Appendix 3.29.4

**Watercourse Fencing – Intensive Drystock**

**Assumptions:**

- 248ha intensive drystock operation on predominantly class III and IV land located in the Mahurangi Catchment.
- Intensive paddock subdivision (47 paddocks), however no watercourses currently fenced to allow for stock access to water.
- Fencing on one side required where current paddock boundaries are already on one side.
- Fencing length on one side is total length of watercourse plus 15% to allow for extra angles.
- Fencing on both sides required where watercourses run through middle of paddocks.
- Fencing length both sides is total watercourse length plus 30% to allow for width of planting and extra angles.
- For maintenance purposes, fence life is assumed at 30 years.
- All fencing is able to be located outside of the floodplain, and will be eight wire post and batten.
- Watercourse fencing cost inclusive of any earthworks required.
- Total fencing cost is plus 10% to allow for any extra contingencies.
- Watercourse crossings required between paddocks that will be isolated by new fencing.
- 3 metre setback on both sides of both stream types, with an average watercourse width of 0.5m and planting spacing of 1 plant/square metre.
- Best efforts have been made to find actual costs, however some assumptions are made on expendable items.
**Watercourse Lengths**

<table>
<thead>
<tr>
<th></th>
<th>Permanent Watercourse Length (m)</th>
<th>Fence Length (m)</th>
<th>Intermittent Watercourse Length (m)</th>
<th>Fence Length (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fence One Side</td>
<td>5582</td>
<td>6419</td>
<td>820</td>
<td>943</td>
</tr>
<tr>
<td>Fence Both Sides</td>
<td>3830</td>
<td>8809</td>
<td>3441</td>
<td>7914</td>
</tr>
<tr>
<td><strong>Total Length</strong></td>
<td><strong>9412</strong></td>
<td><strong>15228</strong></td>
<td><strong>4261</strong></td>
<td><strong>8857</strong></td>
</tr>
</tbody>
</table>

Total fencing required – 24,086m

**Fencing Costs – 8 wire post and batten**

$20/m inclusive of materials, labour, transport and earthworks

24,086m @ $20/m = $481,720

Plus 10% contingencies = **$529,892 plus GST**

Maintenance = **$17,663/year plus GST**

**Fencing Costs – 3 wire electric**

$14/m inclusive of materials, labour, transport and earthworks

24,086m @ $14/m = $337,204

Plus 10% contingencies = **$370,924 plus GST**

**Watercourse Crossings**

12 new minor crossings and 1 major crossing required
Minor Crossing

- Will meet permitted activity requirements – no resource consents required

Farm boss culvert pipe 500mm x 6m = $1,342

Excavator Hire 5 hours/crossing @ $100/hour = $500

Labour Hire 5 hours/crossing @ $30/hour = $150

Rip rap and other metal 5m @ $45/m = $225

Gates (2 for each crossing) including labour = $300

12 crossings @ $2517/crossing = $30,204

Major Crossing

- Will require piped ford, with 5 culvert pipes and concrete overlay
- Will not meet permitted activity requirements, therefore resource consent required
- Assume fencing and planting of watercourses will meet offset mitigation requirements
- Engineering design and approval will be required – assume it will be granted

Resource Consent and Engineering Approval Costs – to prepare application and process = $10,000+

5 Farm boss culvert pipe 500m x 6m = $6,710

Excavator Hire 20 hours @ $100/hour = $2,000

Labour Hire 20 hours @ $30/hour = $600

Rip rap and other metal 25m @ $45/m = $1,125
Gates including labour = $300
Concrete for crossing = $500
Timber = $500
Major crossing = $21,735
Total Costs = $51,939 plus GST

Alternative Water Supply

47 troughs @$650/trough = $30,550
47 50mm alkathene pipe@ 150m/paddock @ $590/100m = $41,595
Fittings = $500
Bore and pump installation = $15,000
2 Water Tanks @ $2700 = $5,400
Labour 10 hours/trough @$30/hour = $14,100
Total Costs = $107,145 plus GST

Planting

Watercourse length = 13,973m
Planting width = 6m (3m each side)
Total planting area = 83,838m²
Total plants required = 83,838
83,838 plant supply @ $1.90/plant = $159,292

83,838 planting @ $1.50/plant = $125,757

Initial weed control 8.38ha @ $900/ha = $7,545

Release Spray 83,838 plants @ $0.20/plant = $16,768

Total Costs = $309,362 plus GST

PROJECT TOTAL COSTS = $998,338 plus GST

Disclaimer: While all attempts have been made in providing as accurate information as possible, some of the assumptions made may impact on the overall accuracy of the estimates. The nature of the works estimated can be affected by many on the ground influences that are unknown at the time of estimation, and this estimate should be used for guidance only.