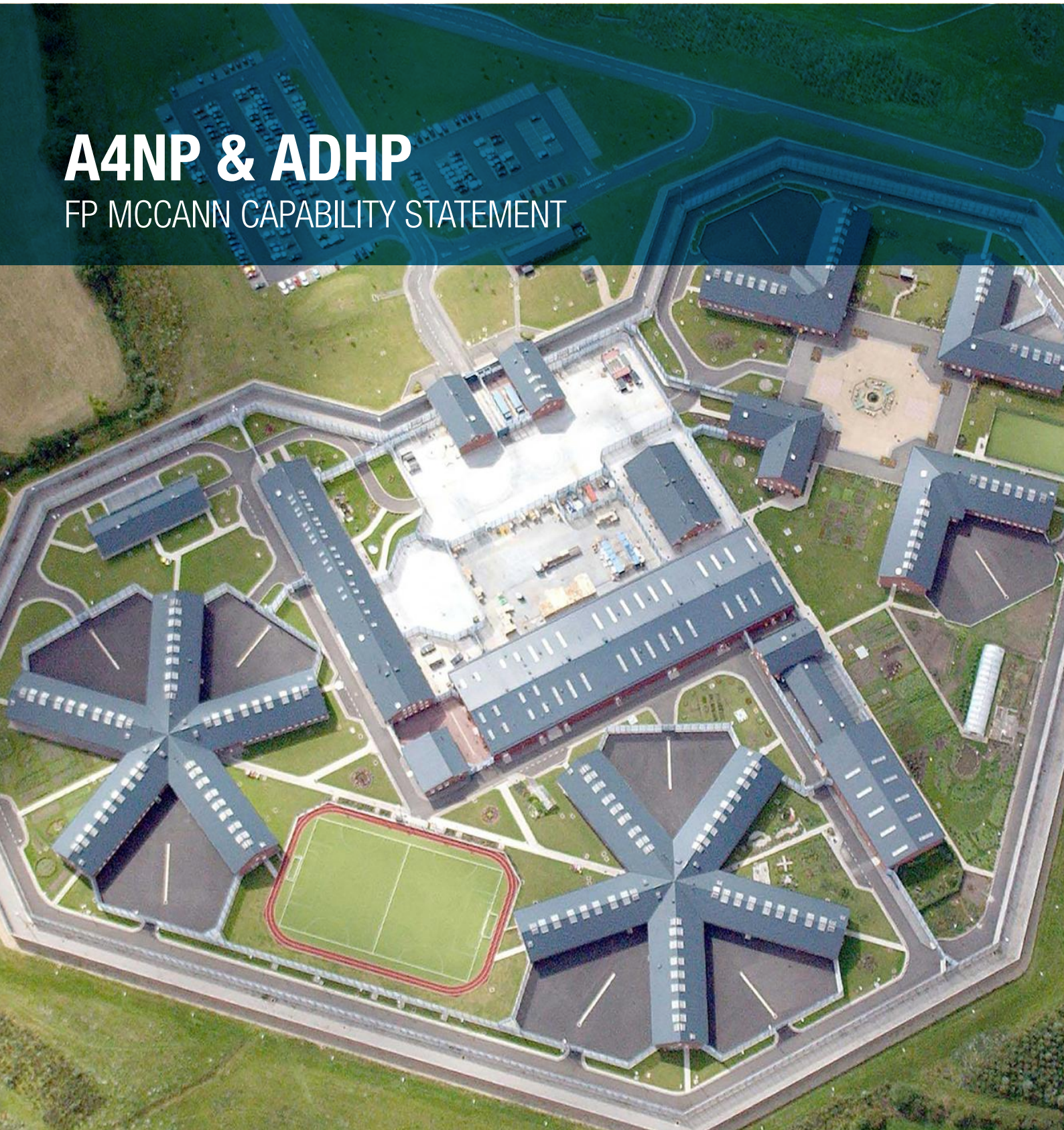
fpmccann

Ministry of Justice

A4NP & ADHP

FP MCCANN CAPABILITY STATEMENT



CONTENTS

INTRODUCTION

FP McCann is the UK's largest manufacturer and supplier of precast concrete solutions. We are committed to high quality, cost-effective and sustainable solutions tailored to meet clients' requirements.

From our thirteen UK manufacturing facilities, FP McCann offers solutions that include rooms, flooring, fencing, walling, shafts, tunnels, drainage, rail, power, agricultural, and architectural structural products.

FP McCann has worked on a large range of Design for Manufacture and Assembly (DfMA) projects across the UK. Our in-house Digital Engineering capability has grown in line with government and client expectations.

OUR KNOWLEDGE OF A4NP

The Alliance 4 New Prisons (A4NP & ADHP) will close ageing and ineffective prisons and replace them with buildings fit for today's demands.

The scale of the programme requires a strategic approach to deliver the design and construction of these prisons, with selected suppliers working collaboratively as integral members of the A4NP team, implementing intelligent programme management tools and systems to develop standard, repeatable solutions that increase certainty of delivery and optimise the use of Digital Engineering to standardise elements, minimise waste and share expertise. The pre-construction phase, with direct supply chain input, will achieve optimum innovation, focusing on Design for Manufacture and Assembly (DfMA) elemental sequencing. A standardised design for all repeatable elements tested in full scale prototypes. The project will also drive the Digital Britain agenda through use of BIM level 2+.

Wall panels with cast in windows for Wellingborough Prison - FP McCann Byley Facility.

OUR PEOPLE

MARK MCCANN, DIRECTOR

Drives development through strong and active leadership. Keen proponent of innovation, investment in new technologies and collaborative working. Supports investment to enhance delivery.

JAMES GODFREY, MANAGING DESIGN CO-ORDINATOR

Heads up our team of design co-ordinators ensuring collaborative approach with clients team during design ensuring architectural intent achieved.

DAN CHILVER, ENGINEERING LEAD

SUE VERRILL, GENERAL/ COMMERCIAL MANAGER

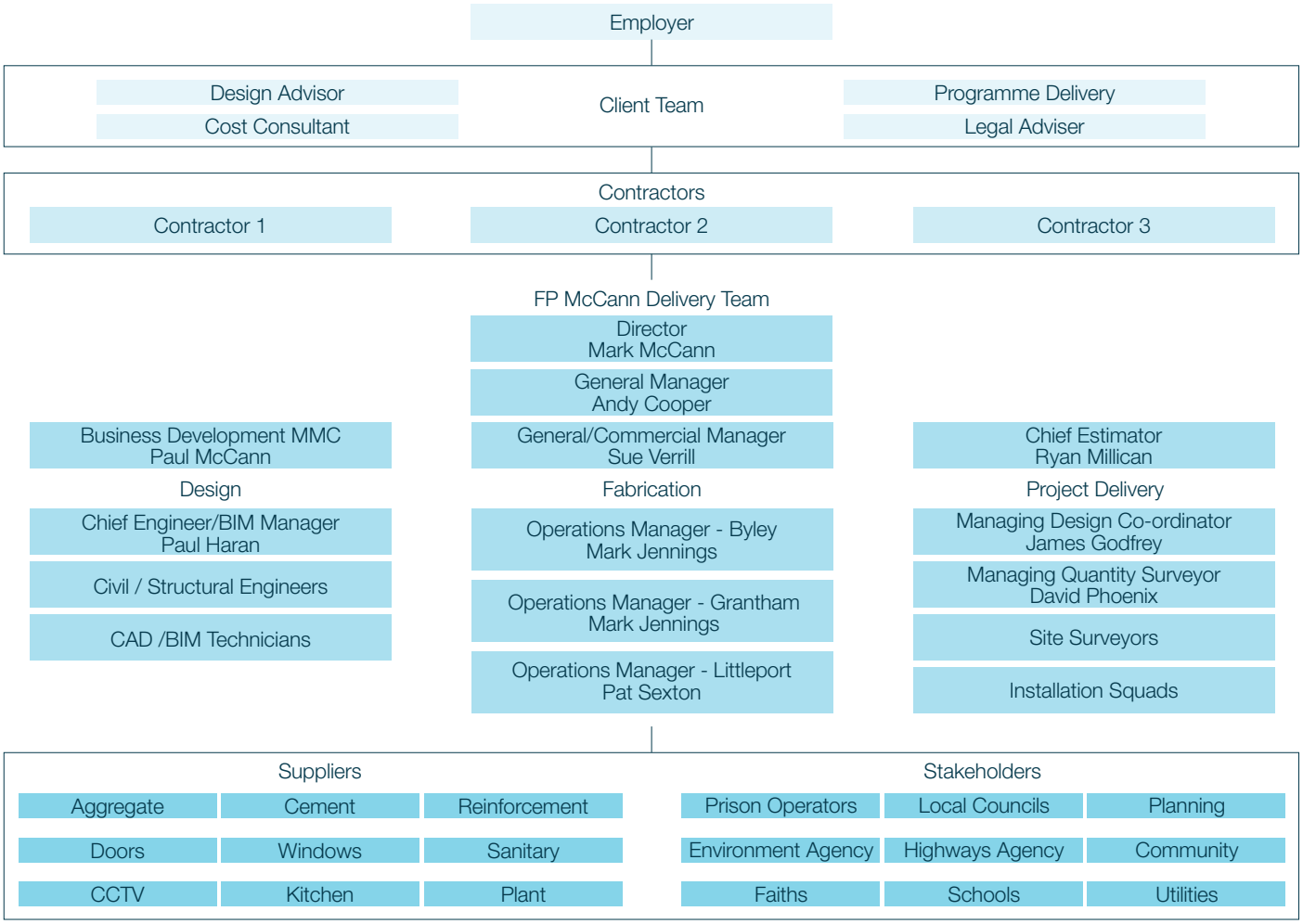
Responsible for the management of commercial, design delivery, production and installation of structural and architectural projects.

KEN SPOONER, CONTRACTS MANAGER

Responsible for the delivery of precast erection contracts through to completion. Liaises with the clients, designers, sub-contractors and suppliers and oversees all planning for the projects.

CHRIS WEAVING, CONTRACTS MANAGER

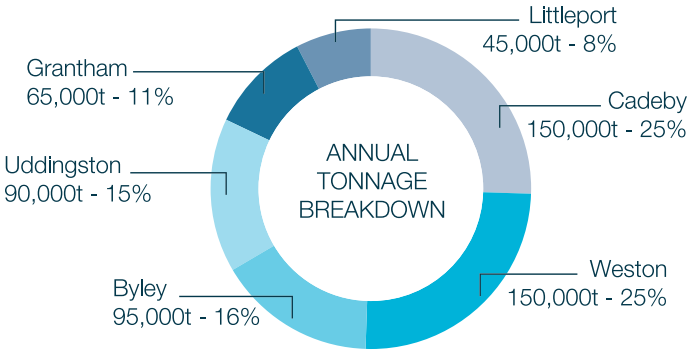
ORGANISATION



OUR COMPANY

We have the option of using 3 of our key structural facilities to manufacture the elements for the A4NP & ADHP; Byley, Grantham & Littleport. With shared process, mix designs and equal capability the potential for shared manufacture mitigates any risks associated with breakdowns, increase site demand etc.

Another advantage we have options around a plan B is moving production of key elements to 3 other facilities, Weston Underwood, Cadeby or Uddingston. See locations below, with Full Sutton noted.



KEY

- Manufacturing Facilities
- A4NP Proposed Precast Factories
- Quarries / Manufacturing Locations

OUR DEPOTS

BYLEY

- 95,000t annual production capacity
- 13.7 hectare site
- 80,000m² on-site storage

LITTLEPORT

- 45,000t annual production capacity
- 10.17 hectare site
- 40,000m² on-site storage (planned expansion to 120,000m2)

CADEBY

- 150,000t annual production capacity
- 15 hectare site
- 100,000m² on-site storage

WESTON UNDERWOOD

- 150,000t annual production capacity
- 20 hectare site
- 120,000m² on-site storage

GRANTHAM

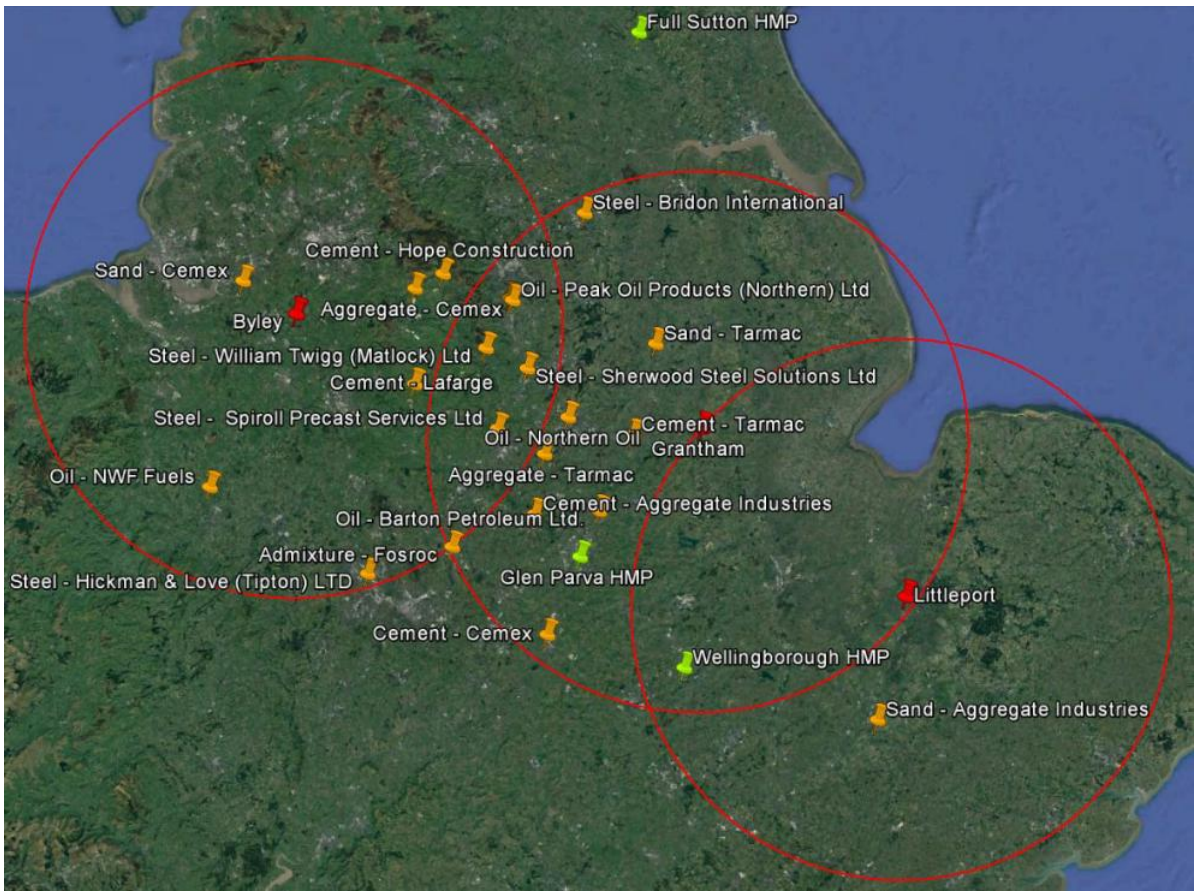
- 65,000t annual production capacity
- 8.09 hectare site
- 10,000m² on-site storage

UDDINGSTON

- 90,000t annual production capacity
- 8 hectare site
- 15,000m² on-site storage

LOCAL SUPPLY CHAIN

Due to fixed manufacturing locations we look to source materials from no more than 50 miles from the facilities. This aids with local employment opportunities and reduced impacts of shipping (carbon and commercial). Some suppliers supply all facilities, this further under pins opportunities for employment within that local area.



MANAGING VOLATILITY / AVAILABILITY OF MATERIALS

Cement:

FP McCann are the largest precast manufacturer in the UK and are a key customer to the cement companies (utilising them all as well as importing) which gives us a lot of buying power and flexibility. In the current economic climate it has been well known for smaller concrete/precast companies to be put on cement allowance which would be a massive risk to contract programmes. Given FP McCann's influence and also seen as a key supplier to house building and HS2 we have been assured we will not be put on allowance unlike our smaller competitors who maybe utilise one cement supplier.

Steel:

With ongoing investments into improving productivity etc. We have introduced mesh machines into our facilities. This negates to the reliance on the mesh supply chain and also adds benefits in design. We procure most of our reinforcement on coils and carry up to 6 months stock of coils. Through stocking we can guarantee availability, offer benefits in design which in turn reduce the volume of material, another good example of carbon and commercial saving.

Haulage:

Work with most large hauliers UK wide, delivering over 1m tons per annum. We are in constant dialogue with the hauliers and open new dialogue with suppliers weekly. We are currently working with a few of the large nationals to increase availability and offering yard space / welfare to guarantee xx number of loads.

