

CASE STUDY

Parks & Recreation

Project Specs

Location: Howarth Park Beach Access - Everett, WA

Application: Pedestrian Bridge over BNSF Railroad Tracks

Products: Dynaform® Structural Shapes, Aqua Grate® Pedestrian Pultruded Grating, Fiberplate® Sand Shields

Overview

The Howarth Park Pedestrian Bridge is a Cor-Ten weathering steel box truss structure that was installed in 1987. It provides the only access to a popular stretch of beach in south Everett. In 2015, KPFF Consulting Engineers deemed the existing bridge unsafe for pedestrians. The bridge was closed immediately, and it was determined that, at minimum, it needed to be repaired if not replaced entirely.

Problem

Weathering steel stringers with timber decking never allowed the steel to dry, thus preventing the formation of the oxide patina needed to protect the steel members. Over a short span of 28 years, the steel had corroded and failed. Weathering steel was originally used to reduce maintenance and lengthen life span which was thought to be over 100 years. Replacement would be costly, and repairs over the BNSF railroad would be difficult. Getting to the bridge was also difficult. Due to its hillside location, it could only be accessed by stairs.

Solution

Dynaform® structural shapes were engineered to replace the steel stringers and did not need to be painted. The structure was strong enough to carry the load but light enough to be carried by two workers to the hillside site and assembled. Fiberplate® Sand Shields with Corvex® resin were fabricated to deflect water and sand from the newly coated steel structure that was deemed structurally sound. Aqua Grate® pedestrian pultruded grating was used for the ADA compliant walking surface of the bridge. The 12% open area of the grating allowed both water and sand to pass through. Fibergrate's FRP solutions provided the City of Everett an extremely low maintenance and cost-effective option for repair and will provide the visitors of Howarth Park years of safe access to this hidden beach treasure.

