SLIPFORM ENGINEERING

Floating Offshore Wind

INNOVATIVE CONCRETE SOLUTIONS

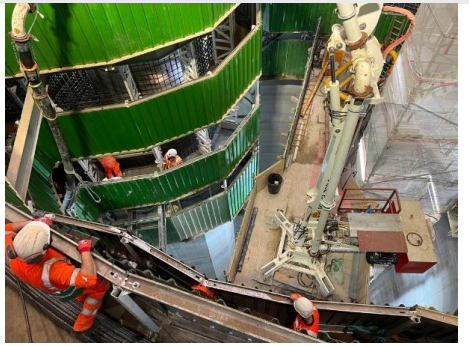
Slipform Engineering: Introduction

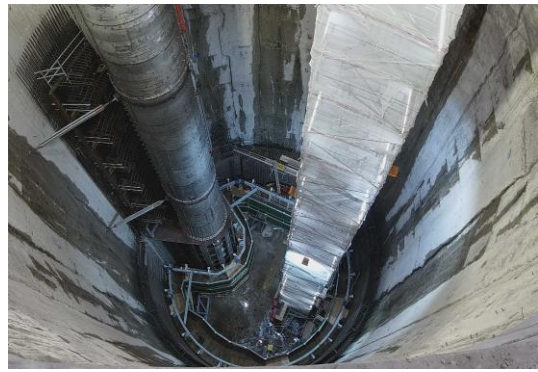
- 10 years since inception.
- The only self delivery D&B Slipform Company in the UK.
- We have on average 80 directly employed slipform specialists.
- We currently have 2 slipform systems, our standard and a patented strand system, both of which were designed in house with a view to be the safest, the most efficient and produce the highest possible quality.
- We offer full preconstruction rebar detailing and slipform specific concrete design.
- We have a passion for innovation and love thinking outside the box.

Slipform Engineering: Award Winning

Award winning Patented Shaft Liner System

- 2019 Designed & Patented a grillage strand slipform system for the East section of the Thames Tideway “Supersewer”
- Single sided formwork with 5 platforms
- Allows installation of prefabricated rebar (450kgs) 330kgs loose fix
- Liner wall thickness up to 5m successfully cast
- The first time in the world that 70% GGBS was used in a slipform
- 5 shafts from 25m dia to 65m deep with internal vortex tube.

