## RLB Rider RLB Levett Bucknall

## RIDERS DIGEST 2021 UNITED KINGDOM EDITION



# 2021 EDITION

© Rider Levett Bucknall

Riders Digest is a compendium of cost data and related information on the construction industry.

For further information and feedback contact: Roger Hogg - Research & Development Manager

Email: roger.hogg@uk.rlb.com

Rider Levett Bucknall UK Ltd Level 3 110 Bishopsgate London EC2 4YN Tel: +44 (0)207 398 8300

Website: <u>RLB.com</u>

Follow us: in Rider Levett Bucknall



Rider Levett Bucknall UK Limited, Registered Number - 465 3580 Registered in England: Registered Office - 15 Colmore Row, Birmingham, B3 2BH

While Rider Levett Bucknall UK ("RLB") has endeavoured to ensure the accuracy of the information and materials in this publication (the "Materials"), it does not warrant its accuracy, adequacy, completeness or reasonableness and expressly disclaims liability for any errors in, or omissions from, the Materials.

RLB shall not be liable for any damages, losses, expenses or costs whatsoever arising out of or in connection with the use or reliance on the Materials. The Materials are provided for general information only and should not be construed as costing, legal, tax, or any other professional advice.

Professional advice should be sought when utilising any information in this publication to verify its applicability to their specific circumstances. The Materials may not, in any medium, be reproduced, published, adapted, altered or otherwise used in whole or in part in any manner without the prior written consent of RLB.

Cost information in this publication is indicative and for general guidance only. All prices and rates are as at Q2 TPF 202 and expressed in British Pounds unless otherwise stated. References to legislative provisions and regulations are as at Quarter 1 2020. Changes after this period will not be reflected.

Please note that all prices exclude prevailing Value Added Tax (VAT). Please note that all costed items are at rates priced prior to any COVID-19 effects on the market.

#### CONTENTS

INTRODUCTION	
Foreword	vi
<u> Market Outlook - A New Phase</u>	viii
UK CONSTRUCTION TRENDS	
Indices and UK Construction Output Comparison	2
UK Construction Output by Sector	4
UK Construction Materials Monthly Average Price Index	6
UK CONSTRUCTION COST DATA	
Building Costs	10
Average Construction Payment Drawdown	18
Construction Elements	20
ESTIMATING DATA	
Definition of Office Fit-out Categories	26
Reinforcement Ratios	27
Method of Measurement of Building Areas	28
International Cost Measurement Standards (ICMS)	44

ABOUT RLB	
Introduction	50
Our People	52
Our Sectors	54
Our Services	56
Opportunities at RLB	77
RLB Euro Alliance	78
INTERNATIONAL OFFICES	
Europe	82
Africa	84
Americas	85
Asia	86
Middle East	89
Oceania	90
MISCELLANEOUS	
Conversion Factors	93
Calculation Formulae	96

iv

## INTRODUCTION FOREWORD

Welcome to the 2021 Riders Digest, our annual guide to industry data and current trends within the built environment.

Since the publication of our last edition, we have continued to work through uncertain times as the COVID-19 pandemic has persisted in impacting communities across the globe. We are living through a period of huge transformation and innovation as we rise to the challenges affecting all areas of daily life and demonstrating, as an industry, how resilient and agile we really are.

These qualities have been very much in evidence as we entered 2021 with the greatly needed, albeit 11th hour, trade deal as the transition period between the UK and the European Union came to an end. We should reflect on what has already been achieved and accommodated in our country's new status since the end of last year. While there are clearly areas that remain to be addressed such as issues around material shortages and questions regarding standards and conformity, we should not underestimate the tremendous work the construction industry has already undertaken in adapting to these changes.

Against this ever-changing backdrop, we have seen some radical steps forward for our industry.

The launch of the government's Construction Playbook at the end of 2020 was a pivotal moment in showing just how far we have come in collaborating to drive better outcomes and seeing the resulting opportunities. This was swiftly followed by the publication and road testing by many companies of the Construction Innovation Hub's Value Toolkit. This supports the key policy objectives of both the Construction Playbook and the Construction Leadership Council's Roadmap to Recovery aiming to drive better outcomes at every stage of the project lifecycle. I am extremely proud of the work that our Global Board Director Ann Bentley has carried out alongside colleagues at RLB in supporting these ground-breaking initiatives which are reshaping the built environment for the future.

Building Back Better is a term that is often used but

vi

I truly believe that we are seeing that ethos being embedded from the projects we are managing for customers to the cross-industry forums we are involved with. Building safety remains at the heart of everything we do and it was good to hear the importance this was given in the Queen's Speech with the draft Building Safety Bill being reintroduced to Parliament with a view to entering legislation. Sustainability practices and a focus on net zero also remain high on the agenda as does creating an inclusive culture and opportunity for all. At RLB we are in a unique position to help our clients at the start of every project by modelling key value drivers within the programme such as social value, wellbeing, economic and sustainability impact. This enables customers to make informed decisions based on a holistic view about the impact a project will have not just at completion but for the entirety of the building's life cycle.

Within RLB we look constantly at how we can best serve our customers. During the last 12 months we have increased our global network with new alliances in India and have strengthened our presence in Europe and, nearer to home, have opened new offices in Cardiff and Belfast. We are a people business, and through our close network of colleagues are able to share our expertise, insights and technical knowledge driving innovation and efficiencies for our customers.

We have shared a selection of our current Insights within this publication but, as ever, please do get in touch with any of our colleagues or visit our relaunched global website for further information. We hope you enjoy this edition.

Andrew Reynolds Chief Executive & Global Board Director

E: <u>andrew.reynolds@uk.rlb.com</u> T: +44 (0)7764 285899



#### INTRODUCTION

### INTRODUCTION MARKET OUTLOOK -A NEW PHASE

CONTENTS



Although we all expected 2020 to be most memorable as the year that the United Kingdom left the European Union, that expectation was quickly overtaken by the emergence of the COVID-19 threat, which very rapidly turned into a global pandemic. Since then, and the effects were really only fully felt in March of last year, the UK has been on something of a rollercoaster of progress through lockdowns and reopenings.

Nationwide, lockdowns have applied throughout the countries of the UK, differing only in timing and detail, but being similar in overall effects. For construction however, its deeming as essential work activity resulted in a rapid learning process, as organisations took up the challenge of accommodating new rules and regulations, ensuring safe and continuous operation of sites, while dealing also with the cost and delay effects of these new constraints.

At first, the expectation was that the industry would suffer grievously as a result. RLB's early Global Covid-19 Surveys depicted an industry rushing to

vii

deal with unprecedented problems, and a market that would likely be ground to a halt. However, as the year wore on, it became clear that the industry's response had been so pragmatic that disruption had been far less than anticipated, that steps taken had been commensurate with the risks, rather than a panic-response. Although it is clear that some sectors, particularly retail, leisure and tourism have been verv adversely affected, activity volume levels have recovered and once-shelved projects are being fed back into the marketplace. That said, the pandemic is not over and, despite the advent of inoculation, global interrelatedness means that it won't be for guite some time. So, for the foreseeable future, virus suppression measures will remain in place and economies will have to move forward responsibly and with care.

Overlaying Covid of course is the passing into history of the United Kingdom's leaving of the EU. With a deal having been agreed at the last moment, the UK moved into the post-transition world of "3rd country" status in respect of the EU, despite most of the projected tariff and quota problems having been avoided. Very quickly, the focus turned to activity at the UK/EU borders, and concerns remain about import of materials from the EU, not as regards tariffs, but in respect of standards and conformance. The ongoing development of the new UK regime, to be known as UKCA (UK Conformity Assessed) and which will be fully in use by the year-end, will obviously at first map closely the EU's regulations, but over time, divergence is expected, and challenges will result.

Given the above, together with the ending of free movement of EU nationals and the introduction of the new points and skills-based immigration regime, the next year or two will be a unique experience.

Please get in touch:

**Roger Hogg** Research & Development Manager

E: roger.hogg@uk.rlb.com T: +44 (0)7786 078520



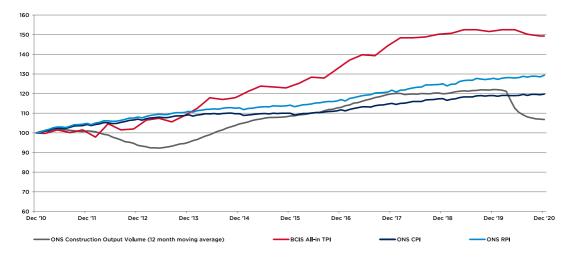


## UK CONSTRUCTION TRENDS

- 2 Indices and UK Construction Output Comparison
- 4 <u>UK Construction Output by Sector</u>
- 6 <u>UK Construction Materials Monthly</u> <u>Average Price Index</u>

CONTENTS

## INDICES AND UK CONSTRUCTION OUTPUT COMPARISON



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
BCIS "All-in" Tender Price Index	100	103	110	119	124	134	146	150	152	149
Retail Price Index (RPI)	105	108	111	113	114	117	122	125	128	129
Consumer Price Index (CPI)	104	107	109	110	110	112	115	117	119	120
UK Chain Volume Construction Output	101	94	95	105	109	113	120	120	122	107
Note: UK Chain Volume Cor of price change	nstruction	Output is s	hown as a	12-month	moving av	rerage inde	x and dep	icts chang	ing work vo	olume, net
BCIS "All-in" Tender Price Index % Change	+ 0.3%	+ 3.2%	+ 6.3%	+ 8.1%	+ 4.0%	+ 8.3%	+ 8.7%	+ 3.2%	+ 1.0%	- 1.7%
Retail Price Index (RPI) % Change	+ 4.8%	+ 3.1%	+ 2.7%	+ 1.6%	+ 1.2%	+ 2.5%	+ 4.1%	+ 2.7%	+ 2.2%	+ 1.2%
Consumer Price Index (CPI) % Change	+ 4.3%	+ 2.6%	+ 2.0%	+ 0.5%	+ 0.2%	+ 1.6%	+ 2.9%	+ 2.1%	+ 1.3%	+ 0.6%
UK Chain Volume										

+9.9%

+ 3.8%

+ 4.1%

+ 6.1%

- 7.2%

+ 1.6%

+ 1.0%

Construction Output %

Change

2

+ 1.8%

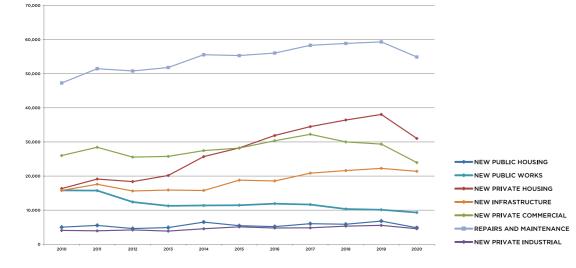
- 12.5%

+ 0.0%

#### **UK CONSTRUCTION TRENDS**

CONTENTS

## UK CONSTRUCTION OUTPUT BY SECTOR

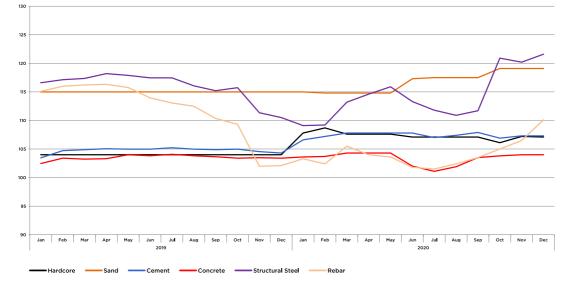


	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
NEW PUBLIC HOUSING	5,013	5,538	4,622	4,904	6,502	5,449	5,177	6,030	5,871	6,812	4,858
NEW PRIVATE HOUSING	16,330	19,124	18,373	20,171	25,706	28,230	31,890	34,480	36,420	38,070	31,024
NEW PRIVATE COMMERCIAL	26,003	28,433	25,554	25,759	27,455	28,188	30,353	32,240	30,011	29,353	23,952
NEW PRIVATE INDUSTRIAL	4,062	3,947	4,206	3,867	4,556	5,110	4,777	4,825	5,319	5,555	4,562
NEW PUBLIC WORKS	15,808	15,733	12,390	11,271	11,374	11,453	11,911	11,641	10,344	10,126	9,313
NEW INFRASTRUCTURE	15,786	17,598	15,632	15,904	15,764	18,794	18,565	20,853	21,601	22,252	21,388
REPAIRS AND MAINTENANCE	47,265	51,464	50,794	51,810	55,558	55,318	56,051	58,309	58,858	59,310	54,890

NOTE: Figures are Construction Output Volume (£ million)



### UK CONSTRUCTION MATERIALS MONTHLY AVERAGE PRICE INDEX



						20	019				2020													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Hardcore	104	104	104	104	104	104	104	104	104	104	104	104	108	109	108	108	108	107	107	107	107	106	107	107
Sand	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	117	118	118	118	119	119	119
Cement	103	105	105	105	105	105	105	105	105	105	105	104	107	107	108	108	108	108	107	107	108	107	107	107
Concrete	102	103	103	103	104	104	104	104	104	103	103	103	104	104	104	104	104	102	101	102	104	104	104	104
Structural Steel	117	117	117	118	118	117	117	116	115	116	111	111	109	109	113	115	116	113	112	111	112	121	120	122
Rebar	115	116	116	116	116	114	113	112	110	109	102	102	103	102	106	104	104	102	102	102	104	105	107	110

NP = Not Published



## UK CONSTRUCTION COST DATA

10	<u>Building Costs</u>
18	Average Construction P

- Average Construction Payment
- 20 <u>Construction Elements</u>

**BUILDING COSTS** 

## CONTENT

#### 🖞 CAUTION: All prices are prior to COVID-19 effects on the market. Please refer to our quarterly Tender Price Forecasts.

			Belfast Low High		Birmin	gham	Bri	stol	Cardiff		Edinb	ourgh
Work Type	Description	Unit	Low	High	Low	High	Low	High	Low	High	Low	High
Offices; prestige CBD	10-25 storeys	GBP/m <sup>2</sup>	1,460	2,100	2,100	2,950	2,200	3,100	1,820	2,600	1,920	2,700
Offices; investment CBD	Up to 10 storeys	GBP/m <sup>2</sup>	1,280	1,700	1,680	2,450	1,760	2,550	1,580	2,150	1,680	2,250
Offices; investment CBD	10-25 storeys	GBP/m <sup>2</sup>	1,380	2,100	2,050	3,100	1,980	3,100	1,720	2,600	1,800	2,700
Offices; non CBD investment	1-3 storeys	GBP/m <sup>2</sup>	1,020	1,300	1,580	2,100	1,320	1,980	1,280	1,600	1,340	1,700
Hotels; multi-storey	Five star rating	GBP/m <sup>2</sup>	1,720	2,350	2,400	3,350	2,550	3,400	2,200	2,950	2,250	3,100
Hotels; multi-storey	Four star rating	GBP/m <sup>2</sup>	1,180	1,900	1,700	2,550	2,150	2,700	1,500	2,400	1,560	2,500
Hotels; multi-storey	Three star rating	GBP/m <sup>2</sup>	1,080	1,580	1,440	2,200	1,480	1,980	1,340	1,980	1,420	2,100
Hotels; multi-storey	Five star rating	GBP/bedroom	120,000	240,000	165,000	345,000	165,000	330,000	150,000	297,500	160,000	315,000
Hotels; multi-storey	Four star rating	GBP/bedroom	69,000	105,000	85,000	150,000	99,000	160,000	86,000	130,000	90,000	135,000
Hotels; multi-storey	Three star rating	GBP/bedroom	34,500	72,000	54,000	102,500	55,000	107,500	43,250	90,000	45,250	95,000
Car park	Open deck; multi-storey	GBP/m <sup>2</sup>	270	540	400	760	450	880	340	670	370	710
Car park	Basement; CBD	GBP/m <sup>2</sup>	680	1,160	900	1,540	1,060	1,660	850	1,460	890	1,520
Car park	Basement; other than CBD	GBP/m <sup>2</sup>	520	1,040	730	1,440	940	1,320	650	1,280	680	1,360
Car park	Undercroft; other than CBD	GBP/m <sup>2</sup>	360	860	480	1,240	560	1,220	440	1,080	460	1,120
Car park	Open Deck; multi-Storey	GBP/car	6,500	13,000	9,100	19,000	11,250	19,750	8,000	16,000	8,500	17,000
Car park	Basement; CBD	GBP/car	17,250	29,750	23,500	43,500	24,250	35,000	21,500	37,250	22,500	39,000
Car park	Basement; other than CBD	GBP/car	13,000	26,000	20,250	36,500	22,000	33,000	16,000	32,250	17,000	33,750
Car park	Undercroft; other than CBD	GBP/car	8,700	14,500	12,000	20,500	12,750	24,250	11,000	18,250	11,500	19,000

