

# Construction & Re-Alignment of Bridge X-09 CR 565 over Papakating Creek

Township of Wantage | Sussex County, NJ



Van Cleef was contracted by the County of Sussex to provide design services for the reconstruction and realignment Bridge X-09, County Route 565, over the Papakating Creek. The existing bridge is a 72-foot long steel through-girder with a non-composite concrete deck. The existing bridge is located on a “broken back” horizontal curve with an advisory warning speed of 15 MPH due to several substandard design features including insufficient stopping distance, insufficient sight distance, substandard horizontal curvature, and vertical grade (>11%) in excess of current standards. The proposed structure has been designed to mitigate the substandard design features utilizing a single span horizontally curved steel girder structure with a composite concrete deck. The design eliminates the “broken back” curve, increases the radius of the horizontal curve and improves the vertical grade to improve sight and stopping distances. Additionally, the roadway was realigned to avoid Right-of-Way and environmental impacts due to widening and alignment improvements and as a result retaining walls were used to limit impacts of fill.

Work effort included: Structural design includes the single span, curved girder bridge, substructures; and retaining walls. Roadway design includes the realignment of County Route 565 and the improved roadway profile. Additional services included: Geotechnical investigation and foundation design; traffic engineering for detailed detour plans and signing and striping plans; utility coordination and accommodation; topographic survey and right-of-way engineering; drainage system design; preparation and approval of NJDEP permit applications for Freshwater Wetlands General Permit, Flood Hazard Area Individual Permit with Riparian Replanting plan; and public outreach program to work with local residents and other stakeholders.

## CLIENT CONTACT

Sussex County Div. of Engineering  
County of Sussex  
Newton, NJ

## PROJECT HIGHLIGHTS

- County Client
- Bridge Replacement
- Waterway Permitting
- Construction Consultation
- Utility Accommodation