

**Enoggera Creek Bennett Road box culvert fishway**

PS08



(Photo: Ross Kapitzke 08/12/07)



(Photo: Ross Kapitzke 02/12/09)



(Photo: Ross Kapitzke 21/05/10)

- Bennett Road box culvert fishway project is located on Enoggera Creek – a tributary of the Brisbane River in Brisbane
- Enoggera Creek is a major waterway in Brisbane’s western suburbs and has up to 11 native freshwater fish species
- the crossing is a barrier to fish migration under most flow conditions and is located within valuable habitat areas in the creek
- project developed through collaboration with Dept of Infrastructure and Planning & Brisbane City Council – 2010 completion

**CLIENT AND PARTNERS**



**Department of Infrastructure and Planning**



**Brisbane City Council**



**PROJECT OBJECTIVES**

- provide for upstream fish passage at crossing
- retain integrity and function of culvert structure
- enhance ecological value of stream corridor
- provide demonstration site for community

**SCOPE OF WORK**

- concept design of fishway facility
- design and development of culvert fishway
- specialist construction guidance for fishway facility
- hydraulic and biological monitoring and evaluation

**CROSSING DESCRIPTION**

- 2-cell 3000 x 1800 mm box culvert 12 m long
- box culvert slope approx 1 in 200 (0.5%)
- upstream and downstream aprons with wingwalls
- water surface drop (0.5 m) at downstream apron

**MIGRATION BARRIERS**

- water surface drop downstream of culvert
- shallow water depths on downstream apron
- high velocity in culvert in low and medium flows
- regular culvert cross section and lack of rest place

**MITIGATION MEASURES**

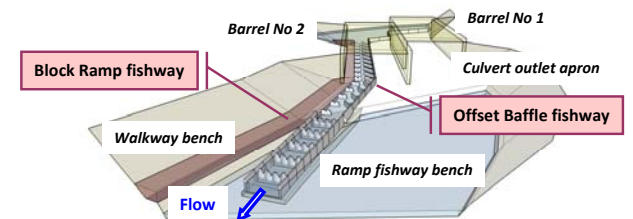
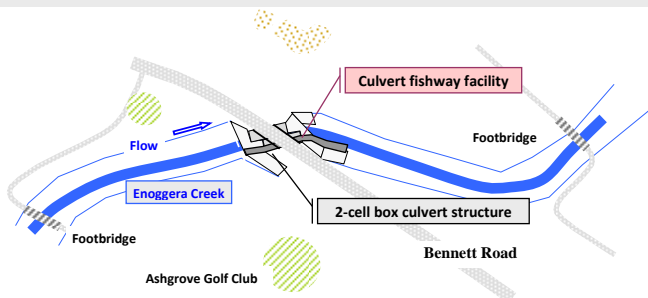
- Zone A (D/stream channel) – Block Ramp fishway
- Zone B (outlet / apron) – Offset Baffle fishway
- Zone C (culvert barrel) – Offset Baffle fishway
- Zone D (inlet / apron) – Training Wall / exit works

**OTHER FEATURES**

- hydraulic and biological monitoring facilities (gauge boards, flow control boards)
- access facilities (walkway, steps, handrails)
- provisions for adaptation and testing

**REFERENCES**

- Kapitzke 2010, *Enoggera Creek Bennett Road culvert fishway – Summary design report*
- see [Walaman Blog](http://walaman.com.au/blog/) at <http://walaman.com.au/blog/>
- see <http://www.youtube.com/walamanfishways>



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**Fish passage planning and design for small waterway structures**

JCU School of Engineering and Physical Sciences provides consulting and R & D services in fish passage planning and design, and development of fishway technology for small waterway structures (e.g. road culverts). Fish passage facilities (e.g. baffles, ramps) are designed to meet multipurpose requirements, overcome hydraulic barriers (e.g. high velocities, water drop), and mitigate connectivity impacts. Scope of services includes catchment prioritisation, corridor scale planning, site design and evaluation, product development.

**CONTACT**

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