			Leeds		Lone	lon		Manchester & Liverpool		ffield	Thames	Valley
Work Type	Description	Unit	Low	High	Low	High	Low	High	Low	High	Low	High
Offices; prestige CBD	10-25 storeys	GBP/m <sup>2</sup>	2,100	3,550	3,050	4,000	2,250	2,900	2,100	3,550	2,750	2,950
Offices; investment CBD	up to 10 storeys	GBP/m <sup>2</sup>	1,500	2,200	2,750	3,600	1,920	2,900	1,480	2,150	2,100	2,750
Offices; investment CBD	10-25 storeys	GBP/m <sup>2</sup>	1,960	2,600	2,900	3,800	2,200	2,900	1,960	2,550	2,450	2,850
Offices; non CBD investment	1-3 storeys	GBP/m <sup>2</sup>	1,020	1,700	1,800	2,500	1,300	1,900	1,020	1,700	1,720	2,350
Hotels; multi-storey	Five star rating	GBP/m <sup>2</sup>	2,100	3,300	2,900	3,900	2,400	3,250	2,100	3,300	2,750	3,550
Hotels; multi-storey	Four star rating	GBP/m <sup>2</sup>	1,560	2,450	2,200	3,500	1,900	2,800	1,540	2,450	2,100	3,200
Hotels; multi-storey	Three star rating	GBP/m <sup>2</sup>	1,300	1,740	1,960	2,500	1,600	2,000	1,300	1,740	1,840	2,400
Hotels; multi-storey	Five star rating	GBP/bedroom	187,500	327,500	217,500	430,000	177,500	352,500	185,000	327,500	210,000	400,000
Hotels; multi-storey	Four star rating	GBP/bedroom	105,000	207,500	125,000	187,500	100,000	152,500	105,000	207,500	92,000	175,000
Hotels; multi-storey	Three star rating	GBP/bedroom	43,500	91,000	65,000	140,000	61,000	107,500	43,500	91,000	64,000	140,000
Car park	Open deck; multi-storey	GBP/m <sup>2</sup>	340	1,020	470	940	590	750	340	1,020	460	920
Car park	Basement; CBD	GBP/m <sup>2</sup>	640	1,040	1,240	2,050	1,120	1,620	640	1,040	1,120	1,940
Car park	Basement; other than CBD	GBP/m <sup>2</sup>	660	1,320	1,220	1,920	1,060	1,520	660	1,320	1,100	1,880
Car park	Undercroft; other than CBD	GBP/m <sup>2</sup>	440	1,100	610	1,540	720	1,260	440	1,100	590	1,480
Car park	Open deck; multi-storey	GBP/car	8,200	16,250	11,500	23,000	9,600	18,750	8,200	16,250	10,500	19,250
Car park	Basement; CBD	GBP/car	22,000	44,750	30,500	55,000	25,250	44,000	21,750	44,750	28,250	52,000
Car park	Basement; other than CBD	GBP/car	16,500	32,750	23,000	45,500	19,000	37,750	16,500	32,750	21,750	42,750
Car park	Undercroft; other than CBD	GBP/car	11,000	18,750	15,250	26,750	12,750	21,750	11,000	18,500	12,500	22,500

**BUILDING COSTS** 

# CONTENTS

#### 🖞 CAUTION: All prices are prior to COVID-19 effects on the market. Please refer to our quarterly Tender Price Forecasts.

			Belfast Low High		Birmin	gham	Bris	tol	Cardiff		Edinb	urgh
Work Type	Description	Unit	Low	High	Low	High	Low	High	Low	High	Low	High
Industrial 6.0m to U/S Truss	4,500 m² floor area; metal cladding	GBP/m <sup>2</sup>	295	530	520	700	450	710	370	670	400	710
Industrial; att. a/c offices 200m <sup>2</sup>	200m <sup>2</sup>	GBP/m <sup>2</sup>	690	1,220	1,040	1,580	990	1,720	860	1,500	900	1,560
Industrial; att. a/c offices 400m <sup>2</sup>	400m <sup>2</sup>	GBP/m <sup>2</sup>	610	1,120	980	1,580	880	1,660	750	1,380	780	1,460
Aged care	Single storey facility	GBP/m <sup>2</sup>	1,040	1,540	1,420	2,150	1,660	2,450	1,280	1,920	1,360	2,050
Aged care	Multi storey facility	GBP/m <sup>2</sup>	1,160	1,720	1,600	2,450	1,560	1,920	1,440	2,200	1,520	2,300
Private hospitals; low rise	45-60m² floor area per bed	GBP/m <sup>2</sup>	1,540	1,900	2,300	2,700	2,250	2,950	1,920	2,500	2,050	2,600
Private hospitals; low rise	55-80m <sup>2</sup> floor area per bed; major operating theatre	GBP/m <sup>2</sup>	1,720	2,600	2,950	4,050	2,800	3,850	2,200	3,250	2,300	3,400
Retail; regional shopping centres	Department store	GBP/m <sup>2</sup>	1,460	2,600	2,000	3,500	2,050	3,750	1,820	3,250	1,920	3,400
Retail; regional shopping centres	Supermarket / variety store	GBP/m <sup>2</sup>	1,040	1,540	1,420	2,150	1,480	2,250	1,280	1,920	1,360	2,050
Retail; regional shopping centres	Discount department store	GBP/m <sup>2</sup>	1,220	1,800	1,640	2,450	1,740	2,600	1,500	2,300	1,560	2,400
Retail; regional shopping centres	Malls	GBP/m <sup>2</sup>	2,300	3,150	3,100	4,350	3,050	4,300	2,800	3,900	2,950	4,150
Retail; regional shopping centres	Speciality shops	GBP/m <sup>2</sup>	1,300	1,900	1,780	2,650	1,840	2,700	1,600	2,400	1,700	2,500
Retail; general	Small shops and showrooms	GBP/m <sup>2</sup>	710	1,340	980	1,860	960	1,820	890	1,680	940	1,760
Residential; general	Single and double storey	GBP/m <sup>2</sup>	650	850	900	1,340	1,060	1,420	800	1,080	850	1,120
Residential; general	1 to 3 storey units; 85 -120m <sup>2</sup> per unit	GBP/m <sup>2</sup>	770	1,020	1,040	1,440	1,620	1,980	960	1,280	1,020	1,360
Residential; general	Townhouses; 90 -120m <sup>2</sup> per unit	GBP/m <sup>2</sup>	860	1,100	1,060	1,500	1,620	1,980	1,080	1,400	1,120	1,460

			Leeds		London		Manchester & Liverpool		Sheffield		Thames	Valley
Work Type	Description	Unit	Low	High	Low	High	Low	High	Low	High	Low	High
Industrial 6.0m to U/S truss	4,500 m <sup>2</sup> floor area; metal cladding	GBP/m <sup>2</sup>	390	700	520	930	520	750	390	700	510	920
Industrial; att. a/c offices 200m <sup>2</sup>	200m <sup>2</sup>	GBP/m <sup>2</sup>	900	1,580	1,240	2,200	1,020	1,800	900	1,580	1,220	2,150
Industrial; att. a/c offices 400m <sup>2</sup>	400m <sup>2</sup>	GBP/m <sup>2</sup>	800	1,480	1,080	2,050	900	1,660	800	1,460	1,080	2,050
Aged care	Single storey facility	GBP/m <sup>2</sup>	1,360	2,050	1,800	2,700	1,520	2,300	1,360	2,050	1,780	2,700
Aged care	Multi storey facility	GBP/m <sup>2</sup>	1,560	2,300	2,050	2,950	1,740	2,550	1,520	2,300	2,000	2,950
Private hospitals; low rise	45-60m² floor area per bed	GBP/m <sup>2</sup>	2,500	3,600	2,700	3,450	2,300	2,900	2,500	3,600	2,550	3,250
Private hospitals; low rise	55-80m <sup>2</sup> floor area per bed; major operating theatre	GBP/m <sup>2</sup>	3,500	4,650	2,950	4,500	2,550	3,800	3,500	4,650	2,850	4,400
Retail; regional shopping centres	Department store	GBP/m <sup>2</sup>	1,880	3,300	2,550	4,500	2,150	3,800	1,880	3,300	2,350	4,200
Retail; regional shopping centres	Supermarket / variety store	GBP/m <sup>2</sup>	1,320	2,850	1,800	2,700	1,520	2,300	1,320	2,850	1,700	2,550
Retail; regional shopping centres	Discount department store	GBP/m <sup>2</sup>	1,560	2,350	2,100	3,100	1,800	2,650	1,540	2,350	1,980	2,900
Retail; regional shopping centres	Malls	GBP/m <sup>2</sup>	2,750	3,900	3,700	5,200	3,100	4,400	2,750	3,850	3,050	4,850
Retail; regional shopping centres	Speciality shops	GBP/m <sup>2</sup>	1,660	2,450	2,250	3,250	1,900	2,800	1,660	2,450	2,100	3,050
Retail; general	Small shops and showrooms	GBP/m <sup>2</sup>	890	1,660	1,180	2,200	1,000	1,880	880	1,660	1,120	2,050
Residential; general	Single and double storey	GBP/m <sup>2</sup>	830	1,100	1,440	1,720	960	1,280	830	1,100	1,380	1,700
Residential; general	1 to 3 storey units; 85 -120m <sup>2</sup> per unit	GBP/m <sup>2</sup>	900	1,480	1,420	2,100	1,140	1,520	900	1,460	1,320	2,050

**BUILDING COSTS** 

CONTENTS

## CONTENT

#### 🖞 CAUTION: All prices are prior to COVID-19 effects on the market. Please refer to our quarterly Tender Price Forecasts.

			Bel	fast	Birmin	gham	Bri	stol	Car	diff	Edint	ourgh
Work Type	Description	Unit	Low	High								
Residential; general	Single and double storey	GBP/house	38,250	56,000	54,000	81,000	140,000	240,000	47,750	70,000	50,000	73,000
Residential; general	1 to 3 storey units; 85 -120m <sup>2</sup> per unit	GBP/unit	65,000	120,000	87,000	177,500	140,000	240,000	80,000	150,000	85,000	160,000
Residential; general	Townhouses; 90 -120m <sup>2</sup> per unit	GBP/unit	73,000	127,500	95,000	182,500	147,500	240,000	91,000	160,000	96,000	170,000
Residential; multi storey units	Up to 10 storeys with lift: 60 -70m <sup>2</sup> per unit	GBP/m <sup>2</sup>	1,340	1,460	1,740	2,200	1,280	1,820	1,700	1,820	1,760	1,920
Residential; multi storey units	Up to 10 storeys with lift: 90 -120m <sup>2</sup> per unit	GBP/m <sup>2</sup>	1,460	1,900	1,780	2,450	1,280	1,820	1,820	2,400	1,920	2,500
Residential; multi storey units	Up to 10 Storeys with lift: 60 -70m <sup>2</sup> per unit	GBP/unit	77,000	102,500	122,500	170,000	76,000	127,500	96,000	130,000	102,500	135,000
Residential; multi storey units	Up to 10 storeys with lift: 90 -120m <sup>2</sup> per unit	GBP/unit	130,000	212,500	192,500	347,500	117,500	217,500	160,000	267,500	170,000	280,000
Office fit-out	Insurance offices; government departments; open planned	GBP/m <sup>2</sup>	295	440	380	700	440	610	370	540	400	570
Office fit-out	Major companies headquarters; open planned	GBP/m <sup>2</sup>	470	840	620	1,340	610	990	590	1,060	620	1,120
Office fit-out	Solicitors, financiers; open planned	GBP/m <sup>2</sup>	550	1,100	740	1,520	610	880	690	1,380	720	1,440
Office fit-out	Executive and front of house; open planned	GBP/m <sup>2</sup>	590	1,260	810	2,250	770	1,220	740	1,580	770	1,680
Workstations	Secretarial	GBP/each	3,050	4,250	4,050	5,900	4,300	6,100	3,750	5,400	3,900	5,600
Workstations	Technical staff	GBP/each	4,750	6,100	6,400	8,200	6,700	8,600	5,900	7,500	6,300	7,800
Workstations	Executive	GBP/each	5,200	10,250	6,800	14,000	6,800	14,500	6,400	13,000	6,800	13,500
Hotel FF&E	Five star rating	GBP/bedroom	17,250	68,000	22,750	95,000	24,750	99,000	21,500	86,000	22,500	90,000
Hotel FF&E	Four star rating	GBP/bedroom	10,500	17,000	13,750	23,250	14,750	24,250	13,000	21,500	13,500	22,500
Hotel FF&E	Three star rating	GBP/bedroom	6,900	10,250	9,100	14,000	9,800	14,750	8,600	13,000	9,000	13,750

			Leeds		Lone	don	Manchester & Liverpool		Sheffield		Thames	Valley
Work Type	Description	Unit	Low	High	Low	High	Low	High	Low	High	Low	High
Residential; general	Townhouses; 90 -120m² per unit	GBP/m <sup>2</sup>	1,100	1,500	1,440	1,960	1,260	1,660	1,100	1,480	1,380	1,900
Residential; general	Single and double storey	GBP/house	49,250	125,000	127,500	147,500	57,000	83,000	49,000	125,000	122,500	152,500
Residential; general	1 to 3 storey units; 85 -120m <sup>2</sup> per unit	GBP/unit	83,000	155,000	160,000	202,500	107,500	177,500	83,000	155,000	152,500	192,500
Residential; general	Townhouses; 90 -120m <sup>2</sup> per unit	GBP/unit	94,000	165,000	155,000	225,000	112,500	187,500	94,000	165,000	152,500	215,000
Residential; multi storey units	Up to 10 Storeys with lift: 60 -70m <sup>2</sup> per unit	GBP/m <sup>2</sup>	1,660	1,880	2,600	4,550	1,860	2,200	1,660	1,880	1,940	3,050
Residential; multi storey units	Up to 10 Storeys with lift: 90 -120m <sup>2</sup> per unit	GBP/m <sup>2</sup>	1,920	2,400	2,600	4,350	2,150	2,700	1,920	2,400	1,940	2,950
Residential; multi storey units	Up to 10 Storeys with lift: 60 -70m <sup>2</sup> per unit	GBP/unit	99,000	132,500	217,500	377,500	125,000	152,500	99,000	132,500	182,500	320,000
Residential; multi storey units	Up to 10 Storeys with lift: 90 -120m <sup>2</sup> per unit	GBP/unit	167,500	277,500	340,000	562,500	190,000	317,500	167,500	277,500	202,500	355,000
Office Fit-out	Insurance offices; government departments; open planned	GBP/m <sup>2</sup>	390	560	580	770	550	640	390	560	560	710
Office Fit-out	Major companies headquarters; open planned	GBP/m <sup>2</sup>	510	790	710	1,100	680	1,120	510	790	660	1,020
Office Fit-out	Solicitors, financiers; open planned	GBP/m <sup>2</sup>	510	790	710	1,160	680	1,000	510	790	660	1,080
Office Fit-out	Executive and front of house; open planned	GBP/m <sup>2</sup>	680	1,140	960	1,540	980	1,380	680	1,140	870	1,320
Workstations	Secretarial	GBP/each	3,950	5,600	5,200	7,500	4,400	6,300	3,950	5,600	4,600	6,600
Workstations	Technical staff	GBP/each	6,100	7,900	8,200	10,500	6,900	8,900	6,100	7,700	7,600	9,800
Workstations	Executive	GBP/each	6,700	23,000	8,900	18,000	7,500	15,250	6,700	23,000	8,700	16,750
Hotel FF&E	Five star rating	GBP/bedroom	22,250	89,000	31,750	127,500	25,250	102,500	22,000	88,000	25,500	92,000

#### **UK CONSTRUCTION COST DATA**

#### UK CONSTRUCTION COST DATA

16

## **BUILDING COSTS**

CAUTION: All prices are prior to COVID-19 effects on the market. Please refer to our quarterly Tender Price Forecasts.