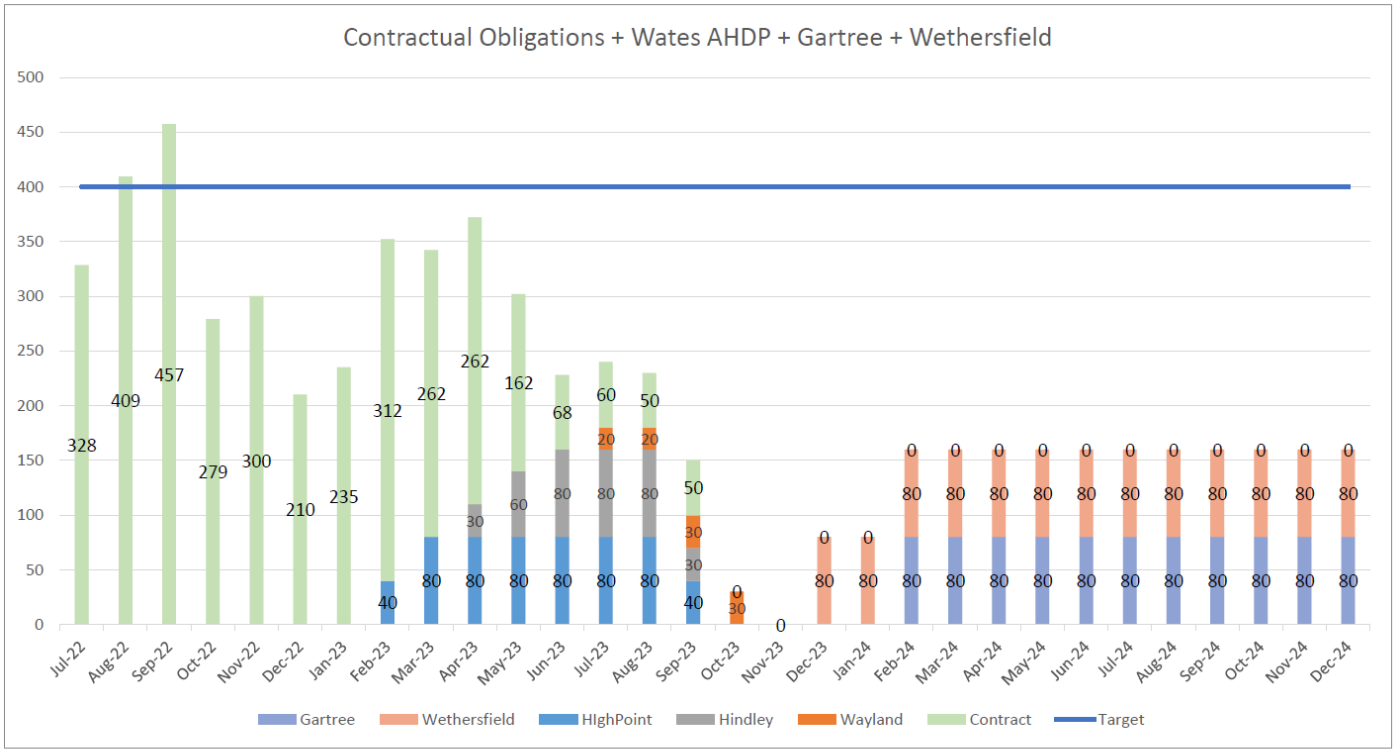
Gas / heating:

Again, with ongoing investments in bio mass boilers our depots don't rely on gas to heat facilities. We are not heavily reliant on supply nor subject to any 'un forecast' inflationary cost.

OUR CAPABILITY

We plan capacity based on the number of external walls, sandwich panels. From experience the Duct Walls are critical path in the early stages of manufacture to get the cumulative stock, however, once casting this switches to sandwich panels. Our Current capacity for sandwich panels is 400 per month.

FP McCann Forward Plan
Incl Wates AHDP, Gartree and Wethersfield



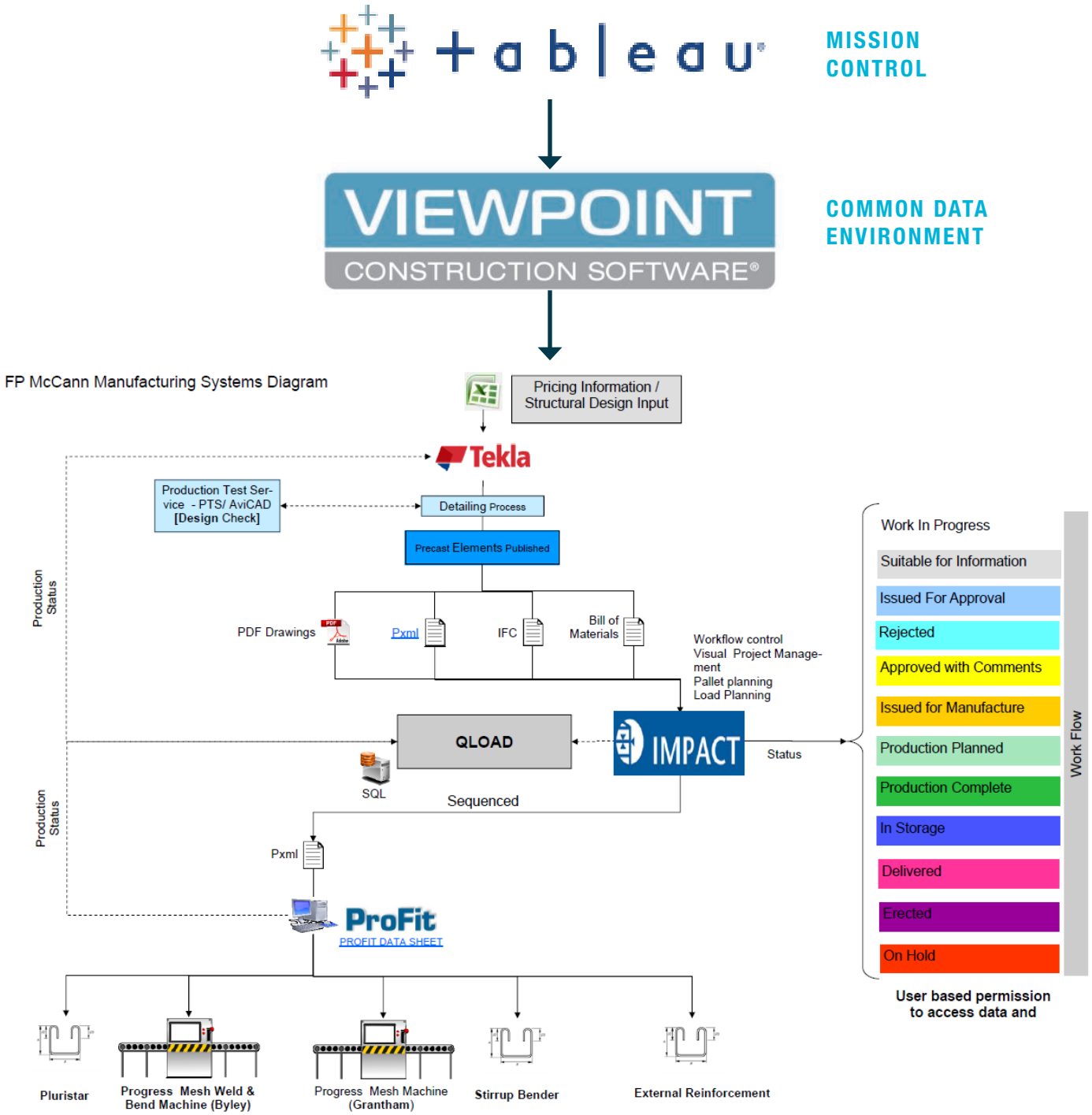
Excl Full Sutton & Laing's - assume self-deliver at this stage.

OUR CAPABILITY

COLLABORATIVE DESIGN

The FP McCann design team will draw from our extensive prison development experience such as HMP Thameside, Shotts, Belmarsh etc and apply using our advanced systems such as Tekla, Impact and Profit. Our systems are to BIM Level 2 with component information including data / classification formats to COBie, Uniclass & IFC.

Our in-house design team will constantly engage with the client/contractor teams to develop designs to optimise the degree of standardisation / repeatable elements. Through each of the nine work streams FP McCann will refine the designs to make best use of our highly trained, experienced and innovative staff.



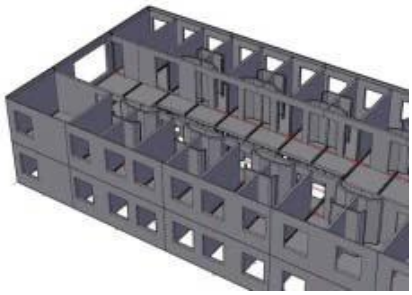
OUR CAPABILITY

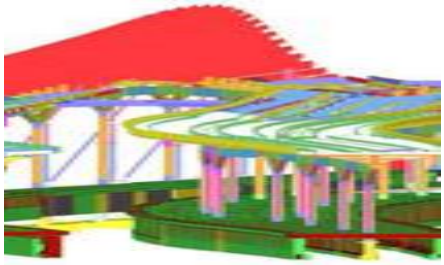
INNOVATION – VIRTUAL

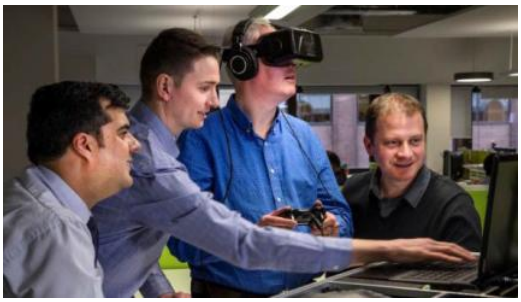
4D Models will include programme and construction sequencing. These will also include logistics planning regarding size, weight and complexity of components.

VIRTUAL REALITY

We develop 4D model scenarios to determine the optimal assembly sequences, plan craneage positions/working radii & train our installation teams.







INNOVATION – PHYSICAL

Our factory depots have the space and ability to produce sample panels, trial erections of sample components and dedicated areas for training assembly teams.

GPS TRACKING

Specific logistics plans developed for each site. All our delivery vehicles have GPS tracking and are managed under our Galileo system including designated routes, just in time deliveries, vehicles per hours, provide real time redirection to avoid traffic or direct to hold points preventing congestion at site entrances.

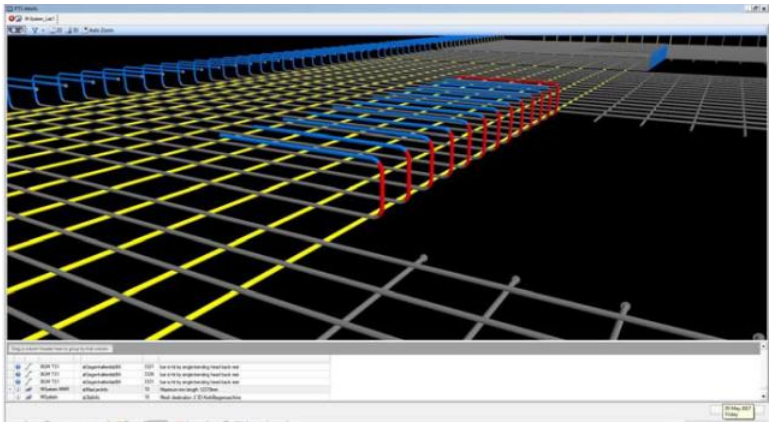
OUR CAPABILITY

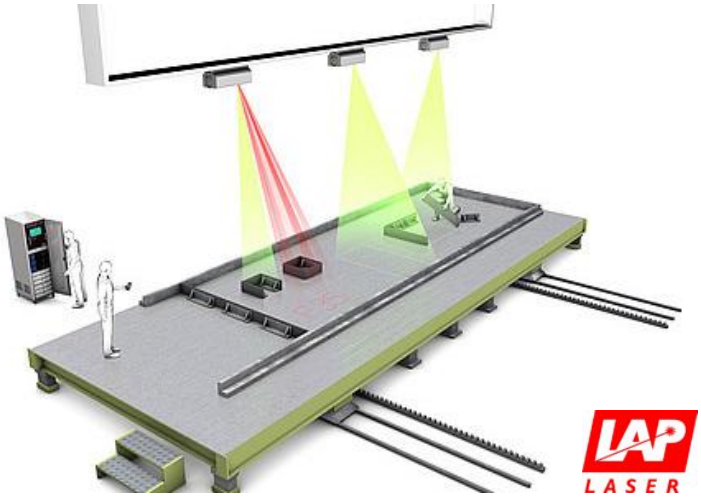
INNOVATION - USE OF NEW TECHNOLOGIES

FP McCann utilise the latest innovative technologies in Design for Manufacture and Assembly (DfMA) processes.

These include laser guided assembly for build up of layered components reducing set up time and providing greater accuracy.

The ProFit reinforcement management system facilitates design, clash detection, production scheduling and process management of all reinforcement cutting, bending and fixing activities.

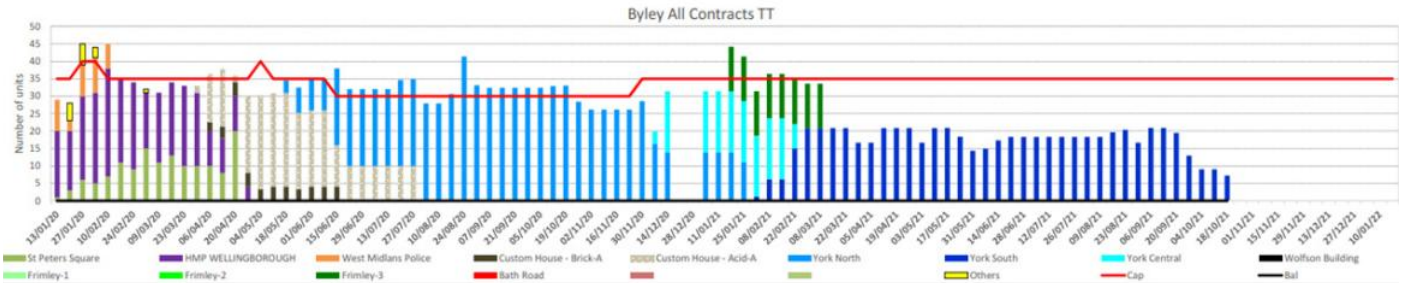


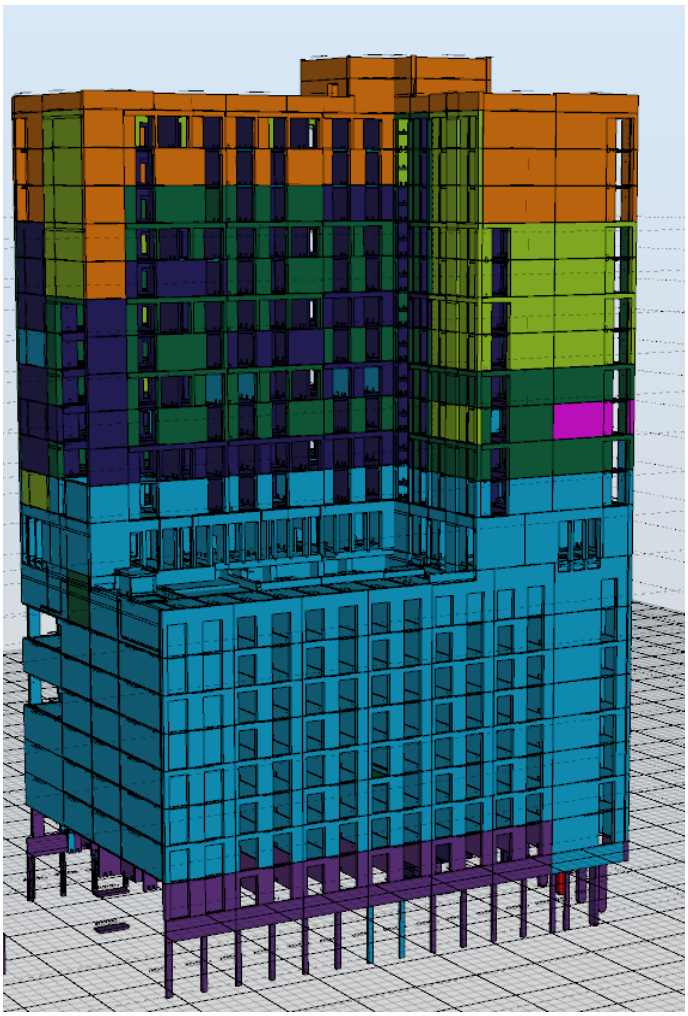


The IMPACT component tracking system provides progress tracking of each individual component to enable accurate reporting and forecasting from design to installation.

OUR CAPABILITY

MASTER PRODUCTION PLAN SHOWING ALL PROJECTS IN ONE VIEW

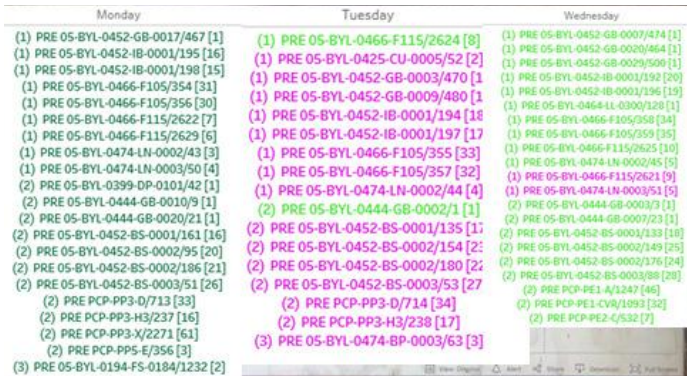




GOOGLE EARTH AND STREET VIEW FROM THE ONE SET OF DATA

All dates are offset from a and that is the “planned erection date” for each element of the building. The 3D model of the building show the current stage of readiness. As the product moves through the production process the progress is electronically recorded within the work area.

Id	Description
0	No Status
1	For Tender
5	On Hold
10	Design Work In Progress
15	For Approval
18	Model Approved-Detailing In Progre
20	Issued for Manufacture
30	Production Planned
31	Reo 1st Stage Ready
32	Reinforcement Ready
40	Production Complete
50	In Storage
60	Delievered
70	Erected
99	Scrapped - Raise Disorder!

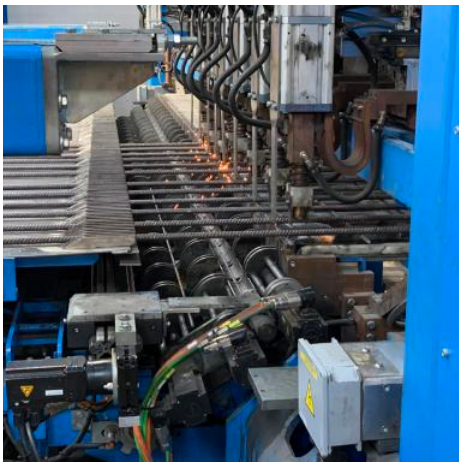


EACH WORK AREA WORKS TO A CENTRALLY CONTROLLED AND LIVE PRIORITISED LIST

OUR CAPABILITY

WITH IN THE IMPACT MODEL IT ALLOWS THE PLANNER TO SEE THE DETAILED VIEW OF THE OVERALL PLAN AND TO PRESENT THIS DATA IN MULTIPLE USEFUL WAYS.

