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## About USL

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Having led the way as the UK's most prominent specialist contractor for over 30 years, USL Structure Care's team consistently exceed expectations from initial defect diagnostics, value engineering at specification and works scoping stage, through to project completion.

Our multi-disciplined and problem solving approach coupled with a desire to consider every possible solution ensures customers achieve the best results, on time and on budget.



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## About intu Merry Hill

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intu Merry Hill is one of the UK's most successful shopping centres and is the focal point of a 220 acre mixed-use complex in the heart of the West Midlands. The 140,800 square metre shopping centre provides over 220 stores and has an annual footfall of 23.5 million shoppers. The complex includes 40 places to eat, an Odeon cinema, external retail park and over 8,000 car parking spaces. The centre is joint owned by intu Properties plc and QIC.





## Structural Motivations

The Purple Car Park at Merry Hill is a three storey car park providing a series of permanent openings along the east and west elevations at ground and first floor levels. The top storey provides roof level parking and is approximately 6.1m above ground level.

The middle deck of the three storey Purple Car Park has been closed for four years, amounting to a loss of 350 parking spaces. In addition, the lower and upper deck were in need of complete refurbishment. New centre owners at Merry Hill began a comprehensive refurbishment programme early in 2015, and following completion the car park now offers over 1,000 spaces on three levels.

The refurbishment of the Purple Car Park became necessary following the discovery that some of the car park's steel support beams, soffits and columns had become severely corroded over time from water ingress from the upper (top) deck. The corrosion had also had an impact on the applied fire protection to the car park's structure. In some areas, there was no existing fire protection at all as the fire boarding had crumbled as a result of water ingress. There was significant deterioration of the mastic asphalt wearing surface on the upper deck.

It was determined that the mastic asphalt wearing surface to level 3 would be replaced like-for-like, so a new mastic asphalt wearing surface was installed. The steel frame on the lower levels was blasted using a quill-blast technique to remove existing paint. A high-performance intumescent paint was then sprayed to all areas and finished with a decorative layer of white paint. The lower decks of the car park, originally surfaced with a combination of mastic asphalt and macadam, were overlaid with a high performance system incorporating a fast-curing polyaspartic top coat, so that the car park could be returned to service quickly on completion of the works.

## Background

The Car Park is located at Merry Hill Shopping Centre, West Midlands DY5 1QX. One of several at the site, the car park in question is located next to the entrance of Sainsbury's, and is known as the Purple Car Park.





## Environmental considerations

The removed mastic asphalt wearing surface, totalling around 450 cubic metres, was recycled rather than sent to landfill. Lighting to all areas has been replaced with LED fittings, providing considerable financial and environmental savings over the years.

The new installation using LED vapour proof luminaires are 61.8 watts per luminaire with a total wattage of 40170 watts. This provided an estimated energy saving of 47% against the previous lighting scheme.



## Business motivations

As a super-regional centre, intu Merry Hill provides free parking for all its 23.5 million visitors per annum and at peak times of the year there are parking pressures which affect overall satisfaction for visitors.

intu is a proud and exciting new brand that is underpinned by an internal unifying thought “we make joy” that aims to make all encounters with shoppers and stakeholders a joyful one. As one of the first and last contact points with the centre, the car parks need to embody our strong brand and make the visitor’s experience positive and memorable.

The refurbishment of the middle deck of the Purple Car Park has provided an additional 350 spaces as the centre heads into its busy Christmas period in 2015.

During an average 76 hour shopping week, 75 per cent of visitors will arrive by car, each staying for approximately 1.5 hours – meaning that the middle deck alone, with its 350 spaces could accommodate up to 13,300 visitors.

To keep the majority of the car park open across the duration of refurbishment, contractors USL took possession of just 50 per cent of the car park’s upper deck, setting up a temporary traffic management system to allow the other 50 per cent to be kept in use. When refurbishment of the upper level was completed, USL took 50 per cent of the ground floor to allow works to continue.

