

11 ELECTRONIC SECURITY SYSTEM

11.1 Scope of Works

11.1.1.1 The Contractor shall be responsible for the detailed design, supply, installation, test and commissioning of the electronic security systems that include:

- CCTV
- Intruder Detection Systems

11.2 Electronic Access Control System

11.2.1 Overview

11.2.1.1 The Contractor shall design, supply, install and commission a fully online CCTV & Intruder Alarm system covering the Paterson building and associated external areas within the project boundary.

11.2.1.2 The electronic CCTV & Intruder Alarm is a contractor design portion. The Contractor shall be responsible for appointing a specialist to complete the detailed design, coordination, supply, installation, commissioning and demonstration of the complete electronic access control system.

11.2.1.3 The electronic access control systems typically comprise the following components:

- CCTV cameras
- CCTV panel
- Intruder alarm sensor devices
- Intruder alarm panel

11.3 CCTV System

11.3.1 Overview

11.3.1.1 The Contractor shall design, supply, install and commission an Internet Protocol (IP) closed circuit television (CCTV) system covering the Castlefield Viaduct project.

11.3.1.2 The CCTV system shall be provided for the protection of staff, visitors and their associated property, for the prevention of vandalism and antisocial behaviour and for the protection of National Trust property and equipment.

11.3.1.3 The CCTV system shall typically comprise of CCTV cameras, CCTV servers and CCTV monitoring and control stations.

- 11.3.1.4** The CCTV system is a contractor design portion. The Contractor shall be responsible for appointing a specialist to complete the detailed design, coordination, supply, installation, commissioning and demonstration of the complete CCTV system.

11.3.2 CCTV Performance Requirements

- 11.3.2.1** The CCTV system will be designed to provide an ‘identification’ level of coverage, as defined by BS EN 62676-4, to the following areas:

- All entrances and exits to the site
- At areas where cash handling is made
- The public event space

- 11.3.2.2** CCTV coverage providing an ‘identification’ level of detail shall provide a resolution of at least 4mm per pixel on the target persons with a frame rate of at least 12.5 frames per second.

- 11.3.2.3** All other areas covered by CCTV shall provide a ‘recognition’ level of coverage, as defined by BS EN 62676-4.

- 11.3.2.4** CCTV coverage providing an ‘recognition’ level of detail shall provide a resolution of at least 8mm per pixel on the target persons with a frame rate of at least 12.5 frames per second.

11.3.3 CCTV Cameras

- 11.3.3.1** The CCTV system shall be an IP system and shall utilise the structured wiring network within the site. CCTV cameras shall be connected to local structured wiring outlets.

- 11.3.3.2** All internal CCTV cameras shall be PoE.

- 11.3.3.3** External CCTV cameras may require fibre connectivity due to the cable lengths – the Contractor shall be responsible for determining the specific requirements and providing media converters as required.

- 11.3.3.4** Power supplies shall be provided where required to external cameras to supply demisters, heaters, wipers etc.

- 11.3.3.5** The performance specification of CCTV cameras including resolution and lens types shall be selected to suit the spaces served and coverage required.

- 11.3.3.6** Internal CCTV cameras shall be located for ease of maintenance, and wherever possible shall be in single height spaces or on the walls / columns of double-height spaces. Due regard shall be taken to down-stand beams and signage, which could cause an obstruction.

- 11.3.3.7** Typical performance specification of internal fixed CCTV cameras are as follows:

- IP rating: 20
- Operating temperature: 5C to 40C
- IP addressable filtering, password protected and HTTPS encryption
- Controllable frame rates and bandwidths
- 25 Frames per second
- Colour
- Supports M-PEG4 and H-264 video compression
- Built-in image analytics
- ONVIF Compliant.

11.3.3.8 Typical performance specification of external fixed CCTV cameras are as follows:

- IP rating: 66
- Operating temperature: -20C to +40C
- IP addressable filtering, password protected and HTTPS encryption
- Controllable frame rates and bandwidths
- 25 Frames per second
- Colour
- Supports M-PEG4 and H-264 video compression
- Built-in image analytics
- ONVIF Compliant.

11.3.4 CCTV Monitoring and Control Workstations

11.3.4.1 CCTV monitoring will primarily be undertaken at the welcome kiosk, which monitors CCTV images across the site.

11.3.4.2 Each CCTV monitoring workstation shall comprise:

- Desktop PC
- Keyboard and mouse
- 1No. 24 inch high-contrast, high definition, LED backlit desktop monitor

11.3.4.3 The CCTV monitoring workstation at the Welcome Kiosk shall be capable of monitoring CCTV camera in all areas.

11.3.4.4 The CCTV system shall be provided with multiple use access levels, controllable on a camera by camera basis, with different levels of permissions for real-time monitoring, recorded image monitoring etc.

11.3.5 CCTV Digital Video Recording and Storage

11.3.5.1 The Contractor shall supply, install and commission CCTV recording facilities in the form of CCTV digital video recorders installed within the Welcome Kiosk.

11.3.5.2 The digital video recorders shall be sized to ensure image storage from all CCTV cameras at the chosen resolution and level of compression for a minimum of 31 days.

11.3.6 Signage and Compliance with the Data Protection Act

- 11.3.6.1** All necessary signage shall be provided in accordance with the data protection act.

11.4 Intruder Detection Systems

11.4.1 Overview

- 11.4.1.1** The intruder detection system shall cover all internal areas and shall comprise of intruder detection devices including door contacts and motion sensors.
- 11.4.1.2** The intruder detection system shall be hard-wired.
- 11.4.1.3** Local activation of the intruder detection system shall be capable of remote signaling to the National Trust desired platform / location. The Contractor to discuss requirements with the National Trust.
- 11.4.1.4** The intruder detection system shall be provided with battery backup of 24-hour autonomy.
- 11.4.1.5** Intruder detection systems shall be served from a local double-pole key switch on a dedicated circuit.
- 11.4.1.6** The Contractor shall liaise with the National Trust and if required the National Trusts appointed insurance company to determine the appropriate zoning of the intruder detection system to meet the operational and security requirements of the building. Separate zones shall be provided with separate access codes as required. It shall be possible to arm / disarm any zone from any intruder detection keypad. Dedicated zones with time delays shall be provided for entry and exit zones.
- 11.4.1.7** The Contractor shall develop a commissioning method statement prior to commissioning. All devices shall be tested under all operational conditions. Alarm signalling facilities shall be fully tested and confirmed by the monitoring station. Completion certificates shall be provided to the Client for submission to their appointed insurance company.