A1. CONTRACT ADVISOR
Mrs. Gabrielle Raina Rees
Manager, Real Property Procurement
Mission Procurement (AAO)
Email: *(see below)*
realproperty-contracts@international.gc.ca
Telephone: 343-203-8287

Architectural and Engineering Services

Request for Proposals (RFP)

for

Performance of the Work described in Appendix "A" – Statement of Work and Appendix "C" – Project Design Brief of the draft contract.

A2. TITLE
Relocation of the Consulate General of Canada, San Salvador, El Salvador

A3. SOLICITATION NUMBER	**A4.PROJECT NUMBER**	**A5. DATE**
20-164503	L-SSAL-100	February 13, 2020

A6. RFP DOCUMENTS

1. Request for Proposals (RFP) title page
2. Definitions (Section "I")
3. Submission Requirements (Section "II")
4. Evaluation and Basis of Selection (Section "III)
5. Price Proposal (Section "IV")
6. General Instructions (Section "V")
7. Statement of Work (Appendix "A")
8. Project Description (Appendix "B")
9. Project Design Brief (Appendix "C")
10. Floor Plan (Appendix "D")
11. Security Requirements Checklist (Appendix "E")
12. The attached draft Contract

In the event of discrepancies, inconsistencies or ambiguities of the wording of these documents, the document that appears first on the above list shall prevail.

A7. PROPOSAL DELIVERY
In order for the proposal to be valid, it must be received no later than **14h00 Eastern Standard Time** on **March 23, 2020** referred to herein as the "Closing Date".

Electronic proposals must be sent only to the following email address:
realproperty-contracts@international.gc.ca

A8. PRICE PROPOSAL
All the information required in section 3.6 must appear in Section "IV" - Price Proposal ONLY and included in a separate attachment named "Price Proposal". Failure to comply may result in the proposal being declared non-compliant and rejected from further consideration.

A9. SITE VISIT
It is recommended that the Proponent or a representative of the Proponent visit the work site. Arrangements have been made for the site visit to be held at the address below on **Wednesday, February 26, 2020** at **10:00 AM local time**.

Address: Torre Quattro building at Calle El Miador & 87 Avenida Norte, San Salvador, El Salvador

Proponents are requested to communicate with the Contract Advisor no later than three (3) calendar days prior to the visit confirm attendance and provide the name(s) of the person(s) who will attend. Proponents may be requested to sign an attendance sheet. Proponents who do not attend or do not send a representative will not be given an alternative appointment but they will not be precluded from submitting a bid.

Any clarifications or changes to the bid solicitation resulting from the site visit will be included as an amendment to the bid solicitation.

No expenses related to the site visit will be reimbursed.

A10. ENQUIRIES
All enquiries or issues concerning this RFP must be submitted in writing to the Contract Advisor no later than three (3) calendar days prior to the Closing Date and Time in order to allow sufficient time to provide a response.

A11. LANGUAGE
Proposals shall be submitted in English or French.

A12. CONTRACT DOCUMENTS
The draft contract which the selected Proponent will be expected to execute is included with this RFP. Proponents are advised to review it in detail and identify any problematic clauses to the Contract Advisor in accordance with A10 - Enquiries. Her Majesty reserves the right not to make any amendment(s) to the Contract Documents.

SECTION "I" – DEFINITIONS

1.0 DEFINITIONS

1.1 Request For Proposals

Her Majesty the Queen in right of Canada ("Her Majesty"), represented by the Minister of Foreign Affairs ("The Minister"), is inviting Proponents to submit proposals to provide Architectural and Engineering (A&E) services pursuant to this Request For Proposals (RFP).

1.2 The Proponent

An entity, whether a firm or individual, that submits a proposal on behalf of a consultant team will be referred to as the "Proponent." A consultant team is defined as the team of consultants, specialists and other firms, including the Proponent, proposed to perform the services required. If the Proponent subcontracts parts of the Work to other individuals or firms, the Proponent is legally responsible for all of the Work. In the case of a joint venture, one of the parties must be designated as the Proponent who represents the other members of the joint venture in contractual and operational matters. Where the Proponent is a joint venture, all parties in the joint venture will be held jointly and severally liable for all obligations and undertakings entered into pursuant to any subsequent contract that may arise.

1.3 Proponent - Consultant

For readability, clarity and ease of reference of the narrative that follows, the term "Proponent" is used to identify all entities responding to this RFP. The Proponent responding to this RFP who is selected to carry out the Work is identified as the "Consultant".

1.4 Professional and Technical Services

The Minister seeks to enhance its presence through excellence of design and quality of construction in its Missions abroad. The successful Architectural & Engineering Firm, as Consultant, will provide all professional and technical services as described and required in Appendix "A" – Statement of Work of the attached draft contract and the Project Brief and all Appendices, including design, production of construction tender documents, advice on contractor selection and award, construction supervision and all other control and administrative services, as described in this RFP, and generally associated with implementing the project (the "Project").

1.5 Proponent's Team

Unless previously authorized in writing by The Minister, the composition of the Proponent's Team actually performing the Work must be identical to the one identified in their proposal. Proponents must use the same architects, engineers and other professionals named in this proposal and in the same roles and responsibilities as presented in their proposal.

SECTION "II" – SUBMISSION REQUIREMENTS

2.0 SUBMISSION OF PROPOSAL

2.1 Proposals must be received by DFATD at the email address identified and by the date and time specified on page 1 of the solicitation.

2.2 Proponents should ensure that their name and the solicitation number is clearly referenced in the email subject line. It is the responsibility of the Proponent to confirm that their submission has been received on time and to the correct email address.

2.3 More than one e-mail can be sent if necessary. If the same file is sent twice, the latest file received will be used for evaluation purposes and the previous one(s) will not be opened.

2.4 Her Majesty requests that Proponents provide their electronic proposals in Portable Document Format (.pdf) software application files or Microsoft office version 2003 or greater files.

2.5 Proponents should follow the specifications format instructions described below, during the preparation of their proposal:

- Minimum type face of 10 points.
- All material be formatted to print on 8.5" x 11" or A4 paper.
- For clarity and comparative evaluation, the Proponent should respond using the same subject headings and numbering structure as in this RFP document.

2.6 Proposals may be modified or resubmitted only before the solicitation Closing Date and Time, and must be done in writing. The latest proposal received will supersede any previously received proposals.

2.7 Her Majesty will take no responsibility if a proposal is not received on time because the e-mail was refused by a server for the following reasons:

- The size of attachments exceeds 10 MB.
- The e-mail was rejected or put in quarantine because it contains executable code (including macros).
- The e-mail was rejected or put in quarantine because it contains files that are not accepted by DFATD server, such as, but not limited to, .rar, encrypted .zip, encrypted .pdf, .exe., etc.

2.8 Links to an online storage service (such as Google Drive™, Dropbox™, etc.) or to another website, a File Transfer Protocol (FTP) service access, or any other mean of transferring files, will not be accepted. All documents submitted must be attached to the e-mail.

2.9 It is strongly recommended that Proponents confirm with the Contract Advisor that their complete proposal was received. For this same reason, it is recommended that in cases where more than one e-mail containing documents comprising the quote is submitted, the emails be numbered and the total number of emails sent in response to the solicitation also be identified.

2.10 Her Majesty requires that each proposal, at Closing Date and Time or upon request from the Contract Advisor, be signed by the Proponent or by an authorized representative of the Proponent. If any required signature(s) are not submitted as requested, the Contract Advisor may inform the Proponent of a time frame within which to provide the signature(s). Failure to comply with the request of the Contract Advisor and to provide the signature(s) within the time frame provided may render the proposal non-responsive.

2.11 It is the Proponent's responsibility to:

- obtain clarification of the requirements contained in the RFP, if necessary, before submitting a proposal;
- prepare its proposal in accordance with the instructions contained in the RFP;
- submit by Closing Date and Time a complete proposal;
- send its proposal only to the email address specified on page 1 of the bid solicitation;
- ensure that the Proponent's name, and the solicitation number are in the subject line of the email containing the proposal; and,
- provide a comprehensible and sufficiently detailed proposal, including all requested pricing details, that will permit a complete evaluation in accordance with the criteria set out in the RFP.

2.12 Unless specified otherwise in the RFP, Her Majesty will evaluate only the documentation provided with a Proponent's proposal. Her Majesty will not evaluate information such as references to Web site addresses where additional information can be found, or technical manuals or brochures not submitted with the proposal.

2.13 A proposal cannot be assigned or transferred in whole or in part.

SECTION "III" – EVALUATION AND BASIS OF SELECTION

3.0 TECHNICAL PROPOSAL

3.1 For the sake of clarity and comparative evaluation, Proponents should respond using the same subject headings and numbering structure in this document.

3.2 The evaluation will be based solely on the content of the responses and any correctly submitted amendment. No assumptions should be made that Her Majesty has any previous knowledge of the Proponents' qualifications other than that supplied pursuant to this RFP.

3.3 The Proponent's Technical response **must not** exceed one hundred (100) single-sided pages of 8½ "x 11" paper, minimum type face 10 pts., including organization charts and schedule. Material exceeding the thirty (30) page maximum will **NOT** be considered.

3.4 MANDATORY REQUIREMENTS

SECTION 1 – CORPORATE EXPERIENCE

CORPORATE EXPERIENCE		
Item	**Description**	**Compliance**

M1	Proponent must have completed three (3) commercial fit-up projects as the lead Architectural and Engineering firm in the past ten (10) years prior to bid closing date.
	
	Each project must have a value with construction and fit-up costs in excess of $1,000,000 CAD.
	
	The projects must have been carried out in North America, South America or Central America.
		The Proponent must provide the following for each project (maximum of 3 projects):
		• Title of project
		• Location of project (city, country)
		• Client name
		• Value of the project (over $1,000,000 CAD)
		• Work period
		  o Start date of work (month, year)
		  o End date of work (month, year)
		• Description of services provided by the Proponent

SECTION 2 – PERSONNEL EXPERIENCE

PRINCIPAL ARCHITECT		
Item	**Description**	**Compliance**
M2	The proposed Principal Architect must have a minimum of ten (10) years' experience as the Principal Architect in architectural & engineering commercial fit-up projects.	The Principal Architect must provide the following: • a summary of their experience; and • demonstration of 10+ years' experience.
M3	The proposed Principal Architect must have worked on three (3) architectural & engineering commercial fit-up projects as the Principal	The Principal Architect must provide the following for each project (maximum of 3 projects):

	Architect, in the past ten (10) years prior to bid closing date.
	
	It is not necessary that the projects be in the stage of completion.
	
	The projects must have been carried out in North America, South America or Central America.
		• Title of Project
		• Location of project (city, country)
		• Client Name
		• Work Period
		  o Start date of work (month, year)
		  o End date of work (month, year)
		• Description of services provided by the Principal Architect

M4	The proposed Principal Architect must have a valid licence to practice architecture in El Salvador. **<u>or</u>** The proposed Principal Architect must have a valid licence to practice architecture in North America, South America or Central America. *Construction drawings / documents will need to be stamped in El Salvador. Principal Architect must have this capacity.*	The Principal Architect must provide a copy of their registration number and/or copies of certification and licensing.

SENIOR ELECTRICAL ENGINEER		
Item	**Description**	**Compliance**
M5	The proposed Senior Electrical Engineer must have a minimum of ten (10) years' experience as the Senior Electrical Engineer in architectural & engineering commercial fit-up projects.	The Senior Electrical Engineer must provide the following: • a summary of their experience; and • demonstration of 10+ years' experience.

M6	The proposed Senior Electrical Engineer must have worked on a minimum of three (3) architectural & engineering commercial fit-up projects as a Senior Electrical Engineer, in the past ten (10) years prior to bid closing date.
	
	It is not necessary that the projects be in the stage of completion.
	
	The projects must have been carried out in North America, South America or Central America.
		The Senior Electrical Engineer must provide the following (maximum of 3 projects):
		• Title of Project
		• Location of project (city, country)
		• Client Name
		• Work Period
		  o Start date of work (month, year)
		  o End date of work (month, year)
		• Description of services provided by the Senior Electrical Engineer

M7	The proposed Senior Electrical Engineer must have a valid engineering licence in El Salvador. **<u>or</u>** The proposed Senior Electrical Engineer must have a valid engineering licence in North America, South America or Central America. *Construction drawings / documents will need to be stamped in El Salvador. Senior Electrical Engineer must have this capacity.*	The Senior Electrical Engineer must provide a copy of their registration number and/or copies of certification and licensing.

SENIOR MECHANICAL ENGINEER		
Item	**Description**	**Compliance**
M8	The proposed Senior Mechanical Engineer must have a minimum of ten (10) years' experience as the Senior Mechanical Engineer in architectural & engineering commercial fit-up projects.	The Senior Mechanical Engineer must provide the following: • a summary of their experience; and • demonstration of 10+ years' experience.

M9	The proposed Senior Mechanical Engineer must have worked on a minimum of three (3) architectural & engineering commercial fit-up project as a Senior Mechanical Engineer, in the past ten (10) years prior to bid closing date.
	
	It is not necessary that the projects be in the stage of completion.
	
	The projects must have been carried out in North America, South America or Central America.
		The Lead Mechanical Engineer must provide the following (maximum of 3 projects):
		• Title of Project
		• Location of project (city, country)
		• Client Name
		• Work Period
		  o Start date of work (month, year)
		  o End date of work (month, year)
		• Description of services provided by the Senior Mechanical Engineer

M10	The proposed Senior Mechanical Engineer must have a valid engineering licence in El Salvador. **<u>or</u>** The proposed Senior Mechanical Engineer must have a valid engineering licence in North America, South America or Central America.	The Senior Mechanical Engineer must provide a copy of their registration number and/or copies of certification and licensing.

	Construction drawings / documents will need to be stamped in El Salvador. Senior Mechanical Engineer must have this capacity.	

SENIOR STRUCTURAL ENGINEER		
Item	**Description**	**Compliance**
M11	The proposed Senior Structural Engineer must have a minimum of ten (10) years' experience as a Senior Structural Engineer in architectural & engineering commercial fit-up projects.	The Senior Structural Engineer must provide the following: • a summary of their experience; and • demonstration of 10+ years' experience.
M12	The proposed Senior Structural Engineer must have worked on a minimum of three (3) architectural & engineering commercial fit-up project as a Senior Structural Engineer, in the past ten (10) years prior to bid closing date. It is not necessary that the project be in the stage of completion. The projects must have been carried out in North America, South America or Central America.	The Senior Structural Engineer must provide the following (maximum of 3 projects): • Title of Project • Location of project (city, country) • Client Name • Work Period o Start date of work (month, year) o End date of work (month, year) • Description of services provided by the Senior Structural Engineer
M13	The proposed Senior Structural Engineer must have a valid engineering licence in El Salvador. **or** The proposed Senior Structural Engineer must have a valid engineering licence in North America, South America or Central America. *Construction drawings / documents will need to be stamped in El Salvador. Senior Structural Engineer must have this capacity.*	The Senior Structural Engineer must provide a copy of their registration number and/or copies of certification and licensing.

3.5 POINT-RATED CRITERIA (Total of 60 points)

3.5.1 Understanding of the Project (20 out of 60 points)

Intent: Evaluate the Proponent's understanding of the requirement.

Information to be submitted:

3.5.1.1 a narrative which demonstrates a clear understanding of the requirements of the Statement of Work and Project Brief; and

3.5.1.2 a narrative which demonstrates the following:

- opportunities, challenges and quality expectations for the delivery of the project;
- potential costs savings;
- expectation to meet schedule; and
- issues or risk factors that could affect the Project.

Rating:

Score	Evaluation	Definition
20	Outstanding	Innovative, comprehensive and complete in all details; exceeds all requirements and objectives.
15-19	Excellent	Substantial response in clearly definable detail; meets all critical requirements; demonstrates full understanding.
10-14	Good	Meets all minimum requirements; demonstrates partial understanding.
5-9	Poor	Misses some requirements, demonstrates partial understanding; some detail missing.
0-4	Unsatisfactory	No data/incomplete bid; lacks understanding.

3.5.2 Management of the Services (20 out of 60 points)

Effective management of the services rendered under the A&E Service Contract between the DFATD project office in Ottawa, the Consultant's offices, whether in Canada or abroad, and the site office represents a major challenge. Effective communication, effective delegation of authority, control of travel costs, and optimization of response time are factors that will determine the success of the Project.

Intent: Evaluate the Proponent's strategy for delivering the Project.

Information to be submitted:

3.5.2.1 a description of the nature, extent and duration of the links in any partnerships / joint ventures, if applicable;

3.5.2.2 a project organization chart showing names and titles of all Proponent Team resources named for the Project;

3.5.2.3 a short description of the roles of key stakeholders: Proponent Team, sub-consultants and other specialists and describe how this team will work together to execute the various phases of the Work;

3.5.2.4 a listing of the risks associated with project delivery and how the Proponent's Team will mitigate the risk on this project; and

3.5.2.5 a description of the experience of any associates or joint venture partners in delivering projects for overseas clients.

Rating:

Score	Evaluation	Definition
20	Outstanding	Innovative, comprehensive and complete in all details; exceeds all requirements and objectives.
15-19	Excellent	Substantial response in clearly definable detail; meets all critical requirements; demonstrates full understanding.
10-14	Good	Meets all minimum requirements; demonstrates partial understanding.
5-9	Poor	Misses some requirements, demonstrates partial understanding; some detail missing.
0-4	Unsatisfactory	No data/incomplete bid; lacks understanding.

3.5.3 Time Control (5 out of 60 points)

Intent: Evaluate the Proponent's understanding of the schedule requirements of the Project.

Information to be submitted:

3.5.3.1 a Project schedule in the form of a Gantt chart using milestones, showing the critical path of the project and major events that could delay the Project; and

3.5.3.2 a narrative on the seasonal, cultural or other factors that could impact the Project Schedule.

Rating:

Score	Evaluation	Definition
5	Outstanding	Innovative, comprehensive and complete in all details; exceeds all requirements and objectives.
4	Excellent	Substantial response in clearly definable detail; meets all critical requirements; demonstrates full understanding.
3	Good	Meets all minimum requirements; demonstrates partial understanding.
2	Poor	Misses some requirements, demonstrates partial understanding; some detail missing.
0-1	Unsatisfactory	No data/incomplete bid; lacks understanding.

3.5.4 Cost Control (5 out of 60 points)

Intent: Evaluate Proponent's ability to track and control costs by utilizing tools and resources.

Information to be submitted:

3.5.4.1 a description of the planned procedure for Project cost planning and control; and

3.5.4.2 a narrative on the specific aspects of this particular Project that entail the greatest risk.

Rating:

Score	Evaluation	Definition
5	Outstanding	Innovative, comprehensive and complete in all details; exceeds all requirements and objectives.
4	Excellent	Substantial response in clearly definable detail; meets all critical requirements; demonstrates full understanding.
3	Good	Meets all minimum requirements; demonstrates partial understanding.
2	Poor	Misses some requirements, demonstrates partial understanding; some detail missing.
0-1	Unsatisfactory	No data/incomplete bid; lacks understanding.

3.5.5 Quality Control (5 out of 60 points)

Intent: Evaluate the Proponent's procedure to control quality.

Information to be submitted:

3.5.5.1 a description of the planned quality control procedure for each stage of the basic services as described in the Statement of Work and Project Brief; and

3.5.5.2 a narrative on specific quality related concerns for this Project.

Rating:

Score	Evaluation	Definition
5	Outstanding	Innovative, comprehensive and complete in all details; exceeds all requirements and objectives.
4	Excellent	Substantial response in clearly definable detail; meets all critical requirements; demonstrates full understanding.
3	Good	Meets all minimum requirements; demonstrates partial understanding.
2	Poor	Misses some requirements, demonstrates partial understanding; some detail missing.
0-1	Unsatisfactory	No data/incomplete bid; lacks understanding.

3.5.6 Travel Plan (5 out of 60 points)

As travel to the Project Site will be required, the Proponent is required to provide an estimate of the number of trips necessary and the duration per trip for each team member throughout the life-cycle of the Project.

Intent: Evaluate the reasonableness of the Proponent's travel plan.

Information to be submitted:

3.5.6.1 an estimate of the number of trips necessary and the duration per trip for the Proponent Team members;

3.5.6.2 listing of the Project phase at which travel is required; and

3.5.6.3 the number of persons travelling and their area of responsibility.

Rating:

Score	Evaluation	Definition
5	Outstanding	Innovative, comprehensive and complete in all details; exceeds all requirements and objectives.
4	Excellent	Substantial response in clearly definable detail; meets all critical requirements; demonstrates full understanding.
3	Good	Meets all minimum requirements; demonstrates partial understanding.
2	Poor	Misses some requirements, demonstrates partial understanding; some detail missing.
0-1	Unsatisfactory	No data/incomplete bid; lacks understanding.

3.6 PRICE PROPOSAL (40 POINTS)

3.6.1 All the information required in section 3.6 must appear on Section "IV" - Price Proposal ONLY and must be included in a separate attachment named "Price Proposal". Failure to comply may result in the proposal being declared non-compliant and rejected from further consideration.

3.6.2 Fixed Price

3.6.2.1 Proponents shall quote an all inclusive Fixed Price (excluding the cost of The Minister's services and equipment\furniture) on the form attached as Section "IV" - Price Proposal. The Fixed Price must include, but not necessarily be limited to, all costs resulting from the performance of the Work as described in this RFP, all costs resulting from the performance of any additional Work described in the Proponent's Proposal (unless clearly described as an option), all travel, living costs and all overhead costs including disbursements;

3.6.2.2 Proponents shall estimate the value of the taxes (including VAT as per 3.6.3) expected to be payable by Her Majesty as a result of entering into a contract with the Proponent on the Price Proposal;

3.6.2.3 All payments shall be made according to the terms of payment set out in the attached draft contract;

3.6.2.4 Exchange rate fluctuation protection is not offered; and

3.6.2.5 Price Proposals not meeting the above requirements will not be given any further consideration.

3.6.3 Taxes & Duties

Proponents are to provide full details concerning the applicability, amount and administration of the payment of all taxes (including VAT as described below) and duties (including import duties) payable in respect of the Work, as well as any possible exemption from all or part of same.

Her Majesty will pay the VAT specified in the Price Proposal provided:

3.6.3.1 that amount is applicable to the Work provided by the Consultant to Her Majesty under the Contract. Her Majesty will not be responsible for the payment of any VAT payable by the Consultant to any third party (including Subcontractors);

3.6.3.2 Her Majesty is unable to procure an exemption from VAT in respect of the Work;

3.6.3.3 the Consultant agrees to render every reasonable assistance to Her Majesty in obtaining reimbursement of all VAT paid in respect of the Work from the appropriate Government Agency;

3.6.3.4 the VAT is shown separately on all of the Consultant's invoices and progress claims; and

3.6.3.5 the Consultant agrees to remit to the appropriate Government Agency any amounts of VAT legally required to be remitted by the Consultant pursuant to applicable tax laws.

3.6.4 Price Breakdown

Her Majesty reserves the right to request a breakdown of the components of the Price Proposal should it believe that the price is unreasonable. Failure to provide an adequate breakdown, describing the rationale and assumptions used to determine the cost of each component of the Work, may lead to disqualification.

3.7 BASIS OF SELECTION

3.7.1 To be declared responsive, a bid must:

a. comply with all the requirements of the bid solicitation; and
b. meet all mandatory criteria.

3.7.2 Bids not meeting (a) or (b) will be declared non-responsive.

3.7.3 The selection will be based on the highest responsive combined rating of technical merit and price. The ratio will be 60 % for the technical merit and 40 % for the price.

3.7.4 To establish the technical merit score, the overall technical score for each responsive bid will be determined as follows: total number of points obtained / maximum number of points available multiplied by the ratio of 60 %.

3.7.5 To establish the pricing score, each responsive bid will be prorated against the lowest evaluated price and the ratio of 40 %.

3.7.6 For each responsive bid, the technical merit score and the pricing score will be added to determine its combined rating.

3.7.7 In the case of a tie for the highest total score, the Proponent submitting the lowest price will be selected. In the case of a tie for the total score and a tie for the price proposal score, the Proponent with the highest score for the "Technical Proposal" will be selected.

3.7.8 Neither the responsive bid obtaining the highest technical score nor the one with the lowest evaluated price will necessarily be accepted. The responsive bid with the highest combined rating of technical merit and price will be recommended for award of a contract.

Basis of Selection - Highest Combined Rating Technical Merit (60%) and Price (40%)

		Proponent 1	Proponent 2	Proponent 3
Overall Technical Score		115/135	89/135	92/135
Bid Evaluated Price		$55,000.00	$50,000.00	$45,000.00
Calculations	**Technical Merit Score**	115/135 x 60 = 51.11	89/135 x 60 = 39.56	92/135 x 60 = 40.89
	Pricing Score	45/55 x 40 = 32.73	45/50 x 40 = 36.00	45/45 x 40 = 40.00
Combined Rating		83.84	75.56	80.89
Overall Rating		1st	3rd	2nd

3.8 PHASED BID COMPLIANCE PROCESS (PBCP)

3.8.1 General

(a) Her Majesty is conducting the PBCP described below for this requirement.

(b) Notwithstanding any review by Her Majesty at Phase I or II of the PBCP, Proponents are and will remain solely responsible for the accuracy, consistency and completeness of their Bids and Her Majesty does not undertake, by reason of this review, any obligations or responsibility for identifying any or all errors or omissions in Bids or in responses by a Proponent to any communication from Her Majesty.

The Proponent acknowledges that the reviews in Phase I and II of this PBCP are preliminary and do not preclude a finding in Phase III that the bid is non-responsive, even for mandatory requirements which were subject to review in Phase I or II and notwithstanding that the bid had been found responsive in such earlier phase. Her Majesty may deem a bid to be non-responsive to a mandatory requirement at any phase.

The Proponent also acknowledges that its response to a notice or a Compliance Assessment Report (CAR) (each defined below) in Phase I or II may not be successful in rendering its bid responsive to the mandatory requirements that are the subject of the notice or CAR, and may render its bid non-responsive to other mandatory requirements.

(c) Her Majesty may, in its discretion, request and accept at any time from a Proponent and consider as part of the Bid, any information to correct errors or deficiencies in the Bid that are clerical or administrative, such as, without limitation, failure to sign the Bid or any part or to checkmark a box in a form, or other failure of format or form or failure to acknowledge; failure to provide a procurement business number or contact information such as names, addresses and telephone numbers; inadvertent errors in numbers or calculations that do not change the amount the Proponent has specified as the price or of any component thereof that is subject to evaluation. This shall not limit Her Majesty's right to request or accept any information after the bid solicitation closing in circumstances where the bid solicitation expressly provides for this right. The Proponent will have the time period specified in writing by Her Majesty to provide the necessary documentation. Failure to meet this deadline will result in the Bid being declared non-responsive.

(d) The PBCP does not limit Her Majesty's rights to request or accept any information during the solicitation period or after bid solicitation closing in circumstances where the bid solicitation expressly provides for this right, or in the circumstances described in subsection (c).

(e) Her Majesty will send any Notice or CAR by any method Her Majesty chooses, in its absolute discretion. The Proponent must submit its response by the method stipulated in the Notice or CAR. Responses are deemed to be received by Her Majesty at the date and time they are delivered to Her Majesty by the method and at the address specified in the Notice or CAR. An email response permitted by the Notice or CAR is deemed received by Her Majesty on the date and time it is received in Her Majesty's email inbox at Her Majesty's email address specified in the Notice or CAR. A Notice or CAR sent by Her Majesty to the Proponent at any address provided by the Proponent in or pursuant to the Bid is deemed received by the Proponent on the date it is sent by Her Majesty. Her Majesty is not responsible for late receipt by Her Majesty of a response, however caused.

3.8.2 Phase I: Financial Bid

(a) After the closing date and time of this bid solicitation, Her Majesty will examine the Bid to determine whether it includes a Financial Bid and whether any Financial Bid includes all information required by the solicitation. Her Majesty's review in Phase I will be limited to identifying whether any information that is required under the bid solicitation to be included in the Financial Bid is missing from the Financial

Bid. This review will not assess whether the Financial Bid meets any standard or is responsive to all solicitation requirements.

(b) Her Majesty's review in Phase I will be performed by officials of the Department of Foreign Affairs, Trade and Development Canada.

(c) If Her Majesty determines, in its absolute discretion that there is no Financial Bid or that the Financial Bid is missing all of the information required by the bid solicitation to be included in the Financial Bid, then the Bid will be considered non-responsive and will be given no further consideration.

(d) For Bids other than those described in c), Her Majesty will send a written notice to the Proponent ("Notice") identifying where the Financial Bid is missing information. A Proponent, whose Financial Bid has been found responsive to the requirements that are reviewed at Phase I, will not receive a Notice. Such Proponents shall not be entitled to submit any additional information in respect of their Financial Bid.

(e) The Proponents who have been sent a Notice shall have the time period specified in the Notice (the "Remedy Period") to remedy the matters identified in the Notice by providing to Her Majesty, in writing, additional information or clarification in response to the Notice. Responses received after the end of the Remedy Period will not be considered by Her Majesty, except in circumstances and on terms expressly provided for in the Notice.

(f) In its response to the Notice, the Proponent will be entitled to remedy only that part of its Financial Bid which is identified in the Notice. For instance, where the Notice states that a required line item has been left blank, only the missing information may be added to the Financial Bid, except that, in those instances where the addition of such information will necessarily result in a change to other calculations previously submitted in its Financial Bid, (for example, the calculation to determine a total price), such necessary adjustments shall be identified by the Proponent and only these adjustments shall be made. All submitted information must comply with the requirements of this solicitation.

(g) Any other changes to the Financial Bid submitted by the Proponent will be considered to be new information and will be disregarded. There will be no change permitted to any other Section of the Proponent's Bid. Information submitted in accordance with the requirements of this solicitation in response to the Notice will replace, in full, only that part of the original Financial Bid as is permitted above, and will be used for the remainder of the bid evaluation process.

(h) Her Majesty will determine whether the Financial Bid is responsive to the requirements reviewed at Phase I, considering such additional information or clarification as may have been provided by the Proponent in accordance with this Section. If the Financial Bid is not found responsive for the requirements reviewed at Phase I to the satisfaction of Her Majesty, then the Bid shall be considered non-responsive and will receive no further consideration.

(i) Only Bids found responsive to the requirements reviewed in Phase I to the satisfaction of Her Majesty, will receive a Phase II review.

3.8.3 Phase II: Technical Bid

(a) Her Majesty's review at Phase II will be limited to a review of the Technical Bid to identify any instances where the Proponent has failed to meet any Eligible Mandatory Criterion. This review

will not assess whether the Technical Bid meets any standard or is responsive to all solicitation requirements. Eligible Mandatory Criteria are all mandatory technical criteria that are identified in this solicitation as being subject to the PBCP. Mandatory technical criteria that are not identified in the solicitation as being subject to the PBCP, will not be evaluated until Phase III.

(b) Her Majesty will send a written notice to the Proponent (Compliance Assessment Report or "CAR") identifying any Eligible Mandatory Criteria that the Bid has failed to meet. A Proponent whose Bid has been found responsive to the requirements that are reviewed at Phase II will receive a CAR that states that its Bid has been found responsive to the requirements reviewed at Phase II. Such Proponent shall not be entitled to submit any response to the CAR.

(c) A Proponent shall have the period specified in the CAR (the "Remedy Period") to remedy the failure to meet any Eligible Mandatory Criterion identified in the CAR by providing to Her Majesty in writing additional or different information or clarification in response to the CAR. Responses received after the end of the Remedy Period will not be considered by Her Majesty, except in circumstances and on terms expressly provided for in the CAR.

(d) The Proponent's response must address only the Eligible Mandatory Criteria listed in the CAR as not having been achieved, and must include only such information as is necessary to achieve such compliance. Any additional information provided by the Proponent which is not necessary to achieve such compliance will not be considered by Her Majesty, except that, in those instances where such a response to the Eligible Mandatory Criteria specified in the CAR will necessarily result in a consequential change to other parts of the Bid, the Proponent shall identify such additional changes, provided that its response must not include any change to the Financial Bid.

(e) The Proponent's response to the CAR should identify in each case the Eligible Mandatory Criterion in the CAR to which it is responding, including identifying in the corresponding section of the original Bid, the wording of the proposed change to that section, and the wording and location in the Bid of any other consequential changes that necessarily result from such change. In respect of any such consequential change, the Proponent must include a rationale explaining why such consequential change is a necessary result of the change proposed to meet the Eligible Mandatory Criterion. It is not up to Her Majesty to revise the Proponent's Bid, and failure of the Proponent to do so in accordance with this subparagraph is at the Proponent's own risk. All submitted information must comply with the requirements of this solicitation.

(f) Any changes to the Bid submitted by the Proponent other than as permitted in this solicitation, will be considered to be new information and will be disregarded. Information submitted in accordance with the requirements of this solicitation in response to the CAR will replace, in full, only that part of the original Bid as is permitted in this Section.

(g) Additional or different information submitted during Phase II permitted by this section will be considered as included in the Bid, but will be considered by Her Majesty in the evaluation of the Bid at Phase II only for the purpose of determining whether the Bid meets the Eligible Mandatory Criteria. It will not be used at any Phase of the evaluation to increase or decrease any score that the original Bid would achieve without the benefit of such additional or different information. For instance, an Eligible Mandatory Criterion that requires a mandatory minimum number of points to achieve compliance will be assessed at Phase II to determine whether such mandatory minimum score would be achieved with such additional or different information submitted by the Proponent in response to the CAR. If so, the Bid will be considered responsive in respect of such Eligible Mandatory Criterion, and the additional or different information submitted by the Proponent shall bind the Proponent as part of its Bid, but the Proponent's original score, which was less than the

mandatory minimum for such Eligible Mandatory Criterion, will not change, and it will be that original score that is used to calculate any score for the Bid

(h) Her Majesty will determine whether the Bid is responsive for the requirements reviewed at Phase II, considering such additional or different information or clarification as may have been provided by the Proponent in accordance with this Section. If the Bid is not found responsive for the requirements reviewed at Phase II to the satisfaction of Her Majesty, then the Bid shall be considered non-responsive and will receive no further consideration.

(i) Only Bids found responsive to the requirements reviewed in Phase II to the satisfaction of Her Majesty, will receive a Phase III evaluation.

3.8.4 Phase III: Final Evaluation of the Bid

(a) In Phase III, Her Majesty will complete the evaluation of all Bids found responsive to the requirements reviewed at Phase II. Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria.

(b) A Bid is non-responsive and will receive no further consideration if it does not meet all mandatory evaluation criteria of the solicitation.

3.8.5 Technical Evaluation

3.8.5.1 The Phased Bid Compliance Process will apply to all mandatory technical criteria.

3.9 STATUS AND AVAILABILITY OF RESOURCES

3.9.1 The Proponent certifies that every individual proposed in its bid will be available to perform the Work as required by Her Majesty's representatives and at the time specified in the bid solicitation or agreed to with Her Majesty's representatives. If for reasons beyond its control, the Proponent is unable to provide the services of an individual named in its bid, the Proponent may propose a substitute with similar qualifications and experience. The Proponent must advise the Departmental Representative of the reason for the substitution and provide the name, qualifications and experience of the proposed replacement. For the purposes of this clause, only the following reasons will be considered as beyond the control of the Proponent: death, sickness, maternity and parental leave, retirement, resignation, dismissal for cause or termination of an agreement for default.

SECTION "IV" – PRICE PROPOSAL

Name of Firm: _____

Address: _____

Contact Person: _____

Phone number: (_____) _____-_____ Fax number: (_____) _____-_____

Email: _____@_____

INITIAL CONTRACT (PHASE 1)

Fixed Price *(exclusive of VAT):* _____
(state amount in words)

Applicable taxes: _____
(state amount in words)

OPTIONAL PERIOD (PHASE 2)

Fixed Price *(exclusive of VAT)*: _____
(state amount in words)

Applicable taxes: _____
(state amount in words)

Initial Contract (Phase 1) + Optional (Phase 2) = TOTAL ($ USD)
(Exclusive of VAT)

_____
(state amount in words)

All amounts are in USD.

_____ _____
Signature *Date*

_____
Print Name and Capacity

SECTION "V" - GENERAL INSTRUCTIONS

GI1 RESPONSIVENESS

1.1 For a Proposal to be considered valid, it must comply with all the requirements of this RFP identified as mandatory. Mandatory criteria are also expressed by using imperative verbs such as "shall", "must" and "will".

GI2 ENQUIRIES - SOLICITATION STAGE

2.1 All enquiries or issues concerning this RFP must be submitted in writing to the Contract Advisor as early as possible within the solicitation period. Enquiries and issues must be received within the timeframe described in A10 to allow sufficient time to provide a response. Enquiries received after that time will not be answered prior to the Closing Date.

2.2 To ensure consistency and quality of information provided to Proponents, the Contract Advisor will give notice, in the same manner as this RFP, of any additional information in response to significant enquiries received without revealing the sources of the enquiries.

2.3 All enquiries and other communications with government officials throughout the solicitation period shall be directed ONLY to the Contract Advisor named herein. Non-compliance with this condition during the solicitation period may (for that reason alone) result in the disqualification of your proposal.

GI3 PROPONENT'S SUGGESTED IMPROVEMENTS DURING SOLICITATION PERIOD

3.1 Should any Proponent consider that the Specifications or Statement of Work contained in this RFP can be improved technically or technologically, the Proponent is invited to make suggestions, in writing, to the Contract Advisor named herein. The Proponent must clearly outline the suggested improvements as well as the reason for the suggestion. Suggestions which do not restrict the level of competition nor favour a particular Proponent will be given consideration provided they are received by the Contract Advisor within the timeframe described in A10 to allow sufficient time to provide a response. Her Majesty reserves the right to accept or reject any or all suggestions.

GI4 PROPOSAL PREPARATION COST

4.1 The costs, including travel incurred by the Proponent in the preparation of its Proposal and/or the negotiation (if applicable) of any resulting contract will be the sole responsibility of the Proponent and will not be reimbursed by Her Majesty.

GI5 PROPOSAL DELIVERY

5.1 Proposals and/or amendments thereto, will only be accepted by the Minister if they are received at the email address indicated in A7, on or before the Closing Date and Time specified in A7.

5.2 Responsibility for proposal delivery: The Proponent has sole responsibility for the timely receipt of a proposal by Her Majesty and cannot transfer this responsibility to the Government of Canada. Her Majesty will not assume responsibility for proposals that are directed to an email address other than the one stipulated in A7.

GI6 VALIDITY OF PROPOSAL

6.1 Any proposal must remain open for acceptance for a period of not less than ninety (90) calendar days after the Closing Date.

GI7 RIGHTS OF CANADA

7.1 Her Majesty reserves the right:

7.1.1 during the evaluation, to submit questions to or conduct interviews with Proponents, at Proponents cost, upon forty eight (48) hours notice, to seek clarification or to verify any or all information provided by the Proponent with respect to this RFP;

7.1.2 to reject all proposals received in response to this RFP if it/they fail to meet the objectives of the requirement within the boundaries imposed by Her different stakeholders;

7.1.3 to accept any proposal in whole or in part without prior negotiation;

7.1.4 to cancel and/or re-issue this RFP at any time;

7.1.5 to award one or more contracts, if applicable;

7.1.6 to retain all proposals submitted in response to this RFP;

7.1.7 not to accept any deviations from the stated terms and conditions;

7.1.8 to incorporate all, or any portion of the Statement of Work, Request for Proposals and the successful Proposal in any resulting contract; and

7.1.9 not to contract at all.

GI8 INCAPACITY TO CONTRACT WITH GOVERNMENT

8.1 Her Majesty may reject a Proposal where the Proponent, including the Proponent's officers, agents and employees, has been convicted of an offence under the following provisions of the Criminal Code:

8.1.1 Section 121, Frauds upon the Government;

8.1.2 Section 124, Selling or Purchasing Office; or

8.1.3 Section 418, Selling Defective Stores to Her Majesty.

(Subsection 750 (3) of the Criminal Code prohibits anyone who has been so convicted from holding public office, contracting with the government or benefiting from a government contract.)

8.2 Where Her Majesty intends to reject a proposal pursuant to a provision of paragraph 8.1, the Contract Advisor will so inform the Proponent and provide the Proponent ten (10) calendar days within which to make representations, prior to making a final decision on the proposal rejection.

GI9 INCURRING OF COST

9.1 No costs incurred before receipt of a signed Contract or specified written authorization from the Contract Advisor can be charged to any resulting contract. In addition, the Contractor is not to perform Work in excess of or outside the scope of any resulting contract based on verbal or written requests or instructions from any government personnel other than the Contract Advisor. The Proponent's attention is drawn to the fact that the Contract Advisor is the only authority which can commit Her Majesty to the expenditure of the funds for this requirement.

GI10 PROPONENTS NOT TO PROMOTE THEIR INTEREST IN THE PROJECT

10.1 Proponents must not make any public comment, respond to questions in a public forum or carry out any activities to publicly promote or advertise their interest in this Project.

GI11 PROPERTY OF HER MAJESTY

11.1 All correspondence, documents and information provided to the Minister by any Proponent in connection with this RFP will become the property of Her Majesty and may be released pursuant to the Canadian Federal Access to Information Act and the Privacy Act.

GI12 RIGHTS OF UNSUCCESSFUL PROPONENTS

12.1 Proponents are reminded that all materials submitted by them in either paper or electronic form, including architectural and engineering design drawings, specifications, photographs, etc. shall, upon opening of the proposal by Canadian officials at the local embassy or in Ottawa, become the property of the Canadian government. In consequence, they will not be returned to the unsuccessful Proponents of this tender competition. The keeping of such information by Her Majesty is necessary to ensure that, in the event of a future internal audit of the tender process, or in the event of a challenge by one of the unsuccessful Proponents to this tender process, all the documents submitted by competing Proponents are available and not tampered with. Nevertheless, complete copyright in those materials will of course remain with the copyright owners of the materials submitted; Her Majesty assures Proponents that it will at no time use those materials for any commercial purposes without the written consent of the authors.

GI13 PRICE SUPPORT

13.1 In the event that the Proponent's bid is the sole responsive Proposal received, the Proponent must provide, on the Minister's request, one or more of the following price support if applicable:

13.1.1 a current published price list indicating the percentage discount available to the Minister;

13.1.2 copies of paid invoices for like services performed for other customers or for like items (same quantity and quality) sold to other customers;

13.1.3 a price breakdown showing the cost of direct labour, direct materials, purchased items, engineering and plant overheads, general and administrative overhead, transportation, etc., profit;

13.1.4 price or rate certification;

13.1.5 any other supporting documentation as requested by the Minister.

GI14 PROPONENTS NOT TO PROMOTE THEIR INTEREST IN THIS PROJECT

14.1 Proponents must not make any public comment, respond to questions in a public forum or carry out any activities to publicly promote or advertise their interest in this Project, except for their response to Her Majesty pursuant to this RFP.

GI15 ACCEPTANCE OF BIDS

15.1 Proponents must meet and adhere to the architectural and design standards contained in the bid documentation.

15.2 Proponents must submit a list of Sub-Contractors they propose to use on the Work. The successful Proponent shall not be allowed any subsequent substitution of the submitted list of Sub-Contractors, unless authorized, in advance in writing by Her Majesty.

GI16 SIGNATURES

16.1 The following requirements are to be adhered to when signing the Price Proposal:

16.1.1 Corporation

The signatures of the authorized signatories shall be affixed and their names and titles typed or printed.

16.1.2 Partnership

The signatures of the partners shall be affixed and their names typed or printed. If not all of the partners sign or if the signatory is not a partner then a certified true copy of the agreement signed by all partners authorizing such person or persons to execute the document on their behalf shall accompany the bid.

16.1.3 Sole Proprietorship

The signature of the sole proprietor shall be affixed and the name typed or printed. In the event that the signatory is not the sole proprietor then a certified true copy of the agreement signed by the sole proprietor authorizing such person or persons to execute the document shall accompany the proposal.

16.1.4 Joint Venture

The signatures of the authorized signatories of each member of the joint venture shall be affixed and their names and titles typed or printed. Each of the participating signatories shall sign the document in the manner applicable to their particular business arrangement which is more particularly described in 16.1.1 to 16.1.3 above.

GI17 RETURN OF DOCUMENTS

17.1 Unsuccessful Proponents must, if requested by the Contract Advisor, return all bid documents (e.g. Working Drawings, Specifications and Bills of Quantities) intact and in good condition within fourteen (14) days of notification. Any copies of the Working Drawings, Specifications and Bill of Quantities are to be returned along with the original bid documents.

GI18 CLASSES OF OFFICE SPACE: DEFINITIONS

18.1 Class "A":

18.1.1 A Class "A" Building is a relatively new building situated in a prime location, with high occupancy and rental rates.

18.1.2 This definition needs more detail, especially for buildings outside of North America, to more fully assess the varying quality and availability of office space classes around the world. A Class "A" building also is new or not older than ten (10) years since construction or a major renovation, and either through recent

construction or major renovation has:

18.1.2.1 a modern design (prestigious) with few if any columns restricting use of the floor plate,

18.1.2.2 the mechanical and electrical systems and equipment provide fully powered and climate-controlled space,

18.1.2.3 a prestigious location in terms of exposure and access (i.e., within a fifteen (15) minute walk from a bus or other mass transit station, in the central business district or a very important sector of the city or a diplomatic enclave/area),

18.1.2.4 large, efficient floor plate,

18.1.2.5 appropriate building features including drop ceilings, box lighting, HVAC controls, attractive common area lobbies and washrooms,

18.1.2.6 emergency fire sprinklers, detectors and alarms,

18.1.2.7 at least two (2) staircases for emergency exiting,

18.1.2.8 on-site parking and storage facilities for lease,

18.1.2.9 built to the latest earthquake standards for the area,

18.1.2.10 employed building codes similar to Canada's codes,

18.1.2.11 back-up generator capability for at least the vital building systems,

18.1.2.12 professional security and property management, and

18.1.2.13 on-site or nearby support retail, banking and other business support services.

18.2 Class "B":

18.2.1 A Class "B" Building is an older building fully renovated to modern standards situated in a still prime location with very good occupancy rates.

18.2.2 A Class "B" building is eleven (11) years or OLDER since initial construction or since a major renovation. Therefore, some (or all) of the fourteen Class "A" points above would not apply or would be inferior or lacking.

18.3 Class "C":

18.3.1 A Class "C" Building is an older, un-renovated building (at least eleven (11) years of age) in fairly good condition, with moderate rental rates and good occupancy, in a secondary location that has been surpassed by new downtown developments.

GI19 INTERPRETATION

19.1 In this RFP, "Her Majesty", "the Minister" or "Canada" means Her Majesty the Queen in right of Canada, as represented by the Minister of Foreign Affairs.

C. ARTICLES OF AGREEMENT

C1. DEPARTMENTAL REPRESENTATIVE

[Information to be provided at contract award]

DRAFT

Architectural and Engineering Services Contract

Between

Her Majesty the Queen in right of Canada
(referred to herein as "Her Majesty")
represented by the Minister of Foreign Affairs
(referred to herein as the "Minister")

and

[Information to be provided at contract award]
(referred to herein as the "Consultant")

for

Performance of the Services described in Appendix "A" – Statement of Work and Appendix "C" – Project Design Brief.

C2. TITLE
Relocation of the Consulate General of Canada, San Salvador, El Salvador

C3. CONTRACT PERIOD
Start: End: March 31, 2021

C4. CONTRACT NUMBER	C5. PROJECT NUMBER	C6. DATE
	L-SSAL-100	

C7. CONTRACT DOCUMENTS

1. Articles of Agreement
2. Supplementary Conditions (Section "I")
3. General Conditions (Section "II")
4. Terms of Payment (Section "III")
5. Statement of Work
6. Description of Project
7. Project Design Brief
8. Floor Plan
9. Security Requirements Checklist
10. The Consultant's Proposal

In the event of discrepancies, inconsistencies or ambiguities of the wording of these documents, the document that appears first on the above list shall prevail.

C8. CONTRACT AMOUNT

Her Majesty shall pay the Consultant a fixed amount of ___ **USD**.

The Fixed Price is:

- **a.** inclusive of all applicable duties, costs and taxes (other than the Consultant's Output VAT payable on the Contract price.
- **b.** Exclusive of VAT.
- **c.** In American currency.

Payments shall be made in accordance with Section "III" Terms of Payment.

C9. INVOICES

A copy is to be sent to the Departmental Representative showing:

- **a.** the amount of the progress payment being claimed for Services satisfactorily performed;
- **b.** the amount for any tax (including VAT) calculated in accordance with the applicable legislation;
- **c.** the date;
- **d.** the name and address of the consignee;
- **e.** description of the Services performed;
- **f.** the project name; and
- **g.** the contract number.

C10. GOVERNING LAWS
Laws in force in the Province of Ontario, Canada

FOR THE CONSULTANT

_____ _____
Signature **Date**

_____
Print Name and Capacity

FOR THE MINISTER

_____ _____
Signature **Date**

_____
Print Name and Capacity

Corporate Seal

Canada

SECTION "I" – SUPPLEMENTARY CONDITIONS

1. Security Requirements

The Consultant and/or all other personnel involved in the Work must be properly supervised on the premises of the Mission, Official Residence or Staff quarter. No access to the restricted zones of the Mission will be permitted.

2. Option Period

The Consultant grants to Canada the irrevocable option to acquire the services described in the Statement of Work (SO8 to SO25) of the Contract under the same conditions and at the price stated in the Contract. The option may only be exercised by the Contracting Authority and will be evidenced, for administrative purposes only, through a contract amendment.

The Contracting Authority may exercise the option at any time before the expiry of the Contract by sending a written notice to the Consultant.

3. Travel and Living Expenses

The Consultant will be reimbursed its authorized travel and living expenses reasonably and properly incurred in the performance of the Work, at cost, without any allowance for profit and/or administrative overhead, in accordance with the meal, and private vehicle allowances specified in Appendices B, C and D of the National Joint Council Travel Directive, and with the other provisions of the directive referring to "travellers", rather than those referring to "employees". Canada will not pay the Consultant any incidental expense allowance for authorized travel.

All travel must have the prior authorization of the Departmental Representative.

All payments are subject to Government of Canada audit.

SECTION "II" – GENERAL CONDITIONS

GC1 DEFINITIONS

1.1 "Average Bank Rate" means the simple arithmetic mean of the Canadian Bank Rate in effect at 4:00 p.m. Eastern Standard Time each day during the calendar month which immediately precedes the calendar month in which payment is made.

