DESIGN REQUIREMENTS

FOR THE

MAIN CONTROL AND COMMUNICATIONS POST (MCCP) CONSOLE
AND ANCILLARY EQUIPMENT

FOR USE IN FEDERAL CORRECTIONAL INSTITUTIONS
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<td>ACL</td>
<td>Access Control List</td>
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<tr>
<td>API</td>
<td>Application Programming Interface</td>
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<td>ATP</td>
<td>Acceptance Test Procedure</td>
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<tr>
<td>BIFMA</td>
<td>Business &amp; Industrial Furniture Manufacturers Association</td>
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<td>CA</td>
<td>Contract Authority</td>
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<td>CCDA</td>
<td>Command Control and Data Acquisition</td>
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<td>CCTV</td>
<td>Closed Circuit Television</td>
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<tr>
<td>CD</td>
<td>Commissioner's Directive</td>
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<td>CER</td>
<td>Common Equipment Room</td>
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<td>COS</td>
<td>Class of Service</td>
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<td>COTS</td>
<td>Commercial-Off-The-Shelf</td>
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<td>Correctional Service Canada</td>
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<tr>
<td>DCMS</td>
<td>Door Control and Monitoring System</td>
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<td>DES</td>
<td>Director Engineering Services</td>
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<td>DSCP</td>
<td>Differentiated Services Code Point</td>
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<td>EIA</td>
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<td>ESS</td>
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<td>FAR</td>
<td>False Alarm Rate</td>
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<td>Fence Disturbance Detection System</td>
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<td>FAAS Interface Unit</td>
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<td>GFE</td>
<td>Government Furnished Equipment</td>
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<td>GUI</td>
<td>Graphical User Interface</td>
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<td>IP</td>
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<td>MCCP</td>
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<td>Inmate Voice Recording and Management System</td>
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<td>MDS</td>
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<td>MTBF</td>
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<td>NTP</td>
<td>Network Time Protocol</td>
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<td>PA</td>
<td>Public Address</td>
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<td>PC</td>
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<tr>
<td>Pd</td>
<td>Probability of Detection</td>
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<td>PIDS</td>
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<td>Perimeter Intrusion Detection System Integration Unit</td>
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<td>PLC</td>
<td>Programmable Logic Controller</td>
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<td>RFP</td>
<td>Request for Proposal</td>
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<td>RTEO</td>
<td>Regional Technical and Engineering Officer</td>
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<tr>
<td>PPA</td>
<td>Portable Personal Alarm</td>
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<td>Portable Personal Alarm Locatable</td>
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1 INTRODUCTION

1.1 Overview

.1 This Document defines Correctional Service Canada’s (CSC) requirements for a control Console and accessories that provide the supporting infrastructure for the Touch Screen User Interface Monitors, CCTV Monitors, Auxiliary Controls, Telephones, Microphones and Pointing Devices for systems that are managed by Operators on duty in a Main Communications and Control Post (MCCP).

.2 All Federal Correctional Institutions with a medium or higher security rating include an MCCP that is staffed 24/7, 365 days a year.

.3 The MCCP configuration and use has emerged over the last 30 years and has the following attributes:

1. the size and configuration of the MCCP typically varies from site to site and can vary from approximately 30 square metres to 60 square metres, and varies from Institution to Institution.

2. the location of the existing MCCPs varies from site to site, with MCCP locations in the basement, the ground floor and on an upper floor, making access for the addition, removal and modification challenging. In most instances the MCCP is a single purpose room that is occupied by one member of staff, but there are instances in which the room serves two purposes and is shared by two people with different roles.

3. the console in the MCCP is typically based on a cluster of from four (4) to seven (7) 19” rack mount style steel cabinets with a work surface mounted at the front of the console.

4. the current console design typically, but not specifically follows the recommendations of MIL-STD-1472G, Section 5.10, Workspace Design.

5. the design of the existing Control Posts has not been the subject of rigorous analysis and review, which has resulted in many variations around an original core of technology introduced about 30 years ago consisting of the PIDS, the FAAS, Radio communications equipment and Perimeter assessment CCTV.

6. the existing cabinetry does not appear to have had the appropriate flexibility to support the changes and upgrades that have been required over the lifecycle of the current MCCP configuration, hence the ad hoc nature of the changes and additions that have been implemented at the majority of MCCPs across the country.