Close liaison between intu centre management and USL was critical throughout the project to ensure that sufficient parking bays were available for customers, particularly at weekends.



## Budget

The project was jointly funded by joint owners intu Properties plc and QIC. Initial budget considerations were around whether to demolish and rebuild car park, or refurbish the existing structure.

The estimate to completely rebuild the car park was around £10k per space bringing the over cost in excess of £10m.

The more cost effective, and quicker option was to refurbish at a cost of over £2m. This meant that there was also less impact to the customer because areas of the car park remained operational for longer.



## Customer motivations

The location of the car park – outside Sainsbury's supermarket and a main entrance into the centre – means that it's constantly busy and popular with mothers with children. Comfort, ease of use of facilities and the safety of our customers are of paramount importance to intu Merry Hill. The introduction of defined, brightly coloured and anti-slip pedestrian walkways will aid user circulation and increase safety. The new layout and the installation of new easy-to-locate internal and external directional signage provides a more user-friendly flow of traffic and ease of navigation.

Security considerations include a full lighting refurbishment undertaken to comply with British Standard requirements. This includes the provision of new, energy efficient high-lumen LED light fittings to all levels.

The car park has fully monitored CCTV coverage and Help Points on every level. The safety standards have been recognised by the Association of Chief Police Officers (ACPO) and have accredited the scheme with the prestigious Car Park Award.

The newly refurbished asset will be added to our existing Plan Prevention Management (PPM) system allowing our facilities team to mitigate the risk of planned maintenance.

Finally, an anti-carbonation coating was applied to all exposed concrete areas to protect the car park against further deterioration and to improve its looks. The exterior of the Purple Car Park was repaired and cleaned and now boasts improved visual aesthetics which will ultimately add to the feeling of comfort and safety for all intu Merry Hill customers.



## Our Prior Considerations

- **Development & Refurbishment** - undertake an environmental impact assessment (EIA) on major schemes in line with statutory requirements and best practice guidelines e.g. Institute of Environmental Management and Assessment (IEMA) EIA guidelines.
- **Energy Use** - Comply with the provisions of The Energy Performance of Buildings (Certificates and Inspections) (England and Wales) Regulations 2007 or similar relevant and applicable legislation relating to the requirement to produce Energy Performance Certificates.
- **Materials Specification** - procure Forest Stewardship Council (FSC), or alternative equivalent internationally recognised certifying body, certified timber unless no alternative is available. Ensure that any hardwood timber specified for finishes etc. is not vulnerable / endangered.
- **Water Conservation** - investigate the feasibility of grey-water recycling and rainwater harvesting in larger developments.
- **Site Ecology** - specify low water-consuming planting and landscaping.
- **Construction** - seek to be a 'good neighbour' and ensure that noise, nuisance, dust and site generated traffic movements are minimised. Install mitigation facilities during construction/ demolition for control of mud, dust and other nuisance emissions to the surrounding environment.
- **Waste Management** - ensure that contractors develop a site waste management plan during construction which complies with the requirements and obligations of the Site Waste Management Plans Regulations 2008.
- **Property Management** - to manage existing properties to achieve an appropriate environmental impact commensurate with their use.
- **Transportation** - provide customers and staff with comprehensive information on local public transport (e.g. timetables) and cycle routes. Encourage car sharing, where possible, amongst staff and retailers.
- **Waste Management** - ensure compliance with all relevant environmental legislation, and ensure contractors comply with standards.

intu Merry Hill is a major player in the retail and community life of Dudley residents and I was delighted to formally open the car park which intu have bought back into service very quickly since they took over the centre. It will be a real boost to shoppers!

Cllr Steve Waltho, Mayor of Dudley



## Glossary

**Polyaspartic** - a fast drying floor coating, a sub group of polyurethane

**Intumescent** - a substance that swells as a result of heat exposure, thus increasing in volume and decreasing in density. Used in fire retardant coatings

**Mastic Asphalt** - waterproofing material

Appendices: Pre-development photos