1.2 "Bank Rate" means the rate of interest established from time to time by the Bank of Canada as the minimum rate at which it makes short term advances to members of the Canadian Payments Association;

1.3 "Construction Budget" means that portion of the 'Project Budget' applicable to a Construction Contract;

1.4 "Construction Contract" means a contract entered into between Her Majesty and a Contractor for the construction of the Project;

1.5 "Construction Contract Award Price" means the price at which a Construction Contract is awarded to a Contractor;

1.6 "Construction Cost Estimate" means an anticipated amount for which a Contractor will execute the construction of the Project;

1.7 "Construction Cost Limit" means that portion of the total amount of Project funds which shall not be exceeded on construction of the Project;

1.8 "Construction Documents" means all necessary working drawings and specifications.

1.9 "Consultant" means the party identified in the Articles of Contract to perform the Consultant's Services under this Contract, and includes the officer or employee of the Consultant identified in writing by the Consultant;

1.10 "Consultant's Representative" means the officer or employee of the Consultant identified in writing by the Consultant to perform the Consultant's Services under the Contract;

1.11 "Contractor" means a person, firm or corporation with whom Her Majesty enters, or intends to enter, into a Construction Contract;

1.12 "Cost Plan" means the allocation of proposed costs among the various elements of the Project;

1.13 "Days" means continuous calendar days, including weekends and statutory public holidays;

1.14 "Departmental Representative" means the officer or employee of Her Majesty identified in writing by a duly authorized departmental officer to perform the Departmental Representative's duties under this Contract;

1.15 "Deputy Minister" means the lawful deputy of the Minister or any person acting on behalf of the lawful deputy;

1.16 "Former Public Office Holder" means an employee of the executive or senior manager categories who was employed by the Canadian federal public service during the period one (1) year immediately preceding the date of this Contract;

1.17 "Invention" means any new and useful practice, process, machine, device, manufacture or composition of matter, or any new and useful improvement thereof;

1.18 Mediation is a process of dispute resolution in which a neutral third party assists the parties involved in a dispute to negotiate their own settlement;

1.19 "Minister" includes a person acting for, or if the office is vacant, in place of, the Minister and the Minister's successors in the office. Minister also includes the Minister's lawful deputy and any of the Ministers or their representatives appointed for the purpose of this Contract;

1.20 "Payroll Cost" means the actual cost of any person employed by the Consultant or the Consultant's Sub-Consultants as a staff member, including principals employed as staff members, and includes an amount for salary, statutory holidays, vacations with pay, unemployment insurance premiums and worker's compensation contributions where applicable, pension plan contributions, sick time allowance, medical/dental insurance premiums, and such other employee benefits as may be approved by the Departmental Representative;

1.21 "Project Brief" means a document describing the requirements of the project and the services to be provided and may include general project information, scope of the work, site and design data, and Project Schedule;

1.22 "Project Schedule" means a time plan, including the sequence of tasks, milestone dates and critical dates which must be met for the implementation of the planning, design and construction phases of the Project;

1.23 "Service(s)" means the Consultant Services as set forth in this Contract;

1.24 "Specialist Consultant" means any Architect, Professional Engineer, or other specialist, other than the Consultant, engaged by Her Majesty directly or, at the specific request of Her Majesty, engaged by the Consultant for "Additional Services";

1.25 "Sub-Consultant" means any Architect, Professional Engineer, or other specialist engaged by the Consultant for the Services included in this Contract;

1.26 "Technical Documentation" includes designs, reports, photographs, physical models, surveys, drawings, specifications, computer software developed for the purpose of the Project, computer printouts, design notes, calculations, CADD (Computer-aided Design and Drafting) files, and other data, information and material, prepared, computed, drawn, or produced and operating and maintenance manuals either prepared or collected for the Project.

GC2 INTERPRETATIONS

2.1 Words importing the singular only also include the plural, and vice versa, where the context requires;

2.2 Headings or notes in this Contract shall not be deemed to be part thereof, or be taken into consideration in its interpretation;

2.3 "Herein", "hereby", "hereof", "hereunder" and similar expressions refer to this Contract as a whole and not to any particular subdivision or part thereof.

GC3 SUCCESSORS AND ASSIGNS

3.1 This Contract shall inure to the benefit of, and be binding upon, the parties hereto and their lawful heirs, executors, administrators, successors and assigns.

GC4 ASSIGNMENT

4.1 This Contract shall not be assigned, in whole or in part, by the Consultant without the prior consent of the Minister.

4.2 An assignment of this Contract without such consent shall not relieve the Consultant from any obligation under this Contract, or impose any liability upon Her Majesty.

GC5 INDEMNIFICATION

5.1 The Consultant shall indemnify and save harmless Her Majesty from and against all claims, losses, damages, costs, actions and other proceedings, made, sustained, brought or prosecuted in any manner based upon, occasioned by, or attributable to, any injury, infringement of any patent of invention or any other type of intellectual property, or damage arising from any negligent act or omission of the Consultant, the Consultant's servants or agents, or persons for whom the Consultant had assumed responsibility in the performance, or purported performance, of the Consultant's services under this Contract.

5.2 The Consultant's liability to indemnify or reimburse Her Majesty under this Contract shall not limit or prejudice Her Majesty from relying on the provisions of applicable provincial legislation.

5.3 Rights of Her Majesty: The Consultant's liability to indemnify or reimburse Her Majesty under the Contract shall not affect or prejudice Her Majesty from exercising any other rights under law.

GC6 NOTICES

6.1 Any notice, request, direction, consent, decision, or other communication that is required to be given or made by either party pursuant to this Contract, shall be in writing, and shall be deemed to have been effectively given when:

6.1.1 served personally to either the Departmental Representative or the Consultant's Representative (as the case may be), on the day it is delivered; or

6.1.2 forwarded by registered mail, on the day the postal receipt is acknowledged by the other party; or

6.1.3 forwarded by facsimile or other electronic means of transmission, three (3) days after it was transmitted.

6.2 The address of either party, or the person authorized to receive notices, may be changed by notice in the manner set out in this provision.

GC7 SUSPENSION

7.1 The Departmental Representative may require the Consultant to suspend the Services being provided, or any part thereof, for a specified or unspecified period.

7.2 If a period of suspension does not exceed sixty (60) days and when taken together with other periods of suspension does not exceed ninety (90) days, the Consultant shall, upon the expiration of that period, resume the performance of the Services in accordance with the terms of this Contract, subject to any agreed adjustment of the time schedule.

7.3 If a period of suspension exceeds sixty (60) days or when taken together with other periods of suspension, the total exceeds ninety (90) days, and:

7.3.1 the Departmental Representative and the Consultant agree that the performance of the Services shall be continued, then the Consultant shall resume performance of the Services, subject to any terms and conditions agreed upon by the Departmental Representative and the Consultant, or

7.3.2 the Departmental Representative and the Consultant do not agree that the performance of the Services shall be continued, then this Contract shall be terminated by notice given by the Minister to the Consultant, in accordance with the terms of Clause GC8.

7.4 Suspension Costs related to this clause are as outlined in Clause TP7.

GC8 TERMINATION

8.1 The Minister may terminate this Contract at any time, and the fees paid to the Consultant shall be in accordance with the relevant provisions in Clause TP8.

GC9 TAKING THE SERVICES OUT OF THE CONSULTANT'S HANDS

9.1 The Minister may take all or any part of the Services out of the Consultant's hands and may employ reasonable means necessary to complete such Services in the event that:

9.1.1 the Consultant becomes bankrupt or insolvent, or a receiving order is made against the Consultant, or an assignment is made for the benefit of the creditors, or if an order is made, or resolution passed, for the winding up of the Consultant's affairs or business, or if the Consultant takes the benefit of any statute relating to bankrupt or insolvent debtors, or

9.1.2 the Consultant fails to perform any of the Consultant's obligations under this Contract or, in the Minister's opinion, so fails to make progress as to endanger performance of this Contract, in accordance with its terms.

9.2 Before the Services or any part thereof are taken out of the Consultant's hands under Clause GC9.1.2, the Departmental Representative shall provide notice to the Consultant, and may require such failure of performance or progress to be corrected. If within fourteen (14) days after receipt of such notice such default shall not have been corrected or corrective action initiated to correct such fault, the Minister may, by notice, without limiting any other right or remedy, take all or any part of the Services out of the Consultant's hands.

9.3 If the Services or any part thereof have been taken out of the Consultant's hands, the Consultant shall be liable for, and upon demand pay to Her Majesty, an amount equal to all loss and damage suffered by Her Majesty by reason of the non-completion of the Services by the Consultant.

9.4 If the Consultant fails to pay on demand for the loss or damage as a result of Clause GC9.3, Her Majesty shall be entitled to deduct and withhold the same from any payments due and payable to the Consultant.

9.5 If the Services or any part thereof are taken out of the Consultant's hands as a result of Clauses GC9.1.2, and GC9.2, the amount referred to in Clause GC9.4 shall remain with the Department until an agreement is reached or a decision of a court or tribunal is rendered. At that time the amount, or any part of it, which may become payable to the Consultant shall be paid together with interest from the due date referred to in Clause TP2 and in accordance with the terms of this Contract.

9.6 The taking of the Services, or any part thereof, out of the Consultant's hands does not relieve or discharge the Consultant from any obligation under this

Contract, or imposed upon the Consultant by law, in respect to the Services or any part thereof that the Consultant has performed.

GC10 RECORDS TO BE KEPT BY THE CONSULTANT

10.1 The Consultant shall keep accurate time sheets and cost records and, if required for the purposes of this Contract, shall make these documents available at reasonable times to the Departmental Representative who may make copies and take extracts therefrom.

10.2 The Consultant shall afford facilities for audit and inspection at mutually agreeable times and at places where the relevant documents are located, and shall provide the Departmental Representative with such information as the Minister may from time to time require with reference to the documents referred to in Clause GC10.1.

10.3 The Consultant shall, unless otherwise specified, keep the time sheets and cost records available for audit and inspection for a period of at least two (2) years following completion of the Services.

GC11 NATIONAL OR DEPARTMENTAL SECURITY

11.1 If Her Majesty is of the opinion that the Work is of a class or kind that involves National or Departmental security, the Consultant may be required:

11.1.1 to provide any information concerning persons employed for purposes of this Contract unless prohibited by law;

11.1.2 to remove any person from the Work and its site if that person cannot meet the prescribed security requirements; and

11.1.3 to retain the Work's Technical Documentation while in the Consultant's possession in a manner specified by the Departmental Representative.

11.2 If the Work is of a class or kind that involves National or Departmental security, the Consultant shall not issue, disclose, discard or use the Project Technical Documentation on another project without the written consent of Her Majesty.

GC12 COPYRIGHT AND REUSE OF DOCUMENTS

12.1 Without prejudice to any rights or privileges of Her Majesty, where any Services is, or has been, prepared or published by, or under the direction or control of, Her Majesty or any government department, the copyright in the Services shall, subject to any agreement with the author, belong to Her Majesty, and in such case shall continue for a period of fifty (50) years from the date of the first publication of the Work.

12.2 All plans, drawings, details, specifications, data, reports, other documents and information prepared by the Consultant pursuant to this Contract shall become the absolute property of Her Majesty upon the completion of the Services or as required and shall be delivered to the Departmental Representative.

GC13 CONFLICT OF INTEREST

13.1 The Consultant declares that the Consultant has no pecuniary interest in the business of any third party that would cause, or seem to cause, a conflict of interest in carrying out the Services, and should such an interest be acquired during the life of this Contract, the Consultant shall declare it immediately to the Departmental Representative.

13.2 The Consultant shall not have any tests or investigations carried out by any persons, firms, or corporations, that may have a direct or indirect financial interest in the results of those tests or investigations.

13.3 The Consultant shall not submit, either directly or indirectly, a bid for any Construction Contract related to the Project.

13.4 No former public office holder who is not in compliance with the post-employment provisions of the Conflict of Interest and Post-Employment Code for Public Office Holders shall derive a direct benefit from this Contract.

GC14 STATUS OF CONSULTANT

14.1 The Consultant is engaged under this Contract as an independent consultant for the sole purpose of providing Services.

14.2 Neither the Consultant nor any of the Consultant's employees shall be regarded as employees or agents of Her Majesty.

14.3 The Consultant, as employer, agrees to be solely responsible for any and all payments and deductions required to be made by law in the jurisdiction where the Services are performed, including those required for Canada or Québec Pension Plans, Employment Insurance, Worker's Compensation, and Income Tax or any other applicable tax.

GC15 DECLARATION BY CONSULTANT

15.1 The Consultant declares that:

15.1.1 based on the information provided pertaining to the Services required under this Contract, the Consultant has been provided sufficient information by the Departmental Representative to enable the Services required under this Contract to proceed and is competent to perform the Services and has the necessary licences and qualifications including the knowledge, skill and ability to perform the Services;

15.1.2 the quality of Services to be provided by the Consultant shall be consistent with generally accepted professional standards and principles.

GC16 INSURANCE

16.1 The Consultant shall obtain and maintain an appropriate level of professional liability insurance coverage (including but not limited to coverage for design errors and omissions) for the Services required under this Contract and shall furnish satisfactory evidence of such insurance and renewals to the Departmental Representative within fourteen (14) days of execution of this Contract.

16.2 The policy shall be issued with a deductible amount of not more than $2,500.

16.3 Unless otherwise directed in writing by the Departmental Representative, the policy required in GC16.1 shall attach from the date of contract award and shall be maintained until the one (1) year following the issuance of the Final Certificate of Completion.

16.4 The costs associated with any insurance coverage required under this Contract shall be part of the quoted Fixed Price.

GC17 RESOLUTION OF DISAGREEMENTS

17.1 In the event of a disagreement regarding any aspect of the Services or any instructions given under this Contract:

17.1.1 the Consultant may give a notice of disagreement to the Departmental Representative. Such notice shall be promptly given and contain the particulars of the disagreement, any changes in time or amounts claimed, and reference to the relevant clauses of the Contract;

17.1.2 the Consultant shall continue to perform the Services in accordance with the instructions of the Departmental Representative; and

17.1.3 the Consultant and the Departmental Representative shall attempt to resolve the disagreement by negotiations conducted in good faith. The negotiations shall be conducted, first, at the level of the Consultant's project representative and the project representative of the Department and, secondly and if necessary, at the level of a principal of the Consultant firm and a senior manager of the Department.

17.2 The Consultant's continued performance of the Services in accordance with the instructions of the Departmental Representative shall be without prejudice to the Consultant in any disagreement.

17.3 If it was subsequently agreed or determined that the instructions given were in error or contrary to the Contract, Her Majesty shall pay the Consultant those fees the Consultant shall have earned as a result of the change(s) in the Services provided and which has been authorized by the Departmental Representative.

17.4 The fees mentioned in Clause GC17.3 shall be calculated in accordance with the Terms of Payment set out in this Contract.

17.5 If the disagreement is not settled, the Consultant may make a request to the Departmental Representative for a written corporate decision and the Departmental Representative shall give notice of the corporate decision within 14 days of receiving the request, setting out the particulars of the response and any relevant clauses of the Contract.

17.6 Within fourteen (14) days of receipt of the written corporate decision, the Consultant shall notify the Departmental Representative if the Consultant accepts or rejects the decision.

17.7 If the Consultant rejects the corporate decision, the Consultant, by notice may refer the disagreement to mediation.

17.8 If the disagreement is referred to mediation, the mediation shall be conducted with the assistance of a skilled and experienced mediator chosen by the Consultant from a list of mediators proposed by the Minister, and the Department's mediation procedures shall be used unless the parties agree otherwise.

17.9 Negotiations conducted under this Contract, including those conducted during mediation, shall be without prejudice to either party.

GC18 MEMBERS OF CANADIAN HOUSE OF COMMONS

18.1 No Member of the Canadian House of Commons shall be admitted to any share or part of this Contract, or to any benefit that may arise therefrom.

GC19 AMENDMENTS

19.1 This Contract may not be amended, or modified, nor shall any of its terms and conditions be waived, except by agreement in writing executed by both parties.

GC20 ENTIRE CONTRACT

20.1 This Contract constitutes the entire arrangement between the parties with respect to the subject matter of the Contract, and supersedes all previous negotiations, communications and other arrangements relating to it, unless incorporated by reference herein.

GC21 SUPPLEMENTARY CONDITIONS

21.1 Supplementary conditions, if required, shall be as described in Section "I" of this Contract.

GC22 PROJECT INFORMATION, DECISIONS, ACCEPTANCES AND APPROVALS

22.1 The Departmental Representative shall provide, in a timely manner, project information, written decisions and instructions, including acceptances and approvals relating to the Services provided by the Consultant.

22.2 No acceptance or approval by the Departmental Representative, whether expressed or implied, shall be deemed to relieve the Consultant of the professional or technical responsibility for the Services provided by the Consultant.

GC23 LOBBYIST CERTIFICATION - CONTINGENCY FEES

23.1 The Consultant certifies that it has not directly or indirectly paid or agreed to pay and covenants that it will not directly or indirectly pay a contingency fee for the solicitation, negotiation or obtaining of this Contract to any person other than an employee acting in the normal course of the employee's duties.

23.2 All accounts and records pertaining to payments of fees or other compensation for the solicitation, obtaining or negotiating of the Contract shall be subject to the accounts and audit provisions of the Contract.

23.3 If the Consultant certifies falsely under this section or is in default of the obligations contained therein, the Minister may either take the Services out of the Consultant's hands in accordance with the provisions of the Contract or recover from the Consultant by way of reduction to the Fixed Price or otherwise the full amount of the Contingency Fee.

23.4 In this clause:

23.4.1 "Contingency Fee" means any payment or other compensation that is contingent upon or is calculated upon the basis of a degree of success in soliciting or obtaining a Government Contract or negotiating the whole or any part of its term.

23.4.2 "Employee" means a person with whom the Consultant has an employer/employee relationship.

23.4.3 "Person" includes an individual or group of individuals, a corporation, a partnership, an organization and an association and, without restricting the generality of the foregoing, includes any individual who is required to file a return with the registrar pursuant to section 5 of the Lobbyist Registration Act R.S. 1985 c.44 (4th Supplement) as the same may be amended from time to time.

GC24 NON-DISCRIMINATION IN HIRING AND

EMPLOYMENT PRACTICES

24.1 For the purpose of this General Condition, "person" includes the Consultant, the Consultant's Sub-Consultants and other firms forming the consultant team, and their respective employees, agents, licensees or invitees, and any other individual involved in the performance of the Services.

24.2 The Consultant shall not refuse to employ and will not discriminate in any manner against any person because:

24.2.1 of that person's race, national origin, colour, religion, age, sex or marital status,

24.2.2 of the race, national origin, colour, religion, age, sex, or marital status of any person having any relationship or association with that person, or

24.2.3 a complaint has been made or information has been given by or in respect of that person relating to an alleged failure by the Consultant to comply with paragraphs GC24.2.1 and GC24.2.2 above.

24.3 Within four (4) days immediately following receipt of a written complaint pursuant to sub clause GC24.2 above, the Consultant shall:

24.3.1 cause to have issued a written direction to the person or persons named by the complainant to cease all actions that form the basis of the complaint; and

24.3.2 forward a copy of the complaint to the Departmental Representative by registered mail.

24.4 Within twenty four (24) hours immediately following receipt of a direction from the Departmental Representative to do so, the Consultant shall cause to have removed from the Consultant team any person or persons whom the Departmental Representative believes to be in breach of the provisions of sub clause GC24.2 above.

24.5 No later than thirty (30) days after receipt of the direction referred to in GC24.4 above, the Consultant shall cause the necessary action to be commenced to remedy the breach described in the direction.

24.6 If a direction is issued pursuant to GC24.4 above, Her Majesty may withhold from monies that are due and payable to the Consultant an amount representing the sum of the costs and payment referred to in GC24.8 and GC24.9 below.

24.7 If the Consultant fails to proceed in accordance with GC24.6 above, the Departmental Representative shall take the necessary action to have the breach remedied, and shall determine all supplementary costs incurred as a result by Her Majesty.

24.8 Her Majesty may make a payment directly to the complainant from monies that are due and payable to the Consultant upon receipt from the complainant of:

24.8.1 a written award issued pursuant to the federal Commercial Arbitration Act, R.S., 1985, c. C-34.6; or

24.8.2 a written award issued pursuant to the Canadian Human Rights Act, R.S., 1985, c. H-6; or

24.8.3 a written award issued pursuant to provincial or territorial human rights legislation; or

24.8.4 a judgment issued by a court of competent jurisdiction.

24.9 The Consultant shall be liable for and upon demand shall pay to Her Majesty the supplementary costs referred to in GC24.8. If the Consultant fails to make payment on demand, Her Majesty may deduct the same from any amount due and payable to the Consultant.

24.10 A payment made pursuant to GC24.8 is, to the extent of the payment, a discharge of Her Majesty's liability to the Consultant under the terms of the Contract and may be deducted from any amount due and payable to the Consultant.

24.11 The Consultant shall ensure that the appropriate provisions of this Contract are included in all agreements and contractual arrangements entered into by the Consultant as a consequence of this Contract.

GC25 APPROPRIATION

25.1 In accordance with Section 40 of the Financial Administration Act, payment under the contract is subject to there being an appropriation for the particular service for the fiscal year in which any commitment hereunder would come in course of payment.

GC26 CONFIDENTIAL INFORMATION

26.1 Any information of a character confidential to the affairs of Her Majesty to which the Consultant, or any officer, servant or agent of the Consultant becomes privy as a result of the work to be performed under this contract, shall be treated as confidential, during as well as after the performance of the said services.

GC27 INCAPACITY TO CONTRACT WITH CANADIAN GOVERNMENT

27.1 The Consultant certifies that the Consultant, including the Consultant's officers, agents and employees, has not been convicted of an offence under the following provisions of the Criminal Code:

27.1.1 Section 121, Frauds upon the Government;

27.1.2 Section 124, Selling or Purchasing Office;

27.1.3 Section 418, Selling Defective Stores to Her Majesty;

(Subsection 750(3) of the Criminal Code prohibits anyone who has been so convicted from holding public office, contracting with the government or benefiting from a government contract.)

GC28 INTERNATIONAL SANCTIONS

28.1 From time to time, in compliance with United Nations obligations or other international agreements, Canada imposes restrictions on trade, financial transactions or other dealings with a foreign country or its nationals. These sanctions may be implemented by regulation under the United Nations Act (UNA), R.S.C. 1985, c. U-2, the Special Economic Measures Act (SEMA), S.C. 1992, c. 17, or the Export and Import Permits Act (EIPA), R.S.C. 1985, c. E-19. The Consultant agrees that it will, in the performance of the Contract, comply with any such regulations that are in force on the effective date of the Contract, and will require such compliance by its first-tier subcontractors.

28.2 The Consultant agrees that Canada relies on the Consultant's undertaking in subsection (1) to enter into the Contract, and that any breach of the undertaking shall entitle Canada to terminate the Contract under the provisions of the Contract relating to default by the Consultant, and therefore to recover damages from the Consultant, including reprocurement costs arising out of such a termination.

28.3 The countries or groups currently subject to Canadian Economic Sanctions are listed on the Foreign Affairs, Trade and Development Canada site: http://www.international.gc.ca/sanctions/index.aspx

28.4 Canada will use reasonable efforts to make the text of any such regulations available on its electronic bulletin board on a reasonably current basis by way of assistance to the Consultant, but the Consultant agrees that only the text as published in the Canada Gazette, Part II, is authoritative, and the Consultant waives any claim against Canada, the Minister, or their employees or agents for any costs, loss, or damage whatever that results from the Consultant's reliance on the text of a regulation as reproduced on the electronic bulletin board.

28.5 If the Contract is concluded prior to the imposition of a sanction as described in GC28.1, Her Majesty reserves the right to terminate the Contract in accordance with GC8.

GC29 STATUS AND REPLACEMENT OF PERSONNEL

29.1 If at any time during the period of the contract the Consultant is unable to provide the Services of any person who must perform the Services in the Contract, it shall immediately provide a replacement person with similar qualifications and experience. The Consultant shall, as soon as possible, give notice to the Minister of:

29.1.1 the reason for the removal of the person from the Services;

29.1.2 the name, qualifications and experience of the proposed replacement person; and

29.1.3 proof that the person has the required security clearance granted by Canada, if applicable.

29.2 The Minister may order the removal from the Services of any such replacement person and the Consultant shall immediately remove the person from the Services and shall, in accordance with subsection (1), secure a further replacement.

29.3 The fact that the Minister does not order the removal of a replacement person from the Services shall not relieve the Consultant from its responsibility to meet the requirements of the Contract.

29.4 If the Consultant intends to use any person in fulfillment of this contract who is or who is not an employee of the Consultant, the Consultant hereby warrants that such a person is under no restrictive covenants in relation to a constraint of trade that would prevent the person from fulfilling his or her Work in relation to the Services and, the Consultant has written permission from the person or (the employer of such a person) to propose the services of the person in relation to the Services to be performed in fulfillment of this contract.

GC30 NO BRIBE

30.1 The Consultant represents and covenants that no bribe, gift, benefit, or other inducement has been or will be paid, given, promised or offered directly or indirectly to any official or employee of Canada or to a member of the family of such a person, with a view to influencing the entry into the Contract or the administration of the Contract.

GC31 SOVEREIGN IMMUNITY

31.1 Not withstanding any provision in this Contract, Her Majesty the Queen in Right of Canada, does not waive any immunity to which she is or may be entitled to by virtue of domestic or international law.

GC32 HEALTH AND SAFETY

32.1 The Consultant shall ensure, in fulfilling its contractual obligations under this Contract, that its employees and agents are appropriately equipped with all safety clothing and equipment required to perform the Work.

32.2 The Consultant shall further ensure that its employees and agents adhere to and follow all applicable health and safety regulations, standards and procedures in force in the jurisdiction and have been trained and will use all mandatory safety equipment imposed by local law when completing the Work under this Contract.

SECTION "III" – TERMS OF PAYMENT

TP1 PAYMENTS TO THE CONSULTANT

1.1 The Consultant shall be entitled to receive progress payments at the stages identified in Clause TP2. Such payments shall be made not later than the due date, which shall be the thirty (30) days following receipt of a properly submitted invoice.

1.2 The Departmental Representative shall notify the Consultant within fifteen (15) days after the receipt of an invoice of any error or missing information therein. Payment shall be made not later than 30 days after receipt of the corrected invoice or the required information.

1.3 Upon completion of each stage identified in TP2, provided at least one progress payment has been made, the Consultant shall provide a Statutory Declaration evidencing that all the Consultant's financial obligations for services rendered to the Consultant or on the Consultant 's account, in connection with this Contract, have been satisfied, before any further payment is made.

1.4 Upon written notice by a Sub-Consultant, with whom the Consultant has a direct contract, of an alleged non payment to the Sub-Consultant, the Departmental Representative may provide the Sub-Consultant with a copy of the latest approved progress payment made to the Consultant for the Services.

1.5 Upon the satisfactory completion of all Services, the amount due, less any payments already made, shall be paid to the Consultant not later than thirty (30) days after receipt of a properly submitted invoice, together with the Final Statutory Declaration in accordance with Clause TP1.3.

TP2 PAYMENT STAGES

2.1 Payments in respect of the Fixed Price shall be made during the performance of the Services at the following stages, up to the amounts specified below:

Stage 1 Analysis of project requirements and Design Concept. Upon approval of the Design Concept Documents, an amount up to twelve and a half percent (12.5%) of the Fixed Price;

Stage 2 Design Development. Upon approval of the Design Development Documents, an accumulative amount up to twenty-five percent (25%) of the Fixed Price (twelve and a half percent (12.5%) this Stage);

Stage 3 Construction Documents. Upon approval of the Construction Documents, an accumulative amount up to seventy percent (70%) of the Fixed Price (forty-five percent (45%) this Stage);

Stage 4 Tender Call and Construction Contract Award. Upon award of a Construction Contract, an accumulative amount up to seventy-five percent (75%) of the Fixed Price (five percent (5%) this Stage);

Stage 5 Construction and Contract Administration. Upon issuance of the Interim Certificate of Completion of the Construction Contract, an accumulative amount up to ninety-seven percent (97%) of the Fixed Price (twenty-two percent (22%) this Stage); and

Stage 6 Post Construction. Upon completion of the warranty reviews, an accumulative amount up to one hundred percent (100%) of the Fixed Price (three percent (3%) this Stage).

2.2 Progress payments in respect of stages 1 to 4 inclusive may be made up to an amount not exceeding the value of the price indicated for each stage under consideration.

2.3 Progress payments in respect of Stage 5 may be made in proportion to the Fixed Price of the construction work completed and approved for payment under the Construction Contract.

TP3 DELAYED PAYMENT

3.1 Subject to Clause TP3.4 below, if Her Majesty delays in making a payment that is due in accordance with Clause TP1, the Consultant will be entitled to receive interest on the amount that is overdue for the period of time as defined in Clause TP3.2 including the day previous to the date of payment. Such date of payment shall be deemed to be the date on the cheque given for payment of the overdue amount. An amount is overdue when it is unpaid on the first day following the due date described in Clause TP1.1.

3.2 Except as provided for in Clause TP3.4, interest shall be paid on all amounts that are not paid by the due date or fifteen (15) days after the Consultant has delivered a Statutory Declaration in accordance with Clauses TP1.2 or TP1.3, whichever is the later.

3.3 The rate of interest shall be the Average Bank Rate plus three percent (3%) per year on any amount which is overdue pursuant to Clause TP3.1.

3.4 With respect to amounts which are less that fifteen (15) days overdue, no interest shall be payable or paid if a payment is made within the said fifteen (15) days unless the Consultant so demands after such amounts have become due.

TP4 CLAIMS AGAINST, AND OBLIGATIONS OF THE CONSULTANT

4.1 The Consultant shall discharge all lawful obligations, and shall satisfy all lawful claims against the Consultant, for services rendered to, or on behalf of, the Consultant in respect of the Contract, at least as often as the Contract requires Her Majesty to pay the Consultant.

4.2 Her Majesty may, in order to discharge lawful obligations of, and satisfy lawful claims against, the Consultant for services rendered to, or on behalf of, the Consultant in respect of the Contract, pay any amount that is due and payable to the Consultant pursuant to the Contract directly to the claimants against the Consultant.

4.3 A payment made pursuant to Clause TP4.2 is, to the extent of the payment, a discharge of Her Majesty's liability to the Consultant under the Contract, and will be deducted from an amount payable to the Consultant under the Contract.

4.4 For the purposes of this clause a claim shall be considered lawful when it is so determined:

4.4.1 by a court of legal jurisdiction, or

4.4.2 by an arbitrator duly appointed to arbitrate the said claim, or

4.4.3 by a written notice delivered to the Departmental Representative and signed by the Consultant authorizing payment of the said claim or claims.

TP5 NO PAYMENT FOR ERRORS AND OMISSIONS

5.1 The Consultant shall not be entitled to payment in respect of costs incurred by the Consultant in remedying errors and omissions in the Services that are attributable to the Consultant, the Consultant's employees, or persons for whom the Consultant has assumed responsibility in performing the Services.

TP6 PAYMENT FOR CHANGES AND REVISIONS

6.1 Payment for any additional or reduced Services provided by the Consultant and authorized by the Departmental Representative shall be made in accordance with the terms of such authorization and these Terms of Payment.

6.2 Notwithstanding clause TP6.1, Her Majesty accepts no liability for any additional Services done by the Consultant over and above that required to be done by this Contract, unless a specific amendment is issued authorizing the Consultant to do such additional Services. Payment for any additional or reduced Services provided by the Consultant and authorized by the Departmental Representative shall be made in accordance with the terms of such authorization and these Terms of Payment.

TP7 SUSPENSION COSTS

7.1 During a period of suspension of the Services, the Consultant shall minimize all costs and expenses relating to the Services that may occur during the suspension period.

7.2 Within fourteen (14) days of notice of such suspension, the Consultant shall submit to the Departmental Representative a schedule of costs and expenses, if any, that the Consultant expects to incur during the period of suspension, and for which the Consultant will request reimbursement.

7.3 Payment shall be made to the Consultant for those costs and expenses that are substantiated as having

been reasonably incurred during the suspension period.

TP8 TERMINATION COSTS

8.1 In the event of termination of this Contract, Her Majesty shall pay, and the Consultant shall accept in full settlement, an amount based on these Terms of Payment, for Services satisfactorily performed, plus an amount to compensate the Consultant for reasonable costs and expenses, if any, that are related to the Services not performed and incurred after the date of termination.

8.2 Within fourteen (14) days of notice of such termination, the Consultant shall submit to the Departmental Representative a schedule of costs and expenses incurred plus any additional costs that the Consultant expects to incur after the date of termination, and for which the Consultant will request reimbursement.

8.3 Payment shall be made to the Consultant for those costs and expenses that are substantiated as having been reasonably incurred after the date of termination.

TP9 DISBURSEMENTS

Disbursements by the Consultant are included in the Fixed Price.

APPENDIX "A" – STATEMENT OF WORK

The Consultant must perform the Services described herein and the Services described in the Project Brief and all Annexes, in accordance with the terms and conditions of the Architectural and Engineering Consultant Contract. Unless otherwise indicated the Services are as follows:

Phase I: Pre- construction services (SO1 to SO7)

SO1 ANALYSIS OF PROJECT REQUIREMENTS

1.1 The Consultant shall:

- **1.1.1** in accordance with the terms and delivery times set out in the A&E Consultant Contract, review and integrate all the Project requirements;
- **1.1.2** identify and evaluate conflicts or problems;
- **1.1.3** provide alternative strategies to the Departmental Representative;
- **1.1.4** present and receive approval from the Departmental Representative on the Project scope, delivery process, schedule and cost estimate required to deliver a cohesive quality result; and
- **1.1.5** advise and assist the Departmental Representative on the tendering strategy, including the pre-qualification of potential Consultants if applicable, advise on local practices related to bid security, contract insurance and contract security, mobilization advances, VAT or taxation in general.

SO2 PROJECT CONTROL PLAN

2.1 The Consultant shall:

- **2.1.1** develop and present an overall Project Control Plan. This will include a section for a Risk Management Plan identifying the project risks and the means by which these risks will be mitigated. Note that all technical disciplines (i.e., structural, architectural, electrical and mechanical) must be represented in the Risk Management Plan. The Project Control Plan is to propose an organization structure and specify roles for ensuring cost control, schedule and quality; and
- **2.1.2** present the Project Control Plan to the Departmental Representative after completion of SO1, Analysis of Project Requirements. The plan is to be updated and presented to the Departmental Representative prior to the end of SO5 Construction\Tender Documents.

SO3 DESIGN DEVELOPMENT

3.1 The Consultant shall:

- **3.1.1** submit a preliminary Construction Cost Estimate, Cost Plan and Project Schedule and preliminary bill of Quantities to confirm the feasibility of the Project; and
- **3.1.2** provide Mechanical, electrical, structural and fire protection outline documents,
- **3.1.3** Architectural floor plans showing partition types, room numbers, door numbers, corresponding names, millwork and fire protection components, interior elevations and sections. Security plan identifying wall types. Details of security wall connections to ceiling and floors, fire rated wall section, acoustic wall assembly, security wall section. Furniture plans using GAC layouts. Material schedule as required by Basic Design.
- **3.1.4** Two interior finish options. Finish sample boards indicating principal and accent materials and proposed window coverings.
- **3.1.5** Colour sketches / perspectives of key public spaces: waiting areas, multipurpose room, meeting room, HOM office, typical open office area, lunch room.
- **3.1.6** Mechanical
    - Systems Design Document: For each system provide a description with design criteria and the design intent to meet these criteria and using schematics and diagrammatic layout drawings to fully explain the system, its control, and its normal and emergency modes of operation, its relationships to all other systems. Throughout project development this document will be refined. The description will include the description of the existing systems that will remain and its proposed modifications. List also the systems that will be completely removed.
    - Describe provisions to maintain acoustic sound levels

- Establish an energy budget as described below

3.1.7 Drawings showing preliminary design of all mechanical systems including the sizing of ventilation, cooling and heating systems showing locations, and all major equipment layout in mechanical rooms. Show location of all outdoor air intakes and exhaust.

3.1.8 Electrical

Drawings, Symbols and Design: Use standard graphical symbols and provide drawings showing advanced development of the following:

(1) Plot plan showing incoming power and telephone service.

(2) Single line diagram of the power circuits with their metering and protection, including:

- Complete rating of equipment;
- Ratios and connections of CT's and PT's;
- Description of relays when used;
- Maximum short circuit levels on which design is based;
- Identification and size of services;
- Connected load and estimated maximum demand on each load.

(3) Electrical plans showing:

- Floor elevations and room identification;
- Legend of all symbols used:
- Circuit numbers at outlets and control switching identified;
- All conduit and wire sizes except for minimum sizes which will be given in the specifications;
- A panel schedule with loadings for each panel;
- Telephone conduits system layout for ceiling/floor distribution

(4) Riser diagrams for power, telephone, fire alarm and other systems.

(5) Elementary control diagrams for each system.

(6) Schedule for motors and controls.

(7) Complete lighting layout and fixture schedule clearly indicating methods of supporting fixtures.

(8) Distribution diagrams showing single line diagrams to distribution centres.

(9) Provide the following data:

- Total connected load;
- Maximum demand and diversity factors;
- Sizing of standby load;
- Short circuit requirements and calculations showing the ratings equipment used.

3.1.9 provide 4 copies of all documents submitted

3.1.10 commissioning submission requirements as outlined in the Commissioning section of the Project Brief.

3.1.11 Structural drawings as required

3.1.12 Any additional drawings or documents required to complete the Basic Design.

SO4 DESIGN DEVELOPMENT – 50% CONSTRUCTION DOCUMENTS SUBMISSION

4.1 The Consultant shall:

4.1.1 after acceptance by the Departmental Representative of the Design Concept, prepare and submit to the Departmental Representative, Design Development documents defining and describing the size and character of the entire Project;

4.1.2 All drawings previously prepared and revised from Design Development submission with addition of door/window schedules, room finish schedule, all wall sections, floor finish drawings, millwork details and transition details between finishes, washroom details, interior elevations of all corridor walls and key areas such as Waiting, meeting rooms, kitchenettes and quiet rooms.

4.1.3 Updated finish sample board based on comments from the Design Development submission.

4.1.4 Drawings and document list (at this stage, GAC will provide security input to the hardware schedule and identify the location of IT/Data outlets).

4.1.5 At this stage, GAC will fix the location of all electrical and communication outlets and undertake a final review of the architectural schedules.

4.1.6 Commissioning submission requirements as outlined in the commissioning section, of the Project Brief

4.1.7 prepare and submit an updated Construction Cost Estimate based on the Design Development documents, an updated Cost Plan and Project Schedule; updated Bill of Quantities, and

4.1.8 prepare and provide four (4) copies of all documents submitted.

SO5 CONSTRUCTION\TENDER DOCUMENTS - 99% CONSTRUCTION DOCUMENTS SUBMISSION

5.1 The Consultant shall:

5.1.1 after acceptance by the Departmental Representative of the Design Development documents the consultant shall prepare the Construction Documents Submission. This submission represents the 99% completed construction documents prepared by the Consultants. All documents at this stage must include all revisions required by previous reviews. **More than one 99% submission may be required as the documents must be revised to satisfy comments**

5.1.1.1 prepare and submit to the Departmental Representative an updated Construction Cost Estimate, Project Schedule, Comprehensive Bill of Quantities, Drawing and specifications list;

5.1.1.2 Commissioning submission requirements as outlined in the commissioning section of the Project Brief.

5.1.1.3 Any additional information required for the completion of the Execution Design and/or to commence the Tender Process.

5.1.1.4 provide four (4) copies of all documents submitted hereunder.

SO6 CONSTRUCTION\TENDER DOCUMENTS - 100% CONSTRUCTION DOCUMENTS SUBMISSION

6.1 This submission incorporates all revisions required by the 99% review

6.2 after acceptance by the Departmental Representative of the final submission of the Construction\Tender Documents, provide the Departmental Representative with one (1) complete set of the approved and stamped working drawings to scale and Autocad as specified in the Project Brief, suitable for reproduction, and three (3) sets of the approved specifications, one set to be suitable for reproduction, the second set to be properly bound and covered, the third set as specified in the Project Brief;

6.3 The Consultants(s) will sign and seal all architectural and engineering drawings

SO7 PRE-TENDER CONSTRUCTION COST ESTIMATE

7.1 The Consultant shall prepare for tender call purposes and submit for acceptance a final Construction Cost Estimate based on the approved and stamped Construction\Tender Documents, together with a breakdown thereof, in a form satisfactory to the Departmental Representative.

7.2 The final Construction Cost Estimate is to be based on local market conditions in El Salvador. If required, the Consultant shall work with a QS firm from El Salvador to assist in the preparation of the final Construction Cost Estimate.

Optional Phase II: Construction General (SO8 to SO25)

SO8 TENDER CALL

8.1 The Consultant shall:

8.1.1 be responsible for the production of the required number of copies of the Construction\Tender Documents, and for such other documents as are necessary for tender call purposes;

8.1.2 in consultation with the Departmental Representative, distribute the tender documents in accordance with the tendering strategy;

8.1.3 in consultation with the Departmental Representative, provide information required for interpretation and clarification of the Construction\Tender Documents;

8.1.4 in consultation with the Departmental Representative, assist with the preparation and issuance of addenda as necessary; and

8.1.5 attend job or site showings as required.

SO9 TENDER EVALUATION AND AWARD

9.1 The Consultant shall:

9.1.1 in consultation with the Departmental Representative review and evaluate the tenders received based on 'Best Value' for the construction of the Project in accordance with the evaluation criteria set out in the Construction\Tender Documents and in accordance with Canadian Government policies and practices.

SO10 CONSTRUCTION CONTRACT ADMINISTRATION

10.1 Administrative Services

10.1.1 The Consultant shall:

10.1.1.1 provide continuous construction contract administration services and assume full responsibility for construction supervision and administration, including cost control, quality control, scheduling, processing change orders, monitoring the schedule and advising the Departmental Representative of any variances, and liaising with authorities having jurisdiction over the Project site; and

10.1.1.2 accompany the Departmental Representative during all site visits through the duration of the Project.

10.2 Construction Schedule

10.2.1 The Consultant shall:

10.2.1.1 as soon as practical after the award of a Construction Contract, establish with, and request from, the Construction Contractor a detailed construction schedule, and, upon receipt, forward two (2) copies of the Schedule to the Departmental Representative;

10.2.1.2 monitor and report to the Departmental Representative the progress of the construction, relative to the Construction Schedule;

10.2.1.3 notify the Departmental Representative of any delays which may affect the completion date of the Project, and keep accurate records of the causes of delays; and

10.2.1.4 evaluate, and notify the Departmental Representative of, all requests from the Construction Contractor for time extensions, and issue to the Construction Contractor (as directed by the Departmental Representative) directions.

10.3 Construction Meetings

10.3.1 The Consultant shall:

10.3.1.1 instruct the Construction Contractor to hold construction meetings as required by the Construction Contract;

10.3.1.2 advise the Departmental Representative of the dates and times of the proposed meetings and attend all such meetings;

10.3.1.3 maintain a record of the proceedings of such meetings and provide the Departmental Representative with a copy thereof; and

10.3.1.4 notify the Departmental Representative of any urgent issue raised at such meetings requiring his\her attention.

10.4 Clarifications and Interpretations

10.4.1 The Consultant shall, in consultation with the Departmental Representative provide clarification and interpretation of the Construction\Tender Documents in written or graphic form, as and when required by the Construction Contractor for the proper execution and progress of the construction.

10.4.2 Prepare additional detail drawings as and when required to properly clarify, interpret or supplement the Construction Documents

10.4.3 Review these drawings with the GAC Departmental Representative and obtain written approval of Post Contract Drawings prior to their release to the Constructor.

SO11 SHOP DRAWINGS

11.1 The Consultant shall:

11.1.1 review promptly the shop drawings provided by the Construction Contractor to determine general conformity with the requirements and intent of the Construction\Tender Documents and indicate such general conformity; and

11.1.2 provide the Departmental Representative with one (1) copy when such conformity is

confirmed.

SO12 TESTING AND INSPECTION

12.1 The Consultant shall:

- **12.1.1** recommend the need for, and review, test reports of materials or construction; and
- **12.1.2** Ensure that materials and assemblies are tested as required by the Construction Documents. Require tests of any material and construction on site that appears of doubtful quality or performance. Testing Laboratories must be accredited to ISO/IEC 17025 standard
- **12.1.3** instruct the Construction Contractor to take remedial action when material or construction fails to comply with the requirements of the Construction Contract, and advise the Departmental Representative accordingly.

SO13 COMMISSIONING

13.1 The Consultant shall:

- **13.1.1** ensure the provision of "Operating & Maintenance (O&M) Manuals" and record "As-Built" Drawings. The "O&M Manuals" and the "As-Built" Drawings are to be provided to Foreign Affairs, Trade and Development Canada no later than the dates contained in the Project Brief, Construction Contract and the A&E Consultant Contract; and
- **13.1.2** ensure the provision of training to building operators and Mission staff and provide Foreign Affairs, Trade and Development Canada with a schedule for the testing and maintenance of building systems.

SO14 FIELD SERVICES

14.1 The Consultant shall:

- **14.1.1** make monthly visits to the site to approve Construction Contractor's Work in progress and to determine, on an adequate sampling basis, whether the Work is in general conformity with the Construction\Tender Documents; and Provide written reports and record the dates of site visits and personnel involved
- **14.1.2** record deficiencies and progress observed during each site visit; and
- **14.1.3** provide the Construction Contractor and the Departmental Representative with written reports of the deficiencies noted, and recommend the actions to be taken to rectify them.
- **14.1.4** the Consultants are expected to act promptly to resolve questions arising from site conditions, work in progress and materials that may affect the progress and cost of the Project

SO15 CHANGES TO WORK UNDER THE CONSTRUCTION CONTRACT

15.1 The Consultant shall:

- **15.1.1** submit all requests and recommendations for changes to the Work under the Construction Contract and the implications thereof to the Departmental Representative for approval;
- **15.1.2** obtain quotations from the Construction Contractor for contemplated changes, review the prices for acceptability, assess the effect on construction progress, and submit recommendations to the Departmental Representative; and
- **15.1.3** upon written authorization by the Departmental Representative, issue Change Orders for all approved changes.
- **15.1.4** for all changes, whether additions, deletions or alternate material proposals including those not affecting the construction cost, must be covered by Variation Orders in order to provide a complete record of variations from the original Construction Documents.
- **15.1.5** the cost of changes cannot be included in progress claims until the authorized Variation Order has been issued.

SO16 CONSULTANT'S PROGRESS CLAIMS

16.1 The Consultant shall:

- **16.1.1** request from the Construction Contractor a cost breakdown of the Construction Contract Award Price in detail appropriate to the size and complexity of the Project, or as may otherwise be specified in the Construction Contract, and submit the cost breakdown to the Departmental Representative prior to the Construction Contractor's first progress claim;
- **16.1.2** examine progress claims promptly and, if acceptable, certify the progress claims for Work

completed and materials delivered pursuant to the Construction Contract, and submit them to the Departmental Representative for processing and payment; and

16.1.3 if the construction is based on unit prices, measure and record the quantities of labour, materials and equipment involved, for the purpose of certifying progress claims.

SO17 AS-BUILT DRAWINGS

17.1 The Consultant shall, before issuance of the Interim Certificate of Completion instruct the Constructor to record, on one set of white prints, all changes, alterations and additions as covered by authorized "Variation Orders". This will also include rerouted lines, relocated ducts, valves and equipment.

17.2 Following take-over, obtain marked-up As-Built Documents from the Constructor, showing all changes in construction from the original Construction Documents. Combine this information with all Post-Contract drawings, Change Orders, and other modifications, to produce a full set of Record Drawings on CD's.

17.3 Provide a copy of the specification, marked up to show actual manufactured products and model numbers employed. Any schedule on the drawings will reflect actual equipment installed.

17.4 All Record and As-Built drawings will be marked "REVISED AS BUILT – MONTH/YEAR

17.4.1 **Hard Copy: one (1)** bound **set**

17.4.2 **AutoCAD Format:** Release 2012-16 (.DWG) file format

17.4.3 **AutoCAD support files:** including but not limited to drawing files (DWG), external reference (x-ref), shape files (SHX) and font files (SHX, TTF) and colour table files (CTB).

17.4.4 **PDF Format**

17.4.5 **Plotting & Layering instructions:** in hard copy (printed instructions) and electronic format.

17.4.6 **Media & Quantity: two (2)** complete sets of files copied on CD's or DVD's.

17.5 Four (4) sets of Operation & Maintenance (O & M) manuals covering all project systems (electrical, mechanical, etc...) will be submitted by the Constructor in English form. The Consultant will review and approve the O & M manuals before recommending to the GAC Departmental Representative their acceptance.

SO18 INTERIM CERTIFICATE OF COMPLETION

18.1 The Consultant shall:

18.1.1 review the substantially completed construction with the Departmental Representative and the Construction Contractor, and record all unacceptable and incomplete construction detected on the Inspection & Acceptance Certificate which forms a part of the Interim Certificate of Completion;

18.1.2 request from the Contractor and provide the Departmental Representative with two (2) sets of all Operating and Maintenance manuals ("O&M manuals"), one set for Mission, second set for Ottawa Headquarters, "As Built" drawings and any other documents or spare parts and other items to be provided by the Construction Contractor, in accordance with the Construction Contract and Tender Documentation;

18.1.3 prepare and submit to the Departmental Representative for processing, and as a basis for payment to the Construction Contractor, an Interim Certificate of Completion including a completed Inspection & Acceptance Certificate as required by the Construction Contract, together with all supporting documents properly signed and certified; and

18.1.4 prepare and submit an Occupancy Permit application to the authorities having jurisdiction over the project site and supply any additional information they may request before issuing the permit. The Consultant shall deliver the Occupancy Permit to the Departmental Representative.

18.1.5 verify that all deficiencies are correctly recorded, and ensure that Project Record Documents, maintenance manuals, and keys have been submitted by the Constructor, and reviewed and accepted by the GAC Departmental Representative.

18.1.6 The Consultant will verify the proper execution of all operation and maintenance agreements by the Constructor, landlord or any specialists (e.g., for fire protection system testing)

18.1.7 The official takeover of the project from the Constructor is established by the effective date of the Interim Certificate of Completion.

SO19 FINAL CERTIFICATE OF COMPLETION

19.1 The Consultant shall:

19.1.1 advise the Departmental Representative when satisfied that all work under the Construction

Contract has been completed, including the correction of deficiencies listed on the Inspection and Acceptance as a result of the Interim Inspection. The GAC Departmental Representative will make a final inspection of the project.

19.1.2 Accompany and assist the GAC Departmental Representative with the final inspection of the project

19.1.3 make a final review of the construction with the Departmental Representative and the Construction Contractor and, if satisfactory, prepare and submit to the Departmental Representative, a Final Certificate of Completion as required by the Construction Contract, together with all supporting documents properly signed and certified, including manufacturers' and suppliers' warranties and guarantees.