			Bel	fast	Birmingham		Bristol		Cardiff		Edinburgh	
Work Type	Description	Unit	Low	High	Low	High	Low	High	Low	High	Low	High
Office Refurbishment	CBD offices; typical floor	GBP/m <sup>2</sup>	260	860	350	1,320	370	1,220	330	1,080	350	1,120
Recreational facilities	Regional stadium	GBP/seat	1,760	2,850	1,800	3,050	1,760	2,900	1,760	2,900	1,760	2,850
Recreational facilities	Regional feature stadium	GBP/seat	2,550	5,300	2,600	5,600	2,550	5,300	2,550	5,300	2,550	5,300
Recreational facilities	National iconic stadium	GBP/seat	4,700	8,500	4,550	9,100	4,650	8,500	4,650	8,500	4,650	8,500
Recreational facilities	Indoor arena	GBP/seat	7,100	9,000	7,100	9,400	7,000	9,200	7,000	9,200	7,000	9,200
Recreational facilities	Indoor swimming pools - 50m (including dry sports facilities)	GBP/m <sup>2</sup>	3,550	4,950	3,550	5,100	3,500	4,950	3,500	4,950	3,500	4,950
Site works	Landscaping; light, large areas, minimal planting	GBP/hectare	25,500	105,000	34,750	152,500	57,000	167,500	32,250	130,000	33,750	135,000
Site works	Landscaping; dense shrubs, topsoil, grass	GBP/m <sup>2</sup>	30	45	30	55	40	60	30	50	35	55
Site works	Landscaping; grassing, large areas, topsoil sowing, treating	GBP/m <sup>2</sup>	15	20	15	20	20	30	15	20	20	25
Site works	Car parks on ground; light duty paving	GBP/car	770	1,280	1,080	1,940	1,380	2,050	960	1,600	1,020	1,700
Site works	Car Parks on ground; heavy duty paving	GBP/car	1,300	2,150	1,640	3,100	2,300	3,350	1,600	2,700	1,700	2,800
Site works	Car Parks on ground; light duty paving to shopping centre complex	GBP/car	770	1,280	1,080	1,940	1,380	2,050	960	1,600	1,020	1,700
Site works	Roads; asphalt incl. drainage and kerbs, residential estate 6.8m wide	GBP/m	610	1,280	810	1,900	1,140	1,980	750	1,600	780	1,700
Site works	Roads; asphalt incl. drainage and kerbs, industrial estate 10.4m wide	GBP/m	860	1,700	1,200	2,600	1,500	2,700	1,080	2,200	1,120	2,300

			Leeds		Leeds London		Manchester & Liverpool		Sheffield		Thames Valley	
Work Type	Description	Unit	Low	High	Low	High	Low	High	Low	High	Low	High
Hotel FF&E	Four star rating	GBP/bedroom	13,000	21,750	19,250	31,750	15,000	25,250	13,000	21,750	16,250	28,500
Hotel FF&E	Three star rating	GBP/bedroom	8,700	13,250	12,750	19,250	10,250	15,500	8,700	13,000	12,250	18,250
Office refurbishment	CBD offices; typical floor	GBP/m <sup>2</sup>	350	1,120	480	1,540	390	1,280	350	1,120	460	1,320
Recreational facilities	Regional stadium	GBP/seat	1,660	2,700	1,780	2,900	1,800	2,950	1,660	2,700	1,760	2,850
Recreational facilities	Regional feature stadium	GBP/seat	2,400	4,950	2,550	5,300	2,600	5,400	2,400	4,950	2,550	5,300
Recreational facilities	National iconic stadium	GBP/seat	4,350	8,000	4,650	8,600	4,750	8,700	4,350	8,000	4,400	8,100
Recreational facilities	Indoor arena	GBP/seat	6,600	8,600	7,200	9,200	7,200	9,400	6,600	8,600	6,500	8,600
Recreational facilities	Indoor swimming pools - 50m (including dry sports facilities)	GBP/m <sup>2</sup>	3,300	4,650	3,600	5,000	3,600	5,100	3,300	4,650	3,250	4,600
Site works	Landscaping; light, large areas, minimal planting	GBP/hectare	32,750	132,500	44,250	187,500	37,750	150,000	32,750	130,000	40,250	172,500
Site works	Landscaping; dense shrubs, topsoil, grass	GBP/m <sup>2</sup>	30	50	45	80	40	65	30	50	40	75
Site works	Landscaping; grassing, large areas, topsoil sowing, treating	GBP/m <sup>2</sup>	10	20	20	30	20	30	10	20	15	30
Site works	Car Parks on ground; light duty paving	GBP/car	990	1,760	1,420	2,300	1,140	1,920	980	1,760	1,300	2,200
Site works	Car parks on ground; heavy duty paving	GBP/car	1,640	2,750	2,300	3,850	1,920	3,150	1,640	2,750	2,150	3,550
Site works	Car parks on ground; light duty paving to shopping centre complex	GBP/car	990	1,640	1,420	2,400	1,140	1,920	980	1,640	1,300	2,200
Site works	Roads; asphalt incl. drainage and kerbs, residential estate 6.8m wide	GBP/m	770	1,640	1,100	2,400	890	1,920	760	1,640	1,000	2,250
Site works	Roads; asphalt incl. drainage and kerbs, industrial estate 10.4m wide	GBP/m	1,100	2,200	1,540	3,050	1,260	2,550	1,100	2,200	1,460	2,900

#### UK CONSTRUCTION COST DATA

## AVERAGE CONSTRUCTION PAYMENT DRAWDOWN

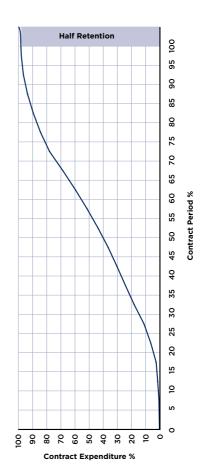
The tabulation below is derived from the statistical average of a series of case histories, which will give an indication of the anticipated rate of expenditure when used for specific project types for preliminary budgetary purposes.

Construction periods exclude various extensions, including wet weather, industrial disputes, etc.

All data is related to the date of submission of contractors' application to the client and not actual payment, which is generally one month later.

Half retention is assumed released at Practical Completion, the other half being released at end of Defects Liability Period.

Contract Period %	Contract Expenditure %
0	0
5	0.6
10	1.5
15	2.6
20	6.4
25	11.2
30	18.1
35	24.3
40	30.3
45	36.6
50	43.7
55	51.4
60	59.7
65	68.6
70	78
75	84.4
80	89.5
85	93.6
90	96.5
95	98
100	98.5
Half retention (1.5%) released at end of defects period	100



#### **UK CONSTRUCTION COST DATA**

## CONSTRUCTION ELEMENTS

**UK CONSTRUCTION COST DATA** 

The following rates are indicative only and include an allowance for profit and overheads but exclude preliminaries. The rates are not valid for tendering or pricing of variations.

## CAUTION: All prices are prior to COVID-19 effects on the market. Please refer to our quarterly Tender Price Forecasts.

Item		£		Unit		
SUBSTRUCTURE						
Reinforced concrete pad footing (Grade 35)	520	-	650	m²		
Reinforced concrete slab on ground (Grade 35)	350	-	500	m²		
COLUMNS						
Reinforced concrete (600 x 600mm Grade 35)	225	-	300	m		
Reinforced concrete (900 x 900mm Grade 35)	435	-	550	m		
UPPER FLOORS (EXCLUDING BEAMS)						
150mm reinforced concrete suspended floor slab (Grade 35) on Holorib permanent formwork	65	-	90	m²		
150mm precast concrete suspended floor slab or beam and block floor with reinforced in situ concrete screed structural topping	90	-	110	m²		
200mm reinforced concrete suspended slab with high quality formwork for exposed finish	120	-	150	m²		
STAIRCASES						
1050mm wide reinforced concrete stair with painted steel tube balustrade (average rise 3.70m) including two flights and one half space landing	3,200	-	4,500	Rise		

## CAUTION: All prices are prior to COVID-19 effects on the market. Please refer to our quarterly Tender Price Forecasts.

Item		£		Unit
1200mm wide reinforced concrete stair with painted steel tube balustrade (average rise 3.70m) including two flights and one half space landing	4,220	-	5,280	Rise
2000mm wide grand public stair with glass and metal balustrade (4.00m rise) including three flights and two quarter space landings	12,740	-	19,120	Rise
ROOF				
RC slab (Grade 35) graded to fall and built-up roofing membrane	150	-	220	m²
Structural steel, purlins and insulated metal deck roof 40 - 50 kg/m²	100	-	145	m²
EXTERNAL WALLS				
Cavity wall construction, 102mm stock facing brick outer skin; insulated cavity; 140mm blockwork inner skin	350	-	500	m²
Double glazed window unit (casement type)	400	-	650	m²
Glass curtain wall system, capped stick-built system	600	-	850	m²
EXTERNAL DOORS (INCLUE IRONMONGERY)	DING			
Single leaf solid core door	1,000	-	1,285	no.
Double leaf glazed door	1,425	-	1,710	no.
Double leaf automatic operating door	6,000	-	10,000	no.

20

## **CONSTRUCTION ELEMENTS**

CAUTION: <u>All prices are prior to COVID-19 effects on the</u> market. Please refer to our quarterly Tender Price Forecasts.

Item		£		Unit			
INTERIOR WALLS							
250mm reinforced concrete wall (Grade 35)	200	-	250	m²			
100mm block wall	25	-	32	m²			
140mm block wall	30	-	45	m²			
Plasterboard metal stud wall, single layer each side	40	-	60	m²			
INTERNAL DOOR SET (INCLUDING IRONMONGERY)							
Single leaf solid core flush door	500	-	800	no.			
Single leaf half hour fire door	550	-	900	no.			
Single leaf one hour fire door	650	-	1,300	no.			
INTERIOR SCREENS							
Laminated toilet partition	890	-	1,330	Each			
Fully glazed office partition full (2.8m) height, frameless joints							
Single glazed	330	-	540	m			
Double glazed	970	-	1,190	m			
WALL FINISHES							
Plaster and emulsion paint	16	-	24	m²			
Plaster and vinyl fabric wallpaper	30	-	50	m²			
Cement render and ceramic tile	65	-	100	m²			
Granite tiles	105	-	165	m²			

#### **UK CONSTRUCTION COST DATA**

#### CAUTION: All prices are prior to COVID-19 effects on the market. Please refer to our guarterly Tender Price Forecasts. Item f Unit CEILING FINISHES Metal framed plasterboard 40 50 m<sup>2</sup> ceiling, painted Exposed grid suspended ceiling with mineral fibre 26 37 m<sup>2</sup> board acoustic ceiling Hygienic suspended 30 40 m<sup>2</sup> ceiling system FLOOR FINISHES Carpet tile 25 50 m<sup>2</sup> -Ceramic tile 55 95 $m^2$ Raised access floors. 33 48 m<sup>2</sup> standard duty SERVICES - SANITARY AND PLUMBING Average cost per plumbing point including fixture, soil 420 540 no. waste and vent; excluding DOC M pack Average cost for storm 15 20 m<sup>2</sup> water drains (site area) SERVICES - VERTICAL TRANSPORTATION Glass sided escalator 96,750 137,500 no. (4m rise) 13 passenger lift serving 81,460 112,000 no. 4 floors Hydraulic lift, 2-stop, 40,750 45,825 no. car-size 8-13 persons



26	Definition of Office Fit-out Categories
27	Reinforcement Ratios
28	<u>Method of Measurement of</u> <u>Building Areas</u>
44	International Cost Measurement Standards (ICMS)

## DEFINITION OF OFFICE FIT-OUT CATEGORIES

Building Element	Shell and Core	Cat A Fit- out	Cat B Fit- out
Building envelope	$\checkmark$	×	×
Emergency staircases	$\checkmark$	×	×
Balustrades and handrails to emergency stairs	$\checkmark$	×	×
Accommodation stairs	$\checkmark$	×	×
Balustrades and handrails to accommodation stairs	$\checkmark$	×	×
Feature stairs	×	$\checkmark$	×
Balustrades and handrails to feature stairs	×	$\checkmark$	×
Lifts	$\checkmark$	×	×
Base services, plant and equipment to edge of floor plates	$\checkmark$	×	×
Life safety infrastructure, sprinkler pumps, tanks, risers, main fire alarm panels	$\checkmark$	×	×
Finishes to main entrances	$\checkmark$	×	×
Finishes to common areas	$\checkmark$	×	×
Finishes to staircases fitted as part of shell and core	$\checkmark$	×	×
Finishes to lifts	$\checkmark$	×	×
Finishes to common toilets	$\checkmark$	×	×
Sanitary fit-out of common toilets	$\checkmark$	×	×
Suspended ceilings	×	$\checkmark$	×
Raised access floors	×	$\checkmark$	×
Extension of basic mechanical and electrical services, lighting, heating, cooling and ventilation systems including controls, from the riser across the lettable floor space	×	$\checkmark$	×
Sprinklers, fire alarms and basic safety signage	×	$\checkmark$	×
Office carpets	×	$\checkmark$	×
Distributed power to each floor but not to each terminal point	×	$\checkmark$	×
Installation of cellular offices	×	×	$\checkmark$
Enhanced finishes	×	×	$\checkmark$
Conference / meeting room facilities	×	×	$\checkmark$
IT and AV installations	×	×	$\checkmark$
Tea point and kitchen fit-out	×	×	$\checkmark$
Furniture	×	×	$\checkmark$

#### **ESTIMATING DATA**

CONTENTS

## **REINFORCEMENT RATIOS**

The following ratios give an indication of the average weight of high tensile rod reinforcement per cubic metre of concrete (Grade 35) for the listed elements. Differing structural systems, ground conditions, height of buildings, load calculations and sizes of individual elements and grid sizes will result in considerable variation to the stated ratios. For project specific ratios, a civil & structural engineer should be consulted.

Element	kg/r	n³	
Substructure			
Pile caps	115	-	200
Bored piles (compression)	30	-	60
Bored piles (tension)	150	-	250
Raft foundation	100	-	150
RC pad footings	70	-	150
Ground beams	200	-	300
Basement			
Retaining wall	150	-	250
RC wall	75	-	150
Ground bearing slab	80	-	150
Edge beams	220	-	300
Lift pits	100	-	200
Above Ground			
Columns	150	-	450
Beams	180	-	300
Slab	90	-	200
Walls (core)	75	-	200
Lift core	125	-	200
Stairs	130	-	160

## ESTIMATING DATA

### METHOD OF MEASUREMENT OF BUILDING AREAS

#### The two tables below are designed

The information provided is a summary from the RICS Code of Measurement Practice, effective globally from 18 May 2015.

These rules are intended as a brief guide only and the full RICS Code of Measuring Practice should be consulted if required. Advice regarding net lettable areas used for calculating revenues should be given by the client's commercial property agent.

#### **Gross External Area (GEA)**

The area of a building measured externally (i.e. to the external face of the perimeter walls) at each floor level. The rules of measurement of gross external floor area are defined in the RICS Code of Measuring Practice (6th edition).

RICS Code of Measuring Practice (6th edition) applicable to all buildings except offices.

ALL BUILDINGS EXCLUDING OFFICES					
INCLUDING	EXCLUDING				
Perimeter wall thickness and external projections	External open-sided balconies, covered ways and fire escapes				
Areas occupied by internal walls and partitions	Canopies				
Columns, piers, chimney breasts, stairwells, lift-wells, and the like	Open vehicle parking areas, roof terraces, and the like				

#### for comparative purposes

Note from the 1st January 2016 a RICS Professional Statement (PS)<sup>1</sup> came into effect. The purpose of the statement was to change the rules for measurement for offices only from the standard RICS Code of Measuring Practice (6th edition) to IPMS (International Property Measurement Standards).

NOTE the RICS Code of Measuring Practice (6th edition) still applies to all other building types. The PS affects GEA, GIA and NIA in respect of offices.

#### IPMS 1: Gross External Area (GEA)

The area of a building measured externally (i.e. to the external face of the perimeter walls) at each floor level. The rules of measurement of gross external floor area are defined in the RICS Code of Measuring Practice (6th edition) – adjusted below to reflect the implications of the RICS Professional Statement (PS) as applicable to offices only. Please refer to the RICS Professional Statement for a full definition.

RICS Professional Statement (PS) 2nd Edition effective from 1st May 2018, which affects the measurement of offices.