Hide all empty days - not working Downloaded from MPZ	Tue	Wed	Thu	Fri	Mon	Tue	Wed	Thu	Fri
Resource+	28/05/2019	29/05/2019	30/05/2019	31/05/2019	03/06/2019	04/06/2019	05/06/2019	06/06/2019	07/06/2019
BMS-Cell 08									
BMS-Cell 10									
BMS-Cell 19									
BMT-Cell 02									
BMT-Cell 03									
BMT-Cell 04									
BMT-Cell 11									
BMT-Cell 12									
CH0-TK-01									
FBD-FB-A01-M1b									
FBD-FB-A01-M1c									
FBD-FB-A01-M1d									
FBD-FB-A02-M2a									
FBD-FB-A02-M2b									
FBD-FB-A02-M2c									
FBD-FB-A02-M2d									
FBD-FB-A03-M3a									
FBD-FB-A03-M3b									
FBD-FB-A03-M3d									
FBD-FB-A04-M4a									
FBD-FB-A04-M4b									
FBD-FB-A04-M4c									
FBD-FB-A05-M5a									
FBD-FB-A05-M5b									
FBD-FB-A05-M5c									



MESH & BENDING MACHINE

- Produces flat sheets up to 5m to 12m
- Output up to 1500 metres per hour
- Diameters of 8, 10, 12 and 16 millimetres
- Bespoke configurations - diameters and centres can be configured to ensure the most efficient volume of steel required
- Integrated system to produce bent meshes - Returns a stronger structure with a lower steel content by removing unnecessary laps, and drastically reduces fabrication time
- Product traceability with integrated production identification system, and raw-material traceability from foundry to site
- Prototyping and test system allows complex designs to be checked before production
- Accepts industry-standard PXML and Unitechnik formats for automatic production
- Mesh machine supported by bending machine to produce required loose bar for a complete in-house supply chain

Planning system linked to a fully automated Mesh machine and Rebar bender.

Each unique unit in the 3D model of the building has its own kit of parts delivered just in time to the production needs and to the exact dimensions.

Our automated mesh machine allows us to effectively “print” the steel mesh created with the doorways and windows in the exact positions.

Any changes in drawing revisions and schedules can be quick turnaround and strong schedule adherence.

OUR CAPABILITY

SUSTAINABILITY AND PRECAST CONCRETE

FP McCann is committed to promoting sustainability. Concern for the environment and promoting a broader sustainability agenda are integral to FP McCann's professional activities and the management of the organisation.

Our Sustainability Policy is based upon the following principles:

- To comply with, and exceed where practicable, all applicable legislation, regulations and codes of practice
- To integrate sustainability considerations into all our business decisions
- To ensure that all staff are fully aware of our Sustainability Policy and are committed to implementing and improving it
- To minimise the impact on sustainability of all office and transportation activities
- To make clients and suppliers aware of our Sustainability Policy, and encourage them to adopt sound sustainable management practices
- To review, annually report, and to continually strive to improve our sustainability performance

SUSTAINABILITY CHARTER

The UK precast sector is represented by the trade body British Precast. As part of membership of British Precast, all manufacturers commit to a sustainability charter which includes the collection of performance data and the annual publication of performance data. This annual report Sustainability Matters can be downloaded from www.britishprecast.org. The precast concrete sector is also part of the wider UK Concrete Industry Sustainable Construction Strategy. For more information visit www.sustainableconcrete.org.uk.

LOCAL MANUFACTURE

Concrete is the local construction material, with production facilities throughout the UK. Although precast concrete can travel further distances than ready-mixed concrete, there is still a regional network of producers throughout the UK. Data collected by British Precast shows that an average lorry carried 18.32 tonnes of precast product per delivery to site. The average delivery distance in 2018 was 102.2 km. This is in comparison with alternative materials, such as timber and structural steel, that are usually imported, increasing the carbon emissions associated with transport.

QUALITY CONTROL

Virtually all precast concrete produced in the UK is covered by an ISO 9001 quality management system. Precast products are produced in a factory environment allowing high levels of quality control and uniformity.

Precast factories have dedicated material suppliers ensuring there is consistency of supply, particularly important for architectural precast where uniformity of colour and texture are critical. A consistent product is facilitated by the multiple reuse of quality moulds.

ENVIRONMENTAL MANAGEMENT SYSTEMS

With 90% of precast concrete produced in the UK, we maintain an environmental management system, which sets our environmental targets for all of our relevant activities. It is our aim to support these targets by maintaining third party corroboration of the success of our environmental management system in the form of certification to ISO 14001.

OUR CAPABILITY

RESPONSIBLY SOURCED TO BES 6001

FP McCann are currently working towards obtaining accreditation for BES 6001 due in early 2021. The concrete industry adopted independent certification to the responsible sourcing standard BES 6001 from its launch in 2008. Constituent materials such as cement and aggregates are now 100% responsibly sourced to BES 6001 (see www.sustainableconcrete.org.uk). The latest published data from British Precast shows that 76% of all concrete produced by their members is certified to responsible sourcing standard BES 6001. This standard gives confidence of the ethical sourcing and traceability of concrete products, another advantage of a UK supply chain.

HEALTH & SAFETY

We use our accredited ISO 9001, ISO 14001 and OHSAS 18001 Integrated Management System to establish and maintain the management, monitoring, review, audit and assurance systems required to achieve our targets.

As with sustainability, all members of British Precast commit to a health and safety charter. Operating safely is a key priority for the precast industry and offsite production means that more work takes place in factory-controlled conditions.

LOW CARBON PRODUCTION

The precast concrete sector, and the UK concrete industry, has targets to reduce the carbon emissions of production, or embedded carbon, from its products. The manufacturing carbon emissions of the UK precast concrete sector has dropped by 30% since 2012 and 43% since 2008. Factory carbon emissions equate to 10kgCO2/t. The rapid reductions over the last decade have been achieved from efficiency improvements and the use of low carbon energy switching from fossil fuels.

LOW CARBON CONCRETE

Ground granulated blast-furnace slag (GGBS), fly ash and powdered limestone can reduce the carbon footprint of concrete. In the precast concrete sector, over 20% of cement has been replaced with alternative cementitious materials. The precast sector has also published a number of generic Environmental Product Declarations (EPD) and 70% of British Precast members have their products covered by valid third party certified EPDs. These EPDs support the use of Building Information Modelling (BIM) and manufacturers can also provide further information to support BIM.

MATERIAL EFFICIENT PRODUCTION

The manufacturing process for precast concrete products is becoming more efficient with a 40% reduction in water use and a 95% reduction in waste to landfill since 2008, now down to 0.25 kg/t. As well as ensuring that any production concrete waste is recycled on site, precast concrete also utilises secondary and recycled aggregates with this representing around a fifth of the aggregates used. Concrete waste is minimised during manufacture due to efficient processes in the factory and the control of materials. As precast concrete elements and systems are typically made to order this reduces waste in production.

OUR CAPABILITY

DELIVERY TO SITE

FP McCann provides nationwide delivery to the UK and Ireland. Products are delivered as standard on flat bed artics, rigid & hyab are available on request. We also use subcontracted delivery vehicles. This gives FP McCann the flexibility to meet a variety of restrictions and requirements for on-site deliveries. (i.e.) rigid vehicle deliveries, FORS compliant, CLOCS etc.

JUST-IN-TIME DELIVERY

The Just-In-Time (JIT) philosophy holds tremendous potentials for improving the movement of precast concrete components from the prefabrication yard to, and within, the construction site. The space constraints for storage and the traffic congestion at the work site can then be alleviated. Savings from the efficient management of precast concrete components can be used to offset the higher costs of procurement

ADVANTAGES OF JIT

- Inventory Reduction
- Quality Improvement
- Cost Reduction
- Reduction of storage space
- Shorter lead time
- Increase in productivity
- improvement of vendor relationship
- Simplified schedule and control
- Increase capacity
- Better utilisation of personnel and equipment

OUT OF HOURS DELIVERY SCHEDULE

Due to sites being built in busy environments standard daytime deliveries may not work with congestion and disruption inevitable. FP McCann can schedule out of hours deliveries this reducing any disruption to traffic etc.

During the London Bridge Station Redevelopment FP McCann successfully delivered 4,500 precast concrete modular platform units for 15 station platforms and concourse areas whereby we dropped full trailers and returned with empties at night. Lorries park up in lay bys close to site rather than being called in so that traffic isn't affected

COMPLETED DFMA PRISON PROJECTS

FP McCann has worked on a large range of Design for Manufacture and Assembly (DfMA) prison projects across the UK both as Main Contractor, Subcontractor/Supplier and 2nd tier supplier. The DfMA services offered on these range of schemes include:

DESIGN FOR MANUFACTURE

- Partnering & Concept Workshops - Participation at commencement of scheme to encourage an open approach, develop communication and good team relationships with key project members. Company Project Partnering Champion assigned.

- Risk/Opportunity Management - Involvement in developing project Risk/Opportunity Register and updating as design options agreed. Assessment of cost and programme impacts and allocation of responsibility.
- Value Management - Contributing to Value Engineering (VE) in developing VE solutions along with specialist subcontractors e.g. M&E. Utilising our library of VE solutions from previous DfMA schemes.
- Whole Life Costing - Reviewing design element options specification and maintenance requirements such as joints, fixtures, glazing types etc
- Open & Transparent - Open book accounting systems provided to client team to enable monitoring for cost reimbursement using Sage 200 construct module.
- Building Information Modelling (BIM) - Development of 3D BIM Models for various modules with specification, clash detection analysis and to enable better understanding of various alternative options. Use of collaborative project team extranet to ensure software compatibility & consistency with Common Data Environment.
- BREEAM - Contribution to process to achieve an 'Outstanding' rating through our innovative systems and processes to ensure a highly sustainable building.

ASSEMBLY

- Site Establishment - Integrating our design and installation teams on site in co-located offices to enable face to face working to enable efficient construction process.
- Site Evaluation / Survey - Regular/continual monitoring of site conditions and progress to inform design and manufacture.
- Programming/Phasing - Works with integrated team of Civils, Building, Mechanical & Electrical teams ensuring site access, working space and safety of all personnel on site.
- Resourcing - Continual monitoring of site requirements and ability to call on additional resources in delivery & assembly.

- Considerate Constructor Scheme - Ability to complete construction of projects with minimal disruption to surrounding local areas. National Gold Award winners in taking into account adjacent residents, business and communities.

FP MCCANN PRISON PROJECTS

PROJECT	CELLS	DATE OF COMPLETION
HMP Wellingborough	840	Spring 2021
HMP Wrexham Ancillary Buildings		2015
HMP Thameside (Belmarsh)		2013
HMP Belmarsh		2011
HMYOI Polmont	118	2009
HMP Shotts Prison - Segregation Unit/Houseblock	285	2009
Harmondsworth Immigration and Removal Centre	196	2009
HMP Dovegate	264	2009
HMP Littlehay Segregation Unit	12	2009
HMP Parc	326	2009
HMP Edinburgh	94	2008
HMP Lowdham Grange Expansion	260	2008
Gatwick Immigration and Removal Centre	420	2008
HMP Albany - Hospital Wing		2008
HMP Winchester	116	2008
HMP Lowdham Grange Expansion	30	2007
HMP Cardiff (Hospital section extension)	20	2007
HMP Jurby Prison - Isle of Man	200	2006
HMP Polmont Prison - Segregation Unit	30	2006
HMP Perth Prison - Segregation Unit	120	2006
HMP Hassockfield Prison - Mother & Baby Unit	16	2006
HMP Liverpool	24	2006
HMP Glenochil Prison - Segregation Unit	30	2005
Logford Detention Centre	400	2004
HMP Dovegate Prison	800	2001
HMP Kilmarnock Prison	500	1999
Medomsley Secure Training Centre	40	1999
HMP Greenock Prison	64	1998
HMP Saughton Edinburgh		
House Block & Segregation Unit	120	1998
HMP Lowdham Grange	500	1998
HMP Coldingley		1998
HMP Onley - House Block	120	1998
HMP Bullingdon - House Block	120	1998
HMP Pucklechurch Remand Centre	400	1994

OUR EXPERIENCE

WELLINGBOROUGH PRISON

Scheme Description - 7no. Precast House blocks with 1no. CASU block. (Circa 5000no. precast elements manufactured and delivered to site.)

DESIGN & MANUFACTURE

FP McCann only manufactured the Wellingborough prisons - Supply only contract. This was manufactured at the Grantham and Byley Depots

ASSEMBLY

Assembled on site by Kier

Client - Ministry of Justice
Value - £5.82m
Contract Type - SPC2000
Scheme Duration - Approx 18 Months
Completed - Ongoing

PROJECT TEAM

Main Contractor - Kier Construction - Major Projects
Supplier - FP McCann

UNIQUE FEATURES

Cast in doors, windows, M&E conducts

OUR EXPERIENCE

WEST MIDLANDS POLICE DEPARTMENT

Scheme Description - Hybrid Precast Structure for the West Midlands Police department. This consists of Insulated sandwich panels, RC shaft walls, slabs and columns, Hollowcore flooring and Peikko Delta beams.

DESIGN & MANUFACTURE

Design and Maufactured by FP McCann
Design and detail drawings by HCD

ASSEMBLY

On site installation by FP McCann - Sub contracted to Quadro Services Ltd.

Client - West Midlands Police
Value - £2,4 Million
Contract Type - NEC
Scheme Duration - 80 Days (Installation Only)
Completed - 24/04/20 (Installation Only)

PROJECT TEAM

Main Contractor - Wilmott Dixon
Designer, Supplier & Installer - FP McCann

Specialist Manufacturers:

M&E - NG Bailly
Structural - CWA engineering
Roof - Peikko

UNIQUE FEATURES

2 Colour Concrete

OUR EXPERIENCE

HMP THAMESIDE (FORMERLY HMP BELMARSH WEST)

Scheme Description - DfMA in construction of a 216 cell prison four storey L-shaped block together with a new industries building. Also, the existing 5.2m precast concrete wall was extended to enclose the new buildings. The new house block was formed from precast concrete components founded on bored piles.

DESIGN & MANUFACTURE

BREEAM - Early contribution at design stages regarding materials, equipment and construction process to ensure achievement of 'Outstanding'. The evaluation of the precast unit CO^2 footprint in design with the carbon calculator assisted in developing options for materials and equipment.

ASSEMBLY

Site Evaluation/Survey - Key element was maintaining site security of the existing prison during the extension of the boundary. This included phased installation with temporary fencing systems to maintain security.

Client - Ministry of Justice

Value - £3.17m

Contract Type - SIP April 07, Skanska trade conditions based on DOM-2.

Scheme Duration - 2 Years

Completed - 2015

PROJECT TEAM

Main Contractor - Skanska

Designer, Supplier & Installer - FP McCann

Specialist Manufacturers:

M&E - SRW/Hulley & Kirkwood

Structural - Capita

Roof - Haleys

UNIQUE FEATURES

The extension achieved a BREEAM 'Outstanding' through efficient use of water and energy, employing environmentally friendly materials and targeting zero waste.

OUR EXPERIENCE

HMP SHOTTS

Scheme Description - DfMA in construction of a 285 cell prison houseblock and a multi-function building providing training and education facilities.

DESIGN & MANUFACTURE

Risk/Opportunity Management - Our early involvement with the client's team and main contractor enabled us to highlight risks on concepts and provide an input into build ability such as connections from floor slabs to ground beams etc.

ASSEMBLY

Site Establishment - Integrating our design and installation teams on site enabled faster development of solutions on any problems that arose. Our design and installation teams also provided advice for the future Phase 2 scheme completed by Laing O'Rourke Construction.

Client - Scottish Prison Service

Value - £4.1m

Contract Type - GC Works Sub Contract Model Form 1 with SPC Amendments

Completed - 2013

PROJECT TEAM

Main Contractor - Carillion

Designer, Supplier & Installer - GTC/FP McCann

Specialist Manufacturers:

M&E - Jacobs

Structural - Ramage Young

UNIQUE FEATURES

Project was nominated for Scottish Civic Trust My Place Awards 2012

OUR EXPERIENCE

HMP BELMARSH

Scheme Description - DfMA in construction of a 600 cell prison four storey house block together with associated buildings to provide education, rehabilitation, training, hospital, sports, healthcare, worship, kitchens, recycling, storage, visits, administration works, horticulture and security.

DESIGN & MANUFACTURE

Value Management - FP McCann contributed to Value Engineering (VE) in developing VE solutions along with specialist subcontractors (e.g. M&E). As we had worked with Skanska and the same M&E contractors on previous projects such as HMP Dovegate, we were able to take lessons learnt on these projects and apply them to HMP Belmarsh to provide a higher quality and more efficiently built prison.

ASSEMBLY

Resources - Due to the large scale and tight timeframe to complete the project our Contract Manager held weekly resource scheduling with manufacturing, logistics and site teams regarding labour, equipment and materials.

Client - Ministry of Justice

Value - £9.7m

Contract Type - SIP April 07, Skanska trade conditions based on DOM-2

Completed - 2012

PROJECT TEAM

Main Contractor - Skanska

Designer, Supplier & Installer - HCD / FP McCann

Specialist Manufacturers:

M&E - Bluestar/Hully & Kirkwood

Structural - Skanska Technology

Roof - Haleys

UNIQUE FEATURES

The 600 cell Living Unit was the world's first for prison construction to achieve BREEAM "Outstanding" and won a BREEAM award for the Prisons category at the Ecobuild Awards.

OUR EXPERIENCE

HMP PARC (WALES)

Scheme Description - DfMA in construction of a 326 cell three storey prison which also consisted of a new build and refurbished ancillary units including kitchens, industries, workshops, visits, amenities and staff training facilities. The project was designed to provide the flexibility to cope with the changing needs of a modern prison.

DESIGN & MANUFACTURE

Building Information Models (BIM) - In developing 3D BIM models, cell walls were designed to include integral wall/vanity/duct units. 3D models were then developed of construction sequence options which reduced 4No crane lifts into 1No lift. This also resulted in the reduction of the duration and cost of the project.

ASSEMBLY

Programming/Phasing - Works with our integrated team of civils, building and mechanical & electrical teams ensured achieving 21 separate handovers in a live prison environment

Client - Ministry of Justice

Value - £5.1m

Contract Type - Bespoke

Completed - 2011

PROJECT TEAM

Main Contractor - Galliford Try

Designer, Supplier & Installer - FP McCann

Specialist Manufacturers:

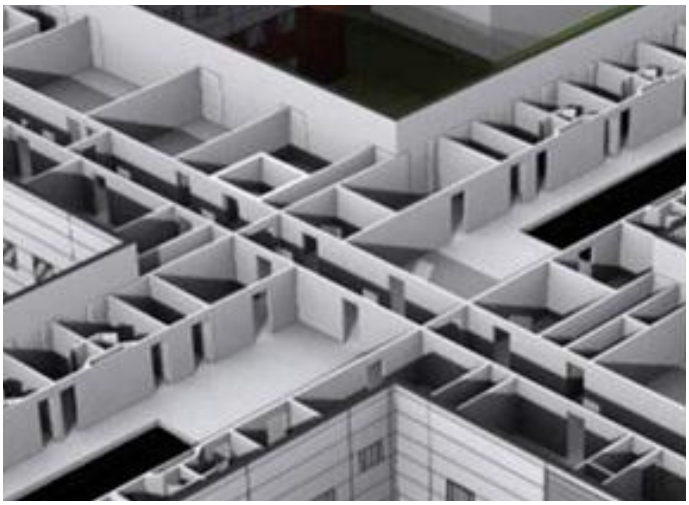
M&E - Troup, Bywater & Anders

Structural - SKM

Roof - Rishton Welding

UNIQUE FEATURES

The project achieved a BREEAM excellent rating



OUR EXPERIENCE

HMP DOVEGATE

Scheme Description - DfMA in construction of a 264 cell two storey prison four winged K-shaped houseblock as an addition to the original 800 cell prison carried out by FP McCann.