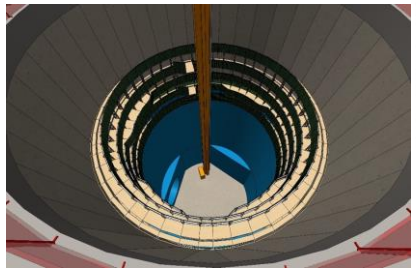


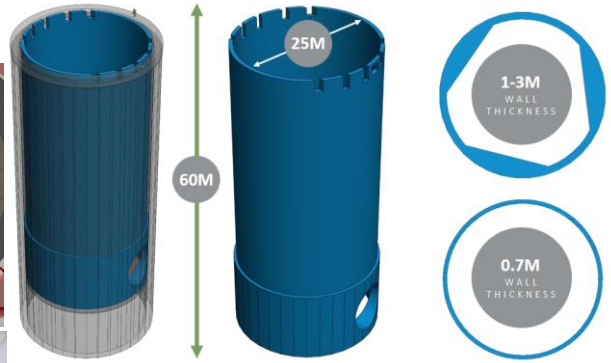


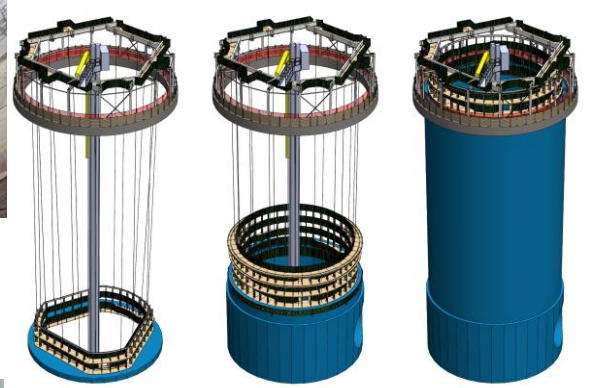
Slipform Engineering: Innovation

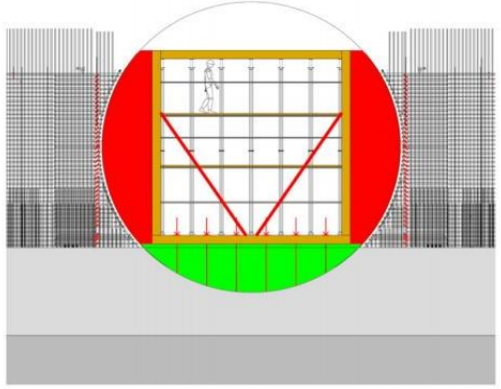
Innovative Thinking

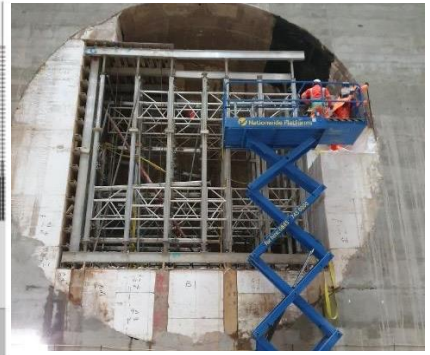
- All our systems are fully modelled and CAT3 checked by Tony Gee.
- With our in house slipform experts having over 20 years experience in slipform construction, we feel that we are best placed to deliver any complex slipform structures.
- We don’t like following the crowd and strive to be different
- We have a passion to deliver the best product no matter the challenge.
- This passion to deliver excellence and innovate has lead us to the floating offshore wind sector.

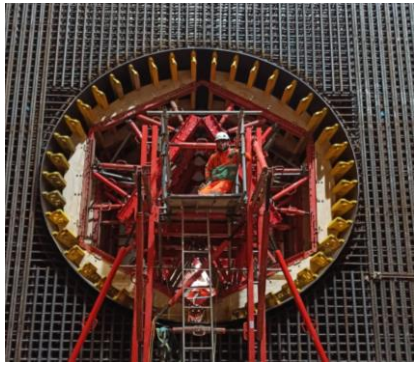


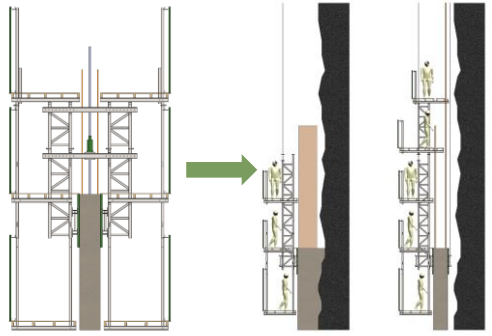












Slipform Engineering: Floating Concrete Foundations

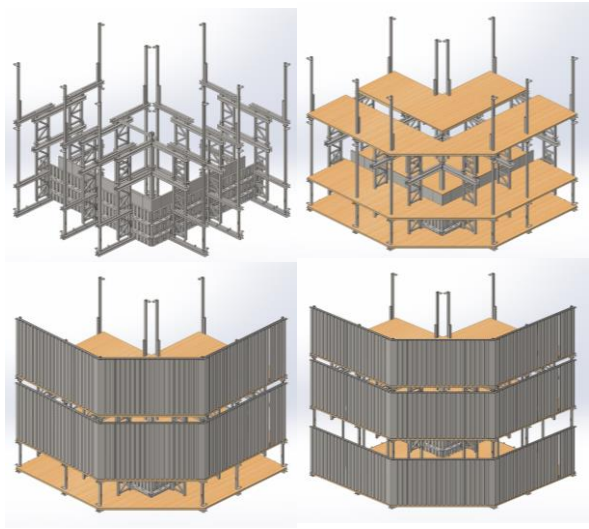
Slipforming for floating wind foundations

