



Hudson Highlands Fjord Trail Beacon, NY

The Hudson Highlands Fjord Trail (HHFT) will link New York's City of Beacon with the Village of Cold Spring by creating a cohesive, 7.5-mile linear park along the Hudson River. A pivotal part of the project, the proposed bridge at the base of Breakneck Ridge will provide an essential connection point over the existing railroad tracks.

The bridge structure is made up of five spans of steel arch girders, with the main girder spanning 134 ft across the Metro-North Railroad (MNR) tracks. The bridge deck comprises glue-laminated timber deck planks that cantilever over the steel arch girder and support the vehicle guardrail and pedestrian enclosure.

Tight requirements imposed by train clearances and ADA meant the geometric refinement of the arch girder was critical and was coordinated over many passes, starting with a parametric model in Rhino and Grasshopper software and ultimately being closely refined in collaboration with Gray Organschi Architects.

Fast + Epp has worked closely with overseeing agencies to meet many design criteria, including limiting runoff, providing conduit serves for nearby facilities, providing a clear inspection approach and detailing structural connections to limit future maintenance. The accessibly designed bridge is created to be a place for pedestrians and bikers to easily pass over the tracks and enjoy spectacular Hudson River views while experiencing the biophilic benefits of the wood deck and feeling safely embraced within the bridge's stainless mesh enclosure.

Status
Design Phase

Role of the Firm
Structural Engineering

Area
400 ft² (121 m²)

Architect
Gray Organschi Architects, SCAPE and Langan

Client
Hudson Highlands

Budget
US\$28 million

Team
Kristina Miele

