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September 2014



Strategic partnering enables delivery with certainty

ProCure21+ speeds construction and reduces operational cost at Royal Cornwall Hospitals Trust

Royal Cornwall Hospitals Trust has used the ProCure21+ framework to implement a complex scheme: refurbishing and reconfiguring seven integrated theatres and support facilities across two sites in Truro and Penzance.

Working in a live environment, ProCure21+ principal supply chain partner (PSCP) Balfour Beatty was challenged to provide assurance and

certainty across the two-year theatres project – and managed not only to deliver on targets, but to improve on them.

The redevelopment was part of the Trust's overall strategic clinical site development programme. Initially planned as a five-theatre refurbishment project, it aimed to equip the Trust to meet a growing requirement for laparoscopic surgery while improving patient outcomes in

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Clinicians and stakeholders were involved in equipment specification and siting from the outset of the project

above One of the seven theatres at Royal Cornwall Hospitals Trust in its pre-refurbishment state

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Royal Cornwall Hospitals Trust gets **programme certainty and reduced operational costs** in Truro • Update on standardisation programme: delivering two **repeatable room designs** and **standardised components** for mental health environments • **31.6% savings** on standardised components to date across ProCure21+ • New **winter ward at Basildon** comes into operation • London's **first helipad south of the Thames** swings into action • FAQs: **compensation event time bars** and why **launch workshops** are necessary



Above Basildon beats the winter pressure with ProCure21+ **page 6**



above An interior from one of the refurbished theatres, showing improved layout for greater clinical efficiency

video



Consultant gynaecologist **Dominic Byrne**, acting head of estates development **Sarah Roby**, and PSCP ProCure21+ lead **Roger Norman** discuss the use of ProCure21+ at Royal Cornwall Hospitals Trust
Watch the video on the ProCure21+ website

terms of post-operative recovery and length of inpatient stay. For the Trust, seasonal pressures are constant all year round: the county's population doubles during the summer months, and patient numbers remain high in winter due to an ageing local population. With this in view, it was imperative to maintain an effective programme with challenging targets during the construction phase, as the theatres decommissioned for refurbishment work placed greater strain on the remaining theatres and hospital staff.

"A year was given over to planning before the project began," explains acting director of estates Garth Weaver. "From the outset, clinicians and other key stakeholders were involved in equipment specification and sourcing. When we moved into the pre-construction phase, we took an integrated project team approach with in-depth impact analysis and detailed risk assessments, so that operational considerations were at the forefront of every decision. Once works began, we kept communications frequent and thorough, with daily briefings for the theatre team and weekly meetings for clinicians, designers, site leadership and individual operatives. So the whole team knew who to contact if there was a problem."

Tasking the PSCP with delivering programme certainty had key clinical implications, he says: "Without that certainty, we wouldn't have been able to maintain our referral-to-treatment waiting times." Certainty also meant that the estates team was able to draw down additional backlog maintenance budget for upgrading ancillary areas, which made efficient use of site preliminary costs and mitigated programme disruption.

The first of the theatres was in service after eleven weeks. The PSCP had a significant role in ensuring buildability of design, and here, attention to detail in the construction phase paid off. Roger Norman, ProCure21+ framework manager at Balfour Beatty, explains: "After the first theatre was delivered, we and the Trust got together to carry out 'lessons learned' review, and to target improvements, which led to a reduction of six weeks in the deliverable programme time for the fifth theatre." At this point it was also decided to extend the programme to encompass two additional theatres and ancillary areas such as anaesthetic rooms, recovery areas and staff welfare facilities across the two hospital sites. While the programme complexity grew – especially with the introduction of new technologies such as ultra-clean canopies – the supply chain was able to apply the 'lessons learned' across the repeated elements of remaining theatre refurbishments, yielding incremental improvements and small innovations that added up significantly over the two-year programme span.

One of these improvements was the enhancement of specifications for wall linings and service casings, which have entailed a reduction in operational expenditure since project delivery. In Year 2 of the programme, complexity of refurbishment increased, with more extensive structural alterations and some unforeseen requirements inevitable in an older site: "but the team delivered consistent performance, zero harm, and calm assurance throughout, with the theatre teams often not realising work was ongoing," says Garth Weaver.

For the Trust, the ProCure21+ principles added great value to the process. "We were able to respond to unforeseen events without any major commercial hurdles, which was a great plus for us, because we were able to share those costs on an open basis," says Garth Weaver. "The NEC3 contract, the GMP, the early warnings system and the open book accounting all combined to give us transparency, certainty and comfort. It took a lot of the risk away, and made working together very straightforward."