DESIGN & MANUFACTURE

Building Information Models (BIM) - Provided in 3D using Tekla software. This software was specifically configured for cellular wall construction. The integration of the client's mechanical & electrical services within the 3D models enabled early clash detection and enhanced co-ordination.

ASSEMBLY

Just-in-Time Delivery System - Operated due to restricted working space on site. Carefully logistics planning was carried out with the prison management team to minimise disruption to the existing prison services and enable efficient erection by our own site teams.

Client - Ministry of Justice

Value - £3.6m

Contract Type - SIP April 07, Skanska trade conditions based on DOM-2.

Scheme Duration - 9 months from design to final erection.

Completed - 2009

PROJECT TEAM

Main Contractor - Skanska

Designer, Supplier & Installer - FP McCann

Specialist Manufacturers:

M&E - Bluestar/Hully & Kirkwood

Structural - Skanska Technology

Roof - Rishton Welding.

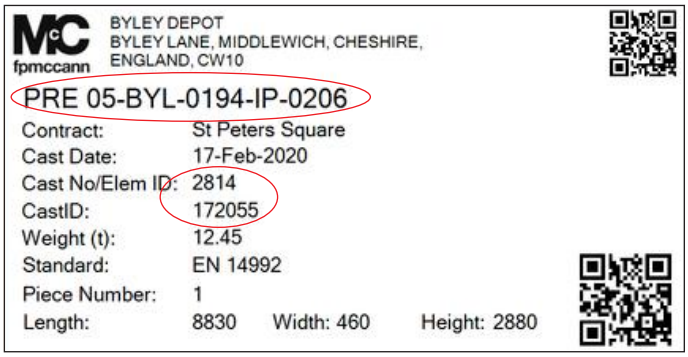
UNIQUE FEATURES

Some 1,758 precast units were installed on site, utilising 2No crawler cranes and 2No mobile cranes.

PRODUCT TRACEABILITY APP

FP MCCANN'S PRODUCT TRACEABILITY APP IS SEAMLESSLY EMBEDDED INTO OUR CORE MANUFACTURING AND QUALITY SYSTEMS ENABLING US TO VERIFY QUALITY ADHERENCE LIVE IN THE PROCESS. THIS ENABLES US TO PROVIDE OUR CUSTOMERS WITH ELECTRONIC COPIES OF ALL QUALITY DOCUMENTATION.

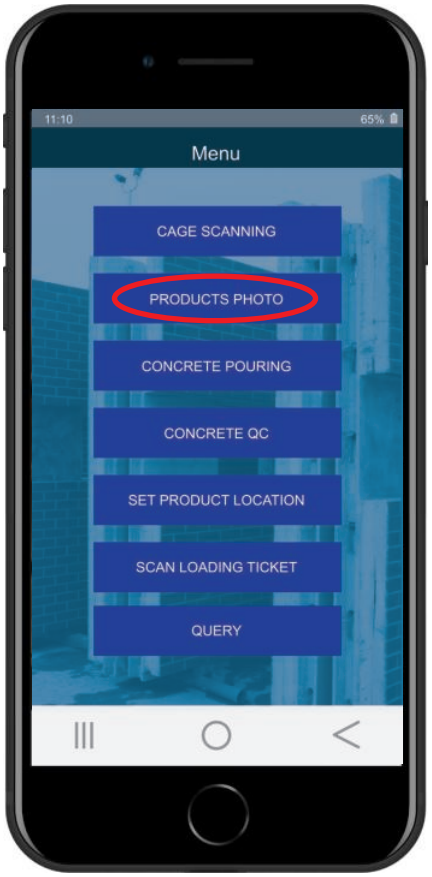
The foundation of the FP McCann product traceability app is a unique serial number for every piece cast: (Cast No/Element ID and computer generated 6 digit Cast ID).



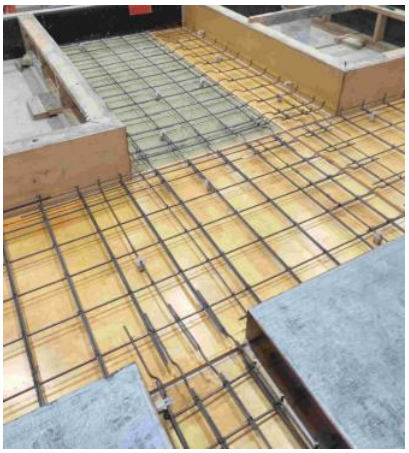
Every product has its own totally unique serial number and all quality and production records are captured at this unique serial number as it progresses through the business.

- The required documents are validated to have been uploaded daily at our morning meetings.
- Customer Packs are ran straight from our main database containing all quality records captured from live electronic records as the product has moved through production - including pre-pour photographs.
- We record the batch(s) of concrete used in every product which link to the exact materials used and relevant concrete tests.

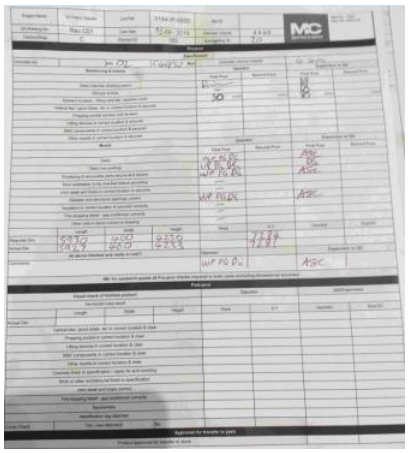
PRODUCT DOCUMENTS AND PHOTOS AUTOMATICALLY NAMED AND FILED ON NETWORK DRIVE



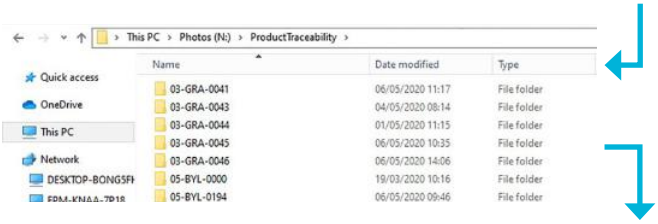
E.G. PRE-POUR PHOTOS



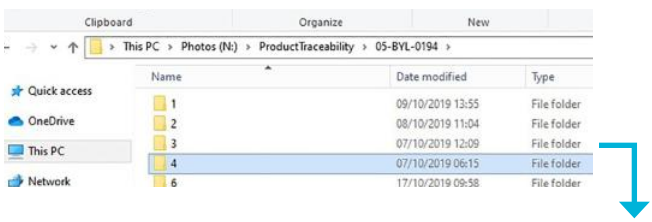
E.G. CHECK SHEETS



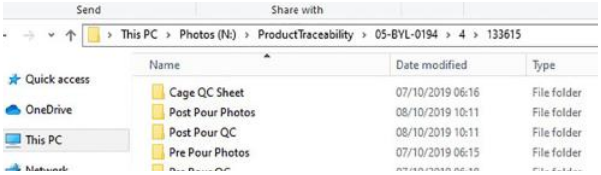
BY CONTRACT



BY ELEMENT



BY DOCUMENT CATEGORY



PRODUCT TRACEABILITY APP

EVERY SERIALISED ITEM IS SCANNED ONTO THE LOADING TICKET TO VERIFY THAT ONLY QUALITY APPROVED PRODUCT AND THE CORRECT QUANTITY OF PRODUCT IS SCANNED. ONLY THEN CAN THE DISPATCH TICKET BE PRINTED.

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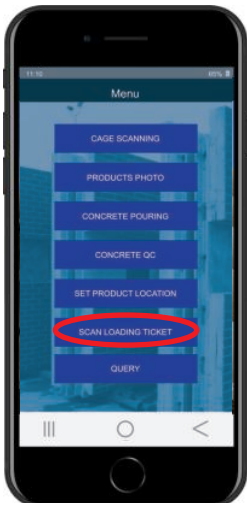
Loading Ticket
Page 1 of 1

Customer	Customer Delivery Site	Despatch Depot
RUSSELLS - ST PETERS SQUARE DESIGN 05BYL 0194	3 St Peters Square 3 St Peters Square M2 3DF	BYLEY DEPOT BYLEY LANE MIDDLEWICH CHESHIRE ENGLAND CW10 016 06843500

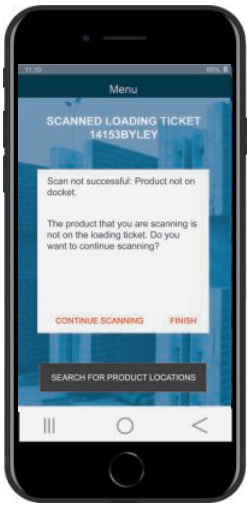
Docket No.	14153/BYLEY
Cust Ord No.	16709/8020
FP Ord No.	269/BYLEY
Date	23-Jan-2020
Site Code	

USED FOR AUTO DOCKET SCANNING KEEP CLEAR
DK: 14153BYLEY

Quantity	Product	Quality	Weight	
1	PRE 05-BYL-0194-IW-0284 Internal Wall 1080 x 250 x 2880	1 st	1.76	Loaded
Special Product Notes:				
1	PRE 05-BYL-0194-IW-0283 Internal Wall 1250 x 250 x 2880	1 st	2.06	Loaded
Special Product Notes:				



Scan loading ticket. Select "Search for Product Locations" (Can see location and QC Status)



Will not allow you to scan Products that are not in "Finished Goods", wrong Products or too many of a product.

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Delivery Ticket
Page 1 of 1

Customer	Customer Delivery Site	Despatch Depot
RUSSELLS - ST PETERS SQUARE DESIGN 05BYL 0194	3 St Peters Square 3 St Peters Square MANCHESTER GREATER MANCHESTER M2 3DF Contact : -	BYLEY DEPOT BYLEY LANE MIDDLEWICH CHESHIRE ENGLAND CW10 016 06843500

Docket No.	14153/BYLEY
Cust Ord No.	16709/8020
FP Ord No.	269/BYLEY
Date	23-Jan-2020

USED FOR AUTO DOCKET SCANNING KEEP CLEAR
DK: 14153BYLEY

Quantity	Product	Weight	CE Cat. No.	Always Ensure Your Load Is Secure
1	PRE 05-BYL-0194-IW-0284 Internal Wall 1080 x 250 x 2880 Elem ID: 2775		*EN 14992	
1	PRE 05-BYL-0194-IW-0283 Internal Wall 1250 x 250 x 2880 Elem ID: 115		*EN 14992	

Unique element ID's captured on the Dispatch ticket. Cannot print Dispatch ticket until all the products are scanned onto it.

APPENDIX A

APPENDIX A

UK Concrete and Cement Industry Roadmap to Beyond Net Zero

UK concrete is essential, sustainable, protecting people, innovating, helping to tackle climate change and enabling great design

mpa UK Concrete

APPENDIX A



UK concrete is…

- **Essential** for our economy, homes, buildings, infrastructure and quality of life
- **Sustainable**, local and responsibly sourced
- **Protecting people** and properties against fire, flooding and other threats
- **Tackling climate change** and key to a net zero carbon economy
- **Innovating** to meet the future needs of society
- **Enabling great design** that enhances our communities

Contents

About UK Concrete

Concrete is the world's most versatile and sought-after man-made material, made by mixing aggregates with cement and water under strict planning and permitting conditions.

UK concrete, both ready-mixed and precast, is produced from around 1,000 sites nationwide.

Over 90 million tonnes is consumed in a typical year for an amazing range of uses which form the foundation and fabric of our built environment, both onshore and offshore, above ground, on the ground, and below our feet.

UK Concrete is part of the Mineral Products Association (MPA), the trade association for the aggregates, asphalt, cement, concrete, dimension stone, lime, mortar and silica sand industries, and has been set up to represent the UK's concrete industry.

This UK Concrete roadmap to beyond net zero builds on and replaces the UK Cement Industry 2050 Greenhouse Gas Strategy published in 2013.

The UK Concrete roadmap has been developed together with MPA Cement and aligns with the Global Cement and Concrete Association's carbon neutral climate ambition and Cembureau's carbon neutrality roadmap.

The concrete and cement sector is a key part of a combined mineral products industry, which contributes around £18bn to the UK's GDP and directly employs 74,000 people, supporting a further 3.5m jobs.

APPENDIX A

Beyond net zero

The consequences of climate change are clear.

Government has committed to deliver net zero emissions by 2050 and the actions we all take today and over the next decades will determine whether we succeed.

Concrete, and the cement used to make it, are essential materials for our economy and our way of life. New homes, schools, hospitals, workplaces, roads and railways, as well as the infrastructure that provides us with clean water, sanitation and energy all require these materials.

UK Concrete represents the UK concrete and cement industry, which is committed to playing its part in the transition to a net zero economy.

There is an opportunity to deliver a net zero concrete and cement industry, reduce emissions from the built environment and support the delivery of the Government's net zero target. We also have the potential to deliver beyond net zero by 2050 – removing more carbon from the atmosphere than we produce each year.

Our industry has a strong track record having already delivered a 53% reduction in absolute carbon dioxide emissions since 1990 – decarbonising faster than the UK economy as a whole.

We are committed to building on this early action. This is why the UK concrete and cement industry has prepared this detailed and viable roadmap that sets out a clear pathway to reduce emissions to beyond net zero.

We are under no illusion about the scale of the challenge facing our industry and the action required. Achieving net zero will require the wholesale decarbonisation of all aspects of concrete and cement production, supply and use. The concrete and cement industry as one sector alone cannot deliver net zero and we will only be able to go beyond net zero with concerted support from Government, as well as with significant change across the wider construction, energy and transportation sectors.

The UK needs to achieve net zero by reducing emissions from all of the materials manufactured and used in the UK without the risk of 'carbon leakage'. Carbon leakage not only moves production emissions offshore but also investment, jobs and economic value, so it is false accounting to use the import of construction materials to reduce UK manufacturing emissions yet increase global emissions.

The UK has the potential to be self-sufficient in the manufacture of concrete and cement, with all of the key raw geological materials abundantly available. Over 95% of UK concrete is already produced in the UK. However, effective regional and national public policy will be needed to maximise the economic value of these UK resources and retain national control over the emissions our society creates.

Our roadmap sets out a credible pathway to delivering net zero concrete and cement by 2050 together with our recommendations about the framework, policy and cross-industry collaboration that are required.

APPENDIX A

UK concrete and cement carbon emissions

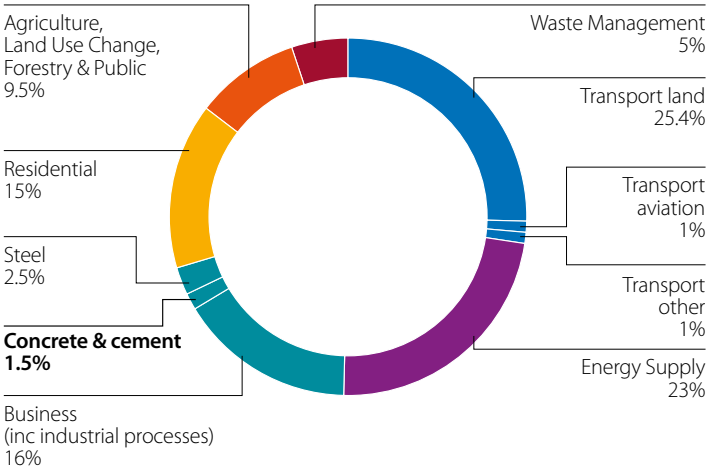
UK concrete and cement currently account for around 1.5% of UK carbon dioxide emissions, five times lower than the global average where cement accounts for around 7% of emissions. Early action by the UK concrete and cement industry has resulted in emissions already being 53% lower than 1990.

UK carbon dioxide emissions from concrete and cement were 7.3 million tonnes in 2018; around 4.4 million tonnes of this was 'process emissions' from clinker production, 2.2 million tonnes from fuel combustion and the remainder from electricity use and transport.

Concrete is a mix of aggregates, cement and water. The principal ingredient in cement is clinker. Clinker production is the main source of carbon dioxide emissions. These arise from the combustion of fuels in the kiln and from 'process emissions' which are a by-product of the chemical reaction that makes clinker. This makes decarbonisation more challenging than simply switching fuel sources, which is the only option for many other industries.

The industry has taken considerable early action and due to investment in fuel switching, changes in product formulation, and energy efficiency including plant rationalisation, direct and indirect emissions are 53% lower than 1990.

Sector contributions to 2018 UK greenhouse gas emissions



Concrete and cement manufacture, transport and use today

Quarrying raw materials + CO_2

Limestone and other raw materials are quarried on-site or nearby. Emissions arise mainly from fuel and electricity for transport, quarry machinery, crushing and processing.

