Information Communication Technology (ICT)

Male' City Council

CCTV Installation at Hulhumale' Pet Shelter

Project Overview:

This project involves the installation of a comprehensive CCTV surveillance system at the Hulhumale' Pet Shelter. The goal is to enhance security, monitor activities within the facility, and ensure the safety of the shelter's animals and staff.

1. Scope of Work:

- o **Camera Installation (The location for installation is specified in Drawing 1):**
  - o **Camera Locations:**
    - Install CCTV cameras at the pre-determined locations provided by Male' City Council.
  - o **Installation:**
    - Securely mount and connect cameras at the specified locations.
    - Ensure proper alignment, focus, and calibration of each camera.
  - o **Integration:**
    - Connect cameras to the network infrastructure to ensure they are integrated with the recording and monitoring system.

- o **All necessary equipment, devices, and materials must be supplied by the vendor.**
  - This includes ensuring that all items are of high quality, meet the specified standards, and are compatible with the existing infrastructure.
  - The vendor is also responsible for the delivery, installation, and testing of these components to ensure they function correctly within the system.

- o **Document handover**
  - Proper documentation of camera installation, configuration and cabling must be submitted to Male' City Council upon work completion.

2. Requirements:

a. Outdoor Cameras

Technical Specifications for Outdoor Cameras

Camera type
- Varifocal Bullet Network Camera

Lens
- **Focus:** Auto
- **Lens Type:** 6 MP, 2.8 to 12 mm Varifocal

Illuminator
- **IR Range:** Up to 30 meters or better

Video
- **Resolution:** 3072 × 2048 at 25fps or better
- **Compression:** H.264 or better

Protocols
- TCP/IP / RTSP

Power
- Must support PoE+ (Power over Ethernet Plus)

Protection
- **Durability:** Vandal proof (IK10)
- **Waterproof Rating:** Water and dust resistant (IP66)

Event / Trigger must support
- Motion detection
- Line crossing detection
- Intrusion detection
- Face Detection

These specifications ensure high performance, durability, and reliability for outdoor surveillance needs.

Outdoor Cameras Installation Guidelines

- **Total Number of Cameras:** 8 must be installed

- **Camera Locations:** Cameras must be installed at specified locations in the drawing.

- **Installation Height:** Outdoor Cameras must be installed at a height of 12 feet.

- **Additional Requirements:** Vendors must install poles and other fixtures if necessary to meet the height and installations requirement.

- **Poles:** Poles must be installed with a reinforced concrete base. The cables should run underground, through the concrete base, and into the pole to ensure stability and protection.

Cabling Requirements for Outdoor Cameras

1. **Cable Depth:**

   o   All outdoor cables must be buried at a depth of 2 feet below ground level.

2. **Cable Management:**

   o   Cables should not be exposed near the cameras. Proper enclosures or conduits must be used to conceal cables.

   o   Each camera cable should run directly to NVR

3. **Underground Conduit Installation:**

   o   Cables must be run within a hard conduit pipe or high-pressure PVC pipe to ensure durability and protection.

4. **Cable Specifications:**

   o   The cables must meet the following criteria:

   - Category: Category 6 (Cat 6) UTP (Unshielded Twisted Pair)

   - Rating: Outdoor-rated, gel-filled to withstand environmental conditions

   - Durability: Must be resistant to UV radiation, moisture, and temperature fluctuations

   - Compliance: Must meet or exceed industry standards for Cat 6 cables

   - Shielding: No shielding required (UTP) but should provide sufficient protection against external interference.

b. Indoor Cameras

Technical Specifications for Indoor Cameras

Camera type
- Varifocal Dome Network Camera

Lens
- o **Focus:** Auto
- o **Lens Type:** 6 MP, 2.8 mm Varifocal

Illuminator
- o **IR Range:** Up to 10 meters or better

Video
- o **Resolution:** 3072 × 2048 at 25fps or better
- o **Compression:** H.264 or better

Audio
- o Built-in MIC
- o Must have Environment Noise Filtering

Protocols
- o TCP/IP / RTSP

Power
- o Must support PoE+ (Power over Ethernet Plus)

Protection
- o **Durability:** Vandal proof (IK10)
- o **Waterproof Rating:** Water and dust resistant (IP66)

Event / Trigger must support
- o Motion detection
- o Line crossing detection
- o Intrusion detection
- o Face Detection

These specifications ensure high performance, durability, and reliability for indoor surveillance needs.

Indoor Cameras Installation Guidelines

- **Total Number of Cameras:** 3 must be installed.

- **Camera Locations:** Cameras must be installed at specified locations in the drawing.

- **Installation Height:** Indoor Cameras must be installed at appropriate height for best viewing angle.

- **Additional Requirements:** Must Provide Fixtures if necessary to meet the installation requirement.

Cabling Requirements for indoor Cameras

1. **Cable Management:**

   - Cables should not be exposed. Proper enclosures or conduits must be used to conceal cables.

2. **Cable Specifications:**

   - The cables must meet the following criteria:
     - Category 6 (Cat 6) UTP (Unshielded Twisted Pair)

c. Network Video Recorder (NVR) Specifications

IP Video Input:

- Must support up to 16 physical channels.

Decoding Format:

- H.264 or better.

Recording Resolution:

- 6MP or higher.

Stream Type:

- Video, Video & Audio.

Network:

- Network Interface: 2 RJ-45 10/100/1000 Mbps self-adaptive Ethernet interfaces.

- Network Protocols: TCP/IP, DHCP, IPv4, Hik-Connect, DNS, DDNS, NTP, RTSP, SADP, SMTP, SNMP, NFS, iSCSI, ISUP, UPnP™, HTTP, HTTPS.
- Must support PoE+ to provide power to cameras.

Storage:

- Must include a minimum of 2 SATA interfaces.
- 4 TB of storage must be provided.
- Storage must be expandable up to 8 TB if necessary.

Interface:

- USB Interface: A minimum of 2 USB interfaces.
- Video Output: HDMI/VGA.

Software:

- Must support a desktop application for live view and playback.

Installation:

The NVR must be installed within a 12U network rack. The network rack should be securely mounted at the designated location as outlined in the provided drawing.