19.1.4 Submit to the GAC Departmental Representative a DVD with all the Contractors correspondence, minutes of meetings, correspondence with authorities, etc.

19.1.5 For payment to be made, all parties must complete and sign the following documents

- Cost Breakdown;
- Inspection and Acceptance;
- Final Certificate of Completion; and
- Statutory Declaration

19.1.6 Assemble completed documents and any required supporting documents and submit to the Departmental Representative for processing

SO20 POST-CONSTRUCTION WARRANTY REVIEW

20.1 The Consultant shall:

20.1.1 All work under the Construction Contract carries a (12) twelve month warranty commencing on the effective date of the Interim Certificate of Completion. Certain parts of the work may have extended warranties as specified.

20.1.2 Investigate all defects and alleged defects in the work promptly and issue appropriate instructions to the Constructor.

20.1.3 Investigate all defects and alleged defects in the work promptly and issue appropriate instructions to the Constructor.

20.1.4 Ten-Month Warranty Inspection

- Ten months after take over make arrangements with the GAC Departmental Representative for a ten-month warranty review of the Project.
- Prepare deficiency lists for the Contractor's correction.
- Inform GAC in writing when all items listed on the ten-month Warranty Inspection Certificate have been completed satisfactorily. GAC then convenes a final inspection of the Project by appropriate personnel.

20.1.5 Final Warranty Review

- Conduct a final warranty review at the request of the GAC Departmental Representative, prior to the expiry of the warranty period. Prepare deficiency lists for the Design Build Contractor's correction.
- Inform the GAC Departmental Representative in writing when all deficiencies listed on the final warranty review deficiency list have been corrected.

SO21 TIME SCHEDULE

21.1 The Consultant shall:

21.1.1 submit to the Departmental Representative, for approval, a time schedule for the Services to be performed, in detail appropriate to the size and complexity of the Project, and in a format as requested by the Departmental Representative;

21.1.2 adhere to the approved time schedule and, if changes in the approved time schedule become necessary, indicate the extent of, and the reasons for, such changes, and obtain the approval of the Departmental Representative; and

21.1.3 where an increase in time to the approved time schedule for the performance of the Services is required, and such increase is due to the negligence or default of the Consultant, such an increase shall be without prejudice to any rights or remedies of Her Majesty.

SO22 CHANGE IN SERVICES

22.1 The Consultant shall:

22.1.1 make changes in the Services to be provided for the Project when requested in writing by the Departmental Representative; and

22.1.2 prior to commencing such changes, advise the Departmental Representative of any effects of the changes on the Construction Cost Estimate, Consultant fees, time schedule, and other matters concerning the Project.

SO23 CODES, BY-LAWS, LICENCES, PERMITS

23.1 The Consultant shall:

23.1.1 observe and comply with all applicable statutes, codes, regulations and by-laws to enable the required consents, approvals, licences and permits necessary for the Project to be obtained;

23.1.2 obtain from local and state authorities all consents, approvals, licences, permits and any other authorizations for the Project to be completed; and

23.1.3 ensure all Services performed by the A&E team complies with applicable laws, regulations, codes, and the most recent version of the National Building Code of Canada. In the event of code requirement differences, the most stringent code requirement will apply.

SO24 PROVISION OF STAFF

24.1 The Consultant shall, on request, submit to the Departmental Representative for approval, the names, addresses, qualifications and experience and proposed roles of all persons, including principals, to be employed by the Consultant to provide the Services for the Project and any proposed changes shall be submitted to the Departmental Representative for approval.

SO25 COST CONTROL

25.1 The Consultant shall ensure that, at all stages of Project delivery, the Construction Cost Estimate shall not exceed the Construction Budget.

25.2 If, at any time, the Consultant considers that the Construction Cost Estimate will exceed the Construction Budget, the Consultant shall notify the Departmental Representative, and;

25.2.1 if the excess is due to factors under the control of, or reasonably foreseeable by, the Consultant, the Consultant shall, if requested by the Departmental Representative, and at no additional cost to Her Majesty, make such changes or revisions to the design as may be necessary to bring the Construction Cost Estimate within the Construction Budget, or;

25.2.2 if the excess is due to factors that are not under the control of the Consultant, changes or revisions may be requested by the Departmental Representative. Such changes or revisions shall be undertaken by the Consultant at Her Majesty's expense, and the cost involved shall become an amount to be mutually agreed prior to performance of the additional services.

25.3 If the lowest price obtained by tender exceeds the Construction Budget, and if the excess is due to reasons within the control of, or reasonably foreseeable by, the Consultant, the Consultant shall, if requested by the Departmental Representative, and without additional charge, cooperate in revising the project scope and quality as required to reduce the construction cost and shall modify the Construction Documents as necessary to comply with the Construction Budget.

APPENDIX "B" – DESCRIPTION OF PROJECT

DP1 PROJECT DESCRIPTION AND LOCATION

1.1 The Government of Canada, through Foreign Affairs, Trade and Development Canada, is planning to construct a new Chancery at the World Trade Center complex in San Salvador, El Salvador. The project consists of building a total of 480 m2 on the 10th floor of the Quattro Tower located at Calle del mirador, San Salvador, El Salvador.

DP2 PROFESSIONAL SERVICES REQUIRED

2.1 The Consultant is required to deliver the professional services required (see Appendix "A" Statement of Work) inclusive of architectural, civil and structural works; mechanical and electrical systems; fire alarm and fire fighting systems; landscaping; interior design; commissioning; interior and exterior signage; and warranty inspection and as more fully described in the Project Brief. The proposed interior design will be subject to reviews by the Foreign Affairs, Trade and Development Canada project team and the Physical Resources Bureau's Design Review Committee in Ottawa. Foreign Affairs, Trade and Development Canada Interior Design Services will be responsible for the selection, procurement and installation of all furnishings throughout the building. Foreign Affairs, Trade and Development Canada is also responsible for any artwork that may be required. Also note that the acquisition and installation of security and information technology systems is the responsibility of Foreign Affairs, Trade and Development Canada. All documentation and communication will be produced in English and, where required by the Departmental Representative, in order to optimize approvals, delivery and implementation, will be translated into Spanish. Arranging and paying for translation is the responsibility of the Consultant.

DP3 ESTIMATED PROJECT CONSTRUCTION COST

3.1 At present, the overall cost of construction for this project is estimated to be in the range of approximately $1-1.5 million CAD plus or minus ten percent (10%).}

DP4 PROJECT SCHEDULE

4.1 The Project Schedule and other project requirements are described in the Project Brief and Appendices included with this Table. Scheduled design start is expected to be April 2020; Tendering for construction February 2021; Construction start April 2021; Foreign Affairs, Trade and Development Canada Fit-up October-November 2021; and Move-in December 2021. The Proponent shall carefully review the information provided with this table and make allowances in its proposal for any and all Services required prior to the start of design, for design reviews and Services required to ensure expeditious permit and construction approvals. The anticipated time frame for commencement of the design work is April 2020.

DP5 ADVANCING PROJECT SCHEDULE

5.1 Advancing the Project Schedule may be considered at a later stage in the execution of the Services if the Consultant presents an accelerated and credible project delivery strategy for the design and construction in accordance with the Foreign Affairs, Trade and Development Canada approval process and in keeping with the Project parameters of scope, schedule, cost, quality and communication.

DP6 CONSULTANT TO SIGN AND SEAL ALL CONSTRUCTION DOCUMENTS

6.1 All Services performed by the successful Consultant must conform to and comply with all applicable laws, regulations, codes and standards applicable to the project site as well as Canadian codes, regulations and standards including the 1995 National Building Code of Canada. In cases of conflict, the higher standard shall prevail except in case of a conflict with a local mandatory requirement, in which case the local mandatory requirement shall prevail. Detailed references to other applicable codes, standards and regulations are presented in the Project Brief.

6.2 The Consultant, will be required to sign and seal all Project Plans, Specifications and other construction documents as required by the authorities having jurisdiction over the project site.

DP7 QUALITY ASSURANCE SPECIALIST

7.1 At the discretion of Foreign Affairs, Trade and Development Canada, an independent consultant (e.g., Quality Assurance specialist) may be engaged by Foreign Affairs, Trade and Development Canada to assist Foreign Affairs, Trade and Development Canada with design review, monitoring risk mitigation and quality certification. The Consultant will cooperate with the QA specialist in the discharge of the QA's responsibilities.

RELOCATION OF THE CONSULATE GENERAL OF CANADA SAN SALVADOR

PROJECT BRIEF

Project Number: L-SSAL-100

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Annexes

RELOCATION OF THE CONSULATE GENERAL OF CANADA SAN SALVADOR

PROJECT BRIEF

PART 1 PROJECT CONDITIONS

Project Number: L-SSAL-100

Part 1 Project Conditions

I. GENERAL INFORMATION

A. Project Summary

The Performance Criteria describes the requirements for the design development, working drawings and specifications for the design services for the new Canadian Consulate General in San Salvador, El Salvador. The program is to relocate the Consulate from its existing location at Alameda Roosevelt & 63 Avenida Sur to new leased premises on the 10th floor of the Torre Quattro building at Calle El Miador & 87 Avenida Norte.

1. The new facility will be designed to accommodate about 18 staff in a total floor area of approximately 480 square meters comprising about one third of the 10th floor of the building.

2. Supplementary instructions describe the requirements for the security and communication systems to be installed by GAC specialists. Rough-in for these systems is by the Contractor.

3. The new facility is to be developed based upon the GAC Floor Layout plans provided as an appendix to this Project Brief.

4. The purposes of the Project Brief are:

    a. To provide sufficient information to allow the Consultant to fully prepare complete contract documents including design development, construction documents, cost and Bills of Quantities;
    b. To serve as a quality assurance document for the GAC Departmental Representative throughout the design and construction phases.

5. The Project Brief describes the minimum acceptable quality standards expected for the interior design and fit up and any special construction of security and communication systems. It may be necessary from time to time during the design stage to amend or supplement the information provided.

B. National Security

1. This project involves National Security issues. The Consultant is obliged to:

    1.1 Keep all project documentation secure;
    1.2 Ensure that project staff do not communicate project related information to any third parties, unless required for completion of the work;
    1.3 Maintain site security during construction and comply with tenant obligations; and
    1.4 Return all materials and documentation at the end of the project;
    1.5 All media enquiries are to be directed to the GAC Department Representative.
    1.6 Not to discuss or distribute any general or specific information pertaining to the project to persons not directly involved in the Works.

C. Codes, Regulations, By-Laws

1. At minimum, the design and construction will conform to all current and applicable laws, codes, regulations and ordinances of local authorities and the most recent edition of Canadian Codes and standards including, but not limited to:

    1.1 Canada Labour Code, Occupational Safety & Health Regulations;
    1.2 GAC Fire Commissioner Requirements;
    1.3 National Building Code of Canada 2015**,**, (NBC);
    1.4 Seismic Risk Reduction of Operational and Functional Components, CSA S832

1.5 Barrier-Free Design, Standard CAN/CSA-B651;
1.6 National Fire protection Association Standards (NFPA);
1.7 Any applicable local requirements.

2. Any other relevant, codes, regulations by-laws and standards as stipulated in the Project Brief

3. Contact with authorities will be coordinated with the GAC Departmental Representative.

4. El Salvadorian construction safety regulations will be applied on site.

5. In all cases where differences between codes are found, the more stringent will apply

D. Sustainability

1. Pursuant to GAC's *Sustainable Development Strategic Framework for Canada's Missions Abroad*, this major renovation project must pursue and receive green building certification for only GAC's leased space within the Torre Quatro building. An example is the LEED ID+C: Commercial Interiors certification. The Consultant may propose local green building certifications that are credible and established in San Salvador and/or the Americas. Any proposed certification scheme must be approved by GAC before proceeding. GAC reserves the right to choose and proceed with a certification scheme that differs from the Consultant's proposal.

2. The Consultant must implement the requirements of the selected green building certification to achieve the Silver or equivalent level, or higher. The implementation must not conflict with any other requirements identified in this project brief.

3. The landlord will install one energy meter within GAC's space that will calculate and track energy usage. The Consultant will ensure that all energy-consuming equipment installed through this project will be connected to this meter for data collection purposes.

4. In the commissioning process, the Consultant will prepare and submit all required documentation for certification to the appropriate green building authority on behalf of GAC. (Refer to section 9.19.)

E. Supplied Equipment and Allowances

1. The following items will be supplied by GAC:

1.1 Security and Information Technology Systems as described in *Guidelines for Security* and *Guidelines for IM/IT Systems* provided as an appendix to this Project Brief.
1.2 Bullet Resistant (BR) doors, BR windows and Frames, Forced entry resistant doors;
1.3 Door security hardware; i.e.: All lockets, handsets, cylinders and electric strikes. Note: all other door hardware including hinges, kick plates, door stops, closers, operators, etc. are to be supplied by Contractor. The Consultant is to coordinate and review the proposed hardware to be supplied by GAC and include for its installation within the construction documents.
1.4 Special security construction, assemblies, equipment and spaces within the HSZ.
1.5 Parcel and Document pass-through for use in wickets;
1.6 Walk through metal detector and x-ray machine
1.7 All furniture and furnishings

2. All items supplied by GAC will be installed by the Contractor with the exception of furniture, Voice Data and Security Cables, IT Equipment, final door lock cylinders, kick plates and door stops.

F. GAC Project Management

1. A designated GAC Departmental Representative will manage the project on behalf of GAC. The Departmental Representative is the official point of contact between the Consultant and the Mission.

2. The Departmental Representative is:

Mr. Stephen Haas
Deputy Project Manager
AWPM, Capital Project Delivery Division
Global Affairs Canada
125 Sussex Drive, Ottawa, Ontario K1A 0G2, Canada

Tel.: 343-203-8309
Email:Stephen.haas@international.gc.ca

G. Specialist Consultants

1. The Consultant will provide for the cost of professionally qualified specialists as required.

2. The Consultant will provide in his/her fee for the cost of all professionally qualified specialists necessary for the delivery of the services including but not limited to: architectural, mechanical, electrical, structural, civil, heritage, cost planning, scheduling, acoustical engineering, lighting design, kitchen design, audio visual works, finish hardware, fire protection engineering, code consulting (Canadian and Israeli), health and safety, and commissioning. Others may be designated by the Departmental Representative during the course of the Works.

II. PRE- CONSTRUCTION SERVICES

A. Submissions and Reviews

1. The Consultant will provide drawings, supporting specifications and reports for review and approval by the GAC Project Team and Fire protection authorities.

3. The complete design will be based on the requirements of this Project Brief and Statement of Work. The construction documents will be submitted at, Design Development, 50%, 99% and 100% (Final) stages.

4. Review and acceptance of designs and other documents will proceed as follows:

3.1 GAC Project team will review all submissions and provide written comments.
3.2 The GAC Departmental Representative will return one marked-up set of documents or a written review to the Consultant. The Consultant will provide written response to all comments.
3.3 Reviews and detailed checks of the documents in no way relieve the Consultant of his professional responsibility for the work and the work of his Sub-Consultants.
3.4 Throughout each review period the Consultant will, maintain full production on the project and revise documents as necessary as and when review comments are received.

5. No acceptance or approval by GAC whether expressed or implied will be deemed to relieve the Consultant of professional responsibility for correctness of design, details, dimensions, adherence to all codes and by-laws. Neither does acceptance of an estimate by GAC in any way abrogate the Consultant's responsibility to maintain the construction cost limit. If cost overruns occur the Consultant will be required to make revisions or participate in value engineering exercises in order to reduce the construction cost. Additional fees will not be considered for these services.

6. All plans, specifications and commissioning documents submitted must be in English.

7. The Consultant must use the same calendar date on all Construction Documents, drawings and specification. This is the date corresponding to the completion date of all construction documents.

8. A representative list of submission requirements is attached. The actual list of drawings to be submitted will be determined by the GAC Departmental Representative after discussions with the Consultant.

9. As-built drawings will be submitted at the end of the Project. All As-Built submissions must bear the seal of the appropriate professional.

10. Upon final acceptance of Construction Documents provide a hard copy of all reports, design criteria and calculations for mechanical, electrical, and structural design to the GAC Departmental Representative in the Format detailed below. Some of this information may be requested earlier during the design stages or working documents.

END OF PART 1

RELOCATION OF THE CONSULATE GENERAL OF CANADA SAN SALVADOR

PROJECT BRIEF

PART 2 ARCHITECTURE AND INTERIOR DESIGN REQUIREMENTS

Project Number: L-SSAL-100

PART 2 ARCHITECTURAL AND INTERIOR DESIGN REQUIREMENTS

I. CODES, REGULATIONS, BY-LAWS

See **Section ONE** PROJECT CONDITIONS, I. General Information, D., Codes, Regulation, By-Laws

II. BUILDING PLANNING

A. Appearance and Character

1. The appearance and character of the Consulate General of Canada will be similar to the quality of a class A office space in San Salvador. It will be representative of the Chancery of Canada and effectively integrate itself into the appearance and character of the existing building.

2. Quality and appearance of finished spaces will respond to 3 categories: Enhanced Areas, Office Standard Areas and Service Standard Areas. (reference floor plans)

   Enhanced Area: for public and representational areas, specifically waiting rooms, multipurpose, quiet rooms, conference room, HOM office and meeting rooms. These areas are to be finished in high quality and durable materials. These areas are intended to showcase Canada through their use of finishes and installation of fine art (provided by GAC).

   Office Standard Area: for the general office functions of the chancery, specifically workspaces and common office areas; including kitchens and kitchenettes. These areas will be finished in a manner consistent with the quality and appearance of a class "A" office space in San Salvador and at minimum equal to the quality found in the existing building.

   Service Standard Areas: for areas in the Chancery devoted to the operations of building and security systems specifically electrical and mechanical spaces as well as technical rooms related to chancery security and communications. These areas also include the janitor closet, washrooms and are all to be finished in a durable utilitarian manner

B. Space Requirements

The required spaces of the embassy and their sizes will be as provided as indicated in the space inventory section of the Functional Program.

Adjacencies and relationships between spaces will be provided as indicated in the program relationship diagrams portion of the Functional Program.

C. Security Zone and Planning

The Chancery is comprised five (5) distinct zones from the point of view of security and circulation control as follows:

Public-Access Zone: The area that surrounds or forms part of the Chancery. Examples include the grounds surrounding a building, and public corridors/elevator lobbies in multiple-occupancy buildings.

Reception Zone: The areas accessible to the general public and Chancery staff with minimal restriction during normal hours of operation. This includes areas such as waiting room, screening areas and MPR areas. Access to these areas are supervised by locally engaged guards and receptionists.

Operations Zone: The area accessible to Canadian and locally engaged staff working at the Chancery. This includes workspaces, common office areas. Access from the reception zone to the

operations zone is controlled by the receptionist through secure IDACS controlled doors.

Security Zone: The area accessible only to Canadian employees. This includes workspaces and common office areas. Access from the operations zone to the secure zone is managed through I DACS controlled doors.

High Security Zone: The area containing classified activities and accessible only to Canadian individuals. Fit-up of these areas is done by DFATD managed resources.

3 Partitions, glazing and doors separating the zones from each other have specific requirements. See Physical Security Requirements

III. BUILDING SYSTEMS

A. General

1. Standards and materials stipulated indicate the minimum acceptable.

2. All security related material and components must be approved by GAC. Reference Security Section

3. All building systems are to be designed utilizing a conservative interpretation of relevant codes, particularly where considering the potential of natural forces such as earthquakes, floods, tornadoes, typhoons.

4. All systems are to be designed on the basis of providing: safety to personnel during operation and maintenance; ease of maintenance of equipment and operational economy.

5. Existing building systems are to be reused where practical and protected during construction.

B. General Architectural Interior

1. The Architectural fit-up and detailing will project a professional corporate image and coordinated office environment. Special emphasis will be given to upgraded finishes to public areas, public corridors, reception areas, meeting rooms and Head of Mission (HOM) office.

2. Enclosed spaces, open workspaces and common areas will be arranged as indicated in the GAC Concept drawing (Appendix A).

2 A GAC interior designer is responsible for the selection, procurement and installation of all movable furniture and furnishings.

3 All spaces in the chancery will be kept to the interior building core of floor areas when at all possible to allow maximum natural light penetration from perimeter windows to infiltrate into interior. Interior offices will include glazing to allow transmission of natural daylight.

4 A finish and color scheme will be prepared by the consultant as part of the Construction Documents and subject to GAC approval, and implemented by the Contractor. The finish and colour selection will encompass all interior surfaces including the ceiling system, walls, floors, baseboards, millwork, doors, hardware, lighting and any new washroom surfaces. The GAC interior designer and Architect will work closely with the Consultant on the coordination of all materials and colours.

5 All built-in millwork is the responsibility of the Consultant and general contractor. Finishes will include cultured stone counter tops, with under-mount stainless steel sinks and laminate or wood

veneered cupboards. All are to be coordinated with GAC interior designer and design consultant.

6 The facility is to be equipped with fully compliant kitchens, kitchens and washroom facilities

Interior Doors

1 Doors for enclosed offices and other common areas in the chancery (meeting rooms, quiet rooms, etc.) may be wood veneer, glass or steel and will be coordinated with the overall interior scheme.
2. Door Frames: refer to Security Section
3. Door Hardware: refer to Security Section
4. Doors supplied by GAC are to be coordinated with design consultant as it relates to finishes of interior scheme, preparation of framed openings and fire ratings required by local code.

C. Door Hardware

1. GAC shall provide all door hardware, except for hinges, kick plates, door stops, weather stripping; cabinet-type hardware or for any special considerations (i.e. glass doors, washroom stalls).

2. GAC will liaise with the architect and developer to review and approve door and door hardware schedules. GAC will also provide guidance to the developer, architect or contractor on the application, preparation and installation of GAC approved, North American door hardware.

3. Approved door hardware shall be of North American manufacture and consistent with GAC standards. In general, mortise lock sets will be selected for all interior doors.

4. Any approved local doors separating security zones shall be equipped with non-removable hinge pins.

5. GAC shall supply, pin, code and install all permanent key cylinders after take-over, replacing temporary cylinders used during construction.

D. Floors

1. All floor finishes will be coordinated with interior scheme, approved by GAC interior designer and specified in accordance with the category of room indicated on the floor plan. Quality of finishes is:

   Enhanced Areas: Areas forming part of the Enhanced Areas will be provided with high quality durable hard finish material such as stone or tile.

   Standard Office Areas: will be finished with high quality commercial carpet tile from 100% solution died nylon with min. gauge of 50.4 rows/10cm, min. stitch 38.6 pu/10cm, max. pile height of 4.7mm. All carpet tile will be peel and stick adhesive backed conforming to flame spread requirements as per fire safety requirements.

   Service Standard Areas: will be polished, sealed concrete, vinyl, ceramic or static dissipating vinyl.

2. All concrete floor slabs will be leveled prior to finish material application. Any variance in level will not exceed 12mm over a 14 meter radius.

3. Washrooms, kitchens and service areas are to be finished with appropriate high traffic, non-

slip and moisture resistant hard surfaces. Acceptable materials include commercial grade ceramic / porcelain tile, vinyl tile, sheet vinyl and/or similar natural or man-made products.

4. All carpet will be commercial high grade from 100% solution dyed nylon with minimum gauge of 50.4 rows/10cm, minimum stitch 38.6pu/10cm, and maximum pile height of 4.7mm. All carpet tile will be peel and stick adhesive backed and conforming to flame spread requirements as per code standards.

5. The location of voice/data/power floor boxes or pedestals will be coordinated with furniture systems to ensure no obstructions are met by furniture, panels, chair legs, file boxes, etc…

6. DCC room to be finished with Static Dissipative flooring.

7 Base skirting material / detail will typically complement the selected floor finish material. And be of commercial grade material

E. Ceilings

1 All ceilings finishes will be coordinated with interior scheme, approved by GAC interior designer and specified in accordance with category of room type indicated on the floor plan.

Quality of finishes are:

Enhanced Areas: Areas forming part of the Enhanced areas may be a mix of fixed hard surface ceiling finishes and coordinated access panels or ceiling tiles.

Standard Office Areas: The general office space will have a uniform drop ceiling height to provide flexibility for future floor plan changes. Enclosed spaces will have the same drop ceiling height as adjacent open office spaces. Exposed ceilings may also be considered.

Service Standard Areas: Service Standard areas will/may be exposed ceiling or suspended access ceiling system.

2 The suspended ceiling system will incorporate luminaries, ceiling tiles and secondary ceiling suspension. The ceiling system will take into consideration smoke detection devices, sound masking system, CCTV and motion detectors.

3 All interfacing systems: ceiling suspension, air handling, luminaries, in fill safety devices and walls are to be coordinated for ease of relocation, visual consistency, range of relocation and operational compatibility. Special ceiling in-fill conditions at cores, perimeter walls, partitions, columns, etc. are to be minimized.

4 All ceiling areas used for horizontal system distribution will be readily accessible without requiring repair to interior finishes.

5 Ceiling, lighting and air handling systems will largely remain as per the base building where ever possible.

F. Walls, Full Height Partitions (reference GAC Concept Floor Plan)

1. Partitions finishes will be coordinated with interior scheme, approved by GAC Architect and Interior Designer and specified in accordance with the category of room indicated on “Room Data Sheets”

2. For partitions required to be security barriers, assembly and construction details will be consistent with wall types indicated in Security Section of this brief. Any glazing in Type 3 (physically resistant partitions) will have a polycarbonate film laminated between two layers of glass meeting criteria referred to in Security Section.

    i. Closed offices will generally be constructed of 90mm metal studs and 13mm gypsum board and/or tempered glass sections.

    ii. Closed office partitions and Meeting Rooms will be designed to achieve a minimum STC rating between 48-52.

3. Interior partitions not required to be security barriers may be glazed with tempered glass or finished with gypsum board on minimum 90mm depth metal stud with cable enclosure for electrical and IT/DATA distribution.

4. It is the consultant's responsibility to verify the load bearing capacity of the existing building structure and to design all necessary structural strengthening to bear any additional load from all security rated wall assemblies.

5. Any changes to the structure will be designed and certified by a licensed structural Engineer.

6. Interior partitions not required to be security barriers may be glazed with tempered glass or finished with gypsum board on minimum 90mm depth metal stud with cable enclosure for electrical and IT/DATA distribution.

G. Millwork

1. All built-in millwork is the responsibility of the Consultant and general contractor. Finishes will include cultured stone counter tops, with under-mount stainless steel sinks and laminate or wood veneered cupboards. All are to be coordinated with GAC interior designer and design consultant; to include HOM's kitchenette, kitchen lunch room, quiet rooms, conference room, reception booth, interview booths and guard booths, business centers and touchdown area

1. Built-in counters, as well as document pass-through will be installed where needed in receptionist, guard booth and interview booths, as well as in FAX/copier/printer/shredder areas located on floor plan. Refer to Physical Security Section and Infrastructure Protection for details

2. Wherever possible cabinetry will be shop fabricated and prefinished in modular units, complete with a factory laminated performed single piece counter top with back splash. Shelving to millwork will be fully adjustable

3. All accessory hardware will be provided including, hinges, door and drawer pulls, and drawer catches and slides. All hardware will be non-corrosive material

H. Window Coverings

1. Consultant will specify manually adjustable window coverings in general office areas and representational areas. The Consultant will consider ease of operation, sun angle, internal temperatures, cleaning, privacy requirements, maintenance, repair and replacement.

2. For general office area, 3-5% transmittance factor will be required. For enhanced areas, a combination of black-out transmittance, sheers, and lined curtains may be required.

I. Signage

1. All required statutory, illuminated exit signs and other signs, will be specified by the Consultant and provided by the general contractor to meet local code requirements. Where possible, use pictograms rather than text (i.e. running man to illustrate exit). Where text is required, all signage will be at a minimum in French and English.

2. All non-statutory interior signage are to be provided under an allowance by the contractor and designed, fabricated and installed per the GAC Embassy Signage guideline (ref. appendix)

1. Signage in the public areas will be in Spanish, English and French.

2. All interior signage shall be of a quality and material specific to the category of the space and cohesive to the interior scheme.

J. Light Reflectance

1. General light reflectance on finished surfaces and materials will be as listed below:

Ceilings	80%
Walls	40% to 60%
Floors	30%
Windows	40% to 60%

END OF PART 2

RELOCATION OF THE CONSULATE GENERAL OF CANADA SAN SALVADOR

PROJECT BRIEF

PART 4 STRUCTURAL ENGINEERING

Project Number: L-SSAL-100

PART 4 STRUCTURAL ENGINEERING

4.1 APPLICABLE CODES AND STANDARDS

4.1.1 BUILDING CODE COMPLIANCE REQUIREMENTS

4.1.1.1 All new structural systems designed and installed will meet all applicable codes, standards and regulations of the authority having jurisdiction or the National Building Code of Canada 2015 (NBCC 2015), whichever is more stringent.

4.1.1.2 Seismic Risk Reduction of Operational and Functional Components, CSA S832

4.1.1.3 Refer to *Part 1: Project Conditions - 1.1.16 Codes, Standards and Regulations*, for a complete description of the code compliance requirements.

4.2 DESIGN, EVALUATION AND PERFORMANCE OF STRUCTURE

4.2.1 STRUCTURAL LOADS

4.2.1.1 General Considerations

a) Unless available from record drawings, determine the capacity of structural members to withstand, within acceptable deflection limitations, all current and planned occupancy loads. Provide the most efficient and cost effective solutions for any structural reinforcing, if required.

b) Verify that floor slabs, horizontal framing members, and beams or girders have the required capacity to carry the loads resulting from the proposed layout. Uniformly distributed live load will not be modified by reduction factors.

c) All verified general design load capacities will be clearly specified within the “General Notes” on the drawings. Any locations, where design load capacity exceeds that of the general load capacity, will be clearly identified on the drawings.

4.2.1.2 Office Space – Floor loading Review

a) Verification of the structural framing is required for all floor areas supporting storage and filing rooms, mobile shelving units, and computer rooms. Minimum superimposed live load capacity will be:

- Storage Areas and Server Rooms: live load 4.8 kPa
- Mobile shelving units: live load 4.8 kPa
- High Security Zone (HSZ): live load 4.8 kPa
- Seismic Loading: To be provided by the DFATD Senior Structural Engineer
- Physical Security Loading: To be provided by the DFATD Senior Physical Security Engineer

4.2.1.3 Hardened Walls

a) Verify existing slab to carry the increased weight of hardened walls. The following weights are provided for wall surface, and therefore they must be multiplied by the height of the wall in order to calculate the load imposed on the slab.

4.2.2 FLOOR PENETRATIONS AND TRENCHING

4.2.2.1 Floor penetrations, if required, will be designed so as to **NOT** decrease the capacity of the Lateral Force Resistance System (LFRS).

4.2.2.2 All new openings for installation of mechanical, electrical, communication systems, connecting stairs, etc. must be reviewed by the structural engineer, and approved in writing. Cutting or coring of openings must **NOT** decrease the live load capacity of the slab or any other structural element.

4.2.2.3 All trenching required for installation of services, electrical, communication, IT, etc., must be reviewed and approved in writing by a licensed structural engineer.

4.2.3 SEISMIC LOADS

4.2.3.1 All operational & functional components (OFC's) identified in other sections of this brief will be braced in compliance with the requirements of "CSA -S832 – Seismic risk reduction of operational and functional components of buildings".

4.3 SUBMISSIONS

4.3.1 CONSTRUCTION DOCUMENT PHASE

4.3.1.1 Deliverables

a) Construction drawings and specifications as required for any modification to the existing structure to accommodate the new floor openings and local higher loads;

b) Written confirmation, signed and sealed by a Professional Structural Engineer, that the floor does have the capacity to carry the superimposed live load specified in item 4.2.1.2, and the additional security walls as specified under item 4.2.1.3.

c) Slab reinforcing details (if required for increased load capacity).

d) Review & written acceptance of floor penetrations and trenching for new mechanical, electrical and communication systems, or recommendation of alternate locations. Provide trenching and penetration drawings sealed and signed by a structural professional engineer.

END OF PART 4

RELOCATION OF THE CONSULATE GENERAL OF CANADA SAN SALVADOR

PROJECT BRIEF

PART 5 MECHANICAL ENGINEERING

Project Number: L-SSAL-100

PART 5 - MECHANICAL ENGINEERING

5.1 GENERAL

5.1.1 INTRODUCTION

5.1.1.1 The Mechanical Engineering chapter identifies criteria for the design of Heating, Ventilation, and Air-Conditioning (HVAC) systems, plumbing systems, and fire suppression.

5.1.1.2 Mechanical systems will be specifically designed to function at the load associated with all projected occupancies and modes of operation.

5.1.2 SCOPE OF WORK

5.1.2.1 Provide complete mechanical systems as specified herein to meet the general and the specific facility needs in:

a) Domestic Water Supply Systems;
b) Sanitary Waste System;
c) Fire Suppression System;
d) Heating, Ventilation and Air-Conditioning (HVAC) Systems;
e) System start-up, testing, adjusting and balancing, and commissioning;
f) Administration (construction drawings, shop drawings, record drawings, samples, codes, attendance at meetings, permit fees, etc);
g) Certificates of Completion and performance verification;
h) Operating and Maintenance (O&M) manuals.

5.1.2.2 **Drawings**

5.1.2.2.1 Layout drawings and calculations will be certified by the Engineer (Consultant). Be responsible for all co-ordination with those of the HVAC, plumbing, electrical and other contractors.

5.1.2.3 **Specifications**

a) Engineering specifications for construction of all mechanical systems are to include written descriptions of materials, performance, characteristics, installation and quality of work requirements.

5.1.2.4 **Training Manuals and Materials**

a) Provide training, training materials and manuals in English and Spanish.

5.1.3 BUILDING SYSTEMS ANALYSIS

5.1.3.1.1 The Canadian A&E Consultant will survey the newly installed mechanical systems and services (in Torre Quattro Office Building) that the embassy must connect to, such as, but not limited to, the ventilation (outdoor air), air-conditioning, sprinkler system, domestic water and sanitary waste; and document the extent of the work required to put these systems in to service for the mission. The A&E Consultant will provide a report describing all mechanical systems installed that Global Affairs Canada (GAC) will have to connect to including plumbing; sprinkler system; air-conditioning, duct work (for ventilation air) domestic water supply and sanitary waste. The A&E Consultant will provide any

recommendations, based on their survey, which they believe will either pose risks during installation or cause problems during the operation of the mission.

5.1.3.1.2 The A&E Consultant will review the existing drawings, provided by GAC, and complete the design of all mechanical systems, such as but not limited to, fire suppression, air-conditioning, ventilation, plumbing and domestic water supply; presented in the drawings.

5.1.3.1.3 For the 10th floor fit-up, the A&E Consultant will inspect the mechanical installations on-site, such as, but not limited to the HVAC, plumbing and the fire sprinkler systems.

5.1.3.1.4 The report, as mentioned above, will include details about the mechanical systems which will be needed to meet the requirements of Global Affairs Canada (GAC). For the purpose of this report, mechanical systems are considered to comprise of the following: heating, ventilation and air-conditioning (HVAC) systems; fire suppression; plumbing; including water supply; drain; waste and venting systems.

5.1.3.1.5 The HVAC system will be configured to suit the layout of the leased floor fit-out using the newly installed VRV multi-split indoor units provided by the base building. The A&E Consultant will confirm that the total cooling capacity meets the demand for the GAC program (fit-out).

5.1.3.1.6 The base building has provided four (4) multi-split VRF condensers (LG) located on the roof. The base building has provided 18.2 tons of cooling capacity for the leased floor: Five (5) 2.5 ton units and three (3) 1.9 ton units. Confirm that the evaporators have the capacity to match the demand for the zone which they will serve. The tenant's condensers for general office space will be placed on the rooftop with a dedicated meter. However, the VRF condenser(s) for ITE Rooms (DCC and Strong Room) will be placed on the rooftop but metered from the 10th floor space.

5.1.3.1.7 Provide outdoor air for ventilation to all interior spaces by using the ventilation air provided by the base building.

5.1.3.1.8 All enclosed office space, open areas and meeting rooms will have individual room temperature control.

5.1.3.1.9 The new HVAC (VRF Multi-splits by LG) system will be controlled by programmable thermostats. Comment on the following mechanical systems:

a) Based on the capacity of base building VRF system installed by the base building, confirm that the VRF system can meet the design requirements for the GAC program; and that the evaporators / condensers have the capacity for the demand in the zone for which they serve. This includes capacity for outdoor ventilation air requirements, solar heat gain through windows, heat transmission through walls, heat gain from lighting, occupants and electrical equipment.
b) Assess and comment on the controls of the LG VRV system installed, if any;
c) Tenant will install the LG evaporators (supplied by the landlord);
d) The HVAC design will incorporate a ducted return (air) as shown on drawings. The A&E Consultant will ensure that sufficient external static pressure is available for both supply and return of ventilation air in the duct work.
e) The A&E Consultant will confirm if any combustible material is installed in the ceiling. Combustible material in the plenum will either be removed or remedied unless it meets the flame spread rating and smoke development classification.
f) Note that PVC material (i.e. piping) installed above the ceiling, and incorporating a return air plenum, will have flame spread rating of not more than 25.
g) Confirm the flame spread rating if any PVC material is installed above ceiling.

h) Confirm the smoke development classification if any PVC material installed in the ceiling.
i) Confirm that the available (m^3/h) outdoor air supply, for ventilation, serving the leased floor area will satisfy the GAC program, based on floor layout;
j) Assess and comment on the installation and location of fire dampers, if any, either located on the leased floor or from the base building mechanical room (or riser/shaft) serving the leased floor space;
k) Verify that the fire damper(s) are UL/ULC listed and are activated by fusible link;
l) Assess and comment on condition and operation of the domestic hot water supply system, if any;
m) Water used for domestic consumption is stored in water storage tank(s) in the basement. Provide potable and adequate water treatment (for kitchen sinks) based on water quality test results; see parameters in the brief to be tested. Note that if chlorine is used as a disinfection treatment by the municipality, then the residual chlorine must be measured in the field (on site) with a kit test;
n) Confirm if the mechanical exhaust system for the parking garage is activated by carbon monoxide detectors. The landlord has indicated the mechanical exhaust system for the parking garage is activated by carbon monoxide detectors;
o) Confirm if fire pump room is enclosed in a room with a 1 hour fire resistant rating;
p) Confirm if the fire pump(s) is a UL/ULC listed (certified) fire pump;
q) Confirm if the sprinkler system water flow alarm and supervisory device are electronically supervised and if such supervision is monitored;
r) Confirm if all isolation valves installed on the sprinkler system are monitored (tamper / supervisory switch) on the fire alarm panel;
s) The fire department connection for a standpipe system will be located so that the distance from the department connection to a fire hydrant is not more than 45 m and is unobstructed. Confirm if this is provided for this building;
t) An automatic fire sprinkler system will be electrically supervised to indicate a supervisory signal on the building fire alarm system annunciator for each of the following (YES or NO):

    1) Movement of valve handle that controls supply of water to sprinklers;
    2) Loss of excess water pressure required to prevent false alarms in wet pipe system;
    3) A significant change in water level in any water storage tank used for firefighting purposes;
    4) Loss of power to any automatically starting fire pump.

u) In Canada, in a high building, there is a requirement for re-entry into the floor area from the exit (i.e. every 5 levels), in case one exit stair becomes untenable in the event of a fire, the occupants could re-enter the floor and reach another exit stair. Confirm if the 10^{th} floor is a re-entry floor.
v) Confirm that a central alarm and control facility (CACF) is provided on the story containing the entrance (street level) for firefighter access in a location that is readily accessible to firefighters entering the building.
w) Confirm that the exit stairs are pressurized.

5.1.4 GENERAL REQUIREMENTS

5.1.4.1 The mechanical systems will consist of simple, proven systems selected for reliability, durability, flexibility, accessibility and ease and economy of operation.

5.1.4.2 Mechanical engineering will consolidate layouts using the minimum space consistent with maintenance and service requirements.

5.1.4.3 Selection, sizing, specifications, location of motors, starters, indicating lamps and all other similar electrical devices will be coordinated with Electrical Engineering.

5.1.4.4 Mechanical systems and equipment will be compatible and coordinated with electrical, architectural, structural and other building systems including interior design, controls, fire protection, security, communications, etc. All mechanical systems will become an integral part of the architectural design.

5.1.4.5 Report and document building systems for code deficiencies. Code deficiencies that relate to life safety, particularly the most stringent requirements (Canadian and Salvadorian) for fire protection are to be remedied.

5.1.4.6 The new fit-out work will meet current codes. Conflicts between Canadian and Salvadorian codes will be resolved with Departmental Representative as well as with the Salvadorian Authority Having Jurisdiction (AHJ).

5.1.4.7 During the life span of a typical Embassy fit-out, many minor and major alterations may be necessary. Mechanical systems will be designed to provide some leeway for increase in load concentrations in the future. They will also be designed to facilitate future alterations, i.e. new elements, such as piping, ductwork, EMT (electrical metallic tubing), etc. To the maximum extent possible, system solutions will also accommodate planned future occupancies and modes of operation.

5.1.4.8 Provide all required documentation to authorities as required. Provide all permits, licenses and certificates and arrange for inspection of all work by the appropriate authorities and pay all associated fees.

5.1.4.9 All welding, if required, will be done by qualified and licensed welders.

5.1.4.10 Identify all equipment, piping and ductwork on drawings.

5.1.5 PERFORMANCE REQUIREMENTS

5.1.5.1 The mechanical systems must be responsive to each functional requirement of each area. They will be designed, constructed, and commissioned to ensure the following:

a) Occupant safety;
b) Occupant comfort;
c) Indoor air quality (IAQ);
d) Reliability;
e) Maintenance and operation simplicity;
f) Energy conservation;
g) Cost effectiveness; and
h) Economy of installation.

5.1.5.2 New mechanical systems (materials and equipment), owned and installed by GAC, will meet design requirements of a quality consistent with top tier equipment. Installation of equipment is to have a design life consistent with anticipated minimum building life expectancy. This includes service life of individual elements as follows:

a) Split units: 15 - 20 years;
b) Galvanized duct work: 25 - 30 years;
c) Closed pipe work systems (steel): 25 - 30 years;
d) Pumps (based mounted and in-line): 15 - 20 years;
e) Control valves/dampers: 15 - 20 years;

f) General controls (electrical) 15 - 20 years; and
g) Sanitary fittings (except moving parts): 35 - 40 years.

The above-mentioned is dependent on good and regular maintenance being undertaken throughout the life of systems together with correct water treatment.

5.1.5.3 System selection and design will be based on a life cycle costing analysis, for the lowest total cost of ownership and the lowest operating and maintenance cost.

5.2 APPLICABLE CODES, STANDARDS AND GUIDELINES

5.2.1 CODE COMPLIANCE REQUIREMENTS

5.2.1.1 The latest editions of publications and standards listed here are intended as guidelines for design. They are mandatory where referenced as such in the text of this chapter or in applicable codes. The list is not meant to restrict the use of additional guides or standards. When publications and standards are referenced as mandatory, any recommended practices or features will be considered “required”. The requirements of all other authorities having jurisdiction will apply.

5.2.1.2 All mechanical systems designed and installed will meet all applicable codes, standards and regulations of the authority having jurisdiction. The most stringent codes and standards will be applied.

5.2.1.3 Design of mechanical systems will comply with energy-efficiency requirements of ASHRAE 90.1 Energy Standard for Buildings, Except Low-Rise Residential Buildings.

5.2.2 CANADIAN PUBLICATIONS

a) CAN/CSA B52-13: Mechanical Refrigeration Code
b) “Handbook of Occupational Safety and Health”. Treasury Board of Canada
c) National Fire Code of Canada of Canada (NFCC), 2015
d) National Plumbing Code of Canada (NPCC), 2015
e) National Building Code of Canada (NBCC), 2015
f) All applicable Treasury Board Standards and Guidelines.
g) Guidelines for Canadian Drinking Water Quality, Summary Table
h) CAN/CSA B137.5, Cross-Linked Polyethylene (PEX) Tubing Systems for Pressure Applications
i) CAN/ULC-S102.2, Standard for Surface Burning Characteristics of Flooring, Floor Covering and Miscellaneous Materials and Assemblies

5.2.3 UNITED STATES PUBLICATIONS

a) ASHRAE: Handbook of Fundamentals, Handbook of HVAC Applications, Handbook of HVAC Systems and Equipment, and Handbook of Refrigeration.
b) ASHRAE: Standard 55-2013: Thermal Environmental Conditions for Human Occupancy.
c) ASHRAE: Standard 62-2016: Ventilation for Acceptable Indoor Air Quality.
d) ASHRAE: Standard 90.1-2016: Energy Standard for Buildings Except Low-Rise Residential Buildings.
e) ASHRAE: Standard 111: Practices for Measurement, Testing, Adjusting and Balancing of Building HVAC Systems.

f) SMACNA (Sheet Metal and Air-Conditioning Contractors' National Association) for HVAC Duct Construction Standards
g) NFPA 13: Installation of Sprinkler Systems, 2016
h) NFPA 14, Installation of Standpipe and Hose Systems, 2016
i) NFPA 20, Installation of Stationary Pumps for Fire Protection, 2016
j) ASTM F876: Standard Specification for Cross-Linked Polyethylene (PEX) Tubing
k) ASTM F877: Standard Specification for Cross-Linked Polyethylene (PEX) Plastic Hot and Cold Water Distribution Systems
l) NSF 61: Drinking Water System Components – Health Effects

5.3 MECHANICAL SPACES

5.3.1 MECHANICAL SPACES

5.3.1.1 All mechanical systems and equipment will be located and arranged so that they are readily and safely accessible for routine maintenance and repair, as well as for removal and replacement of major equipment as well as sub-components.

5.3.1.2 Access hatches will be provided to access equipment, plenums and ductwork, as required, for purposes of inspecting, maintaining and servicing and for access to coils and filters for inspecting for evidence of growth of micro-organisms.

5.3.1.3 Mechanical equipment will be located such that sound will not be readily transmitted to other parts of the building. The transmission of noise and vibration from mechanical equipment to the floor below will be minimized.

5.4 NOISE, VIBRATION and THERMAL LOSS CONTROL

5.4.1 GENERAL

5.4.1.1 Isolate all mechanical equipment, piping and ductwork to eliminate objectionable noise and vibration transmission.

5.4.2 NOISE LEVEL AND VIBRATION ISOLATION

5.4.2.1 Provide noise control equipment (i.e. silencers), as required, to prevent mechanical equipment from exceeding the noise criteria. Provide either silencers or employ other means to mitigate objectionable noises, where required, to achieve the noise criteria.

5.4.2.2 If objectionable noise or vibration will be transmitted to occupied portions of the building by any part of the mechanical work, make necessary changes and/or additions, to the owner's satisfaction and approval.

5.4.2.3 Vibration isolation will be 99% efficient for all rotating mechanical equipment to prevent transmission of vibration to the building structure, floors and walls.

5.4.2.4 Control of noise generated by air in air plenums and ducts will be achieved by controlling air velocity, and by using sound attenuators.

5.4.2.5 Design to achieve the following indoor Noise Criteria (NC) levels:

a) Head of Mission (HOM): 25-30 NC
b) Conference Room: 25-30 NC
c) Private offices and reception rooms: 30-35 NC
d) All other rooms: 35-40 NC;

e) The above levels represent the overall and combined sound levels represent the overall and combined sound levels due to exterior environmental noise generated by interior mechanical equipment
f) All services (i.e. ducts, pipes, etc.) running between different rooms will be acoustically insulated so that the noise criteria is not compromised (minimize "cross-talk" between various rooms);
g) Vibration isolation will be 99% efficient for all rotating mechanical equipment to prevent transmission of vibration to the building structure, floors and walls. All vibration isolation will be supplied by a single manufacturer.

5.4.3 THERMAL INSULATION FOR DUCKWORK

5.4.3.1 All supply ductwork will be insulated. Insulation will be applied to the outside of the ductwork only.

5.4.3.2 Insulation thickness and type to be in accordance with ASHRAE 90.1 Energy Standard for Buildings, Except Low-Rise Residential Buildings.

5.4.4 THERMAL INSULATION FOR PIPING

5.4.4.1 All piping transporting fluids at temperatures other than room temperature will be thermally insulated. If fluid temperatures are below the ambient dew point, insulate the piping and cover with a vapour barrier to prevent condensation on the pipe surface.

5.4.4.2 Insulation thickness and type to be in accordance with ASHRAE 90.1 Energy Standard for Buildings, Except Low-Rise Residential Buildings.

5.4.4.3 Insulate domestic cold water piping.

5.4.4.4 Insulation which is exposed to outdoor elements will be covered in an embossed aluminum jacket for protection against UV rays.

5.5 SEISMIC PROTECTION

5.5.1 CODES AND STANDARDS

5.5.1.1 All mechanical equipment is to be laterally and vertically restrained for seismic load requirement. Refer to Part 4, Structural Engineering and the applicable codes and standards for seismic design criteria.

5.5.2 GENERAL REQUIREMENTS

5.5.2.1 All primary equipment, such as, air handlers, fan coil units, pumps, etc. will remain fully operational during and after earthquakes.

5.5.2.2 El Salvador is considered a high seismic zone area. All primary equipment is to be restrained for seismic load requirements accordingly. This will include shock mounts for all pad mounted equipment or equipment suspended from the floor slab. Provide seismic restraints on, main ventilation ducts, water mains, standpipe and drain lines, etc., as necessary, to protect personnel and the facility from falling objects during an earthquake.

5.6 PLUMBING SYSTEMS

5.6.1 GENERAL REQUIREMENTS

5.6.1.1 **Scope**

5.6.1.1.1 Provide complete plumbing and drainage systems, including the following:

a) Domestic hot and cold water supply;
b) All piping and plumbing fixtures, including all drains, sanitary waste, vent piping and traps with their devices and connections within the structure.

5.6.1.1.2 Plumbing fixtures will comply with the latest applicable standards of the Canadian Standards Association (CSA) and with applicable codes, standards and regulations.

5.6.1.1.3 Provide sleeves and escutcheon plates on all piping passing through floors and walls. Fill voids around pipes with fireproof and waterproof material.

5.6.1.1.4 All washroom and kitchenette fixtures will be low flow and water efficient, and will comply with accessibility requirements.

5.6.1.1.5 All piping will be properly identified.

5.6.2 DRINKING WATER QUALITY ANALYSIS

5.6.2.1 **Water Treatment**

The water at Torre Quattro in San Salvador is stored in water storage tanks in the basement. A water quality test is required to determine the appropriate water treatment for potable water. The A&E Consultant will design an appropriate water treatment system (use point of use systems for kitchenettes) based on the water quality test results and site specific conditions. The water sample will be taken as close as possible to the municipal main (or water storage tanks) and the analysis must be conducted by a lab accredited to ISO 17025 and/or having local accreditation. You can find a list of accredited laboratories at the website of the International Laboratory Accreditation Cooperation.