Raw material preparation + CO_2

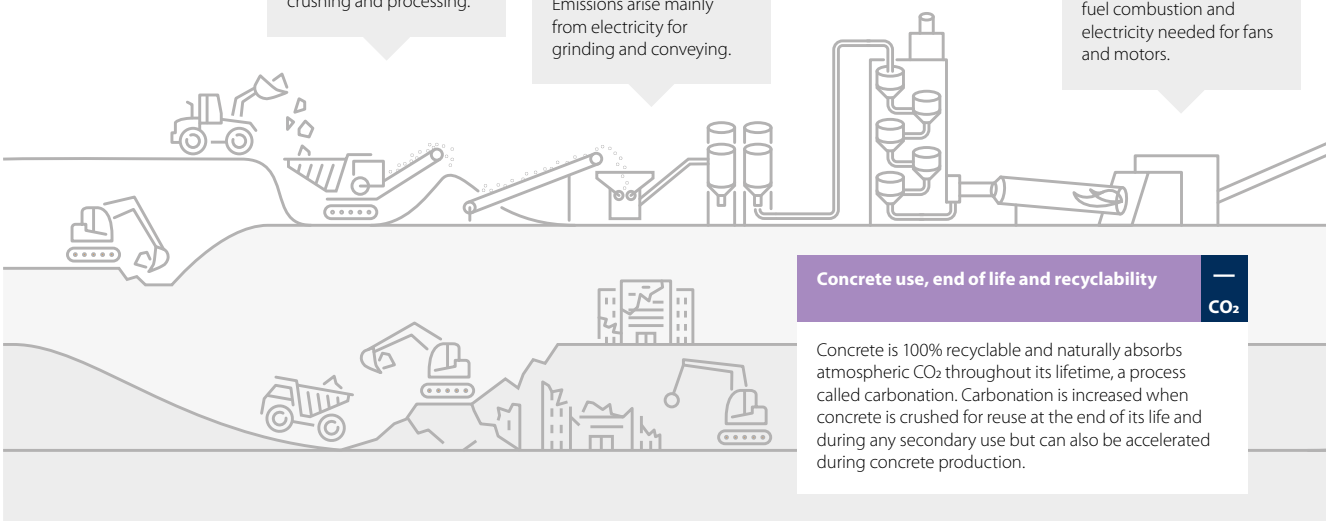
The raw materials are combined by grinding. Emissions arise mainly from electricity for grinding and conveying.

Preheating and calcination + CO_2

The raw materials are preheated to around 900°C using recovered heat and fuel. The main emissions are from fuel combustion and the calcination process when CO_2 separates from the limestone.

Clinker formation in the kiln + CO_2

Clinker is produced by further heating the raw materials to 1,450°C. The main emissions arise from fuel combustion and electricity needed for fans and motors.



Concrete use, end of life and recyclability − CO_2

Concrete is 100% recyclable and naturally absorbs atmospheric CO_2 throughout its lifetime, a process called carbonation. Carbonation is increased when concrete is crushed for reuse at the end of its life and during any secondary use but can also be accelerated during concrete production.

APPENDIX A

UK cement manufacturers have already invested hundreds of millions of pounds in decarbonising by:

- adopting the latest available technology;
- developing lower carbon cements and concretes, for example, by replacing clinker with lower carbon cementitious materials;
- switching from traditional fossil fuels such as coal and petcoke to the use of waste, waste biomass and waste part-biomass fuels. These alternative fuels now account for 43 per cent of the fuel used, replacing the equivalent of half a million tonnes of coal every year.

To get to net zero and beyond, we understand that significant technological, structural and behavioural changes are required by our industry, clients and specifiers of construction materials across buildings and infrastructure, and we stand ready to supply the information, tools, advice and materials needed for the transition.

In addition to the significant efforts to reduce carbon emissions, the concrete and cement industry has made significant progress in other areas to enhance its sustainability credentials:

- Concrete is a locally produced material with an established, national supply chain – the average delivery distance for ready-mixed concrete is only 12km.
- Over 95% of UK concrete is produced in the UK. By comparison, 67% of timber and 60% of steel is imported from around the world.
- Over 90% of UK concrete is certified as 'very good' or 'excellent' by the 'BES 6001 Responsible Sourcing of Construction Products' framework.
- Concrete is 100 per cent recyclable. Almost none goes to landfill and 90% of hard construction and demolition waste is recycled as aggregates.
- The industry is a responsible landowner, working closely with bodies including Natural England, the Wildlife Trusts and the RSPB to enhance biodiversity. Between 2009 and 2019 MPA members planted 1.5 million trees and 100km of hedgerows and have created 8,000 hectares of priority habitats.
- The concrete industry is a net consumer of waste, using over 200 times more waste and by-products from other industries than the waste it sends to landfill.

Clinker cooling and storage CO_2

Air is used to cool the clinker. Recovered heat is used for preheating, avoiding additional emissions.

Milling and blending + CO_2

Clinker is ground with gypsum and other materials to produce cement. Emissions arise from electricity needed to grind and blend the hard clinker and cementitious materials.

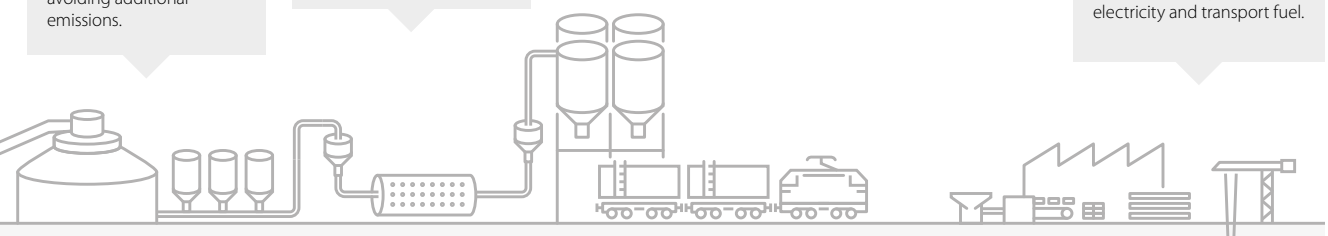
Cement despatch + CO_2

Cement is stored in silos then despatched in bulk tankers or in bags by road or rail.

Emissions arise mainly from transport fuel.

Concrete production and delivery + CO_2

Cement and other cementitious materials are combined with water and aggregates to produce a range of concrete products. Emissions mainly arise from electricity and transport fuel.



Built environment – CO_2

Concrete's thermal performance properties are helping construct highly energy efficient buildings and infrastructure. Thermal mass is a property of concrete and masonry, where heat can be absorbed, stored and released slowly. Concrete buildings with high thermal mass generally have lower energy requirements and emissions from heating and cooling.

APPENDIX A

Our roadmap explained

While the UK Government is aiming for net zero by 2050, the concrete and cement sector is aiming to go beyond net zero and become net negative, removing more carbon dioxide from the atmosphere than it emits each year.

Our roadmap is a credible strategy to deliver beyond net zero and it draws on input from all major UK concrete and cement manufacturers.

The roadmap is based on a comprehensive review of the opportunities to decarbonise and a robust net zero model developed by the Mineral Products Association (MPA) using credible references and industry expertise.

Importantly, this model does not rely upon carbon offsetting or offshoring emissions but demonstrates a pathway to beyond net zero through the application of a range of deployable technologies.

In our roadmap, we optimise the application of existing and emerging manufacturing technologies including energy efficiency, fuel switching, low-carbon cements and concretes, and carbon capture, use or storage (CCUS) to deliver net zero.

This roadmap is not intended as a lifecycle assessment, but it does include some of the unique whole-life performance credentials of concrete, in use and at end of life. This notably includes carbonation, the ability for concrete to absorb carbon dioxide during its use, and the benefit of using the thermal properties of concrete in buildings to reduce operational emissions.

These natural, in-use properties of concrete reduce carbon and energy. When the carbon reduction of natural carbonation and thermal mass is accounted for in the roadmap it demonstrates how concrete and cement can go beyond net zero and become net negative.

The UK concrete and cement industry supports net zero domestic production, helping to boost economic value and jobs in the UK while meeting the highest environmental standards.

We do not believe that the UK's carbon budgets should be met or partially met by importing goods rather than manufacturing construction materials in the UK.

Key takeaways

1. **The UK concrete and cement sector is aiming to go beyond net zero and become net negative, removing more carbon dioxide from the atmosphere than we emit each year.**
2. **The roadmap does not rely upon carbon offsetting or offshoring emissions.**
3. **The UK's carbon budgets should not be met or partially met by importing goods.**

APPENDIX A

Assumptions

This roadmap is based on the UK's current level of production of cementitious materials, which was 11.8 million tonnes in 2018, and a concrete production of 90 million tonnes in 2018.

As with all roadmaps for complex and specific industries, we have made a number of considered assumptions in our model for 2050. In the MPA beyond net zero model we assume:

- The electricity grid will be almost decarbonised by 2050.
- Transport will be almost decarbonised by 2050.
- There will be sufficient zero carbon fuels including biomass waste and hydrogen for cement production.
- Carbon capture for cement production is technologically deployable.
- The UK has appropriate infrastructure for CO_2 transport, storage and utilisation.
- Product and design standards allow for lower carbon cement formulations and these are adopted by the market.
- Concrete naturally absorbs CO_2 throughout its lifetime, effectively acting as a carbon sink, due to a process referred to as carbonation. This roadmap assumes the global average rate of natural carbonation of 23%.
- The use of concrete's thermal mass properties can reduce the energy required for heating and cooling buildings. This energy reduction provides an indirect CO_2 saving until energy supply is fully decarbonised.
- MPA calculations show that in 2018 thermal mass had the potential to result in a 0.26% year on year saving of UK electricity consumption. The building stock expected to be in use without the need for air conditioning will have increased by 2050. Therefore, by 2050 the cumulative estimated saving will have grown to 14% of 2050 electricity consumption.

Not included in the model

- The model illustrates a potential pathway for the decarbonisation of UK manufactured concrete and cement. Consequently, we have excluded emissions from overseas imports of concrete and cement consumed in the UK.
- The model does not include offsetting using international credits or local action such as tree planting. The tree planting and habitat creation undertaken by MPA members is therefore an additional environmental benefit.
- The model does not include an allocation for the embodied carbon of the construction materials used to build concrete and cement production plants e.g. steelwork and cabling.
- The model does not include an allocation for the potential carbon savings associated with adopting more efficient and lean design of concrete structures. For example, the use of visual concrete reduces the volume of concrete needed and avoids the need for other materials.
- As the model is not a lifecycle assessment, the emissions of the non-cementitious constituents of concrete, such as aggregates, reinforcing steel and admixtures, are not included.
- CO_2 curing, which can be used to accelerate the natural carbonation process of concrete, is not included in the model.

APPENDIX A

Levers for change

There are no silver bullets to mitigate climate change or achieve net zero emissions; decarbonising UK cementitious materials and concrete will require a portfolio of seven technology levers. Most of these will need to be supported by Government and local public policy over the long term and all will require concerted action and investment.

The following presents the emissions reduction potential of deploying these technology levers, with savings expressed as per tonne of cementitious material.

Contribution to net zero from each technology lever by 2050

Indirect emissions from decarbonised electricity

Saving

27.05

$kgCO_2/t$

-4%

CO_2 reduction

Decarbonising the electricity grid encourages the electrification of the industry. Decarbonising technologies that require electricity include plasma energy and CCUS. Using technologies such as these could increase electricity use by 80% to 130%.

Advanced manufacturing techniques, such as artificial intelligence (AI) and automation, will deliver efficiencies in the operation of concrete and cement plants.

Transport

Saving

44.45

$kgCO_2/t$

-7%

CO_2 reduction

Decarbonising delivery transport is realised through a move away from petrol and diesel. Investment in new fleet and reducing road transport miles reduces carbon emissions.

Through investment in infrastructure, the industry has increased its use of rail freight, supporting a modal shift from road to rail and a reduction in transport emissions.

Low carbon cements and concretes

Saving

76.28

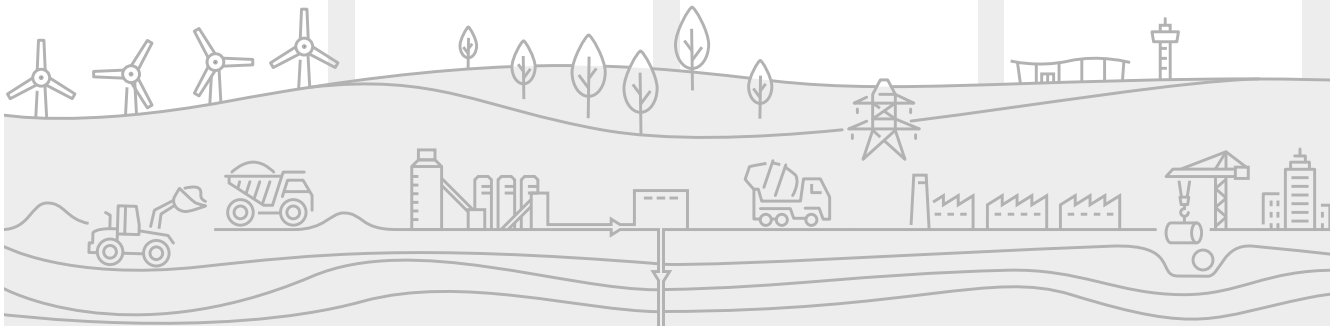
$kgCO_2/t$

-12%

CO_2 reduction

Innovations in concrete mix design, to utilise lower emission constituents, are enabled by revisions to product and building standards. These low carbon products are adopted and used increasingly in our built environment.

Research and development in clinker content, alternative binders and cement formulations reduce carbon emissions.



APPENDIX A

Contribution to beyond net zero

Fuel switching

Saving

99.45

$kgCO_2/t$

-16%

CO_2 reduction

The availability of biomass wastes is sufficient to generate over 70% of the heat used for cement production.

UK investment in hydrogen production, delivery networks and successful industry research enables the use of hydrogen, plasma or other new heating technologies.

Carbon capture, usage and storage (CCUS)

Saving

390.97

$kgCO_2/t$

-61%

CO_2 reduction

UK investment in infrastructure and successful industry research enables the use of CCUS technologies. This transformative technology represents the most significant and technically disruptive investment in the roadmap.

The CO_2 reduction of 61% enables the industry to achieve net zero manufacture by 2050. The use of CCUS and biomass have the potential to make a greater contribution to the roadmap and achieve net negative emissions.

Carbonation

-12%

Further CO_2 reduction

Carbonation, the process where concrete absorbs CO_2 from the atmosphere throughout its lifetime, is recognised in UK accounting of greenhouse gases.

When the global average carbonation rate of 23% is applied to the UK this means that it can contribute to a further 12% CO_2 reduction. By 2050, techniques to optimise and accelerate carbonation could be used to increase its contribution.

Thermal mass

-44%

Further CO_2 reduction

Thermal mass is a property of heavyweight materials like concrete and masonry where heat can be absorbed, stored and released, reducing the energy needed to heat and cool buildings. The use of lifecycle assessment and post-occupancy evaluations demonstrate the carbon and energy savings from smart thermal mass contributing to the demand side response to climate change.

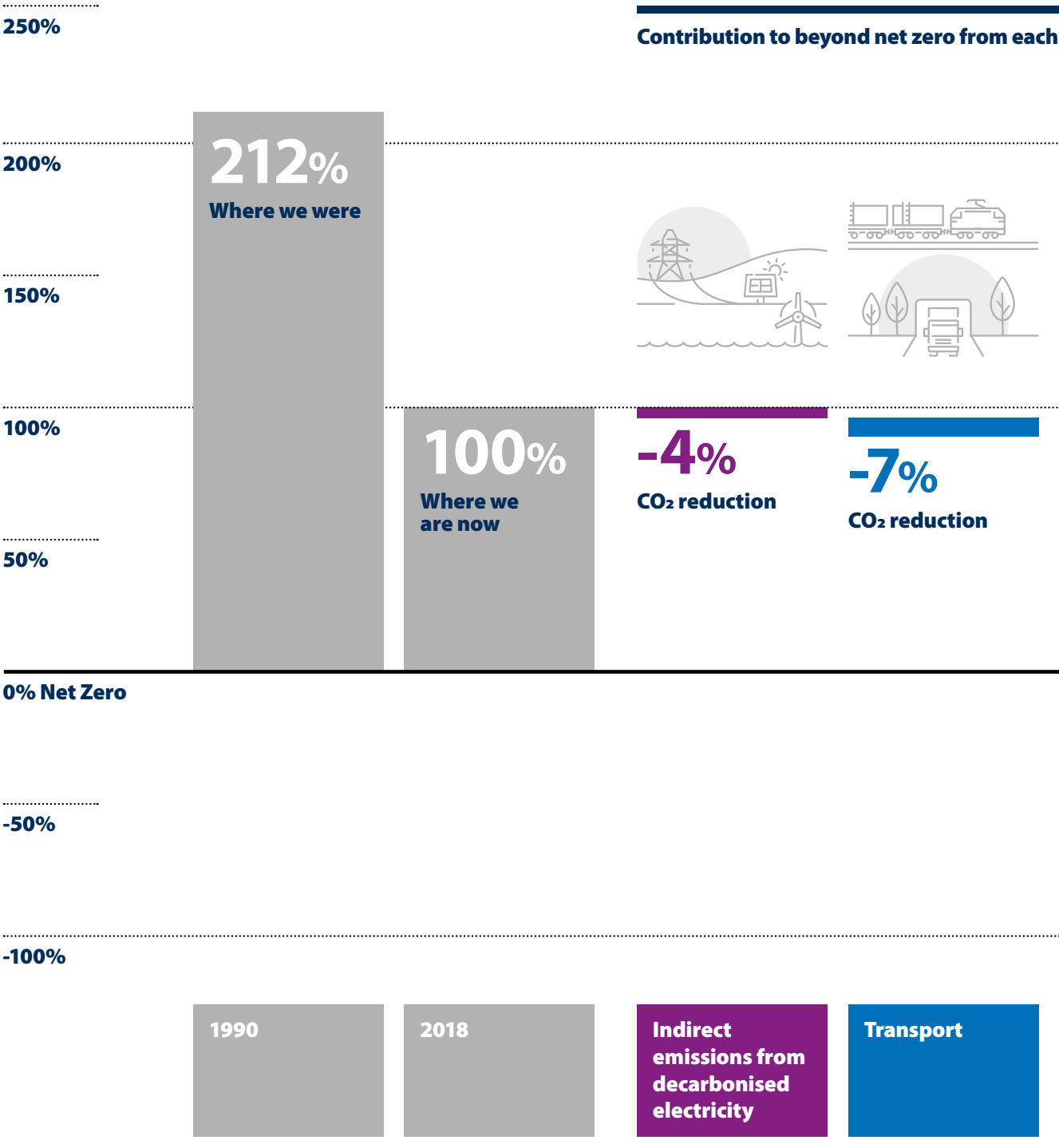
The cumulative deployment of concrete's thermal mass produces a building stock which has an estimated 14% saving of 2050 UK electricity consumption from avoided heating and cooling. This equates to 44% of 2018 concrete and cement emissions levels.

APPENDIX A

Beyond net zero: our roadmap in numbers

Absolute 2050 CO_2 emissions reductions compared to 2018

Delivering beyond net zero is not a linear process but we forecast that seven technology levers will play an important and active part in delivering beyond net zero for concrete and cement.