In an area where the local labour pool is limited, the integration of the supply chain under ProCure21+ gave tangible benefit to the programme. Roger Norman explains: "Because the other theatres were live while work was being carried out, the supply chain had to do a lot of overnight and weekend working. We didn't have any problems with resources not being in place when needed, because

the whole supply chain worked as a single supplier." For Garth Weaver, the integration of the supply chain was key to reducing time risk on the programme: "Each element in the supply chain worked for the success of the others," he says.

The programme as a whole is set to give the Trust an overall improvement in clinical productivity, and enhanced both patient experience and outcomes. Garth Weaver calls the programme "a demonstration of how the strategic partnering of ProCure21+ enables delivery with confidence. It's a fantastic example of continuous improvement, excellent project management and dedicated supply chain delivery in particularly complex and sensitive environments." +

Scheme Royal Cornwall Hospitals Trust: operating theatres refurbishment

Trust Royal Cornwall Hospitals Trust

PSCP Balfour Beatty

GMP £2.3m

Date of completion
December 2013

Facilities include Seven laparoscopic surgical theatres

Floor area 584m²



Top Pre-refurbishment: a theatre showing cluttered working spaces

Left Setting up Theatre 5 ready for the day's schedule at Royal Cornwall Hospitals Trust

Below Theatre under green light, with equipment and layout for improved efficiency of working

Standardisation: update on mental health rooms and components

It has taken around six months from pulling together the original evidence-base in a literature review to the imminent release of final tested, approved designs, but the

ProCure21+ Cost Reduction Programme's Standardisation initiative is about to launch two repeatable room designs and supporting standardised components for use in mental health environments.

The process of development has followed the same broad path as the acute sector rooms, says David Kershaw, but an early discovery of a lack of common standards across the NHS meant different development methods had to be used in the early stages to gain evidence of best practice.

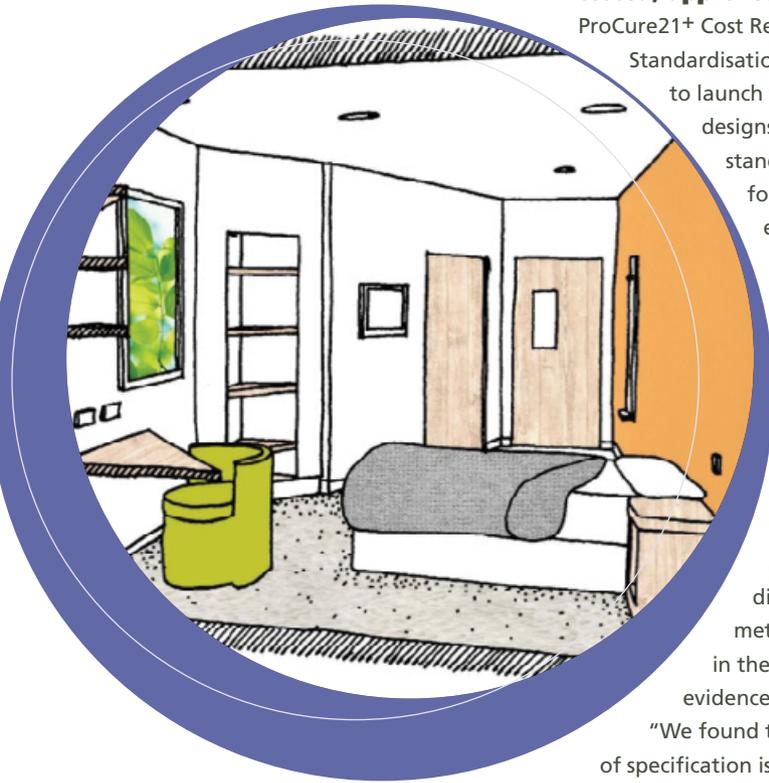
"We found that the usual process of specification is for a mental health Trust to test, individually, up to half-a-dozen components for use in their own setting. We believe that's wasteful of resources – the introduction of standardised components will entail a massive saving in programme time and manpower in the mental health sector," he says.