The water treatment system will be capable of producing sufficient treated water to serve all staff members on a continuous basis. The municipal water to the building will be analyzed for the parameters referred to in the most recent version of Health Canada's *Guidelines for Canadian Drinking Water Quality.* A summary table of the GCDWQ is available on Health Canada's website:http://www.hc-sc.gc.ca/ewh-semt/water-eau/drink-potab/guide/index-eng.php

5.6.2.1.1 The GCDWQ has over 80 parameters with either health based maximum acceptable concentrations or aesthetic objectives. Depending on the quality of the local water supply additional parameters may need to be tested and/or some parameters may not need to be tested if they are consistently absent from the water supply.

5.6.2.1.2 The following is an abbreviated list of microbiological and chemical parameters that are to be tested as a **minimum**: aluminum, antimony, arsenic, barium, boron, cadmium, chromium, copper, cyanide, fluoride, hardness, iron, lead, mercury, nitrates and nitrites, uranium, total and free residual chlorine (field measurement), total dissolved solids (TDS), turbidity, UVT, pH, total coli forms, e-coli, faecal coli forms, faecal streptococci and heterotrophic plate count.

5.6.3 DOMESTIC WATER SUPPLY

5.6.3.1 Domestic Water Distribution

5.6.3.1.1 Provide potable water by means of a distribution system separated from other plumbing systems. PEX, CPVC or copper piping is to be used for potable water distribution. The system will meet all the requirements of the applicable codes and standards.

5.6.3.1.2 If PEX piping is used the following standards will apply: ASTM 876, ASTM 877, CAN/CSA B137.5, NSF 61 and CAN/ULC-S102.2**.** If copper pipe is used the domestic water piping inside the building will be type "L" hard copper to ASTM B 88 with wrought copper fittings and lead-free solder joints. Galvanized and polyvinyl chloride (PVC) pipes for domestic water will not be permitted (as per the NPCC) unless the PVC pipe is NSF 61 listed.

5.6.3.1.3 Maintain adequate water supply, pressure and flow in all parts of the system, fixtures and equipment. Size piping as required for purposes of ensuring adequate water supply at proper pressure to all fixtures and equipment at all times.

5.6.3.1.4 Design the water distribution system to prevent water hammer and contamination.

5.6.3.1.5 Water quality sample test results will be submitted to Departmental Representative before finalizing the design of water treatment system.

5.6.3.1.6 Ensure the water treatment system complies with the more stringent of Canadian and local potable water standards. Provide water treatment system specifications to Departmental Representative for approval before purchase of equipment.

5.6.3.1.7 The water treatment system must be easy to maintain by trained personnel. Specify the provisions for the training of the water treatment system. The operating and maintenance manual for all water treatment equipment requiring maintenance will include schedules for maintenance tasks. Manuals are to be provided in English and host city language (Spanish).

5.6.3.1.8 Use water hammer arrestors (as required) to protect piping, fixtures and equipment from the adverse affects of water hammer.

5.6.3.2 Domestic Cold Water Distribution

5.6.3.2.1 Cold water service will consist of building water supply provided the volume and pressure are adequate. The main water supply line will have a main shut-off valve. The building owner of Torre Quattro recommends installing PVC pipe (for cold water service) to ASTM D-2241 and standard dimension ratios (SDR) with the following specifications SDR 13.5 (315 psi) and SDR 17 (250 psi). The base building is using PVC (ASTM D-2241) for cold water supply.

5.6.3.2.2 Internal distribution will consist of a piping system that will supply domestic cold water to all necessary plumbing fixtures.

5.6.3.3 Domestic Hot Water Distribution

5.6.3.3.1 Provide adequate volume of hot water to all fixtures and equipment at all times. Installation to conform to the *National Plumbing Code* and other applicable codes and standards.

5.6.3.3.2 The A&E Consultant will use one large hot water tank (HWT) for all hot water fixtures or use one (1) small HWT for the large kitchenette or a combination of small hot water tanks for each WC or kitchenette. The temperature in hot water tanks will not be less than 60°C. Thermostatic mixing valves will be designed such that the hot water outlet temperature at sinks does not exceed 49°C, to avoid scalding. Control hot water temperature through point of use thermostatic mixing valves for hot water distribution.

5.6.3.4 **Water Back flow Preventers**

5.6.3.4.1 Protect entire water distribution system against contamination due to back flow from non-potable sources.

5.6.4 SANITARY WASTE

5.6.4.1 **Scope**

5.6.4.1.1 Provide a complete sanitary drain, waste and vent system for all new plumbing fixtures for safe sanitary disposal of sewage from fixtures in the building.

5.6.4.1.2 Sanitary piping inside the building will be copper or PVC, if the existing piping is flammable. Connect all sanitary waste piping to the building sanitary waste lines in the building core. Vent piping will be copper or PVC.

5.6.4.1.3 Note that PVC piping is only permitted to be installed in a building required to be of non-combustible construction provided that, except when concealed in a wall or concrete floor slab, they have a flame spread rating not more than 25. The smoke development classification will not be greater than 50.

5.6.4.1.4 The National Plumbing Code of Canada allows copper, cast iron, and PVC for drain, waste and vent (DWV) piping. The certified listing (marking) must appear on the piping.

5.6.4.1.5 Locate and assess adequacy of existing sanitary main for estimated peak sanitary load as per National Building Code requirements and include any future building loads.

5.6.5 PLUMBING SPECIALTIES, FIXTURES AND TRIM

5.6.5.1 **General Requirements**

5.6.5.1.1 Plumbing fixtures will comply with the applicable codes, standards and regulations.

5.6.5.1.2 Provide products of top tier high commercial standards.

5.6.5.1.3 Materials and equipment will be manufactured by internationally recognized companies. Plumbing fixtures and fittings will be the products of one manufacturer.

5.6.5.2 **Plumbing Specialties**

5.6.5.2.1 Cleanouts: Provide clean-outs where sanitary piping changes direction by more than 45 degrees and every 15 m on horizontal branches and main drains, at every riser, at the ends of horizontal lines and where required by code. Provide access from walls or under slab.

5.6.5.2.2 Floor Drains: In general, floor drains will be cast iron body type with nickel-bronze strainers for public washrooms, kitchen areas, etc. The floor drains will be designed with adequate cleanouts.

5.6.5.2.3 Trap all fixtures and floor drains in accordance with applicable codes, standards and regulations.

5.6.5.2.4 All fixtures and floor drains will be installed with solid P-traps. Use trap primers with washroom floor drains and others where loss of trap seal evaporation may occur.

5.6.5.2.5 Water closets: in office area, WC will be on a carrier with flush valve suitable for handicap requirements. Water closets will have elongated bowls with dual flush option.

5.6.5.2.6 Lavatories**:** will be vitreous china type complete with cartridge type (ceramic) faucets. All lavatories will be equipped with vandal resistant faucets, and infrared sensors.

5.7 FIRE SUPPRESSION SYSTEMS

5.7.1 SCOPE

5.7.1.1 A sprinkler system is installed throughout the entire building including a standpipe system complete with hose connections. Ensure portable fire extinguishers are installed throughout the floor space in all locations required by code. These locations must be indicated on the drawings. All fire protection systems and components are subject to approval by Global Affairs Canada, at design, construction and commissioning phases of the project.

5.7.1.2 Provide multi-purpose, dry chemical, hand held portable fire extinguishers in, hazardous rooms, i.e. electrical, mechanical rooms, etc. with rating as required by the authority having jurisdiction. Fire extinguishers, type to suit hazard, will be positioned throughout the building in accordance with NFPA 10 and local building code requirements. Portable fire extinguishers will be located that they are easily seen and will be accessible at all times. Portable fire extinguishers will be located in or adjacent to corridors or aisles that provide access to exits, and located along the normal paths of travel. Include locations of fire extinguishers on tender drawings.

5.7.1.3 Comply with the following codes and standards as a minimum:

a) National Fire Code of Canada, 2015
b) National Building Code of Canada, 2015
c) NFPA 10: Standard for Portable Fire Extinguishers, 2013
d) NFPA 13: Installation of Sprinkler Systems, 2016
e) NFPA 14: Installation of Standpipe and Hose Systems, 2016
f) NFPA 20, Installation of Stationary Pumps for Fire Protection, 2016

5.7.2 MATERIALS FOR SPRINKLER

5.7.2.1 All materials and products will be listed and bear the approval markings of the Underwriters' Laboratories (UL), Factory Mutual (FM) or equivalent testing and certification agency. Piping will be black steel for all sprinkler piping to ASTM 53.

5.7.2.2 Provide red wire guards for sprinklers in mechanical rooms, electrical rooms, telecommunications closet, demarcation point, and other areas subject to damage.

5.7.3 FIRE PROTECTION FOR INFORMATION TECHNOLOGY EQUIPMENT ROOMS

5.7.3.1 An ITE room will be separated from other occupancies in the ITE area by fire-resistant-rated construction. The fire resistance rating will be commensurate with the exposure but not less than 1 hour.

5.7.3.2 Every opening in the fire-resistant-rated construction will be protected to limit the spread of fire and to restrict the movement of smoke from one side of the fire-resistant-rated construction to the other. The fire protection rating for doors will be as follows:

a) 2-hour fire resistant rated construction – 1½ hour fire protection rated doors;

b) 1-hour fire resistant rated construction – ¾ hour fire protection rated doors

5.7.3.3 Listed portable fire extinguishers will be of the carbon dioxide type. The extinguishers will be maintained in accordance with NFPA 10:

a) Listed extinguishers with a minimum rating of 2-A will be provided for use on fires in ordinary combustible materials, such as paper and plastics. Dry chemical extinguishers will not be permitted;

b) A sign will be located adjacent to each portable extinguisher and will plainly indicate the type of fire for which it is intended or a label affixed to the fire extinguisher will be prominently placed to indicate the type of fire for which it is intended

HEATING, VENTILATION AND AIR CONDITIONING – EFEICIENCY, COMPORT AND AIR QUALITY DESIGN PARAMETERS

5.7.4 ENERGY EFFICIENCY AND BUILDING LOAD AND ENERGY ANALYSIS

5.7.4.1 Design of mechanical systems will comply with energy-efficiency requirements of ASHRAE 90.1 Energy Standard for Buildings, Except Low-Rise Residential Buildings.

5.7.4.2 Cooling loads will be established and supported by engineering calculations and submitted to the departmental representative for review and record purposes. Cooling load calculations and energy analysis will be performed with a computer-based load and energy simulation program using the latest ASHRAE Handbook of Fundamentals developed for the hourly analysis of heating and cooling loads in commercial buildings.

5.7.4.3 The program will be capable of calculating each zone's peak load cooling load as well as the whole building "block" loads. The program will at a minimum calculate: solar heat gains through fenestration, internal heat gains from lighting and equipment, outside air loads (sensible and latent) from ventilation and infiltration, and heat gains or losses through fenestration, walls, floors and roofs.

5.7.4.4 The HVAC load calculations report will include all input and output used in the cooling calculation program, and will include zone peak cooling load results, and the whole building block loads, air handling unit coil selection and psychometric charts.

5.7.4.5 The program will be based on an actual hourly data. Submit reports as a minimum at the concept design stage. The reports will include an executive summary, spaces and zone information, all input sheets, schedules, building construction materials, output sheets and any other relevant data.

5.7.4.6 Internal Heat Gain From Occupancy Levels

a) The minimum occupancy will be determined as per the functional program. Sensible and latent loads per person will be based on the latest edition of the ASHRAE "Handbook of Fundamentals".

5.7.4.7 Internal Heat Gain From Lighting and Other Equipment

a) Lighting and other Equipment Loads: Lighting loads will be based on the actual design loads. For estimation purposes, the electrical load required for heat load calculations will be based on the following:

- 20 W/m^2 for receptacle load; and
- 15 W/m^2 for lighting load.

5.7.5 OUTDOOR DESIGN CRITERIA

5.7.5.1 Consult the outdoor dry and wet bulb conditions from the Carrier Hourly Analysis Program (HAP).

5.7.6 INDOOR DESIGN CRITERIA

5.7.6.1 Provisions will be made for measurement during commissioning of all factors making up the indoor environment as listed in Tables 5.1, 5.2 and 5.3. Alternatively, use data as published in ASHRAE Handbook for outdoor design wet bulb and dry bulb temperatures. Outdoor design criteria will be based on weather data tabulated in the latest edition of the *ASHRAE Handbook of Fundamentals*. Summer design conditions for sensible heat load calculations will be based on the 0.4% dry bulb temperature with its mean coincident wet bulb temperature, if available

Table 5.1: Indoor Temperature

Parameter	**Occupied**	**Unoccupied**	**Measurement Location**
Cooling mode	24˚C	No cooling required	Waist height
Exceptions			
Information Technology		minimum temperature of 22˚C	

Table 5.2: Indoor Humidity

Parameter	Relative Humidity
Summer	50% ± 5% maximum.
Exceptions	
ITE rooms, kitchens, printing rooms, non-air-conditioned rooms	Refer to the project brief

Table 5.3: Other Requirements

Parameter	Value
Ventilation rate	Refer to ASHRAE 62.1- 2016
Air velocity	Minimum 0.10 m/s. Maximum 0.25 m/s
Supply Air Filtration	Pre-filters to have MERV 8 (30 – 35% efficiency) Maximum allowable particle size of 10 microns
	Final filters to have MERV 13 (80 – 90% efficiency) Maximum allowable particle size of 1 micron
Carbon Dioxide	Less than 800 ppm

5.7.7 THERMAL COMFORT – TEMPERATURE AND HUMIDITY

5.7.7.1 **General**

5.7.7.1.1 Systems will be capable of automatically maintaining space comfort conditions for all building load variations throughout the year. Areas with unique load variations will have individual temperature controls. To increase thermal comfort, consider implementing the following suggestions:

a) Avoid return air plenums they create increased dehumidification, increased condensation and increase the energy budget and damage the building envelope.
b) Indoor units installed must include return duct work ducted back to main ventilation air handling unit.

5.7.7.2 **Offices, General Spaces**

5.7.7.2.1 <u>Office Areas</u>

The following HVAC system will be considered to meet Performance Brief requirements:

a) Office spaces will be served by indoor variable refrigerant flow (VRF) multi-split systems to meet load conditions and minimum air circulation rates specified herein; in addition to the supply of 100% outdoor air distributed to individual spaces from an independent base building air handler / heat recovery ventilator.
b) The minimum supply air will not be less than 4 air changes per hour.

c) The above mentioned ventilation rates are applicable for normal office occupancy. The building ventilation systems will have the capacity to provide make-up air for additional exhaust systems for areas, such as, washrooms, kitchenettes, business centers and janitor closets, etc.
d) The operation of the heating, ventilation and air conditioning (HVAC) systems will be extended beyond the business hours by a lead time sufficient to meet the defined ventilation and thermal comfort standards by the start of the business hours.
e) Controls systems will employ occupancy override for after hour operation.
f) Provide digital thermostats to control zones. Thermostats to include liquid crystal display (LCD).

5.7.8 ZONING CRITERIA

5.7.8.1 Separate systems will be provided for interior and perimeter zones.

5.7.8.2 Interior thermostatic control zones will not exceed 139 m^2 per zone for open office areas.

5.7.8.3 Perimeter thermostatic control zones will not exceed 28 m^2 and will be no more than 4.6 m from an outdoor wall along a common exposure. Corner offices will be dedicated zones.

5.7.8.4 The HVAC system will be carefully zoned such that unoccupied areas can be set back for energy conservation without total shutdown.

5.7.8.5 Independent zones will be provided for spaces, such as, waiting rooms, photocopying rooms, meeting rooms, entrance lobbies and kitchen areas.

5.7.9 INFORMATION TECHNOLOGY EQUIPMENT (ITE) ROOMS

5.7.9.1 **Information Technology Equipment Room Criteria**

5.7.9.1.1 All ITE Rooms designated as requiring 24-hour operations will be on stand-by generator power. The building is on 100% emergency back-up. Mechanical requirements for ITE Rooms will be finalized with Departmental Representatives during design development. The following rooms require dedicated and independent HVAC systems 24 hours a day, 7 days a week: Designated Computer Centre (DCC) and the Strong Room which contain servers for security and telephone circuitry. The following parameters are required for sizing both the DCC and Strong Rooms: 1) Temperature: 22°C; 2) Humidity:40% +/- 20%; 3) Heat Load: is approximately 3.5 kW; this does not include heat transmission gain due to building envelope, lighting, people or solar heat gain through windows.

5.7.9.1.2 Provide separate VRF air-cooled split units complete with direct expansion (DX) cooling coil, filter section, supply grille, and thermostat control to maintain temperature and humidity requirements.

5.7.9.1.3 The split units for ITE Rooms do not require precise humidity and temperature control. Condensers on the roof and evaporators in the ITE room will come complete with disconnect switches.

5.7.9.1.4 Provide air-cooled split units with high efficiency compressors and coils with copper tube and aluminum fins. Provide split units with coefficient of performance (COP) of at least 3.5 or EER of 16 or better.

5.7.9.1.5 Only environmentally friendly refrigerants are to be used, in accordance with environmental regulations.

5.7.9.1.6 All indoor units (evaporators) will automatically restart after a power failure. The DCC and Strong Room must be served by stand-by electrical services (emergency generator power).

5.7.9.1.7 The landlord has procured LG VRF multi-split units as their standard of acceptance.

5.7.9.1.8 The following is required for VRF units:

a) Indoor and outdoor unit will be fitted with means to disconnect power to protect personnel during maintenance.
b) Ensure all indoor units are accessible for maintenance, including fan, motor, filter, junction box, disconnect switch, cooling coil and drain pan.

5.7.10 INDOOR AIR QUALITY

5.7.10.1 Indoor Air Quality Criteria

5.7.10.1.1 Ventilation is defined as the supply of clean, odour-free and contaminant-free air to a space in sufficient quantities to dilute and remove space generated air contaminants and odours and to maintain the occupant oxygen requirements. Provide adequate ventilation to maintain proper indoor air quality. The ventilation rates of *ASHRAE Standard 62* are the minimum acceptable for this project.

5.7.10.1.2 Supply air will be evenly distributed to fully cover the entire occupied space. The minimum air supply will be maintained during occupancy under all operating conditions.

5.7.10.1.3 Storage Areas: Provide a minimum ventilation rate of 0.6 L/s.m^2

5.7.10.1.4 Indoor units will be fitted disposable filters and the filter media will be rated in accordance with ASHRAE Standard 52.2. The filters will be MERV 8 or better.

5.7.10.2 Exhaust Ventilation Criteria

5.7.10.2.1 Provide mechanical exhaust and make-up air systems to provide the following minimum requirements:

a) Washrooms: the minimum exhaust rate will be 25 L/s per water closet or a minimum of 10 air changes per hour (ACH); whichever is greater. Washroom areas will have dedicated exhausts and will be negative in pressure relative to surrounding spaces.
b) Telecommunications Closets (TC): all telecommunications closets will have mechanical ventilation through the provision of an exhaust fan and door grille (or use of undercut). Telecommunications Rooms will be ventilated and cooled, as required.
c) Photocopiers/Business Center: Provide an exhaust rate of 2.5 L/s.m^2. As per ASHRAE Standard 62.1-2016.
d) Kitchenette / Lunchroom: Provide an exhaust at a rate of 1.5 L/s.m^2. As per ASHRAE Standard 62.1-2016.
e) Pedestrian Screening, Waiting Area and Immigration Booth (Public Side): the indoor unit serving these areas will not serve the Mission staff. Supply air to Immigration waiting area and public Immigration booth can be a mixture of outdoor air and return air. However, this space must be kept under less pressure relative to Mission staff.
f) Electrical Room: ventilation for electrical rooms will meet the requirements of the Canadian Electrical Code CEC 2-318 and will have mechanical ventilation through the provision of an exhaust fan and door grille / undercut.

g) Demarcation Point: will have mechanical ventilation through the provision of an exhaust fan and door grille / undercut provided there is no significant heat dissipation from electrical equipment.

5.8 HEATING, VENTILATION AND AIR CONDITIONING – SYSYTEMS, EQUIPMENT AND SYSTEMS DESIGN

5.8.1 GENERAL REQUIREMENTS FOR HVAC SYSTEMS

5.8.1.1 Provide systems to meet indoor air quality (IAQ) standards as described here.

5.8.1.2 Heating, Ventilating and Air Conditioning (HVAC) systems will be designed in accordance with the National Building Code of Canada and the National Fire Code of Canada for basic design requirements and with the Technical Design Standards included in the Handbooks published by ASHRAE. The HVAC system will allow individual operation of particular areas while operating the remainder of the floor area using the unoccupied control strategies. HVAC systems to be energy efficient at all part load conditions.

5.8.1.3 All work regarding HVAC systems will be coordinated with other divisions including architectural, structural and electrical.

5.8.1.4 Provide sleeves for all ductwork crossing through walls and floors.

5.8.1.5 Provide dielectric coupling where dissimilar metals are joined.

5.8.1.6 Provide pipe hangers and supports for piping, duct work and equipment. Provide pipe and duct work identification and flow direction indicators.

5.8.1.7 Structural openings for HVAC services will be sealed with fire stop compound and waterproofed.

5.8.2 DUCTWORK

5.8.2.1 **Design and Constructions Standards**

5.8.2.1.1 Ductwork, reinforcing and sealing techniques is to be designed in accordance with ASHRAE: Handbook of Fundamentals, and constructed in accordance with the ASHRAE: HVAC Systems and Equipment Handbook, and the SMACNA Design Manuals.

5.8.2.1.2 The contractor will supply and install all ducting, flexible connections, supply diffusers, exhaust registers, return grilles and dampers. Energy consumption, security and sound attenuation will be major considerations in the routing, sizing and material selection for the air distribution ductwork.

5.8.2.1.3 All ductwork will be of galvanised steel, lock forming quality, G90 to ASTM A653.

5.8.2.1.4 Duct work will be sealed. Insulation will be applied to the outside of the duct work only. All joints will be a proprietary system.

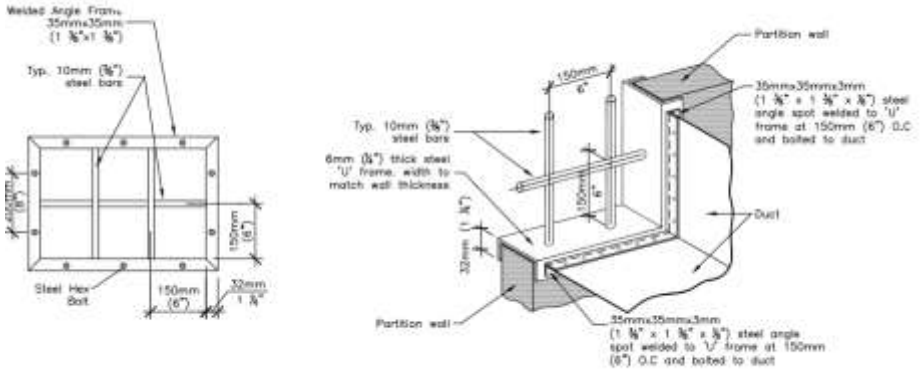
5.8.2.1.5 All ductwork joints and all connections to air handling and air distribution devices will be sealed with mastic— including all supply and return ducts and all exhaust ducts.

5.8.2.1.6 All services (i.e. ducts, pipes, etc.) running between different rooms will be acoustically insulated so that the resulting sound levels and acoustic criteria are not compromised (i.e., minimize "cross-talk" between various rooms).

5.8.2.1.7 All ductwork connections to equipment having motors or rotating components will be made with 150 mm length of flexible connectors.

5.8.2.1.8 Provide sleeves for all ductwork crossing through walls or floors.

5.8.2.1.9 Where ducts penetrate physical resistant walls, security bars are required when duct work penetrating these walls exceeds a surface area of 0.06 m^2 (93 sq. in.).



FRONT ELEVATION AT TYP. DUCT GRILLE

ISOMETRIC VIEW DETAIL AT TYPICAL DUCT GRILLE

5.8.3 AIR HANDLING SYSTEMS DISTRIBUTION COMPONENTS

5.8.3.1 Diffusers, Registers and Grilles

5.8.3.1.1 All grilles and diffusers will reflect top-tier high class standards. Equipment will be selected considering required flow rate, terminal velocity, throw, discharge air pattern, acceptable pressure loss, uniform air distribution, and acceptable sound level.

5.8.3.2 Balancing and Fire Dampers

5.8.3.2.1 Balancing Damper

a) Provide a branch take-off at each diffuser.
b) All dampers will be capable of tight shut-off with low leakage.
c) Install all dampers in accordance with SMACNA and manufacturer instructions. Balancing dampers will be fitted to all branch ducts as required to achieve correct balancing of the HVAC system.

5.8.3.2.2 Fire Dampers

a) Provide fire dampers in ducts entering and leaving mechanical rooms, ducts through floors not encased in a fire shaft, ducts entering and leaving fire shafts and ducts penetrating fire walls and fire barriers.
b) All fire dampers will withstand fire for at least 90 minutes.

5.8.3.3 Connections

5.8.3.3.1 Flexible Connections: Provide flexible connections at all fan inlets and outlets. Maximum flexible duct: 1.5 m at the diffusers.

5.9 START-UP, TESTING ADJUSTING AND BALANCING (TAB)

5.9.1 START-UP

5.9.1.1 The specifications will indicate that factory representatives will be present for start-up of all major equipment, such as, the installation of new VRV multi-split units.

5.9.1.2 Control functions will be proven fully operational and read out design flow rates before testing and balancing starts.

5.9.1.3 Provide start-up and verification reports.

5.9.2 TESTING, ADJUSTING AND BALANCING

5.9.2.1 During the design development stage of the project, provide the proposed methodology and procedures for performing TAB.

5.9.2.2 Provide the procedures for TAB and copies of verification sheets in the construction specifications.

5.9.2.3 TAB is to be carried out for air moving system, hydronic, and plumbing systems.

5.9.2.4 Test low pressure ductwork at static pressure of 500 Pa. Leakage will not exceed 5% of the design air flow.

5.9.2.5 Provide testing and verification of controller/programmable thermostats. This will include pre-installation, completion of operational and acceptance tests.

5.9.2.6 Provide TAB report. The report will include schematic of as-built system. Submit preliminary TAB report and obtain DEPARTMENTAL REPRESENTATIVE authorities approval for all procedures before finalizing the TAB report.

5.9.2.7 The Consultant will verify at least 30% of the measurements of TAB.

End of PART 5

RELOCATION OF THE CONSULATE GENERAL OF CANADA SAN SALVADOR

PROJECT BRIEF

PART 6 ELECTRICAL ENGINEERING

Project Number: L-SSAL-100

PART 6 ELECTRIVAL ENGINEERING

6. ELECTRICAL REQUIREMENTS

6.1. Introduction

6.1.1. This section identifies the technical criteria for the engineering calculations and design of the electrical distribution, lighting, fire alarm and life safety systems which will form part of the new Canadian Chancery in San Salvador.

6.1.2. Electrical systems and equipment will be available locally fail-safe and of a commercial/high end grade quality consistent with anticipated minimum life expectancy of 25 years. The electrical systems must be responsive to each functional requirement of each area. They will be designed, constructed to and commissioned to ensure the following:

6.1.2.1. Occupant safety
6.1.2.2. Reliability;
6.1.2.3. Maintenance and operation simplicity;
6.1.2.4. Energy conservation;
6.1.2.5. Cost effectiveness;
6.1.2.6. Economy of installation; and
6.1.2.7. Availability of spare parts.

6.2 Scope of work

Phase 1. Site verification:

6.2.1. Assessment the newly installed electrical infrastructure including the assessment of the main grounding infrastructure and the work required to provide communication grounding and bonding infrastructure compliant to EIA/TIA-607.

6.2.2. The Design consultant will be responsible of performing a two-point bonding measurements in the main telecom grounding riser, or Telecommunication Bonding Backbone (TBB), following the EIA/TIA-607 procedure, a complete report with conclusion and recommendations will be delivered before the first stage of design.

6.2.3. System verification of the existing electrical distribution, lighting, lighting control, lightning, fire detection/ signaling system and life safety systems, complete report with conclusion and recommendations as indicated in section 6.3.

Phase 2. Design:

6.2.4. Provide design for a complete electrical system as specified herein to meet the general and the specific needs to supply electrical power and telecommunications & security raceway systems for the new Canadian Chancery in San Salvador.

6.2.5. The Design consultant will be familiar with “Office Building Torre Quattro Condominium’s adaptations manual” and understand the existing infrastructure as well as the process for approval and restrictions that could be encountered during construction. The completed design will meet the most current standards within the constraints of existing structure. Understanding the exact requirements of the user and building condominium is essential to effectively implement this project.

6.2.6. The new design will meet the current NFPA and/or Canadian standards within the constraints of the existing structure. In case of conflict the most stringent code will apply.

6.2.7. A comprehensive arc flash hazard calculation will be performed on the electrical infrastructure to determine the arc flash hazard for the whole electrical infrastructure within the occupied floor by the Canadian Chancery.

6.2.8. The new electrical demand load will be established and supported by engineering calculations and submitted to the Departmental Representative. All drawings and calculations will be certified by the selected proponent's Professional Engineer. The electrical load study will reflect the actual demand load rather than the connected load the design must apply demand and diversity factors for non-coincidental electrical loads.

6.2.9. Total estimated electrical load required by the new Canadian Chancery will not exceed the allocated power density offered by the landlord a total of 30.6 kW, at a nominal voltage of 480-220/127 Volts, 3 wires + 1neutral + 1 ground 60 Hz, Wye configuration.

6.2.10. The electrical design also includes sizing and routing of the cabling containment for ICT and security system, main routing will be done using EMT conduits; refer to ICT and Security section for specific requirements.

Phase 3. Commissioning

6.2.11. The Design consultant will also be present during the start-up, testing, and balancing of all electrical systems and will actively participate with the verification of the fire alarm system on the chancery. The work include but is not limited to the following:

6.2.11.1. Wiring and raceways;

6.2.11.2. Surge Suppression Devices of category B and C, as required

6.2.11.3. Exit signs;

6.2.11.4. Security lighting;

6.2.12. Administration for components such as but not limited to shop drawings, record drawings, samples, codes verification, attendance at meetings and assisting with the commissioning process;

6.2.13. The design consultant will retain responsibility for their design – if changes are required during construction (i.e. to address site conditions) the design consultant must approve the proposed modification.

6.2.14. Consultant will be responsible for all co-ordination for the electrical work as specified herein and all of the other electrical work performed by the other divisions.

6.2.15. Others items as outlined in the commissioning section.

6.3. Building system analysis

6.3.1. At the start of the mandate the consultant will provide a report with conclusion and recommendation resulting from a comprehensive building survey and systems analysis of the electrical infrastructure. The report will provide details such as but not limited to:

6.3.2. Assessment of the 4 panels provided by landlord including main feeder size and the recommended strategy to implement a single metering for the floor occupied new Canadian Chancery.

6.3.3. Assessment the base building mechanical equipment located on the roof and proper sizing of the electrical infrastructure.

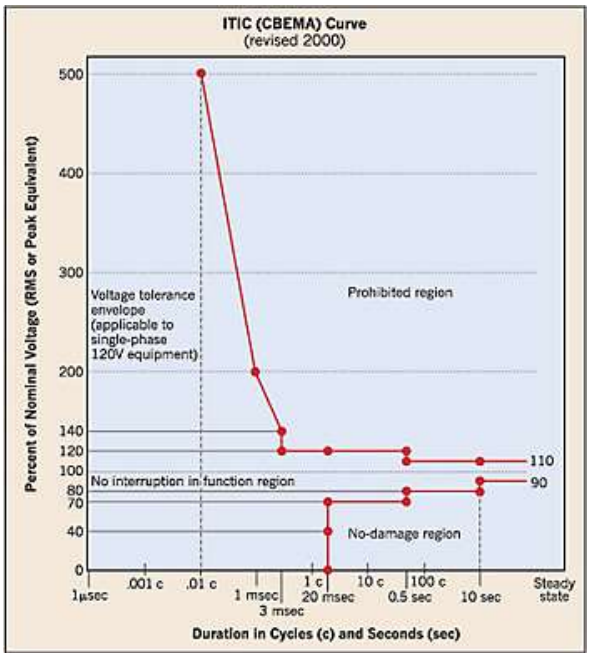
6.3.4. Assessment the base building main grounding infrastructure and the work required to provide communication grounding and bonding infrastructure compliant to EIA/TIA-607, including performing a two-point bonding measurements in the main telecom grounding riser, or Telecommunication Bonding Backbone (TBB), following the EIA/TIA-607 procedure.

6.3.5. A comprehensive arc flash hazard calculation will be performed on the electrical infrastructure to determine the arc flash hazard for the electrical infrastructure within the occupied floor by the Canadian mission; data survey for this calculation will be included during the initial building assessment.

6.3.6. Assessment of the base building Fire Alarm system and the interface with the Canadian Chancery, provide a description of the building Fire Alarm (F/A) detection system including the modification to the landlord F/A system. Confirm the ability of the existing F/A system to provide both detection and notification and to provide a dry contact for the consulate CESS.

6.3.7. Consultant will ensure that all requirements are capture at this stage, including description of back-up power, fire protection and life safety systems containing available capacity of each system

6.3.8. Provide a 3 day power quality analysis to determine the quality of the power and the requirement for power conditioners. Power quality analysis to be done using a power quality analyzer such as the Fluke 430 series or similar. Power quality analysis will be conducted to assess the supply voltage tolerances, dips and swells, harmonic distortion, flickers, transient and frequency of power outages is the area. For the purpose of establishing the power quality levels, we recommend that the engineer provide a report base on the Information Technology Industry Council (ITIC) power tolerance curve as shown below:



6.3.9. From all the indices measured, a report will be provided to GAC Departmental Representative illustrating the actual level of each disturbance of the building electrical infrastructure. If required the consultant report will provide recommendations to mitigate the existing situation.

6.3.10. Identify challenges and issues that may arise with the proposed layout considering GAC requirements. For the purpose of this report, electrical systems are considered to be comprised of but not limited to: Power distribution, lighting and lighting control and fire detection systems;

6.3.11. Determine which part of the existing building services will be retained, upgraded or relocated, to ensure compliance with the requirements stated in the design brief.

6.4. Performance Requirement

6.4.1. Electrical systems and equipment will be compatible and coordinated with mechanical, architectural and other disciplines including interior design, fire protection, security and communications. All electrical systems will become integral part of the architectural design, well incorporated into building functional design and will be aesthetically pleasing.

6.4.2. Complete the design of the electrical systems based on the requirements contained in this project brief. These requirements are intended to set minimum criteria and provide guidance to the consultant who is to complete the electrical design.

6.4.3. It will be possible to shutdown major equipment for maintenance without affecting critical loads within the occupied floor by the Canadian chancery.

6.4.4. Provide suitable maintenance access panels and openings for all electrical systems and equipment particularly where drywall ceiling are located. Distribution junction boxes will be accessible at all time without removing any part of the permanent building structure. Provide sufficient clearances from building structure or other equipment to allow for removal and replacement for all electrical systems and equipment.

6.5. Sustainable Design

6.5.1. All systems will provide pollutants-free operation. Systems will be designed to use a minimum amount of energy consistent with required performance standards.

6.5.2. Conservation of energy consumed by electrical systems is also dealt with in the area of lighting power density and control. Illumination will be provided by approved and listed RP-1 compliant Light Emitting Diodes (LED) luminaires for glare control as the primary source throughout the office and technical room areas.

6.5.3. Lighting Power Density (LPD) for the lighting infrastructure will exceed ASHRAE 90.1 table 9.5.1 by 30% (about 6w/m²) for the overall system efficacy and control requirement.

6.5.4. Lighting control systems will ensure that lights are controlled with either a vacancy or occupancy mode motion detections.

6.5.5. All meeting rooms and multi-purpose rooms will have dimmable control to allow illumination levels to be modified to accommodate changing tasks.

6.6. Codes, Standards and Regulations

6.6.1. Refer to Part 1: General Project Requirements – Codes, Standards and Regulations, for a complete list of applicable codes and standards.

6.6.2. Electrical systems will meet or exceed the requirements of the following codes, standards and Guidelines. In case of conflict the most stringent code will apply:

6.6.2.1. NFPA 70 (NEC) latest edition;

6.6.2.2. CAN/CSA C22.1 - 09: Canadian electrical Code, Part 1

6.6.2.3. NFPA 72 National Fire alarm code latest edition

6.6.2.4. Canadian Standards Association (CSA) certification mark or equivalent certification marks such as but not limited to (UL, ULM, ULC);

6.6.2.5. ASHRAE 90.1 – Energy Standard for Buildings;

6.6.2.6. Illuminating Engineering Society of North America (IESNA)

6.6.2.7. Canada Labour Code Part IV;

6.6.3. The following reference is a guideline to the commissioning process:

6.6.3.1. NFPA 3 Standard for Commissioning of Fire Protection and Life Safety Systems.

6.6.3.2. NFPA 4 Standard for Integrated Fire Protection and Life Safety System Testing

6.6.3.3. ASHRAE Guideline 1-1996: The Fire Protection Commissioning Process.

6.6.3.4. ASHRAE Guideline Zero- 2013 – The Commissioning Process.

6.6.3.5. ASHRAE Guideline 4-2008: Preparation of Operating and Maintenance Documentation for Building Systems.

6.7. Seismic Protection

6.7.1. El Salvador is considered a high seismic zone area. Provide seismic restraints for all cable trays. Cable trays will be laterally and vertically restrained for seismic load requirement. Refer to Structural Engineering and all applicable codes and standards for seismic design criteria.

6.7.2. Independent chain anchors OR stainless steel cables support for all light fixtures will be required to reduce the effect of a collapsed ceiling.

6.8. Electrical Service and Distribution

6.8.1. All electrical panels will be equipped with a category “B” TVSS. All Transient Voltage Surge Suppression will have the lowest possible clamping voltage and be able to provide 140 kA (8/20) surge protection in accordance to UL 1449 and IEEE- Std C62.72.

6.8.2. A single panel to provide service to the Canadian floor was requested; however Consultant will verified appropriate sizing for cable and protection of this panel as part of the building system analysis report indicated before.

6.8.3. Arc flash signs and labels will be provided on all distribution boards, panel boards and distribution switches so that they are clearly visible to personnel before examination, adjustment, servicing or maintenance of the equipment.

6.9. Secondary Metering

6.9.1. Provide and install at the main distribution panel a secondary distribution meter to monitor the internal load consumption of the Consulate. Modern microprocessor based metering is preferred to provide real time metering information. Metering will include basic energy consumption (kWh). The following measurements will be provided: kVA, kW (demand), power factor, volts, amps, and hertz.

6.10. Panel boards

6.10.1. If not already installed electrical panel will be complete with a main breaker.

6.10.2. All new panels to be provided with hard-drawn copper bus bars of 98% conductivity. Aluminium busbars will not be accepted.

6.10.3. Provide new separate power panels for general and workstation outlets, lighting and mechanical equipment.

6.10.4. All system fault current levels will be determined and all equipment rated to withstand fault current stresses. The minimum short circuit rating for 220/127 V panelboards and breakers will not be less than 10,000A, appropriate withstand current will be specified according to the calculation indicated in section 6.4.

6.10.5. Branch circuit panel boards will be bolt-on designed for replacement without disturbing the adjacent units.

6.10.6. Panel boards for branch circuit will be provided with 25% spare ampacity and 25% spare circuit;

6.10.7. Panel boards serving lighting will be provided with 25% spare ampacity and 25% spare circuit;

6.10.8. All panelboards must be fully populated with breakers

6.11. Conduits & Raceway

6.11.1. The authorized raceway systems will consist of Electrical Metallic Tubing (EMT) complete with manufactured couplings and connectors, wireways, and / or cable trays. Flexible armored cable and/or flexible conduits can also be used as long as the installation method are done according to the Article 300 of the National Electrical Code limitation and do not contravene the latest issue of NFPA 70 (standard adopted by Torre Quattro). In area where the ceiling will be exposed it will be strictly forbidden to have flexible armored cable or flexible conduit. In those area consultant will take extra precaution to have the electrical services (conduits and boxes) square to the building lines.

6.11.2. The use of PVC will be permitted ONLY when embedded in at least 50 mm of the concrete.

6.11.3. Close coordination with interior designer and furniture is critical for the selection of the more suitable electrical distribution, solution choose will be clean, elegant and compliant with all the requirements stated in this brief.

6.11.4. Independent raceways are required for normal power loads, lighting loads, life safety systems, mechanical systems, security and telecommunications horizontal pathways. The telecommunications pathway serves all telecommunications needs, including voice and data, refer to section

6.11.5. Install raceways in ceiling and floor spaces, parallel or perpendicular to building lines.

6.11.6. Every effort will be made to locate IT/Security cable trays as close as possible to the finished ceiling. The type, size and location of IT/Security cable trays will be provided by Department Representative. Any conflicts with other systems in the ceilings will be pointed out and resolved with departmental representative. The minimum clearances for IT/Security cable trays will be:

6.11.6.1. 150 mm vertical clearance, excluding depth of cable trays, between cable trays installed in tiers;

6.11.6.2. 300 mm vertical clearance from the top of the cable tray to all ceilings, heating ducts, and heating equipment and 150 mm for short length obstructions;

6.11.6.3. 600 mm horizontal clearance on one side of cable trays mounted adjacent to one another or to walls or other obstructions, where the width of the cable tray installation does not exceed 1 m; and

6.11.6.4. 600 mm horizontal clearance on each side of cable trays mounted adjacent to one another, where the width of the cable tray installation exceeds 1 m.

6.12. Conductors and Cables

6.12.1. All new secondary branch power and lighting distributions will be 5 wires with separate neutral and ground conductor. From the main distribution all the way to the final sub-circuit.

6.12.2. Voltage drop in an installation will be based upon the calculated demand load of the feeder or branch circuit. Voltage drop will not exceed 3% in a feeder or branch circuit.

6.12.3. All conductors will be copper.

6.12.4. Power cable and conductors in the ceiling plenum will be installed in conduit.

6.12.5. Cable installed in open or ventilated cable tray will have an outer jacket compliant to Canadian flame spread FT-6 standard and/or UL 1685 and UL 1666.

6.12.6. Cable utilized for fire alarm detection and signalling circuits will be certified for that use.

6.12.7. All fire alarm system wiring will be solid copper, installed in conduit or fire rated cable with sheath having a combined 1 hour fire protection. Stranded wiring will not be used.

6.12.8. All branch circuit conductors will be copper, minimum #12 AWG, rated at 90ºC with approved 600 Volt insulation.

6.12.9. All circuit to be provided with a separate neutral conductor. Common neutral conductor will not acceptable for branch circuits.

6.12.10. All new power feeders will incorporate 100% rated neutral however 200% rated neutral must be provided for all feeders providing electrical services to GAC special rooms' panel boards.

6.12.11. Conductors to be color-coded according to the phases, as per NFPA 70.

6.13. Wiring Devices

6.13.1. All electrical outlets will be specification grade NEMA 5-15R configuration.

6.13.2. Close coordination with interior designer is required to determine the best solution to determine outlets location considering that each workstation will be supply with a small UPS.

6.13.3. Provide an electrical consolidation points adjacent to the IM/IT service for all pre-wired furniture (if selected) on building's columns or wall as close to the furniture as possible. Coordinate the location of the consolidation points with the department representative.

6.13.4. Every close office will have at least 4 duplex Industrial grade receptacles NEMA 5-20R, one per wall minimum.

6.13.5. All NEMA 5-15R receptacles will be protected by a 15 amps breaker there will not be more than 8 duplex receptacles per 15 amps circuits.

6.13.6. Color for all receptacles will be determined in conjunction with the Architect and the departmental representative. Receptacles will be located within 600mm of the voice data outlet. Circuits supply workstation will only be used for that specific load.

6.13.7. Outlets located within 1m of a sink will be Ground Fault Interruption class A.

6.13.8. Every business centers location (printer, photocopier and faxes) will have 3 duplex receptacles; each connected on dedicated 15 amps circuits. The departmental representative will indicate all locations for computers and printer stations.

6.13.9. For the kitchenette/lunch room, coordinate with architect the exact location of outlets. Make allowance for a minimum of 4 outlets above counter on 2 dedicated circuits. Outlets located at kitchen counter will be of the 5-20R configuration.

6.13.10. All receptacles will be polarized properly.

6.13.11. Above floor service fitting will be required at the entrance X-ray and metal detector and under fix furniture and tables each on a dedicated circuit. Poke-through and working on slab is not permitted except for special cases in which the Owner is obligated due to special circumstances, and in such cases there will be a conditional approval from the Building's structural designer according to the Torre Quattro manual, therefore consultant will lead the negotiations with landlord for trenching/poke through of the floor slab to bring electrical services to the floor monument. A willow on floor wireway system to be investigated as an alternative solution to above floor service fitting and floor trenching however departmental representative approval before proceeding with this option.

6.13.12. Provide convenience/housekeeping receptacles in corridor arranged in a manner that no point in a hallway will be more then 5m from a duplex receptacle as measured by the shortest path that the supply cord of an appliance connected to the receptacle would follow. Convenience or housekeeping outlets will be on their own circuit.

6.14. Lighting

6.14.1. Lighting will be designed to assist in defining the overall building architecture, address organizational safety and security requirement and address the multiple task requirements of individuals in different type of spaces within the building.

6.14.2. Special lighting will be designed for high profile areas identified by GAC such as but not limited to screening and main waiting areas, IMC main waiting area, conference & training rooms, collaborative area, staff lunchroom and HOP/deputy HOM & HOM Offices. Consideration for these areas will be given to options offered by direct / indirect lighting troffer, elegant suspended light fixtures, cove lighting and directional pot lights. Only fully dimmable LED fixtures are recommended for installation in these areas.

6.14.3. Special lighting for artwork location to be identified by GAC Interior Designer.

6.14.4. The arrangement of lighting fixtures will be such as to provide an illumination with uniformity of 0.8 (minimum / average = 0.8) over the work area and provide maximum flexibility in rearrangement of the space. Lighting designs will take into account the anticipated light obstruction and absorption of the partitions and systems furniture screens.

6.14.5. Luminaire Dirt Depreciation (LDD): LDD takes into account the dirt accumulation on the lens or other components of the luminaire that may reduce light output. Because most of the environments in which luminaires are placed are clean (interior rooms) and are assumed to be well-maintained LDD will be establish at .98

6.14.6. Lamp Lumen Depreciation (LLD): for LEDs assumes a point in time that approximates the mean life of familiar sources that have traditionally been defined as 40% of their rated life. Conservatively, LEDs at a comparable time have lost about 12-13% of their light output. Therefore LLD is establish at .87

6.14.7. LLF = LDD x LLD = .98 x .87 = .85

6.14.8. All new luminaires will be rearranged to match the interior maintained illumination levels for the office area as per the table below;

Description of task / interior space	Illumination (lx)
at entrance lobby	325 lx
at waiting area	325 lx
at visitor orientation areas	220 lx
in washrooms	220 lx
in corridors	220 lx
in circulation spaces	220 lx
at workstations	*500 lx
in conference rooms, meeting rooms and HOM office (fully dimmable)	0 to 500 lx
in kitchen(s)	500 lx
in library(fully dimmable)	0 to 500 lx
in stairwells	220 lx
in meeting/training rooms (fully dimmable)	0 to 500 lx
in special network rooms	500 lx
in multi-purpose rooms (fully dimmable)	0 to 500 lx
in interview booths	500 lx
in electrical / telephone rooms	500 lx
in storage rooms	325 lx

***** This value can be reduced to 400 lux provided, the lighting system has sufficient flexibility to allow the luminaries to be readily relocated at minimum cost to suit workstation locations and lighting circuits are arranged with adequate capacity to handle 20% of additional luminaries if required.

6.15. Lighting Fixtures

6.15.1. All luminaires will by IES RP-1 compliant for glare control and have LED lamps Compliant with IES standards LM-79, LM-80 and TM-21 with a color rendering index above 85 with a color temperature of 3500°K. New fixture will be compatible with both type of ceiling finishes (suspended and open ceiling) and will be utilized throughout the office space areas. The new layout will match the workstation positions and the required level of lux for each definite location.

6.15.2. Luminaries and associated fitting will always be of high end commercial design. Careful consideration to be taken in the design of lighting systems regarding servicing of the luminaries and replacement of LED lamps and driver.

6.15.3. All fixtures installed in a T-bar ceiling will be independently supported from the ceiling structure by means of two (2) stainless braided steel cable 1.5mm diameter minimum, secured to the underneath of the concrete slab.

6.15.4. “Troffer” luminaries designed for standard use of lenses will accept lenses and louvers of a minimum 16 mm thickness, RP-1 compliant for glare control.

6.16. Lighting Control

6.16.1. In close offices provide ceiling mounted dual technology ultrasonic/passive infrared motion control to ensure a manual-on/off and automatic off feature in either a vacancy or occupancy mode. Automatic off setting to be between 30 sec to 30 minutes of the person leaving the space. Preset all sensors to 30 minutes on completion of installation, while ensuring the Passive Infrared relay does not provide false detection which will activate the sensor.

6.16.2. The main control medium for the open area will be centrally located by the main entrance of the floor area.

6.16.3. Light fixtures along the window will be complete with daylight control to harvest daylight.

6.16.4. Circuit breakers will not be used as manual lighting control and the use of contactors will be limited to allow zone segregation for possible system maintenance requirement.

6.16.5. Provide dimmable switches for all meeting rooms.

6.17. Emergency/Security/Exit lighting

6.17.1. All emergency lighting and exit lighting will meet the requirements of the NFPA 101 and NBCC article 3.2.7.3 whichever is more stringent.

6.17.2. For emergency evacuation, a combination emergency lights and exit signs will provide to an average level compliant to both NBCC article 3.2.7.3 and NFPA 101 for illumination at tread level in principal access routes to exits, corridors and stairwell. In accordance with article 3.2.7.3.(1) of the National Building Code of Canada, emergency lighting to an average illumination level of not less than 10 lux at floor or thread level is required within the principles routes providing access to exit within an open floor area, within exit stairs, and service rooms.

6.17.3. Provide and install emergency light unit on the ceiling or walls of meeting/training rooms and GAC service/special rooms such as but not limited to: electrical room, Strong Room, and DCC.

6.17.4. Emergency light unit will be complete with remote heads, consisting of self-contained rechargeable battery, battery charger, status indicator, test switch and pilot lamp. Safety lighting battery packs will provide for a minimum of 2 hour duration service. Battery packs to be provided with a self-diagnostic circuitry card (auto-test). Equipment in public spaces to be of the highest elegance and quality.