APPENDIX A

technology lever

-12%
CO_2 reduction

-16%
CO_2 reduction

-61%
CO_2 reduction

-12%
Further CO_2 reduction

-44%
Further CO_2 reduction

Low carbon cements and concretes	Fuel switching	Carbon capture, usage and storage (CCUS)	Carbonation	Thermal mass

APPENDIX A

Collaboration and partnership

Rising to the challenge of net zero emissions will require significant behavioural and technological changes across society. Economists are confident that in the long term the cost of climate inaction will outweigh the cost of action. Importantly though, this high-level assumption does not consider that the short term costs could considerably outweigh the short term benefits with consequential impacts on UK businesses and jobs.

It is vital to ensure a 'just transition', which maintains the competitiveness of UK manufacturing and jobs, and which is fair to consumers and society. As part of this, it is also important that UK territorial emissions are not replaced by carbon leakage where imported goods shift the environmental issue abroad, driven by unequal carbon cost.

Implementing the technological changes to decarbonise concrete and cement manufacturing will require significant long term action and investment by the sector.

There are a number of actions required by Government and industry:

Government – net zero enablers

CO_2 accounting

Set a national net zero goal on consumption emissions, in addition to current targets for territorial emissions, to ensure net zero is not met or partially met by closing UK manufacturing and importing goods instead.

Improve the accuracy of UK emissions reporting by ensuring national greenhouse gas accounting includes the CO_2 permanently captured and stored by the carbonation of concrete.

Regulation

Ensure that the UK electricity system is regulated to provide decarbonised electricity at internationally competitive prices to industrial customers throughout the transition to net zero.

Provide regulatory certainty in climate change policy to create long term visibility for company capital investment programmes, which have long payback periods.

Require that CO_2 emissions from buildings and infrastructure are assessed over their whole-life and introduce this principle into public procurement policy.

Finance

Provide financial support to assist energy intensive industries with transitional support for research, innovation and deployment of low carbon technologies, including:

- Support the provision and use of biomass and waste biomass in directly fired operations/industrial combustion activities (equivalent to the support offered to boilers and heaters).
- Introduce a 'Beyond Net Zero Cement Support Programme' to finance a commercial scale UK cement industry waste biomass fuelled carbon capture demonstrator.
- Announce a robust financial support model for the capital and operational costs of carbon capture no later than 2021, so that the technology can be developed, deployed and become an investable proposition in the 2030s.
- Support for the development of CO_2 utilisation processes and markets for products consuming captured CO_2 to enable emissions removals.

APPENDIX A

Underpinning this is the need for aligned investment in the infrastructure that is required to enable the decarbonisation of concrete and cement manufacturing and its value chain. This includes, for example, decarbonised transport, decarbonised electricity and energy, CO_2 transport, storage and utilisation, as well as changes to codes and standards for concrete.

There is a need for long term support for hard-to-abate sectors from Government similar in scale to the policy and financial support that has driven renewables development and deployment.

As renewable energy has become much more cost competitive there should be scope to refocus Government support for essential energy intensive industries, where deep decarbonisation, and the parallel investment in enabling infrastructure, currently presents unmanageable competitive or financial risk.

As a major consumer of mineral products, Government can also help to promote locally produced construction materials, support local economies and exercise precautionary climate change adaptation.

Government and industry will need to work in close collaboration, to build a shared understanding and pathway to net zero, one where policy, financial and infrastructure enablers are coordinated to support the sector's decarbonisation and to manage a just transition.

Industry – technology and infrastructure accelerators

Infrastructure

Support the creation of a public and/or private UK CO_2 transport and storage (T&S) network available to all cement producers and to underwrite the main costs and risk of T&S.

Support the development of a zero carbon gas (hydrogen/biomethane) network and market at cost competitive prices.

Standards

Work with stakeholders and the supply chain to accelerate the development and use of standards to promote lower carbon cements and concretes.

Ensure that embodied and operational CO_2 are never separated to ensure that comparisons are made on a whole-life basis.

Product development

Source and invest in new low carbon raw materials such as pre-calcined raw materials to accelerate low carbon product development.

Develop lower clinker cements and concretes, alternative binders and cement formulations. Promote and facilitate use of these innovative materials.

Process development

Investigate modification of the manufacturing process to optimise application of decarbonised electricity, incorporate capture technology and switch to low carbon fuels.

Optimise the use of waste biomass as a replacement for fossil fuels to ensure that the maximum value is gained from waste biomass and investigate innovative energy sources such as hydrogen and electrification of heat.

Key takeaways

1. **Industry and Government must work in close collaboration to develop a shared understanding and pathway to net zero.**
2. **A 'just transition' to net zero should not compromise the competitiveness of UK manufacturing and jobs nor export emissions abroad.**
3. **Long-term investment from Government will be required to support essential energy intensive industries to decarbonise.**

APPENDIX A

Measuring success and next steps

The UK concrete and cement industry's journey to beyond net zero will be underpinned by transparent reporting and proactive engagement with Government and stakeholders.

Robust UK greenhouse gas accounting

The MPA believes that for the UK to provide a robust account of its progress to net zero it needs to take responsibility for emissions from both materials and goods produced in the UK as well as those that the UK imports and consumes. As part of this, a significant shortcoming in UK net zero legislation is that emissions targets can be met or partially met by simply offshoring emissions.

The Office for National Statistics has recently highlighted the divergent trend between the UK's territorial emissions and consumption-based emissions including the net import of goods. This divergent trend highlights that the UK is increasingly offshoring its environmental responsibility. For concrete and cement this currently equates to 2.6 million tonnes of foreign manufactured cement and 1.85 million tonnes of CO_2 that the UK is not taking environmental responsibility for.

It is recognised that the UK concrete and cement industry represents a hard-to-abate sector and this roadmap is a significant milestone on the UK's path to net zero by 2050. Concrete and cement can also make an immediate contribution by adopting a national carbonation factor into UK greenhouse gas accounting. The MPA is working to demonstrate to UK Government the quantum of carbon absorption provided by the carbonation of UK concrete to establish this national carbonation factor.

The journey to beyond net zero concrete and cement

The UK concrete and cement industry is already committed to transparency and publishes reports detailing its environmental performance, including CO_2 emissions, every year.

The changes needed to enable the industry to meet our beyond net zero emissions target will require a collaborative approach, working proactively with all levels of Government and local policy makers as well as the wider construction, energy and transportation sectors.

As an example, the MPA is currently working collaboratively to develop, test and demonstrate low carbon multi-component cements. Additionally, in partnership with the Department for Business, Energy & Industrial Strategy (BEIS), the MPA is trialling innovative fuel mixes involving biomass, hydrogen and plasma technology to demonstrate that a 'net zero' fuel mix, with no reliance on fossil fuels, is possible.

Moving forward, the industry will report progress against the projects and innovations that will enable the carbon reduction contribution of the technology levers detailed in our roadmap to be realised.

A net zero built environment – a concrete commitment

Concrete is the world's most versatile construction material and is essential for our economy and our way of life, now and in the future. The whole-life performance credentials of concrete, including being 100% recyclable at end of life, mean that concrete is an essential part of a sustainable, circular, net zero economy.

For well over a decade, the concrete and cement sectors have been working, alongside other constituent materials such as aggregates, admixtures and reinforcement steel, as part of the concrete industry Sustainable Construction Strategy. The strategy reports on a number of indicators associated with industry performance including CO_2, and to date has focused on actions that are in the direct control of the industry.

Through MPA The Concrete Centre, the industry supports proactive engagement with clients and specifiers to provide technical best practice. This enables professionals working across the built environment lifecycle to design in concrete and achieve the highest sustainability standards and meet design codes. A key focus of this industry investment is to promote the efficient use of concrete and cement as well as aid the construction of low carbon buildings and infrastructure.

Moving forward, the 2020 revision of the UK Concrete Sustainable Construction Strategy to 2030 recognises the need to accelerate the adoption of lower carbon concrete. While these lower carbon materials are being produced and widely available now, current uptake is slow and increased efforts will be made to promote their sustainability benefits. Similarly, the Strategy calls for an increase in expertise on how to design out carbon and design in material efficiency, resilience, wellbeing and biodiversity.

Significant collaborative effort throughout the supply chain and the wider construction sector is needed to embed more sustainable behaviours and enable the technologies to be deployed that can achieve beyond net zero for concrete, for buildings, for infrastructure and deliver the climate mitigation and adaptation needed to protect UK society. This detailed and viable roadmap is part of a clear pathway to achieving these goals.

Key takeaways

1. **Delivering beyond net zero requires our industry and all levels of Government together with the wider construction, energy and transportation sectors to work collaboratively.**
2. **We need to accelerate the uptake of lower carbon concrete and embed more sustainable behaviours across the construction industry.**
3. **The concrete and cement industry will report progress against the projects and innovations outlined in the roadmap that will enable it to reach and go beyond net zero.**

APPENDIX A

Glossary

Aggregates: the major component of concrete by volume are aggregates including gravel, sand and crushed rock. Most are naturally occurring and inherently low carbon products that require little processing and are usually locally sourced. Secondary aggregates, which are typically industrial by-products, may also be specified for use in structural concrete. For example: china clay waste is a secondary granite aggregate and blast-furnace slag aggregate is a by-product of the iron and steel industry.

Biomass: the use of organic materials for the production of a renewable source of energy. In cement production today, the biomass is sourced from waste remaining after a previous use. This includes waste packaging, processed sewage pellets, waste textile fibres or the natural rubber fraction of tyres.

Carbonation: the ability of concrete to naturally absorb carbon dioxide from the atmosphere throughout its lifetime, at end of life and in any secondary use.

Carbon capture, usage and storage (CCUS): a process which enables carbon dioxide emissions to be captured rather than released into the atmosphere. Captured emissions are either locked-up in long-term storage or used in other industrial processes, e.g. for the accelerated carbonation of concrete.

Carbon dioxide (CO_2) curing: using carbon dioxide as an alternative to water to 'cure' or allow concrete to achieve its desired characteristics and strength. This not only speeds up this process but also accelerates the natural capture of carbon dioxide from carbonation.

Carbon emissions: the release of the greenhouse gas carbon dioxide into the atmosphere.

Carbon leakage: the displacement or increase in global emissions resulting from businesses relocating their production, investment and associated emissions abroad. This can occur when a carbon price leads to certain industrial activities being at a competitive disadvantage compared to their counterparts in countries without an equivalent carbon cost.

Carbon offsetting: compensating for emissions produced by purchasing 'carbon credits' or funding separate carbon-saving projects that are equivalent, in full or in part, to your own impact.

Carbon sink: a natural or artificial entity that absorbs and stores some carbon from the atmosphere for an indefinite period. The removal of carbon dioxide from the atmosphere by a carbon sink is a process known as carbon sequestration.

Cement: the hydraulic binder which acts like a glue to fuse the ingredients of concrete together allowing it to set, harden and strengthen. It is a powdery material manufactured by heating raw materials including limestone and clay to high temperatures in a kiln to create clinker, which is then ground with gypsum and other materials to produce grey Portland cement.

Cementitious: having the characteristics of, or relating to, cement. Secondary cementitious materials (SCMs) are generally by-products of other industrial processes such as fly ash and ground granulated blast furnace slag (GGBS) that are used as part of cement or concrete.

Clinker: the principle constituent of cement, clinker is produced by heating raw materials such as limestone with other materials such as clay to 1450°C. Its manufacture is typically the most energy and emissions intensive part of cement and concrete production.

Concrete: the most widely used, versatile construction material in the world, made of coarse aggregate such as crushed rock and gravel, fine aggregate such as sand, water and cement. Concrete is available as ready-mixed and precast concrete products including blocks, pipes and tunnel sections.

Consumption emissions: emissions associated with the production of goods consumed in a region or country. This includes emissions from products and goods manufactured domestically and those that are produced outside of the region or country and imported.

Direct/indirect emissions: greenhouse gases emitted from activities under the industry's control such as from burning fuel for cement production are direct emissions; those from sources outside of its control including from the electricity it purchases are indirect emissions.

Embodied carbon: the carbon dioxide emitted during manufacturing or production of a material or asset up to the point of use.

Energy intensive industries: sectors and industries where energy usage and costs are a high proportion of production costs and which include companies that are typically exposed to international competition.

Hard-to-abate sectors: large-scale, heavy industrial sectors which are recognised as requiring higher investment and policy support to fully decarbonise due to the complex chemical and thermodynamic characteristics of the production processes.

Net zero: the achievement of an overall balance between carbon dioxide emitted and the amount that is removed from the atmosphere.

Net negative / beyond net zero: removing more carbon dioxide from the atmosphere than is emitted overall.

Plasma energy: thermal energy generated by the ionisation of pressurised inert gas passing through an electric arc.

Process emissions: in cement manufacture, the carbon dioxide emitted from the breakdown of limestone raw materials when exposed to high temperature during the calcination process of clinker manufacture. During calcination carbon dioxide separates from the calcium carbonate (limestone) when it is heated to around 900°C.

Thermal mass: the property of heavyweight materials e.g. concrete and masonry, where heat can be absorbed, stored and released slowly. Buildings with high thermal mass generally have lower energy requirements for heating and cooling and active thermal mass management can help to lessen the demand on energy grids.

Whole-life performance: for a building or structure, the means of measuring e.g. environmental and/or cost performance from construction all the way through its occupation or use to the end of life when it may be demolished or repurposed.

APPENDIX A

APPENDIX B

fpmccann.co.uk

Precast Concrete for the Building & Civil Engineering Industry:
Drainage
Shafts & Tunnels
Infrastructure & Power
Walling
Fencing
Railway
Agriculture
Room Solutions
Flooring
Specialist Products

14th May 2020

05-BYL 0466-HMP Wellingborough - Lessons Learnt

- A supply only contract relieves FPM of design duties but denies control over how the drawings are detailed and the numbering system that is used. It is difficult to persuade third party designers to design detail in accordance with our production planning and manufacturing processes. This means that 100% of the drawings have had to be re-interpreted for use with mesh machine and steel cage manufacture. The drawing numbering system has greater importance now that we are using impact and the traceability app etc.
- There will be clashes in design and these need to be planned for. An increased rate of inspection should be adopted by the designer and contractor to mitigate these prior to being communicated to the factory floor via manufacturing drawings. Approximately a third of the technical queries that have been raised have been due to clashes with reinforcing bars and lifters / cast-in items found in factory pre-pour inspections.
- Clearer directive regarding the supply of viewing pockets. These were missed off a number of drawings by Curtins when the project commenced; requiring a number to be revised. This meant there was a legacy of units produced without them that should have been managed by the contractor rather than the FPM Contract Manager.
- When a revised drawing has been required, Curtins have issued a sketch revised drawing followed by a later formal revised drawing. This has resulted in a duplication of work for the Design Coordinator.
- Clearer detailing of the M & E is required. There have been differences in the set-up of the conduits detailed on the GA drawings than the individual drawings of the conduits themselves. This has often been caused by a problem with the M & E model, where there have been faults such as a wrong reference used for the conduit, that have then been communicated onto the drawings.
- The factories have preferred to have the position of the conduits dimensioned to the centre line of the conduit tube rather than the edge of the wall of the first face of the back of the box.
- Colour coded drawings have been beneficial in communicating the use of Right-hand and left-hand windows etc.
- It would be better to have one or two dedicated engineers that can be contacted to advise on technical enquiries rather than using a platform such as 4P via the contractor. Phone calls and emails may bring a quicker response and resolution to matters.
- We should use our own software for deliverables rather than using a third party platform such as Dalux; this will prevent duplication of work and provide mutual benefits.
- It would be better for the factory if cast-in couplers can be used so that dowel bars can be fitted on site.
- It would be favourable to engineer out the use of surface retarders.

APPENDIX B

Precast Concrete for the Building & Civil Engineering Industry:
Drainage
Shafts & Tunnels
Infrastructure & Power
Walling
Fencing
Railway
Agriculture
Room Solutions
Flooring
Specialist Products

- Foresight needs to be clear concerning production scheduling. The total quantities of units required should be well communicated so that there is not a shortage of items and the end of the job.
- A larger range of the fittings such as windows, doors and heating mats should be made available at the commencement of the project. This obviously assists production sequencing and can protect against erroneous production. There needs to be parity between the availability of the drawings and cast-in items.
- Goods inwards should be controlled by the supplier and main contractor. Supplier's procedures need to be as robust as those adopted by FPM and these should be evidenced on the items being received.
- The window edges should be covered with a more suitable material than tape.
- The windows need to be coated thoroughly to prevent rust contamination.
- The use of directional arrows being affixed to the windows has been valuable.
- Prior to manufacture, it will be ideal if predetermined engineer's concessions could be approved for the remedial work that may be required for the correction of projecting bars, moved fittings etc. The NCR log/ Dalux could be analysed to identify the repeat issues.
- Where FIRAS accreditation is required it is of more advantage for the contractor to employ an accredited company to attend the factory to undertake the necessary work rather than for FPM to go to the expense and inconvenience of managing our own accreditation. However this may also provide an opportunity for commercial advantage if there is time to gain the accreditation and the contractor is willing to pay FPM to perform these tasks.
- KPIs should have relaxations based on storage and delays on site.
- The use of the Contract Manager as the one point of contact has been beneficial.
- The concrete needs to be floated to the back of the window frame. A tolerance for the execution of this should be established using the 1st units cast and approved by all parties.
- There needs to be a firm agreement regarding the right-on-time delivery schedule so that the correct number of trailers are released from site, with penalties that can be used as a deterrent because they are not too lenient.

Gareth Hughes
Technical Manager
F P McCann Ltd

APPENDIX C

Draft Financial Statements at 13 August 2020 at 15:22:28

FP MCCANN LIMITED

STATEMENT OF COMPREHENSIVE INCOME

FOR THE PERIOD ENDED 30 JUNE 2020

	Notes	6 mths ended 30 June 2020 £	6 mths ended 30 June 2019 £	12 mths ended 31 December 2019 £
Turnover	3	115,709,468	135,787,521	264,022,781
Cost of sales		(102,667,926)	(120,768,623)	(229,697,519)
Gross profit		13,040,542	15,018,898	34,325,262
Administrative expenses		(7,598,496)	(8,496,001)	(15,656,172)
Other operating income		14,270	3,456	2,112
Operating profit	4	5,456,316	6,526,353	18,671,202
Interest receivable and similar income	8	24,531	24,798	75,485
Interest payable and similar expenses	9	(156,191)	(329,131)	(586,518)
Profit before taxation		5,324,656	6,222,020	18,160,169
Tax on profit	10	123,233	(1,182,184)	(2,954,918)
Profit for the financial period		5,447,889	5,039,836	15,205,251

The profit and loss account has been prepared on the basis that all operations are continuing operations.

