

# A Roadway Wildlife Crossing Structure Designed for State-threatened Wood Turtles in New Jersey, United States

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## Habitat Fragmentation & Wildlife Mortality

River Road in Bedminster Township, Somerset County, New Jersey is a local two-lane road that bisects the preserved Stahl Natural Area, a passive use section of River Road Park. While only a local road, it is heavily traveled as it outlets to the intersection of three major highways. Reptiles and amphibians are regularly found dead-on-road as a result of vehicles striking them. Wood turtles (*Glyptemys insculpta*) and other species attempt to cross the road to nest and forage. Amphibians move back and forth to impoundments for breeding.

## Connecting Habitat Across New Jersey (CHANJ)

The Connecting Habitat Across New Jersey (CHANJ) initiative identifies core habitats for terrestrial wildlife and the optimal habitat corridors for them to travel between cores. Guidance documentation recommends conservation actions for both cores and corridors, including Best Management Practices for wildlife crossing structure design. River Road is identified in the CHANJ mapping as an intra-core barrier. Through the state permitting process, Bedminster Township constructed the wildlife crossing structures to increase permeability within the core habitat and reduce the number of roadkill animals.

## Cost Breakdown

- Trench Boxes & Grates: \$28.5K
- Fencing: \$14.5K
- Headwalls: \$1500
- Signage: \$1375
- Blacktop: \$7300
- Equipment Rental: \$3000
- Labor (with fringe): \$60K

## Design Specifications

- “Turtle Tunnels” – Five in total
- Tunnel = Three 10’ Trench Boxes & two 20’ Grate Tops
  - Internal dimension with substrate 2’ x 2’
  - Spacing: ~160 meters
- Angled Fencing – 1350 meters
- Three 1” x 6” pieces Wolmanized wood
  - Braced in ground every 4’ with 2” x 4” Wolmanized wood
  - Braced in ground every 8’ with 2’ U-Channel post

## Construction Timeline & State Regulations

Timeline: September 2014 – April 2015; Approximately 15 work days.

Regulations & Permits: Flood Hazard Area Control Act Rules (N.J.A.C. 7:13) and the Freshwater Wetlands Protection Act Rules (N.J.A.C. 7:7A); Permit 1801-03-0007.



Tunnel locations & fence path along River Road

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