

**Submission for**

**BC Public Service**

**Multi-Function Identity Card**

**Technology Standard:**

**Physical Characteristics and**

**Graphical Topography**

**May 2009**

**Draft v 3.1**

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## **1 Foreword**

This document describes the technology standard for multi-function identity cards for British Columbia (B.C.) public service employees, contractors, and visitors. The Multi-Function Identity Card Technology standard was presented to the Architecture and Standards Review Board for recommendation for approval as a government standard.

## 2 Introduction

The standard being proposed was developed by the Office of the Chief Information Officer (OCIO). It has been developed to accommodate the need for cards for B.C. public service employees.

### 2.1 Classification

The proposed standard is classified as follows:

<b>STANDARD</b>	<b>TYPE</b> [technical, process, product, etc.]	<b>NATURE</b> [strategic, tactical]	<b>REVIEW</b> [How often will it need to be reviewed.]	<b>SCOPE</b> [technical or organizational area of applicability]
<b>B.C. Public Service Multi-Function Identity Card Technology Standard: Physical Characteristics and Graphical Topography</b>	Technical	Strategic	Annual	Multi-function identity card

## 3 Scope

This document applies to all ministries. It describes a technology standard for identity cards for B.C. public service employees, contractors, and visitors. The identity card provides the following functions and is referred to as a multi-function identity card:

1. Visual identification and authentication of employees, contractors, and visitors for the workplace. The card will also provide proof of B.C. public service employment for purposes outside of the workplace, such as hotel discounts.
2. Proximity card access to controlled doorways in public service buildings.
3. Smart chip (Integrated Circuit Chip or ICC) for storage and processing of public key infrastructure (PKI) cryptographic keys for highly secure computer access, protection of information, and building access. Contact and contactless interfaces will be provided on the card. When enabled with the Province of British Columbia (Government)-approved cryptographic keys, this card meets the requirements for the Identity Information Management High Assurance standard.
4. Purchasing using a magnetic stripe.

## 4 Normative references

### International Standards

- FIPS PUB 201-1 Federal Information Process Standards Publication, March 2006
- FIPS 140-2 Security Requirements for Cryptographic Modules, May 2001  
<http://csrc.nist.gov/publications/fips/fips140-2/fips1402.pdf>
- International Standard ISO/IEC 7810 Identification Cards – Physical characteristics, 2003-11-01
- International Standard ISO/IEC 7811-6 Identification Cards – Recording Technique – Part 6: Magnetic stripe – high coercivity, 2008-06-01
- International Standard ISO/IEC 7816-1 Identification Cards – Integrated Circuit cards with contacts – Part 1: Physical characteristics
- International Standard ISO/IEC 7816-2 Identification Cards – Integrated circuit cards – Part 2: Cards with contacts – dimensions and location of the contacts
- International Standards ISO/IEC 14443-4 Identification cards – Contactless integrated circuit cards – proximity cards – Part 1-4

## 5 Terms and Definitions

For the purposes of this document, the following acronyms apply.

ISO	International Organization for Standardization
IEC	International Electrotechnical Commission
FIPS	Federal Information Process Standards

## 6 Requirements

### 6.1 Physical and Technology Card Requirements

1. The card body must conform to the ISO 7810 ID1 standard.
2. The ICC contact chip must conform to ISO 7816-1-4 standards and FIPS 140-2 level 3 Security.
3. The contactless chip interface must conform to ISO 14443 parts 1-4.
4. The magnetic stripe must conform to ISO 7811-6 standard and be located on the back side.
5. The card will have a hole punched for attachment of a lanyard. The hole will be 14 x 2 mm and centrally located near the top of the card.

### 6.2 Text Requirements

1. All security text (see below) is to be printed in Arial font (FIPS 201-1).
2. All security text (section 4 below) is to be printed in 5pt normal for tags or labels and **6pt bold** for text data (FIPS 201-1).

