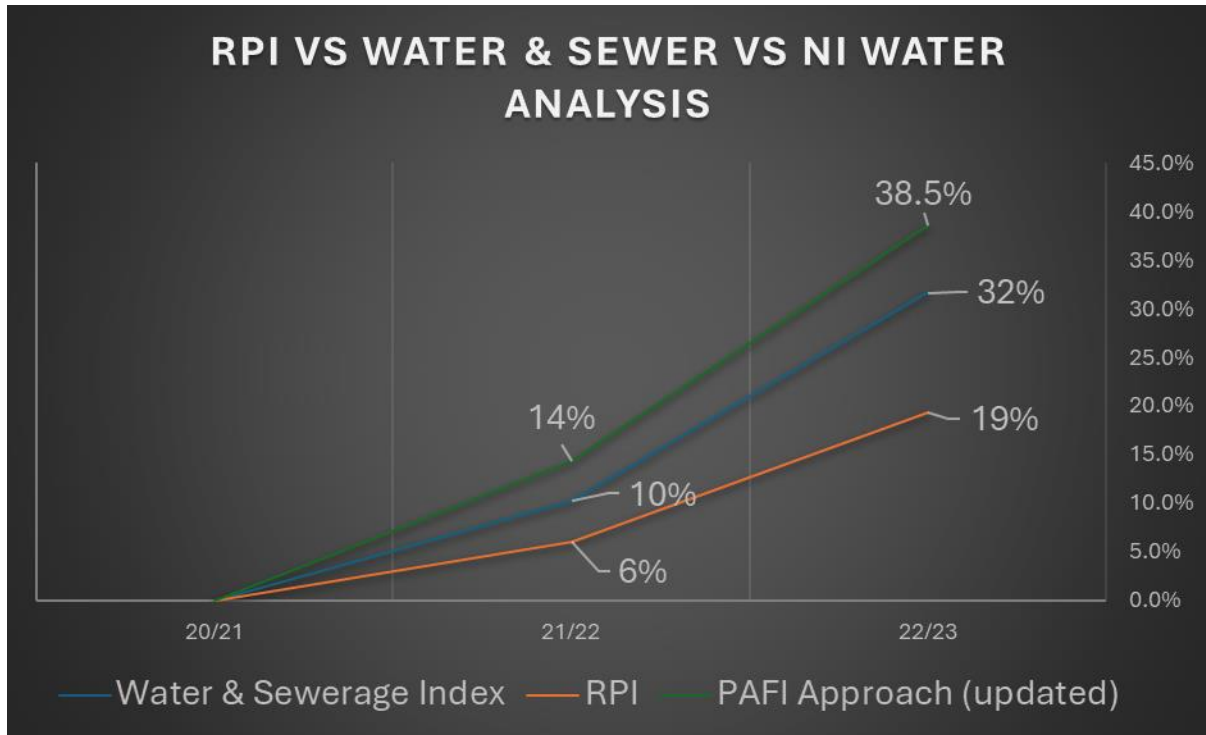
4%

Table 4 Cont'd:

	Item	UoM	2020	2021	2022	2023	21 - 22 %	22 - 23 %	
Plastic	FLEXSEAL COUPLING AC2908 RANGE 265/290-235/260	nr	£ 46	£ 46	£ 46	£ 46			
	FLEXSEAL COUPLING AC3850 RANGE 360/385-300/325	nr	£ 94	£ 94	£ 94	£ 94			
	FLEXSEAL COUPLING AC4000 RANGE 121/136-110/121	nr	£ 9	£ 9	£ 9	£ 9			
	FLEXSEAL COUPLING AC6000 RANGE 180/200-160/180	nr	£ 17	£ 17	£ 17	£ 17			
	SINGLE AIR VALVE	nr	£ 68	£ 77	£ 82	£ 82			
	STUDDER CONVERTOR 100MM X 80MM	nr	£ 52	£ 52	£ 52	£ 52			
	STUDDER CONVERTOR 150MM X 100MM	nr	£ 89	£ 89	£ 89	£ 89			
	VALVE MARKER PLATE	nr	£ 10	£ 10	£ 10	£ 10			
	EASICLAMP 115MM - 125MM VJ15539	nr	£ 50	£ 50	£ 50	£ 50			
	EASICLAMP 92MM - 103MM VJ15538	nr	£ 47	£ 47	£ 47	£ 47			
	EASICLAMP 166MM - 181MM VJ15540	nr	£ 60	£ 60	£ 60	£ 60			
	EASICLAMP 141MM - 154MM VJ00081	nr	£ 93	£ 93	£ 93	£ 93			
	EASICLAMP 66MM - 75MM VJ00117	nr	£ 43	£ 48	£ 51	£ 51			
	EASICLAMP 216MM - 226MM VJ00148	nr	£ 111	£ 111	£ 115	£ 115			
	EASICLAMP 230MM - 243MM VJ00168	nr	£ 128	£ 128	£ 150	£ 150			
	EASICLAMP 200MM - 210MM VJ00239	nr	£ 98	£ 102	£ 108	£ 108			
	EASICLAMP 243MM - 267MM VJ13836	nr	£ 174	£ 239	£ 254	£ 254			
	EASICLAMP 269MM - 294MM VJ13837	nr	£ 161	£ 319	£ 339	£ 339			
	EASICLAMP 323MM - 349MM VJ13038	nr	£ 240	£ 382	£ 406	£ 406			
	39-43MM X 32MM UNIVERSAL TRANSITION COUPLING CO	nr	£ 10	£ 10	£ 10	£ 10			
	50MM X 2" COMPRESSION FLANGE ADAPTOR	nr	£ 60	£ 60	£ 60	£ 60			
	63MM X 2" COMPRESSION FLANGE ADAPTOR	nr	£ 60	£ 60	£ 60	£ 60			
	25MM X 20MM REDUCING COUPLING PE*PE COMPRESSION	nr	£ 5	£ 5	£ 5	£ 5			
	32MM X 1" GUNMETAL FERRULE	nr	£ 13	£ 14	£ 16	£ 16			
	25MM X 90DEG BEND PE*PE PUSHFIT	nr	£ 2	£ 2	£ 3	£ 3			
	25MM STRAIGHT COUPLING PE*PE PUSHFIT	nr	£ 1	£ 1	£ 1	£ 1			
	25MM X 20MM REDUCING COUPLING PE*PE PUSHFIT	nr	£ 4	£ 4	£ 5	£ 5			
	32MM X 25MM REDUCING COUPLING PE*PE PUSHFIT	nr	£ 7	£ 2	£ 2	£ 2			
	25MM STOPCOCK PUSHFIT	nr	£ 11	£ 12	£ 14	£ 14			
	32MM STOPCOCK PUSHFIT	nr	£ 18	£ 20	£ 23	£ 23			
	25MM EQUAL TEE PE*PE*PE PUSHFIT	nr	£ 3	£ 4	£ 4	£ 4			
	25MM STOP END PE PUSHFIT	nr	£ 4	£ 4	£ 5	£ 5			
	25MM FERRULE BANJO	nr	£ 8	£ 9	£ 11	£ 11			
		Total Average						39%	8%

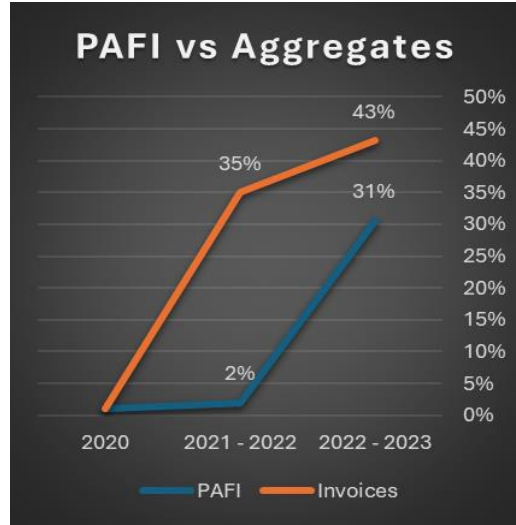
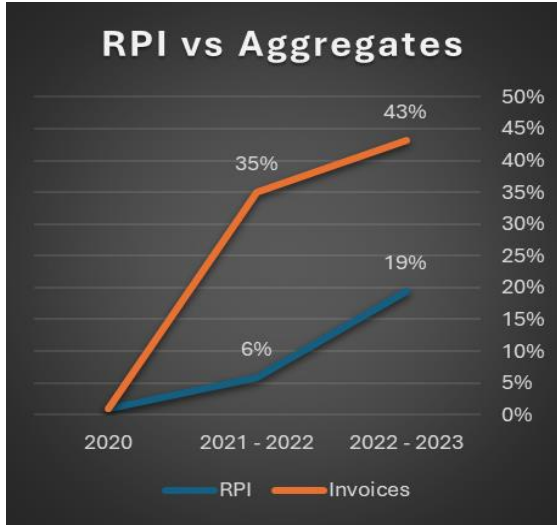
APPENDIX B – Updated Comparison with BCIS Water and Sewerage Indices

