

## Appendix B

### Calibration of Load Cell

To measure the magnitude of the surcharge accurately, it is necessary to calibrate the load cell. As show in Fig.B.1, the calibration was processed in the materials testing laboratory at National Chiao Tung University. A MTS (SHIMADZU UMH-100) accredited by Chinese National Laboratory Accreditation (CNLA-ZL90275) supplied the correct magnitude of load to load cell, then a analog signal from load cell was filtered and amplified by the dynamic strain amplifier. For this study, the load cell (LUK-A-5KNSA1, capacity = 5 kN)) was calibrated for the range of 0 to 4 kN. The test result of the load cell was shown in Fig.B.2.

