ANNEX  II
Specifications of Survey Monuments for
Vertical Controls
Annex II  Specifications of Survey Monuments for Vertical Controls

1. **Stainless Steel Rod Bench Mark**  
   A 160mm stainless steel rod surrounded by a small reinforced concrete block is securely embedded on the vertical surface of a rigid concrete structure. The protruding end of the stainless steel rod from the small concrete block is the level reference point of the bench mark. The detail specification is described in Drawing No. 3A on Page II-2.

2. **Stainless Steel Staple**  
   A stainless steel staple is securely embedded and properly leveled on the vertical surface of a rigid concrete structure. The flat and level portion of the staple is the level reference point of the bench mark. The detail specification is described in Drawing No. 3B on Page II-3.

3. **Bedrock Bench Mark**  
   A bedrock bench mark is a very stable vertical control monument which is composed of a picket box with concrete platform and a reinforced mini-pile embedded into the bedrock under the ground. The detail specification is described in Drawing No. 12 on Page II-4.
STAINLESS STEEL ROD

BENCH MARK

PLAN VIEW

EPOXY

150 mm X 18 mm
STAINLESS STEEL ROD

10 mm X 18 mm
MILDSTEEL CONICAL WEDGE

6 mm diameter
Stainless steel rods
4 Nos.

SIDE VIEW

CONCRETE

DRAWING NO. 3A

NOT TO SCALE
INSTALLATION OF STAINLESS STEEL STAPLE

ELEVATION

FRONT VIEW

NOT TO SCALE
DETAILS OF BEDROCK BENCHMARK

BEDROCK BENCHMARK PLAN VIEW

DETAIL 'A'

JUNE, 2003