6.17.5. Provide new exit sign light fixtures identical to base building exit sign. New exit signs to be LED illuminated complete with directional signs where required to clearly demonstrate egress and direction to egress. All exit signs to be provided with a battery pack providing a minimum of 2 hour duration service. Battery packs to be provided with a self-diagnostic circuitry card (auto-test). Exit sign in public spaces to be of the highest quality elegance.

6.17.6. Provide security lighting in all area of the mission. Security lighting is lighting that remain on during unoccupied hours. When security lighting also functions as emergency lighting, separate circuits and emergency ballast will be required.

6.18. Grounding and bonding

6.18.1. Grounding system must be carefully design to ensure an adequate path to ground.

6.18.2. Telecommunication grounding and bonding will comply with the latest edition of theTIA-607.

6.18.3. All non-current carrying metallic portions of electrical equipment will be grounded. This includes transformer cabinets, all distribution panel cabinets, motor frames, conduit, cable trays, mechanical ventilation ducts etc.

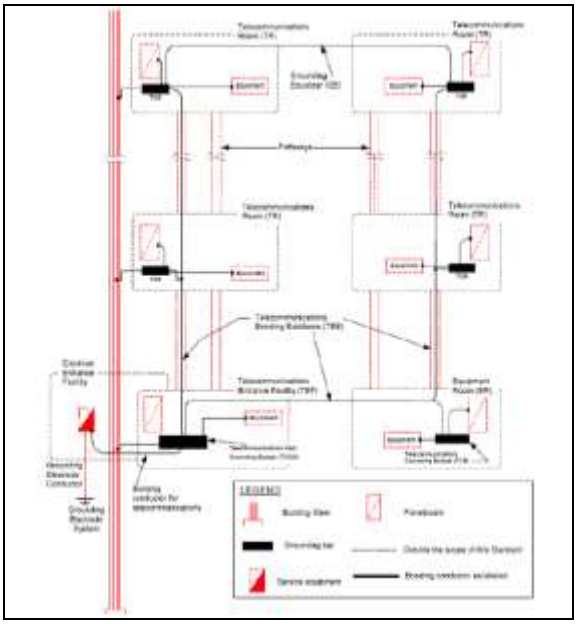
6.18.4. All electrical systems will be connected to ground with separate continuous ground conductors. All power distribution panels will have grounding termination busbars secured to the panel structure.

6.18.5. All new cable or conduit raceway power supply systems will have separate designated grounding conductors. Metallic raceway systems are not accepted for grounding purpose.

6.18.6. Provide a #6 AWG bare copper conductor for the grounding of the satellite communication dish (BGAN) to the building lightning protection system.

6.18.7. Provide a separate 2/0 AWG insulated ground conductor from the main building telecom system grounding point or the main electrical grounding system to the floor Demarcation Point, Telephone Closet, strong and DCC room's backboard. All grounding conductors will be installed in a conduit from the connection point at origin. Conductor to be colour green or green with yellow stripes. At each backboard, a Terminal Grounding Bar (TGB) will be installed for the connections of the 2/0 AWG grounding conductors. TGB will be securely installed to the backboard in each of the above mentioned rooms. Additionally 3m of # 10 AWG insulted grounding conductor will be installed on each TGB for future connections by others.

2/0 AWG main grounding conductor, terminal grounding bar and #10 AWG grounding conductor to equipment



Example of bonding and grounding infrastructure for telecom according to TIA-607

6.19. Identification

6.19.1. Identify all equipment, wiring, raceways and control operating devices by function. All equipment identification will be with permanent nameplates in English and Spanish.

6.19.2. All distribution panels will have a permanently attached identification nameplate. All distribution panels will have a complete and typewritten "Circuit Directory", in English and permanently installed on the distribution panel.

6.19.3. All electrical circuits and conductors will be identified at the distribution panel. Circuit directories affixed to distribution panels will be comprehensive in nature and typewritten or computer printed. Each switch control and outlet face plate will have the circuit and distribution panel number identification neatly installed on it using some form of self-adhesive labeling or identification system.

6.19.4. Provide identification at each starter; disconnect switch and /or controls.

6.19.5. For electrical systems components installed above ceiling, provide proper labelling at ceiling level indicating the type of device and its associated circuit number.

6.19.6. Posted operating instructions in English and Spanish are required for manually operated electrical systems. Instructions will be framed and posted adjacent to the major equipment of the system.

6.19.7. All conduit or raceway systems are to be color coded on the exterior with color bands indicating system type as follows:

System	Primary color // Secondary colour
Fire Alarm	Red
Normal Power	Yellow
Ground	Green
Information Technology	Orange
Internet	Orange // Yellow
Security	Blue
CESS	Blue // Yellow
CSAS	Blue // Black
CCTV	Blue // Green

6.20. Motors and Motor control center

6.20.1. Determine the characteristics and operating sequences of the mechanical equipment and ensure that the proper starters, auxiliary components, and disconnects are clearly provided for.

6.20.2. Grouped motor control centers will be used where more than six (6) starters are required in an equipment room. Motor control center construction will include either circuit breakers or fuses. Minimum starter size will be size 1 in motor control centers. Each starter will have three overload relays.

6.20.3. Motor control centers are to be modular free-standing assemblies.

6.20.4. All mechanical rotating (fan, motor, duct heater, chillers, condensers, fan coil, etc.) equipment to be provided with unfused disconnecting means/switch at each unit, if the equipment is not in the vicinity of power supply or more than 8 m away from the power supply source.

6.20.5. Preference will be given to high efficiency design motors. Motors 550 W (¾ HP) or larger will be three phase.

6.20.6. The design of motor control centers will incorporate time delay relays to reduce starting KVA on the generator.

6.20.7. Reduced voltage starters will be used for larger motors to reduce starting KVA.

6.20.8. Each drive control will be provided with an external mechanical and locked disconnect handle.

6.20.9. Final motor connections will be made with liquid-tight flexible metallic conduit.

6.20.10. Motors will be earth bonded using an insulated bonding conductor originating from MCC.

6.20.11. Permanent nameplates in English and Spanish identifying motor drives will be put up on front door assemblies.

6.21. Fire Detection and Alarm System

6.21.1. The Canadian embassy is required to have a full fire detection and signaling system installed on its floor. The extension of the base building fire alarm system to all initiating devices and signaling appliances would be the preferred option as accepted by the building management. Fire alarm detection system will meet the requirements of the NBCC 2010, ULC – S524 -04 and NFPA 72. In case of conflict the most stringent code will stringent.

6.21.2. Canadian floor fire alarm system will be fully connected to the base building SIEMENS fire alarm panel and mass notification system; consultant will coordinate closely with landlord to ensure a fully functional and compliant system, all devices will be compatible with the base building system.

6.21.3. According with the “Adaptation Manual Torre Quattro”, the floor will be provided with 4 modules wired to the base building fire alarm panel. As part of the survey visit, consultant will confirm the amount of available signals and include any additional module (if required) as part of the design.

6.21.4. Initiating devices will consist of photoelectric smoke detectors, rate of rise heat actuated detectors, fixed temperature heat actuated detectors and manual stations.

6.21.5. The signaling appliances will be in the form of combination strobe and horn similar to the remaining floors of the building. Signaling appliances will provide the same tone as the remainder of the building.

6.21.6. Locate audible notification appliances below the level of suspended ceilings on permanent interior walls, and not on the moveable partitions. Where required, the audible notification appliances may be mounted in the suspended ceilings in such a manner not to impose the weight of the audible notification appliances on the acoustic ceiling tile. Audible devices to provide a minimum of 65db or 10 dB above ambient noise throughout.

6.21.7. Provide a normally closed dry contact from the main fire alarm panel to the Strong room for connection to an auto-dialer (connection contact to auto dialer by others). The main fire alarm panel to be programmed to activate the contact in the event of a fire alarm detection device or the flow switch is activated on the Canadian floor.

6.21.8. The interaction of the fire detection/alarm system and the security systems will be established in consultation with the departmental representative.

6.22. Commissioning (Cx)

6.22.1. Commissioning is a process that takes place at all stage of the project. At concept / design stages Cx activities serve to assure that the Owner's project requirements for items such as energy efficiency, sustainability, indoor environmental quality, fire protection & life safety, etc. are sufficiently defined and adequately & accurately reflected in the contract documents. It will provide the opportunity to assure that building systems and assemblies as designed will function according to user expectations.

6.22.2. The consultant will be responsible to prepare the documentation for the commissioning process to be followed by the contractor. The process includes construction checklists develop with the intent to convey pertinent information to the installers regarding concerns on installation and long-term operation of the facility and systems. The approach to the structure of the checklists is to keep it short and simple by focusing on key elements. Checklists span the duration from when equipment is delivered to the job site until the point that the system/component is started up and operational. Construction checklists are tools for transferring the information contained in the contract documents (drawings and specifications) to the workers in the field. This includes testing, adjusting and balancing and control system tuning.

6.22.3. At the construction stage, the consultant will supervise the installation of the equipment, material and systems, and witness the commissioning performed by the contractor and by an independent certification firm when required. The two overarching goals of the Construction Phase are to assure the level of quality desired and to assure the requirements of the contracts are met.

6.22.4. The systems to be commissioned will include but no limited to the following:

System / Equipment / Process Description	Description of Cx activities (provided by Contractor)
ELECTRICAL	
Transformer	
Distribution/sub distribution boards including circuit breakers	
Grounding and Bonding	
Cables, Low Voltage 1kV Max	
Outlets	
Switches and cutouts	
Lighting Control system	
General Light Fixtures	
LIFE SAFETY SYSTEMS	
Exit Lights	
Emergency Lights	
Fire Alarm/detection System	
Sprinkler System	
Fire/ Smoke Dampers – operation and accessibility	
Fire exit and fire egress door hardware	
Operation of area of refuge	
OTHER	
AV installation	

6.22.5. Fire protection and life safety systems SOW

6.22.5.1. Within the tender document's specification, the consultant will identify the process, procedures, methods and documentation for each phase of the Cx process and describe the requirement of the verification and testing to be performed by the contractor, following the requirements in the NFPA 3, 4 and 72.

6.22.5.2. Consultant will witness equipment and system start-up and testing. Ensure the results are documented (including a summary of deficiencies), and incorporated in the O&M manuals.

6.22.5.3. Consultant will receive and review the Operation and Maintenance (O&M) manuals as submitted by the contractor.

6.22.5.4. The completed Cx plan and certification, including all appendices must form part of the Cx record turned over at the end of the construction phase. All active and passive (components installed in the floors and walls and doors rating and operation) fire protection and life safety systems must be Cx

6.22.5.5. Commissioning work of Fire Protection will include, but not be limited to:

1. Testing and start-up of the equipment.
2. Testing and adjusting piping and central systems.
3. Providing qualified personnel for participation in commissioning tests, including seasonal testing required after the initial testing.
4. Providing equipment, materials, and labour as necessary to correct construction and/or equipment deficiencies found during the commissioning process.
5. Providing operation and maintenance manuals, and as-built drawings for verification.
6. Providing training and demonstrations for the systems specified in this Division.
7. The work included in the commissioning process involves a complete and thorough evaluation of the operation and performance of all components, systems, and sub-systems.

6.22.6. Electrical infrastructure

6.22.6.1. Within the tender document's specification, the consultant will identify the process, procedures, methods and documentation for each phase of the Cx process and describe the requirement of the verification and testing to be performed by the contractor.

6.22.7. O&M manuals

6.22.7.1. The manual will include: as-built drawings, equipment data, model numbers for the equipment, parts lists, equipment options, operating manuals for each piece of equipment, sequence of operation testing and balancing reports and certifications, maintenance schedules, and warranty schedules. The manual must be reviewed and certified complete by the project manager before submission to the facilities manager.

6.22.7.2. Manuals are to be provided in English and in electronic format and two (2) hard copies.

6.23. As Built Drawings

6.23.1. As-built drawings will be provided at completion of the project and will reflect all changes made in the working drawings during the construction process. They will show the exact dimensions geometry and location of all elements of the work completed under this contract.

6.24. Training

6.24.1. Within the specification, the consultant will identify the training requirements that the contractor will be responsible to provide.

6.24.2. For each system installed and controlled by the Tenant and the base building training will be provided to the property section describing the design objectives and how to operate the building. In addition of the information provided in the O&M manuals, the sequence of operation and the trouble shooting guide will be provided and posted close to the system if possible.

6.25. Spare parts

6.25.1. The consultant will include a list of spare parts within the specifications that the contractor will be responsible to provide at the end of the project. For each system installed and in addition to the final operating set, provide spare parts that are routinely changed as part of the maintenance program that may cause an interruption in the operation if not readily available.

6.26. Special Rooms Requirements

6.26.1. Designated Computer Center (DCC)

6.26.1.1. 1 ton of estimated cooling capacity, to be operational 24/7.

6.26.1.2. Heat load approx. 3520W.

6.26.1.3. Standard office type light fixtures to be installed in this room controlled by a wall switch. There will be no motion detection in this room. Lighting level to be 500 lux.

6.26.1.4. Provide and install two 15 amp circuits supplying a maximum of two (2) duplex receptacles per circuits. On each wall in the room provide one receptacle, mounted 400 mm above finished floor. One of these outlets to be positioned next to voice data outlet located in the room; refer to ICT section for more details.

6.26.1.5. Install one 30 amp twist lock receptacles (L6-30R) protected with 30 amp double pole breaker.

6.26.1.6. Install two 20 amp twist lock receptacles (L6-20R) to be protected by a 20 amp double pole breaker and connected to the clean power (UPS) panel with dedicated circuits.

6.26.1.7. The twist lock receptacles will be grouped together (one 30 amp and two 20 amp) on one side of the plywood backboard in the room.

6.26.1.8. Anti-static flooring to be properly grounded.

6.26.1.9. Provide one smoke detector inside the room.

6.26.1.10. Provide terminal ground bar (TGB) close to the backboard, connected to the ground system.

6.26.2. Strong Room

6.26.2.1. 1 ton of estimated cooling capacity, to be operational 24/7.

6.26.2.2. Standard office type light fixtures to be installed in this room controlled by a wall switch. There will be no motion detection in this room. Lighting level to be 500 lux;

6.26.2.3. The strong room must NOT be subject to electrostatic, magnetic, or radio frequency interference such as but not limited to control systems, disintegrators (shredders) and electric motors, photocopiers, microwave ovens, electric transformers and/or generators.

6.26.2.4. Install one 30 amp twist lock receptacle (L6-30R) This receptacle to be protected with 30 amp Double Pole breaker dedicated and be connected to the normal power panel; Near the plywood backboard of the IT system within the room.

6.26.2.5. Install two 20 amp twist lock receptacles (L6-20R). Each receptacle to be protected by a 20 amp dedicated double pole breaker. Near the plywood backboard of the IT system within the room.

6.26.2.6. Provide and install two 15 amp circuits supplying a maximum of two (2) duplex receptacles per circuits. On each wall in the room provide one receptacle, mounted 400 mm above finished floor. One of these outlets to be positioned next to voice data outlet located in the room;

6.26.2.7. Anti-static flooring to be properly grounded.

6.26.2.8. Provide one emergency lighting unit inside the room.

6.26.2.9. Provide terminal ground bar (TGB) close to the backboard, connected to the ground system.

6.26.2.10. The Chancery Electronic Security System (CESS) will be co-located in the strong room with the following electrical details and specifications;

a. Install two 20 amp twist lock receptacles (L6-20R). Each receptacle to be protected by a 20 amp double pole breaker.
b. Provide and install two 15 amp circuits supplying a maximum of two (2) duplex receptacles per circuits located adjacent to the security system backboard and equipment rack.

6.26.3. Demarcation Point (DP) and Telephone Closet (TC)

6.26.3.1. The estimated design load for the equipment in the DP excluding exhaust fan and lighting is 1 kW;

6.26.3.2. Standard office type light fixtures to be installed in this room. Lighting level 500 lux;

6.26.3.3. Provide two double outlets, configuration 5-15R under each backboard on a dedicated 15 amp.

6.26.3.4. Provide terminal ground bar (TGB) close to the backboard, connected to the ground system.

End of PART 6

RELOCATION OF THE CONSULATE GENERAL OF CANADA SAN SALVADOR

PROJECT BRIEF

PART 7
INFORMATION COMMUNICATION TECHNOLOGY AND MULTIMEDIA

Project Number: L-SSAL-100

PART 7 INFORMATION COMMUNICATIONS TECHNOLOGY (ICT) AND MULTIMEDIA

1. Introduction

This chapter identifies the technical criteria for the information communications technology and multimedia systems which will form part of the Canadian embassy in San Salvador, El Salvador

2. Scope and General Requirements

2.1 - Scope (objective)

Provide ICT infrastructure to meet the specified codes, standards and installation practices. The work will include, but is not limited to the following:
a) Infrastructure for GAC IP Based Services (Public Phone, Internet, IPTV, IP CCTV, ex.)
b) Infrastructure for Cable Television (CATV)
c) Multimedia (Audio/Video Systems)
d) Infrastructure for GAC Voice/Data Networks
e) Infrastructure supporting fixed antenna systems

2.2 - General Requirements

2.2.1 ICT installations will be coordinated with mechanical, electrical, architectural, structural, security, interior design and life safety requirements. All systems will become an integral part of the complete design package, well incorporated into building functional design and will be aesthetically pleasing

3. Applicable Codes, Standards, and Regulations

3.1 - General Codes

At minimum, the design and construction will conform to all current and applicable laws, codes, regulations and ordinances of the city of San Salvador authorities and the most recent edition of Canadian codes and standards. Refer to section 1.3 (Project Conditions – Codes, regulations, bylaws) for a more complete description of general code compliance requirements.

3.2 - Specific Codes and Standards

Specific Codes and Standards

- Electronic Industries Alliance / Telecommunications Industry Association (EIA/TIA) Standards:
  - EIA/TIA Standard 568: Commercial Building IT Wiring Standard (and related bulletins)
  - EIA/TIA Standard 569: Commercial Building Standard for IT Pathways and Spaces (and related bulletins)
  - EIA/TIA Standard 606: Administration Standard for the Commercial IT Infrastructure (and related bulletins)
  - EIA/TIA Standard 607: Commercial Building Grounding and Bonding Requirements for IT (and related bulletins).
  - EIA/ECA-310-E: Cabinets, Racks, Panels, and Associated Equipment.

The most stringent code or standard will prevail in the event of a conflict between the above codes and standards.

4. Performance and Design Requirements

4.1 – Performance Requirements

Infrastructure and equipment will be fail-safe and meet design requirements of a quality consistent with anticipated minimum life expectancy of 25 years. The IT systems must be responsive to all functional requirements.

The Infrastructure and equipment selection will be justified in accordance with the project requirements. The selection will consider the following requirements:

4.1.1 **Occupant Safety;**
Measures will be taken to mitigate hazards which may impact the health, safety or welfare of infrastructure operators and building occupants. Designs must be provided in accordance with good practice as well as applicable building, fire, safety, and health regulations. The contractor will provide safeguards for minimizing occupational injuries and exposure to hazardous substances or equipment.

4.1.2 **Reliability;**
The proposed infrastructure will be built using components of a satisfactory quality (to be determined by GAC), and must perform adequately under numerous conditions or situations and require minimal maintenance throughout its lifespan.

4.1.3 **Flexibility**
ICT infrastructure will be flexible to use (scope of system functionality, user interface) and flexible to change (integration of data and functionality, allow for future expansion or modification with ease).

4.1.4 **Performance**
ICT infrastructure will meet the required functionality requested by GAC and perform to a high degree of satisfaction. This will be evaluated via one or more QAR.

4.1.5 **Ease of operation and maintenance by non-specialized personnel;**
ICT equipment will be intuitive to operate by non-technical GAC staff and will have ease of maintenance (e.g. user-replaceable batteries).

4.1.6 **Energy conservation;**
Low energy consumption will be a factor in the selection of ICT equipment. See the appended Sustainability document for further details.

4.1.7 **Operational economy and total cost of ownership;**
ICT infrastructure must show consideration and an effort to mitigate factors that may increase cost of ownership including security vulnerabilities, maintenance requirements, risk or frequency of system failure over its life cycle.

4.1.8 **Economy of installation;**
The installation process of ICT infrastructure must place an emphasis on efficient allocation of time and resources as well as minimizing cost inefficiencies such as change orders.

4.1.9 **Availability of spare parts;**
Minimal use of proprietary or uncommon components will be emphasized when implementing ICT infrastructure.

4.1.10 **Pollutant free operation;**
ICT infrastructure will demonstrate sustainable and environmentally friendly operation, and adherence to energy efficiency standards.

2.1.11 **Accessibility**

2.2 - Design Requirements

4.2.1 In order to achieve flexibility and thorough integration between building architecture and engineering systems, a concept for ICT infrastructure that supports the distribution of the selected systems will be established during the architectural concept design. The locations of vertical/horizontal pathways, closets, equipment rooms, ICT distribution equipment will be established before the architectural concept is finalized.

4.2.2 All ICT systems and equipment will be configured in a manner that is readily and safely accessible for routine maintenance and repair.

4.2.3 Lighting in equipment rooms will be laid out so as not to interfere with equipment.

4.2.4 The equipment distribution will be laid out to minimize the effects of external or internal electromagnetic disturbances. This means disturbances from building equipment such as large motors, air conditioning, etc., will not impact on operation of sensitive equipment.

4.2.5 Seismic considerations listed in the structural section of the project brief will be followed for all cable trays.

4.2.6 All IM/IT systems will adhere to current standards and practices issued and promoted by the BICSI community. (Building Industry Consulting Service International)

4.2.7 If applicable, existing ICT cabling within the scope of work area is not to be disturbed, moved or damaged in any way unless otherwise specified.

4.2.8 All ICT systems will conform to sustainability standards issued and promoted by GAC.

4.3 - Submission Requirements

a) ICT Horizontal Pathway Plan: This plan will illustrate all ICT horizontal pathways. The plan will give a clear depiction of all ICT vertical and horizontal raceways including backbone, level 0, level 1, and level 2 (defined further down in this brief) in the floor and in the plenum; locations and types of each voice/data outlet/box/column. The plan will differentiate between all types of voice/data outlet installations. It will also include a detailed legend with descriptions of each. It will be used in conjunction with a consolidated services plan and reflected ceiling plan to ensure proper access and space considerations have been given to the plenum/floor. Also included in the plan is a list of details for each technical room describing any special works such as backboards or millwork (detailed in this brief). The design/build contractor is to provide a complete CAD equivalent drawing that identifies all ICT rooms and raceways.

b) A/V Design Package: This package will be used to illustrate the ICT components required by the conference/meeting rooms. This package will be detailed as follows:

   a. Statement of Work for commissioning of A/V package will include a detailed list of all planned equipment and a preliminary AV plan, and AV installation plan which will include:
      i. System screen and flow design.
      ii. An outline of planned acceptance testing.
      iii. An outline of planned client training.
      iv. A list of training material to be provided.
      v. On-going support procedures.
   b. Audio/Visual Layout: A technical drawing that will illustrate the location of main audio/video equipment (displays, speakers, video conference camera and encoder (provided by GAC), and control panels) and furniture in the Meeting Room (lecterns, equipment racks, millwork or custom furniture).

c) Cable Package: This package will be used to illustrate the cabling requirements of the rooms. The package will include the following:
   a. Identification of ICT cabling requirements: This will include, but is not limited to workstation services UTP cabling, fiber-optic cabling, backbone cabling, FOMPS, RJ45 jacks, and any installation tools (as required). Installation recommendations as well as an illustrated layout of the cable paths, fibre backbone, and equipment design will also be included.
   b. ICT cable charts: A detailed chart listing all cable types, floors, rooms, security zones, drop numbers, drop types, termination points, mount types for workstations, consolidation points. The location of installation, rack type, horizontal/vertical CM, and examples will be provided for rack installations. Drops will be illustrated and categorized by type. A separate chart for backbone cabling and components must include descriptions of the required cables, components used for termination points, rooms serviced by each cable segment, and color coding of designation strips.
   c. Drawings of data drops, racks and the ICT backbone: Technical drawings to illustrate all drops, floor outlets, desk outlets, conduits, cable ladders, cable trays floor boxes, wall outlets, plenum outlets, consolidation points, wall jacks, and other ICT components overlaid on the architectural floorplans. ICT backbone and rack assembly drawings will illustrate the cabling layouts of all rooms with ICT requirements (e.g. TR, MSR, IDACS, DCC, CCC, CCTV closet).

4.4 – Quality Assurance Review (QAR)

4.4.1 A QAR will be conducted by an authorized GAC personnel member to determine whether the ICT systems and equipment meet the specified functionality requirements and are of a satisfactory standard of quality.

5. Cabling and Outlet Requirements

5.1 – Wiring

GAC supplies, installs and maintains its own proprietary voice and data systems within the Consulate/Embassy. GAC will supply and install all of the required internal ICT cabling and equipment throughout the Consulate/Embassy, as well as the required 4”x4” electrical back boxes. It is however expected that the landlord and his subject matter experts will provide the support frames, keystone faceplates, and plugs (RJ45 & fibre-optic) for all voice, data, and multimedia drops detailed in this brief.

5.2 – Horizontal pathways and Cabling Containment

The Consultant will install all ICT horizontal pathways and cable containment devices detailed below.

ICT horizontal pathways and cabling containment will include all raceways, conduit, cable ladders, cable trays (both mesh and enclosed) and trunking systems used to carry ICT services from technical rooms to points of service (computers, telephones, Wi-Fi access points, or any IP based Government of Canada nodes). The Consultant must ensure:

a) All conduit used must be EMT unless otherwise specified.
b) All ICT containment must be color coded as outlined in the Electrical Part of this brief.
c) Markings will be every eighty inches (two meters), and 6 inches from every termination point.
d) All raceways and containment must be grounded as outlined in the Electrical Engineering Part of this brief.
e) All raceways and containment will run along building lines within the corridor space to avoid potential disruption with furniture installations.
f) When selecting the size, location and routing of any ICT containment and access/pull boxes, the Consultant will consider the following:
   - Conduit fill ratio will be based on a de-rated fill ratio of 40%

- Conduit fill derating may be calculated using the following formula, where F is the conduit derating factor (percentage):
- Cable tray fill ratio will be calculated on a fill ratio of 35%
- Containment size requirements will be based on each V/D drop containing 4 x Cat6A UTP cable with a maximum O.D. (outside diameter) of 0.28 inches.
- No conduit will be smaller than 1 inch I.D. (inside diameter).
- No more than two 90° bends or a maximum of 180° bends in total, in conduit between access/pull boxes.
- Conduit routes will not have bends exceeding 90° or an aggregate of bends in excess of 180 degrees between pull points or pull boxes.
- Conduits of 2 inches or less to have a bend radius of 6 times the diameter. A conduit greater than 2 inches to have a bend radius of 10 times the conduit diameter.
- No access/pull boxes will be smaller than 6” X 6” X 2” (L-W-H).
- Access/pull boxes will not be used as bends/turns.
- No conduit run will be longer than 100 feet (30 meters) without an access/pull box.
- All access/pull boxes and raceways will be accessible. Cable trays require a minimum of 12 inches of clearance for proper access.
- Except for backbone ICT containment to/from the GAC DP, no raceways are to transit the public zone.
- Pathways to be free from burrs, sharp edges or projections.
- All conduits will be labelled at each end indicating the destination.
- All conduits must be equipped with a polypropylene pull cord (i.e. for cable pulling) that has a minimum test rating of 90 kg (200 lb).
- Use of flexible armoured conduit will be limited to final connections to equipment and lengths kept as short as practical (must not exceed 6 feet at each respective connection).
- Horizontal Data cable lengths will not exceed 90 meters.
- Cables will not be routed through building sub-system devices such as automatic fire/smoke dampers or vents
- In general, cable pathways will be laid out in a manner that avoids cable congestion, allows access to the cables, provides adequate storage of cable slack, and minimizes cable stress (tension, twisting, bending).
- Cable trays (example: Legrand Cablofil, Eaton Flextray, Thomas & Betts Express Tray or similar) will be a minimum of 200mm (8 inches) wide and 50mm (2 inches) tall. If applicable, new containment installations will match the existing cable tray(s) and be a “mesh-type or “wire basket” style cable tray (as seen in figure 9).
- Raceways which are electrically conductive will have adequate electrical continuity to ensure bonding and connections to earth.
- Raceway runs requiring connection of two or more components, such as long runs, or a change in direction and/or width and/or an intersection between two straight cable tray runs will be joined using factory-fabricated fittings/couplings (bends, tees, risers).
- The inside corner on any intersection and/or bend of raceway will be a smooth, gradual transition.
- Exit fittings known as “waterfall” or “drop-outs” will be used to support planned cabling exiting sides or ends of the cable tray at each planned drop location.
- Ceiling zone distribution pathways may consist of cable trays where building codes permit telecommunications cables to be placed in suspended ceiling spaces without conduit.
- Provide seismic restraints for all cable trays. Cable trays will be laterally and vertically restrained for seismic load requirement.

5.2.1 - Raceway Types

a) **Backbone Raceways**: The backbone raceways will be a collection of conduits interconnecting all technical rooms as identified in the table below. All backbone conduits must be terminated on a "C" channel 12" above a backboard unless stated otherwise.

Qty	Type	Size	From	To	Color Code
1	PVC Conduit	4 inch	Building Telecom Riser	DP	Orange/Yellow
2	EMT Conduit	2 inch	DP	TC/DCC	Orange/Yellow
2	EMT Conduit	2 inch	DP	Strong Room	Orange/Yellow
2	EMT Conduit	2 inch	Strong Room	Roof	Orange/Black
3	EMT Conduit	2 inch	Strong Room	TC/DCC	Orange

b) **Level 0 Raceways:** Level 0 raceway is defined as a conduit raceway system to carry all nongovernment or "external" voice/data services (example: television, outside internet service, A/V) to the appropriate technical room. This raceway can only be installed in the public and operational zones.

c) **Level 1 Raceways:** Level 1 raceway is defined as a conduit raceway system to carry all GAC voice/data services (as well as other GAC IP services) to the nearest appropriate technical room. This raceway cannot cross between zones.

d) **Level 2 Raceways:** Level 2 raceway is defined as a conduit raceway system to carry all GAC fiber data services to the nearest appropriate technical room. This raceway will be installed in the secure zone (SZ) and high secure zone (HSZ) **only** and will be defined as threaded steel EMT conduit. All cable carried in the raceway must not be exposed at any point and this raceway cannot be combined with any other raceway.

5.3 – Outlets

a) The installation of all voice/data outlets, boxes and columns is the responsibility of the contractor. A minimum of 1x 1" EMT conduit will be connected to each voice/data outlet or box. The conduit will be secured to the box and to the main ICT raceway/cable tray with the appropriate fitting and locknut. Conduit will extend horizontally/vertically through the floor or plenum to the appropriate raceway. Polypropylene pull string will be installed in **all** conduit runs.

b) All voice/data outlets/boxes will be installed using the back boxes (provided by GAC) and keystone compatible faceplates/wall plates (provided by landlord/general contractor). A local solution can be deployed **if the Consultant adheres to the following:**

- If the selected products are detailed in the sub-sections below, the Consultant must submit the specification sheets to GAC for approval prior to procurement/installation.
- If the selected products are not as detailed in the sub-sections below, the Consultant must submit the specification sheets along with a sample to the Departmental Representative for inspection/approval

All voice/data outlets/boxes/mini-columns will be installed using one of the combinations of Legrand products detailed in the sub-sections below. If the specific Legrand models are not available, a local solution can be deployed ***if the landlord (and his specialists) adhere(s) to the following:***

I. If the selected products are Legrand, the contractor (and his specialists) must submit the specification sheets to GAC for approval prior to procurement/installation.

II. *If the selected products are not Legrand, the contractor (and his specialists) must submit the specification sheets along with a sample to GAC for inspection/approval.*

III. *The number and type of plugs requested in the design is respected.*

IV. *The products are certified at a similar level (CAT6, USB 3.0). All RJ45 plugs must be certified CAT6. Every plug supplied will be inspected and tested by a Canadian security representative..*

All locally supplied RJ45 plugs, boxes, and frames must be on site (even if not installed) for a Canadian inspection a minimum of 3 months prior to project completion date.

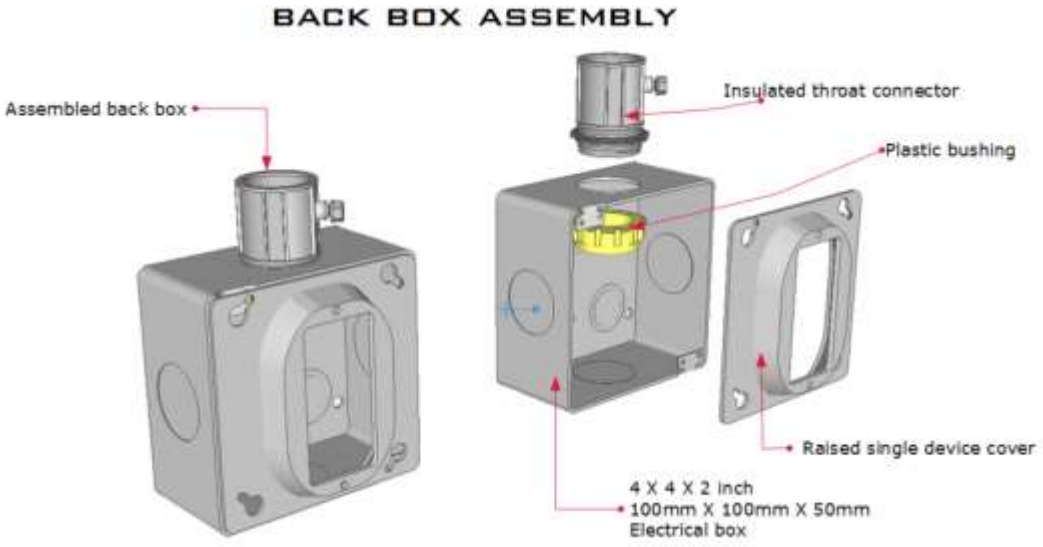
c) **Voice/Data Outlets in wall or within plenum** (Wi-Fi Access Points) will be flush with the wall and 16" from the floor (to center) unless otherwise specified.
Voice/Data wall outlets will be flush with the wall and 400mm from the floor (to center) unless otherwise specified. Voice/Data wall outlets will be Legrand Mosaic products or equivalent (must be approved by GAC).

d) **Voice/Data Outlets terminating within furniture:** ICT cabling will enter the furniture either through a base feed (preferred) or a ceiling feed. Precise coordination with the furniture design is required to determine the size/location and connection of ICT cabling containment to the furniture (the goal, if possible, is to ensure ICT cabling remains contained within conduit and furniture at all times). The Consultant must propose a solution to be approved by GAC.

e) **Voice/Data Floor Box (Conference/Meeting Rooms):** Due to site limitations, floor boxes will be limited, if any. However, based on final locations of conference/meeting rooms, limited in-floor solutions may be introduced by the AV specialist (must be approved by the Departmental Representative).

f) **Back box assembly:**
- 4" x 4" x 2" electrical box; Thomas & Betts CI52171-1
- Insulated throat connector; Thomas & Betts CI5408-IT
- Raised single device cover; Thomas & Betts BC52-C-13
- Plastic bushing; Thomas & Betts CI2708

4.3.1.1.1 Figure 1 - Back box assembly detail



6 – Typical Fit-up of ICT rooms

Figure 7 - Type 1 GAC Backboard

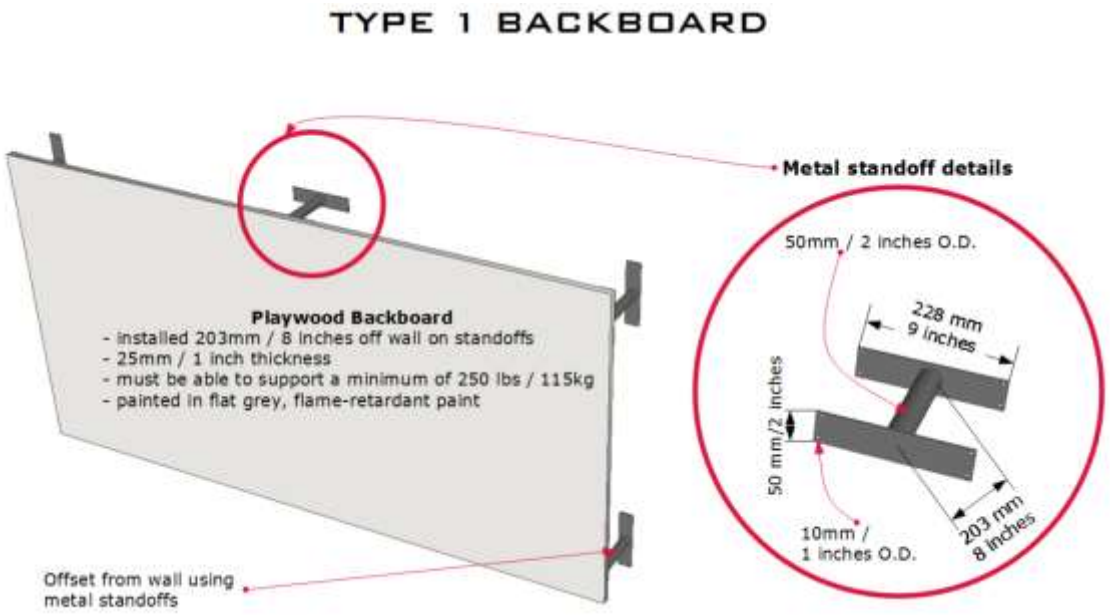


Figure 8 - Type 2 GAC Backboard

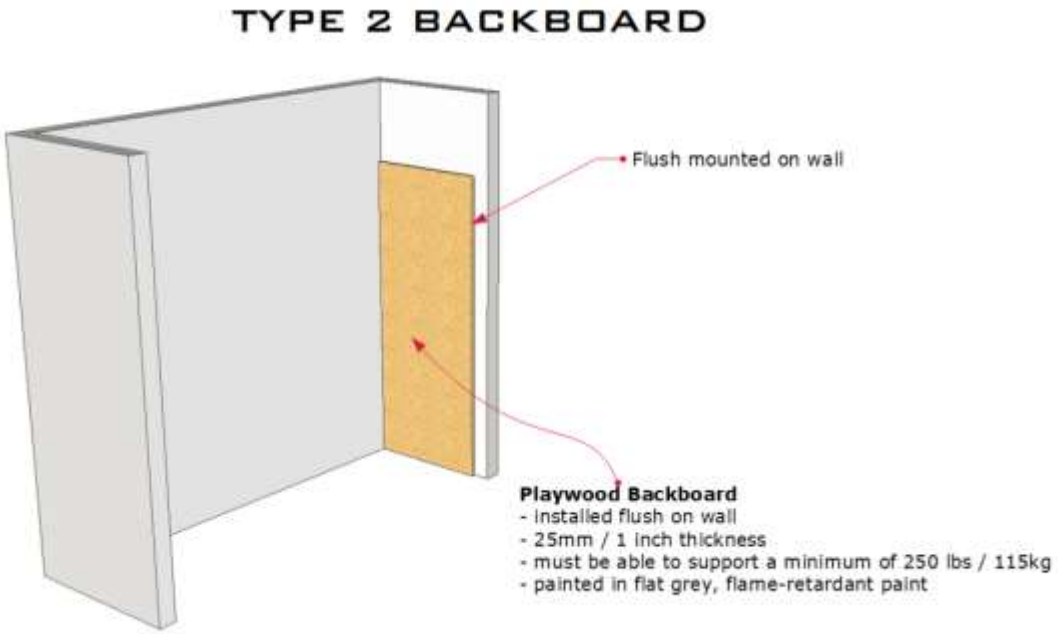


Figure 9 - “C” Channel / Conduit manifold for Backbone conduit

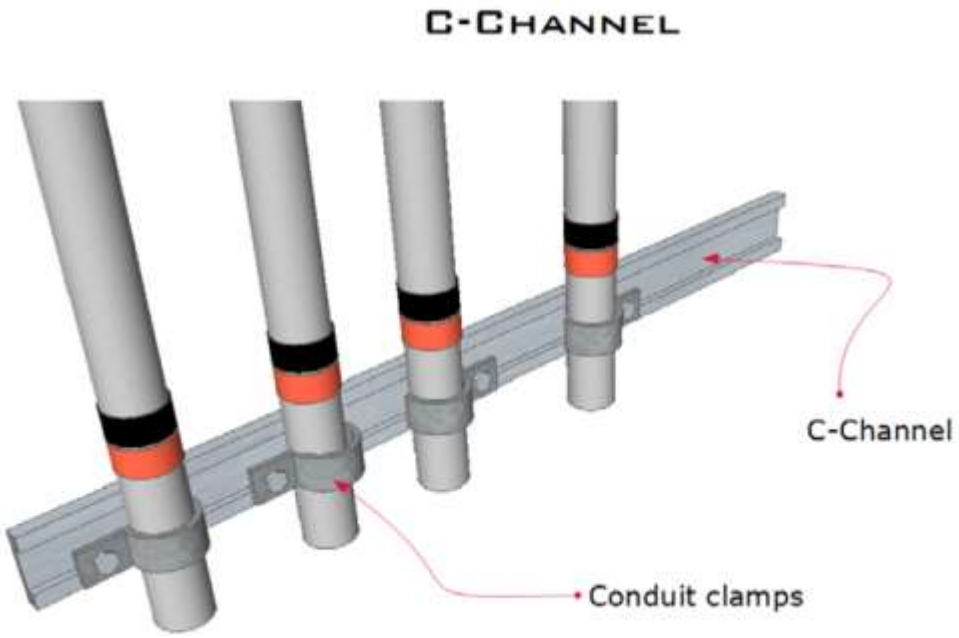
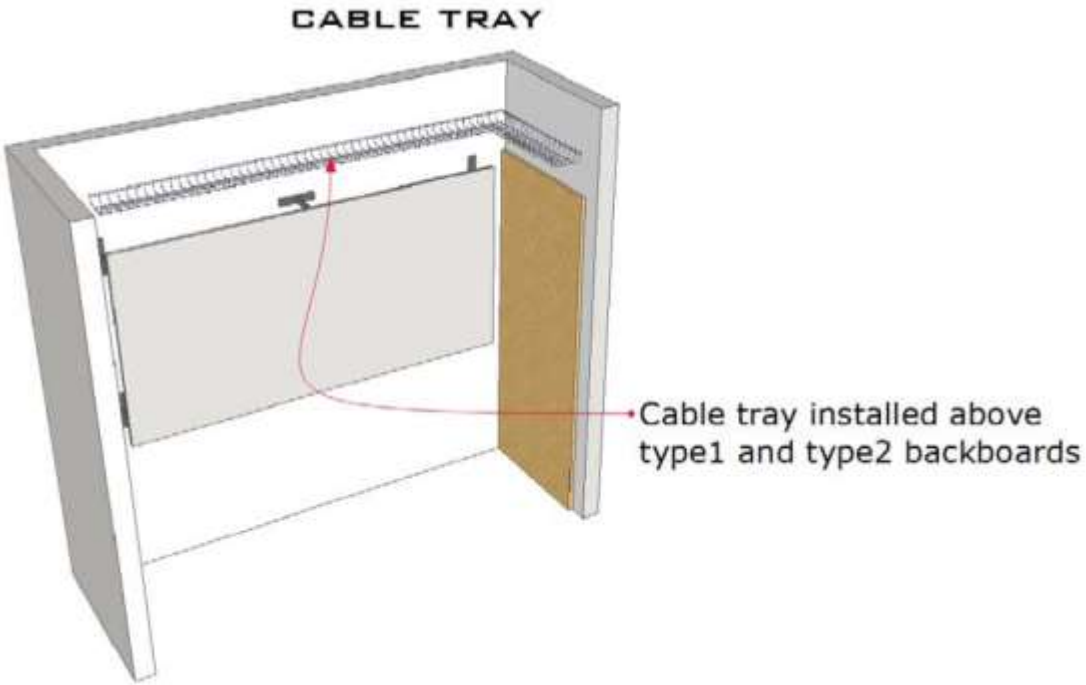


Figure 10 - Technical Room Trays (cable trays)

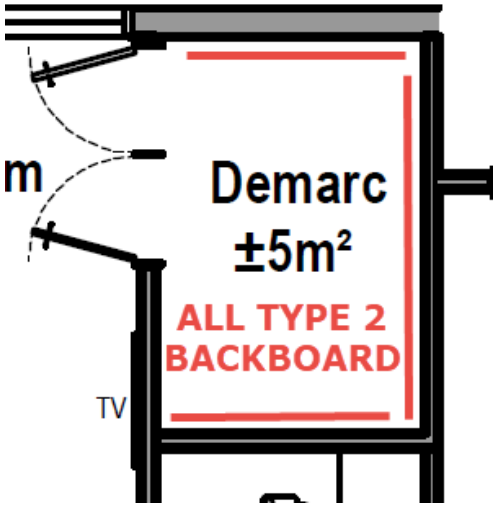


6.2 – Typical Technical Room Setups

Demarcation Point (DP)

Room to terminate incoming central office trunks or any other data services required by GAC

a) Ceiling
   I. No ceiling.
b) Special Instructions
   I. 1 X Type2 GAC backboard with following dimensions: 8 feet width, 4 feet height on back wall & 4 feed width, 4 feet height on side walls
   II. Metal "C" channel is required above the backboard(s) in order to support the backbone conduit and ladder/tray system
   III. Backbone conduit requirements as per the design brief, ICT & Multimedia part
   IV. No other building systems transiting this space



TC/DCC

TC Portion

Telecommunications and CESS room for interconnecting GAC horizontal cabling to various networks, devices. Transit area and interconnections for CESS CCTV endpoints and CESS backbone cabling. GAC backbone interconnects terminate and transit this room.

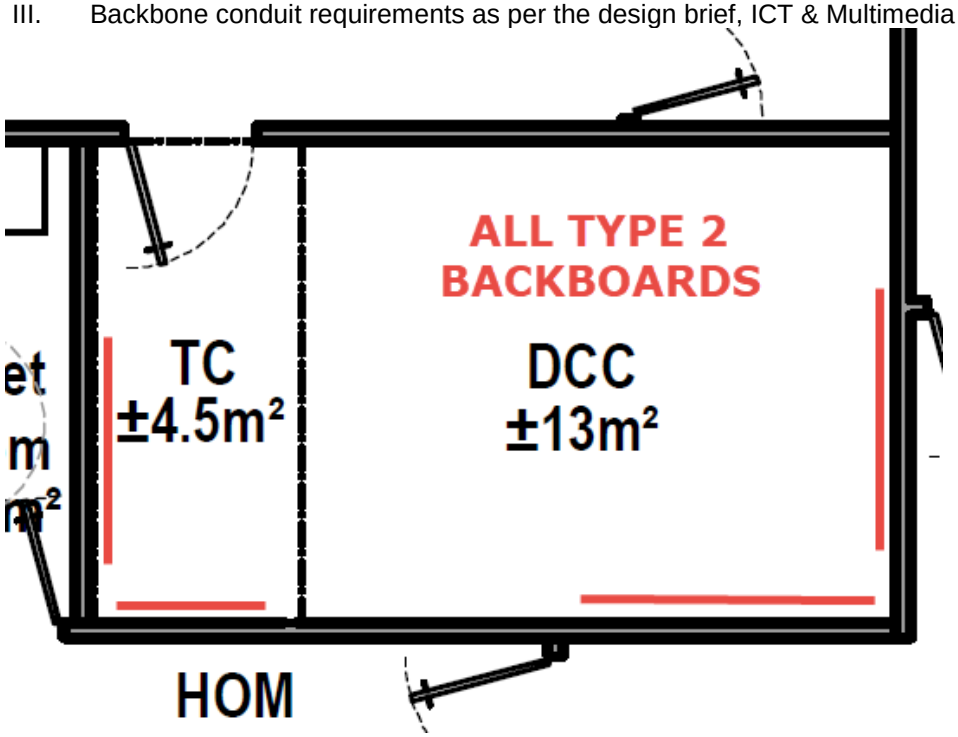
a) ICT Systems
   I. Level 0 systems: Provide 2X V/D wall drops (4 X RJ45 each) at 400mm above finished floor
   II. Level 1 systems: Provide 2X V/D wall drops (4 X RJ45 each) at 400mm above finished floor
b) Special Instructions
   I. 2 X Type2 GAC backboard with following dimensions: 4 feet width, 4 feet height & 8 feet width, 4 feet height
   II. Metal "C" channel is required above the backboard(s) in order to support the backbone conduit and ladder/tray system
   III. Backbone conduit requirements as per the design brief, ICT & Multimedia part
   IV. No other building systems transiting this space

DCC portion

a) ICT Systems

I. Level 0 systems: Provide 2X V/D wall drops (4 X RJ45 each) at 400mm above finished floor
II. Level 1 systems: Provide 3X V/D wall drops (4 X RJ45 each) at 400mm above finished floor

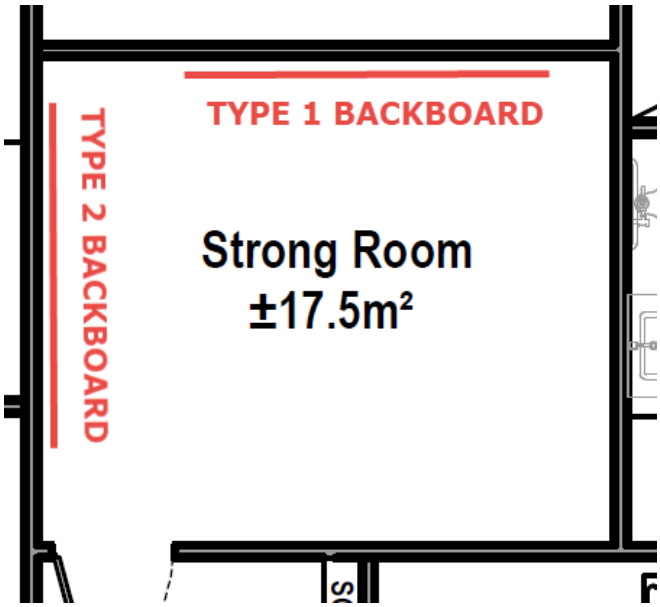
b) Special Instructions
I. 2 X Type2 GAC backboard with following dimensions: 8 feet width, 4 feet height
II. Metal “C” channel is required above the backboard(s) in order to support the backbone conduit and ladder/tray system
III. Backbone conduit requirements as per the design brief, ICT & Multimedia part



STRONG ROOM

a) ICT Systems
I. Level 1 systems: Provide 3X V/D wall drops (4 X RJ45 each) at 400mm above finished floor
II. Level 2 systems: Provide 2X V/D wall drops (2 X SC fiber each) at 400mm above finished floors

b) Special Instructions
I. 2 X Type1 GAC backboard with following dimensions: 8 feet width, 4 feet height
II. Metal “C” channel is required above the backboard(s) in order to support the backbone conduit and ladder/tray system
III. Backbone conduit requirements as per the design brief, ICT & Multimedia part



6.2.1 Typical Office/Workspace Setup

Waiting Area/Multi-Purpose Room

a) ICT Systems
   I. Level 0 systems: Provide 4X V/D wall drop dispersed throughout the room (4 X RJ45 each)
   II. Level 1 systems: Provide 2X V/D wall drop dispersed on each side of the room (4 X RJ45 each)
   III. TV: Provide and install 1x Chief PAC526FBP6 (or similar) in wall storage box behind the TV location as per the plans

Interview Type 'A'

b) ICT Systems
   I. Level 1 systems: Provide 1X V/D wall drop, under the counter (4 X RJ45 each) on the Operational side
   II. Level 1 systems: Provide 1X V/D wall drop, under the counter (2 X RJ45 each) on the Reception side
   III. Provide 1X V/D drop on the wall, under the counter (2 X USB) on the Operational side which connects to 1 X V/D drop on the wall, under the counter (2 X USB) on the Reception side

Business Center

a) ICT Systems
   I. Level 1 systems: Provide 1X V/D wall drop (4 X RJ45 each) behind multi-function device
   II. Level 0 & 1 systems: Provide 1X V/D wall drop (4 X RJ45 each) behind workstation
   III. Level 2 systems: Provide 1X V/D wall drop (2 X SC fiber each) for workstation area **(Secure Zone only)**

SOS Station Operational Zone / Secure Zone

a) ICT Systems
   I. Level 1 systems: Provide 1X V/D wall drop on the wall (4 X RJ45 each)
   II. Level 1 systems: Provide 2X RJ45s above the plenum

Quiet Rooms

a) ICT Systems
   I. Level 0 & 1 systems: Provide 1X V/D wall drop (4 X RJ45 each)

Open Workstation - 4.5 sq.m - Operational Zone / Secure Zone

a) ICT Systems
   I. Level 1 systems: Provide 1X V/D wall drop (4 X RJ45 each) for each open workstation
   II. Level 2 systems: Provide 1X V/D wall drop (2 X SC fiber each) for each desk area (Secure Zone only)

Enclosed Office – xx sq.m. Operational Zone / Secure Zone

a) ICT Systems
   I. Level 0 systems: Provide 1X V/D wall drop behind the TV (2 X RJ45 Operational Zone only, 2 X SC fiber Secure Zone only)
   II. Level 1 systems: Provide 1X V/D wall drop (4 X RJ45 each) for each workstation
   III. Level 2 systems: Provide 1X V/D wall drop (2 X SC fiber each) for each desk area (Secure Zone only)

Touchdown Area

b) ICT Systems
   I. Level 1 systems: Provide 1X V/D wall drop (4 X RJ45 each) for each touchdown workstation
   II. Level 2 systems: Provide 1X V/D wall drop (2 X SC fiber each) for each touchdown workstation

Kitchenette Area

a) ICT Systems
   I. Level 0 systems: Provide 1X V/D wall drop (2 X RJ45 each) for every 8 feet of wall space
   II. Level 1 systems: Provide 1X V/D wall drop (2 X RJ45 each) for every 8 feet of wall space

6.3 Meeting/Conference Spaces

6.3.1 Functional Requirements

The designer will work with the client to develop a concept that meets the client's audio/video requirement. This design complexity will match local A/V implementation contractor expertise and consider the availability of equipment locally. If local expertise and/or equipment availability is limited, the designer will provide a solution that will be implemented by foreign contractors and where support requirements are minimized.

These spaces have the following common requirements:

- Controllable and dimmable lighting adequate for video conferencing;
- A screen for video conferencing or displaying content from various sources;
- Use high quality, high definition (HD), hi-fidelity (HI-FI) equipment;
- Integrated design with furniture;
- Non-technical staff can easily operate all room/space functions;
- Rooms/spaces have clean cabling solutions where no cables run across the floor.

These spaces have the following optional requirements:

- Removable and modular or fixed table/furniture;
- Option for meeting room scheduler/manager;
- Floor boxes with power/data/AV connections or column transitions between floor and table;
- Ability for video conferencing;
- Ability to play cable TV or IPTV;
- Installation of Chief PAC526FBP6 (or similar) in wall storage box behind the TV location as per the plans
- Ability for video conferencing while simultaneously sharing presentation;
- Ability to connect multiple inputs and have them shared over screens;
- Options for multiple screens/projectors;
- Hidden/rollout screen and ceiling-hidden projector on a lift;
- Integrated controller to control room lighting, shutters and AV equipment;
- Equipment storage behind screen, in furniture or in an equipment room;
- Surround sound/audio system;
- Microphone system;
- Movable podium/lectern;
- White board capabilities;
- Recording/playback options;
- Ability to integrate wireless (Bluetooth) capable devices for wireless media streaming to screens or sound systems;
- Ability to split larger spaces into two rooms

6.3.2 Support Contract

The following support requirements will be added to the design if the A/V implementation specialist and the equipment are sourced locally. Where local expertise cannot be found the designer will work with the Department to define an adequate support model.

The A/V implementation specialist will provide a full service support contract on the A/V fit-up that includes, but may not be limited to the following:

- A three year warranty on the installation. This includes equipment, as well as the installation.
- There will be no charge for any new equipment or labour within the contract term.
- In the event a repair is required, a technician will be deployed within 48hrs of diagnosis.
- Technical support via telephone is available during normal working hours.
- The support contract will be renewable at the end of the term (and price re-negotiated).

7 – Services

7.1 Telephone Service

Government of Canada will supply and install the voice networking system including the Private Branch Exchange (PBX), associated hardware and internal wiring.

7.2 Internet/Data Service

Government of Canada supplies, installs, and maintains its own secure Global Network (SIGNET) Communications System. The department will supply and install (SIGNET) equipment and associated internal cabling. This system shares the same conduit network infrastructure with the Mission telephone (voice) networking system (MITNET).

7 – Sustainable Design in ICT

8.1 - The Department of Global Affairs Canada (GAC) is committed to the principles of sustainable development in all of its operations. The principles of sustainability will be incorporated in all the phase of project delivery, especially in the initial stages when most of the key decisions are taken.
ICT design will allow for the support or reuse of existing telecommunications equipment or cabling if applicable. The long-term benefits of a facility designed to sustain present and future needs will be considered.
Measures will be taken ensure a reduction in the high rate of replacement of ICT equipment.

Abbreviations:
ITFSO – Information technology field services officer
ICT – Information Communications Technology (ICT)
EMT – Electrical Metallic Tubing
DP – Demarcation Point
GAC – Global Affairs Canada
HD – High Definition
Hi-FI - Hi-Fidelity

End of PART 7

RELOCATION OF THE CONSULATE GENERAL OF CANADA SAN SALVADOR

PROJECT BRIEF

PART 8 PHYSICAL SECURITY BRIEF

Project Number: L-SSAL-100

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PART 8 PHYSICAL SECURITY BRIEF

8.1 GENERAL

Security will be an inherent and discrete part of the design. The Chancery space will protect employees, property, and sensitive materials from threats of violence, and espionage penetration. Physical security barriers and check points are required throughout the mission. Controlled access to the space is to be provided for all pedestrians.

Points of entry and reception points will be minimized and allow for natural supervision and/or monitoring of movement and entry. There will be minimal isolated vistas and dead end spaces to design out potential for crime. There will be provision for appropriate security lighting that does not seem overbearingly bright but provides a more secure and protective environment.

A layered approach is used to develop increasing levels of protection. The intention is to create a defensive environment of multiple layers, and to positively control entry to the mission space in order to protect staff and/or sensitive material.

A Chancery will typically be set out in five zones. These usually include: Public, Reception, Operations (OZ), Secure (SZ) and High Security (HSZ) which are to be accommodated in the same building envelope. Concentric solutions with progressively enhanced security towards the center are particularly attractive but not always possible.

Public-Access Zone: The area that surrounds or forms part of the Chancery. Examples include the grounds surrounding a building, and public corridors/elevator lobbies in multiple-occupancy buildings. Public spaces are those accessible to the general public. There are no specific security requirements for the public spaces with the exception of perhaps security lighting and general CCTV surveillance in the elevator lobby and service corridor.

Reception Zone: Areas accessible to the general public and Chancery staff with minimal restrictions during normal hours of operation. Reception zones (RZ) may include entrances, lobbies, public waiting rooms, and the multipurpose room. Reception Zones will accommodate visitors by providing information facilities, waiting areas and access to interview booths and public washrooms. Security devices in these areas are nominal and reliance is placed on dynamic security measures. Access to these areas will be planned to be at least under the visual supervision of the receptionist or a security guard. Access and egress to all reception areas will not transit any other operational, security or high security zone. All entrances, hallways and elevators will provide direct access. All emergency exits will provide unencumbered egress to the exterior without having to use stairwells considered part of any other operational or security zone.

Operations Zone: A controlled area which houses unclassified activities. Staff access from the Reception Zone into the Operations Zone is controlled by a receptionist, security guard and/or IDACS through an airlock.

Security Zone: A controlled area where classified information is handled. The organization of the Security Zone (SZ) is based on security zoning principles with access preferably being limited to a single IDACS control point. The zone is segregated from the remainder of the building by a hardened wall, running slab to slab. Sensitive work areas and technical areas (i.e. MITNET room, Classified Computer Center, IDACS room) are also located in the Security Zone (SZ). Their location around the HSZ is meant to provide a physical buffer around the HSZ. For technical reasons the room will be located adjacent to the High Security Zone (HSZ). Two other technical service rooms that will be located adjacent to the HSZ are the IDACS and MITNET rooms both accessed through IDACS controlled doors. For the most part, all other programs found in the SZ are accessible from the circulation corridor.

High Security Zone: The High Security zone (HSZ) is exclusively for housing classified activities or installations. Access is controlled by IDACS. Air intake or other shafts will be located outside the High Security zone. Mechanical rooms cannot be located within the Security or High Security zone. Where possible, spaces in the High Security zone will not have windows and will be located where it can be buffered by the Security Zone and the Operational Zone. The High security Zone will have no adjacency to the Public

Zone and will not have any windows or doors leading to the exterior. The HSZ is fully contained within the secure zone and will be segregated by hardened walls. Access to the HSZ is from the circulation corridor though an IDACS controlled door. M&E systems within this zone are exclusively for the support of this zone and no other building systems can traverse this zone. Openings in High Security Zone security walls greater than 600 cm² (93 sq. in.) will be grilled. Openings such as vents will be grilled or otherwise secured.

8.2 GLOSSARY AND ACRONYMS

BR	Bullet and Physically Resistant Material
CCC	Classified Computer Center
CCTV	Closed Circuit Television
CCUR	Classified Common User Room
CESS	Chancery Electronic Security System
CSAS	Chancery Security Alert System
DCC	Designated Computer Center
DP	Demarcation point
GAC	Global Affair Canada
HSZ	High Secure Zone
IDACS	Intrusion detections and Access Control System
MITNET	Multipurpose Integrated Telephone Network
MSR	MITNET Services Room
OZ	Operations Zone
SZ	Secure Zone
TC	Technical Closet
UPS	Uninterrupted Power Supply

8.3 HARDENED WALLS

8.3.1 BULLET RESISTANT-TYPE IA, IB & TYPE II

The walls separating the Reception Zone to Operation Zone or Secure Zone, the wall separating the Secure Zone to the High Secure Zone as well as the walls that construct the airlock are to be bullet resistant.

8.3.2 PHYSICAL RESISTANT-TYPE III

The walls separating the Operation Zone to the Secure Zone are to be Physical Resistant.

A rough location and type of barrier walls will be identified by GAC after review of concept design. GAC will liaise with the architect to develop and finalize barrier walls types and locations. Detailed drawings with appropriate sections will then be submitted to GAC for approval and to ensure the framing and component structure follow Departmental norms.

The contractor will source all material and construct all security walls as per GAC security requirements.

It is the Consultants responsibility to verify the load bearing capacity of the existing building structure and to design all necessary structural strengthening that guarantee it can bear the additional load from all the hardened walls.

See Annex A for technical requirements on type 1a, 1b, type 2 and, type 3 walls.

8.4 GAC SUPPLIED BULLET RESISTANT GLAZING

Bullet resistant glazing is required where staff and public exchanges and transactions occur in a hardened wall between the Reception Zone and Operational Zone. Typical locations are the receptions wickets in the consular and immigration waiting areas as well as the interview room provided to enable staff to meet privately with members of the public.

GAC will provide all the BR glazing material for installation by the contractor, based on fully detailed and

approved drawings promulgated by the consultant. The contractor will provide roughed-in openings for security elements to dimensions provided on the approved detailed drawings.

See Annex B for technical requirements and rough opening dimensions for Reception Booth and Interview Booth BR Glazing.

8.5 GAC SUPPLIED DOORS AND FRAMES

8.5.1 Bullet Resistant Doors and Frames

These doors are mainly used in airlocks or as fire exit doors from the Operational Zone into Reception Zone. Each airlock will have two Global Standard BR Doors. The BR Doors are supplied by GAC and come complete with frame and hardware, the contractor will supply a rough reinforcing frame firmly anchored to the upper and lower slabs. The rough opening size varies due to the door systems that come in different sizes based on the lock hardware installed or by the addition of sidelights or transoms. Therefore the Consultant must submit a detailed door schedule for approval by the Departmental Representative.

8.5.2 Physical Resistant Doors and Frames

These doors are/may be used for fire exits from the Operational Zone/Secure Zone into a Public Zone, access doors separating the Operational Zone from the Secure Zone or Secure Zone to the High Secure Zone, and for any special rooms requiring IDACS. Physical resistant doors are supplied by GAC and come complete with frame and hardware, the contractor will supply a rough reinforcing frame firmly anchored to the upper and lower slabs. The rough opening size varies due to door systems that come in different sizes based on the lock hardware installed or by the addition of sidelights or transoms. Therefore the Consultant must submit detailed door schedule for approval by the Departmental Representative.

See Annex B for technical requirements and rough opening dimensions for Bullet & Physical Resistant Doors

8.6 LOCALLY SUPPLIED DOORS

The consultant will provide all interior and exterior doors, with the exception of the GAC supplied doors. Once the developer and GAC agree on an approved door schedule, the contractor will be responsible for the installation of all the doors.

8.6.1 Interior Doors

Doors will be minimum solid core wood door 45mm thick, non-rebated and must be capable of accepting GAC approved North American commercial grade lock hardware.

8.6.2 Exterior Doors

Doors will be a minimum 16 gauge steel, reinforced and insulated door 45mm thick, non-rebated, and will be reverse hung in a 14 gauge pressed steel frame using non-removable pin hinges. These doors must be capable of accepting GAC approved North American commercial grade lock hardware.

8.7 DOOR HARDWARE

GAC will provide all door hardware, except for hinges, kick plates, door stops, weather stripping; cabinet-type hardware or for any special considerations (i.e. glass doors, washroom stalls).

GAC will liaise with the architect and developer to review and approve door and door hardware schedules. GAC will also provide guidance to the developer, architect or contractor on the application, preparation and installation of GAC approved, North American door hardware.

Approved door hardware will be of North American manufacture and consistent with GAC standards. In general, mortise lock sets will be selected for all interior doors.

Any approved local doors separating security zones will be equipped with non-removable hinge pins.

GAC will supply, pin, code and install all permanent key cylinders after take-over, replacing temporary cylinders used during construction.

8.8 CHANCERY ELECTRONIC SECURITY SYSTEMS (CESS) – IDACS, CCTV and CSAS

GAC will supply and install the Chancery Electronic Security Systems

GAC will arrange for the installation of the Electronic Security Systems cabling by Canadian security cleared and approved resources.

Consultant will provide for review fully developed, detailed drawings of complete Electronic Security System conduits, raceways, risers and other infrastructure based on security device point layouts provided by GAC as a guideline.

Proposed Electronic Security Systems conduit and raceway will be of ferrous material, thin wall metal design and must take into account all interference encountered from HVAC, fire alarm and other building systems.

All access control and security devices are terminated in the CESS room. The required cables item differ in number and size. A cable count will be conducted by GAC to determine the size and number of conduits required for each conduit branch and a draft conduit layout will be indicated on the security device point layout provided. The draft conduit layout is intended to show conduit sizes and numbers only and does not take into account interference with other devices in ceiling.

Non-ferrous conduit (PVC) may be used, but it must be acceptable to local code and must be installed to applicable Canadian codes, where permissible, providing it is embedded in (50mm, 2") masonry or concrete. If installed in "open" spaces (ceiling plenum), PVC conduit must have an approved flame spread rating and smoke developed to meet local and Canadian codes. Furthermore, the PVC conduit must be at a specified distance away from electrical fields to reduce any electromagnetic interference.

Bends in conduit runs will be avoided when possible. For the main security conduit backbone a maximum of one 90° bend between junction boxes. From the main security conduit backbone to endpoints there will be no more than a maximum of two 90° bends or a maximum of 180° bends in total between junction boxes.

If local building and electrical codes and practices permit the use of PVC conduit and there exists a lack of technology and material in host country, the Departmental Representative, in consultation with the Office of the Fire Commissioner of Canada, may authorize its use in lieu of ferrous material in circumstances other than those specified in the National Building Code of Canada.

Contractor is to provide and install conduit, raceways, risers and outlet boxes as per approved detailed drawings. Obtain prior approval from GAC for all security related detail, material and components or testing prior to commencing installation.

All conduits will be provided with nylon pull cords.

8.8.1 CESS – Strong Room (SR) requirements

See Annex C for technical requirements for SR

8.8.2 IDACS - Intrusion Detection Access Control System

See Annex C for technical requirements for IDACS

8.8.3 CCTV - Closed Circuit Television

See Annex D for technical requirements for CCTV

8.8.4 CSAS - Chancery Security Alert System

See Annex E for technical requirements for CSAS

8.9 SCREENING EQUIPMENT (Pedestrian Screen Area)

GAC will supply and install a Metal Detector and new X-ray machine in Lobby Area.

Contractor will design lobby area to accommodate for our screening equipment, pedestrian flow along with the appropriate power receptacles.

See Annex F for Typical Screening Equipment Layout

8.10 FIRE ALARM

Please refer to Electrical Brief Section

8.11 EXTERIOR WINDOWS

8.11.1 Outline

From a blast perspective, windows are generally the weakest part of the building envelope. Experience has shown that the majority of injuries that occur following an explosion are a result of debris generated by the failure of the window glazing. Enhancing these weaker areas of the building envelope will result in a substantial improvement towards occupants' safety and survivability.

8.11.2 Element Scope

Anti-shatter film shall be applied to all external windows of the chancery and be suitably anchored by the use of either structural silicone or mechanical methods. Window film and anchoring shall be installed by certified installer only.

8.11.3 Design Constraints

Anti-shatter film must be able to resist a *x* kg charge at a *y* m stand-off distance (values to be furnished upon award of the contract). The film must meet the performance requirements of the following standards, or equivalent:

- **ISO16933:2007**: Glass in building - Explosion –resistant security glazing - Test and classification for arena air-blast loading, achieving a hazard rating that will be given upon contract award.
- ***GSA Standard*** Test Method for Glazing and Window Systems Subject to Dynamic Overpressure Loadings, achieving a hazard rating that will be given upon contract award.

8.11.4 Suitable Retrofit Methods

One, or a combination, of the following blast mitigation strategies may be suitable options for the retrofit of existing windows to meet the design constraints given above.

8.11.5 Anti-shatter Film

Anti-shatter film is a thin coating of polyester product, typically PET, which is adhered to the inner surface of a window to mitigate the hazardous effects of blast and forced entry threats. In the event of a blast, the film holds the shattered fragments of glass together to limit the number of fragments entering occupied space. For GAC's approval, the consultant shall select a film which will provide a suitable protection against the design constraints given in Clause 8.11.3. The consultant shall specify which product is proposed and shall furnish the following details regarding the film: tensile strength (MPa) and break strength (N/cm),

8.11.6 Structural Sealant

Anti-shatter film may be anchored using a structural sealant. The purpose of the sealant is to anchor the film to the window frame, allowing the transfer of load from the glazing to the window frame. Selecting an appropriate film and sealant will increase the resistance of the window element and prevent the glazing from entering the occupied room space.

The consultant shall select a structural sealant that will provide a suitable protection against the design constraints given in Clause 8.11.3. For GAC's approval, the consultant shall specify which product is proposed and shall furnish the following details regarding the sealant: tensile strength (MPa) and tear strength (N/cm),

Structural sealant is to be installed to the following specifications:

The structural sealant must have at least a 12.7 mm adhesion to the window frame. This does not included gaskets, if applicable.

The structural sealant must have at least a 12.7 mm adhesion to the window film. This does not include un-filmed glass.

8.11.7 Mechanical Anchoring

Window film may be secured by mechanical anchoring, i.e., once the film is applied, 25 mm of film is left to extend over the window frame. The overlapping film is anchored using a batten bar that is securely fastened to the window frame. Various configurations may be chosen for a mechanical-anchored window, e.g., 2-sided or 4-sided anchoring.

8.11.8 Mullion Enhancement

In instances where the existing mullion capacity is insufficient to resist the blast loads from the glazing, the mullions may be enhanced through replacement with a more robust structural section or through the addition of supplementary material, typically steel or aluminum.

Mullion enhancement should be combined with anti-shatter film as well as the use of a structural sealant or mechanical anchoring.

ANNEX – A

Security Figure 1.1.1 | Hardened Wall Type 1a: Bullet Resistant Poured Concrete Wall

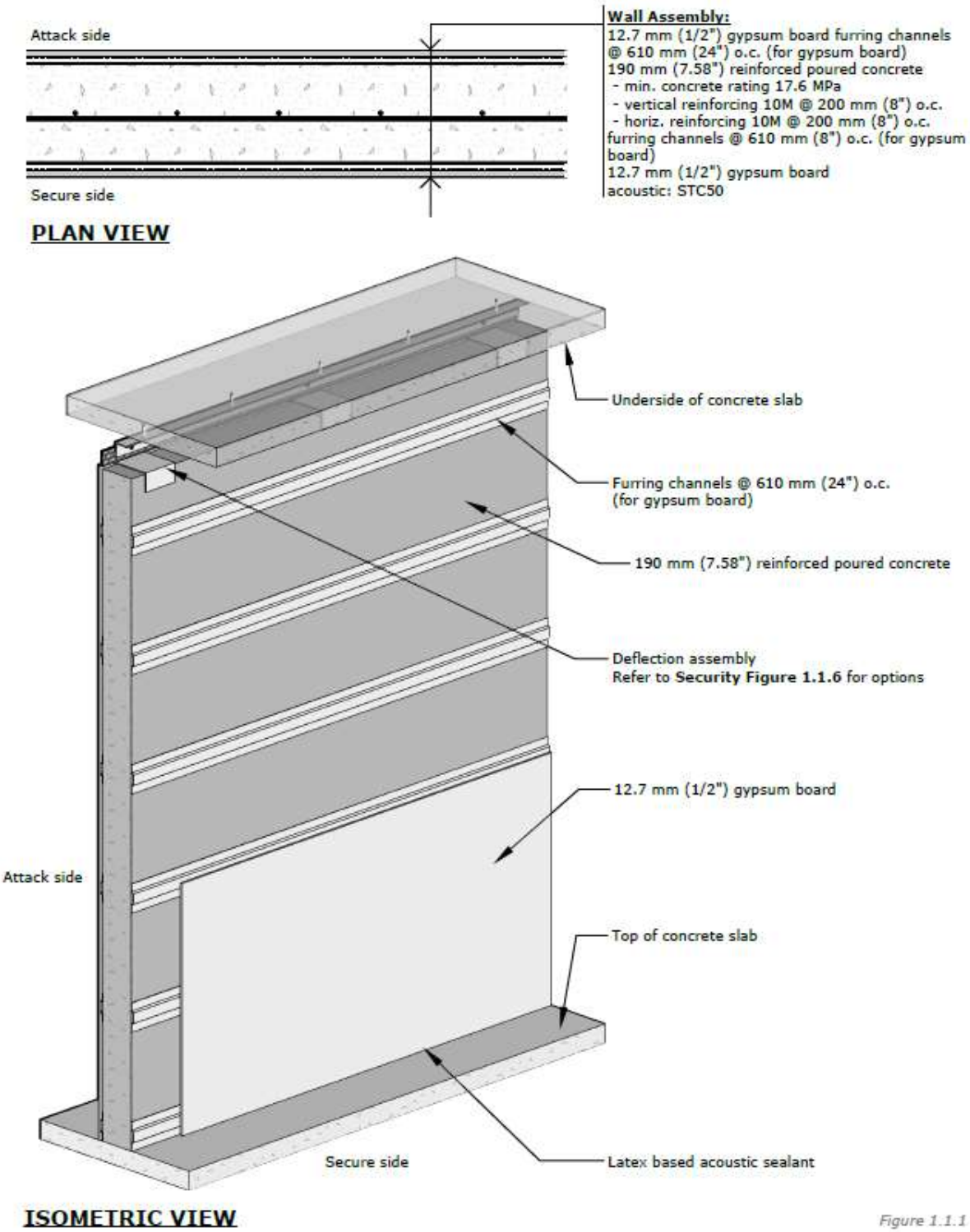


Figure 1.1.1

ANNEX – A

Security Figure 1.1.2 | Hardened Wall Type 1b: Bullet Resistant Concrete Block Wall

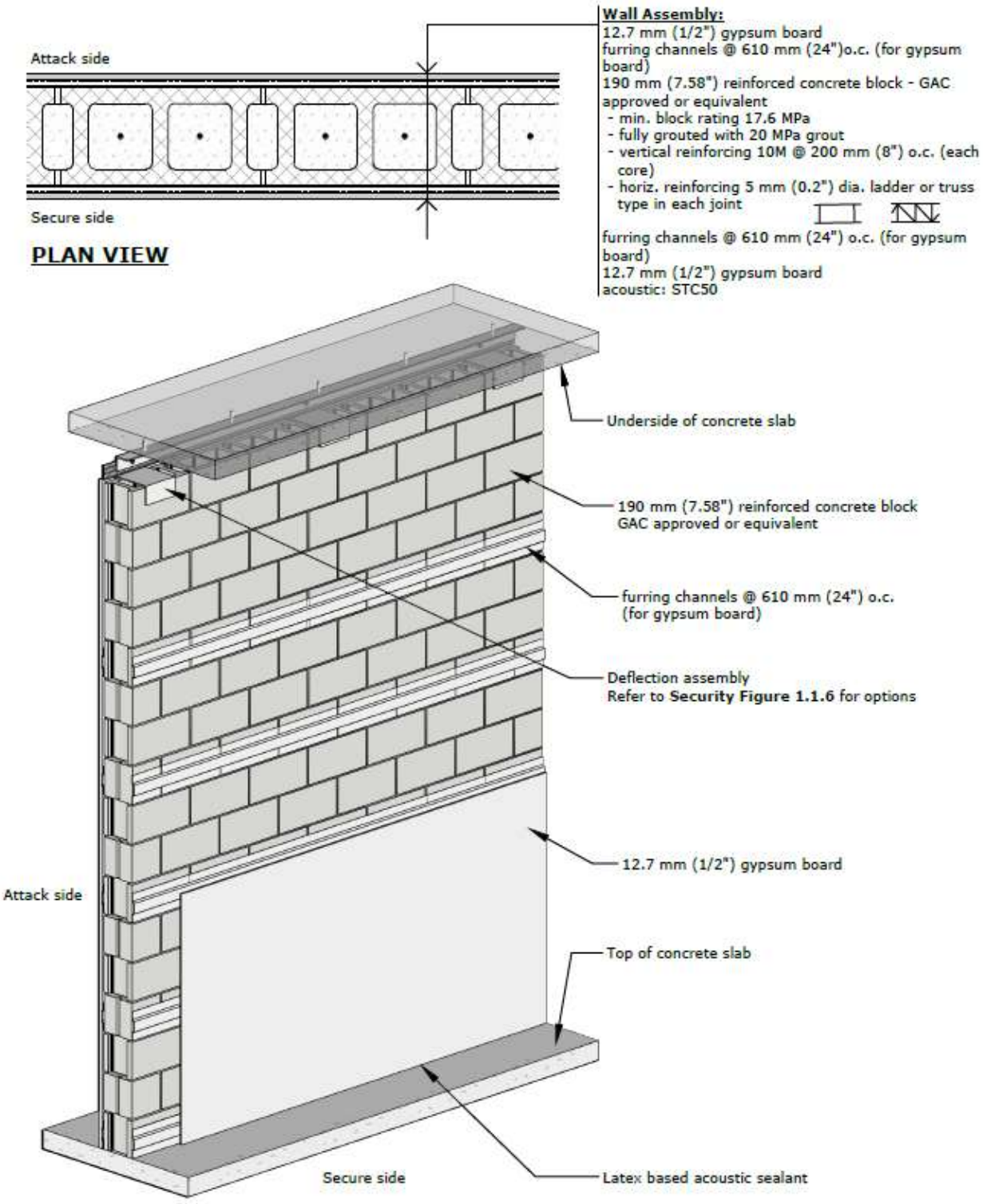


Figure 1.1.2

ANNEX – A

Security Figure 1.1.3 | Hardened Wall Type 2: Bullet Resistant Composite Wall

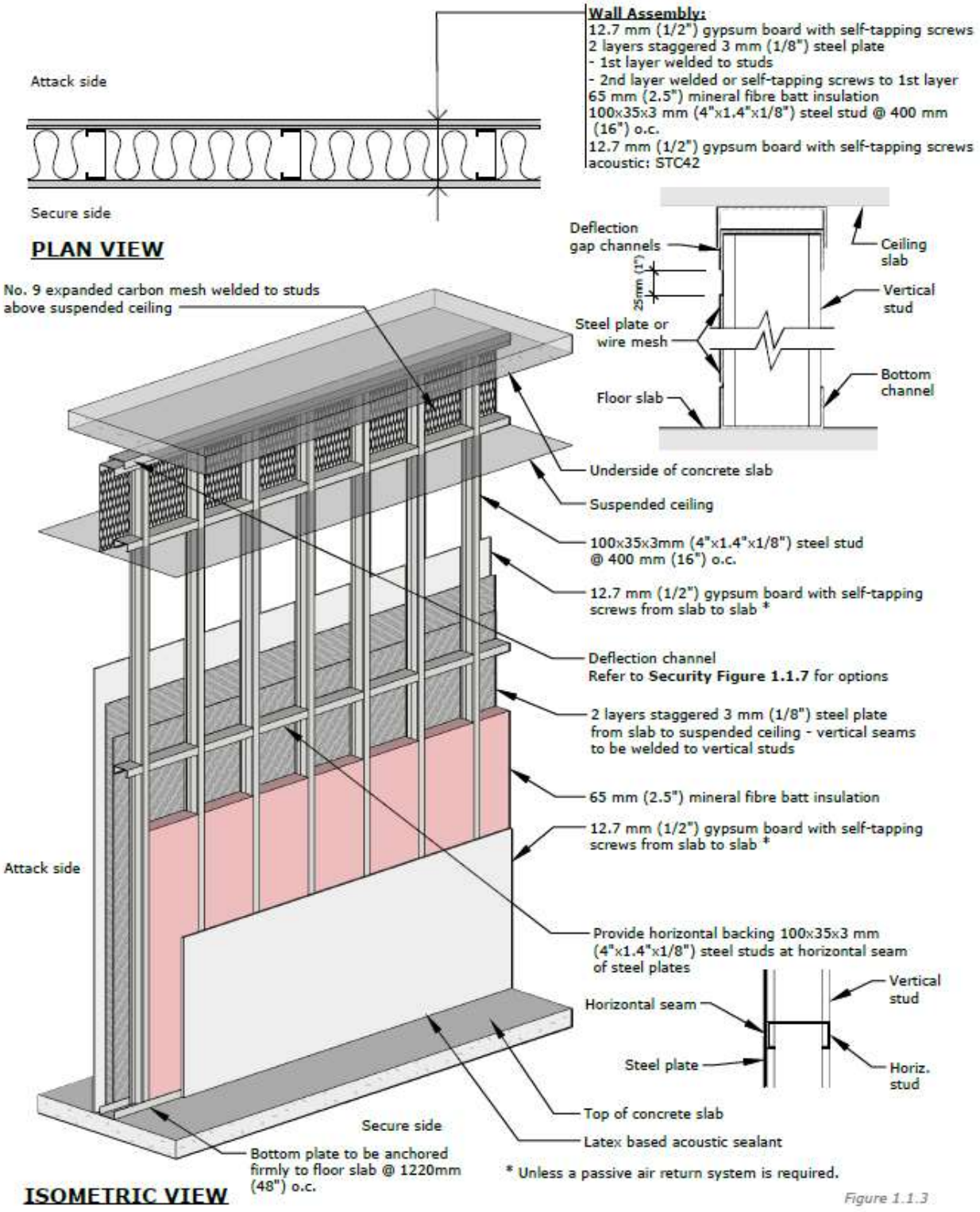


Figure 1.1.3

ANNEX – A

Security Figure 1.1.4 | Hardened Wall Type 3: Physically Resistant Composite Wall

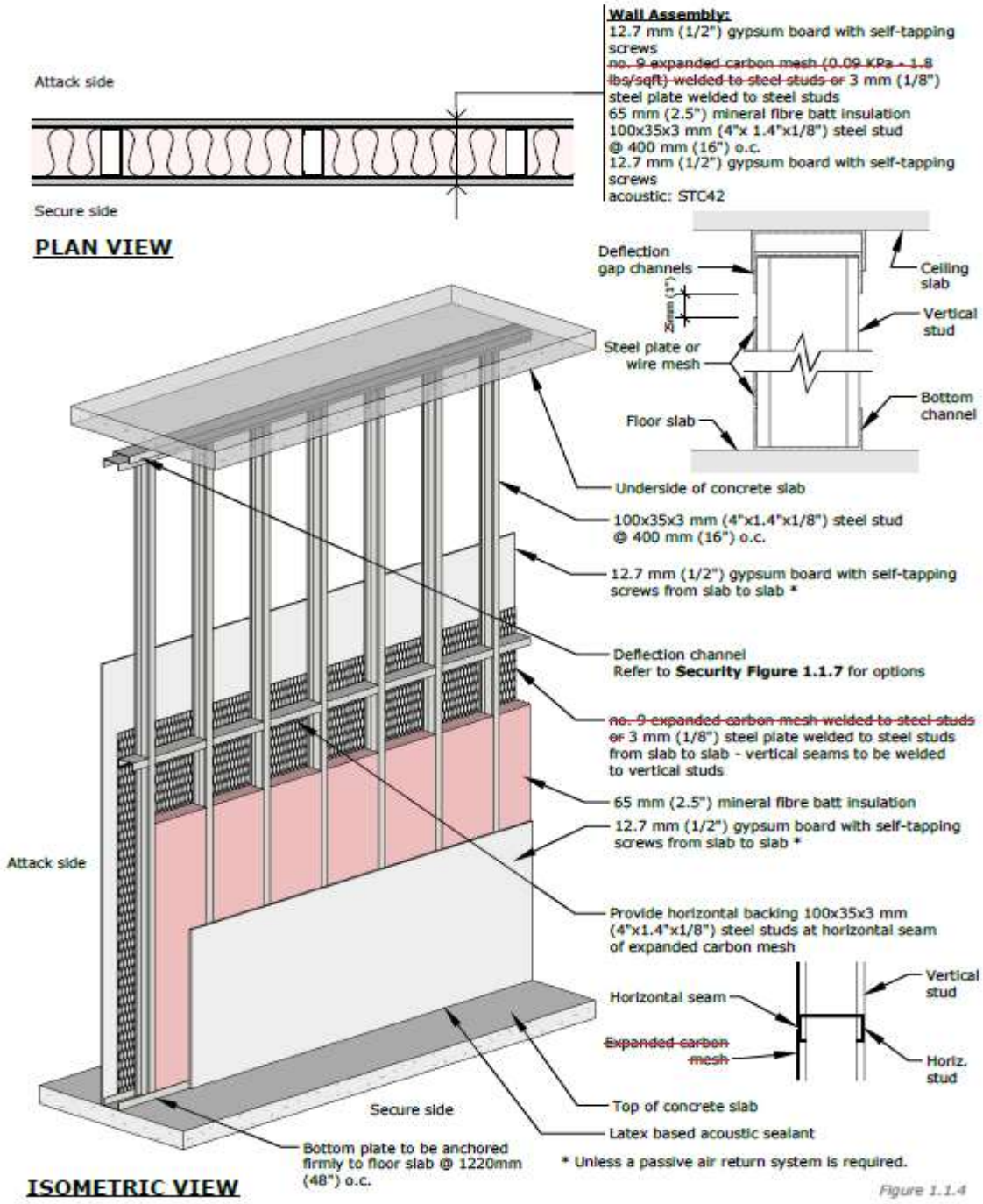
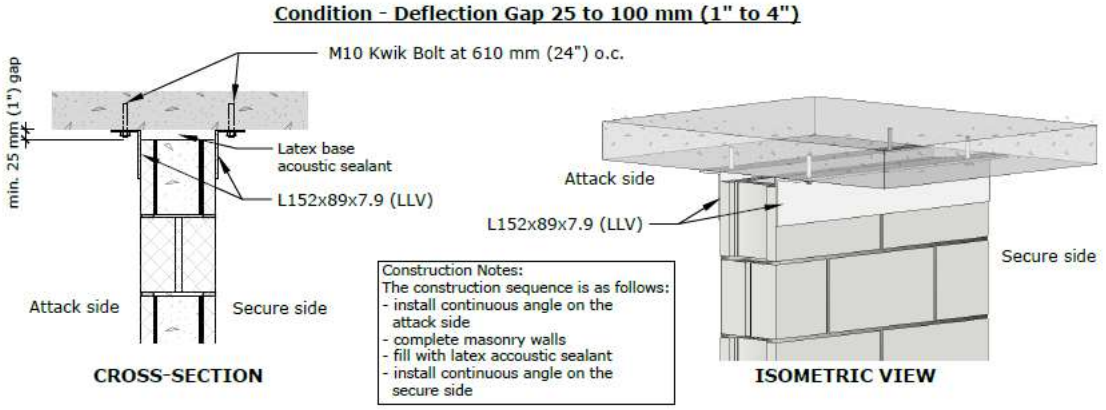


Figure 1.1.4

ANNEX – A

Security Figure 1.1.6 | Deflection Gap for Type 1a and1b Walls



Security Figure 1.1.7 | Deflection Channel for Type 2, 3 and 4 Walls

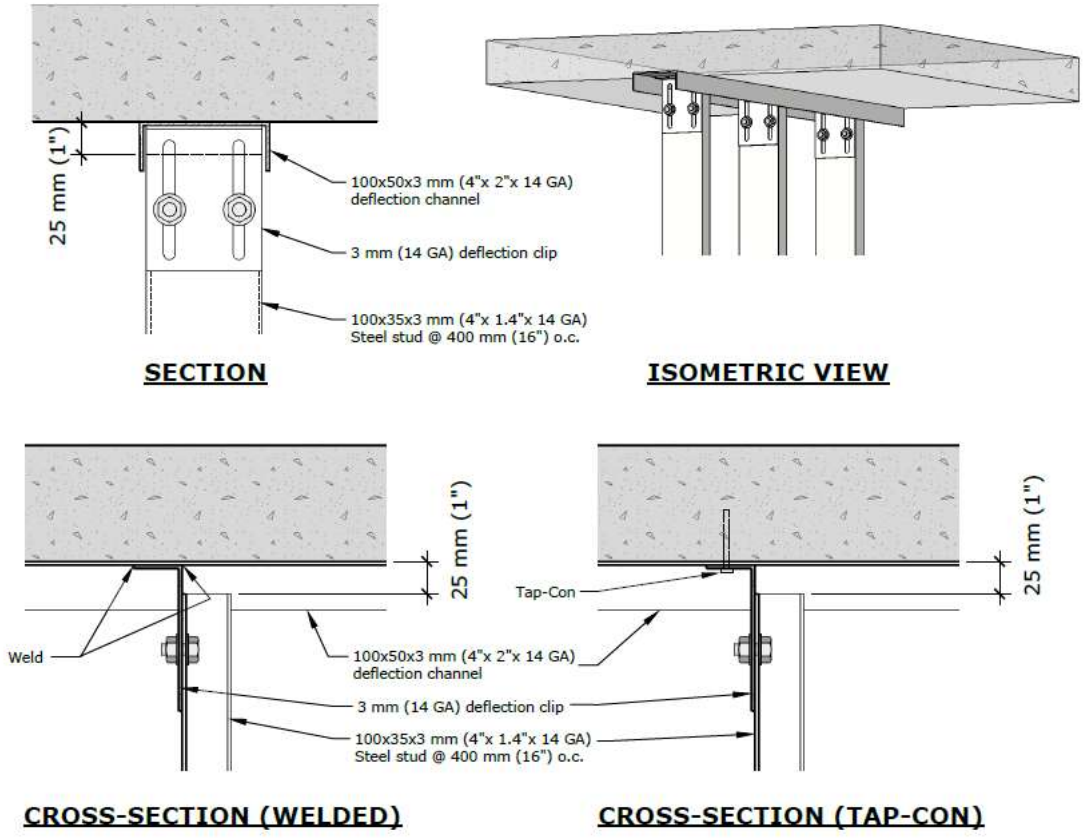
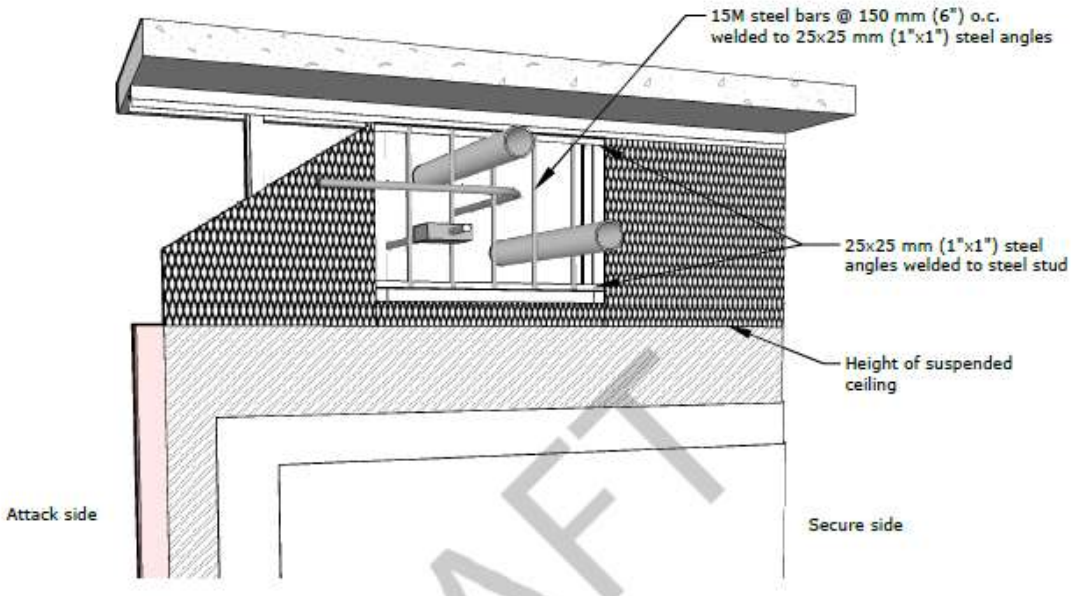


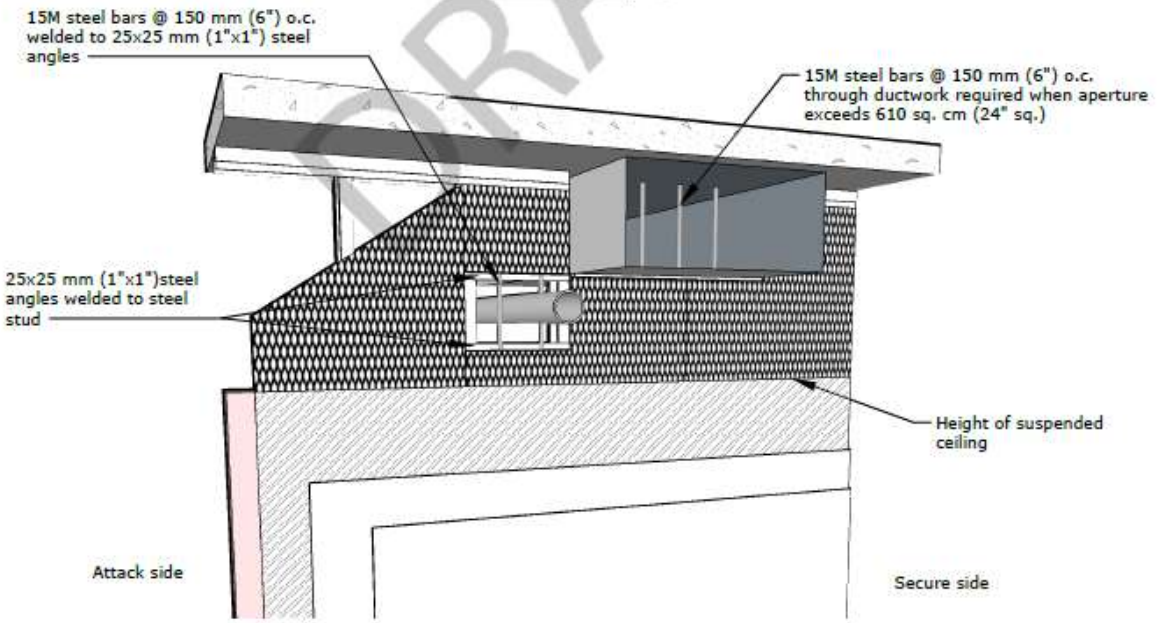
Figure 1.1.6 & 1.1.7

ANNEX – A

Security Figure 1.1.8 | Specialized Penetration Conditions



PERSPECTIVE

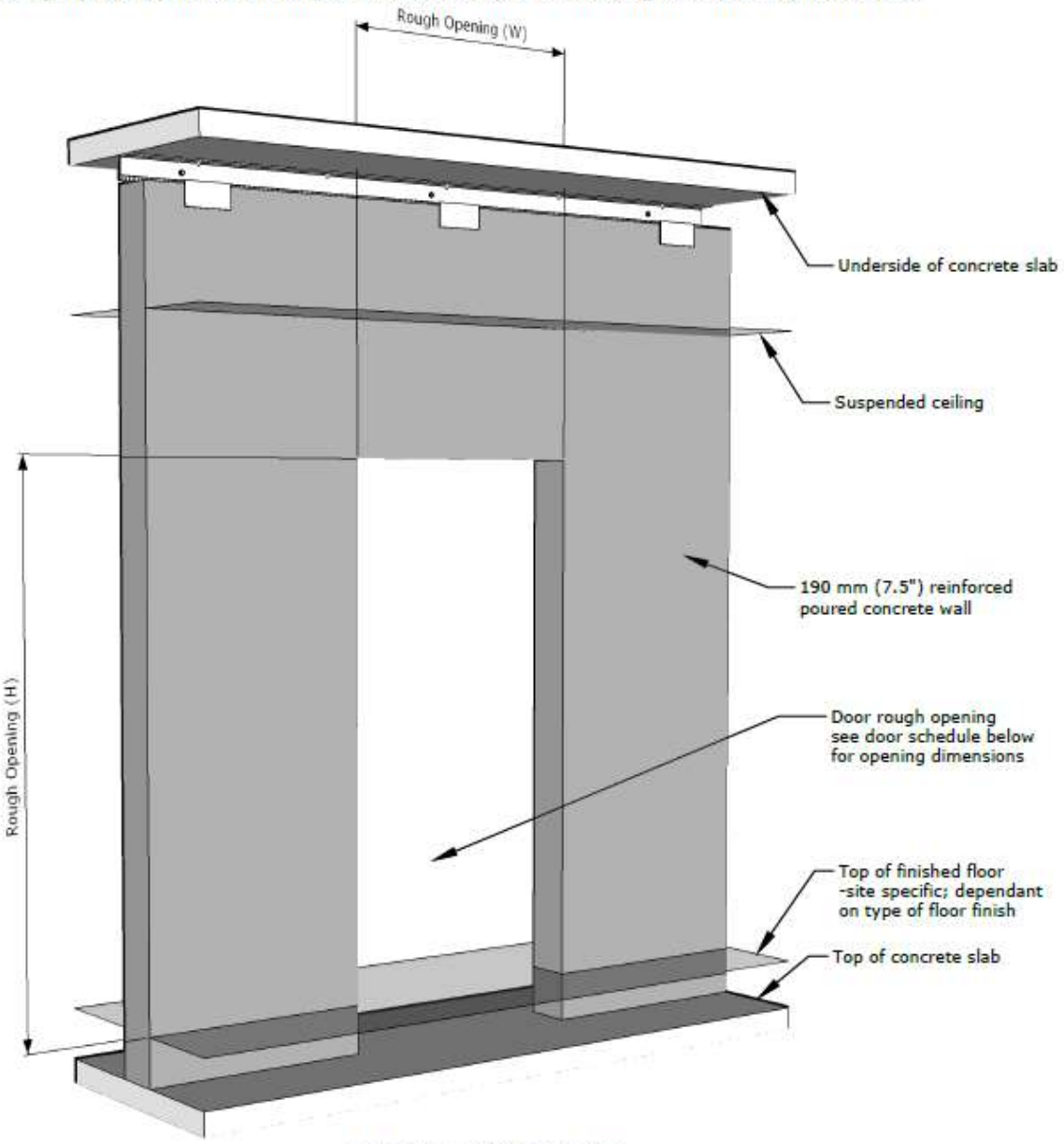


PERSPECTIVE

Figure 1.1.8

ANNEX – B

Security Figure 1.2.1 | Bullet and Physical Resistant Door Reinforcing for Poured Concrete Wall



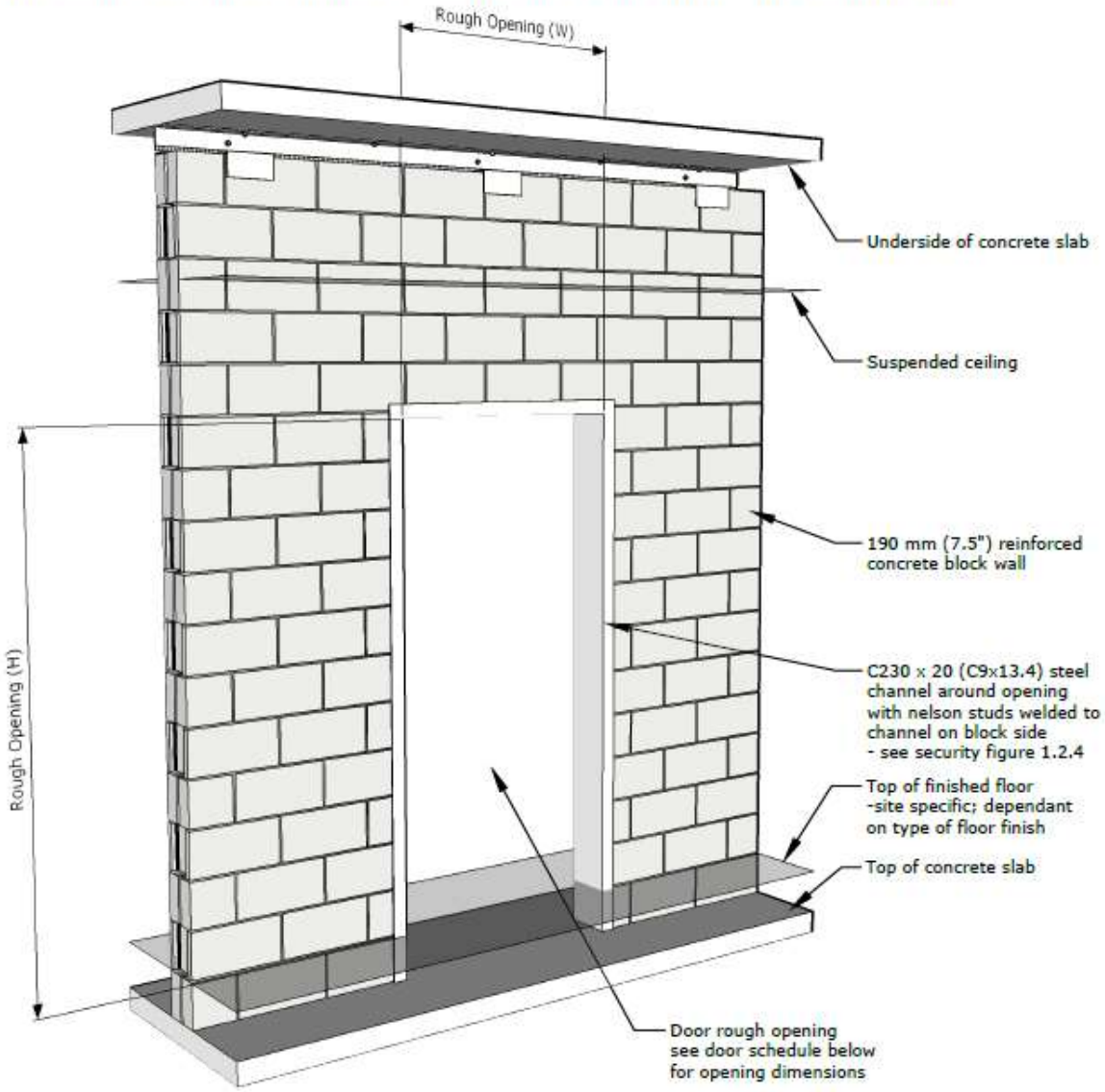
PERSPECTIVE VIEW

Door Schedule			
Door Type	**Nominal Door Size**	**Frame Size (W x H)**	**Rough Opening (W x H)**
BR1 Door - RIM Panic	914x2134x50mm (36x84x2")	1003x2178mm (39.5x85.75")	1016x2184mm (40x86")
BR2 Door - 712 Strike	914x2134x50mm (36x84x2")	1022x2188mm (40.25x86.125")	1035x2194mm (40.75x86.375")
BR3 Door - 310 Strike	914x2134x50mm (36x84x2")	1054x2204mm (41.5x86.75")	1067x2210mm (42x87")
PRA Door - RIM or 712 Strike	914x2134x45mm (36x84x1.75")	1016x2184mm (40x86")	1029x2191mm (40.5x86.25")
PRB Door - 310 Strike	914x2134x45mm (36x84x1.75")	1067x2210mm (42x87")	1080x2216mm (42.5x87.25")

Figure 1.2.1

ANNEX – B

Security Figure 1.2.2 | Bullet and Physical Resistant Door Reinforcing for Concrete Block Wall



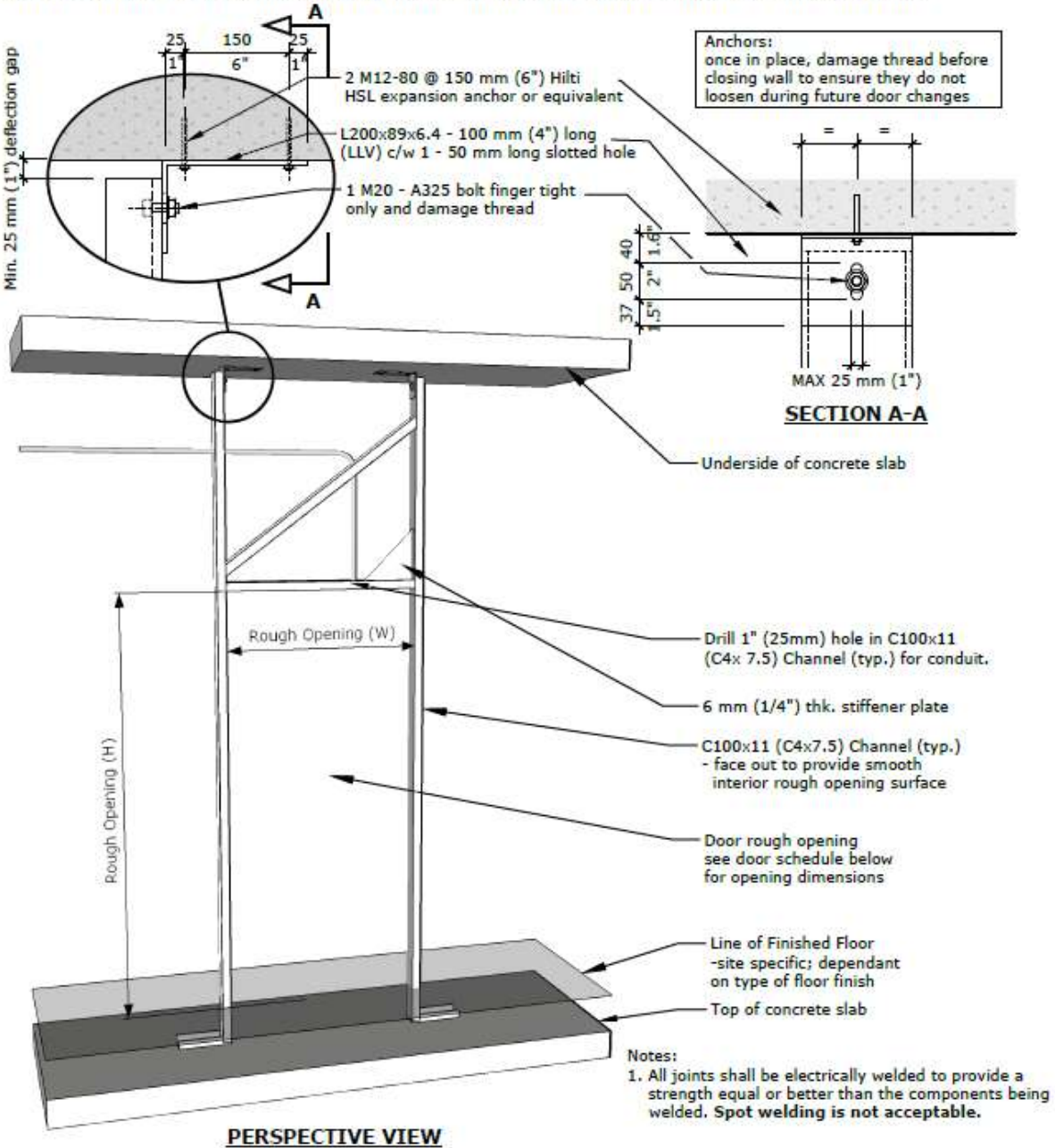
PERSPECTIVE VIEW

Door Schedule			
Door Type	**Nominal Door Size**	**Frame Size (W x H)**	**Rough Opening (W x H)**
BR1 Door - RIM Panic	914x2134x50mm (36x84x2")	1003x2178mm (39.5x85.75")	1016x2184mm (40x86")
BR2 Door - 712 Strike	914x2134x50mm (36x84x2")	1022x2188mm (40.25x86.125")	1035x2194mm (40.75x86.375")
BR3 Door - 310 Strike	914x2134x50mm (36x84x2")	1054x2204mm (41.5x86.75")	1067x2210mm (42x87")
PRA Door - RIM or 712 Strike	914x2134x45mm (36x84x1.75")	1016x2184mm (40x86")	1029x2191mm (40.5x86.25")
PRB Door - 310 Strike	914x2134x45mm (36x84x1.75")	1067x2210mm (42x87")	1080x2216mm (42.5x87.25")

Figure 1.2.2

ANNEX – B

Security Figure 1.2.3 | Reinforcing for Bullet and Physical Resistant Doors in Composite Walls

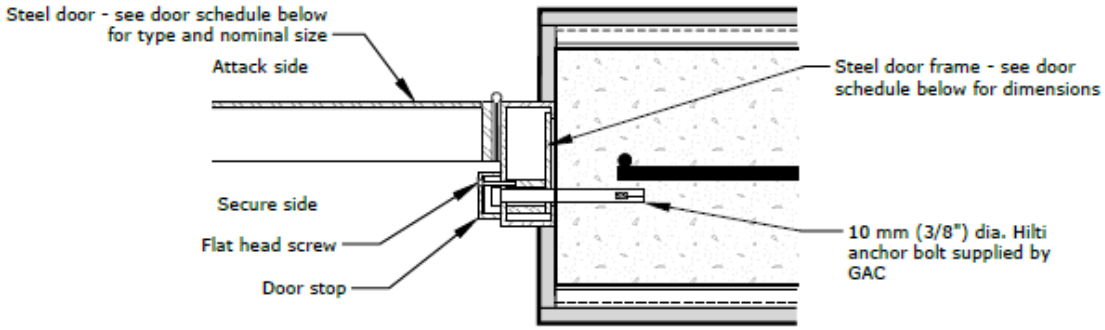


Door Schedule			
Door Type	**Nominal Door Size**	**Frame Size (W x H)**	**Rough Opening (W x H)**
BR1 Door - RIM Panic	914x2134x50mm (36x84x2")	1003x2178mm (39.5x85.75")	1016x2184mm (40x86")
BR2 Door - 712 Strike	914x2134x50mm (36x84x2")	1022x2188mm (40.25x86.125")	1035x2194mm (40.75x86.375")
BR3 Door - 310 Strike	914x2134x50mm (36x84x2")	1054x2204mm (41.5x86.75")	1067x2210mm (42x87")
PRA Door - RIM or 712 Strike	914x2134x45mm (36x84x1.75")	1016x2184mm (40x86")	1029x2191mm (40.5x86.25")
PRB Door - 310 Strike	914x2134x45mm (36x84x1.75")	1067x2210mm (42x87")	1080x2216mm (42.5x87.25")

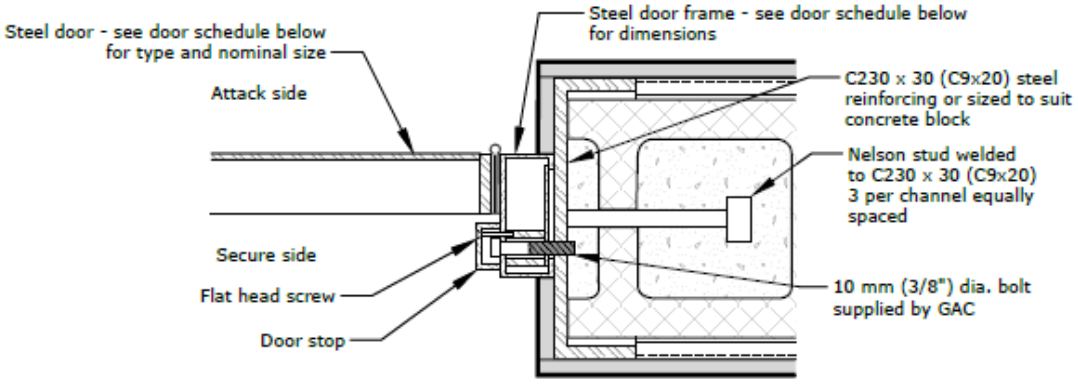
Figure 1.2.3

ANNEX – B

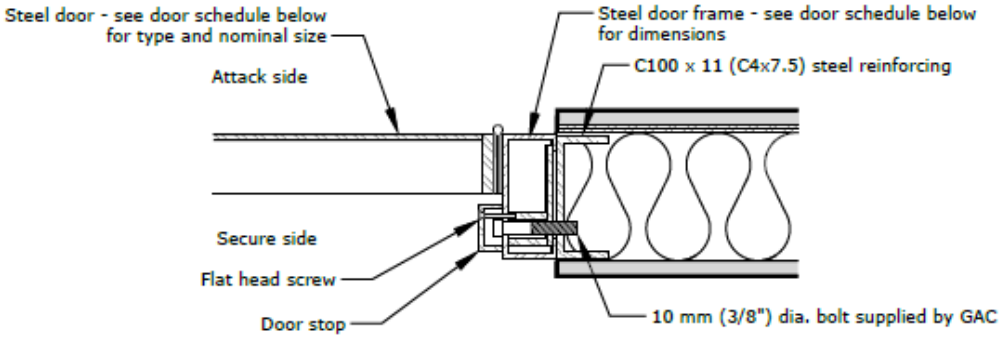
Security Figure 1.2.4 | Bullet Resistant Door Frame Attachment Details for Poured Concrete, Concrete Block and Composite Walls



POURED CONCRETE WALL FRAME ATTACHMENT DETAIL



CONCRETE BLOCK WALL FRAME ATTACHMENT DETAIL

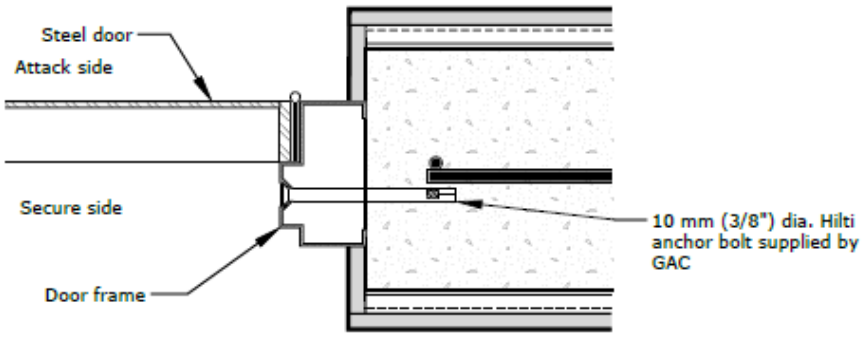


COMPOSITE WALL FRAME ATTACHMENT DETAIL

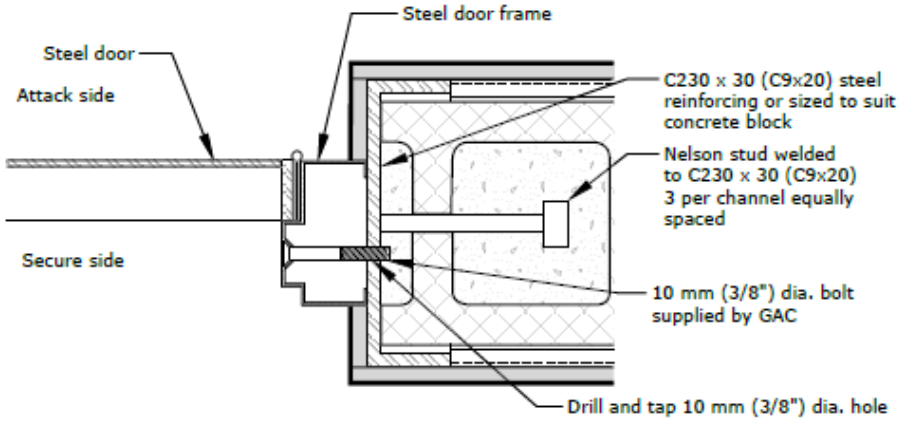
Figure 1.2.4

ANNEX – B

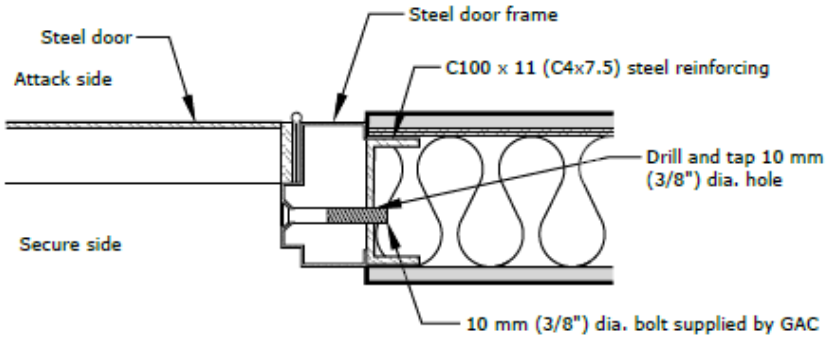
Security Figure 1.2.5 | Physically Resistant Door Frame Attachment Details for Poured Concrete, Concrete Block and Composite Walls



POURED CONCRETE WALL FRAME ATTACHMENT DETAIL



CONCRETE BLOCK WALL FRAME ATTACHMENT DETAIL

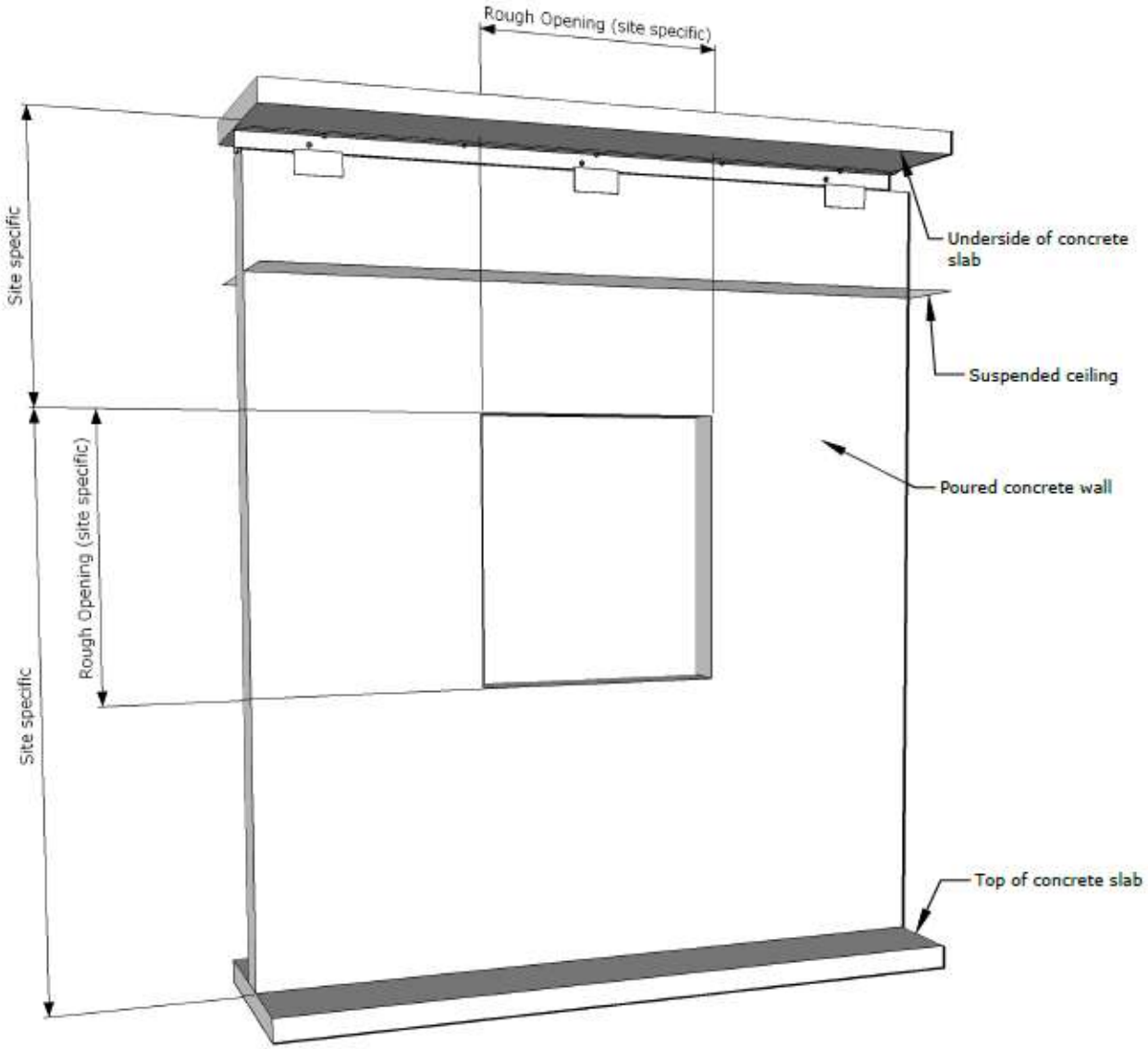


COMPOSITE WALL FRAME ATTACHMENT DETAIL

Figure 1.2.5

ANNEX – B

Security Figure 1.4.1 | Fixed Bullet Resistant Window Reinforcing Requirements for Poured Concrete Walls



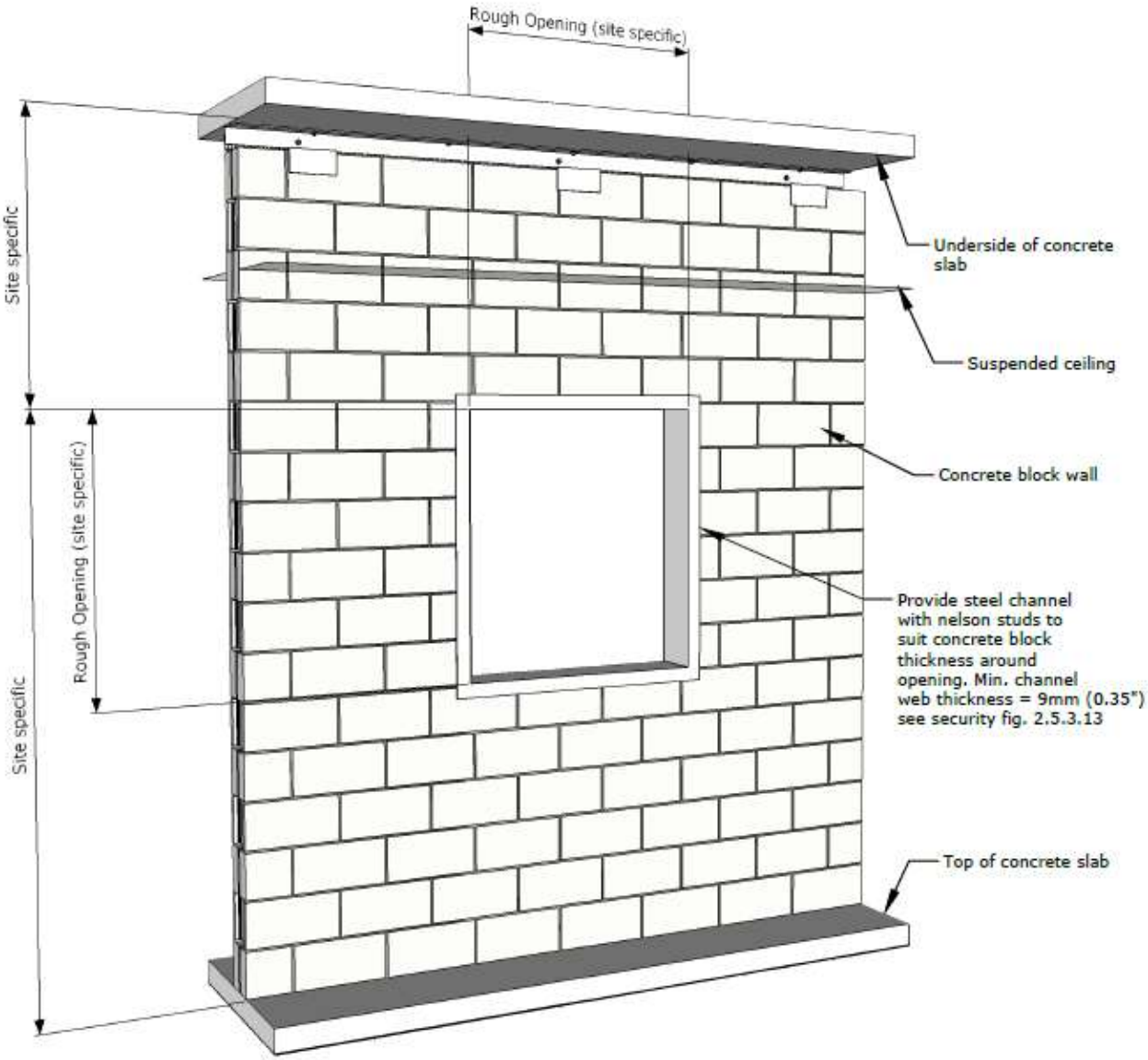
PERSPECTIVE VIEW

Note:
Architectural requirements, it is the contractors' responsibility to ensure the rough opening will accommodate the windows specified.

Figure 1.4.1

ANNEX – B

Security Figure 1.4.2 | Fixed Bullet Resistant window Reinforcing Requirements for Concrete Block Walls



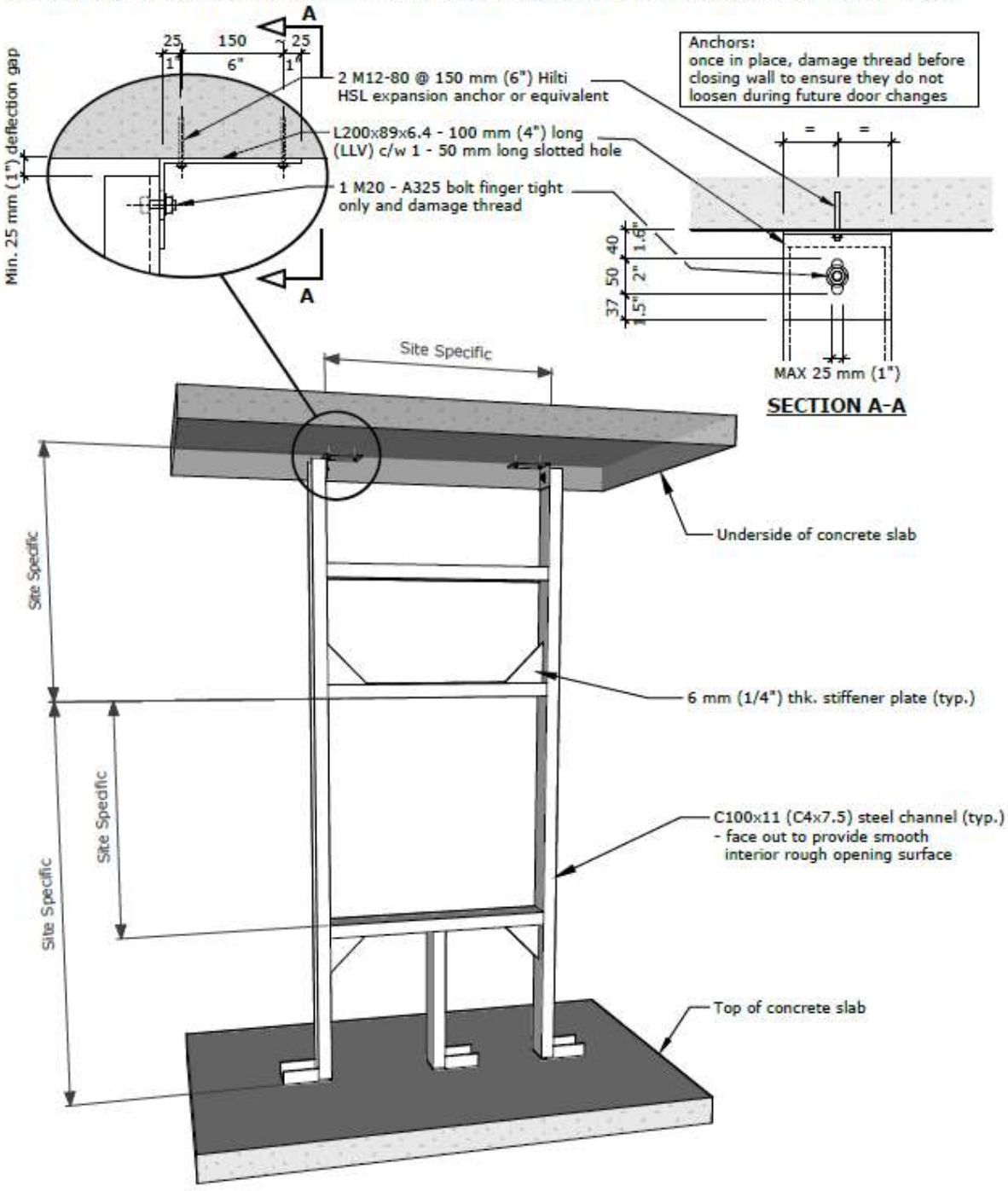
PERSPECTIVE VIEW

Note:
Architectural requirements, it is the contractors' responsibility to ensure the rough opening will accommodate the windows specified.

Figure 1.4.2

ANNEX – B

Security Figure 1.4.3 | Fixed Bullet Resistant Window Reinforcing Requirements for Composite Walls



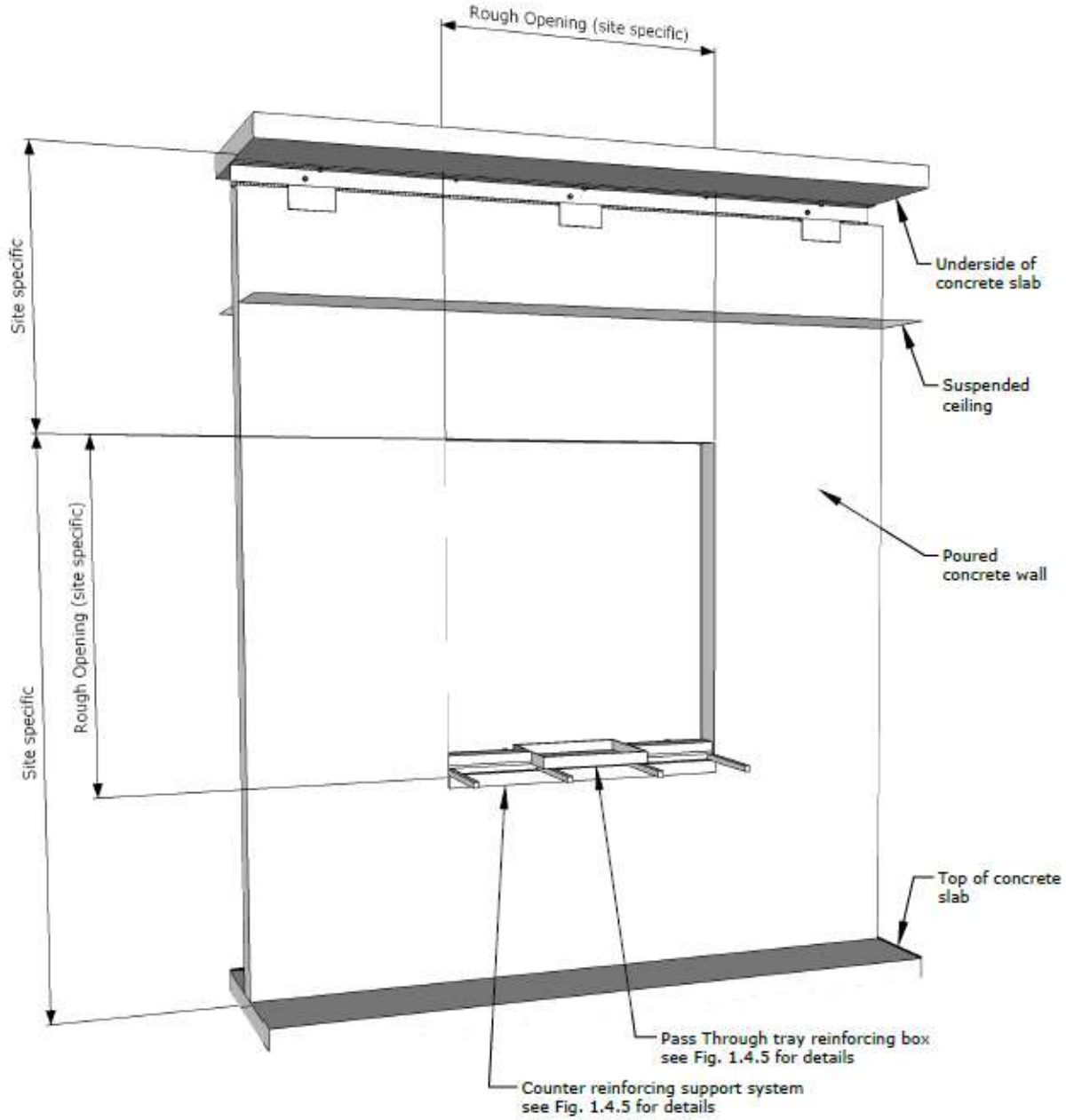
Notes:

1. Architectural requirements, it is the contractors' responsibility to ensure the rough opening will accommodate the windows specified.
2. All joints shall be electrically welded to provide a strength equal or better than the components being welded. **Spot welding is not acceptable.**

Figure 1.4.3

ANNEX – B

Security Figure 1.4.4 | Speak Through Bullet Resistant Window Reinforcing Requirements for Poured Concete Walls

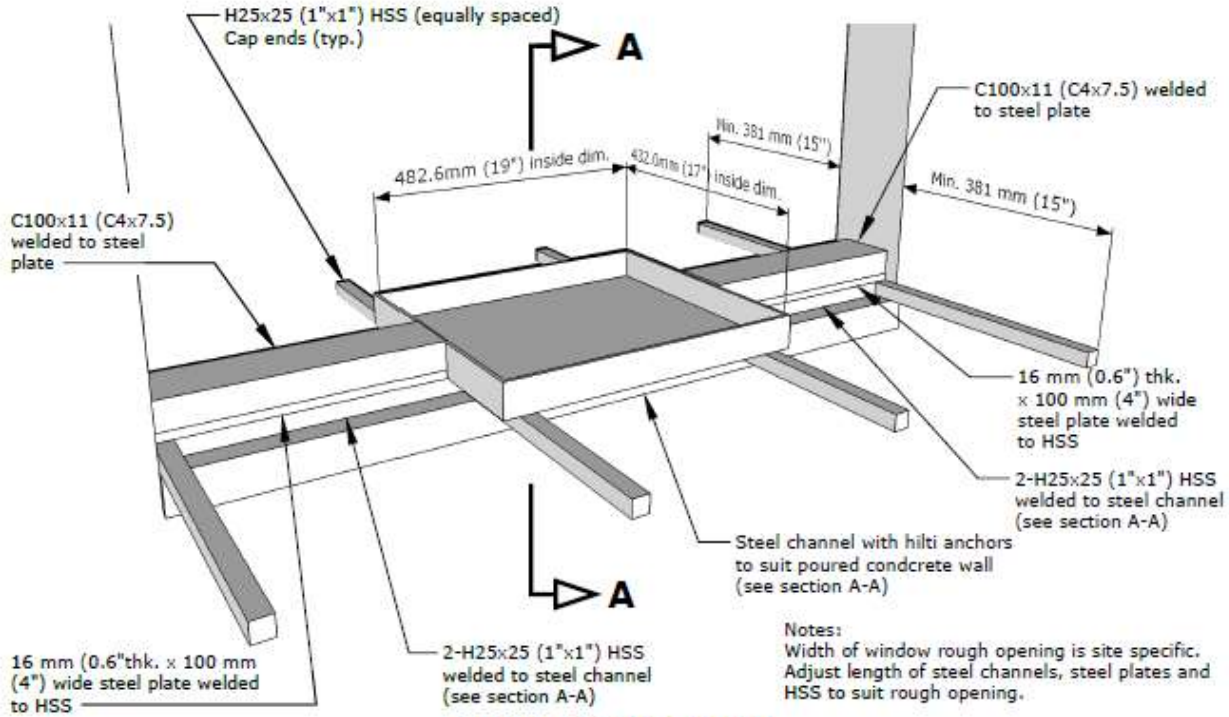


PERSPECTIVE VIEW

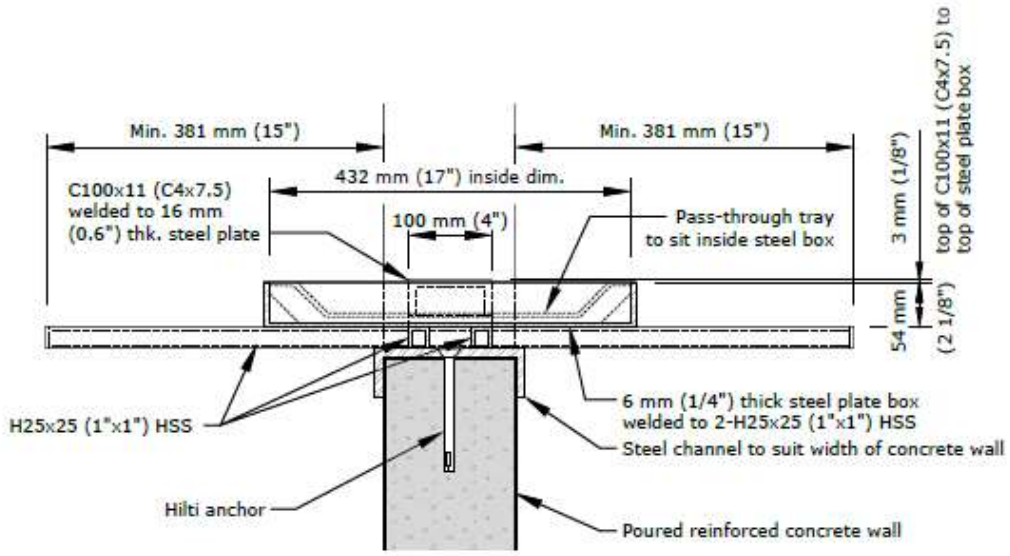
Figure 1.4.4

ANNEX – B

Security Figure 1.4.5 | Pass Through Tray Reinforcing Requirements for Poured Concrete Wall



PERSPECTIVE VIEW

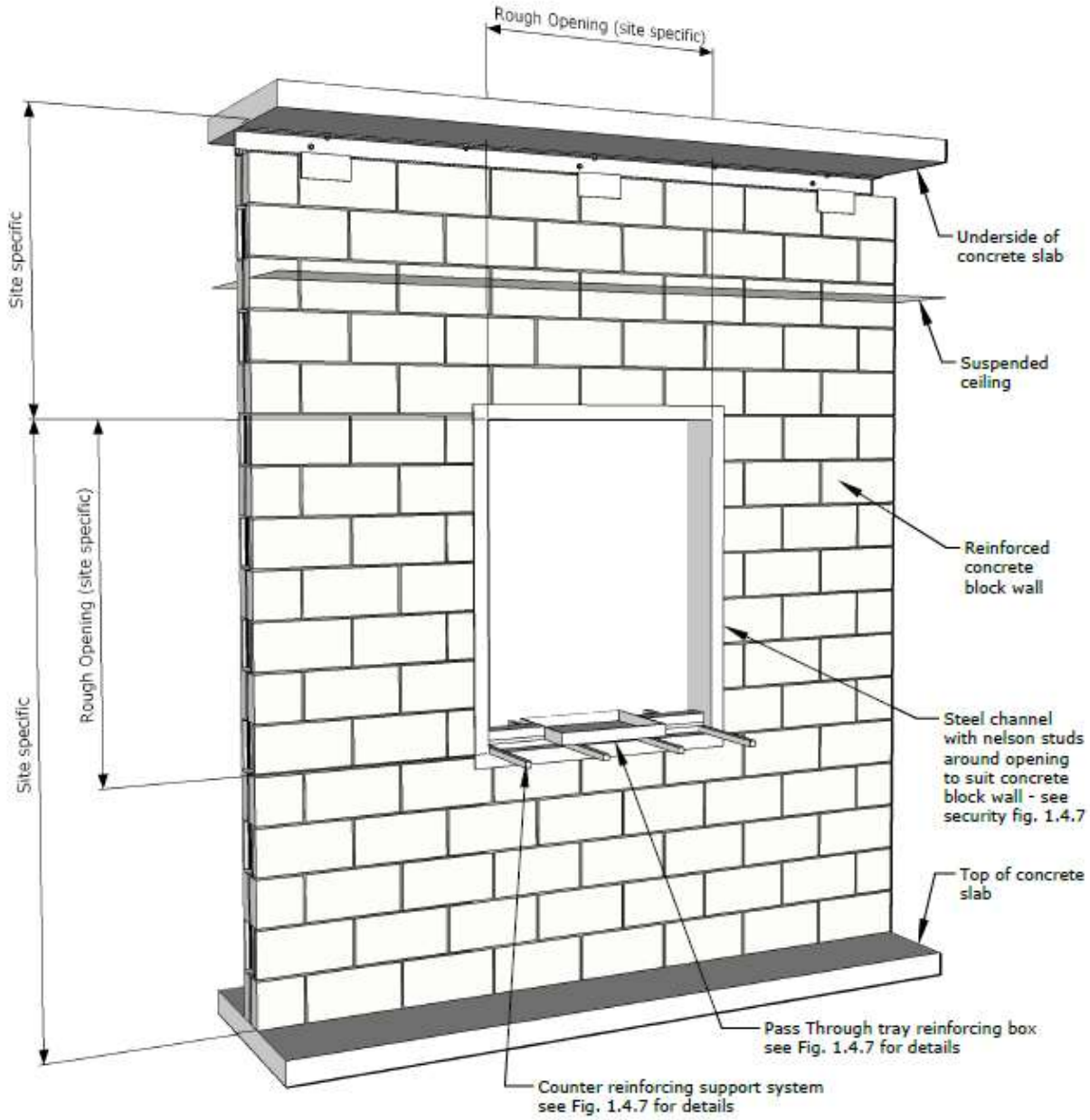


SECTION A-A

Figure 1.4.5

ANNEX – B

Security Figure 1.4.6 | Speak Through Bullet Resistant Window Reinforcing Requirements for Concete Block Walls

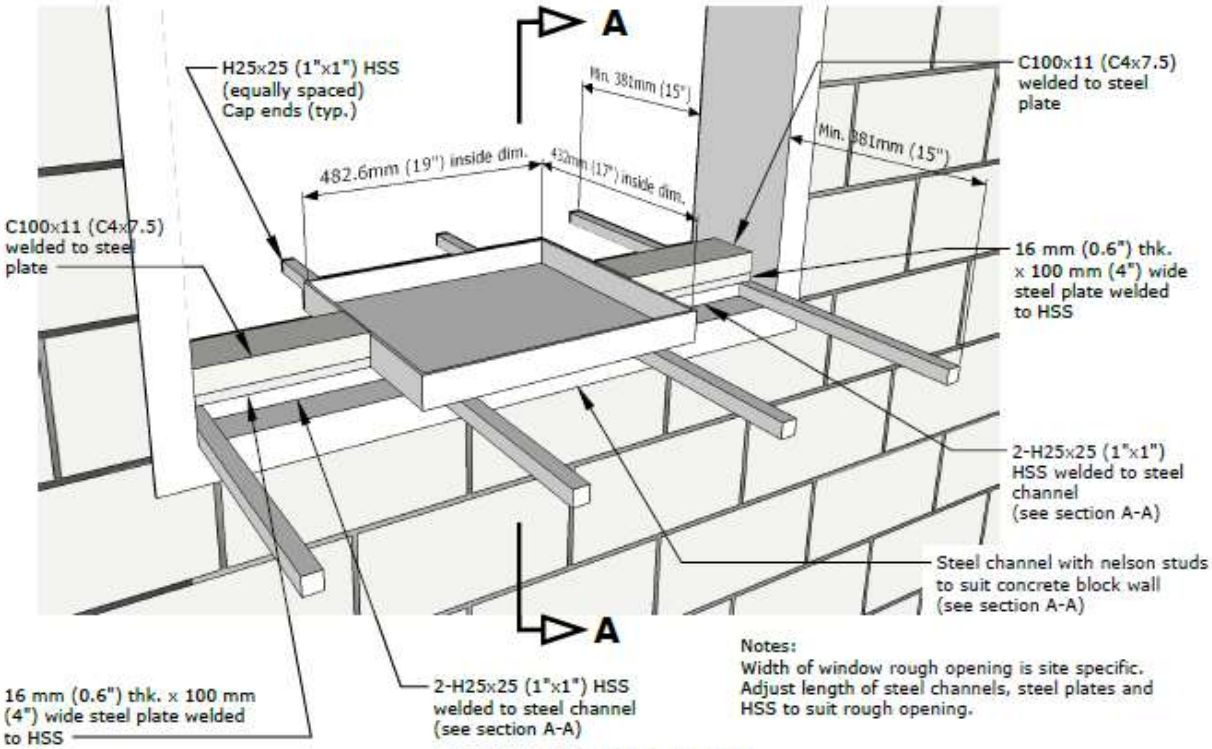


PERSPECTIVE VIEW

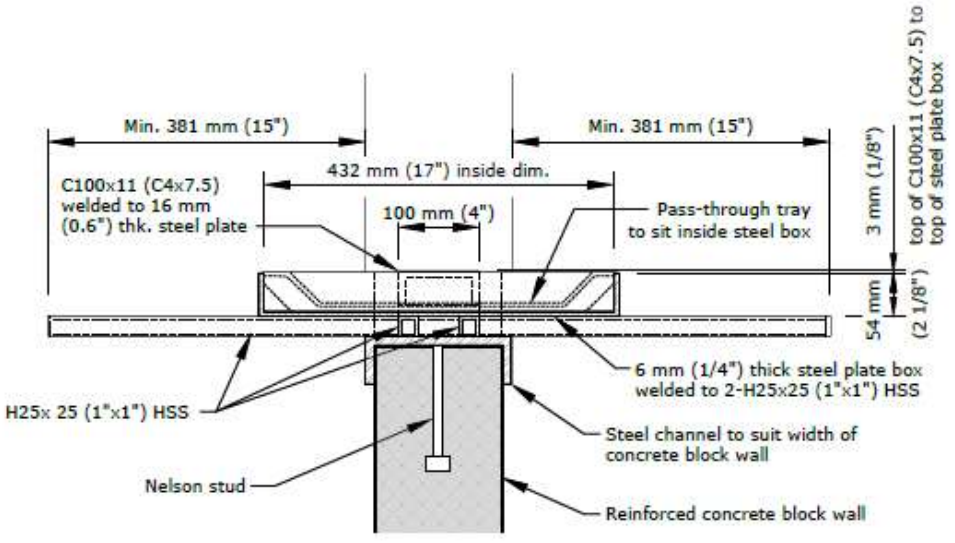
Figure 1.4.6

ANNEX – B

Security Figure 1.4.7 | Pass Through Tray Reinforcing Requirements for Concrete Block Wall



PERSPECTIVE VIEW

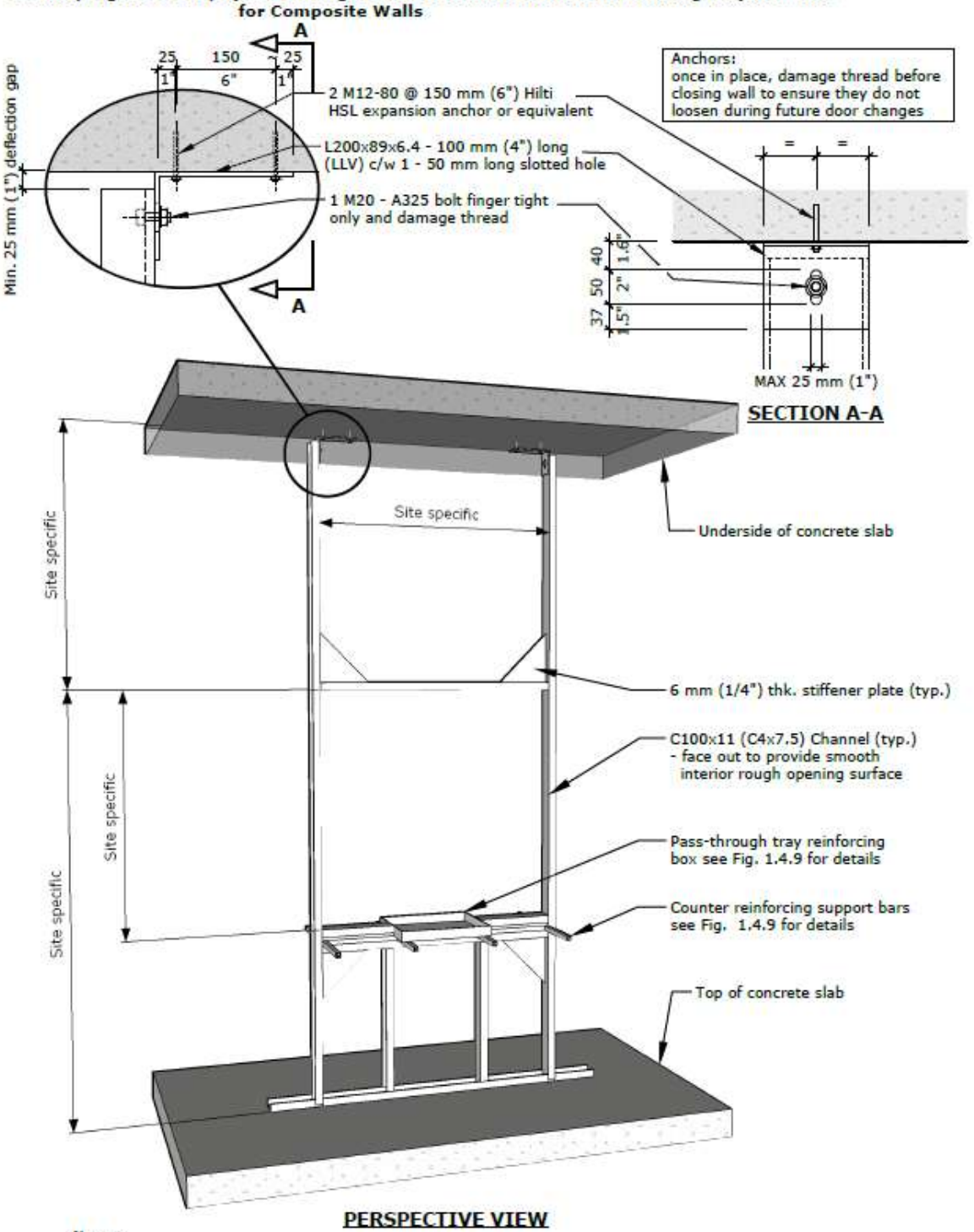


SECTION A-A

Figure 1.4.7

ANNEX – B

Security Figure 1.4.8 | Speak Through Bullet Resistant Window Reinforcing Requirements for Composite Walls