7. over the intervening years, additional equipment has been added into, on top of and around the existing MCCP console, rendering it ergonomically unfit for purpose in many cases.

.4 The Operator in the MCCP is:

1. responsible for monitoring the overall security of the facility with a primary focus on responding to incidents along the institution’s perimeter using the Perimeter Intrusion Detection System;

2. typically required to manage and/or interact with a variety of additional security, communications and operational systems including, but not limited to Environmental Controls, Movement Controls, Public Address Systems and Intercom Systems

3. responsible for monitoring Life Safety Alarms, Incoming Phone Calls and Radio Communications, especially during the evening and night shifts when many additional tasks are transferred to the MCCP Facility Alarm Annunciation System, the Radio System and Telephones;

.5 The MCCP Operator’s “post procedures” are typically well established and are relatively consistent from site to site.
.6 The MCCP Console and supporting ancillary items are intended to provide the Operator with:
   1. An optimal viewing of the information presented,
   2. access to all necessary controls that they interact with,
   3. a work surface for writing,
   4. a location for storing reference materials, and
   5. a heavy duty chair that can be adjusted to suit their personal posture.

.7 The ancillary items will typically, although not always, include:
   1. CCTV mounts - stand, wall or ceiling configuration,
   2. an Operator's chair, with removable arms,
   3. a cabinet for interim housing of supporting systems, e.g. a Fire Alarm interface, until they can be integrated into one of the Touch Screen User Interfaces on the main console through the appropriate technology upgrades in the future,
   4. one or more “pods” that are essentially desktop mounted enclosures for equipment that is not yet integrated into one of the Touch Screen User Interfaces on the main console, but still needs to be made available to the operator,
   5. a wall mount enclosure for the Maintenance and Training User interface, and
   6. any other items required to provide the Operator with the appropriate working environment that may be defined in higher level documents.

1.2 Purpose

.1 The purpose of the Console and ancillary items is to provide a rugged, robust workspace, designed in accordance with ergonomic principles that provides an Operator, whether sitting or standing:
   1. access to the primary touch screen user interfaces, monitors and controls with which they interact at or close to the worktop,
   2. visibility of the CCTV Monitors, not requiring direct Operator interaction, that will be mounted behind and above the console,
   3. with a suitable worktop to support note taking, desk mounted devices such a telephone sets, microphones, joysticks,
   4. with the appropriate physical structure to support the user interfaces and CCTV monitors in a safe, secure, flexible and adaptable manor,
   5. with the appropriate physical structure to manage and secure the power and signal cables that are used to connect the devices to the CER;
   6. with the appropriate physical structure to house a limited quantity of additional equipment that might, due to distance limitations, need to remain in the MCCP.

.2 The systems managed from the Console may include one, some or all of the following:
   1. Perimeter Intrusion Detection System (PIDS) Integration Unit (PIU);
   2. Facility Alarm Annunciation System (FAAS) Integration Unit (FIU);
   3. PIDS Public Address (PA) System;
   4. Video Management System (VMS);
   5. Fence Disturbance System (FDS);
   6. Motion Detection System (MDS);
   7. Primary Radio Control System;
   8. Institutional PA System;
   9. Institutional Intercom System;
   10. Institutional Messaging System;
   11. Regular telephone(s);
12. Emergency telephone(s);
13. CSC network connected IMS Workstation, including monitor, keyboard and pointing device;
14. Door Control Systems;

.3 Additional components mounted on or close to the worktop to support interaction with the above systems may include:
1. Mice or other pointing devices;
2. Speakers;
3. Connector Boxes
4. Telephones;
5. Turrets or Pods;

1.3 Design Objectives

.1 The design for an upgraded MCCP Console must:

1. accommodate specifically the User Interfaces, Video Monitors and other auxiliary controls with which the Operator interacts in the MCCP; (Note: The intent is that all equipment except the equipment explicitly required to support a specific User Interface will be located in the CER, leaving the Console surface and any enclosed areas as free as possible from equipment that is not essential to any of the User Interfaces.)
2. meet current ergonomic best practice, including compliance with the relevant sections of the documents identified in section 2ISO 11064 parts 1 to 7;
3. provide a sufficiently large work top for the Operator to carry out any additional paperwork required for their operational responsibilities;
4. be sufficiently flexible and extensible that it can be modified without the need to purchase custom fabricated elements, using tools that are locally available near or inside the Institution and matching/complementary structural materials that can be purchased from multiple vendors, to accept User Interfaces and any approved hardware and accessories that may be required on a planned basis to meet future system needs;
5. be designed to discourage the addition of additional interfaces, hardware and accessories that are provided on an “ad hoc” basis and that do not meet the “best practices” identified in 1.3.1.1;
6. provide a modern workspace that provides a suitable working environment for Operators that use the Console for extended periods of time.
7. be sufficiently durable to resist the wear and tear associated with a “24/7, 365 days a year” operational environment;
8. be designed to accommodate the touch screen Graphical User Interfaces that will typically be deployed on monitors, compatible with the physical layout described in this document, throughout CSC’s Institutions as part of CSC’s Roadmap for the upgrade of Electronic Security Systems, eliminating the requirement for mechanical knobs, buttons, switches and LED panels;
9. provide adequate mounting space for cabling and non-user interface electronic equipment to meet the intent of section 1.3.1.2;
10. facilitate the fast and easy replacement of damaged components with minimal operational impact;
11. include a matching, robust, integrated pedestal, equipped with drawers, mounted under the work top for the storage of paperwork and documentation typically required by Operators in the MCCP;
12. include a separate matching cabinet with internal storage for equipment that will not be integrated into the Console until the deployment of the “Next Generation” Command and Control Technology, e.g. Fire Alarm Primary Annunciation Interfaces;

13. be a single baseline design that meets the requirements of all CSC MCCP locations.
2 REFERENCES

2.1 Specifications, Standards, and Statements of Work

.1 Access to specifications that are not issued by the Federal Government of Canada is the responsibility of the Contractor:

- CSA Standard C22.1 Canadian Electrical Code CSA Standard C22.1
- SPEC 00062 Conduit Space and Power
- ANSI LD3 2005 High Pressure Decorative Laminates
- IEC EN60950-1 International Electrotechnical Commission Information technology equipment – Safety
- HDMI v1.0 High Definition Multimedia Interface
- VESA FDMI VESA Flat Display Mounting Interface Standard (for Flat Panel Monitors/Displays/Flat TVs)
- ISO 11064 parts 1 to 7 Ergonomic Design of Control Centres, including
  1. Principles for the design of control centres
  2. Principles of control suite arrangements
  3. Principles of control room layout
  4. Workstation layouts and dimensions
  5. Displays and controls
  6. Environmental requirements for control rooms
  7. Principles for the evaluation of control centres.
3 CONSOLE STRUCTURE

3.1 Structural requirements

.1 The MCCP Console must be configured as a work space for one Correctional Officer who serves as the MCCP Operator under normal operating conditions.

.2 The Console must provide sufficient space to allow a second officer to assist with activities in the event of an emergency situation.

.3 A rendering of a typical Console, also showing the chair, integrated pedestal and CCTV monitors, is provided below.
the extrusion framework must have suitable profiles for vertical and horizontal finished exterior surface as well as internal profiles for structural integrity.

The Console must include a kick plate style of skirting to protect the base.

the core structure must be rigid and based on a T slot system.

the core structure must support the use of a range of nuts, screws and various other accessories that enable other equipment to be mounted and to simplify any retrofit requirements.

the framework must be designed such that the bottom of the Console is open through to the floor to support cable access.

console cross braces must be fully adjustable.

the framework must include a scratch resistant protective finish (anodize, powder coat or equivalent) on all surfaces.

all surfaces must be anodised, to MIL-A-8625 Type II Class 1, ISO 7599 or other equivalent or powder coated to provide complete coverage for indoor environments.

the framework must allow for finishing panels to be mounted and removed by using tool-less fasteners.

timber bulkheads or bulkheads in general must be avoided as they restrict airflow and reduce the internal flexibility.

defined spare panels and parts must be kept in stock for the life of the warranty on the products in a Canadian location that is served by a national courier service.

the colour of the Console desktop surfaces must be approved by the Design Authority.

