



EFFICIENT DESIGN FOR SAFE CONSTRUCTION USING PRECAST CONCRETE KERBS

Case Study – April 2008

SUPERMARKET DISTRIBUTION WAREHOUSE, DONCASTER

BACKGROUND

Interpave has worked closely with HSE in developing good practice guidance for the use of precast concrete paving products on site. Also, Interpave members work within their supply chains to promote and deliver safer working practices. This case study provides just one example of an Interpave member working to reduce risks on site by using efficient design.

PROJECT AND BRIEF

Heavy duty kerbs were required at this new Distribution Warehouse at Redhouse Business Park near Doncaster to contain a substantial flow of large delivery vehicles: because of their durability and resistance to impact loading, precast concrete kerbs offered the ideal solution. The brief from the main contractor was to eliminate on-site cutting of the kerbs, despite complex layout requirements.

PRINCIPLES

Cutting concrete kerbs without the correct precautions can produce dust that could cause health problems. Guidance on managing the risk can be found in Interpave's 'Cutting Paving – Cutting Precast Concrete Blocks, Flags and Kerbs – Efficient Design and Managing the Risk' which highlights the correct hierarchical approach when planning work – **AMC**:

Avoid cutting

Minimise cutting

Control dust generation during cutting



Moulding off site



Saw cutting and drilling under factory controlled conditions



SOLUTIONS

The Interpave manufacturer for this project worked closely with the contractor and applied three approaches to achieving the brief, in line with the **AMC** principles:

1. Optimise use of current standard kerb units in the design. Unlike other kerb materials, an extensive range of precast concrete kerb designs is readily available to simplify this task.
2. Develop and manufacture special units. With precast concrete, this is a straightforward and cost-effective process.
3. Where necessary, cut, and drill existing kerb units in the factory under safe, controlled conditions.

As part of the manufacturer's design service, consulting engineers' drawings were used to develop these solutions to meet all the requirements.

BENEFITS

This approach offers clear benefits to all involved:

For the Designer

- †Early involvement of manufacturer's specialist expertise
- †Straightforward and cost-effective solutions
- †Meeting designer's responsibilities under CDM Regulations.

For the Builders Merchant

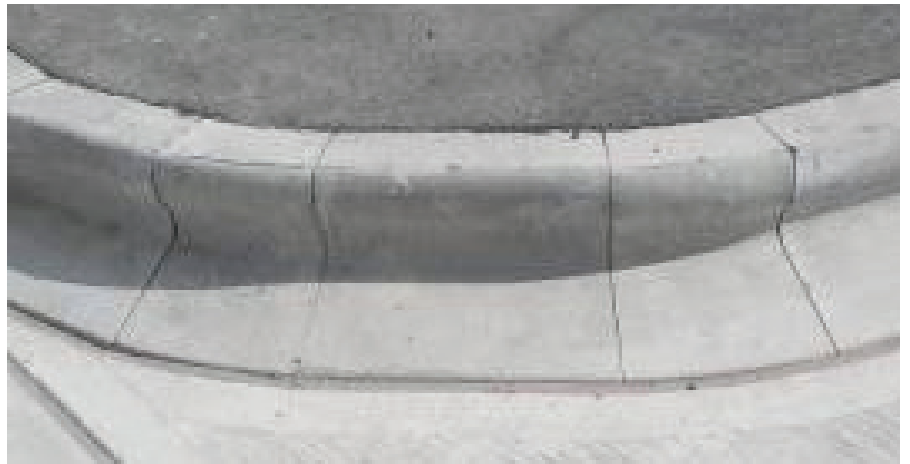
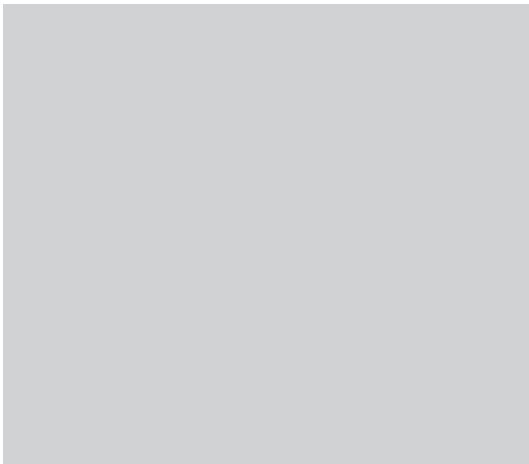
- †Straightforward procurement route
- †Single point technical expertise.

For the Contractor

- †Step-by-step installation drawings for efficient working
- †Straightforward programming of work including phasing
- †Effective risk management and minimisation.

For the Site Operative

- †Elimination of health risks from incorrect site-cutting.



FURTHER INFORMATION

Contact Interpave manufacturers via www.paving.org.uk to find out about the services they offer to make construction using precast concrete paving and kerbs more cost-effective whilst minimising construction risks.

Cutting Paving – Cutting Precast Concrete Blocks, Flags and Kerbs – Efficient Design and Managing the Risk is available free of charge from www.paving.org.uk. A wide range of other documents on designing and using precast concrete paving products can also be found at this website, including guidance on handling concrete flags and kerbs.