### 6.3 Security and Privacy Requirements

1. The card must have visual technology such as holography to prevent counterfeiting.
2. The card must have issue and expiry dates (**6 pt bold**) displayed on the front side using government standard date format (YYYYMMDD).
3. The card must have a portrait orientation to enable wearing with a lanyard.
4. The card must have a colour photograph of a full frontal pose from top of head to shoulder with a minimum 300 dots per inch resolution on the front side, as per FIPS 201-1 standard, excepting visitor and temporary cards which do not have photographs. The graphic designer is free to enlarge the photograph size from the size shown in the figure (37 x 27.75 mm), provided it does not conflict with the striped areas (chip contact and magnetic stripe).
5. The full first and last names of the legal name (see *BC Name Act*) (**6pt bold**) of the card holder must be displayed on the back side. A pseudonym may be used in approved situations with high security risk. Visitor cards have the name “Visitor” or “Temporary”.
6. The Government (5pt normal), as the card issuer, must be displayed on the front or back of the card.
7. A unique serial number (**6pt bold**) for each card must be displayed on front or back of card.
8. Contact information (5 pt normal) for reporting lost cards must be displayed on the back side of the card.
9. A colour coded rectangle for employee affiliation must be displayed on the front side of the card. The affiliation is one of Employee (all types), Contractor, Temporary, or Visitor. The graphic designer is free to choose the colour, shape, and location on the front of the card, provided the affiliation is recognizable from a distance up to 10 metres (corrected vision assumed where needed).
10. A blank space on the back side of the card must be included in the graphic design, so that a location-specific safety information sticker may be applied and replaced as necessary. The blank space must be minimum 30 x 20 mm.