There is also likely to be a significant cost saving associated with the standardisation exercise, Kershaw suggests: "Some component suppliers calculate that they spend up to £100,000 each year on sending sample products to Trusts for testing, and of course they have to add that on to the cost of products themselves. We benchmark unit costs for all suppliers as part of the Standardisation programme, but it's likely that mental health suppliers in particular will see even bigger cost-savings than in the acute sector, simply because component suppliers will not need to supply as many samples."

Questionnaires

A questionnaire was constructed for clinical staff in mental health facilities to give their opinions on the functions of patient bedrooms, items included in bedrooms and bathrooms, levels of patient control and aspects of patient and staff safety. Results of the questionnaire were discussed with representatives of mental health Trusts from across the UK.

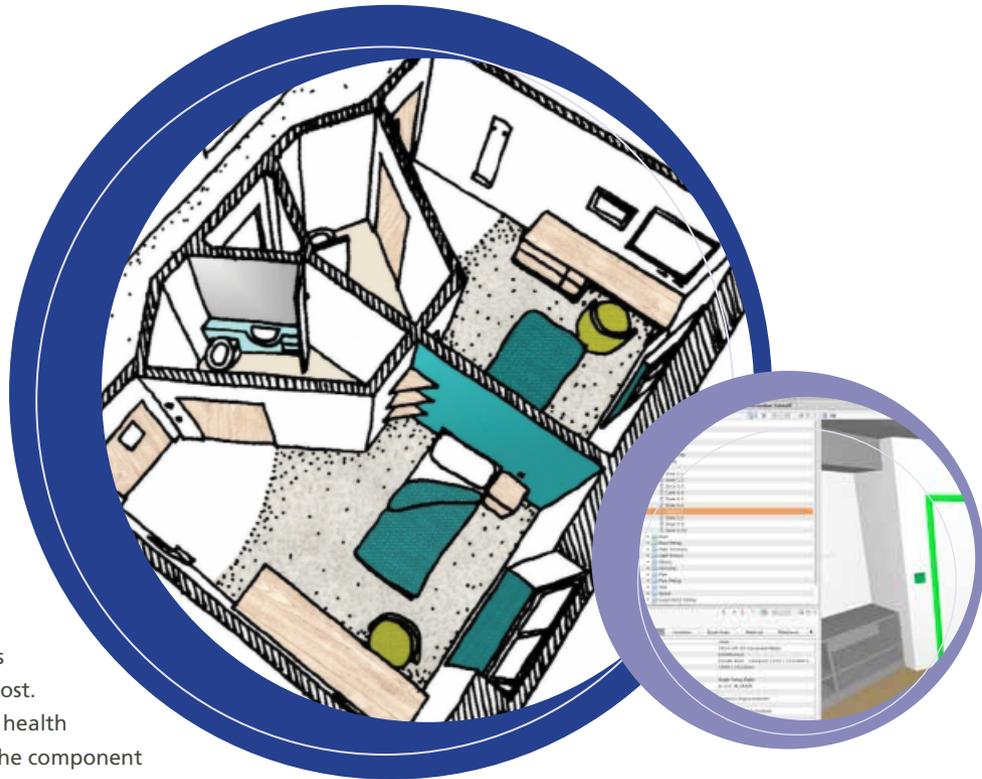
Because the use of components across the mental health sector is diverse, the standardisation development process has challenged



above Sketch of one of the mental health bedroom designs

below left Aerial view sketch of mental health bedrooms

below right BIM model and information for one of the two mental health bedroom designs



suppliers to identify the best component in a given range, in terms of safety, quality and cost. Following this, mental health trusts that have used the component were requested to give information regarding its use in their facilities. The final standardised components 'menu' therefore comprises a recommendation for a specific component, with a list of Trusts where exemplars of use can be found.

Unlike the acute sector, which encompasses a wide variation in bedroom sizes, the mental health sector bedroom is "already pretty much optimised for space usage," says David Kershaw. "Savings on footprint will therefore be minimal." However, ancillary savings at planning, design and construction stage are all "extremely worthwhile": "Preliminary estimates indicate a saving of around 2% on the building costs alone, and the same amount on NHS client costs as regards staff time saved in design and consultation meetings." +

Standardised components: 31.6% savings to date

Since the first wave of standardised components was introduced early in 2013, the ProCure21+ PSCPs and PSCMs have embraced the opportunities offered, incorporating the components into current schemes to yield significant savings for NHS clients. Overall to date, the savings across the four major standardised components – Rockfon suspended ceilings, Whitecroft lighting, Tarkett flooring and Pipe Centre/Ideal Standard sanitary ware – amount to a total £886,541.

