CLARK-DRAIN
DRAINAGE & ACCESS SOLUTIONS

Case Study:

Clark-Drain's Collaboration with Kier Group on the UK's First Carbon-Neutral Prison



Above: The JCB truly putting to the test the strength and endurance of our drains at Full Sutton.

Project Overview

Clark-Drain are supporting Kier Group with the ground-breaking construction of the UK's first carbon-neutral prison, located at the Full Sutton site in the East Riding of Yorkshire. The 1,500-bed Category C "mega" prison will be the first to be zero-carbon in operation, and once built, will run fully on electricity. Other sustainable design features also include solar panels, heat pumps and more efficient lighting systems to reduce energy demand. This collaboration marked the continuation of Clark-Drain's relationship with the Ministry of Justice, where they have been a trusted partner on other high profile projects such as the multi award-winning HMP Five Wells in Wellingborough which opened in March 2022.

Key Contributions

Clark-Drain partnered with Kier from the specification stages, working collaboratively to deliver the best advice and solutions to meet the demands of this challenging build. Of the 419 access points required to house the extensive electrical infrastructure buried throughout the site, Clark-Drain manufactured and delivered 418 of them. The heavy-duty access chambers, made from recycled polypropylene, were custommanufactured at Clark-Drain's factory in Yaxley, Peterborough. The use of polypropylene not only made the chambers easier to manoeuvre on-site, reducing the need for heavy lifting equipment but also aligned perfectly with the project's sustainability goals.

Innovative Solutions

Recognising the need to streamline the delivery process, Clark-Drain added small ‘feet’ to each heavy-duty access chamber, raising them slightly off the ground. This innovative feature allowed forklifts to easily slide under each chamber, straight from the lorry or on the ground, speeding up unloading and distribution. This approach completely eliminated the need for additional pallets, massively reducing waste and improving site efficiency. The feet were never removed as they were also found to help with alignment into the designated pits.

On delivery to site each chamber was allocated specific codes so their exact location and installation could be managed and monitored. This was critical, as the security access lids and supporting frames had to be installed together with each being an exclusive fit and supplied together to be considered as a single unit. Kier had specified that the lids must be capable of withstanding up to 40 tonnes of pressure, so worked closely with Gatic to deliver the final result.

To support the weight of the lid and frame, concrete surrounds were fabricated on-site. These sat comfortably on the polypropylene access chamber construction. The chambers were pre-drilled offsite, allowing for swift installation upon arrival.



Above: Clark-Drain experts offering support and project management to the wider team at Full Sutton, building our relationship with Kier Construction and ensuring a smooth process.

On-Site Flexibility and Support

Given the complex nature of the project, Clark-Drain’s polypropylene chambers offered additional flexibility. If last-minute changes to cabling routes were required, the chambers could be easily cut on-site with standard tools, a feature that proved invaluable.

Throughout the project, Clark-Drain provided consistent support, with a dedicated project manager overseeing the process. This continuity ensured smooth communication and strengthened a strong, trusting relationship with Kier and the teams on-site. Their expertise and proactive problem-solving were pivotal in meeting the project’s deadlines and overcoming on-site challenges.

Neil Shearstone, Construction Manager for Kier said; “We had a great experience working with the team at Clark-Drain. They were quick to respond, knowledgeable and supported us to hit objectives.”

Positive Impact and Future Outlook

Kier Group praised Clark-Drain for their exceptional support and expertise, noting that the smoothness of the process was greatly enhanced by the consistent project management and on-site training provided. The collaboration has not only kept the project on track for its early 2025 handover but also established new techniques and knowledge that will benefit future projects of this nature.

Small yet impactful details, like the delivery driver's advance call to notify the site team of his arrival, further streamlined communication and contributed to the project's success. Working together towards a shared goal, Clark-Drain and Kier have set a benchmark for future sustainable construction projects in the UK.



Right image: A marque of excellence, even when dusted with construction materials, the brand name shines with a sense of permanence.

Working with Clark-Drain

Clark-Drain are leaders in the design, manufacture and distribution of access solutions and drainage products for the built environment.

We are proud to stamp our name onto all of our products. It's our signature – representing over 60 years of expertise and a reputation for performance and innovation as we are trusted to meet the challenges of the changing world.

A trusted partner

For more information on how Clark-Drain can help your business deliver robust, costeffective, environmentally responsible cable access solutions, no matter how big or small your project, get in touch. We are highly experienced in Civils and Infrastructure, Residential & Landscape, Commercial & Retail, Defence and Security.



Clockwise from top: The complexity of cabling and piping required for such a large build, a reminder of how essential solid and endured drainage and coverage is to industrial builds; The full view of Full Sutton, the first net zero prison of its kind, an exciting venture and collaboration with Kier Construction.



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Neil Shearstone, Construction Manager
Kier Contruction