the Console must be equipped with motorized controls so that Operators or Maintenance Staff can adjust the height to meet specific operational needs.

the maximum additional raised height is adjustable range must be at least 50 cm from the fully raised position to the completely lowered position.

the control for the height adjustment must include at least two preset positions.

the Console rear panels must be held with a manually operated latch that holds the top of the panel captive, the bottom fits in the track.

console rear panels must be designed for tool-less installation and removable.

the Console must include an area or shelf at least 15 cm deep along the back of the Console, separate from cable trays or channels.

the Console must be designed in such a way that it can be firmly bolted to the floor to prevent any movement or tipping.

the Console must not exceed a linear weight of 75 kilograms per metre (without ancillary equipment installed.)

the principle cladding material must not be laminated wood based and aluminum based materials are preferred.

the cladding material must be 6mm thick and coated with a tough PVC coating.

all cladding materials must be available in a minimum of 10 finishes and have no colour fade.

all materials must be dimensionally stable.

it must be possible to engrave and powder coat the panels to a required Pantone or similar colour system finish if requested.

“unlaminated” Medium Density Fibre and paper based products must be avoided close to electrical equipment and power services.

both the interior and exterior surface cladding material must be finished and be fire retardant.
.4 Work top requirements
   .1 the work top of the Console must be at least 32 mm or greater thick and include a 
      restraining lip at the rear, reference paragraph 3.1.6.1.
   .2 the work top must be replaceable without having to dismount any User Interface devices 
      that are normally fixed to the Console, such as Touch Screen User Interface Monitors.
   .3 the work top must deflect less than 3 mm when depressed with a force of 1000 N spread 
      uniformly over a 200 mm diameter circular area.
   .4 the work top must be finished and balanced using a quality substrate.
   .5 the work top material must meet the following standards and be available in a minimum 
      of 10 finishes.
      • Compliant to NEMA LD3-2005 or equivalent
      • Superficial heat resistance to 180 deg C
      • Impact resistant to 38mm steel ball dropped from >600mm
      • Unaffected by stains (Reagents 1-10)
      • Unaffected by boiling water
      • Slight or unaffected by light/UV exposure through glass
   .6 all finishes must have a low reflective surface.

.5 Worktop nosing requirements
   .1 the hard rubber nosing on the worktop must be capable of being replaced without special 
      tools.
   .2 it should also be replaceable by local maintenance staff.
   .3 the material must be soft and have low thermal conductivity.
   .4 the colour must be in keeping with the design of the control furniture.

.6 Worktop Surface must:
   .1 be covered with scratch resistant clear polycarbonate material at least 0.55 cm thick that 
      must be fabricated in three sections such that the work surface in the centre of the 
      console is the widest and the two adjacent elements are symmetrical on either side.
   .2 designed such that it that can be lifted by the Operator to place single sheet documents 
      underneath the mat.
   .3 include a lip at the rear of the surface at least 1 cm higher than the surface of the 
      polycarbonate mat to keep materials from sliding off the back of the desk surface.

3.2 Power requirements
   .1 The Console must be designed to house electrical services and power distribution in keeping 
      with the SPEC 00062, Section 4.1.5.3. unless otherwise specified.
   .2 Dedicated cable trays for power distribution must be provided and capable of being re- 
      positioned anywhere vertically from 10 cm above the open floor to the base of the support 
      structure for the work top.

3.3 Internal storage unit or Pedestal requirements
   .1 The Console must be equipped with an integral internal storage unit equipped with drawers 
      that can be used for the storage of paperwork and documents associated with the tasks and 
      responsibilities of the Operator in the MCCP.
   .2 The storage unit must conform to the same construction requirements as the Console.
   .3 The storage unit drawers must be no wider than 38 cm across the face of the unit.
3.4 Internal computer compartment and shelf requirements

.1 The Console must be equipped with an internal computer compartment located at the rear left of the Console under the lower surface that supports the monitor brackets. (A right hand configuration must be available as needed.)

.2 The internal computer compartment must contain a shelf mounted at the bottom of this compartment, reference Figure 9.

.3 The shelf must be at least 15 cm across, 60 cm deep and must have a vertical clearance of no less than 45 cm.

.4 The rear panels of this compartment must be vented for air circulation.