Market value of the components incorporated to date amounts to a total £2,805,524, set against the

equivalent ProCure21+ standardisation programme equivalent cost of just £1,918,983 - working out at 31.6%.

"We are delighted to note these savings," says Cost Reduction Programme director David Kershaw. "It indicates widespread acceptance of the principle of standardisation within the NHS."

In the acute sector, NHS clients are encouraged to use the standardised components as a baseline for component specification, and the ProCure21+ PSCPs will adopt these proposals as their baseline specification for calculation of the Guaranteed Maximum Price.

Basildon beats winter pressures with ProCure21+

Basildon and Thurrock University Hospitals NHS Foundation Trust commissioned a new winter ward using ProCure21+ – and the scheme went from Stage 2 to delivery of GMP in just six weeks, with delivery of the finished scheme in just 26 weeks.

The new £2.4m 28-bed winter facility, known as Bursted Ward, followed the extension of the Trust's A&E department in 2012 and was designed to increase capacity for emergency patients during the winter period.

In view of the imminent winter pressures, the Trust's incumbent Principal Supply Chain Partner Balfour Beatty was tasked with delivering certainty of programme time and delivery date. "We have a four-year working relationship with the Trust, and that allowed us to work creatively and flexibly with them to assure the delivery date – which was set as 22 November 2013," says ProCure21+ framework manager Roger Norman. "If we didn't have that relationship, which we've built up over time under the ProCure21 and ProCure21+ frameworks, there's no way we could have delivered this scheme on time and on budget."

The modular solution was used to build a 33-unit building framework,

specified to provide a high quality look-and-feel while keeping the cost and time benefits of modular construction.

The scheme faced its challenges. The hospital's chief fire main supply, sited underneath the hospital, had to be diverted after pre-commencement surveys had been carried out; the PSCP did careful preparatory work so that the changeover, which took just a few hours, was accomplished quickly and with minimal risk to hospital operations.

The ward was handed over on 22 November as planned, and such were the winter pressures correctly anticipated by the Trust that patients were using the ward that same afternoon.

"A tremendous amount of hard work went into delivering this winter ward, and having everything in place for patients," said Trust director of estates Zoe Smith. "The Balfour Beatty team worked very closely with our estates team to deliver our new ward on time and on budget." +



top
Corridor view of the new 28-bed ward
above Basildon and Thurrock University Hospitals' new Bursted winter ward – handed over and ready to go in November 2013

Projects
completed
June to
August
2014

Trust	Project title	PSCP	Completion date	GMP £m
University Hospital Southampton NHS Foundation Trust	PAH Improving Birthing Environments	Kier Regional Ltd	06 June 2014	0.80
The Royal Wolverhampton NHS Trust	Emergency Centre - Phase 1 - Enabling	Balfour Beatty Group	06 June 2014	1.78
East and North Hertfordshire NHS Trust	New Ward Block	Integrated Health Projects	09 June 2014	12.04
Imperial College Healthcare NHS Trust	New Endoscopy Unit	Kier Regional Ltd	09 June 2014	4.03
Northumberland, Tyne and Wear NHS Trust	Cherry Knowle Hospital Reprovision	Laing O'Rourke	16 June 2014	52.1
Royal Cornwall Hospitals NHS Trust	RCHT Emergency Department Phase 1 & 2	Balfour Beatty Group	20 June 2014	3.50
University Hospital Southampton NHS Foundation Trust	Ward E3 refurbishment	Kier Regional Ltd	27 June 2014	0.29
University Hospital Southampton NHS Foundation Trust	Twin Operating Theatre Modular Building	Kier Regional Ltd	11 July 2014	0.97
University Hospital Southampton NHS Foundation Trust	Increasing Bed Capacity	Kier Regional Ltd	11 August 2014	7.42

ProCure21+ used to construct London's first helipad south of the Thames

£5m project gives 14m Londoners fast access to emergency care

St George's Hospital in Tooting began planning for its helipad in 2010, a year after the hospital was designated a major trauma centre. The £20m GMP ProCure21+ project included a children's

unit, new paediatric theatres, relocation of the Moorfields Eye Unit – and the new helipad, a lightweight aluminium construction, supported 9m above the hospital roof and six storeys from the road entrance to the A&E unit, and surrounded by 60 safety nets.

