A security matrix was developed to provide a guideline of security services available to assist faculties, Departments and external project consultants identify solutions available for implementation within the University of Alberta environment.

The matrix identifies four risk levels: low, medium, high and ultra. The use of these definitions provides guidance for the minimum level of security to be maintained within a facility.

Certain locations have specific entry procedures to ensure the safety of the security response team. These detailed procedures ensure the protection of people, assets within the space, and data stored within the premises.

Increased security measures within a protected space have incremental cost factors for initial installation, ongoing lifecycle maintenance costs and an anticipated accrual fee for renewal. These cost estimates are captured in the security matrix. The University is not funded for increased operational security requirements being requested by faculties and departments. These enhanced services come with an installation and service fee, which is in line with external industry standards, and are outlined in the matrix.

Traditional Keys:
The basic key system used on campus is provided by Facilities & Operations. This is the minimum level of protection required for any campus facility. As indicated by the Lock Changes, Key Request and Key Control Procedure, faculties and Department administer and maintain records of key holders and authorize the issuance of additional keys. This affords maximum flexibility to the faculties and departments, however minimizes the actual security protection offered. The maintenance of accurate records by the faculties and departments establishes the true level of security for a facility. The initial implementation of a traditional key system is supported infrastructure.

High Security Keys:
A high security key provides an additional level of protection in the fact that the cylinder core (keyway) of the lock contains anti-picking features over standard issue cores.
The Facilities and Operations Lock Shop maintains control of issuing and documenting keys. Issuing and documenting access to keys improves the overall security measures effectiveness for a facility.

**Master Key Override:**

Master keys have limited distribution within the campus. These keys are distributed to security response forces, key facility maintenance and faculty and department administrators. The loss of this type of key will require all doors controlled by the override key to be re-keyed. This represents a significant cost to the person or group that lost the key.

**Convenience Card Access (On line-local alarm – no response):**

This is an on-line card reader that reports real time security events. It represents the first level of electronic security and forms the basic building block to increase the security protection level. This basic installation allows time zones to be established when a specific door will remain locked or unlocked and reports the status of a door, open or closed. The reader contains a small buzzer that will activate when a door is propped or held open. Lost and stolen cards are removed from the system upon reporting the loss to faculty, department or facility administrator. Facilities and Operations will administer access control privileges through a web browser security interface for exterior access controlled doors.

**PIN/Keypad Card Readers:**

This is the same as the card reader above with the addition of a key pad added to the front of the card reader. Entry into this type of secured premises will require the entry of a user definable pin number into the keypad along with presentation of the card. This reduces the likelihood that a lost card can be used to gain entry into protected premises.

**Intrusion Alarm Security Systems:**

This is best described as a commercial grade home intrusion burglar system. It utilizes phone lines or Ethernet for dialing and connecting to UAPS to inform them of an intrusion. It utilizes a keypad to arm and disarm an alarm detector in the protected space. All intrusion alarm security systems must include the installation of a video surveillance monitoring camera for UAPS to monitor and respond to alarms.

**Biometrics:**

Biometric devices are available for securing high level and ultra secure facilities. Costs are not shown as the type of biometric device chosen can significantly impact the cost.

**Elevator Control:**

Elevator control is often used to provide a security solution for open building concept construction. Elevator control is costly in nature and requires extensive administration to effectively secure premises. The concept of tailgating or hitching a ride to a secure floor is prevalent. Thought should be given towards securing a building floor plate over employing elevator control to manage a secure environment.
Budget Pricing:

The following budget guidelines and the security matrix are provided for information purposes when planning construction activities that may include card access controlled doors, remote monitoring, intrusion alarms or other security features.

Budget Pricing Guidelines:

1. Budget pricing guidelines for design purposes: (2019 estimated Canadian dollars)
   a. $6,000 per Access Control System (ACS) door with card access control (i.e. door with a card reader and electric lock)
   b. $5,500 per ACS door that is electrically controlled, but without a card reader
   c. $1,500 per door that is only roughed in for potential future ACS installation
   d. $5,000 per elevator requiring floor selective ACS
   e. $2,000 per floor for an elevator requiring a ‘Hall Call’ ACS reader on each floor
   f. $3,500 per video camera
   g. $32,000 per intrusion alarm security system

These above are guidelines only. Features, site conditions, equipment locations, etc. will dictate actual costs. Ensure that budget estimates are updated regularly during the design process. Contact Operations and Maintenance for current cost estimates.

2. Facilities and Operations can assist faculties, departments and units in developing their budgets for ongoing security system repair, maintenance and database administration.

3. Faculties and users are responsible for costs associated with lost, stolen, broken or damaged keys. Please refer to the Lock Changes, Key Request and Key Control Procedure.

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