.5 The enclosure must be equipped with a securable, not lockable, door that can be opened to gain access to the front of the computer.

3.5 User Interface Monitor Support Requirements

.1 The Console must provide for six (6), 23" side-by-side touch screen user interface monitors that are positioned in an open "U" configuration (2 left, 2 centre, 2 right) to allow the Operator to reach the complete display area of all monitors.

.2 Mounting arms for the Touch Screen User Interfaces

.1 the monitor arms supplied must be of the highest quality.

.2 the mounts must be fully adjustable with 5 axis movement including a ball joint and capable of being locked in a rigid position for the mounting of touch screens.

.3 each monitor must be independently manually adjustable anywhere from vertical to at least 20 degrees back from vertical without interfering with adjacent monitors.

.4 each monitor arm must be capable of supporting up to 12 kg.

.5 mounts must be manufactured from aluminum extrusion and finished with an anodized surface.

.6 each mount must be fitted to a post attached to the Console with in-built cable management.

.7 each post must be capable of rigidly holding a minimum of three monitor mounting arms.

.8 each post must be capable of supporting up to 50 kg, excluding monitor arms and cables.

.9 all mounts must be designed to work with touch screen monitors.

.10 as a standard the monitor mounting arms must carry a 5 year warranty.

.11 the mounts for the monitors must be compliant with the VESA FDMI standard.

.12 when installed, the bottom of the monitors must be positioned between 5 cm and 10 cm above the work top surface.

.13 the Console configuration must allow for any monitor to be interchanged with a “pod” or desktop mounted equipment enclosure, consisting of an aluminum extrusion framed housing, reference section 2.3.8.

3.6 Console Ergonomic Requirements

.1 Ergonomic requirements that must be considered when determining the size and positioning of the CCTV monitors must be based upon the human ergonomic 5th to 95th percentile criteria for males and females.

.2 The height of a seated Operator must be between 31.3" (795 mm) to 38.3" (973 mm) measured from the chair seat to the top of the Operator’s head.

.3 There must be no internal obstructions underneath the work top between the supports at each end of the console that impede the movement of the Operators legs or chair.

.4 The thigh clearance of a seated Operator must be between 21.0" (533 mm) to 26.8" (681 mm) measured from the floor to the top of the thigh.
.5 The knee height clearance of a seated Operator must be between 19.8” (510 mm) to 28.0” (711 mm) measured from the floor to the top of the knee cap.

.6 The eye height of a seated Operator must be between 42.6” (1082 mm) to 52.6” (1336 mm) measured from the floor to the Operator’s eye.

.7 The foot clearance under the Console must be at least 65 cm measured from the front of the working surface at floor level over the complete width of the Console.

.8 The average reach distance of a Touch Screen User Interface for a seated Operator must be between 14” (356 mm) to 24” (610 mm) measured from the rear of the shoulder to the tip of the middle finger with arm extended.

.9 The mounting height of each CCTV monitor must be such that the top edge of the monitor field of view represents a maximum tilt of 30 degrees relative to the eye level of a seated Operator who falls within the 5th to 95th human ergonomic percentile.

.10 The mounting height of each CCTV monitor must be such that the bottom of the field of view of a video monitor is not obstructed by any “pods” or Operator User Interface Monitors installed on the desktop work surface.

.11 The 42” video monitors should be spaced such that the furthest left field of view and furthest right field of view represent a maximum pan of +/- 45 degrees relative to the Operator’s eye position when facing directly forward.

.12 The video monitors must be installed such that the distance between the monitor and the Operator’s eye meets the manufacturer’s optimum monitor viewing distance.

3.7 Console Cable Management Requirements

.1 A standard cable management system must be supplied within the Console and the monitor mounting brackets.

.2 As a minimum, horizontal cable trays and vertical cable channels must be mounted within the desk void at the rear of the desks.

.3 This cable management system must be adjustable left and right and up and down.

.4 The cable management must include separate channels/baskets for power and signal cabling and be of a high quality decorative metal standard. (Note, samples must be provided to the Design Authority for selection purposes.)

.5 All cables must enter the Console from floor level (typically through the floor) and travel through a flexible cable channel to horizontal cable trays or channels.