PSCP Miller HPS extended the hospital's existing stairwell and lift core by one-and-a-half levels, creating a final stop for the lift at the seventh floor. Once operational, the lift allows direct access to the A&E department, resuscitation and trauma theatres. Stairs were extended to marry with the 40m-long ramped walkway that extends from the helipad deck (shown in the main picture, left).

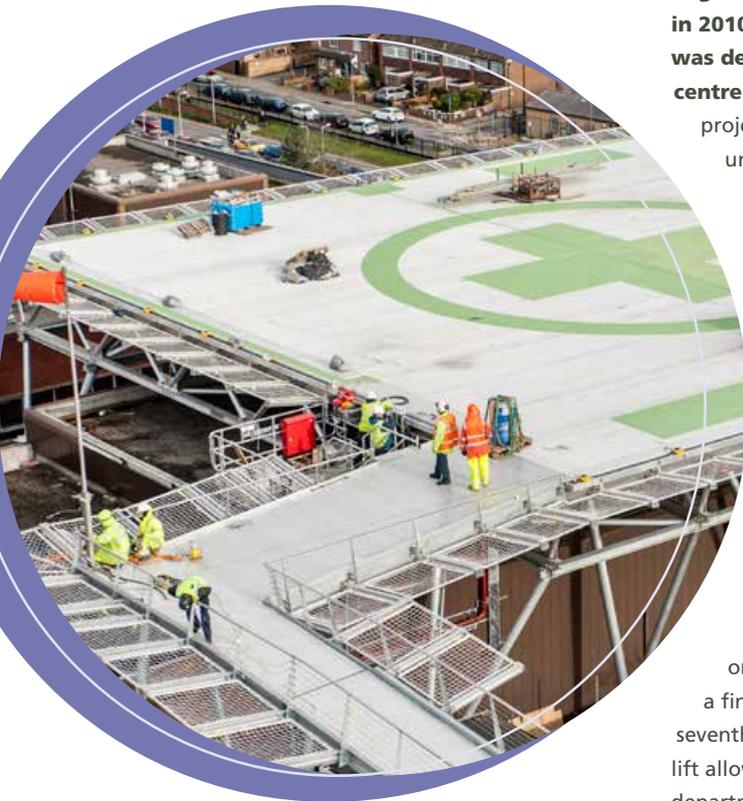
Firefighting platforms

Two firefighting platforms are set 1.5m below either side of the deck with 60 safety nets and foam cannons,

allowing trained firefighters or an automated firefighting system to be constantly operational while the helipad is in use.

The project overall took 18 months from planning and design to final handover. "One of the major issues was the siting of the tower crane that we needed to hoist in all the materials to the top of the building," says Miller HPS project manager Alasdair Higgs. "The crane's 80m radius was sited over existing hospital services, and the tower itself was erected next to the ambulance blue route. It was necessary to design and implement a 100% safe, secure way of lifting materials, while keeping ambulance entrances clear and not disrupting the work of the A&E department."

An extensive survey was carried out to ensure the ground was able to take the massive forces



above The helipad at St George's Hospital during the construction phase

right Board members and senior management of St George's Hospital with helicopter crew





exerted by the crane; the crane's jib was the longest in Europe, capable of lifting 2.5 tonnes up to 80m into the air. During the course of construction, it delivered 2.1 tonnes of steel and other materials to the roof of the St James wing of the hospital, to construct the helipad landing deck.

Weather also posed a problem for the PSCP and specialist contractors: extreme weather over the winter period, especially while working at high levels, meant that mitigating risk to programme time posed an ongoing challenge.

Search-and-rescue

Receiving patients from the Kent, Surrey and Sussex Air Ambulance and London Air Ambulance, the 25m² helipad at St George's can also accommodate a Sikorsky search-and-rescue sea helicopter.

Alasdair Higgs says that the helipad, which was handed over and went into



left The helipad in use
below Mayor of London Boris Johnson and the first paediatric patient to be airlifted into the hospital, seven-year-old Harvey Tagorti, at the official opening of the St George's helipad in May 2014

the basis for great communications and careful planning of the work to be carried out over specific timescales."

