Carney Mill Road Bridge

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Existing Bridge
Existing Bridge:
15 t Load Limit, Narrow for Pedestrians
Existing Bridge: Stream Banks OK, Abutments Poor!
Existing Abutment
Existing Bridge

- 25 m Span "Bailey" Bridge
- "Temporary" several decades earlier
- Load limited to 15 tonnes (approx. 20% of legal highway load)
- Steel deteriorating
- Poor abutments
- Pedestrians sharing narrow roadway with traffic
- Greater flood clearance desired

- Could be removed and not replaced, existing highway bridge nearby
- Replacement not in Owner's current budget, until timber bridge incentive program provided
New Bridge

- Approx 20m minimum span required
- Permanent bridge
- No load limit (63,700 kg design vehicle)
- Timber structure desired
- One traffic lane, but wider to share with pedestrians
- Improved flood clearance to be provided
- Roadway not to be raised: existing streets and driveways
- Available depth for structure 0.6m
- Minimize disruption to stream

Solution: glulam timber arch with shallow deck structure
New Bridge: Glulam Timber Arch
Deck Cross Section

- **Symm Abt C Bridge**
- **5880 G/O Deck**
- **2940**
- **5100 Lane**
- **2940**
- **290**
- **100**
- **1470**
- **GLULAM Deck Panel, Typ**
- **100**
- **100**
- **100**
- **100**

**Floor Beam, Typ**

- **3-19 Dia Carriage Bolt Per Interior Panel at Each Floor Beam, Alternate Bolts Either Side of Floor Beam Web**
- **2-19 Dia Carriage Bolt Per Exterior Panel at Each Floor Beam, Alternate Bolts Either Side of Floor Beam Web**

L 102 x 76 Continuous Pavement Edge Angle, Typ
Deck Plan
Minimal Impact on Stream
Abutments
Single Truckload of Glulam Timber
Galvanized Steel Deck Grid
Arch & Tie Beam
Arch Bearing

BASE PL 38x600
PL 19x50 4 SIDES
BEARING PL 38x300x340
3x3 SHEAR STUDS @ 120 EACH WAY
38 DIA ANCHOR BOLT, SEE DWG 0919-103

GALV COVER PL 6 x 150 DIA c/w 6–#12x38 HDG OR SS WOOD SCREWS EQUAL SPACES, TYP

SLOT GLULAM 20x152x300, TYP

40 DIA HOLE FOR 38 DIA BOLTS, TYP

EMBED PL 38x400x440
Arch Erection
Arch Erection
Arch End Details
Hanger / Tie Beam / Deck Detail
Deck Panels
Crash-Tested Barrier Design
Barrier Detail
Barrier Post
Complete Prior to Paving and Barrier
Paving
End Joint Sawcutting
Completed Bridge
Completed Bridge
Completed Bridge
Completed Bridge
Thank You For Your Attention! Questions?