.6 The cable trays or channels must allow for cables to be tie-wrapped to the tray/channel.

.7 The cable trays or channels must be sized to allow for at least 40% unused room based upon initial installation cable requirements.

.8 All cable entry points and locations passing through the surface or dividers must have grommets or brush strips to prevent cable chafing.

.9 All cables must be labeled with machine printed tags on both ends of cable.

3.8 Desktop Mounted “Pod” or Equipment Mounting Enclosure Requirements

.1 The Desktop Mounted Pod must be:

.1 manufactured from aluminum extrusion framed housing;

.2 equipped with a front panel that is angled at 10-20° for optimum visibility of equipment;

.3 supplied with sufficient depth for rear I/O cable connector clearance;

.4 supplied with cable exit at the rear and/or underside;

.5 supplied with matching design elements and colour to the Console;

.6 manually repositionable.
3.9 Safety

.1 The Console must:
  .1 support a minimum total load of 250 kg in excess of the monitors.
  .2 not have any swing out or slide out components weighing more than 8 kg.
  .3 have grounding straps installed.

3.10 Deployment Notes

.1 As a point of reference, the Console should also be positioned to allow for at least 100 cm clearance behind the Console for wiring and maintenance activities.

.2 The preferred arrangement for the monitors installed on the Console desktop will be:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>IMS Workstation User Interface (as required)</td>
</tr>
<tr>
<td>2.</td>
<td>Motorola Radio Operator Touch Screen</td>
</tr>
<tr>
<td>3.</td>
<td>Perimeter Security (PIDS) Operator Touch Screen</td>
</tr>
<tr>
<td>4.</td>
<td>Interior System (FAAS) Operator Touch Screen</td>
</tr>
<tr>
<td>5.</td>
<td>Video Management System Interface</td>
</tr>
<tr>
<td>6.</td>
<td>Aggregator Operator Touch Screen</td>
</tr>
</tbody>
</table>

.3 Site specific variations can be accommodated to meet operational situations.
4 CCTV MONITOR MOUNTING

4.1 CCTV Monitor Mounting Bracket Requirements

.1 The Console must be equipped with four (4), 23” side by side video monitors that are positioned immediately above and centred over touch screen user interface monitors 3 and 4 and two (2) 42” video monitors that are positioned with one monitor on each side of the 23” side by side video monitor array.

.2 Depending on site specific details, one of the following types of mounting configurations for the CCTV monitors must be provided:

.1 a free standing support structure (as shown in section 8)
.2 one or more wall mounted brackets (as shown in section 8), or
.3 one or more ceiling mounted brackets (as shown in section 8), depending on site specific requirements.

.3 The free standing support structure must meet the following requirements:

.1 allow screens to be adjusted vertically and horizontally similarly to the free standing support structure,
.2 support the combined monitor load of at least 100 kg.
.3 meet the physical envelope of the support structure renderings and drawings provided in sections 8.1 and 8.2 of this document within +/- 5% of all dimensions.

.4 The wall mounted bracket must meet the following requirements:

.1 allow screens to be adjusted vertically and horizontally similarly to the free standing support structure,
.2 must support the combined monitor load of at least 100 kg.

.5 The ceiling mounted bracket must meet the following requirements:

.1 allow screens to be adjusted vertically and horizontally similarly to the free standing support structure,
.3 must support the combined monitor load of at least 100 kg.

.6 In situations where one monitor abuts another, the gap between adjacent bezels must be no more than 0.5 cm.

.7 A light, removable, rigid, matt black material must be securely installed, as a single panel, behind the monitors to ensure that no light bleeds from the surface behind the monitors through any gaps between adjacent monitors.

.8 The mounts for the video monitors must be compliant with the VESA FDMI standard.

.9 The mounts must allow each monitor to be positioned independently anywhere from vertical to at least 20 degrees forward from vertical.

.10 The mounts must allow each CCTV monitor to be moved forward or backwards to ensure that the bezel is adjacent to the bezel of the user interface monitor in any possible user interface monitor position.

.11 The positions for all CCTV monitors must be modifiable by maintenance staff without any special tools.

.12 Once positioned, it must be possible to lock all CCTV Monitors into position so as to avoid any movement as a result of touching or bumping the screens.
4.2 Monitor Cable Management Requirements

.1 A cable management system must be supplied within the CCTV monitor mounting brackets.
.2 The cable management may include separate channels for power and signal cabling. (Note, samples must be provided to the Design Authority for selection purposes.)
.3 All cables must enter the Monitor brackets from floor level, ceiling level or from a suitable fitting on the wall, depending on the Mounting bracket configuration used, and travel through a flexible cable channel to horizontal cable trays or channels.
.4 The cable trays or channels must allow for cables to be tie-wrapped to the tray/channel.
.5 All cables must be labeled with machine printed tags on both ends of cable.

4.3 Deployment Notes

.6 All six (6) monitors are for display only.
.7 For reference purposes, these monitors are numbered from 7 to 12 from left to right and top to bottom.
.8 The four (4) 23” video monitors that display the PIDS camera views will be on monitors 8, 9, 10, 11.
.9 Typically a quad or six split camera configuration will be displayed on CCTV monitors 7 or 12.
.10 Typically a full screen camera view will be displayed on 12 or 7. The final assignment of the video monitors will be determined by the institution’s equipment requirements and preferences.
5 MCCP OPERATOR CHAIR

.1 The Operators Chair must meet the following requirements:
   1. durability: Intensive Use Rated (24/7/365),
   2. Warranty: Five (5) years on all components including parts and labour.
   3. Construction:
      1. standard seat dimensions: >20” (508 mm) Width x >19” (483 mm) Depth
      2. seat: dual density moulded polyurethane foam with 8-ply hardwood
      3. base: five (5) point base with heavy duty castors
      4. backrest dimensions: >19” (483 mm) Width X >24.5” (622 mm) Height
      5. armrests 4” (102 mm) adjustable padded T shaped arms
      6. weight capacity: >350lbs (158.8kg)
      7. fabric: abrasion resistant
      8. fabric colour: black or charcoal
   .4 Adjustability:
      1. backrest: fully upholstered backrest system with a minimum of 5” (127 mm) range of vertical adjustment
      2. headrest: height adjustable
      3. lumbar: adjustable (air) support
      4. seat Height: Adjustable to between 17.5” (445 mm) to 22.5” (572 mm)
      5. back/seat Angle: Heavy-duty 3-lever independent back/seat angle control.
6  WALL MOUNT MAINTENANCE AND TRAINING UNIT

6.1 Wall Mount Maintenance and Training Unit Requirements

.1 A wall mounted fold out desktop unit must be provided. This unit will house a User Interface Monitor and a Keyboard that will be used by CSC Trainers for setting up Senstar 100® alarm simulations and by Maintenance personnel to maintain the MDS and FDS sensor systems.

.2 The unit must:

.1 have maximum external dimensions of 59.7 x 76.2 x 10.2 cm
.2 have a minimum of 9.3 cm of clearance between the work surface and the unit back wall
.3 Include a VESA 75/100mm monitor mounting plate that supports ten degrees of vertical and horizontal adjustment on either side of the centre point.
.4 have a fold down work surface of at least 50 cm x 30 cm
.5 the work surface must maintain the keyboard in a horizontal position to allow easy operator interaction when in the “down” position.
.6 have at least 6 mounting points to secure it to the wall
.7 have a single inlet port for both low voltage power and data cable inlet on the bottom or the left side of the unit
.8 be constructed of similar materials to the console
.9 have a lockable latch to secure the work surface in the closed position
.10 include side ventilation ports for adequate cooling
.11 have a non-vented top to reduce dust and debris ingress
7 CABINET FOR MOUNTING OF INTERIM SYSTEMS

7.1 Interim System Mounting Cabinet Requirements

.1 If required, a separate matching cabinet with internal storage for equipment that will not be integrated into the Console until the deployment of the “Next Generation” Command and Control Technology, e.g. Fire Alarm Annunciation Interfaces, must be provided. Typically this unit would house the Fire Alarm System annunciator until it is integrated with one of the “Next Generation” User Interfaces which will be specified as ULC compliant systems.

