

## **27.00 Post Construction Responsibilities of Consultants & Contractors**

*All the requirements of this Section are Mandatory.*

### **27.01 Generally 27.05**

This Section deals with the responsibilities for Consultants and Contractors with respect to the provision of 'As Constructed' drawings, Maintenance Manuals and Survey information to the Superintendent, as well as the GU requirements with respect to the performance of preventative maintenance during the Defects Liability Period.

The responsibility for providing the necessary documentation for projects delivered under 'Traditional' Lump Sum contracts shall be with the Design Consultants. In the case of projects delivered under Design & Construct contracts, the responsibility shall be with the D&C Manager.

### **27.02 Preventative Maintenance**

All GU Contracts require the performance of regular preventive maintenance and servicing of the works during the Defects Liability Period. Such maintenance shall be in accordance with the manufacturer's instructions and the requirements of the Workplace Health and Safety Act, Standards or other applicable regulations, legislation or codes of practice. With respect to any mechanical or electrical service, fire alarms, hydraulic systems, lifts etc. maintenance shall be carried out not less frequently than monthly.

At least one month prior to achieving Practical Completion, the Contractor shall prepare and provide a Program to the Superintendent which indicates all Preventative and Statutory Maintenance work to be undertaken during the Defects Liability period including nominating the company/person who will undertake the maintenance work and the time frame (month/year) on which it will be carried out.

A written report including copies of Log Books and maintenance records shall be provided to the Superintendent immediately after each monthly service is performed. The report shall detail all work done, defects identified and repaired, and general comments on overall performance.

The Certificate of Final Completion will not be issued until such time as all preventive and statutory maintenance requirements have been completed, including the final service at the of the defects liability period, and all Log Books and maintenance records have been provided to the Superintendent.

### **27.03 Guarantees & Warranties**

The Contractor must provide guarantees, test and similar certificates as specified under the various trades as soon as reasonably possible after the granting of Practical Completion and before the issue of the Certificate of Final Completion. The Contractor must ensure that such guarantees and certificates have been effectively transferred or issued to the Principal so that thereafter the Guarantor must be directly responsible to the Principal commencing from the date of Practical Completion.

Written warranties in respect of Windows, Roofs and Applied Finishes shall be for not less than ten (10) years.

### **27.04 Operating & Maintenance Manuals**

Operating and maintenance manuals must be provided for every project and shall include all finishes and services. 'As Constructed' Documents and Maintenance Manuals must be provided in electronic format on CD. Hard copy documents only will not be acceptable except as 'draft' documents submitted for approval or comment.

These manuals must include but not be limited to:

- colour identification schedules;
- operating instructions and technical schedules for all equipment and plant;
- maintenance instructions;
- supplier information;
- control and electrical plans complete with terminal numbers corresponding to wiring ferrules and be cross-referenced as necessary;
- commissioning date, set points, flow rates, timer settings etc.
- an asset list including all maintainable equipment. This list must be in an electronic 'Excel' compatible spreadsheet format and include equipment description, type, room number and room description, manufacturer, model no. and date of installation. Typically this list would include but not be limited to equipment such as air handling units, fan coil units, switchboards, pumps, RPZ valves, fire equipment and fire dampers.
- warranties and guarantees.

### **27.05 'As Constructed' Drawings**

Prior to Practical Completion, the Consultants or Contractor shall submit a proposed Schedule of 'As Constructed Drawings' for approval by the Superintendent. The Schedule shall comprise a full list of 'As Constructed' drawings for the project, with all key information on the drawing noted and including the corresponding electronic drawing file name for each drawing. The Consultants or Contractor shall submit the 'As Constructed' drawings in accordance with the approved Schedule.

Failure to provide 'As Constructed' drawings in accordance with the Schedule will result in the Superintendent withholding funds from progress payments sufficient to cover the cost of preparing the documents by other means.

Where drawings are sourced from Subcontractors e.g. shop drawings, for 'As Constructed' drawings, the Consultant or Contractor shall check to ensure that these drawings comply fully with these Design Guidelines & Procedures, before submitting them to the Superintendent.