APPENDIX C

Draft Financial Statements at 13 August 2020 at 15:22:28

FP MCCANN LIMITED

BALANCE SHEET

AS AT 30 JUNE 2020

	Notes	£	30/06/20 £	£	31/12/19 £
Fixed assets					
Tangible assets	13		52,055,857		52,089,816
Current assets					
Stocks	14	31,374,500		35,633,800	
Debtors	15	40,347,723		38,946,461	
Cash at bank and in hand		15,510,889		7,253,068	
		87,233,112		81,833,329	
Creditors: amounts falling due within one year	16	(52,278,465)		(51,044,986)	
Net current assets			34,956,647		30,788,343
Total assets less current liabilities			87,012,504		82,858,159
Creditors: amounts falling due after more than one year	17		(4,375,801)		(5,689,445)
Provisions for liabilities	19		(5,398,214)		(5,398,214)
Net assets			77,238,389		71,790,500
Capital and reserves					
Called up share capital	22		40,000		40,000
Share premium account			48,745		48,745
Revaluation reserve			23,013,442		23,013,442
Profit and loss reserves			54,136,202		48,688,313
Total equity			77,238,389		71,790,500

The financial statements were approved by the board of directors and authorised for issue on ..... and are signed on its behalf by:

.....
E McCann
Director

.....
J McCann
Director

Company Registration No. NI013563

APPENDIX C

Draft Financial Statements at 13 August 2020 at 15:22:28

FP MCCANN LIMITED

STATEMENT OF CASH FLOWS

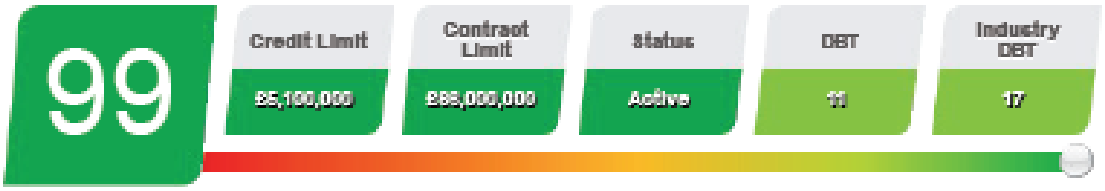
FOR THE PERIOD ENDED 30 JUNE 2020

	Notes	£	30/06/20 £	£	31/12/19 £
Cash flows from operating activities					
Cash generated from operations	24		10,532,488		27,098,777
Interest paid			(156,190)		(586,518)
Income taxes paid			(600,000)		(2,984,166)
Net cash inflow from operating activities			9,776,278		23,528,093
Investing activities					
Purchase of tangible fixed assets		-		(3,737,405)	
Interest received		24,531		75,485	
Net cash generated from/(used in) investing activities			24,531		(3,661,920)
Financing activities					
Proceeds from borrowings		-		278,888	
Repayment of borrowings		(48,482)		(48,481)	
Repayment of bank loans		(1,498,829)		(3,360,457)	
Dividends paid		-		(16,711,431)	
Net cash used in financing activities			(1,543,311)		(19,869,481)
Net increase/(decrease) in cash and cash equivalents			8,257,498		(3,308)
Cash and cash equivalents at beginning of period			7,253,088		7,256,376
Cash and cash equivalents at end of period			15,510,586		7,253,088
Relating to:					
Cash at bank and in hand			15,510,889		7,253,088
Bank overdrafts included in creditors payable within one year			(323)		-

APPENDIX D

creditsafe

Company Name:	FP MCCANN LIMITED
Company No:	NI013563
Safe No:	UK07009977
Company Status:	Active - Accounts Filed



Registered Address:	KNOCKLOUGHRIM QUARRY, 3,DRUMARD ROAD, MAGHERAFELT, BT45 8QA
Your Name:	Danielle Fullerton
Your User ID:	101061319
Date / Time:	8:45 Thursday, 13 August 2020

APPENDIX D

creditsafe

	Your Name:	Danielle Fullerton
	Your User ID:	101061319
	Date / Time:	8:45 Thursday, 13 August 2020
	Company Name:	FP MCCANN LIMITED
Limited Company Report Summary	Company Number:	NI013563
	Safe Number:	UK07009977

Company Summary

Registered Address	KNOCKLOUGHRIM QUARRY, 3,DRUMARD ROAD, MAGHERAFELT, BT45 8QA	**Trading Address**	Knockloughrim Quarry 3 Drumard Road Magherafelt Co.Londonderry BT45 8QA
Website Address	http://www.fpmccann.co.uk		
VAT Number	GB245876664	**Telephone Number**	02879642558
Fax Number		**TPS**	No
FPS	Yes	**Incorporation Date**	30/04/1979
		Previous Name	F.P. MCCANN LIMITED
Type	Private limited with Share Capital		
FTSE Index	-	**Date of Change**	01/09/2015
Filing Date of Accounts	12/03/2020	**Currency**	GBP
Share Capital	£40,000	**Charity Number**	-
SIC07	08110		
SIC07 Description	QUARRYING OF ORNAMENTAL AND BUILDING STONE, LIMESTONE, GYPSUM, CHALK AND SLATE		
SIC03	1411		
SIC03 Description	QUARRYING OF STONE FOR CONSTRUCTION		
Principal Activity	Road contractors, quarrying and manufacture of concrete products.		

Credit Score & Limit

99

Todays Score [1-100]	99
Previous Score [0-100]	99
Todays Limit	£5,100,000
Previous Limit	£6,400,000
Todays Contract Limit	£66,000,000

Based upon the company's latest industry classification, todays score of 99 places the company in the upper 25% of 375 companies sampled from the same industry

Score - Key Financials Filed / Established

Score	Description
71 - 100	Very Low Risk
51 - 70	Low Risk
30 - 50	Moderate Risk
21 - 29	High Risk
1 - 20	Very High Risk
Not Scored	Please see report for description

Score - Newly Incorporated

Score	Description
51 - 100	Low Risk
30 - 50	Moderate Risk
1 - 29	Caution - High Risk
Not Scored	Please see report for description

INTERNATIONAL SCORE	SCORE DESCRIPTION

FP McCann

INSPECTION AND TEST PLAN - General Reinforced Concrete Bespoke Products **Date 01/04/16 Rev A**

REV	LINE No.	ACTIVITY	TYPE OF CHECK	EXTENT OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE CRITERIA	VERIFYING RECORD	FP McCann	CLIENT
	1	**UNIT DRAWINGS**							
	1.1	UNIT DRAWINGS	RD	100%	CLIENTS/SUB CONTRACTOR DRAWINGS	APPROVED DRAWING	MANUFACTURING DRAWING	HP	
	1.2	DESIGN CONTROL	RD	100%	CLIENT/SUB CONTRACTOR ISSUE SHEET		DOCUMENT ISSUE SHEET	HP	
	2	**CONCRETE MIX DESIGN**							
	2.1	CONCRETE MIX DESIGN	RD	100%	Method Statement WPFSMS 01	BS EN 206 and BS 8500	FORM CMD1	S	
	2.2	CONCRETE CONFORMANCE	RD	100%	Method Statement WPFSMS 01	BS EN 206 and BS 8500	FORM CMD1 and CMD2	S	
	2.2.1	TOTAL CHLORIDE CONTENT	RD	100%	Method Statement WPFSMS 01	BS EN 206 and BS 8500	FORM CMD2	S	
	2.2.2	TOTAL SULFATE CONTENT	RD	100%	Method Statement WPFSMS 01	BS EN 206 and BS 8500	FORM CMD2	S	
	2.2.3	REACTIVE ALKALI CONTENT	RD	100%	Method Statement WPFSMS 01	BS EN 206 and BS 8500	FORM CMD2	S	
	2.3	MATERIAL CONFORMANCE							
	2.3.1	CEMENT	RD	100%	Method Statement WPFSMS 04	BS EN 197-1	SUPPLIER CERTIFICATES	S	
	2.3.2	COARSE AGGREGATE	RD	100%	Method Statement WPFSMS 04	BS 12620 and PD 6682	SUPPLIER CERTIFICATES	S	
	2.3.3	SAND	RD	100%	Method Statement WPFSMS 04	BS 12620 and PD 6682	SUPPLIER CERTIFICATES	S	
	2.3.4	WATER			Method Statement WPFSMS 04	BS 1008	MAINS SUPPLY	S	
	2.3.5	ADMIXTURE	RD	100%	Method Statement WPFSMS 04	BS EN 934-2	SUPPLIER CERTIFICATES	S	
	3	**MATERIAL PURCHASE**							
	3.1	SUPPLIER EVALUATION	RD	100%			PRO-FORMA	S	
	3.2	MATERIAL PROCUREMENT	RD	100%	Method Statement WPFSMS 04		PURCHASE ORDER	S	
	4	**MATERIAL RECEIPT**							
	4.1	CEMENT	RD	100%	Method Statement WPFSMS 05	BS EN 197-1	DELIVERY TICKET	S	
	4.2	AGGREGATE	RD	100%	Method Statement WPFSMS 05	BS 12620 and PD 6682	DELIVERY TICKET	S	
	4.3	ADMIXTURE	RD	100%	Method Statement WPFSMS 05	BS EN 934-2	DELIVERY TICKET	S	
	4.4	REINFORCEMENT	RD	100%	Method Statement WPFSMS 05	Client/Sub Contractor Bending Schedule	DELIVERY TICKET	S	
	4.5	CAST-IN ITEMS	RD	100%	Method Statement WPFSMS 05	Client/Sub Contractor Drawing	DELIVERY TICKET	S	
	5	**MATERIAL TESTING**							
	5.1	CEMENT							
	5.1.1	MATERIAL CERTIFICATE	RD	100%	Method Statement WPFSMS 05	BS EN 197-1	SUPPLIER TEST CERTIFICATE	S	
	5.2	MATERIAL CERTIFICATE	RD	100%	Method Statement WPFSMS 05	EN 450	SUPPLIER TEST CERTIFICATE	S	
	5.3	AGGREGATES							
	5.3.1	GRADING	S	WEEKLY	Method Statement WPFSMS 05	BS 12620 and PD 6682	SUPPLIER TEST CERTIFICATE	S	
	5.3.2	VISUAL EXAMINATION	VE	PER DELIVERY	Method Statement WPFSMS 05		DELIVERY TICKET	S	
	5.3.3	CHLORIDE CONTENT	RD	ANNUALY	Method Statement WPFSMS 05	BS 12620 and PD 6682	SUPPLIER TEST CERTIFICATE	S	
	5.3.4	SULFATE CONTENT	RD	ANNUALY	Method Statement WPFSMS 05	BS 12620 and PD 6682	SUPPLIER TEST CERTIFICATE	S	

REV	LINE No.	ACTIVITY	TYPE OF CHECK	EXTENT OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE CRITERIA	VERIFYING RECORD	FP McCann	CLIENT
	5.4	ADMIXTURE							
	5.4.1	MATERIAL CERTIFICATE	RD	MONTHLY	Method Statement WPFSMS 05	BS EN 934-2	SUPPLIER TEST CERTIFICATE	S	

APPENDIX F

Q208 – FP McCann

INSPECTION AND TEST PLAN (ITP)

Ref No INTERSERVE CONSTRUCTION, SELLY OAK BIRMINGHAM
Page No 1 of 4
Issue No 01
Copy No

F P McCann Limited King's Lane Byley Middlewich Cheshire CW10 9NB	Project: SELLY OAK Client: INTERSERVE CONSTRUCTION	Order References: FPM: KEN SPOONER ICL Manager: JACK REILY

Description of Work:

SITE WORKS – Construction, ERECTION & GROUTING OF PRECAST UNITS.

All work shall be carried out in accordance with the FP McCann Quality System, as documented within the in-house Quality Manual and Standard Work Procedures, together with Contract Specific Method Statement/s & Risk Assessments.

The FP McCann Quality Manual and Work Procedures shall be available for Client reference at the Works.
Minor changes to Work Procedures may be made by the Manufacturing Director, in conjunction with the Quality Department.
Non-conforming materials, product etc. shall be controlled as per Quality Manual/Work Procedure requirements.

Approved By: Name: KEN SPOONER Signed: Date: 25.10.17 – Revised date: 18.05.18	Title: CONTRACTS MANAGER

Surveillance Codes: W = Witness Inspection H = Hold S = Surveillance	Document Codes: C = Retained at Works – Available for Inspection R = Routine Submission to Client

APPENDIX F

INSPECTION AND TEST PLAN (ITP) (SN060)

Ref No INTERSERVE CONSTRUCTION
Page No 2 of 4
Issue No 01
Copy No

Op. No.	Operation	FPM Control Activity	Frequency	FPM Control Procedure Ref	Acceptance Criteria	Surveillance		Verifying Document	Doc. Code	Responsibility/ Comments
						FPM	Client			
1	Inspect drawings for inaccuracies.	Review documents. Check and File.	Prior to work commencing and ongoing.	SN060	Documents are latest issue status. All documents are available. The construction criteria set out in the NBS B14 – Prefabricated Panelled Constructions	H	H	All drawings to be date stamped when received. Drawings to be Construction issue at time of fabrication. When the drawing is revised the original drawing must be marked as 'Superseded'.	C	To be completed by FPM and sub contractor (SC) Management
2	Delivery schedule / Program.	Review requirements / erection schedule	Daily Supply Instruction.	SN060	Required units available for delivery.	H	H	Supply Instruction Form.	C	FPM and SC Management / Transport department.
3	Starter bars location Various types as per the contract Starter bar lay out drawing	Interserve to issue an as built survey on positions.	At ground floor/podium level, only.	SN060	Survey ok issues identified. Acceptable tolerances must be noted here	W	H	FPM /SC to confirm inaccuracies of starter bar position.	C	Client / Site Management. Delivery Tickets of connectors
4	Method Statements, Risk Assessment & COSHH issued / defined.	RAMS issued / defined as part of the Contract Management Files.	Prior to commencement on site.	Contract Management File.	Suitable for task and to be approved by ICL	H	H	RAMS L9a acceptance document signed by ICL and in site file	C	FPM SC to update if methodology alters for whatever reason and TBT to be given to site team.
5	Instrument calibration.	Calibration of instruments..	When stated on equipment or calibration schedule.	IP10	In calibration – certificate to be issued to ICL site file	H	H	SN060	C	SC Management / Engineer.
6	Material approval.	Check delivery of material against order and visual inspection.	Upon receipt.	Supplier's tests and checks. IP9	Correct items delivered in good condition.	W	H	Signed Delivery Ticket. Accepting the products are in acceptable condition. Defects to be identified on the ticket.	C	Materials Controller / SC on site representative and ICL management.
7	Ground floor or podium level structure	Principle contractor to issue as built survey on slab level and dimensions.	Prior to site set up and installation.	SN060	Insitu concrete /steel frame dimensions must incorporate FPM casting / installation tolerances.	W	H	Confirmation of tolerances: BS5606 for installation & BS8110 for manufacture .	C	PRINCIPAL CONTRACTOR / SC Engineer / Management.
8	Setting out of Grid Lines, datum or Station information	Principle contractor to position 2 No Grid Lines (X&Y) & datum or station information	Principle Contractor to provide 2No grid lines & datum at ground floor level and all other levels.	SN060	X&Y Grid and datum to be within 2mm in either direction	W	H	Erection and Grouting sheet	C	PRINCIPAL CONTRACTOR / SC Engineer / Management.
9	Initial Permit to Lift.	Lift Plan, crane plan, lifting schedule, crane ground bearing pressure and associated documentation, completion of L34	Interserve to issue confirmation prior to lifting. Via Select Crane Hire	Lift Plan, crane plan, lifting schedule, crane ground bearing pressure and associated documentation	Interserve to issue confirmation of crane/foundation stability prior to lifting. Interserve Daily brief to establish that days lifting ops	H	W	FPM SC & Crane suppliers lift plan and GBP.	C	PRINCIPAL CONTRACTOR to provide written confirmation and completion. Daily lifting brief with ICL each morning to co-ordinate the days works
10	Temporary Works for Propping.	Propping calculations and drawing.	Prior to erection commencing.	Propping drawing with fixing details	Calculations produced by engineer & correct. All TW to be approved by ICL TW dept, issue of drawings and calcs.	H	H	Propping Calculations and Drawing. ICL signed Temporary Works Check Sheet	C	Design Department. FPM to issue propping calculation prior to work commencement.

APPENDIX F

INSPECTION AND TEST PLAN (ITP)

Ref No INTERSERVE CONSTRUCTION, THE LANSDOWNE @ No2 HAGLEY ROAD
Page No 3 of 4
Issue No 01
Copy No

Op. No.	Operation	FPM Control Activity	Frequency	FPM Control Procedure Ref	Acceptance Criteria	Surveillance FPM	Surveillance Client	Verifying Document	Doc. Code	Responsibility/ Comments
11	Delivery of precast units.	Check delivery against supply instruction and visual inspection.	Every load.	SN060	Correct units received on site and in contract specification. And as per the delivery schedule	W	W	Delivery Ticket.	C	SC Operative / SC Supervisor. Delivery schedule issued at start of works.
12	Erection of units.	Windows to be lined externally (Vertically). Units to be levelled via door threshold and window soffit. Floor units to be levelled from top of slab.	Each unit to be recorded individually on Erecting and Grouting Sheet.	Approved construction issue Contract drawings	Windows to be lined externally (Vertically). Units to be levelled via door threshold/reveal and window soffit. Floor units to be levelled from top of slab.	W	H	Erection and Grouting Sheet.	C	SC operatives / engineer / management.
13	Precast to precast Starter bar/ vertical tie Specify type and brand of connectors	Check positions.	Each unit to be recorded on Erecting and Grouting Sheet.	Contract standard detail drawing.	Each unit to be recorded on Erecting and Grouting Sheet.	W	H	Erection and Grouting Sheet.	C	SC Supervisor / Engineer.
14	Grouting of wall and floor units with grout.	Correct unit location and reinforcement check	Each unit to be recorded on Erecting and Grouting Sheet Cubes to be taken weekly.	Material Mixing – temperature usage & strength requirement Table. Cube Request Form.	Correct unit location and reinforcement check 4no cubes required per level. Good finish / pointing of joints.	W	H	Quality/Quantity Document. Cube Register and Results.	C	SC Supervisor / Management.

APPENDIX F

INSPECTION AND TEST PLAN (ITP)

Ref No INTERSERVE CONSTRUCTION, THE LANSDOWNE @ No2 HAGLEY ROAD

Op. No.	Operation	FPM Control Activity	Frequency	FPM Control Procedure Ref	Acceptance Criteria	Surveillance		Verifying Document	Doc. Code	Responsibility/ Comments
						FPM	Client			
15	Horizontal Stitch (concrete/grout).	Horizontal stitch.	Each concrete / grout pour.	Contract drawings, Mix design from supplier. To be issued to ICL Test Cube request sheet.	4 No cubes required for each separate pour. QSRMC certificate from ready mix batching plant.	W	H	Concrete Pre-pour Check sheet. Cube Register and results.	C	SC engineer / Management. Cube results and delivery tickets to be copied and issued to ICL daily
16	Removal of Temporary Props. 15KN required prior to removal of props.	Review contract specific grout KN requirement for vertical joints and ties. Cube results must achieve minimum requirement.	At each floor level. Removal of Props can only be completed via instruction from the SC Site Manager. Permit to strike to be issued once grout KN is achieved	SN060	Review cube results against contract requirements. KN requirement will be on the propping layout drawing.	H	H	Starter bar, Vertical/Horizontal Joint check sheet and cube results prior to removal of props.	H	SC management To gain permit to strike
17	Area Handover.	Contract drawings.	At each level.	SN060	Structural Handover to be completed as soon as possible.	H	H	Handover form from SC, issued to ICL.	R	SC management
18	Vertical/Horizontal Joints completed.	Contract Offer.	All joints.	SN060	Joints to be finished as per contract specification	H	H	Handover form from SC	R	SC Management
19	Record of drawings.	To be filed and date stamped prior & during contract duration.	When received.	SN060	Documents are latest issue status. All documents are available	H	H	Drawing register	C	SC Manager to file drawings. Feedback all relevant information to Project Co-ordinator.
20	O & M manuals.	O & M information to be collated. Cube results, line & level of units & reinforcement confirmation.	End of the contract.	IP8	Manual to provide all information requested by client in a timely fashion within 2months of FP McCann completion on site	H	H	Completed O & M Manual.	R	Project Co-ordinator, to collate the information and supply to the client.
21	Install units above concrete stitch and remove props below concrete stitch 15KN required prior to removal of props.	To install wall units on concrete stitch the cube strength must achieve required KN. To remove props from walls below the concrete stitch the cube strength must achieve required KN.	Every level	As stated on drawings and by contract designers	4 No cubes required for each separate pour. QSRMC certificate from ready mix batching plant.	H	H	Cube results and permit to strike	R	SC management
22	Building Tolerance	BS8110 manufacture & BS5606 Installation	Each unit and level	BS documents	Tolerance documents to be forwarded to PC	S	S	Erection and Grouting Sheet. Review of installed units.	C	SC engineer / management.
23	Fire stop	Drawing to provide information on specification, details and orientation	At window / door joint locations with adjacent panel	Drawing to provide information on specification, details and orientation	Fire stop to be attached to the concrete panel, material to be butted together ensuring no gap.	H	H	Installation fire stop QA sheet	C	SC engineer / management.
24	External mastic	Joints to be checked prior to application of mastic.	All joints	Joints as stated on drawings and within BS8110 & BS5606.	Data sheets to be issued to the client.	R	H	BS5606 & BS8110	W	FPM

APPENDIX G

Specialist Glazing
structural | rooflights + atria | aluminium

METHOD STATEMENT

Contract No.: 400.
Site: 3 St Peters Square, Manchester.
Works: Installation works at FP McCanns', Middlewich.

Revision Record

Date of Revision	No.	Changes Made	By
25/02/19	*0*	*Original*	*BP*

Ref Number: RS-IMS-FM-15
Issue Number: 03
Issue Date: 28/01/2019
Issued By: C.Morris
Reviewed Date: 29/01/2020

1 of 1

APPENDIX G

Specialist Glazing
structural | rooflights + atria | aluminium

METHOD STATEMENT

1. PACKAGE	
Project	*3 St Peters Square, Manchester*
Operation	*Installation of windows & curtain walls at FP McCann, via low level access equipment*
Contract No.	*400*
Revision No.	
Written By	*Barry Peckham – Contracts Manager RED Systems (UK) Ltd* *Mobile number - -07471 035788*
Reviewed By	Chris Morris
Reviewer Signature	

2. DESCRIPTION	
Process	*Installation of windows, curtain walls and associated glazing, panels & flashings at FP McCanns' Middlewich, Via low level access equipment .*
Location	*FP McCann,* *King's Lane,* *Byley,* *Middlewich,* *CW10 9NB.*
Date/Time/ Duration	*Site Start 4th March 2019* *Duration 68 weeks*

3. PRE-START

- *Prior to starting any works all operatives will read this Method Statement and associated Risk Assessment documents and sign to indicate they understand the information. All operatives will comply with the site emergency procedures and attend the site induction.*
- *All operatives will attend a daily activity briefing as required.*
- *Supervisors will attend the daily co-ordination at the time designated by FP McCann as required.*
- *All operatives will wear suitable PPE according to the task*
- *All operatives will have relevant CSCS cards and all other relevant certificates according the relevant tasks undertaken.*
- *All operatives to be trained and hold a PASMA and / or IPAF prior to use.*
- *Pre Check Sheets for MEWPs to be filled in prior to use and given to RED Systems Contracts Manager for their records, weekly.*

APPENDIX G

4. PERSONNEL	
Project Manager	*Barry Peckham*
Installers	*Jamie Milton & Chris Ward*

5. ELECTRICAL SAFETY	
Pat Testing	*Any Electrical Tools used to be Pat Tested and logged in RED Systems Pat Test Register. Schedule is 3 months for site tools and 1 year for office equipment.* *Copy to be given to FP McCann for their records.*
Rating	*Only 110V tools and cables to be used on site.*

6. DELIVERY / OFF LOADING / DISTRIBUTION ARRANGEMENTS	
Traffic Management	- *All construction traffic entering and leaving the site will be marshalled at all times by Red Systems supervisor or nominated operative. All vehicles will be required to travel via pre – designated routes which will be provided and confirmed during the site induction.* - *There will be no stacking of construction related vehicles outside of site. - Vehicles will be booked in with FP McCanns' a minimum of 24hrs before any delivery.* - *Vehicular access via designated entrance/egress points.* - *Principal unloading points will be established within the logistics plan.* - *All deliveries to and from the site will be undertaken between the hours of 0800 and 1700 Monday to Fridays. A minimum of 24hrs notice is required for all deliveries.* - *- All vehicles must report to site security.*
Off Loading and Distribution	- *Materials will be unloaded from delivery vehicles within designated safe offloading area as agreed with FP McCann.* - *Generally, materials shall be offloaded by moffett or HIAB. Use of site forks can be utilised only if available and agreed prior with FP McCann. -- Small material deliveries shall be offloaded manually.* - *Materials will then be transported to work areas by site forks (if available) or manually. Pump truck & glass trolleys shall be provided to assist with offloading & distribution.* - *RED Operatives will ensure no pedestrians are allowed into loading area.* - *OPERATIVES MUST NOT CLIMB ON THE BACK OF ANY VEHICLE UNLESS APPRIOPRIATE FALL RESTRAINT DEVICES ARE IN PLACE ie. Handrails, harness and lanyards.*

Frequency of Deliveries	- *All deliveries will be linked directly to the programme requirements and delivered on a 'just in time basis'.* - *All efforts are to be made to ensure that the maximum amount of materials are included within one delivery.* - *Partial loads are to be avoided if possible.*		
Vehicles	**Small / Luton Type Van**	**Flat Back Lorry**	**Arctic Vehicle**
	Yes	*Yes*	*Yes*

7. LOGISTICS PLAN

8. PERMITS AND SPECIAL TRAINING REQUIREMENTS	
Permits required	*TBC by FP McCann*
Plant Training	*Scissor Lift / Cherry Picker – IPAF* *Mobile Tower(s) - PASMA*

9. PERSONAL PROTECTIVE EQUIPMENT	
MANDATORY	
White Safety helmets (operatives) – compliant to EN 397: 1995 Black Safety helmets (Supervisors) – compliant to EN 397: 1995 Orange Safety helmets (Slinger Signaller) – compliant to EN 397:1995 All hats to display the RED Systems logo.	✓
Yellow Hi-visibility jacket / vest – compliant to EN 471:2003 All jackets / vests will display RED Systems logo.	✓
Safety boots – compliant to EN ISO 20345:2004	✓

Safety gloves – compliant to EN 420:2003 Puggy PU Coated gloves for general installation works Warrior anti cut 5 or Green Traffic Glove for glass handling Nitrile disposable gloves for EPDM and silicone works.	✓
Safety glasses – compliant to EN 166:2001	✓
TASK SPECIFIC :- IF REQUIRED	
Ear defenders – compliant to EN 352	✓
Safety Harness – Compliant to BS EN 361: 2002 / BS EN 365: 2004	✓
Fall arrest lanyards – Compliant to BS EN 354: 2010 / BS EN 365: 2004	✓
Adjustable fall restraint lanyards – compliant to BS EN 358: 2000 / BS EN 365: 2004	✓
Dust masks – compliant to BS EN 149. FFP3 only	✓

10. FIRST AID
A first aid kit will be kept in site office, exact location confirmed at site induction. All accidents will be recorded and reported to FP McCann in the site accident book, again location confirmed at site induction.

11. RESOURCES	
Supervision	*Nominated subcontract foreman/fixer who will be trained to a minimum of SSSTS.*
Personnel	*Minimum 2No. operatives. All of whom will have valid CSCS cards.*
Plant/ Equipment	- *Fork Lift by FP McCann (if available)* - *Hand held glass lifter/suckers* - *Pallet Truck(s)* - *Slab trolley(s)* - *Safety barriers with signage (if required)* - *Hand tools* - *Ratchet Straps* - *Glass trolley(s)* - *1.5mtr. podium(s)* - *Mobile scaffold(s)* - *110v generator(s)* - *50/50 container / office* - *Glassboy* - *Banding machine*

12. LIGHTING
Site lighting will be the responsibility of FP McCann. Task lighting shall be provided by Red if required.

13. COMMUNICATION
All communication shall be directed in the first instance to RED Systems Contracts Manager. Method statements shall be communicated verbally and interpreted where necessary.

14. TEMPORARY WORKS
At the time of compiling this method statement there has been no provisions for temporary works. If required in the future, an amendment to the method statement will be made and issued for comment / approval.

15. INSTALLATION PROCEDURE	
Access to be used:	- *MEWPS (TBC)* - *Mobile scaffold(s)* - *Low level podiums (1.5mts)*

Process of Installation:

- *Aluminium frames and glass will be distributed from lay down area to work place / area either manually, or using mechanical aids, ie glass trolley or pump truck. During movement, materials shall be secured to equipment using banding or ratchet straps. The glass units will be selected from A Frames and strapped onto the glass trolley (NOTE WEIGHT OF GLASS NOT TO EXCEED SWL of slab buggy). Once glass has been wheeled to the base of the work face, trolley to be positioned adjacent to the required opening for glazing. Note! one number glass unit to be lifted off the trolley at any one time and glass left on the trolley to be strapped back to trolley once glass unit has been removed*

- *Materials left on any split down stillages shall be re-banded as required. The materials will be loaded vertically onto timber blocks at the work face, ensuring they are stored on firm & level grounds.*

APPENDIX G

Window Installation Process:

- *The frames will have Tremco compriband seal applied to the perimeter of the window (not the cill which shall be applied on site). The windows will then be offered into location manually ensuring sufficient labour is allocated to carry out lifting operations. Mechanical access shall be used as required. The window will be fixed using the lugs & base supports to the concrete panels, using fixings as specified on Red approved drawings, at specified locations again as approved drawings, ensuring the window is packed level, and, fixed in place plumb and square. Low level access equipment shall be used to assist in fitting of high level fixings.*

- *Once the window is secured, firestopping shall be installed to windows at intermediate floor level types. Windows shall then be glazed in line with the manual handling risk assessment and in accordance with the Technal installation manual, ensuring units are positioned centrally within the aperture and set on appropriate setting blocks at correct centres.*

- *A glassboy shall be provided to assist glazing if required, as above.*

- *Glass types and locations all as per Red Systems approved drawings. Once glass has in situ, glass setting blocks shall be installed at positions marked up on approved drawing for transportation. Glazing snap on beads shall then be fitted, and wedge gasket installed ensuring gaskets are not overstretched to allow for expansion.*

- *An EPDM membrane shall be installed at the head of the windows, bonded to window head / structure, to act as weather protection.*
- *Frame & glass protection shall be applied internally to each window in line with the Red protection policy appended to this document.*
- *A quality check will be made and recorded and kept in the site inspections document file at this point.*
- ***Final activities***
- *Waste packaging is to be removed from the work area and put into the skips provided by FP McCann as work progresses; RED will not be producing any hazardous waste. On completion of our works the areas will be left clean and tidy on a daily basis.*

17. EMERGENCY PROCEDURES

Site Evacuation:
As stated by the FP McCann in the site induction given at the start of the project, and can be found in the Principal Contractors Site Rules.

18. WELFARE

Facilities are to be made available to RED personnel by FP McCann.

APPENDIX H

ABLGROUP
Insurance Brokers & Risk Advisors

Date: 3rd February 2022

Private & Confidential

TO WHOM IT MAY CONCERN

Our Ref: BC/237785

Dear Sirs,

Re: F.P McCann Group Limited, F.P McCann Limited & F.P. McCann Quarries Limited

We act as Insurance Brokers to the above named Client, and confirm details of their insurance cover as follows:-

Business Description - Building, Civil Engineering (inc traffic management, Grounds maintenance) and Transport Infrastructure Contractors, Quarry Owners Operators and Suppliers, Plant Hire Operators, Manufacture and supply of ready mix concrete and concrete products, Engineering and manufacturing and supply of pre cast and pre stressed concrete products including drainage systems, supply and supply and fit of pre cast flooring and modular buildings, bituminous surfacing contractors and suppliers, plant hire contractors, Property owners and developers. Snow clearance and gritting contractors. Fencing Manufacturer and Supplier, Project Supervisor Construction Stage

Employers Liability

- **Insurer(s)** — Allianz & others
- **Policy Number** — CS/29281561 & 10244176
- **Period of Insurance** — 1st February 2022 to 31st January 2023
- **Limits (of Indemnity)** — £20,000,000 any one occurrence or all occurrences consequent on one original cause inclusive of costs and expenses.
- **Cover Includes** — - Labour Only Sub-Contractors
- Indemnity to Principal Clause
- **Territorial Limits** — Great Britain, Northern Ireland, The Republic of Ireland, The Isle of Man, the Channel Islands and temporarily anywhere in the world

Belfast Office
Jennymount Business Park
North Derby Street
Belfast, BT15 3HN
Telephone: 028 9099 3600

Armagh Office
18 Russell Street
Armagh
BT61 9BS
Telephone: 028 9099 3600

Coleraine Office
River House, Castle Lane
Coleraine
BT51 3DR
Telephone: 028 9099 3600

Insurance Brokers & Risk Advisors
www.abbeybondlovis.com

APPENDIX H

ABLGROUP
Insurance Brokers & Risk Advisors

Public/Products Liability Insurance

- **Insurer(s)** — Allianz & others
- **Policy Number** — CS/29281561 & 10244176
- **Period of Insurance** — 1st February 2022 to 31st January 2023
- **Limits (of Indemnity)** — Public Liability: £20,000,000 any one occurrence
Products Liability : £20,000,000 any one occurrence / in the aggregate
- **Excess** — £750 Third Party Property Damage
- **Cover Includes** — - Indemnity to Principal
- **Territorial Limits** — Public Liability – European Union (Manual Work) & Worldwide (Non-Manual Work)
Products Liability – Worldwide

Contractors All Risks

- **Insurer(s)** — Allianz
- **Policy Number** — CS/29281561
- **Period of Insurance** — 1st February 2022 to 31st January 2023
- **Limits (of Indemnity)** — £20,000,000 any one Contract in any one Period of Insurance
£2,000,000 Hired in Plant – Limit any one item
- **Excess** — £5,000 each and every occurrence of loss or damage to the property insured (reducing to £1,000 for Department of Regional Development Contracts)
- **Maintenance / Defects Liability Period** — 12 months increasing to 36 months in respect of road contracts
- **Territorial Limits** — Great Britain, Northern Ireland, Republic of Ireland, The Isle of Man and The Channel Islands

Belfast Office
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APPENDIX H

ABLGROUP
Insurance Brokers & Risk Advisors

Professional Indemnity

- **Insurer(s)** AIG & Others
- **Policy Number** 22169P19 & AWCD08263
- **Period of Insurance** 1st February 2022 to 31st January 2023
- **Limits (of Indemnity)** £20,000,000 any one occurrence / in the aggregate including Costs
- **Excess** £100,000 each and every claim
- **Territorial Limit** Worldwide

Material Damage

- **Insurer(s)** Allianz
- **Policy Number** 94/SZ/29281581/02
- **Period of Insurance** 1st February 2022 to 31st January 2023
- **Limits (of Indemnity)** Vested Goods (Customers Goods Held in Trust) - £500,000 any one Pre-Cast Location

Subject otherwise to the terms, conditions and exceptions of the policy(ies).

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Jennymount Business Park
North Derby Street
Belfast, BT15 3HN
Telephone: 028 9099 3600

Armagh Office
18 Russell Street
Armagh
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Coleraine Office
River House, Castle Lane
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BT51 3DR
Telephone: 028 9099 3600

Insurance Brokers & Risk Advisors
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APPENDIX H

ABLGROUP
Insurance Brokers & Risk Advisors

This letter is provided as a courtesy to our client as a matter of information only and confers no rights on the holder. Our duties in relation to this insurance are to our client and we accept no duty of care or responsibility to you or any other third party and any liability to you or any third party is excluded. This letter does not amend, extend or alter the coverage afforded by the policies, nor does it purport to set out all of the policies' terms, conditions and exclusions. The policy terms, conditions, limits and exclusions may alter after the date of this document or the insurance may terminate or be cancelled, and the limits shown may be reduced by paid claims. We have no obligation to advise you of any changes which may be made to the policies or to advise you of their cancellation or termination

Should you have any queries please contact the undersigned.

Yours sincerely

John MacManus ACII, Chartered Insurance Broker
ABL Risk Solutions
T:02893446340
M:07879433534
E: john.macmanus@ablinsurance.co.uk