.2 The unit must be:
   1. constructed from the same quality materials as the console;
   2. manufactured from materials that must match or complement the console;
   3. between 60 and 100 cm wide, based on approval by the Design Authority;
   4. supplied with the same work top surface height as the console in the lowered position;
   5. supplied with a support for a single LCD monitor 21”-27” in size;
   6. supplied with a work surface large enough for a full size keyboard and mouse;
   7. supplied with sufficient knee room for an operator to sit directly in front of the station;
   8. supplied with two cable management ports at the rear of the Cabinet surface to provide cable management and to support cabling to the devices mounted on the top surface;
   9. equipped with devices to ensure that the unit remains stationary in normal use, but it will not be not bolted to the floor;
  10. supplied with a mounting shelf that is compatible with the internal dimensions of the Mounting Cabinet for any computer hardware that might be needed to support the User Interface;
  11. supplied with a back lip at least 1 cm high to prevent items from rolling or sliding off the back of the unit;
  12. supplied with a removable panel front and back.
  13. supplied with cable management trays.
8 FIGURES

8.1 Console Renderings

A series of renderings showing views of a typical Console, CCTV mounting stand and ancillary equipment are provided below. These renderings represent configurations that would meet CSC’s needs, but alternative configurations that meet the same design goals and the mandatory requirements of this document will be considered.

Figure 1 – Rear left corner elevation view of a typical Console with Touch Screen UIs, an administrative workstation and 6 CCTV Monitors
Figure 2 – Plan view of a typical Console with Touch Screen UIs, an administrative workstation and 6 CCTV Monitors

Figure 3 – Elevation view of a typical Console with Touch Screen UIs, an administrative workstation and 6 CCTV Monitors from top right
Figure 4 – Elevation view of a typical Console with Touch Screen UIs, an administrative workstation and 6 CCTV Monitors

Figure 5 – Elevation view of a typical Console with Touch Screen UIs, an administrative workstation, a “pod” and 6 CCTV Monitors
Figure 6 – Rear left elevation view of a typical Console with Touch Screen UIs, an administrative workstation, a “pod” and 6 CCTV Monitors

Figure 7 – Plan view of a typical Console with Touch Screen UIs, an administrative workstation, a “pod” and 6 CCTV Monitors
Figure 8 – Elevation view of a typical Console with Touch Screen UIs, an administrative workstation, a “pod” and 6 CCTV Monitors from top right
8.2 Console Drawings

.1 A series of drawings showing views of a typical Console, CCTV mounting stand and ancillary equipment are provided below. These drawings represent configurations that would meet CSC’s needs, but alternative configurations that meet the same design goals and the mandatory requirements of this document will be considered. (Dimensions are in mm.)

Figure 9 – Plan view of a typical Console with Touch Screen UIs, an administrative workstation and 6 CCTV Monitors
Figure 10 – Plan view of a typical Console with Touch Screen UIs, an administrative workstation, a “pod” and 6 CCTV Monitors

Figure 11 – Elevation view of a typical Console with Touch Screen UIs, an administrative workstation and 6 CCTV Monitors
Figure 12 – Elevation view of a typical Console with Touch Screen UIs, an administrative workstation, a “pod” and 6 CCTV Monitors

Figure 13 – Elevation view of a typical Console with Touch Screen UIs, an administrative workstation and 6 CCTV Monitors in the “sit” position
Figure 14 – Elevation view of a typical Console with Touch Screen UIs, an administrative workstation and 6 CCTV Monitors in the “stand” position

Figure 15 – Elevation view of a typical Console with Touch Screen UIs, an administrative workstation, a “pod” and 6 CCTV Monitors in the “sit” position
Figure 16 – Elevation view of a typical Console with Touch Screen UIs, an administrative workstation, a “pod” and 6 CCTV Monitors in the “stand” position
8.3 CCTV Monitor Mount Renderings

.1 Typical Ceiling Mount

Figure 17 – A typical Ceiling Mount for CCTV Monitors

.1 Typical Wall Mount

Figure 18 – A typical Wall Mount for CCTV Monitors
8.4 Maintenance and Training Wall Mount Enclosure Renderings

Figure 19 – A typical Maintenance and Training Wall Mount Enclosure - Closed

Figure 20 – A typical Maintenance and Training Wall Mount Enclosure – Open
8.5 Interim systems Mounting Cabinet Renderings

Figure 20 – A typical Cabinet for mounting Interim Systems