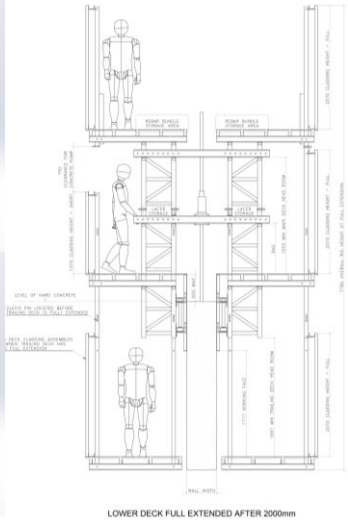
Advantages of slipform

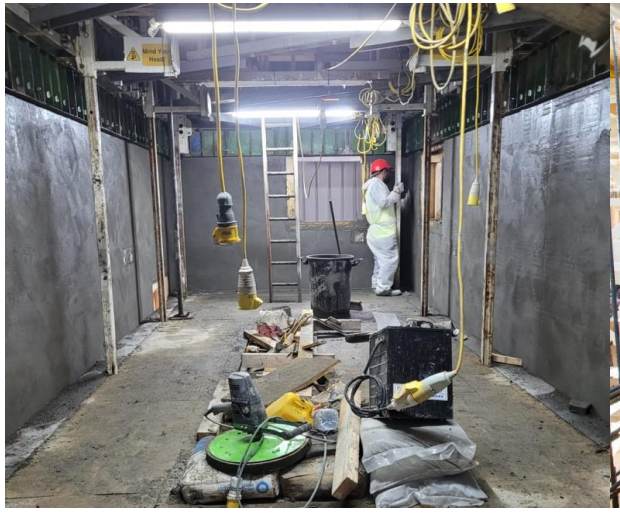
- Extremely efficient rates of rise per shift
- Casting of structures without any construction joints

Disadvantages

- Expensive set up costs for traditional systems due to the long build and dismantle periods but this disadvantage is removed by the use of a Gantry Slipform system.







Advantages of Foundation type key to Slipforming

- Uniformed structure
- Efficient rebar/PT design or reduced PT if possible
- Try to include all walls as part of the slipform
- Try to keep all walls the same thickness to remove some walls setting quicker than others. (this helps but not essential)
- Minimise wall changes that require rig adaptions.