RPI vs Water & Sewerage & NI Water PAFI Approach

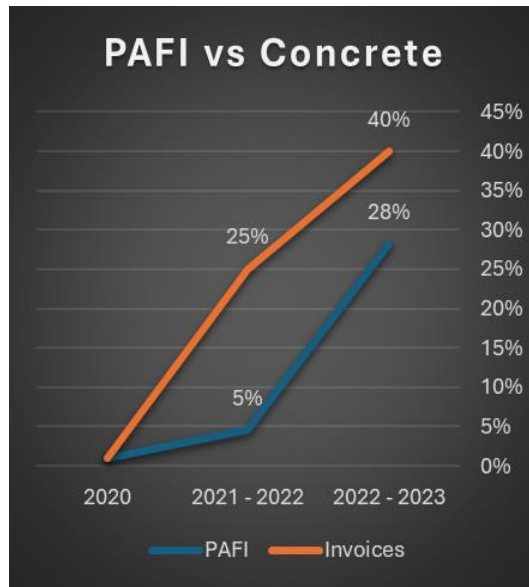
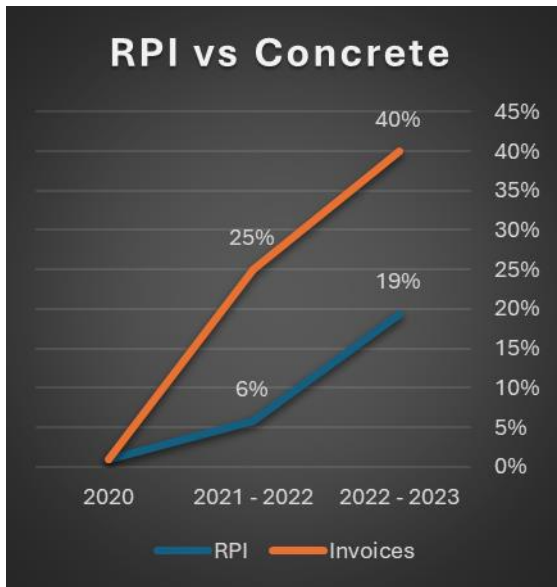


APPENDIX C – RPI v Key Materials (Compounded Analysis)

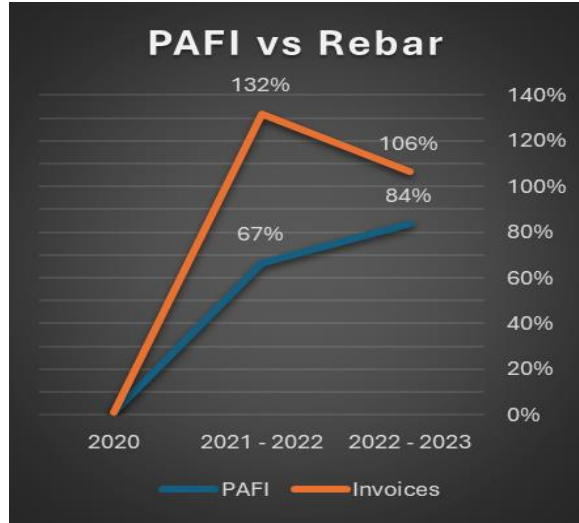
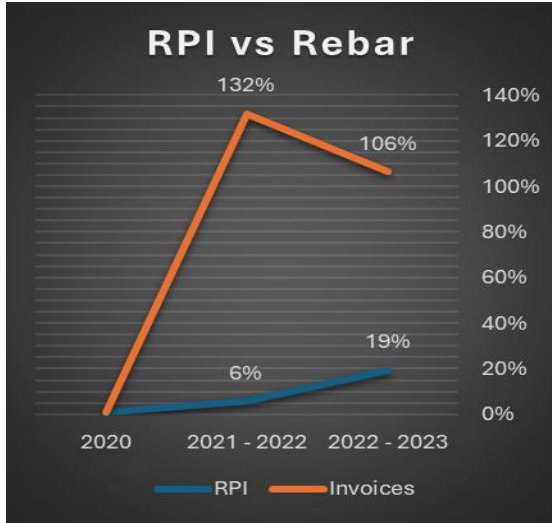
Aggregates:



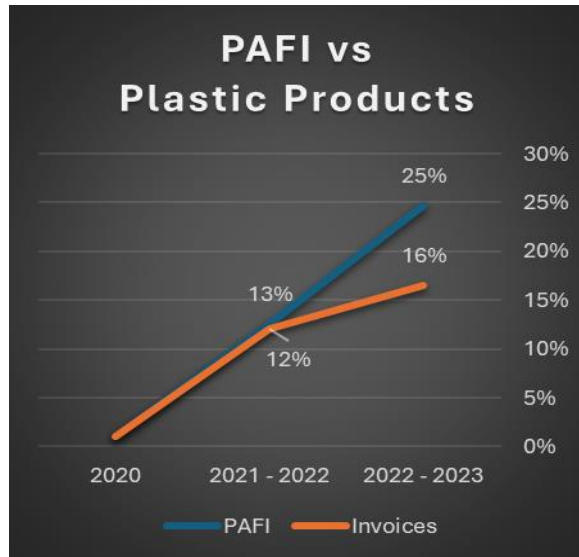
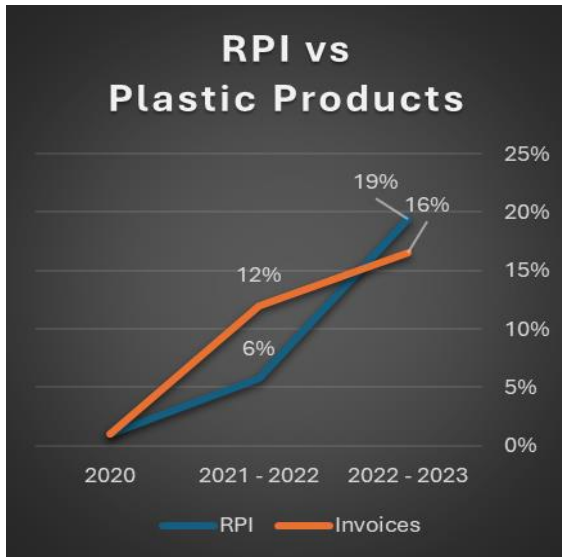
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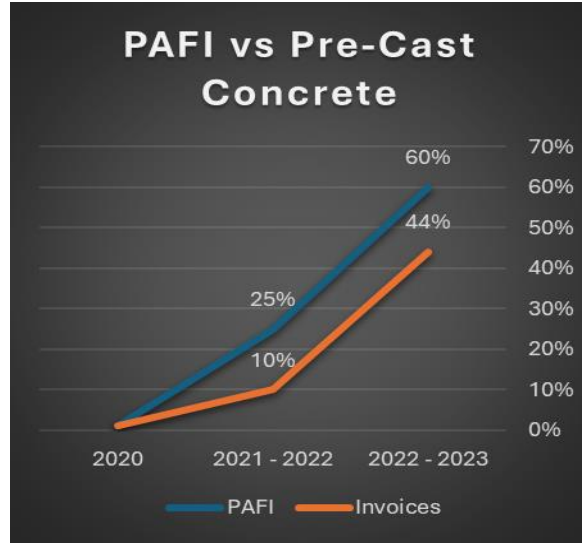
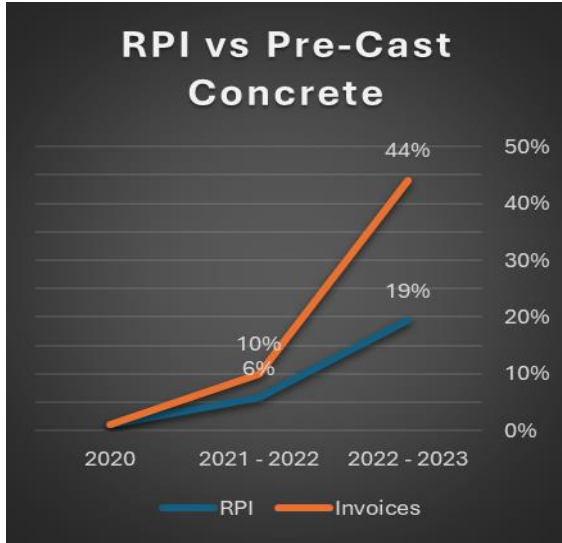
Rebar:



Plastic Products:



Pre-Cast Concrete:



Ductile Iron:

