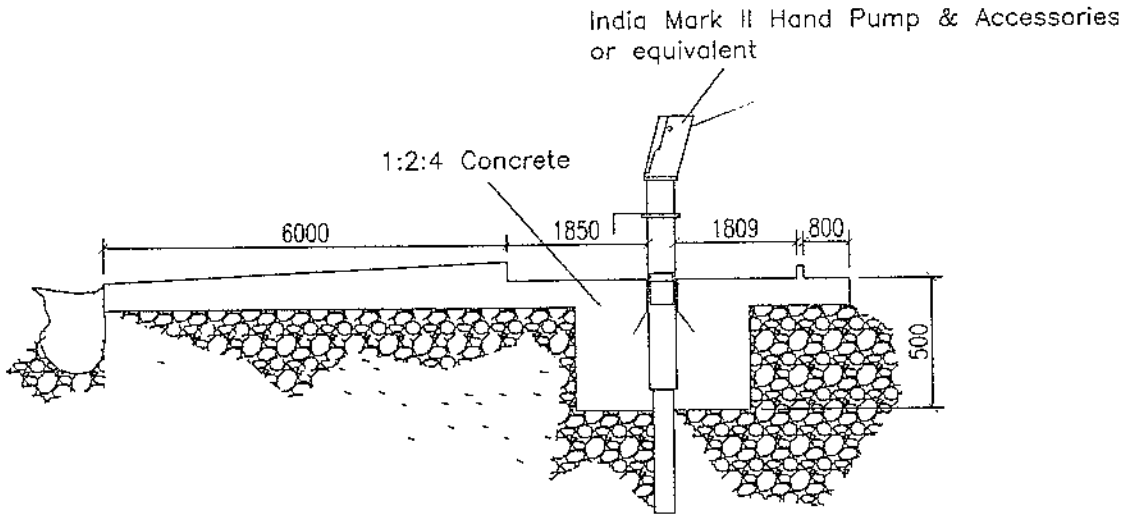
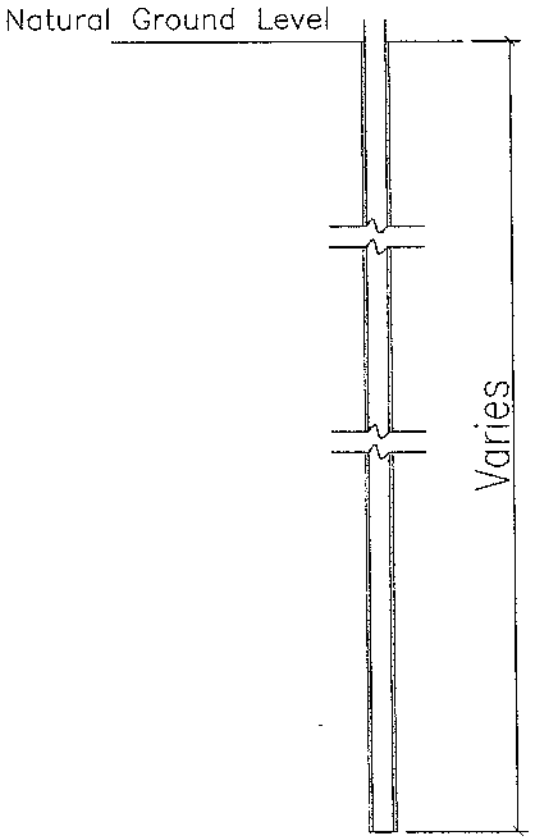
UNITED NATIONS DEVELOPMENT PROGRAMME JUBA – SOUTH SUDAN UNDP–CSAC PROJECT	NOTE:	REVISION No. / Date	Sht. No. W–01 Dwg. No.	Drawing. Title Hand Pump Section	
			Project: Borehole Construction	Designed by: UNDP	
			Client: Lakes State–South Sudan	Drawn by: UNDP	
			Location: All the 8 counties of Lakes State	Approved for implementation	
				Scale: N/A	Date: October 20



Platform for INDIA Mark II Hand Pump

UNITED NATIONS DEVELOPMENT PROGRAMME JUBA – SOUTH SUDAN UNDP–CSAC PROJECT	NOTE:	REVISION No.	Date	Sht. No. W–02 Dwg. No.	Drawing. Title: Typical Section
				Project: Borehole Construction	Designed by: UNDP
				Client: Lakes State–South Sudan	Drawn by: UNDP
				Location: All the 8 counties of Lakes State	Approved for implementation
					Scale: N/A | Date: October 2011



Drilled Diameter:
7 to 8" if gravel packed needed; can be 5 to 6" if formation stabiliser used.

Casing Diameter:
Must accommodate the external diameter of the pump cylinder.

Pump:
The pump should be positioned at the correct level above the screened section, taking into account the drawdown and seasonal variations. This must be at least 2m below the lowest dynamic water level.

Gravel Pack or Formation Stabiliser:
Drilling diameter needs to accommodate 2–4" thick gravel pack or thinner formation stabiliser. The thickness of the gravel pack depends on the nature of the formation. A thick annulus (3–4") will be required in the case of very fine materials which will require a larger drilling material (7–10"). Alternatively, it may be possible to use geotextile filter sock depending on the risk of biofouling.