#### OFFICES ONLY

and the like

INCLUDING EXCLUDING Definition provided: the external area of basements is calculated by extending the exterior plane of the perimeter walls at ground floor level downwards, or by estimation of the wall thickness if the extent of the basement differs from the around floor level Perimeter wall thickness and Fire escapes and open external projections external stairways not being part of the structure External open-sided balconies, covered ways. Now included but must be stated separately Areas occupied by internal Canopies walls and partitions Open vehicle parking areas, Columns, piers, chimney breasts, stairwells, lift-wells, non-accessible roof terraces,

28

and the like

INCLUDING

base level only

Internal balconies

**GROSS EXTERNAL AREA (GEA)** 

ALL BUILDINGS EXCLUDING OFFICES

Atria and entrance halls, with

Structural, raked or stepped

floor measured horizontally

Horizontal floors, whether

structural, raked or stepped

Mezzanine areas intended for

use with permanent access

Lift rooms, plant rooms, fuel

stores, tank rooms which are

not above the main roof level

Outbuildings which share at

least one wall with the main

Areas with a headroom of less

housed in a covered structure of

a permanent nature, whether or

accessible or not, below

floors

building

than 1.5m

Garages

Loading bays

Pavement vaults

Conservatories

floors are to be treated as a level

clear height above, measured at

## METHOD OF MEASUREMENT OF BUILDING AREAS

EXCLUDING

floors

Voids over or under

Open light wells upper level voids of an atrium -

definition added in PS

residential property

structural, raked or stepped

Greenhouses, garden stores,

Patios, decks at ground level

- definition added in PS

External car parking.

equipment yards, cooling

- definition added in PS

Other ground level areas

definition added in PS

that are not fully enclosed -

equipment and refuse areas

fuel stores, and the like in

Digest - United Kingdom 2021 Pider

31

ESTIMATING DATA

#### IPMS 1: Gross External Area (GEA)

#### OFFICES ONLY INCLUDING EXCLUDING Accessible rooftop terraces - now included but must be stated separately Atria and entrance halls with Voids over or under clear height above, measured structural, raked or stepped at base level only floors Open light wells upper level voids of an atrium - definition added in PS Internal balconies also called Greenhouses, garden stores, covered galleries are included fuel stores, and the like in but must be stated separately residential property as different interpretations may have been applied regarding their inclusion Structural, raked or stepped Patios, decks at ground level floors are to be treated. - definition added in PS as a level floor measured horizontally Horizontal floors, whether External car parking. accessible or not, below equipment vards, cooling structural, raked or stepped equipment and refuse areas floors definition added in PS Mezzanine areas intended for Other ground level areas use with permanent access that are not fully enclosed definition added in PS Lift rooms, plant rooms, fuel stores, tank rooms which are housed in a covered structure of a permanent nature whether or not above the main roof level Outbuildings which share at least one wall with the main building Loading bays Areas with a headroom of less than 1.5m Pavement vaults Garages Conservatories

### METHOD OF MEASUREMENT OF **BUILDING AREAS**

ESTIMATING DATA

#### Gross Internal Floor Area (GIFA) (or Gross Internal Area (GIA))

The area of a building measured to the internal face of the perimeter walls at each floor level. The rules of measurement of gross internal floor area are defined in the RICS Code of Measuring Practice (6th edition).

RICS Code of Measuring Practice (6th edition) applicable to all buildings except offices

#### IPMS 2 - Office: Gross Internal Floor Area (GIFA) (or Gross Internal Area (GIA))

The area of a building measured to the internal face of the perimeter walls at each floor level. The rules of measurement of gross internal floor area are defined in the RICS Code of Measuring Practice (6th edition). - adjusted below to reflect the implications of the RICS Professional Statement (PS) as applicable to offices only. Please refer to the RICS Professional Statement for a full definition.

RICS Professional Statement (PS) 2nd Edition effective from 1st May 2018, which affects the measurement of offices.

Using IPMS 2 offices are separated for measurement into eight component areas:

Component A - Vertical penetration e.g. lift / elevator shaft and ducts

Component B - Structural elements all structural walls to inside of internal dominant face

Component C - Technical services e.g. plant rooms, lift / elevator motor rooms and maintenance rooms

Component D - Hygiene areas e.g. toilet facilities, cleaners, shower room and changing room

Component E - Circulation areas - all horizontal circulation areas

Component F - Amenities e.g. cafeteria, day care facilities. fitness areas and prayer rooms

Component G - Workspace, e.g. the area available for use by personnel, furniture and equipment for office purposes

Component H - Other areas including balconies, covered galleries, internal car parking and storage rooms If an area is for multifunctional use, it is to be stated as its

Principal use.

Limited use areas must be identified, measured and stated separately within IPMS reported areas.

#### OFFICES ONLY

Definition added - the sum of the areas of each floor of an office building measured to the internal dominant face reported on a component-by-component basis for each floor of a building

The internal dominant face is the inside finished surface comprising 50% or more of the surface area for each vertical section forming an internal perimeter. Where the internal dominant face is a window the internal dominant face is taken. to the glazing

CONTENTS

### METHOD OF MEASUREMENT OF BUILDING AREAS

Gross Internal Floor Area (GIFA) (or Gross Internal

Area (GIA))				
ALL BUILDINGS EXCLUDING OF	FICES			
Areas occupied by internal walls and partitions projections	Perimeter wall thicknesses and external projections			
Columns, piers, chimney breasts, stairwells, lift-wells, other internal projections, vertical ducts, and the like	External open-sided balconies, covered ways and fire escapes			
Enclosed walkways or passages between separate buildings - definition added in PS				
Atria and entrance halls, with clear height above, measured at base level only	Canopies			
Internal open-sided balconies, walkways, and the like	Voids over or under structural, raked or stepped floors			
	Accessible rooftop terraces - normally excluded			
Structural, raked or stepped floors are to be treated as a level floor measured horizontally	Greenhouses, garden stores, fuel stores, and the like in residential property			
Horizontal floors, with permanent access, below structural, raked or stepped floors	Patios, decks at ground level not forming part of the structure - definition added in PS			

#### **ESTIMATING DATA**

#### IPMS 2 - Office: Gross Internal Floor Area (GIFA) (or Gross Internal Area (GIA))

OFFICES ONLY	
Areas occupied by internal walls and partitions projections	Perimeter wall thicknesses and external projections
Columns, piers, chimney breasts, stairwells, lift-wells, other internal projections, vertical ducts, and the like	Open external stairways not being part of the structure e.g. fire escapes
External balconies often referred to as external open sided balconies - included but stated separately	
Enclosed walkways or passages between separate buildings - definition added in PS	
Atria and entrance halls, with clear height above, measured at base level only	Canopies
Areas occupied by the reveals of windows when measured and assessed as the internal dominant face - definition added in PS	
Internal open-sided balconies, walkways, and the like - included but stated separately	Voids over or under structural, raked or stepped floors
External balconies often referred to as external open sided balconies - included but stated separately	
Accessible rooftop terraces included but stated separately	
Structural, raked or stepped floors are to be treated as a level floor measured horizontally	Greenhouses, garden stores, fuel stores, and the like in residential property
Horizontal floors, with permanent access, below structural, raked or stepped floors	Patios, decks at ground level not forming part of the structure - definition added in PS

## METHOD OF MEASUREMENT OF BUILDING AREAS

Gross Internal Floor Area (GIFA) (or Gross Internal Area (GIA))
ALL BUILDINGS EXCLUDING OFFICES

Corridors of a permanent essential nature (e.g. fire corridors, smoke lobbies)	External car parking, equipment yards, cooling equipment and refuse areas - definition added in PS
Mezzanine floor areas with permanent access	Other ground level areas that are not fully enclosed - definition added in PS
Lift rooms, plant rooms, fuel stores, tank rooms which are housed in a covered structure of a permanent nature, whether or not above the main roof level	
Service accommodation such as toilets, toilet lobbies, bathrooms, showers, changing rooms, cleaners' rooms, and the like	
Projection rooms	
Voids over stairwells and lift shafts on upper floors	
Loading bays	
Areas with a headroom of less than 1.5m	
Pavement vaults	
Garages	
Conservatories	

#### IPMS 2 - Office: Gross Internal Floor Area (GIFA) (or Gross Internal Area (GIA))

OFFICES ONLY	
Corridors of a permanent essential nature (e.g. fire corridors, smoke lobbies)	External car parking, equipment yards, cooling equipment and refuse areas - definition added in PS
Mezzanine floor areas with permanent access	Other ground level areas that are not fully enclosed - definition added in PS
Lift rooms, plant rooms, fuel stores, tank rooms which are housed in a covered structure of a permanent nature, whether or not above the main roof level	
Service accommodation such as toilets, toilet lobbies, bathrooms, showers, changing rooms, cleaners' rooms, and the like	
Projection rooms	
Voids over stairwells and lift shafts on upper floors	
Loading bays	
Areas with headroom of less than 1.5m - refer to PS rules. The internal dominant face is the inside finished surface comprising 50% or more of the surface area for each vertical section forming an internal perimeter	
Pavement vaults	
Garages	
Conservatories	

## METHOD OF MEASUREMENT OF **BUILDING AREAS**

#### Net Internal Area (NIA)

ESTIMATING DATA

The usable area within a building measured to the internal face of the perimeter walls at each floor level. The rules of measurement of net internal area are defined in the RICS Code of Measuring Practice (6th edition).

RICS Code of Measuring Practice (6th edition) applicable to all buildings except offices

ALL BUILDINGS EXCLUDING OFFICES	
INCLUDING	EXCLUDING
Atria with clear height above, measured at base level only excluding common areas	Those parts of entrance halls, atria, landings and balconies used in common
Entrance halls excluding common areas	Toilets, toilet lobbies, bathrooms, cleaners' rooms, and the like
Notional lift lobbies and notional fire corridors	Lift rooms, plant rooms, tank rooms (other than those of a trade process nature), fuel stores, and the like
Kitchens	Stairwells, lift-wells and permanent lift lobbies
Built-in units, cupboards, and the like occupying usable areas	Corridors and other circulation areas where used in common with other occupiers
Ramps, sloping areas and steps within usable areas	Permanent circulation areas, corridors and thresholds/ recesses associated with access, but not those parts that are usable areas

#### IPMS 3 - Office: Net Internal Area (NIA)

The usable area within a building measured to the internal face of the perimeter walls at each floor level. The rules of measurement of net internal area are defined in the RICS Code of Measuring Practice (6th edition) - adjusted below to reflect the implications of the RICS Professional Statement (PS) as applicable to offices only. Please refer to the RICS Professional Statement for a full definition.

RICS Professional Statement (PS) 2nd Edition effective from 1st May 2018, which affects the measurement of offices.

#### OFFICES ONLY

#### INCLUDING

EXCLUDING

Definition added: The floor area available on an exclusive basis to an occupier, but excluding standard facilities and shared circulation areas, and calculated on an occupier-by-occupier floor-by-floor basis for each building. All internal walls and columns with an occupant; exclusive area included within IPMS 3 - office. The floor area is taken to the internal dominant. face and, where there is a common wall with an adjacent tenant, to the centre line of the common wall.

Atria with clear height above, measured at base level only excluding common areas	Those parts of entrance halls, atria, landings and balconies used in common
Entrance halls excluding common areas	Toilets, toilet lobbies, bathrooms, cleaners' rooms, and the like
Notional lift lobbies and notional fire corridors	Lift rooms, plant rooms, tank rooms (other than those of a trade process nature), fuel stores, and the like
Kitchens	Stairwells, lift-wells and permanent lift lobbies
Built-in units, cupboards, and the like occupying usable areas	Corridors and other circulation areas where used in common with other occupiers
Ramps, sloping areas and steps within usable areas	Permanent circulation areas, corridors and thresholds/ recesses associated with access, but not those parts that are usable areas

38

CONTENTS

## METHOD OF MEASUREMENT OF BUILDING AREAS

#### Net Internal Area (NIA)

#### ALL BUILDINGS EXCLUDING OFFICES

INCLUDING	EXCLUDING
Areas occupied by ventilation/heating grilles	Areas under the control of service or other external authorities including meter cupboards and statutory service supply point
Areas occupied by skirting and perimeter trunking	Internal structural walls, walls enclosing excluded areas, columns, piers, chimney breasts, other projections, vertical ducts, walls separating tenancies and the like
Areas occupied by non- structural walls subdividing accommodation in sole occupancy	The space occupied by permanent and continuous air-conditioning, heating or cooling apparatus, and ducting in so far as the space it occupies is rendered substantially unusable
Pavement vaults	The space occupied by permanent, intermittent air-conditioning, heating or cooling apparatus protruding 0.25m or more into the usable area
	Areas with a headroom of less than 1.5m
	Areas rendered substantially unusable by virtue of having a dimension between opposite faces of less than 0.25m
	Vehicle parking areas (the number and type of spaces noted)

#### **ESTIMATING DATA**

#### IPMS 3 - Office: Net Internal Area (NIA)

OFFICES ONLY	
INCLUDING	EXCLUDING
Areas occupied by ventilation/heating grilles	Areas under the control of service or other external authorities including meter cupboards and statutory service supply point
Areas occupied by skirting and perimeter trunking	
All internal walls and columns	
Areas occupied by non- structural walls subdividing accommodation in sole occupancy	The space occupied by permanent and continuous air-conditioning, heating or cooling apparatus, and ducting in so far as the space it occupies is rendered substantially unusable
Pavement vaults	The space occupied by permanent, intermittent air-conditioning, heating or cooling apparatus protruding 0.25m or more into the usable area
Areas with a headroom of less than 1.5m - now included but may be stated separately as a limited use area	
Areas rendered substantially unusable by virtue of having a dimension between opposite faces of less than 0.25m	Measured but identified separately
	Vehicle parking areas (the number and type of spaces noted)

CONTENTS

Net Internal Area (NIA)	
ALL BUILDINGS EXCLUDING OFFICES	
INCLUDING	EXCLUDING
	Enclosed walkways or passages between separate buildings – definition added in PS
	Accessible rooftop terraces - normally excluded
	Open external stairways not being part of the structure e.g. open framework fire escapes
	Patios, decks at ground level not forming part of the structure - definition added in PS
	External car parking, equipment yards, cooling equipment and refuse areas - definition added in PS
	Other ground level areas that are not fully enclosed - definition added in PS
	Open light wells upper level voids of an atrium

Source: RICS<sup>2</sup>

OFFICES ONLY	
INCLUDING	EXCLUDING
The common wall with adjacent occupier - the floor areas is taken to the centre line of the common wall, so the area includes half the width of the common wall - definition added in PS	
Enclosed walkways or passages between separate buildings - definition added in PS	
Areas occupied by the reveals of windows when measured and assessed as the internal dominant face	
External open sided balconies used exclusively - included but stated separately	
Accessible rooftop terraces included but stated separately	
	Open external stairways not being part of the structure e.g. open framework fire escapes
	Patios, decks at ground level not forming part of the structure - definition added in PS
	External car parking, equipment yards, cooling equipment and refuse areas - definition added in PS
	Other ground level areas that are not fully enclosed - definition added in PS
	Open light wells upper level voids of an atrium

## INTERNATIONAL COST MEASUREMENT STANDARDS (ICMS)

#### INTRODUCTION

CONTENTS

The aim of ICMS is to, "... provide a structure and format for classifying, defining, measuring, analysing and presenting construction costs that will provide consistency and transparency across international boundaries." (ICMS Coalition)<sup>3</sup>.

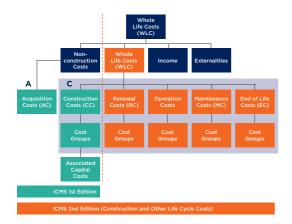
#### WHAT IS IT AND WHY?

The ICMS project is backed by more than 40 building and surveying national groups and professional bodies globally, working as the ICMS Coalition.

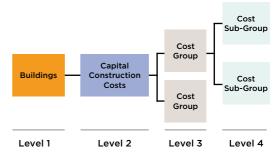
ICMS has been designed to be back-to-back with International Property Measurement Standards (IPMS), but addresses the cost aspects of projects. First issued in July 2017 as ICMS, ICMS2 was issued in September 2019. Whereas the original edition featured only Construction Costs, ICMS2 now addresses Whole Life Costs in the ACROME format:

- A Acquisition Costs (formerly within Construction Costs)
- C Construction Costs
- R Renewal Costs
- O Operation Costs
- M Maintenance Costs
- E End of Life Costs

This arrangement is depicted as below:



The original ICMS costs structure was arranged in a hierarchy of Levels 1 to 4:



#### Level 1: Project or Sub-Project - mandatory,

classification by essence and principal purpose

Level 2: Cost Category – mandatory, to permit high level comparison between projects

Level 3: Cost Group – mandatory, equivalent of NRM's Group Elemental

Level 4: Cost Sub-Group – non-mandatory, but subject to Level 3 constraints

This first edition orientation can be shown for a set of categories as follows:

#### Table 1: Example - ICMS Layout

Cost Code	Description
	Cost Category (Level 2)
	Cost Group (Level 3)
	Cost Sub-Group (Level 4)
1	Capital Construction Costs
1.02	Substructure
1.02.020	Foundations up to top of lowest floor slabs: 010 - excavation and disposal 020 - lateral supports 030 - raft footings, pile caps, column bases, wall footings, strap beams, tie beams 040 - substructure walls and columns 050 - lowest floor slabs and beams (excluding basement bottom slabs) 060 - lift pits

In ICMS 2, the above general format is retained. However, with the separation of Acquisition Costs now as Cost Code 1, Construction Costs become Cost Code 2. Other changes to Cost Groups and Sub-Groups are limited, but include the addition of a Cost Group for "Composite or prefabricated work".

In both the original version of ICMS and Edition 2, the user has not been exposed to anything that is fundamentally different from a standard approach to costing projects. However, Level 3 changes that.

Level 3 (shown here in the numbering convention of the original ICMS version) of ICMS introduces the concept of Structure work separated from Architectural works / non-structural works:

#### Table 2

1.03	Structure
1.04	Architectural works   non-structural works

The user must accord with the Level 3 ICMS headings, and so must break out some parts of NRM's Structural elements and measure these parts as non-structural. For example, what has been formerly understood as the Roof Element under NRM, will under ICMS have a structural component (roof structure) and a nonstructural component (roof covering and drainage).

Whilst there is no definition of the suggested ICMS Cost Sub-Groups provided, they are stated within the ICMS document as being broadly compatible with ISO 12006.

Readers of the ICMS document should also note that there exists in the suggested Level 4 structure, an additional level that is effectively Level 5 (refer e.g. 1.02.020.010 in the table above). This is something of a mix between what we currently know as NRM Element and NRM sub-element level. Another key feature of ICMS is the requirement for cost reporting to be provided using both IPMS 1 and IPMS 2 areas measurement formats. The IPMS 1 method measures to the external face of the external walls of buildings, whereas IPMS 2 measures to the internal face. While IPMS 2 is broadly equivalent to Gross Internal Floor Area (GIFA), ICMS also introduces the concept of Internal Dominant Face (IDF). IDF is defined as the inside finished face of that part of a wall that composes greater than 50% of the wall face. The use of IDF could, in extreme circumstances, result in the measured area exceeding the physical floor area of the space in question.

The use of IPMS 1 and 2 raises other issues in regards to measurement of areas of such as balconies and rooftop terraces. ICMS requires these areas to be measured, included and stated separately, whereas currently GIFA under NRM excludes both balconies and terraces.

As a consequence of the above, care needs to be taken in considering benchmarked costs under NRM as against under ICMS.

These few notes form merely an introduction to ICMS. RLB offices can provide more detailed consideration on request.

Please get in touch:

**Roger Hogg** Research & Development Manager

e. roger.hogg@uk.rlb.com t. +44 (0)7786 078520





## **ABOUT RLB**

- 50 <u>Introduction</u>
- 52 <u>Our People</u>
- 54 <u>Our Sectors</u>
- 56 <u>Our Services</u>
- 77 Opportunities at RLB
- 78 <u>RLB Euro Alliance</u>

## ABOUT RLB

#### CONFIDENCE TODAY INSPIRES TOMORROW

With a network that covers the globe and a heritage spanning over two centuries, RLB is a leading independent organisation in cost management and quantity surveying, project management, programme management, building surveying, health & safety, and advisory services.

Our achievements are renowned: from the early days of pioneering quantity surveying, to landmark projects such as the Sydney Opera House, HSBC Headquarters Building in Hong Kong, the 2012 London Olympic Games and CityCenter in Las Vegas.

We continue this successful legacy with our dedication to the value, quality and sustainability of the built environment. Our innovative thinking, global reach, and flawless execution push the boundaries, taking ambitious projects from an idea to reality.

#### OUR VISION

#### Creating a better tomorrow

The Rider Levett Bucknall vision is to be the global leader in the market, through flawless execution, a fresh perspective and independent advice.

Our focus is to create value for our customers, through the skills and passion of our people, and to nurture strong long-term partnerships.

By fostering confidence in our customers, we empower them to bring their imagination to life, to shape the future of the built environment, and to create a better tomorrow.

#### AT A GLANCE

50

- Global turnover in excess of £300m
- More than 4,600 people worldwide
- Offices in 123 locations across the world

#### These figures include RLB Euro Alliance

#### Our Values

#### At the heart of everything we do

At Rider Levett Bucknall doing the right thing matters.

We believe we all have a responsibility to support the communities in which we live and work. Our global values are based on these seven insights:



**People** Invest in our people and value their contribution



**Industry** Lead by example and shape the future of our industry in everything we do



**Community** Be aware of our social responsibilities and make our contribution to the community



**Environment** Be conscious of the difference we can make in creating a better tomorrow



**Customers** Challenge the norm, give fresh perspectives and deliver flawlessly



**Suppliers** Act with integrity, honesty and fairness in all our relationships



**Shareholders** Be a self-owned organisation, be financially robust, and deliver agreed financial plans

## ABOUT RLB **OUR PEOPLE**

#### Andrew Revnolds

Chief Executive & Global Board Director

e. and rew.revnolds@uk.rlb.com

Dean Sheehv **Operations Director** 

e. dean.sheehv@uk.rlb.com

Stuart Stables **Finance Director** 

e. stuart.stables@uk.rlb.com

#### SENIOR LEADERSHIP BOARD

Steve Gillingham Managing Partner -Manchester, Liverpool and London Belfast e. stephen.gillingham@uk.rlb.

Matthew Brooker Partner - Head of Sectors e. matthew.brooker@uk.rlb.com

Andrew Fettes Brown Partner - Futures e. andrew.f.brown@uk.rlb.com

Sarah Draper Partner - Head of People & Culture e. sarah.draper@uk.rlb.com

Russell Llovd Partner - Head of Service & Global Board Director

e. russell.lloyd@uk.rlb.com

#### Jo Revnolds

Managing Partner -Birmingham e. jo.reynolds@uk.rlb.com

Matt Sharp Partner - Chief Digital Officer e. matt.sharp@uk.rlb.com

#### MANAGING PARTNERS

Steve Gillingham Managing Partner -Manchester, Liverpool and Bristol and Cardiff Belfast e. stephen.gillingham@uk.rlb.

Mark Clive Partner - Cumbria & Warrington e. mark.clive@uk.rlb.com

Nick Eliot Managing Partner -London e. nick.eliot@uk.rlb.com

#### Jackie Pinder

Managing Partner e. jackie.pinder@uk.rlb.com

Jo Revnolds Managing Partner -Birmingham e. io.revnolds@uk.rlb.com

**Michael Righton** Managing Partner -Thames Valley e. michael.righton@uk.rlb.com

Matt Summerhill Managing Partner - Leeds and Sheffield e. matt.summerhill@uk.rlb.com

#### BUSINESS SERVICES

Sarah Draper Partner - Head of People & Culture e. sarah.draper@uk.rlb.com

**Caroline Copland** Partner - Marketing e. caroline.copland@uk.rlb. com

Matt Sharp Partner - Chief Digital Officer e. matt.sharp@uk.rlb.com

Warren Taroni Partner - Finance e. warren.taroni@uk.rlb.com

Vivianne Todhunter Partner - Compliance & Business Improvement e. vivianne.todhunter@uk.rlb.com CONTENTS

### Nick Eliot Managing Partner e. nick.eliot@uk.rlb.com

Mark Weaver

Commercial &

Ann Bentley

**Technical Director** 

e. mark.weaver@uk.rlb.com

Non-executive Director

& Global Board Director

e. ann.bentley@uk.rlb.com

## ABOUT RLB OUR SECTORS

A core strength of RLB is our sector expertise. Our experts bring their technical expertise to deliver solutions for customers across a number of sectors, sharing our insight, knowledge and independent and objective advice. We work across all sectors of the built environment with a particular focus on the following:



COMMERCIAL Sector Lead: Matthew Brooker e. matthew.brooker@uk.rlb.com



DATA CENTRES Sector Lead: Andrew Fettes Brown e. andrew.f.brown@uk.rlb.com



EDUCATION Sector Lead: Stephen Scott e. stephen.scott@uk.rlb.com

phen.scott@uk.



PUBLIC & CIVIC Sector Lead: Julian Henley e. julian.henley@uk.rlb.com



HOTELS, HOSPITALITY & LEISURE Sector Lead: Paul Sambrook e. paul.sambrook@uk.rlb.com

54





INFRASTRUCTURE Sector Lead: Andy Stamps e. andy.stamps@uk.rlb.com



ENERGY Sector Lead: Mark Clive e. mark.clive@uk.rlb.com

RESIDENTIAL Sector Lead: Paul Sambrook e. paul.sambrook@uk.rlb.com



RETAIL Sector Lead: Julian King e. julian.king@uk.rlb.com



SPORT Sector Lead: Jonathan Edwards e. jonathan.edwards@uk.rlb.com



CONTENTS

## ABOUT RLB OUR SERVICES

RLB's Connected Thinking approach combines collaborative best practice and flawless execution with local knowledge and expertise. We take learnings from our global business and overlay them with an in-depth understanding of our clients' businesses, regardless of their sector or service, to create tailored solutions that deliver successful outcomes. Providing independent advice through the skills and passion of our people, we deliver value and sustainable solutions that are relevant for today and into tomorrow.

#### BRINGING A FRESH PERSPECTIVE

Our approach is about accelerating the delivery of benefits while providing a sustainable solution for our clients. It involves an absolute focus on sharing knowledge, learning and experience across our global business, and with our clients to achieve real and tangible results.



Through collaborating both internally and externally, we can influence the development of industry-quality standards, share knowledge and work together to drive industry-wide improvements. BIM is a key tool for driving collaboration and efficiency within the design and construction of the built environment. We are committed to integrating BIM and are working with some of the world's leading designers, delivering highly complex, high value projects worldwide.

Understanding the value of data within our solutions is a key enabler for successful outcomes. We are adopting new technology and techniques to work faster and smarter to deliver projects with greater data certainty and transparency, providing the insights needed to help our clients make more informed decisions, more quickly.

We are focused on creating and delivering value and marry together expertise in capital and whole-life cost modelling, the creation of human and social value and the assessment environmental impact of projects. This enables our clients to test their business cases and identify and deliver optimum value solutions.

Please get in touch:

**Russell Lloyd** Partner - Head of Service

e. <u>russell.lloyd@uk.rlb.com</u> t. +44 (0)7976 358556



### ABOUT RLB COMMERCIAL SUCCESS



Head of Service: Russell Lloyd

e. russell.lloyd@uk.rlb.com

#### Commercial & Technical Director: Mark Weaver

e. mark.weaver@uk.rlb.com

#### A KEY MEASURE OF SUCCESS

Our approach to cost management focuses on the business needs of the client. We deliver a cost management service which supports the project business plan and enables clients to make informed decisions in relation to their property assets.

Supported by our sector expertise and bespoke digital solutions we aim to deliver commercial certainty at all stages of the project life cycle from early feasibility through to financial close. Our independence and commercial approach allow us to deliver the right project outcomes and add value.

#### **Feasibility Studies**

A reliable feasibility study enables us to provide a speedy response at the early stages of a project, to assess the viability of the project requirements, and to offer alternative solutions if appropriate. This includes the assessment of environmental and social impact of investment through a monetised mechanism.

Our cost benchmarking data, together with cost modelling, can be used as a dynamic tool to review alternative design options and explore 'what if' scenarios to identify the most cost-effective options within the parameters of the brief.

#### Benchmarking

58

We can benchmark a particular project against similar projects to quickly assess if the project requirements can be achieved. We have a global cost benchmarking tool that also includes DQA metrics. This enables us to benchmark building efficiencies as well as cost, help identify alternative solutions and add value.

#### **Cost Planning**

Establishing a robust elemental cost plan will form the key cost management control document for any project. This will be prepared in conjunction with the whole project team to ensure ownership of the budget. All future changes will be managed against the signed-off cost plan. The cost plan will enable proactive cost-checking of design development, alternative cost studies, and support value engineering and risk management.

RLB is at the forefront of Building Information Model (BIM) utilisation. Our bespoke cost planning ROSS5D software interfaces with BIM files created by the various software packages used by designers and consultants. Our specialist MEP cost managers add value by providing detailed cost advice in relation to MEP Services, and where appropriate, challenge designs.

#### Whole Life Costs and Life Cycle Costs

Environmental and sustainability drivers and legislation are now key considerations throughout the project lifecycle from business case, through design, build and ultimately disposal of a built asset.

RLB's Total Cost Model (TCM) is our response to this need. TCM has been developed to integrate with our capital cost planning system ROSS5D, our wider sustainability services and considers capital, operational, occupancy, energy, carbon, maintenance and replacement costs of a facility over a predetermined period.

The model encapsulates capital cost and life cycle characteristics of whole buildings, elements and individual components. TCM is fully dynamic model where all variables can impact on one another. This allows the facilitation of rapid "what if" analyses on different assets and design options at a building, element or component level to enable informed decision making from a whole life perspective.

Outputs utilise business information technology that allows RLB's specialist life cycle team to make iterative adjustments of variables and cashflows to support the

## ABOUT RLB COMMERCIAL SUCCESS

optimisation of the design and asset management to meet the clients project objectives, needs and whole life value goals.

#### Value Engineering

Delivering value against the project business plan is a key measure of success. We work with the project team, and where required, facilitate workshops in order to undertake a structured review at key project stages, to ascertain that the project is meeting the functional requirements of the brief. To achieve the maximum benefit from value engineering it is best undertaken during the early planning and design stages.

#### **Risk Management**

Quantifying and managing risk is fundamental to delivering a project on time and on budget. We will advise the project team on strategies for identifying and minimising specific risks, together with appropriate levels of cost, and a methodology for managing risks within the identified levels. We apply probabilistic risk assessment techniques to support risk management.

#### Procurement

60

Selecting the correct procurement strategy for a project is key to commercial success. Based on the client's principal objectives in relation to cost certainty, quality of design, workmanship and programme, we can undertake a review of these objectives and provide recommendations in relation to the optimum procurement strategy to best achieve these objectives.

Selecting the most appropriate contractor or supplier is equally important. We can evaluate the most suitable contractor/supplier for a project based upon scope, content, complexity, procurement and the need for specialist knowledge and innovative thinking. This includes consideration of Modern Methods of Construction to maximise time, cost and quality benefits. We can introduce Social Value metrics into the tender process to achieve the client's Procure for Value objectives.

We undertake preparation of tender and contract documents, which provide full details of the project

requirements and clearly identify responsibility for risks. Undertaking a detailed tender analysis ensures both compliance with the tender requirements and parity between the bids.

#### **Contract Administration**

Cost certainty during the construction phase relies on robust methodology and experienced staff. We can fulfil the traditional quantity surveyor role or undertake Contract Administrator or Employer's Agent roles to suit client requirements. The key element of our role is to manage the costs within the signed-off budget through:

- Post contract cost control via a robust change order process
- Proactive cost checking of design development
- Alternative cost studies
- Agree the cost of contract variations in a timely manner
- Regular financial reports of estimated final cost

#### Soft Landing

Soft Landings aims 'to champion better outcomes for our built assets during the design and construction stages' powered by BIM model to ensure that value is achieved in the operational lifecycle of an asset.

By understanding client needs at the commencement of a project, better outcomes are achieved for the eventual user of the building. This approach saves time and money, delivering higher quality building operations, which ensures that whole life costs have been considered from the onset of the design process.

#### **Commercial Assurance**

We can assist our clients with third-party contracts or relationships by providing independent advice including:

- Identifying, understanding and managing risks
- Instigating cost reductions
- Testing contingency plans
- Ensuring regularity compliance
- Protecting company reputation

# **ABOUT RLB**

# PROJECT & PROGRAMME SUCCESS



# Partner - Head of Project Management: Guy Robinson

e. guy.robinson@uk.rlb.com

# Partner: Julian King

e. julian.king@uk.rlb.com

# REIMAGINING THE LIMITS

We have reimagined the way in which we deliver projects and programmes as an outcome-based activity built within a framework that delivers benefits at pace, whilst maintaining the predictability and rigour needed to achieve successful outcomes.

# Strategic Programme Management

To ensure the success of a programme, it's imperative that delivery is not just controlled but optimised. This starts at the beginning. We design, build and mobilise the programme with the outcome in sight. Using our Assured Start methodology, we assess the readiness of the programme, and only when we have achieved a 'green light' across the board do we recommend launch.

Our 'Pathway to Programme Success' allows us to deliver complex and strategic programmes quickly, ensuring that all proposed outcomes are understood, accepted and successfully delivered. We work in close collaboration with client teams to create manageable, controlled and transparent programmes that manage risk, deliver effective procurement, safeguard outcomes and provide added value.

Our expert team are specialists in assessing and overhauling failing programmes, designing and delivering new end-to-end programmes and conducting programme assurance reviews. Using our ProSure methodology, we can measure the impact, maturity and performance across all programme functions that influence efficiency and long-term sustainability, by detailing actionable recommendations we can ensure success in the long term.

# **Project Management**

Having a robust project management strategy in place is more essential than ever before. We work with both public and private clients across a variety of sectors.

Our project management service guides our clients with expertise and skill through all project phases including feasibility, design, procurement, construction and handover. RLB recognises that different sectors and clients have varying needs and we offer project management services that can be tailored to provide the right service level for our clients, achieving the best project outcomes.

RLB creates collaborative team environments working closely with all stakeholders to establish the key projects drivers and success criteria. We aim to meet our client's requirements to produce a functionally and financially viable project that will be completed on time, within authorised cost and to the required quality standards.

Our project managers use certified and exemplar systems and processes aided by advanced technologies and digital reporting procedures.

# **Development Management**

Development management requires assessing the optimum solution, team leadership and risk management to meet the strategic objectives of the owner and occupier. With a thorough understanding of our client's requirements, we have the means to successfully add value and deliver positive outcomes.

At RLB, we are able to support clients in developing effective and deliverable solutions that meet all the requirements of developers, funding institutions and investors, therefore driving premium value and returns.

Our development management team is made up of experienced professionals from various disciplines, reflecting the diverse and complex nature of many of today's development schemes. Our strength lies in our ability to draw on the best resources from a range of specialist fields. CONTENTS

# PROJECT & PROGRAMME SUCCESS

# **Project & Fund Monitoring**

ABOUT RLB

We recognise that development financiers are exposed to increased financial risk and, in specific cases, have incurred financial loss due to an absence of comprehensive technical due diligence and progress reporting throughout a development lifecycle.

We critically appraise each project at the outset to highlight development and funding risks and then continue to monitor development progress, advise on residual risks and provide drawdown recommendations for the duration of the project.

Our proactive, rather than reactive, approach provides an early warning system for our clients; helping to ensure better informed decision making by acting as the client's 'eyes and ears' during the development process.

# **Pre-Construction Management & Project Planning**

Our pre-construction management and project planning services place us at the forefront of the market, with the capability to plan and manage projects professionally, efficiently and safely. With strong capabilities across all building sectors, utilising the latest project planning techniques, our pre-construction and project planning services will manage your project related time risks from feasibility through to completion.

Our team has an in-depth knowledge of a wide range of construction techniques and delivery methodologies, and experience working for owners, developers and contractors.

# ASPEN | CONSORT PLACE LONDON, UK

**CLIENT: FAR EAST CONSORTIUM** 

A development by Far East Consortium, the 65 storey residential tower, Aspen, will help create an elegant, vibrant and cosmopolitan community



# ASSET **OPTIMISATION**



# Partner - Head of Building Surveying:

Chris Hartlev

e. chris.hartley@uk.rlb.com

# CREATING SMART, SUSTAINABLE SPACES

We have extensive experience in asset optimisation which can lead to benefits in the efficient use of space, asset data capture to facilitate knowledge and focus on planned maintenance programmes, statutory compliance, and control and optimisation of expenditure.

# Strategic Asset Management

To have certainty of budget expenditure, the future maintenance liabilities of the properties should be considered. This assessment will consider such matters as the condition of the construction elements, age and maintenance, location and the use of the property.

# Estate Rationalisation

This is a specialist service offered to owners and occupiers on strategic, macro and micro scales to maximise the use of their accommodation. Our processes ensure optimal space utilisation, and assist in preparing space/workplace strategies that can identify where efficiencies, income generators or capital receipts can be realised across the public and private sector, while improving the maintainability and quality of spaces.

# **Building Surveying**

We have embraced digitisation and are at the forefront of innovative procedures and technology to provide real value to our clients. Our technology and tools facilitate accurate data collection, and provide a fully addressable database enabling specific and detailed reporting on elements of an asset. This benefits trend analysis, driving economies in innovative approaches to estate asset management.

Our building surveyors naturally bring commercial awareness and ability, ensuring we are adding maximum value to built assets. Our team offers professional/regulatory services, project services and survey services, often in a combined and seamless service delivery offering, including:

- Technical due diligence
- Pre-acquisition durvevs
- Clerk of Works / quality monitoring
- Defect analysis and remedy
- Dilapidations
- Party walls and boundary issues
- Accessibility and inclusive environments
- Planning application, listed building and building regulations
- Development/project monitoring
- Move/churn management
- Workplace strategies, space utilisation and planning
- Design services
- Works management
- Six facet surveys
- Condition surveys (including six facet) and asset management
- Measured surveys

# ABOUT RLB ASSET OPTIMISATION

# **Strategic Facilities Management**

The drive to create smart sustainable spaces and structures in the built environment will only increase. As technology in the industry develops at pace, the challenge is not only to maximise and measure the performance of built assets and deliver best value, but also to provide the optimum efficiency of the space for building owners and occupiers in the long term.

Our strategic facilities management (FM) service plays a crucial role in supporting clients throughout the entire life cycle of each project. Providing a holistic view of built asset requirements, we enable clients to develop, improve and track their spaces and help enhance their current estate portfolios.

With an in-depth knowledge and expertise in digital construction and smart asset management, our strategic facilities management team provides advisory services from facilities management and estates strategy review and development, through to BIM and soft landings, and whole life cost advice. Our insight and technical knowledge, gained from working on complex facilities management programmes worldwide, combined with collaborating with industry bodies on FM best practice, ensure we provide the best solutions for our clients in this fast-moving field.

# UNIVERSITY OF BRISTOL, NEW HUMANITIES BUILDING BRISTOL, UK

CLIENT: UNIVERSITY OF BRISTOL

Helping to create new world class facilities for research and teaching



# SPECIALIST SOLUTIONS

**ABOUT RLB** 

Commercial & Technical Director: Mark Weave

e. mark.weaver@uk.rlb.com

# THE DIFFERENCE BETWEEN SUCCESS AND FAILURE

Our commitment to clients is based on our core strengths and passion for delivering quality projects and providing services that protect and enhance the outcome.

# **Specification Consultancy**

Contact: Meena Sankar, Partner

e. meena.sankar@uk.rlb.com

Understanding the scope, quality, activity and responsibility of what is to be procured in a project is one of the most underplayed services in today's construction industry. Having a well prepared and coordinated specification, that is clear for all parties in a design and build, can save time, resources and budget. This can be the difference between a successful project and one that fails.

We recognise that every project is different, with variables that can affect the outcome. Understanding this is key. With years of practical project experience, our team's expertise includes Common Arrangement (CAWS), CSI Masterformat, NATSPEC and Qatar Construction Specification (QCS) to find the optimum solution.

We focus on improving the standard of design documentation, protecting all aspects of those involved in the design and build of a project. Providing robust specification tailored specifically for projects, we can advise an appropriate procurement route. Clients can then feel confident that risk has been mitigated, and every element of the specification has been analysed and assessed to support the best outcome.

# Health & Safety

**Contact:** Chris Hartley, Partner - Head of Health & Safety

e. chris.hartley@uk.rlb.com

We provide a comprehensive range of H&S consultancy services. Our team of H&S professionals give clients advice and assistance to help achieve compliance with their statutory duties under existing H&S legislation for construction projects, maintenance and repair works, occupation and operations.

Our service is designed to ensure 100% legislative compliance, and provides added value through our specialist expertise in design development, construction safety and occupational and operational safety. Our service is quality assured, with corporate recognition from the Association of Project Safety, CHAS, Safety Systems in Procurement (SSIP) and Safe Contractor approved.

# **Design Management**

**Contact:** Meena Sankar, Partner **e.** meena.sankar@uk.rlb.com

Understanding the design process through our experience of working closely with and as part of design teams, our design management service helps designers deliver more with less. Our aim is to co-locate with the Lead Designer to be at the heart of the design team - Design Teams can concentrate on their core service while our Design Managers focus on the programme of deliverables and contractual commitments.

Our specialist team ensures that the strategy of any build is kept in line with the larger business strategy and that the outcomes of the design activities are within the business and financial remit. To ensure the user experience is a priority, our team supports clients to bring practicality, functionality and a real understanding of the construction industry to the design management process without compromising on aesthetics or innovation.

Having long-term relationships with designers,

# ABOUT RLB SPECIALIST SOLUTIONS

architects, sustainability experts and other professionals involved in the design-built environment, we have global experience of working on some of the most iconic buildings in the world as well as local knowledge of geographical attributes and the challenges working in varying locations bring. Our Design Management consultancy marries our knowledge of the construction industry with the corporate and financial objectives and help clients futureproof both their design and build.

Rider Levett Bucknall is a market leader in the field of Design Management. Through years of practical project experience, we have learnt and understood the complexities and intricacies of what is required on projects. Our approach is based on integrating management techniques within design teams, aligned to a clear brief, ensuring that agreed communication and client decision making processes are clearly understood in order to deliver successful projects. Through our global reach expertise and local knowledge we deliver tailor made solutions to suit our clients' project specific requirements. Our Design Managers allow clients to do what they do best – focus on their Design.

# Sustainability

**Contact:** Heather Evans, Head of Sustainability Consultancy

e. heather.evans@uk.rlb.com

One of the biggest challenges facing our industry is how we build for the future, integrating wellbeing, economic and environmental impact into the built environment. Wider sustainability considerations, driven by regulation and stakeholder expectations, are transforming what we build, where we build and how we build it.

Our sustainability consultancy service is based on fostering a culture of continuous improvement. Our approach covers all aspects of the sustainability agenda - from carbon reduction, energy management, wellbeing and estate rationalisation, through to ethical, legislative and economic pressures. Our service is tailored around sustainable project delivery, with expert knowledge provided at every stage of the project lifecycle.

Our sustainability credentials are supported by our market leading position as an environmental assessor (BREEAM and SKA), and our work promoting sustainable practices in the industry. We were a founding partner of the Royal Institute of Chartered Surveyors on the development of SKA - an environmental assessment tool for fit-out and refurbishment projects, introduced as an additional industry benchmark for sustainability. We continue to upskill those in the construction industry to consider sustainable measures when building, and to design for a longerlife.

# **Dispute Resolution & Expert Witness**

**Contact:** Aziz Mehtajee, Partner e. aziz.mehtajee@uk.rlb.com

Setting up and managing construction contracts can be a challenging and complex process, subject to numerous and changing regulatory requirements. It's important to understand the obligations a contract imposes and the associated risks. We support clients in the successful delivery of their projects during every stage, from drafting and developing bespoke contracts, to providing expert advice during the delivery phase and assisting if problems arise.

Our dedicated procurement and contractual advisory team guides clients throughout the project process, providing technical support in specialist areas such as expert witness and dispute avoidance and resolution.

Our team includes claims preparation and defence experts who, working alongside each represented parties' lawyers, can provide strategic advice, management, negotiation and resolution of claims through adjudication or alternative dispute resolution.

With our global expertise across public and private sectors, and our knowledge of varying forms of contracts, we can provide considered advice - from individual projects to large-scale programmes of work.

# ABOUT RLB SPECIALIST CONSULTANCY

# Social Value

**Contact:** Jiten Chauhan, Partner **e.** jiten.chauhan@uk.rlb.com

As a global construction consultancy, we never underestimate the responsibility of supporting the economic, social and environmental wellbeing of the areas in which we work. The specific challenges and opportunities vary hugely from region to region, but also from community to community. Implementing and measuring the impact of Social Value is fast becoming a fundamental part of procuring and delivering a sustainable project.

Our Social Value service integrates sound principles within project development, from business case to completion. This ensures the economic, social and wellbeing benefits outlive the contract and can be felt in communities - and measured - over the longterm. Our model, developed with the Social Profit Calculator (SPC), identifies the cost and value of each element of a project. It's an approach we advocate for clients, and one we use to measure the impact of our own business.

Working collaboratively with the SPC, we provide robust analysis and meticulous planning that supports all levels - from corporate to framework to single projects. This helps our clients understand the social, economic and environmental impact of each project, and illustrates to stakeholders the value for people, communities, businesses and economies.

# PD / CDM Services

**Contact:** Chris Hartley, Partner - Head of Building Surveying and H&S

e. chris.hartley@uk.rlb.com

The areas of Principal Design (PD) and Construction Design and Management (CDM) Services are included in our work. We were heavily involved in the drafting of the 2007 and 2015 CDM Regulations, so whether the role is principal designer, principal design advisor or independent client advisor, we provide professional advice, detailed recommendations and encourage coordinated solutions for successful implementation.

# Whole Life Carbon

**Contact:** Mark Weaver, Commercial & Technical Director

e. mark.weaver@uk.rlb.com

RLB undertake a holistic long team approach to carbon management with a view to reducing carbon and associated Green House gases taking into account the commercial realities of balancing capital expenditure, whole life cost and carbon.

Our carbon calculations take into account the embodied carbon with a building (during construction), the operational carbon and the carbon during life cycle replacement of components/assets.

Our carbon calculator assesses the embodied carbon at element or component level allowing design optioneering to consider the difference aspects of carbon, allowing trade-off to be made with other competing aspects of the projects and can aid our clients to work towards Net Zero Carbon targets.

Our carbon calculations can be used to support achieving the required credits towards assessments such as BREEAM.

# **OPPORTUNITIES AT RLB**

By attracting, developing, retaining and investing in exceptional people, we've become a global leader in construction cost management and quantity surveying, project management, building surveying and advisory services. If you share our capability, ambition and potential, and want to be part of a diverse workforce embracing new ideas, RLB could well be the place for you.

# **RLB's Experienced Professionals Programme:**

- Qualified professionals
- Experienced professionals
- Associates
- Partners

# **RLB's Future Professionals Programme:**

- Protégé: RLB's graduate recruitment and training programme, offering first-class structured professional training programmes to support achievement of your professional qualification
- Year Out: Opportunities to work with our teams throughout the UK across a range of sectors
- Apprenticeships: While learning on-the-job, you'll also gain an academic and professional qualification
- Internships and work placements: We offer flexible placements for undergraduates and graduates across all disciplines.

# **RLB's Business Services Professionals:**

- Our business services teams work at the heart of our business, playing a key role in delivering for our clients
- Opportunities in business services include: Facilities Management, Finance, Front-of-house, Human Resources, IT, Legal, Marketing and Client Development, Secretarial and Administration.

If you are interested in joining our team, please visit RLB.com or email recruitment@uk.rlb.com.



Sarah Draper Partner - Head of People & Culture

e. <u>sarah.draper@uk.rlb.com</u> t. +44 (0)7780 794979



# ABOUT RLB

CONTENTS

# **RLB EURO ALLIANCE**

The RLB Euro Alliance is a formally established network of partner organisations across Europe each committed to delivering high quality services at a local level, utilising extensive knowledge and experience regionally as part of the RLB global network.

# AT A GLANCE:

- 18 partner organisations
- Over 1450 staff across Europe
- Operating across 23 countries

Please contact:

# Andrew Reynolds

Chief Executive

- e. andrew.reynolds@uk.rlb.com
- t. +44 (0)7764 285899

# RLB EURO ALLIANCE OFFICE LOCATIONS COVER:

Austria bau-control 7T GmbH

# Belaium

Bopro

Bulgaria / Croatia / Serbia / Montenegro / Romania Bates

**Czech Republic** H1K Consulting

Denmark Emcon A/S

Germany MTM Project Solutions

Greece LDK Consultants

Hungary Tomlin Kft

Ireland Kerrigan Sheanon Newman

Italy Bear Project Management Netherlands Skaal

Norway AS Bygganalyse

Poland APP Projekt

Portugal FICOPE

Russia DBC Consultants

Spain APM Management

Sweden AFRY

Turkey Pro^GE

UK Rider Levett Bucknall

> RI B Euro Alliance office location





82	Europe
84	<u>Africa</u>
85	<u>Americas</u>
86	<u>Asia</u>
89	Middle East
90	Oceania

# EUROPE

CONTENTS

# UNITED KINGDOM

## LONDON (HEAD OFFICE)

Level 3, 110 Bishopsgate London, EC2 4YN Telephone: +44 207 398 8300 Email: nick.eliot@uk.rlb.com Contact: Nick Eliot

#### BELFAST

Urban HQ, Eagle Star House, 5-7 Upper Queen Street, Belfast, BTI 6QD Telephone: +44 289 521 5001 Email: jason.brownlee@uk.rlb.com Contact: Jason Brownlee

# BIRMINGHAM

Fifteen Colmore Row, Birmingham, B3 2BH Telephone: +44 121 503 1500 Email: jo.reynolds@uk.rlb.com Contact: Jo Reynolds

#### BRISTOL

Embassy House, 86 Queens Avenue, Bristol, BS8 ISB Telephone: +44 117 974 1122 Email: jackie.pinder@uk.rlb.com Contact: Jackie Pinder

#### CARDIFF

Unit 115, Creative Quarter, Morgan Arcade, The Hayes, Cardiff, CF10 1AF Telephone: +44 292 240 5030 Email: jackie.pinder@uk.rlb.com Contact: Jackie Pinder

## CUMBRIA

44 Springfield Road, Egremont, Cumbria, CA22 2TQ Telephone: +44 194 681 5800 Email: mark.clive@uk.rlb.com Contact: Mark Clive

# LEEDS

4D Platform, New Station Street Leeds, LSI 4JB Telephone: +44 113 457 3225 Email: matt.summerhill@uk.rlb.com Contact: Matt Summerhill

# LIVERPOOL

8 Princes Parade, Liverpool, L3 1DL Telephone +44 151 236 6864 Email: steve.gillingham@uk.rlb.com Contact: Steve Gillingham

#### MANCHESTER

1 King St, Manchester, M2 6AW Telephone: +44 161 868 7700 Email: stephen.gillingham@uk.rlb.com Contact: Steve Gillingham

#### SHEFFIELD

6th Floor Orchard Lane Wing, Fountain Precinct, Balm Green, Sheffield, S1 2JA Telephone: +44 114 273 3300 Email: matt.summerhill@uk.rlb.com Contact: Matt Summerhill

#### THAMES VALLEY

1000 Eskdale Road, Winnersh Triangle, Wokingham, Berkshire, RG41 5TS Telephone: +44 118 974 3600 Email: michael.righton@uk.rlb.com Contact: Michael Righton

# WARRINGTON

Ground South Wing, 401 Faraday Street, Birchwood Park, Warrington, Cheshire, WA3 6GA Telephone: +44 192 585 1787 Email: mark.clive@uk.rlb.com Contact: Mark Clive

# FRANCE

# PARIS (RLB|SQA)

94, Boulevard de Courcelles, 75017 Paris Telephone: +33 1 53 40 94 80 Email: m.lamy@sqa.fr Contact: Matthieu Lamy

# LUXEMBOURG

# LUXEMBOURG (RLB|SQA)

62 Avenue Guillaume, L1650 Luxembourg Telephone: +33 1 53 40 94 80 Email: m.lamy@sqa.fr Contact: Matthieu Lamy

# NETHERLANDS

#### AMSTERDAM (RLB EUROPE)

Postjesweg 175, 1062 JN, Amsterdam Telephone: +44 207 398 8300 Email: william.carr-miles@eu.rlb.com Contact: William Carr-Miles

# **RLB EURO ALLIANCE**

AUSTRIA (BAU-CONTROL ZT GMBH)

Canovagasse, 7/17, 1010, Vienna Telephone: +43 512 551066 Email: a.tautschnig@atbaucontrol.at Contact: Arnold Tautschnig

#### BELGIUM (BOPRO)

Zeneth Business Park, BE2800 Mechelen Telephone: +32(0)15 74 74 74 Email: Stefaan.Martel@bopro.be Contact: Stefaan Martel

#### BULGARIA (BATES)

12A Tsvetan Radoslavov, Str, Sofia,

Telephone: +359 2 9803249 Email: office@bates.eu.com Contact: Pawel Sudziarski

#### CROATIA (BATES)

Rider Levett Bucknall | Riders Digest - United Kingdom 2021

Bogišiceva Str 9, 10000 Zagreb Telephone: +385 14 647509 Email: office@bates.hr Contact: Goran Jurina Rytirska 410/6, 110 00 Prague 1 Telephone: +420 724 817 004 Email: phanys@h1k.eu Contact: Petr Hanys

# DENMARK (EMCON A/S)

Gammel Lundtoftevej 1C, DK-2800 Kgs. Lyngby Telephone: +45 305 310 38 Email: jbl@emcon.dk Contact: Jeppe Blak-Lunddahl

#### GERMANY (MTM PROJECT SOLUTIONS)

(MTM PROJECT SOLUTIONS) Lützow Centre, Wichmannstrabe 5, D-10787 Berlin Telephone: +49 (30) 720 22 720 Email: brian.lillecrapp@mtm-ps.com Contact: Brian Lillecrapp

## GREECE (LDK CONSULTANTS)

Off 21, Thivaidos St GR-145 64, Athens Telephone: +30 210 819 6742 Email: stavros@ldk.gr Contact: Stavros Damianidis

# HUNGARY (TOMLIN KFT)

28 Bcsi street, H-1023 Budapest, Hungary Telephone: +36 1 336 3380 Email: business@tomlin.hu Contact: Tamás Fonda

#### IRELAND (KERRIGAN SHEANON NEWMAN)

Beech House, Beech Hill Office Campus, Dublin 4, D04 VSN2 Telephone: +353 1277 6900 Email: JTravers@ksn.ie Contact: Justin Travers

#### ITALY (BEAR PROJECT MANAGEMENT)

Via Giovanni Prati 9, 20145, Milan Telephone: +353 1 277 6900 Email: steven.scamihorn@bearpm.com Contact: Steven Scamihorn

#### MONTENEGRO (BATES)

62 Svetog Petra Cetinjskog blvd., Podgorica Telephone: +382 81 243402 Email: office@bates.co.me Contact: Jelena Rajkovic

## NETHERLANDS (SKAAL)

Postjesweg 175, 1062 JN Amsterdam Telephone: +31 618 948 679 Email: jeroen.dewilde@skaal.nl Contact: Jeroen De Wilde

#### NORWAY (BYGGANALYSE AS)

Drammensveien 147B 0277, Oslo Telephone: +47 22 12 92 30 Email: jon@bygganalyse.no Contact: Jon Bech

#### POLAND (APP-PROJEKT S.A.)

ul. Kłobucka 23C/112 02-699, Warsaw Telephone: +48 604 670 322 Email: j.malaszynski@app-projekt.pl Contact: Jacek Korwin-Małaszynski

#### PORTUGAL (FICOPE)

Avenida Conde de So, Januário Nr 23, 2770-042, Paço de Arcos Telephone: +351 217 995 790 Email: pconsciencia@ficope.pt Contact: Paulo Consciência

# ROMANIA (BATES)

Intrarea Difuzorului Nr. 3, Sector 1, Bucharest Telephone: +40 21 3115192 Email: office@bates.ro Contact: Raluca Miraute

# RUSSIA (DBC CONSULTANTS)

DBC Consultants, Office 312, 28 Sredny Tishinsky Lane Moscow 123557, Russia Telephone: +7 495 540 7097 E carlosabreuduarte@dbcconsultants.com Contact: Carlos Abreu Duarte

#### SERBIA (BATES)

38 Takovska str., Belgrade Telephone: +381 11 2083780 Email: office@bates.rs Contact: Oliver Sajatovic

#### SPAIN (APM MANAGEMENT)

Calle de la Comunidad Canaria Nº4 28660, Majadahonda, Madrid Telephone: +34 650 64 81 68 Email: impidal@apmmanagement.es Contact: Ignacio Menendez Pidal

# SWEDEN (AFRY)

Rosenlundsgatan 52 Stockholm Telephone: +46 10-505 17 95 Email: sabrina kammeier@afry.com Contact: Sabrina Kammeier

# TURKEY (PRO^GE)

B Blok Kat:3-4 Ê, Istanbul Telephone: +90 212 352 20 21 Email: salten@pro-ge.com Contact: Selçuk Alten CONTENTS

# AFRICA

# BOTSWANA

#### GABARONE

Unit 32 Kgale Mews, Gaborone, Botswana Telephone: +27 72 622 9852 Email: fred.selolwane@bw.rlb.com Contact: Fred Selolwane

# MAURITIUS

## QUATRE BORNES

90 St Jean Road, Quatre Bornes, 72218 Mauritius Telephone: +230 467 7000 Email: navin.hooloomann@mu.rlb.com Contact: Navindranath Hooloomann

# MOZAMBIQUE

#### MAPUTO

Sommerschield 1, Maputo, Mozambique Telephone: +27 12 348 1040 Email: christiaan.rademan@mu.rlb.com Contact: Christiaan Rademan

# SEYCHELLES

#### MAHÉ

Suite 3, 11B, 4th Floor, Capital City Building, Independence Avenue, Victoria, Mahé, Seychelles Telephone: +248 434 4890 Email: admin@mu.rlb.com Contact: Alvin Rampersand

# SOUTH AFRICA

# PENTAD QS (PTY) LTD.

#### CAPE TOWN

9th Floor, 22 Bree Street, Cape Town, South Africa Telephone: +27 21 418 9977 Email: martin.meinesz@za.rlb.com Contact: Martin Meinesz

# DURBAN

77 Richefond Circle Ridgeside Office Park, Suite 201, Umhlanga Ridge, Durban, 439, South Africa Telephone: +27 31 072 0999 Email: evan.sim@za.rlb.com Contact: Evan Sim

# PRETORIA

Ist Floor, Banking Court, Menlyn Maine Central Square, Cnr Aramist and Corobay Avenue Waterkloof, Glen, Pretoria, South Africa Telephone: +27 12 348 1040 Email: info@za.rlb.com Contact: Nicolas Sheard

#### STELLENBOSCH

Office 11, Rouxcor House 37 Mark Street, Stellenbosch 7599 South Africa Telephone: +27 21 205 7337 Email: info@za.rlb.com Contact: Lichelle Neethling

# AMERICAS

# CANADA

CALGARY 200-609 14th Street NW, Calgary, Alberta T2N 2A1 Canada Telephone: (905) 827-8218 Email: YYC@ca.rlb.com Contact: Terry Harron

# TORONTO

435 North Service Road West Oakville, Ontario L6M 4X8, Canada Phone: (905) 827-8218 Email: YYZ@ca.rlb.com Contact: Terry Harron

# CARIBBEAN

## ST. LUCIA

Mercury Court, Choc Estate P.O. Box CP 5475 Castries, St. Lucia Telephone: +1 758 452 2125 Email: david.piper@lc.rlb.com Contact: David Piper

# NORTH AMERICA

## BOSTON

Two Financial Center, Suite 810, 60 South Street, Boston, MA 02111, USA Telephone: +1 617 737 9339 Email: BOS@us.rlb.com Contact: Michael O'Reilly

#### CHICAGO 141 W. Jackson Blvd Suite 3810 Chicago, IL 60604, USA Telephone: +1 312 819 4250 Email: ORD@us.rlb.com Contact: Chris Harris

# DENVER

1675 Larimer Street, Suite 470, Denver, CO 80202, USA Telephone: +1 720 904 1480 Email: DEN@us.rlb.com Contact: Peter Knowles

HAWAII / HILO 80 Pauahi Street, Suite 104,

80 Pauani street, suite 104, Hilo, Hawaii 96720, USA Telephone: +1 808 883 3379 Email: TO@us.rlb.com Contact: Guia Lasquete

# HAWAII / HONOLULU

1001 Bishop Street, Suite 2690, Honolulu, Hawaii 96813, USA Telephone: +1 808 521 2641 Email: HNL@us.rlb.com Contact: Erin Kirihara

#### HAWAII / MAUI

300 Ohukai Road, Building B, Suite COMI, Kihei, Hawaii 96753, USA Telephone: +1 808 883 3379 Email: OGG@us.rlb.com Contact: Kevin Mitchell

INTERNATIONAL OFFICES

## HAWAII / WAIKOLOA

Queens' MarketPlace 69-201 Waikoloa Beach Drive Suite 2F12 Waikoloa, Hawaii 96738, USA Telephone: +1 808 883 3379 Email: KOA@us.rlb.com Contact: Guia Lasquete

# KANSAS CITY

435 Nichols Rd, Ste 20 Kansas City, MO 64112, USA Telephone: +1 816 977 2740 Email: MCI@us.rlb.com Contact: Julian Anderson

# LAS VEGAS

3753 Howard Hughes Parkway, Suite 211, Las Vegas, Nevada 89169, USA Telephone: +1 808 521 2641 Email: LAS@us.rlb.com Contact: Paul Brussow

## LOS ANGELES

The Bloc, 700 South Flower Street, Suite 630, Los Angeles, California 90017, USA Telephone: +1 213 689 1103 Email: LAX@us.rlb.com Contact: Brian Lowder

#### NEW YORK

1250 Broadway, 36th Floor, New York 10001, USA Telephone: +1 646 821 4788 Email: NYC@us.rlb.com Contact: Michael Moynihan

# PHOENIX (CORPORATE OFFICE)

4343 East Camelback Road, Suite 350, Phoenix, AZ 85018, USA Telephone: +1 602 443 4848 Email: PHX@us.rlb.com Contact: Scott Macpherson

# PORTLAND

Brewery Block 2 1120 NW Couch Street, Suite 730 Portland, OR 97209, USA Telephone: +1 503 226 2730 Email: PDX@us.rlb.com Contact: Dan Junge,

# INTERNATIONAL OFFICES

# SAN FRANCISCO

CONTENTS

735 Montgomery Street, Suite 350 San Francisco, CA 94111, USA Telephone: +1 415 362 2613 Email: SFO@us.rlb.com Contact: Ryan Bosworth

# SAN JOSE

800 West El Camino, Real Suite 180 Mountain View, CA 94040, USA Telephone: +1 520 777 7581 Email: SJC@us.rlb.com Contact: Joel Brown

# SEATTLE

101 Stewart, Suite 925, Seattle, WA 98101, USA Telephone: +1 206 441 8872 Email: SEA@us.rlb.com Contact: Craig Colligan

# TUCSON

86

33 West Congress Street Suite 215, Tucson, Arizona 85701, USA Telephone: +1 520 777 7581 Email: TUS@us.rlb.com Contact: Josh Marks

## WASHINGTON DC

5457 Twin Knolls Road, Suite 406 Columbia, Maryland 21045, USA Telephone: +1 240 599 8176 Email: DCA@us.rlb.com Contact: Kirk Miller

# ASIA

# CAMBODIA

#### PHNOM PENH

Sth Floor of C2 Building of the Olympia City, Project Street Preah Monireth (N217) and Street Oknha Tep Phan (N182), Sangkat Veal Vong, Khan 7Makara Phnom Penh City Telephone: +65 6339 1500 Email: ws.teoh@sg.rlb.com Contact: Teoh Wooi Sin

# CHINA

# BEIJING

Room 1803-1809, 18th Floor, East Ocean Centre, 24A Jian Guo Men Wai Avenue, Chaoyang District. Beijing 100004, China Telephone: +86 10 6515 5818 Email: sm.tuen@cn.rlb.com Contact: Simon Tuen

#### CHENGDU

Room 2901-2904, 29/F, Square One, 18 Dongyu Street Jinjiang District, Chengdu 610016, China Telephone: +86 28 8670 3382 Emaii: eric.lau@cn.rlb.com Contact: Eric Lau

# CHONGQING

Room 1-3 & 17-18, 39/F, IFS Tower TI, No. 1 Qingyun Road, Jiangbei District, Chongqing 400024, China Telephone: +86 28 8670 3382 Email: eric.lau@en.rlb.com Contact: Eric Lau

## GUANGZHOU

Room 1302-1308, Central Tower, No. 5, Xiancun Road, Guangzhou 510623, Guangdong Province, China Telephone: +852 2823 3910 Email: danny.chow@cn.rlb.com Contact: Danny Chow

# GUIYANG

Room E, 12th Floor, Fuzhong International Plaza, 126 Xin Hua Road, Guiyang 550002, Guizhou Province, China Telephone: +86 28 8670 3382 Email: eric.lau@cn.rlb.com Contact: Eric Lau

## HAIKOU

Room 1705, 17th Floor, Fortune Center, 38 Da Tong Road, Haikou 570102, Hainan Province, China Telephone: +852 2823 1828 Email: stephen.lai@hkrlb.com Contact: Stephen Lai

#### HANGZHOU

Room 1603, 16th Floor, North Tower, Modern City Center, No. 161 Shao Xing Road, Xia Cheng District, Hangzhou 310004, Zhejiang Province, China Telephone: +86 21 6330 1999 Email: iris.lee@cn.rlb.com Contact: Iris.Lee

# HONG KONG

15th Floor, Goldin Financial Global Centre, 17 Kai Cheung Road, Kowloon Bay, Kowloon, Hong Kong Telephone: +852 2823 1823 Email: kenneth.kwan@hk.rlb.com Contact: Kenneth Kwan

# MACAU

Alameda Dr. Carlos D' Assumpcao, 398 Edificio CNAC 9 Andar I-J, Macau SAR Telephone: +852 2823 1830 Email: kenneth.kwan@hk.rlb.com Contact: Kenneth Kwan

# NANJING

Room 1201, South Tower, Jinmao Plaza, 201 Zhong Yang Road, Nanjing 210009, Jiang Su Province, China Telephone: +86 21 6330 1999 Email: eric.fong@cn.rlb.com Contact: Eric Fong

# NANNING

Room 2203, Block B Resources Building No. 136 Minzu Road Nanning 530000 Guangxi, China Tel: +852 2823 3910 E-mail: danny.chow@hk.rlb.com Contact: Danny Chow

#### SHANGHAI

22nd Floor, Greentech Tower, 436 Hengfeng Road, Jingan District, Shanghai 200070, China Telephone: +86 21 6330 1999 Email: wq.wang@cn.rlb.com Contact: Wei Qing Wan

## SHENYANG

25th Floor, Tower A, President Building, No. 69 Heping North Avenue, Heping District, Shenyang 110003, Liaoning Province, China Telephone: +86 10 6515 5818 Email: sm.tuen@cn.rlb.com Contact: Simon Tuen

## SHENZHEN

Room 4510-4513, 45th Floor, Shun Hing Square Diwang Commercial Centre, 5002 Shennan Road East, Shenzhen 518001, Guangdong Province, China Telephone: +852 2823 1830 Email: kenneth.kwan@hk.rlb.com Contact: Kenneth.kwan

## TIANJIN

Room 502, 5th Floor, Tianjin International Building, 75 Nanjing Road, Heping District, Tianjin 300050, China Tel: +852 2823 1828 E-mail: stephen.lai@hk.rlb.com Contact: Stephen Lai

