

RENEWWRAP®

Carbon Fiber Reinforced Polymer



CASE STUDY:

St Bernard
Parish, Louisiana

OVERVIEW

Engineers from the Louisiana Department of Transportation (LADOT) identified a bridge that required flexural strengthening and repair of spalling concrete on the underside. The busy bridge is raised and lowered around 800 times a month so they needed to find a repair solution which would cause the least disruption to the bridge's operation as possible.

SOLUTION

LADOT called on contractor C.E.C. to complete the repairs to the bridge, who in turn recommended the application of GeoTree's RenewWrap CFRP system. Having previous experience using RenewWrap repair products, C.E.C. knew it would be the ideal solution to repair the damage due to its high strength, ease of use, and the support provided by GeoTree. C.E.C. called on Durable Piling Restoration to carry out the install.

A 4-person installation team from Durable Piling Restoration was deployed to the site, and the application was observed by two LADOT representatives and one GeoTree product specialist. Taking three days to complete the work, the longest part of the repair involved the removal of spalling concrete. The largest area of spalling was of a 2ft by 2ft section of concrete which was crumbling and falling away. This portion was chipped away until all loose concrete was removed, a repair mortar was then used to patch the resulting hole.

Bugholes in the concrete were repaired with GeoTree's EZ Paste repair putty and the RenewWrap material was then installed over this repair covering 18, 16ft-long spans using RenewWrap CF335 1x24". Due to the large section being repaired, a dry lay-up technique was used. This involved a layer of resin being applied to the substrate at all locations where fabric was going to be installed. After approximately 15 minutes, once the resin was tacky, the dry fabric was rolled out onto the resin with a further layer of resin then coated onto the hung fabric.

The installation team faced the challenge of having to fit the RenewWrap product to the underside of the bridge in a cramped, overhead, and above water situation which was complicated by the rising and lowering tides. To manage variable elements, the repair was conducted from a boat anchored to the riverbed under the bridge.

PROJECT DETAILS

Location: St Bernard Parish, St Bridge #46, Louisiana

Application: Bridge Slab Strengthening

Installation: September 2020

Contractor: C.E.C. Inc.

Installer: Durable Piling Restoration, LLC



Severe spalling to the underside of the bridge



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STRUCTURAL STRENGTHENING

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GeoTree's President John Hepfinger said: "GeoTree's RenewWrap was definitely the ideal solution to this issue. The product is fast and easy to install and can be fit under the most challenging of conditions by experienced installers. LADOT can now have peace of mind that the bridge is safe and secure and will be for many years to come."



Completed RenewWrap CFRP install



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Before using any GeoTree product, the user must review the most recent version of the product's technical data sheet, safety data sheet and other applicable documents, available at www.geotreesolutions.com or by calling +1.855.655.6750.

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