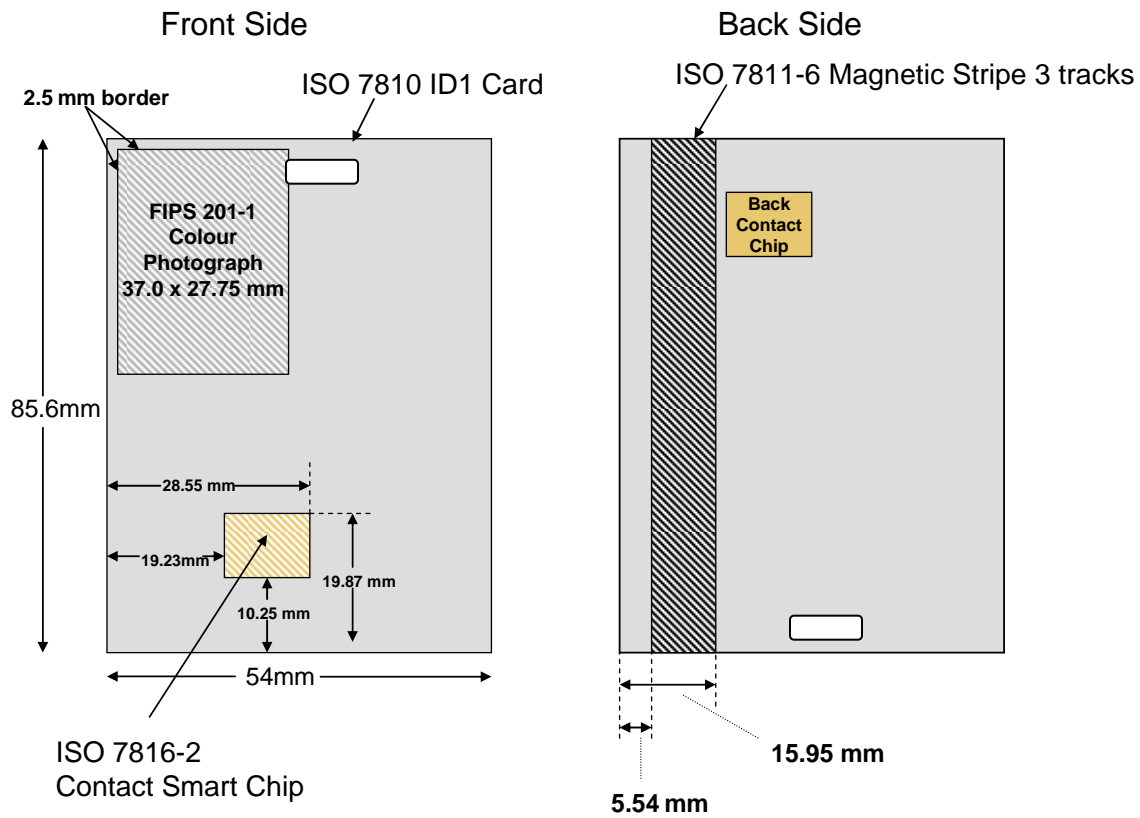
## 7 General characteristics

### 7.1 Characteristics and Standard

#### Card Topography

The figure below shows the physical layout of the common access card as determined by the standards supported on the card. The front (left) and back (right) sides are presented below. The graphic design must provide for the location of the colour photograph, smart chip contacts, and magnetic stripe.

The graphic designer is free to choose the location of graphic elements and the location of the required security text within the constraints of sections 3 and 4 above.



Striped areas are not available for printing.



## 8 Evaluation criteria

### 8.1 Enquiry Scope

Extensive consultation and collaboration has been undertaken between the Ministry of Health, Vancouver Island Health Authority, the OCIO Information Security Branch and the OCIO Architecture and Standards Branch in the development of this standard. Main contributors to this standard are the following Government organizations:

Ministry of Labour and Citizens' Services

- OCIO
  - Architecture and Standards Branch
  - Knowledge Information Systems Branch (ASB)
- Workplace Technology Services (WTS)
- Accommodation and Real Estate Services (ARES)
- Common Business Services (CBS)

Insurance Corporation of British Columbia (ICBC)

Ministry of Attorney General

BC Public Service Agency

BC Transit

### 8.2 Analysis/Acceptance

The OCIO ASB and its government partners are in agreement with the contents of this document.

### 8.3 Response

The inclusion of ISO as a standards basis was positively accepted.

### 8.4 Packaging

The standard as proposed for the Standard Manual is contained in Annex A.

## 9 Bibliography

CORE POLICY MANUAL 12 Information Management and Information Technology Management,  
[http://www.fin.gov.bc.ca/ocg/fmb/manuals/CPM/12\\_Info\\_Mgmt\\_and\\_Info\\_Tech.htm#1234](http://www.fin.gov.bc.ca/ocg/fmb/manuals/CPM/12_Info_Mgmt_and_Info_Tech.htm#1234).

## Annex A. Standard for Multi-Function Identity Card: Physical Characteristics and Graphical Topography

<b>IM/IT Architecture and Standards Branch</b> <b>STANDARD</b>  <b>Office of the Chief Information Officer</b> <b>Province of British Columbia</b>	<b>Effective Date:</b> 2009-06-01 <b>Scheduled Review:</b> Annual <b>Last Updated:</b> <b>Last Reviewed:</b>
<b>5.0 Information Technology Management (CPPM 12.3.5)</b>	
<b>Standard for Multi-Function Identity Card: Physical Characteristics and Graphical Topography</b>	
<b>Keywords:</b> Standard, Multi-Function Identity Card, Smart Card, Identity Card, Access Card	

### Summary

This standard describes the technology standard for multi-function identity cards for B.C. public service employees, contractors, and visitors.

The International Standard ISO/IEC 7810, 7816, 14443 and FIPS 140, 201 have been used extensively in the development of this technical specification document.