The 'As Constructed' drawings shall clearly describe all works carried out in the Contract showing both concealed and exposed items, be fully dimensioned and contain at least the following information:

- All equipment and system identification
- All regulating and measuring devices in the system
- Final accepted values of commissioning data (e.g. air/water flow quantities, voltage/current, signal strength etc.)
- Final settings of all regulating devices
- Major equipment maintenance/servicing access clearance requirements

The scope of 'As Constructed Drawings' shall include as a minimum the following drawings provided:

Discipline	Content of Drawing
General site information	All in-ground services reticulation and external installation including power, road lighting, fire hydrants, sewage, water, chilled water, communications and gases. Site & Building location
Architectural	All floor plans and partition layout plans All reflected ceiling plans Building Sections and elevations Construction details Furniture layouts Finishing and joinery drawings Roof plans
Structural	Framing plans & structural details
Civil	Road work Sections & details Storm water
Survey	Survey plans, permanent survey points & contours
Electrical	Exact location and route of underground cables/conduits Power & communications system layout and schematics Switchboard & distribution board details Lighting layout including emergency lighting and exit signs Lightning prevention and earthing system
Security	Security system layout and schematics
Air Conditioning	Air conditioning system ductwork/pipework layout and schematics Ventilation systems Fume cupboard installation Plant room and riser details, sections Control system, CCMS wiring schematics and switchboard details
Mechanical	Refrigeration system/cold rooms Compressed air, vacuum and gases
Lift	Lifts and hoisting equipment installation
Fire services	Water reticulation including fire hydrants and sprinkler Automatic fire detection and alarm system
Hydraulics	Sanitary plumbing layout and schematics Storm water Water supply layout and schematics
Landscaping	Hard landscaping Soft landscaping
Irrigation	Piping system layout and schematics

A hard copy corresponding and identical to the electronic files of each drawing shall also be submitted. Quality and format of drawings, both electronic and hard copy, shall conform to the requirements outlined in [Section 29](#).

Each drawing shall be clearly marked in 10mm or larger block characters "AS CONSTRUCTED" in the bottom right hand corner of the sheet, and with all revision marks removed.

## **27.06 Post Construction Site Survey**

The Contractor shall provide a Post Construction Site Survey for any contract involving new buildings and extensions to existing buildings, within four weeks of the date of Practical Completion. All survey work must be carried out by a competent, registered Surveyor.

The survey shall achieve the following;

- Topographical survey of all areas affected by the construction work in this contract showing the ground level contours at 0.5m (maximum) intervals based on Australian Height Datum (AHD).
- The site survey shall be on Map Grid of Australia 1994 (MGA94) grid coordinates and shall also be referenced to at least one existing Permanent Survey Mark (PSM) within the campus concerned.
- The exact footprint of the new building, or extension to existing building, in relation to existing buildings in the immediate vicinity, and include the Main Reference Point and Reduced Level of the lowest floor slab.

The following details are to be shown;

- In-ground data and electrical reticulation, including all data and electrical pits.
- Sewer and stormwater reticulation, including pipe sizes and location of all access/inspection chambers.
- Water and fire main reticulation, including all fire hydrants and booster pumps.
- Chilled water reticulation, including location of pits and isolation valves.
- All paths and roads constructed as part of the contract, tied into existing site surveys provided by the principal.
- All external paths and road lighting, provided under the contract.

The Post Construction Site Survey Plans shall meet the requirements for 'As Constructed' Drawings outlined in Clause 27.05 of this Section.

## **27.07 Permanent Survey Marks**

The Contractor's surveyor must supply and install a Permanent Survey Mark (PSM) in the form of a brass plaque, set into a concrete path, pavement or kerb external to the building, in a location determined by the Superintendent.

The surveyor shall also register the PSM with the Department of Environment & Resource Management, on a 'Form 6 - Permanent Mark Sketch Plan' in accordance with the requirements of the Survey and Mapping Infrastructure Act 2003. A copy of the Form 6 shall be provided to GU.