



Case Study

# Nottingham Express Transit ecological management



<b>Location</b>	Nottingham
<b>Client</b>	Greater Nottingham Rapid Transport
<b>Designer</b>	Maunsell, Parsons, Brinkerhof
<b>Construction</b>	Carillion Construction
<b>Track Laying</b>	Carillion (Centrac)
<b>Tram provision</b>	Adtranz
<b>Operations &amp; Maintenance</b>	Transdev/NCT

The route of the Nottingham Express Transit tram line climbs up from alongside the Robin Hood railway line, which serves mansfield, to street level on a new embankment at Wilkinson Street, 4km from the city centre.

The embankment is built through abandoned allotment gardens and a small marsh, dominated by reedmace (*Typha latifolia*) with frequent (*Solanum dulcamera*) and great willowherb (*Epibium hirsutum*) in the dryer patches. The marsh is bounded in the north by a ditch.

Another ecological problem has been the identification of Japanese Knotweed. This plant, imported during the mid-nineteenth century as an ornamental plant, has since developed to the detriment of the native flora. Furthermore, this plant can cause structural problems as it can grow through blacktop and foundations.

Carillion is an equal partner in the Arrow Consortium, alongside Adtranz, who are supplying the trams and signalling systems, and a joint venture between European tram operator, Transdev, and Nottingham City Transport the local bus company

The marsh was investigated by the project IMS department due to fears that it may support a great crested newt (*Triturus cristatus*) population. The conclusion drawn by both the IMS and the Nottinghamshire Wildlife trust was that the marsh was unlikely to have a newt population.

The plant is now regarded as a controlled waste. The bushes of Knotweed have been fenced off to avoid land disturbance from our operations. The areas contaminated will soon be treated accordingly.

## Environmental Initiatives

<b>Wildlife Protection</b>	Mitigation measures for a moorhen habitat. Water voles on site and crayfish in the River Leen. Removal of Japanese Knotweed.
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However, concerns were raised with regard to water voles (*Arvicola terrestris*) due to the presence of the ditch. Expert advice was sought from Baker, Shepherd and Gillespie (BSG), an ecological consultancy that has been previously involved in Carillion projects.

The Environment Agency has expressed its concern about the impacts possible on crayfish in the River Leen, which the tramline will in some places follow. Consequently, it has been decided that prior to the start of the operations on the riverbed, the loose rocks and plant life located in the work area will be removed. This will reduce the habitat and minimise the impact on the crayfish population. When the construction of the structure is achieved, the loose rock will be replaced and the vegetation allowed to re-colonise naturally.

The BSG survey revealed the presence of a moorhen (*Gallinula chloropus*) nest close to the track alignment as well as nests and burrows of water voles in the ditch area.

Mitigation measures were taken after consultation with the regulatory bodies, English Nature and the Environment Agency. To protect the moorhen habitat, construction was strictly confined to the track alignment.

Close co-operation with all parties ensured that the impact on the works programme was minimised while maintaining the projects environmental credibility with the Client and regulatory bodies.

In the ditch area a trapping session of 5 days was organised. 8 water voles were caught and were relocated locally in the marsh area not affected by the project activities. A separation fence was placed between the tram route and the marsh to prevent the water voles re-colonising their original habitat.