

Aesthetic Lighting and Security Lighting

by Faith E. Baum, Illumination Arts LLC



At the Biloxi Bay Bridge in Mississippi, a pedestrian pathway and small park engage the shoreline and allow for beachcombers to pass under the structure.

The goal of aesthetic lighting for a transportation structure is to create a beautiful and memorable lighting solution that is a reflection of the community and the context in which it is located. While the intent of aesthetically illuminating a signature bridge in particular is to create an iconic nighttime image for that community, it can also be used to artistically address a number of technical and utilitarian issues.

Examples of this can be seen in the designs for the Biloxi Bay Bridge in Mississippi and the Cypress Avenue Bridge in California.

Biloxi Bay Bridge

Along the shoreline of Biloxi Bay, as the bridge approaches its abutments, a pedestrian pathway and small park engage the shoreline and allow for beachcombers to pass under the structure.

Here the aesthetic lighting design seeks to highlight the concrete girder pattern under the bridge by placing narrow beam, metal halide floodlights between the girders. In these locations, light is reflected off the underside of the bridge deck, providing sufficient illumination for the pathway and circulation area and making pathway-specific lighting unnecessary. As an “intended consequence,” the lighting of the structure in this area improves security under the bridge, along the shore and in

the park, rendering security lighting redundant.

Cypress Avenue Bridge

Similarly, the Cypress Avenue Bridge in Redding, Calif., crosses both the Sacramento River and a local road, creating a large vertical abutment wall at the roadway underpass. Matching the scale of the river piers, the continuation of the pier lighting to this abutment wall provides a cohesive, aesthetic lighting solution, while also eliminating a potential safety and security hazard under the bridge.

Metal halide wallwashers illuminate the textured,

vertical surface, eliminating shadows and welcoming pedestrians to traverse the area beneath the bridge. Though roadway lighting is still necessary, the abutment wall lighting provides ample illumination for the landscaped pedestrian path that is adjacent to the wall. As with Biloxi Bay Bridge, the aesthetic lighting solution addresses a security lighting concern, saving energy and cost, and maintaining the aesthetic integrity of the bridge design.

A signature bridge structure is not designed to merely solve a transportation problem, and the most successful of such structures are those that seamlessly address operational, aesthetic, and contextual issues. For the lighting designer of such a complex structure, finding synergies in overlapping functions is one of the ways in which they can participate in solving some of the thorniest issues of safety and security. Working in partnership with the owner, design team, and local community, the lighting designer can help achieve all of the lighting-related project goals with a sensitive and artistic hand, while reducing first costs, maintenance costs, and energy costs.

Faith E. Baum is principal with Illumination Arts LLC in Bloomfield, N.J.



Light is reflected off the underside of the Biloxi Bay Bridge deck, providing sufficient illumination for the pathway and circulation area and making pathway-specific lighting unnecessary.



The Cypress Avenue Bridge in Redding, Calif., uses metal halide fixtures to illuminate the textured, vertical surface, eliminating shadows and welcoming pedestrians to traverse the area beneath the bridge.



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EDITOR'S NOTE

For more on the Cypress Avenue Bridge, see the Summer 2011 issue of *ASPIRE*,™ page 36.