



Lighting and Illumination Technology Experience
Limited



Case Study

Dumbarton Bridge



Dumbarton Bridge was originally built over the River Leven in 1765 and was widened in 1884 and reconstructed in 1934 when the Balustrade was added. It is a 5 span bridge built with dressed stone arch rings and stone rubble spandrels and Ring Walls. The Arches are segmental and increase in size towards the central arch. The Bridge links the two parishes of Dumbarton to the East & Cardross to the west. Dumbarton Bridge is the lowest bridge on the River Leven which is one of the fastest flowing tidal rivers in Scotland. During exceptionally wet years the river can burst its banks and the base of the 5 arches of the bridges can be under water.



Working closely with a Lighting Consultant, LITE were asked to provide a technical proposal that would include the Design, Supply and Installation of Dynamic LED lighting to enhance this important architectural feature in the heart of Dumbarton. The final design concept would include IP68 Spot light luminaires located just above the river tide level under the arches and linear Graze luminaires under the overhanging walkways.



In addition to the technical design, there was much to consider with regards to the installation methodology. The bridge is a busy thoroughfare with pedestrians, traffic and public transport, therefore any potential bridge closure during the installation would have a huge impact on local the community and businesses. LITE and there installation team provided a solution which allowed the bridge to be open continuously throughout the 3 week installation period, by using under-bridge access equipment and clever traffic management. The decision to use this type of access equipment was pivotal to the smooth process of the install, allowing our engineers easy access to all parts of the bridge safely. This also allowed the engineers to take the necessary time to conceal all cabling as best as possible. As an additional safety measure LITE took the decision to include a river rescue boat as part of the overall install, this was due to the fast flowing water beneath the workforce and the potentially high tide.

This was a project which had some huge challenges, in particular surrounding the installation working conditions, environment and the potential risks to the workforce. Great care and consideration was taken to ensure that the risks were minimised or removed and the impact of the installation did not have an adverse effect on the local community.

The final result highlights the five arches and buttresses. With complete control of all of the light fittings via a Pharos LPC and remote access using a 3G sim card the customer has the flexibility to react quickly to unexpected requests.





Head office:



Lighting and Illumination Technology Experience
Unit 2, Farrington Place,

Rosendale Road Industrial Estate, Burnley, Lancashire. England, UK. BB11 5TY

Tel: **0845 8732 601** Fax: **0845 8732 602** E-Mail: sales@lite-ltd.co.uk Website: www.lite-ltd.co.uk