### Physical and Technology Card Requirements

1. The card body must conform to the ISO 7810 ID1 standard.
2. The ICC contact chip must conform to ISO 7816-1-4 standards and FIPS 140-2 Level 3 Security.
3. The contact-less chip interface must conform to ISO 14443 parts 1-4.
4. The magnetic stripe must conform to ISO 7811-6 standard and be located on the back side.
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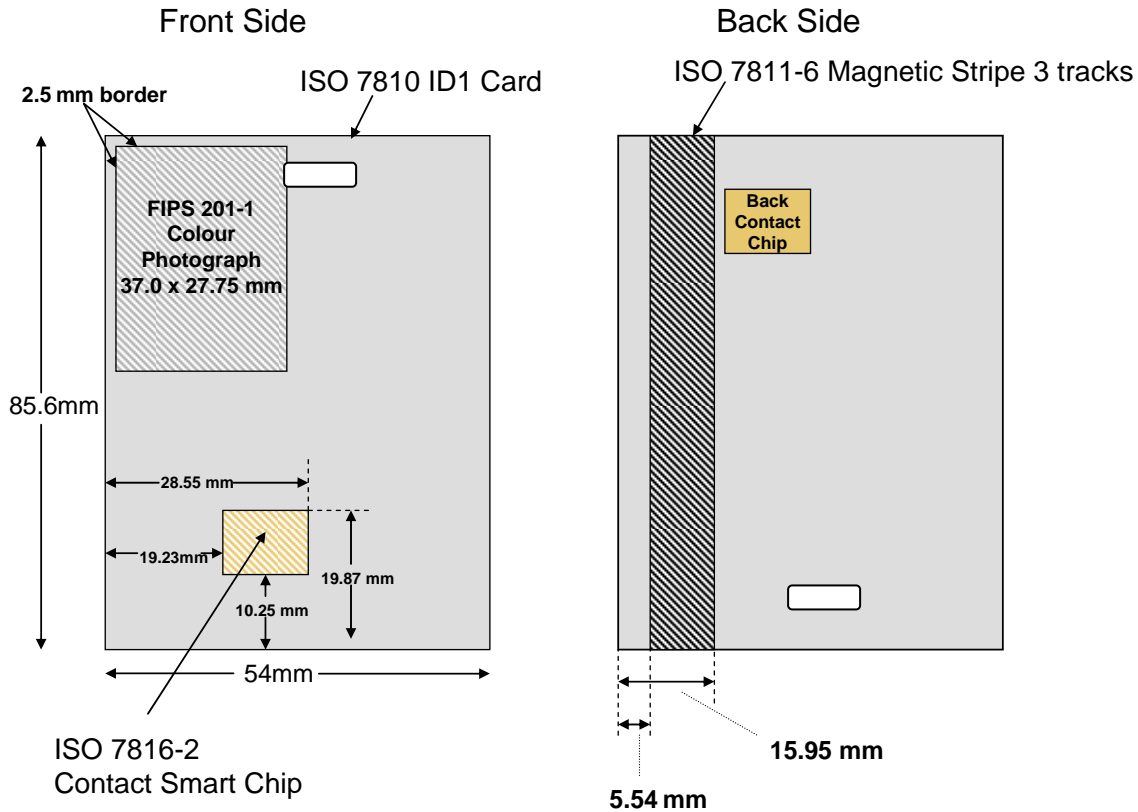
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Striped areas are not available for printing.

### Where to Apply This Standard

This standard is meant for any ministry that is considering implementing a multi-function identity card.

### Authority and Exceptions

If there are compelling business reasons why an organization is unable to comply with this architecture or standard, the organization's CIO may authorize a submission for exemption through the ASB.

### Metrics and Enforcement

The intention of the OCIO is to advertise and promote this standard as being mandatory throughout Government. However, in order to effectively manage information security, ministries and broader public sector agencies are expected to adopt and monitor compliance to this standard. The OCIO ISB will also monitor for compliance.

### Additional Information

The OCIO is the owner of this standard. Its website is [www.cio.gov.bc.ca](http://www.cio.gov.bc.ca).

### Contact

Architecture and Standards Branch, OCIO

Phone: 250-952-6913 E-mail: [ASB.CIO@gov.bc.ca](mailto:ASB.CIO@gov.bc.ca)