

RETRACTABLE BOLLARDS

Installation Procedure:

1. Set out and bore holes approximately 500mm diameter. Recommended spacing for bollards is 1400mm maximum centre to centre. Holes should be 100mm deeper than the length of the galvanised ground casing. (PHOTO 1).
2. Place coarse gravel in the bottom of the hole, sit the bollard on this base until the top flange plate is approximately 10mm above the natural ground level. Ensure bollard is plumb then place more gravel around the bollard until the hole is approximately $\frac{1}{3}$ full. (PHOTO 2).
3. Replace some of the excavated soil from the hole and compact until the hole is approximately $\frac{2}{3}$ full. Check the operation of the bollard. (PHOTO 3).
4. When satisfied the bollard is plumb and at the correct height, cover the top with tape to prevent entry of cement into bollard casing. Fill the balance of the hole with 35-50 mpa concrete. Add steel reinforcing if required. (PHOTO 4).
5. Finish off concrete as desired, remove the protective tape and clean around the bollard and top flange. (PHOTO 5).
6. Stand back and admire your beautiful work. Well done! (PHOTO 6).



1.



2.



3.



4.



PLEASE NOTE

- a. When finishing off the concrete, taper the surface slightly away from the surface flange. This will reduce the amount of water that finds its way into the ground casing.
- b. The coarse gravel in the bottom of the hole acts as a drainage sump for water that finds its way into the casing. This is normal and should not be seen as a problem.
- c. Never allow the bollard to free-fall from the raised position. Always lower using the 'T' handle key.



5.



6.

Photos courtesy of R.L. Reed Inc. (Las Vegas).