He adds: "There's no way we could have achieved this working with the old adversarial-style partnerships."

immediate operation in May 2014, posed multiple challenges in terms of winter working. "Working on scaffolding six storeys up, especially above a busy A&E department, we had to maintain very strict discipline regarding work in progress," he says. He cites the collaborative spirit of ProCure21+ as "a key element" in the success of the project: "Communication was absolutely essential, and a high level of collaboration was the goal. There was a common ambition to make the project succeed despite the challenges, and ProCure21+ gave us

The helipad accounted for £5m of the overall £20m scheme's GMP, and was part-funded to the tune of £1m by a donation from the Helicopter Emergency Landing Pad charity appeal. The helipad was officially opened on May 29th 2014 by the Mayor of London, Boris Johnson. "I am deeply grateful to our construction partners and our staff for the part they have played in creating such an important and impressive addition to St George's Hospital," says chief executive of St George's NHS Trust Miles Scott. +



FAQs DH senior policy & performance manager Cliff Jones answers your ProCure21+ questions

Q Compensation event time bars – P21+ Z clause 'Z16' – why are they needed and what happens if they are not complied with?

The NEC3 contract is based on the principle of proactive management of the contract and application of its provisions by all parties including the project manager and the contractor. Some of the more important of these are the regular submission of programmes for acceptance and compensation event notifications by the contractor.

'Proactive management of a scheme' means that when a contractor becomes aware of any event that could affect the accepted programme/date for completion and/or cost of a scheme' they should promptly draw the attention of the project manager to the occurrence of any event. The same applies to project managers, in that they should notify the contractor. It is not acceptable for either party to not adhere to apply this principle, as it avoids/mitigates the risk of time and cost overruns as well as the possibility of misunderstandings and disputes arising.

To support the above, ProCure21+ has enhanced the NEC3 contract by including additional provisions in the ProCure21+ NEC3 contract template. The contract amendment provided for in Z Clause 16 places an emphasis on the contractor to continually monitor the accepted programme and progress of works and with the objective of encouraging the contractor's staff to act positively and quickly to events as they happen and to ensure all parties are kept informed and engaged in their resolution at the time the events occur.

It is not acceptable practice under ProCure21+ to allow notification of events and possibly their implications, that may cost a client time or money, to

be delayed by up to eight weeks before notification (notwithstanding the early warning notification requirement). Hence the requirement to notify an event, at the latest, within the current assessment period. This should result in a win/win situation for contractor and client in prompt identification of responsibilities and resolution of necessary actions, thereby addressing and resolving issues as they arise.

Contractors should also bear in mind that:

1. an early warning of a possible event does not constitute a compensation event notification; and
2. the identification of a risk on the risk register does not override the contract provisions that are required to be complied with in respect of compensation events (i.e., they must be followed if an identified risk occurs).

Where early warning is given, the contractor needs follow this up (even if the project manager does not) with a further discussion/risk reduction meeting request as soon as the early-warned event goes positive.

In respect of the time bars, it is important for all parties involved in a ProCure21+ to note that that any failure to adhere to the time bars may leave them exposed to the risks associated with such a failure, e.g. no compensation in respect of defined cost or time with imposition of delay damages.

Q Why is a ProCure21+ scheme/project launch workshop needed?

1. The ProCure21+ framework requires that all PSCPs provide a launch (start-up) workshop on ProCure21+ schemes/projects. The cost of providing the start-up workshop is included within the PSCPs fee percentages;
2. Opening statement from the launch workshop guide:
Why have a launch workshop?

The ProCure21+ Implementation Advisors have observed that those clients that do have a workshop manage their schemes better and get a better outcome in the end. Teams that do not..... do not.

3. It is also stated: *The ProCure21+ Implementation Advisors have observed that those clients that do have a workshop manage their schemes better and get a better outcome in the end.*
4. Whilst the Guide provides the basis for initiating a joint overview of the ProCure21+ contract and its processes, it is important that those administering and undertaking the scheme appreciate the provisions and processes provided within the NEC3 Option C contract and the ProCure21+ contract templates.

The ProCure21+ contract templates for contract/works information and site information contain requirements of which all parties must be aware to ensure a successful scheme outcome. Failure to implement these requirements has been demonstrated to have serious contract and commercial consequences for both parties so all involved with a ProCure21+ scheme are advised to ensure that they:

- understand the NEC3 Option C contract provisions and processes;
- understand the provisions of the ProCure21+ NEC Option C templates and the provisions and procedures therein including the ProCure21+ Z clauses, works and site information;
- take note of all web-based ProCure21+ contract guidance;
- seek ProCure21+ clarification/advice on meanings/actions/procedures required by this contract if they are unsure;
- provide early warnings to ProCure21+ of any potential issues that may affect the performance of a scheme and therefore the ProCure21+ framework itself;
- work within the true spirit of mutual trust and co-operation +