Slipform Engineering: Vision

Offshore Wind

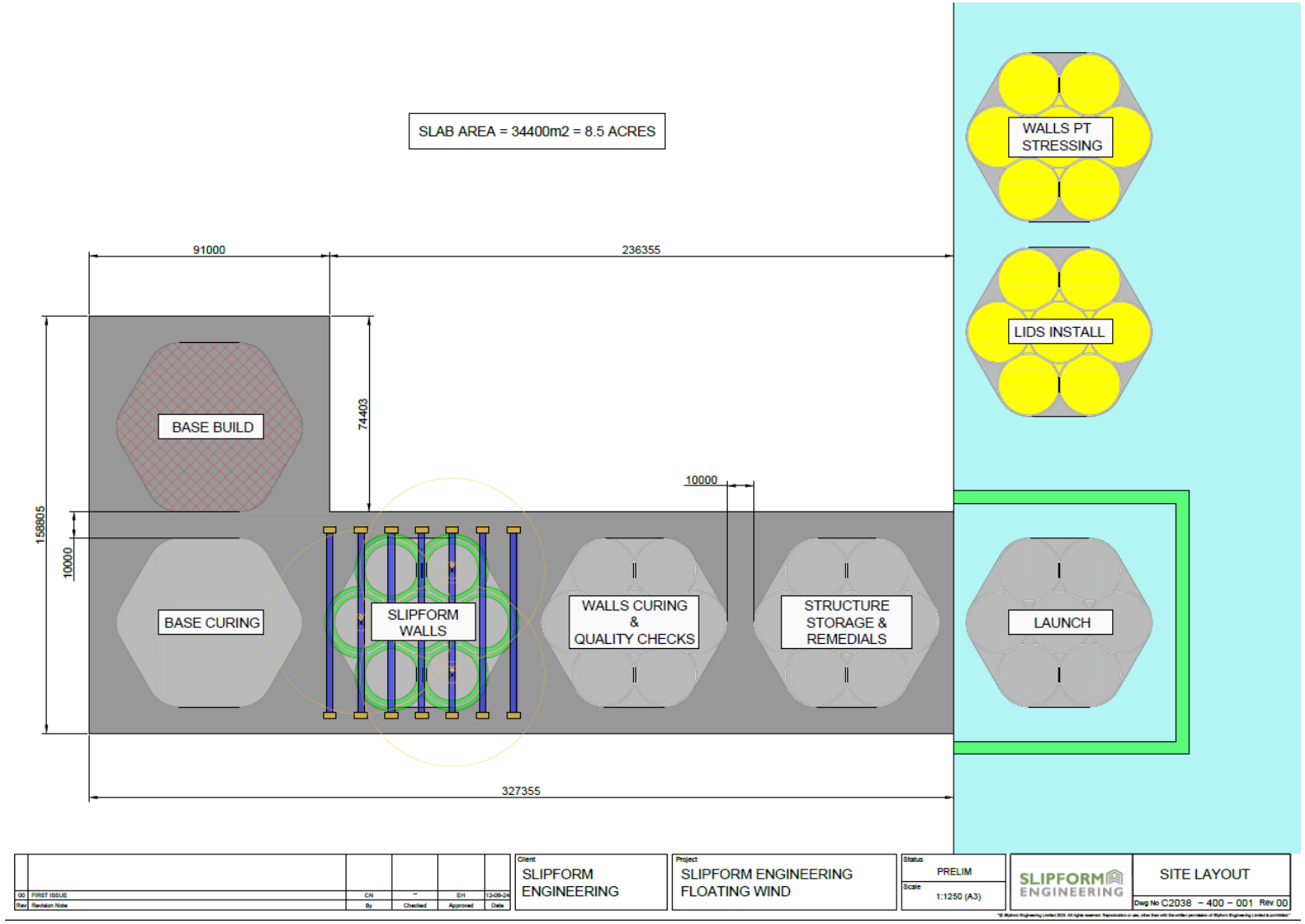
We think there are 4 main drivers to floating concrete foundations being successful.

1. Cost: We have been looking at how slipform can play its part in constructing floating foundations efficiently as this is going to be key to reducing costs. We looked at what has been done in the past and we feel that Gantry Slipforming of the full foundation is going to be the key to this. Advantages: Single set up, no dismantle, controlled environment and mostly weatherproof.
2. Foundation Type: Foundation type is going to be key to ensuring costs are controlled and the Gantry Slipform can be utilized for all vertical walls. Foundation rebar density, removal of Horizontal PT and uniformed in shape is going to be key to speed thus reducing the costs.
3. Speed: It is our opinion that with the right foundation we can cast circa 20m in height every 4-7 days depending on the selected floater.
4. Experienced/competent labour force: We feel that all of the above can only be achieved with experienced Management and trained/skilled local labour. There is no point in casting a floater every 4 days efficiently if you end up with twice the labour force needed or budgeted for due to lack of experience.

Slipform Engineering: Typical Foundation Port Facility

Typical 5 station Gantry Slipform Port Facility:

- 20 units or less need could be constructed with a standard slipform system
- Projects with 20 units or more allow the gantry slipform to be far more efficient in cost and program along with reducing inclement weather risk.



Slipform Engineering: Port Facility

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Any Questions?

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