



NOTE: THE LIP OF THE CULVERT APRON SHALL BE PLACED AT THE DITCH BOTTOM. IF THE DITCH IS DEEPER THAN THE MINIMUM, THE LENGTH OF THE CULVERT SHALL BE EXTENDED TO MATCH THE 4:1 SLOPE.

$$L = (4 \times D^1) + (4 \times D^2) + W + \text{APRONS}$$

$$\text{MINIMUM LENGTH} = 30' + \text{APRONS}$$

**John Oliver & Associates, Inc.**

580 Dodge Avenue  
 Elk River, Minnesota  
 (612)441-2072 (FAX)441-5665

Civil Engineering, Land Surveying, Land Planning

RESIDENTIAL  
 DRIVEWAY CULVERT DETAIL  
 BIG LAKE TOWNSHIP

Date: 06/08/05

BL-DWCUL.DWG