#### WUHAN

Room 2301, 23rd Floor, New World International Trade Centre, 568 Jianshe Avenue, Wuhan 430022, Hubei Province, China Telephone: +852 2823 1828 Email: stephenLai@hkrih.com Contact: Stephen Lai

#### wuxi

Room 1410-1412, 14th Floor, Juna Plaza, 6 Yonghe Road, Nanchang District, Wuxi 214000, Jiangsu Province, China Tel: +86 21 6330 1999 E-mail: wq.wang@cn.rlb.com Contact: Wei Qing Wan

#### XIAN

Room 1506, 15th Floor, Chang'an Metropolis Center, No.88 Nanguan Zheng Street, Beilin District, Xian 710068, Shaanxi Province, China Telephone: +86 28 8670 3382 Email: eric.lau@cn.rlb.com Contact: Eric Lau

#### ZHUHAI

Room 1401-1402, 14th Floor, Taifook International Finance Building, No, 1199 Jiu Zhuo Road East, Jida, Zhuhai 519015, Guangdong Province, China Telephone: +852 2823 3910 Email: danny.chow@hk.rlb.com Contact: Danny Chow

# INDONESIA

#### JAKARTA

JI. Jend. Surdirman Kav. 45-46, Sampoerna Strategic Square, South Tower, Level 19, Jakarta 12930, Indonesia Telephone: +62 21 5795 2308 Email: widitomo.puntoadi@id.rlb.com Contact: Widitomo Puntoadi

# INDIA

#### BANGALORE

491,"Viswakarma", East End Main, 9th Block Jayanagar, 560069, India Telephone: +44 7976 361868 Email: ann.bentley@uk.rlb.com Contact: Ann Bentley

# MALAYSIA

#### KUALA LUMPUR

B2-6-3 Solaris Dutamas, No. 1 Jalan Dutamas 1, 50480 Kuala Lumpur, Malaysia Telephone: +60 3 6207 9991 Email: kf.lai@my.rlb.com Contact: Dato' Lai Kar Fook

# **MYANMAR (BURMA)**

#### YANGON

Union Business Center, Nat Mauk St, Yangon, Myanmar (Burma) Telephone: +95 1860 3448 (Ext 4004) Email: serene.wong@vn.rlb.com Contact: Serene Wong

# PHILIPPINES

#### BACOLOD CITY

Suite 403&404, 4th Floor Carmen Bldg., Lizares Avenue, Bacolod City, Negros Occidental, 6100 Philippines Telephone: +63 34 432 1344 Email: armando.baria@ph.rlb.com Contact: Armando Baria

#### CAGAYAN DE ORO

Rm. 702, TTK Tower, Don Apolinar Velez Street, Bgy. 14 Cagayan De Oro City, Misamis Oriental, 9000 Philippines Telephone: +63 88 850 4105 Email: rey.clemena@ph.rlb.com Contact: Raymundo Clemena

# CEBU

Suite 601 & 602, PDI Condominium Arch. Bishop Reyes Avenue, Corner J. Panis Street, Banilad, Cebu City, 1604 Philippines Telephone: +63 38 502 8660 Email: joy.marasigan@ph.rlb.com Contact: Jolly Joy Cantero

#### CLARK

Units 202-203, Baronesa Place, Mc Arthur Hi-way, City of Mabalcat Angeles, Pampanga Telephone: +63 916 794 9156 Email: marie.tendenila@ph.rlb.com Contact: Marie E. Tendenilla

## DAVAO

Room 307 & 308, 3rd Floor Coco Life Building, C.M. Recto Street, corner J. Palma Gil St., Davao City, 8000 Philippines Telephone: +63 82 297 4589 Email: armando.baria@ph.rlb.com Contact: Armando Baria

#### ILOILO

Uy Bico Building, Yulo Street, Iloilo City, 5000 Philippines Telephone: +63 33 320 0945 / +63 917 115 9926 Email: armando.baria@ph.rlb.com Contact: Armando Baria

#### METRO MANILA

Corazon Clemeña Compound, Bldg. 3 No. 54 Danny Floro Street, Bagong Ilog, Pasig City 1600, Philippines Telephone: +63 2 234 0141 / 234 0129 / 687 1075 Email: coraballard@ph.rlb.com Contact: Corazon Ballard

## PANGLAO, BOHOL

Sitio Cascajo, Looc, Panglao Bohol, 6340 Philippines Telephone: +63 38 502 8660 Email: coraballard@ph.rlb.com Contact: Corazon Ballard

#### STA. ROSA CITY, LAGUNA

Unit 201, Brain Train Center, Lot 11, Bik 3 Sta Rosa Business Park, Greenfield Bgy. Don Jose, Sta. Rosa, Laguna 4026 Philippines Telephone: +63 917 572 9533 Email: pedro yambao@ph.rlb.com Contact: Pedro J. Yambao, Jr.

#### SUBIC

The Venue Building, Unit 418 Lot C-5, Commercial Area, SBF Park Phase 1, Subic Bay Freeport Zone, Zambales Telephone: +63 917 517 3962 Email: Joselito.mendoza@ph.rlb.com Contact: Joselito.Mendoza

# SINGAPORE

## SINGAPORE

911 Bukit Timah Road Level 3, Singapore 589622 Telephone: +65 6339 1500 Email: silas.loh@sg.rlb.com Contact: Silas Loh

# SOUTH KOREA

#### SEOUL

(Yeoksam-Dong, Daon Building) 8th Floor, 8, Teheran-ro 27-gil, Gangnam-Gu, Seoul, 06141 Korea Telephone: +852 2823 1828 Email: stephen.lai@hkrlb.com Contact: Stephen Lai

## JEJU

1084, Seogwang-ri, Andeok-myeon, Seogwipo-si, Jeju-do, Korea Tei, +852 2823 1828 Email: stephen.lai@hk.rlb.com Contact: Stephen Lai

# VIETNAM

#### HO CHI MINH CITY

Centec Tower, 16th Floor, Unit 1603, 72-74 Nguyen Thi Minh Khai Street, Ward G, District 3 Ho Chi Minh City, Vietnam Telephone: +84 83 823 8070 Email: cb.ong@vn.rlb.com Contact: Ong Choon Beng

# MIDDLE EAST

## ABU DHABI

Mezzanine Level, Al Mazrouei Building, Muroor Road, PO Box 105766 Abu Dhabi, United Arab Emirates Telephone: +971 2 643 3691 Email: sam.barakat@ae.rlb.com Contact: Sam Barakat

INTERNATIONAL OFFICES

MIDDLE EAST

# DOHA

Al Mirqab Complex, Office 32 - Second Floor, Al Mirqab Al Jadeed Street, Al Naser Area, PO Box 26550, Doha, Qatar Telephone: +974 4016 2777 Email: dean.mann@ae.rlb.com Contact: Dean Mann

## DUBAI

Office 2302 Marina Plaza, Dubai Marina, PO Box 115882, Dubai, United Arab Emirates Telephone: +971 4 339 7444 Email: natalie.stockman@ae.rlb.com Contact: Natalie Stockman

#### MUSCAT

Building No 287, 18 November Road, North Azaiba, Muscat, Sultanate of Oman Telephone: +971 2 643 3691 Email: sam.barakat@ae.rlb.com Contact: Sam Barakat

## RIYADH

Unit 80 Gate 14, Abdullah Al Sahmi Street Al Kindi Plaza, Diplomatic Quarter, PO Box 8546, Riyadh 11492, Kingdom of Saudi Arabia Telephone: +966 11 217 5551 Email: john.prior@sarlb.com Contact: John Prior

# OCEANIA

# AUSTRALIA

## ADELAIDE

Level 1, 8 Leigh Street, Adelaide, SA 5000 Telephone: +61 8 8100 1200 Email: andrew.suttie@au.rlb.com Contact: Andrew Suttie

# BRISBANE

Level 13, 10 Eagle Street, Brisbane, QLD 4000 Telephone: +61 7 3009 6933 Email: david.stewart@au.rlb.com Contact: David Stewart

#### CAIRNS

Suite 7, 1st Floor, Cairns Professional Centre, 92 - 96 Pease Street, PO Box 5224, Cairns, QLD 4870 Telephone: +61 7 4032 1533 Email: brad.bell@au.rlb.com Contact: Brad Bell

# CANBERRA

16 Bentham Street, PO Box 7035, Yarralumla, ACT 2600 Telephone: +61 2 6281 5446 Email: mark.chappe@au.rlb.com Contact: Mark Chappé

## COFFS HARBOUR

Level 1, 9 Park Avenue, PO Box 197, Coffs Harbour, NSW 2450 Telephone: +61 2 4940 0000 Email: mark.hocking@au.rlb.com Contact: Mark Hocking

#### DARWIN

Level 4, 62 Cavenagh St, Darwin, NT 0800 Telephone: +61 8 8941 2262 Email: paul.lassemillante@au.rlb.com Contact: Paul Lassemillante

# GOLD COAST

45 Nerang Street, Southport, QLD 4215 Telephone: +617 5595 6900 Email: jim.krebs@au.rlb.com Contact: Jim Krebs

#### MELBOURNE

Level 13, 380 St Kilda Road, Melbourne, VIC 3004 Telephone: +61 3 9690 6111 Email: ewen.mcdonald@au.rlb.com Contact: Ewen McDonald

#### NEWCASTLE

90

Suite 4 Level 1, 101 Hannell Street, Wickham, NSW 2293 Telephone: +61 2 4940 0000 Email: mark.hocking@au.rlb.com Contact: Mark Hocking

#### PERTH

Level 9, 160 St Georges Terrace, Perth, WA 6000 Telephone: +61 8 9421 1230 Email: mark.bendotti@au.rlb.com Contact: Mark Bendotti

#### SUNSHINE COAST

Suite 307, La Balsa, 45 Brisbane Road, Mooloolaba Qld 4557 Telephone: +61 7 5443 3622 Email: nicholas.duncan@au.rlb.com Contact: Nick Duncan

#### SYDNEY

Level 19, 141 Walker Street, North Sydney, NSW 2060 Telephone: +61 2 9922 2277 Email: matthew.harris@au.rlb.com Contact: Matthew Harris

#### TOWNSVILLE

Level 1, 45 Eyre Street, North Ward, PO Box 19, Townsville, QLD 4810 Telephone: +61 7 4771 5718 Email: chris.marais@au.rlb.com Contact: Chris Marais

# NEW ZEALAND

#### AUCKLAND

Level 16, Vero Centre, 48 Shortland Street, Auckland, 1141 Telephone: +64 9 309 1074 Email: stephen.gracey@nz.rlb.com Contact: Stephen Gracey

#### CHRISTCHURCH

Level 1, 254 Montreal Street, Christchurch, 8013 Telephone: +64 3 354 6873 Email: neil.odonnell@nz.rlb.com Contact: Neil O'Donnell

# HAMILTON

Ground Floor, Parkhaven 220 Tristram Street, Hamilton 3204 Telephone: +64 7 839 1306 Email: richard.anderson@nz.rlb.com Contact: Richard Anderson

#### PALMERSTON NORTH

Suite 1, Level 1, 219 Broadway Avenue, PO Box 1117, Palmerston North, 4440 Telephone: +64 6 357 0326 Email: michael.craine@nz.rlb.com Contact: Michael Craine

#### QUEENSTOWN

Level 3, The Mountaineer Building, 32 Rees Street, PO Box 691, Queenstown, 9348 Telephone: +64 3 409 0325 Email: tony.tudor@nz.rlb.com Contact: Tony Tudor

#### TAURANGA

Office 3, 602 Cameron Road, Tauranga Telephone: +64 7 579 5873 Email: richard.anderson@nz.rlb.com Contact: Richard Anderson

#### WELLINGTON

279 Willis Street, PO Box 27-013, Wellington, 6011 Telephone: +64 4 384 9198 Email: tony.sutherland@nz.rlb.com Contact: Tony Sutherland

# MISCELLANEOUS

93	Conversion	Factors

96 <u>Calculation Formulae</u>

To convert	Multiply by
Area	
Square inches into square millimetres	645.16
Square inches into square centimetres	6.4516
Square feet into square centimetre	929.0304
Square feet into square metres	0.092903
Square yards into square feet	9.00
Square yards into square metres	0.836127
Square metres into square feet	10.7639
Square metres into square yards	1.19599
Square yards into acres	0.000206612
Acres into square metres	4046.8564
Acres into square yards	4840
Acres into hectares	0.4046856
Hectares into acres	2.47105
Hectares into square metres	10000
Square kilometres into hectares	100
Square miles into square kilometres	2.589988
Square miles into acres	640
Square kilometres into square miles	0.386102
Volume and Capacity	
Cubic inches into cubic centimetres	16.387064
Cubic inches into litres	0.0163871
Cubic feet into cubic metres	0.0283168
Cubic feet into litres	28.316847

**CONVERSION FACTORS** 

# MISCELLANEOUS **CONVERSION FACTORS**

To convert	Multiply by
UK pints into litres	0.5682613
US pints into litres	0.473176
UK litres into pints	1.75975
UK litres into gallons	0.219969
US litres into gallons	0.26417
US litres into pints	2.1134
Cubic yards into cubic metres	0.7645549
UK gallons into litres	4.54609
US gallons into litres	3.78541
UK gallons into cubic metres	0.00454609
UK fluid ounces into cubic centimetres	28.413063
Mass	
Mass Grains into metric carats	0.323995
	0.323995 0.035274
Grains into metric carats	
Grains into metric carats Grams into ounces	0.035274
Grains into metric carats Grams into ounces Ounces into grams	0.035274 28.349523
Grains into metric carats Grams into ounces Ounces into grams Ounces into kilograms	0.035274 28.349523 0.0283495
Grains into metric carats Grams into ounces Ounces into grams Ounces into kilograms Pounds into kilograms	0.035274 28.349523 0.0283495 0.4535924
Grains into metric carats Grams into ounces Ounces into grams Ounces into kilograms Pounds into kilograms Kilograms into pounds	0.035274 28.349523 0.0283495 0.4535924 2.20462
Grains into metric carats Grams into ounces Ounces into grams Ounces into kilograms Pounds into kilograms Kilograms into pounds UK Tonnes into kilograms	0.035274 28.349523 0.0283495 0.4535924 2.20462 1016.0469
Grains into metric carats Grams into ounces Ounces into grams Ounces into kilograms Pounds into kilograms Kilograms into pounds UK Tonnes into kilograms UK Tonnes into metric tonnes	0.035274 28.349523 0.0283495 0.4535924 2.20462 1016.0469 1.01605

To convert	Multiply by
Length	
Milli-inches into micrometres	25.4
Inches into millimetres	25.4
Inches into centimetres	2.54
Inches into metres	0.0254
Centimetres into inches	0.393401
Feet into millimetres	304.8
Feet into centimetres	30.48
Feet into metres	0.3048
Yards into metres	0.9144
Fathoms into metres	1.8288
Chains into metres	20.1168
Furlongs into metres	201.168
Miles, statute into kilometres	1.609344
Miles, nautical into kilometres	1.852
Temperature	
Degree Celsius to Degree Fahrenheit	°F = (°C x 9/5) + 32
Degree Fahrenheit to Degree Celsius	°C = (°F-32) x 5/9

# MISCELLANEOUS CALCULATION FORMULAE

	-
	-
	0
	Ż
	-
	z
	H
	Ś

Base by 1/2 height (radius) <sup>2</sup> by 3.1416 Length of arc by 1/2
Length of arc by 1/2
radius
Base x height
(Side) <sup>2</sup> x 0.433
Height x 1/2 x (sum of parallel sides)
Major axis by minor axis x 0.7854
2/3 x base x height
Diameter x 3.1416
4 x (radius)² x 3.1416
(radius by slant side by 3.1416) + area of base
Area of base by height
Length by breadth by depth
Height by 1/3 area of base
(side)² by height by 2.598
4/3 x (radius) <sup>3</sup> x 3.1416

# ALSO AVAILABLE FROM RLB

We offer a full suite of local, regional and global research and development publications that, together, provide ongoing study and analysis of market movements and change, across the globe.



Scan the QR Code on the right and sign up to receive our insights, direct to your mailbox.



# **COVID-19: Global Surveys**

Our rolling Global Reports provide a comparative analysis of the views of our colleagues across the world on the impact of COVID-19 on the construction industry.

Available to read at <u>RLB.com</u>



# Perspective

RLB's global magazine, Perspective, covers the innovations shaping our industry first-hand, from the people who make them happen.

Published annually and available to read at <u>RLB.com</u>



# Tender Price Forecast (TPF)

Published quarterly, the TPF contains an economic overview of the UK, along with a regional tender price breakdown and commentary from our cost management experts.

Available to read at <u>RLB.com</u>

# Bringing imagination to life

AFRICA | AMERICAS | ASIA | EUROPE MIDDLE EAST | OCEANIA

# RLB.com

in <u>Rider Levett Bucknall</u> 🎔 <u>@rlb\_uk</u>