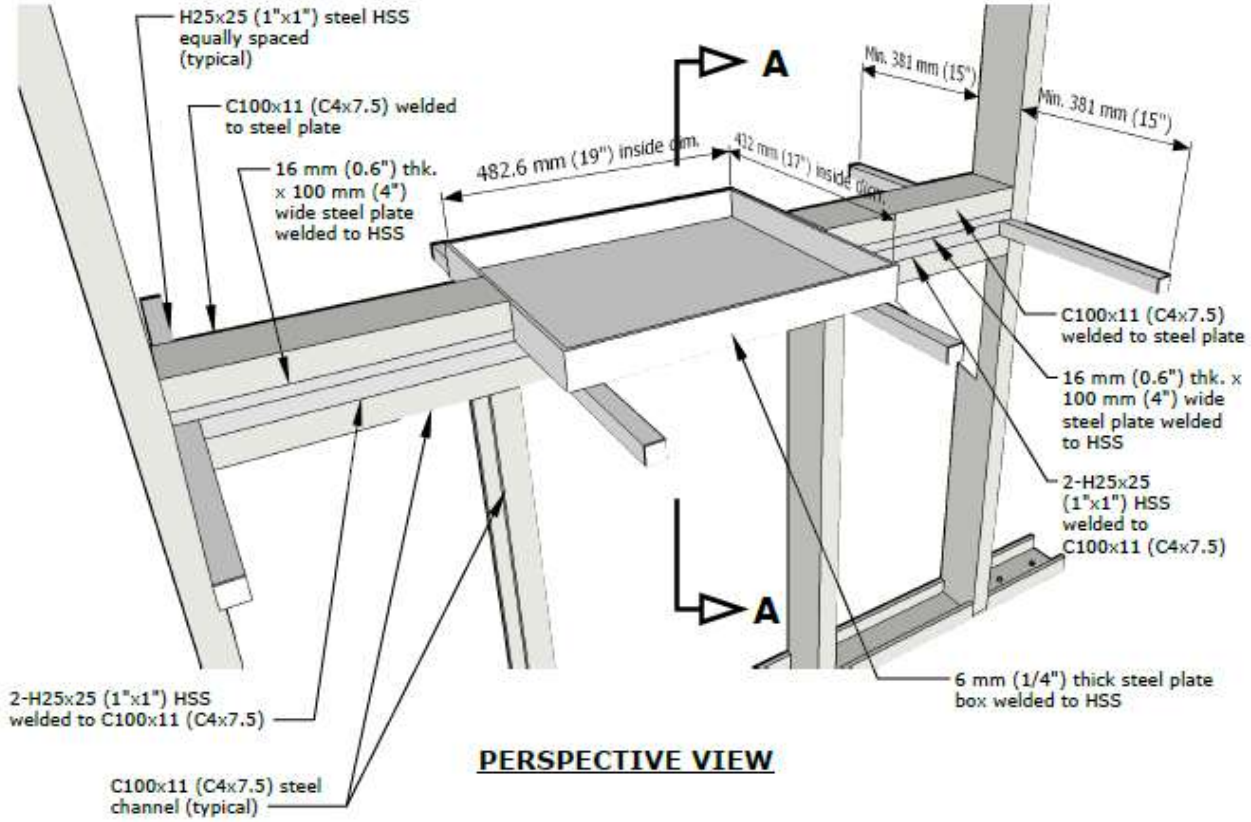
Notes:

1. Architectural requirements, it is the contractors' responsibility to ensure the rough opening will accommodate the windows specified.
2. All joints shall be electrically welded to provide a strength equal or better than the components being welded. **Spot welding is not acceptable.**

Figure 1.4.8

ANNEX – B

Security Figure 1.4.9 | Pass Through Tray Reinforcing Requirements for Composite Walls



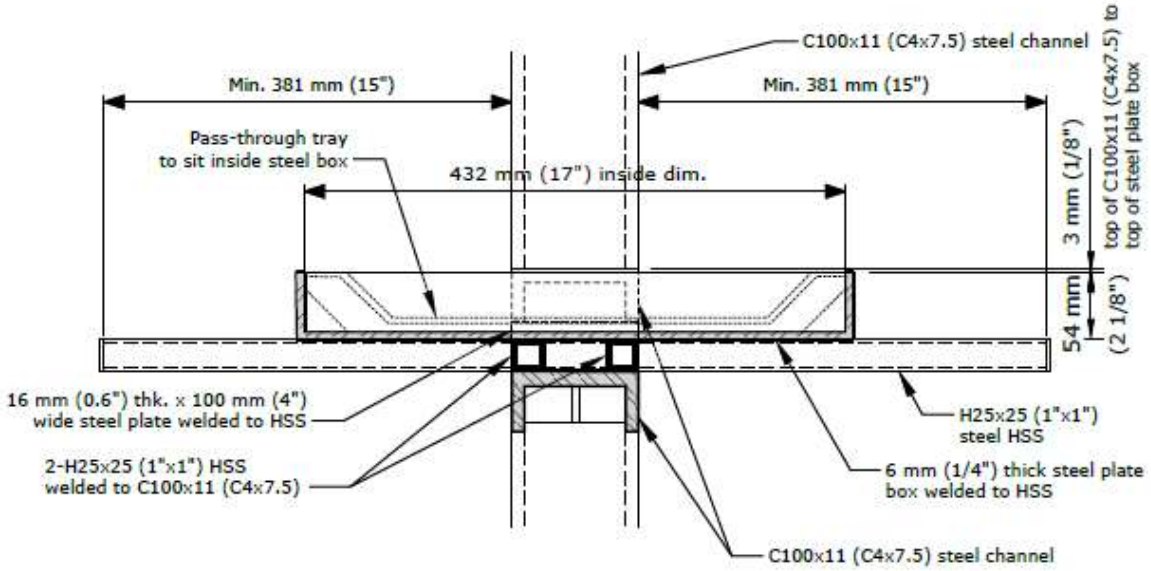
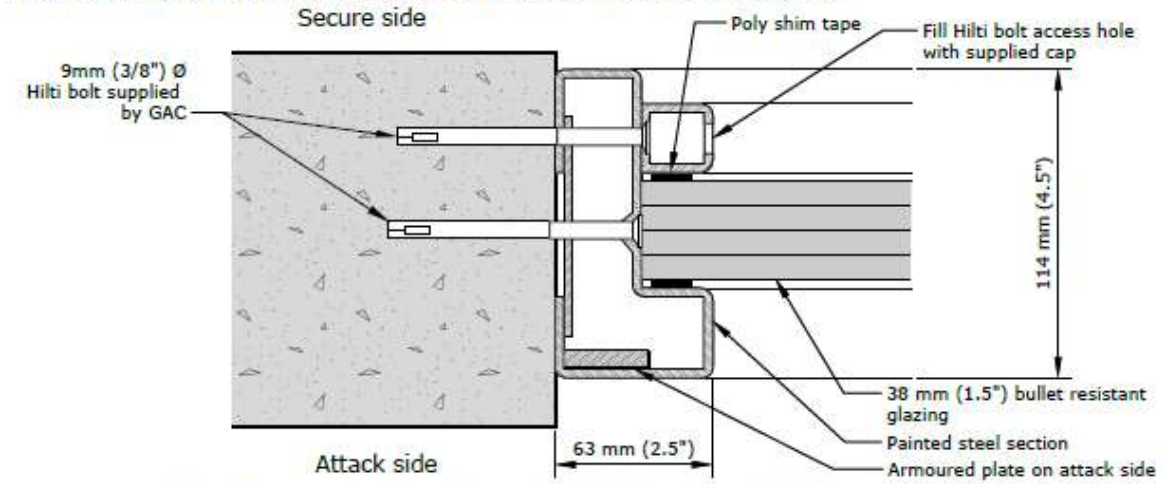


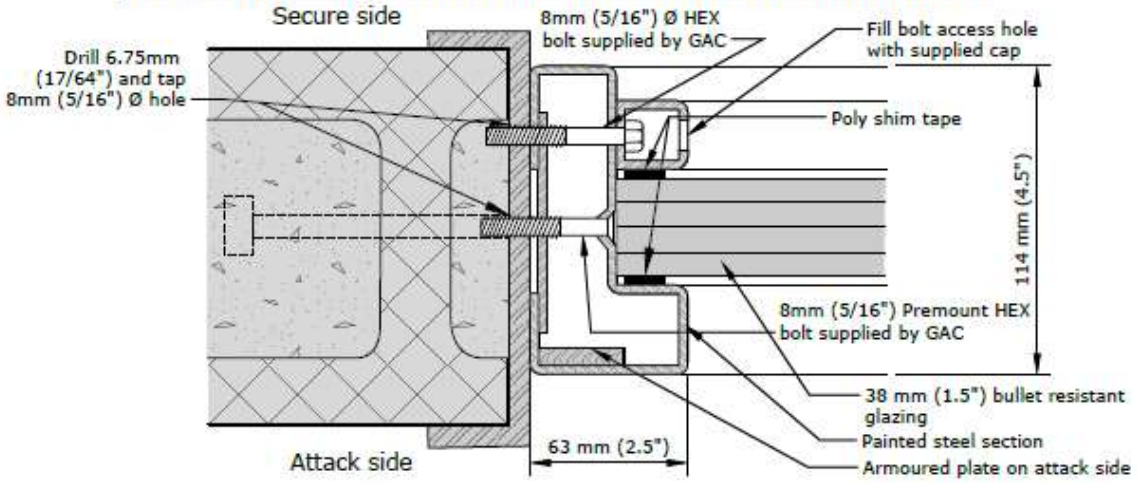
Figure 1.4.9

ANNEX – B

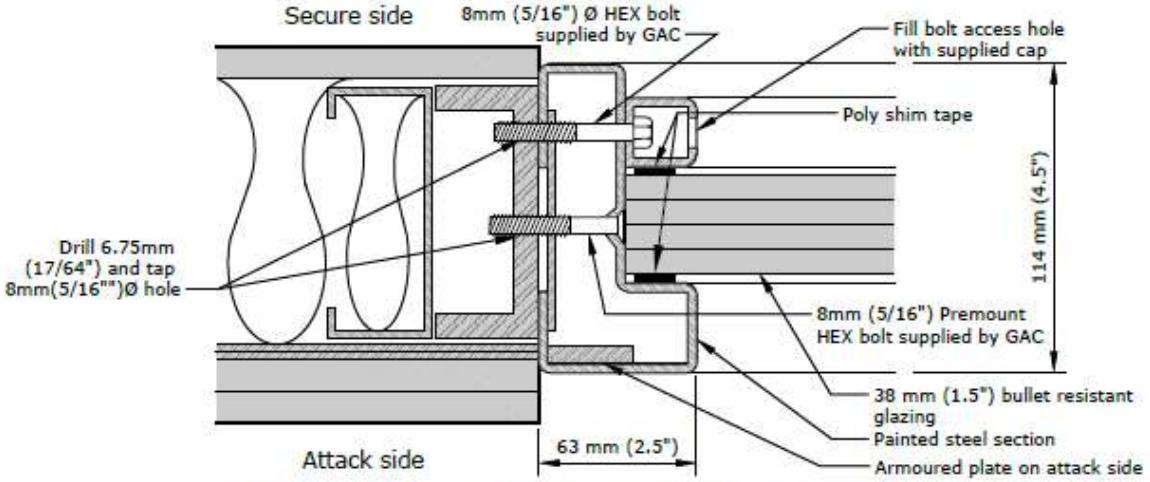
Security Figure 1.4.10 | Bullet Resistant Window Frame Attachment Details



FRAME ATTACHMENT DETAIL AT POURED CONCRETE WALL



FRAME ATTACHMENT DETAIL AT CONCRETE BLOCK WALL

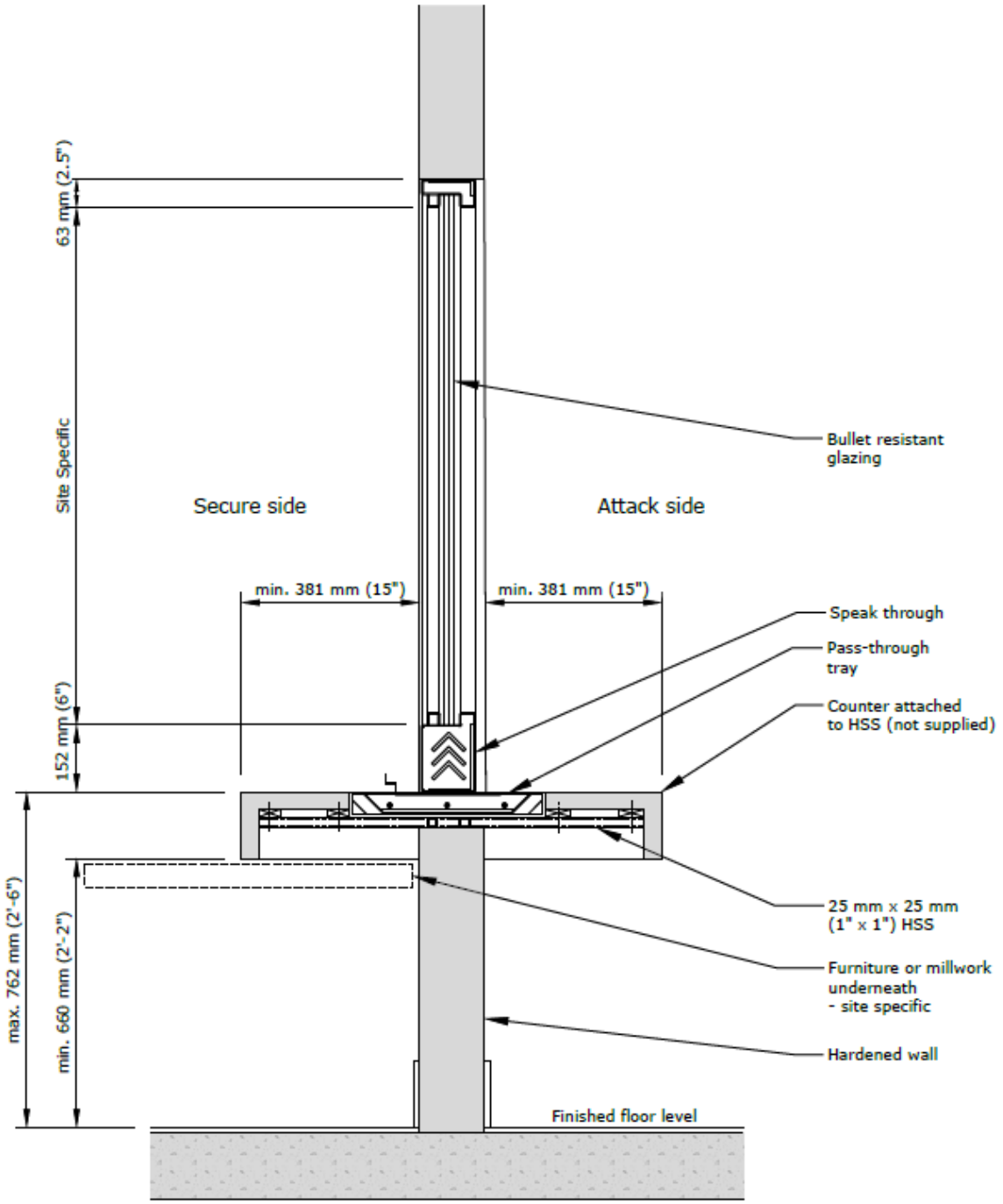


FRAME ATTACHMENT DETAIL AT COMPOSITE WALL

Figure 1.4.10

ANNEX – B

Security Figure 1.4.11 | Speak Through Window Vertical Section - Seated Position

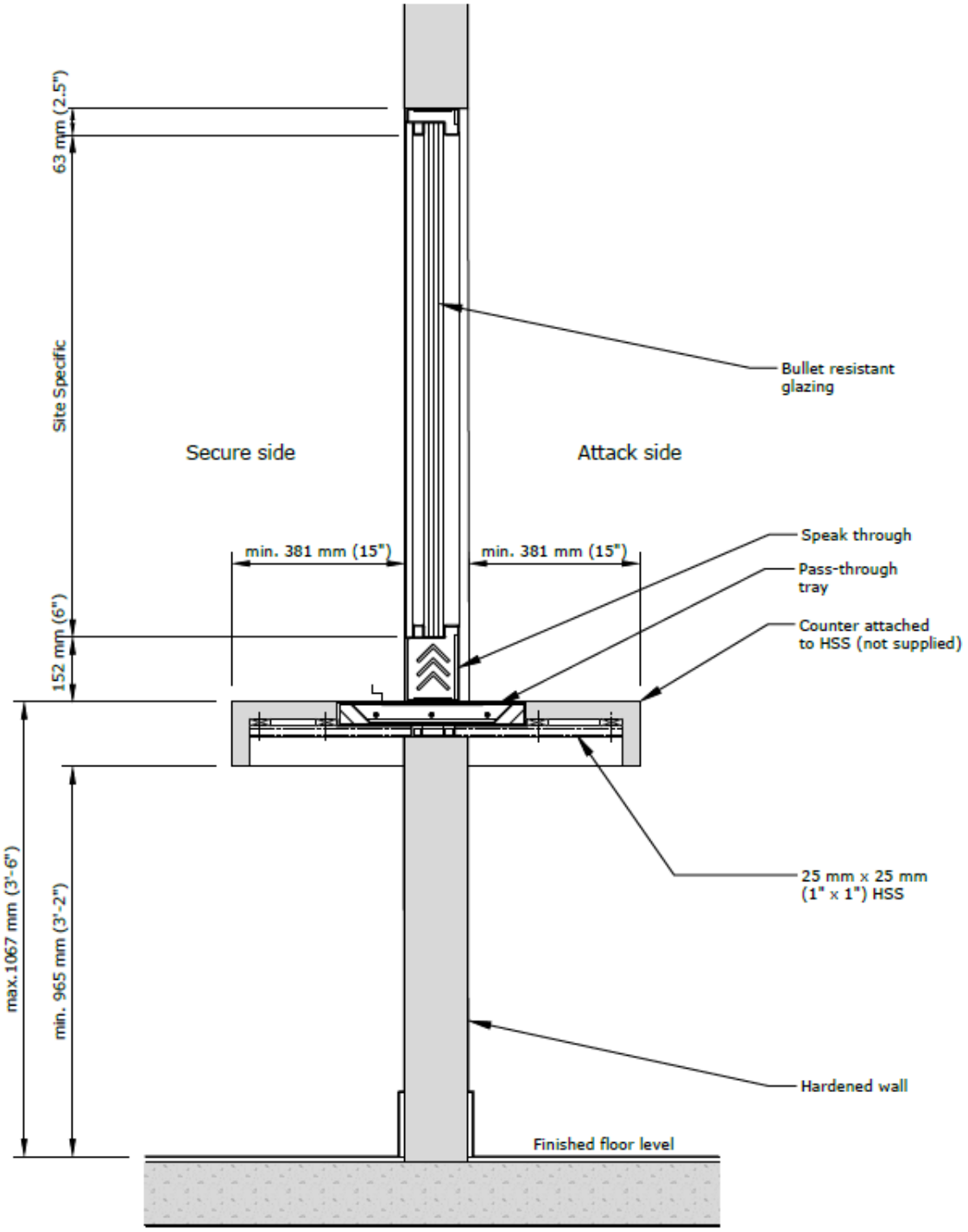


SECTION

Figure 1.4.11

ANNEX – B

Security Figure 1.4.12 | Speak Through Window Vertical Section - Standing Position

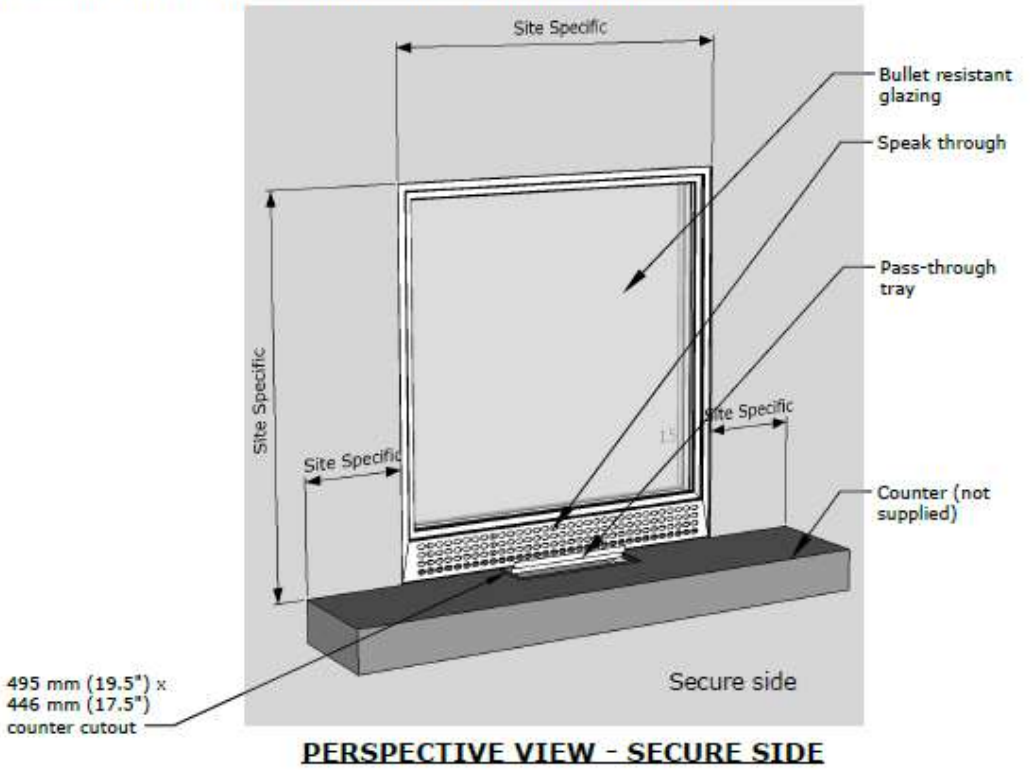


SECTION

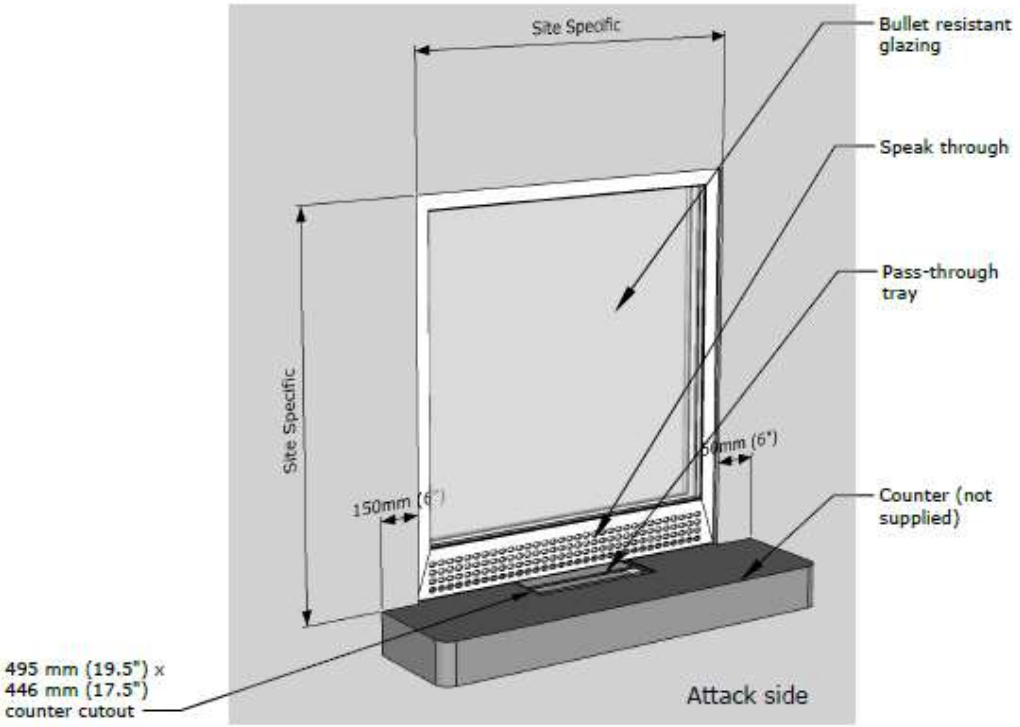
Figure 1.4.12

ANNEX – B

Security Figure 1.4.13 | Speak Through Window Generic Counter Design



PERSPECTIVE VIEW - SECURE SIDE



PERSPECTIVE VIEW - ATTACK SIDE

Figure 1.4.13

ANNEX – C

IDACS - Intrusion Detection Access Control System

The following technical requirements are to be adhered to in conjunction with the attached generic drawings:

Figure 2.1.1 | Conduit and electrical Boxes Requirements (GAC Supplied)
Figure 2.1.2 | Conduit Requirements (Locally Supplied)
Figure 2.1.3 | Color Coding
Figure 2.1.4 | Junction Box Size Calculation
Figure 2.1.5 | Conduit Bends and Junction Box Requirements
Figure 2.1.8 | CESS Room Backboard Profiles
Figure 2.1.9 | Airlock Conduit Layout Plan – Single Junction Box
Figure 2.1.10 | Airlock Conduit Layout Plan – Double Junction Box
Figure 2.1.11 | Airlock or Access Control Door Conduit Layout (for GAC supplied doors only)
Figure 2.1.12 | Access Control Door Conduit Layout (for locally supplied doors)
Figure 2.1.14 | Recessed Door Contact Conduit Layout
Figure 2.1.15 | Wall Mounted Device Conduit Layout
Figure 2.1.16 | Ceiling Mounted Device Conduit Layout
Figure 2.1.17 | Keypad Back box – Composite Wall
Figure 2.1.18 | Keypad Back box – Concrete Wall
Figure 2.1.22 |Reception Zone Infrastructure

IDACS Conduit Requirements

All conduits to include nylon pull cords. All conduit measurements are inside diameter. 25mm (1") Conduit is to terminate in an electrical box approximately 100mm x 100mm x 50mm (4 x 4 x 2") and greater than 25mm (1") is to terminate in an electrical box approximately 150mm x 150mm x 50mm (6 x 6 x 2"), both sizes depending on local standards. The conduit runs shown for IDACS indicate a possible route that can be used by the contractor but can be installed in a different pattern provided the sizes are maintained and they do not cross public areas. All junction boxes must be marked with blue paint indicating that it is security infrastructure.

Bends in conduit runs will be avoided when possible. For the main security conduit backbone a maximum of one 90° bend between junction boxes. From the main security conduit backbone to endpoints there will be no more than a maximum of two 90° bends or a maximum of 180° bends in total between junction boxes.

Conduit Markings of all IDACS conduits will be marked with one (1) Blue band and one (1) Yellow band within 150mm (6") of any termination point and within 150mm (6") of every junction box. The bands will be no less than 25mm (1") wide.

IDACS Device Requirements

Keypad Doors: All keypads are to be mounted centered on 1200mm (47") from the midpoint of face plate to finished floor. The mounting boxes will be supplied as soon as the contract has been finalized so the Contractor can install them during construction. Refer to figures attached.

Motion Detectors: Motion Detectors are to be mounted on the finished ceiling or wall mounted as specified in the security layouts. The contractor is to provide a 100mm x 100mm x 50mm (4 x 4 x 2") electrical box above the suspend or solid ceiling with a two metre metal flex conduit attached. A solid ceiling must have an access hatch installed. Refer to figures attached.

ANNEX – C

Door Contacts: All new construction is to utilize concealed door contacts. Refer to the figures attached.

In those circumstances where surface mount contacts are required, it will only be necessary for the contractor to provide a 100mm x 100mm x 50mm (4 x 4 x 2") electrical box above the false ceiling, on the protected side. This box will appear directly above the latch side of the door to receive the protection.

Sirens and Strobes: The Sirens and Strobes are to be mounted on the finished ceiling unless otherwise specified. The contractor is to provide a 100mm x 100mm x 50mm (4 x 4 x 2") electrical box above the suspend or solid ceiling with a two metre metal flex conduit attached. A solid ceiling must have an access hatch installed. Refer to figures attached.

ANNEX – C

Security Figure 2.1.1 | Conduit and Electrical Boxes Requirements (GAC Supplied)

100 x 100 mm (4"x4") Electrical Box

Adjustable Single Gang Mudring

Adjustable Double Gang Mudring

Steel Reducing Washers
25x12.7 mm (1"x 1/2")
25x19 mm (1"x 3/4")

25 mm (1") Ø Space Saver Set Screw Connectors

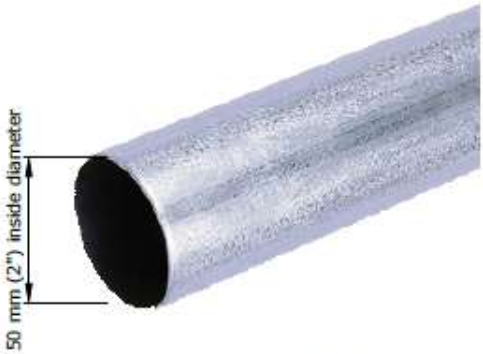
116x270x55 mm (4 1/2"x10 5/8"x2 1/8") Flush Mount Back Box for IP Master Control Unit

Figure 2.1.1

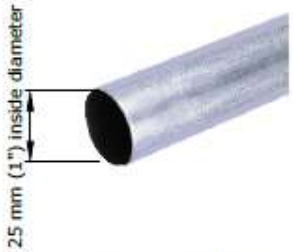
ANNEX – C

Figure 2.1.2 | Conduit Requirements (Locally Supplied)

Electrical Metallic Tubing					
Size		Outside Diameter		Inside Diameter	
inch	mm	inch	mm	inch	mm
3/4	21	0.922	23.42	0.824	20.93
1	27	1.163	29.54	1.049	26.64
2	53	2.197	55.80	2.067	52.50



50 mm (2") Ø EMT Conduit Raceway



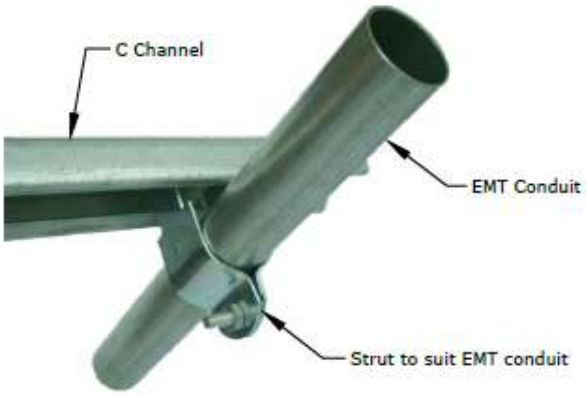
25 mm (1") Ø EMT Conduit Raceway

50 mm (2") and 25 mm (1") Ø EMT Conduit Coupling Raceway

50 mm (2") and 25 mm (1") Ø Set Screw Connectors Raceway

19 mm (3/4") Ø EMT Flex Conduit For Ceiling Mounted Devices

19 mm (3/4") Ø EMT Flex Conduit Connectors For Ceiling Mounted Devices



Conduit Manifold C Channel and Strut

Junction Boxes
Minimum Size: 12"x 12"x 4"(Deep)
ASE12X12X4 by Hoffman or equivalent

Figure 2.1.2

ANNEX – C

Security Figure 2.1.3 | Color Coding

COLOR TAPED ELECTRICAL CONDUITS - BLUE FOR SECURITY

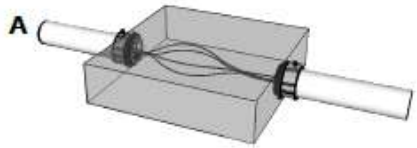
SPRAY PAINTED JUNCTION BOXES - BLUE FOR SECURITY

STENCIL SPRAY PAINTED JUNCTION BOXES - BLUE FOR SECURITY

Figure 2.1.3

ANNEX – C

Figure 2.1.4 | Junction Box Size Calculation

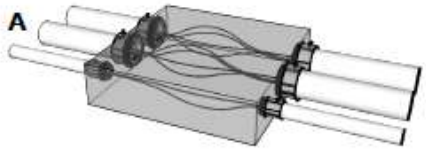


Example 1: Single conduit entering and exiting the junction box in a straight run

A - one 50 mm (2") Ø conduit entering a junction box with a continuation of the 50 mm (2") Ø conduit.

Multiply diameter of conduit by 8 to give you the length of the sides of the junction box.

50 (2") x 8 = 400 (16") therefore the junction box for one 50 mm (2") Ø conduit shall be **400 mm x 400 mm (16" x 16").**

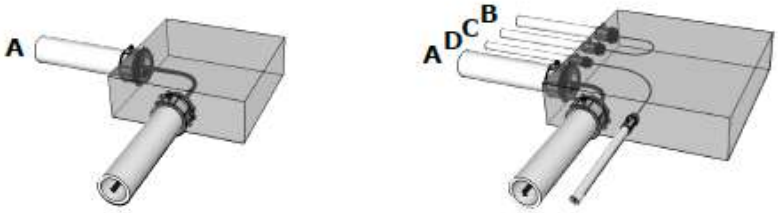


Example 2: Multiple conduit entering and exiting the junction box in a straight run

A - two 50 mm (2") Ø conduits + one 25 mm (1") Ø conduit entering a junction box with a continuation of all conduits.

Multiply diameter of largest conduit by 8 to give you the length of the sides of the junction box.

50 (2") x 8 = 400 (16") therefore the junction box for one 50 mm (2") Ø conduit shall be **400 mm x 400 mm (16" x 16").**



Example 3: Conduits entering the junction box and changing direction

A - one 50 mm (2") Ø conduit entering a junction box and changing directions, the size of the junction box shall be 6 times the diameter of the conduit.

50 (2") x 6 = 300 (12") therefore the junction box for one 50 mm (2") Ø conduit changing direction shall be **300 mm x 300 mm (12" x 12").**

IF multi conduit of different size are entering the junction box, the calculation shall be:
6 x largest conduit, plus the diameter of the remaining conduits on same side. Use the side with the largest total.

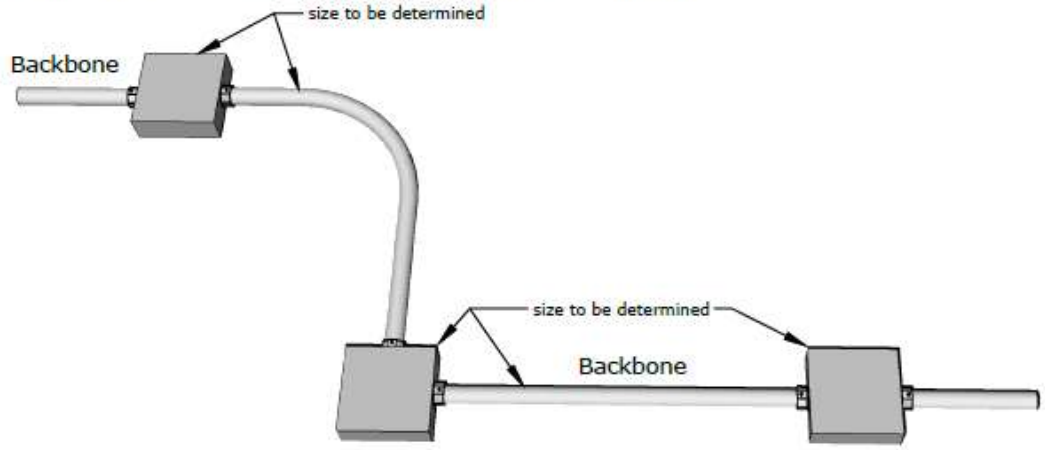
Example:
A - 1 x 50 mm (2") Ø
B - 1 x 25 mm (1") Ø
C - 1 x 19 mm (3/4") Ø
D - 1 x 12 mm (1/2") Ø

50 (2") x 6 = 300 (12")+25 (1")+19 (3/4")+12 (1/2")= 356 (14 1/4") therefore the junction box shall be **400 mm x 400 mm (16" x 16").**

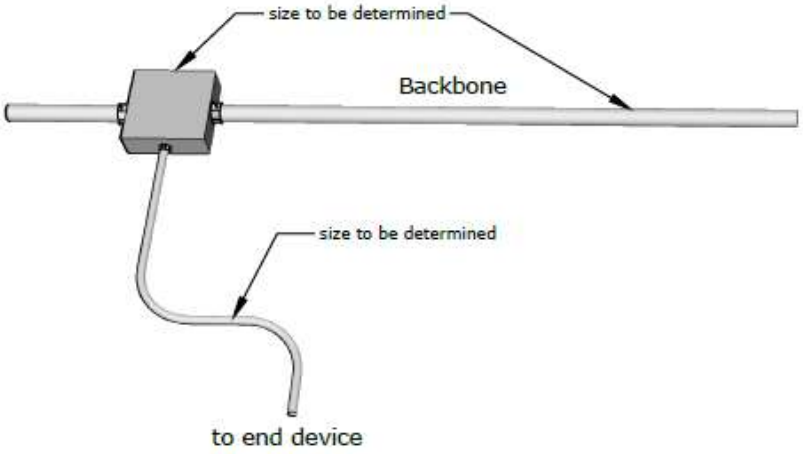
Figure 2.1.4

ANNEX – C

Security Figure 2.1.5 | Conduit Bends and Junction Box Requirements



Backbone (1 - 90° bend permitted)

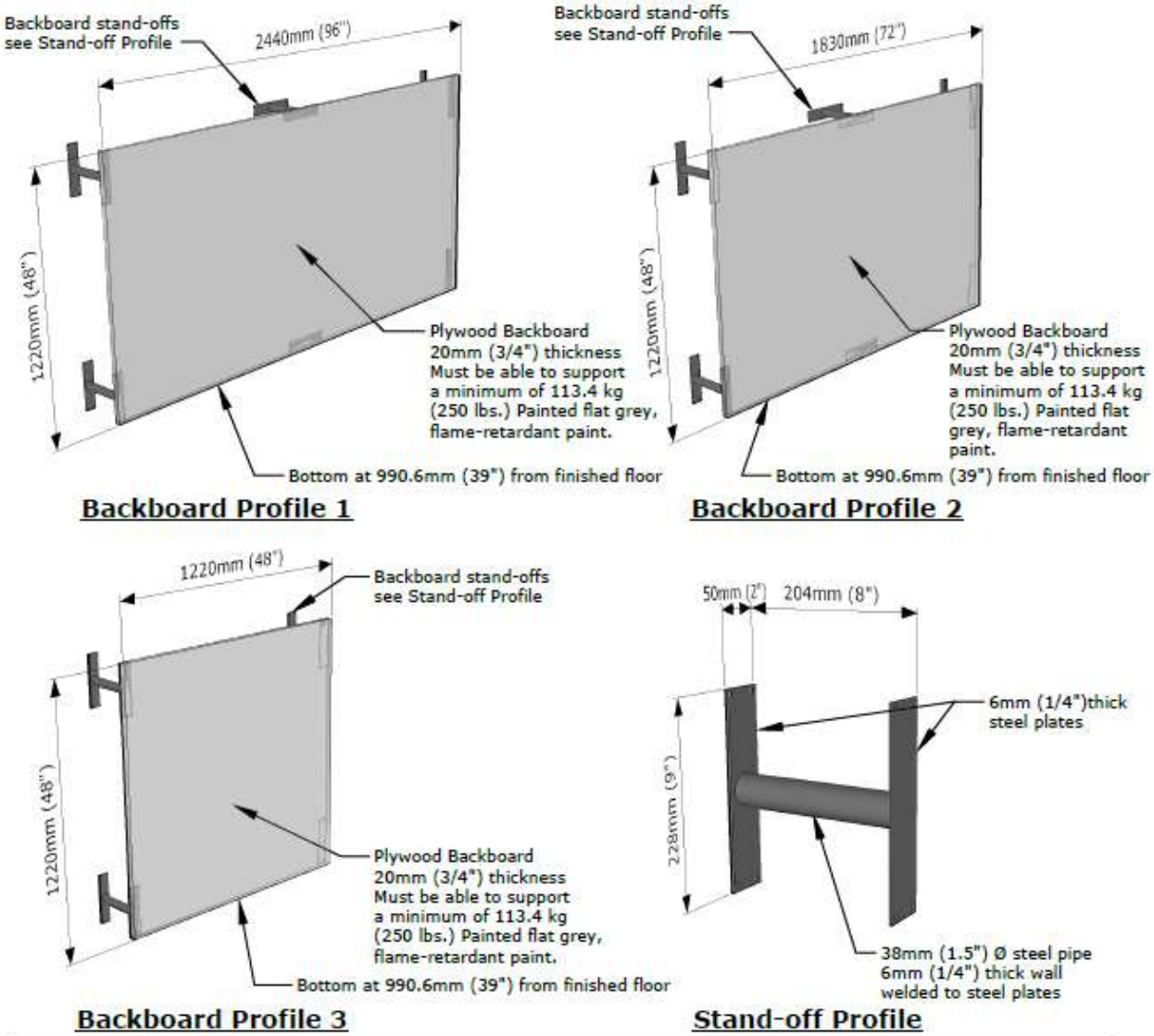


Backbone to end device (2 - 90° bend permitted)

Figure 2.1.5

ANNEX – C

Security Figure 2.1.8 | CESS Room Backboard Profiles

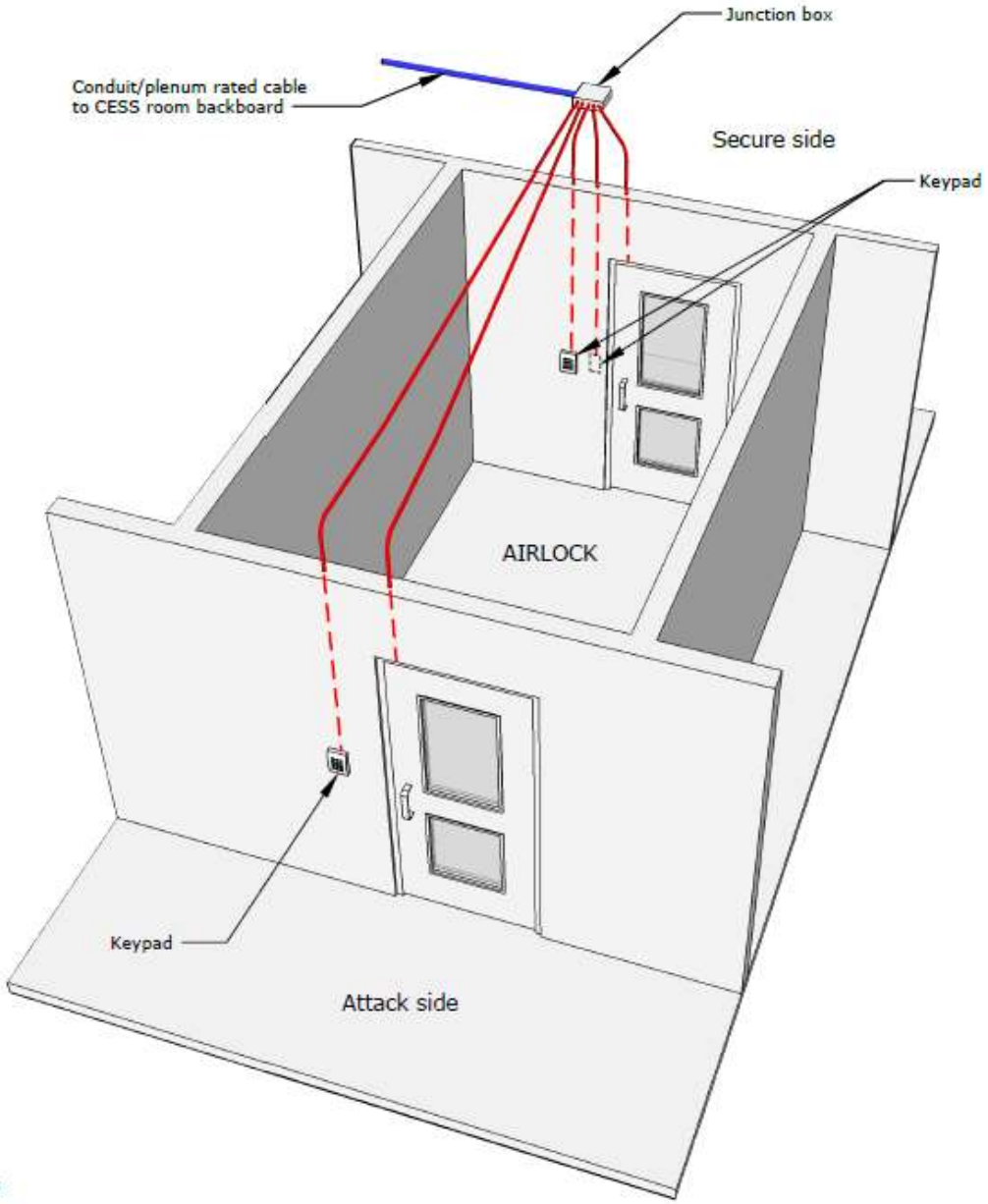


CESS Room - Backboard & Heat Load Requirements			
Max. # of CESS Doors	Primary Backboard Profile	Secondary Backboard Profile	Room Heat Load
24	2	Not Required	7263 BTU / Hour
32	1	Not Required	7991 BTU / Hour
40	1	3	9447 BTU / Hour
48	2	2	10,755 BTU / Hour
56	1	2	11,557 BTU / Hour
64	1	1	12,939 BTU / Hour

Figure 2.1.8

ANNEX – C

Security Figure 2.1.9 | Airlock Conduit Layout Plan - Single Junction Box



NOTES:

1. Any deviation from this layout must be documented and approved by GAC prior to construction.
2. Where codes allow, conduit will be terminated in ceiling space and a plenum rated cable shall be used.

50 mm (2") conduit c/w Polypropylene Pull Cords

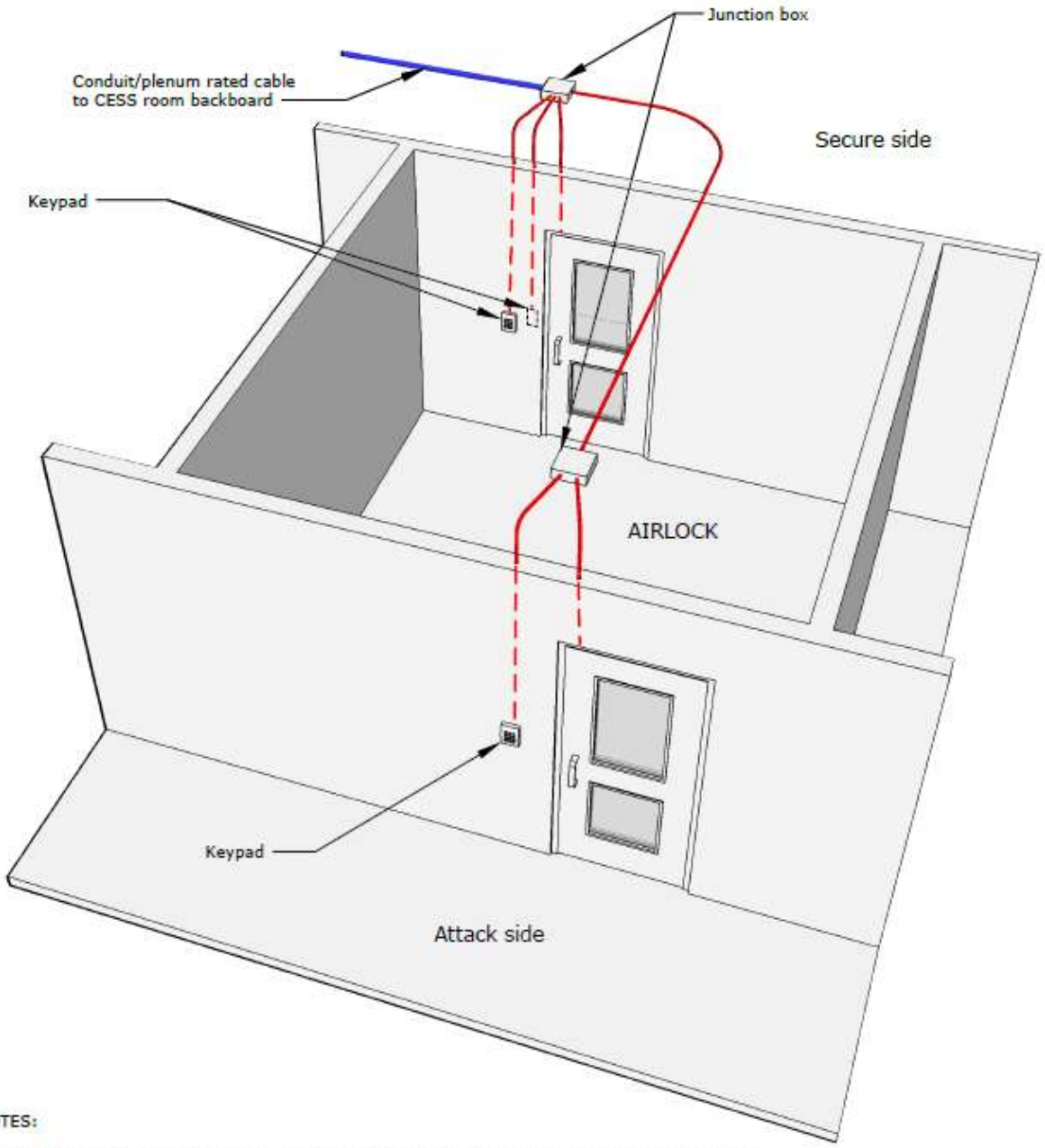
25 mm (1") conduit c/w Polypropylene Pull Cords

PERSPECTIVE VIEW

Figure 2.1.9

ANNEX – C

Security Figure 2.1.10 | Airlock Conduit Layout Plan - Double Junction Box



NOTES:

1. Any deviation from this layout must be documented and approved by GAC prior to construction.
2. Where codes allow, conduit will be terminated in ceiling space and a plenum rated cable shall be used.

50 mm (2") conduit c/w Polypropylene Pull Cords

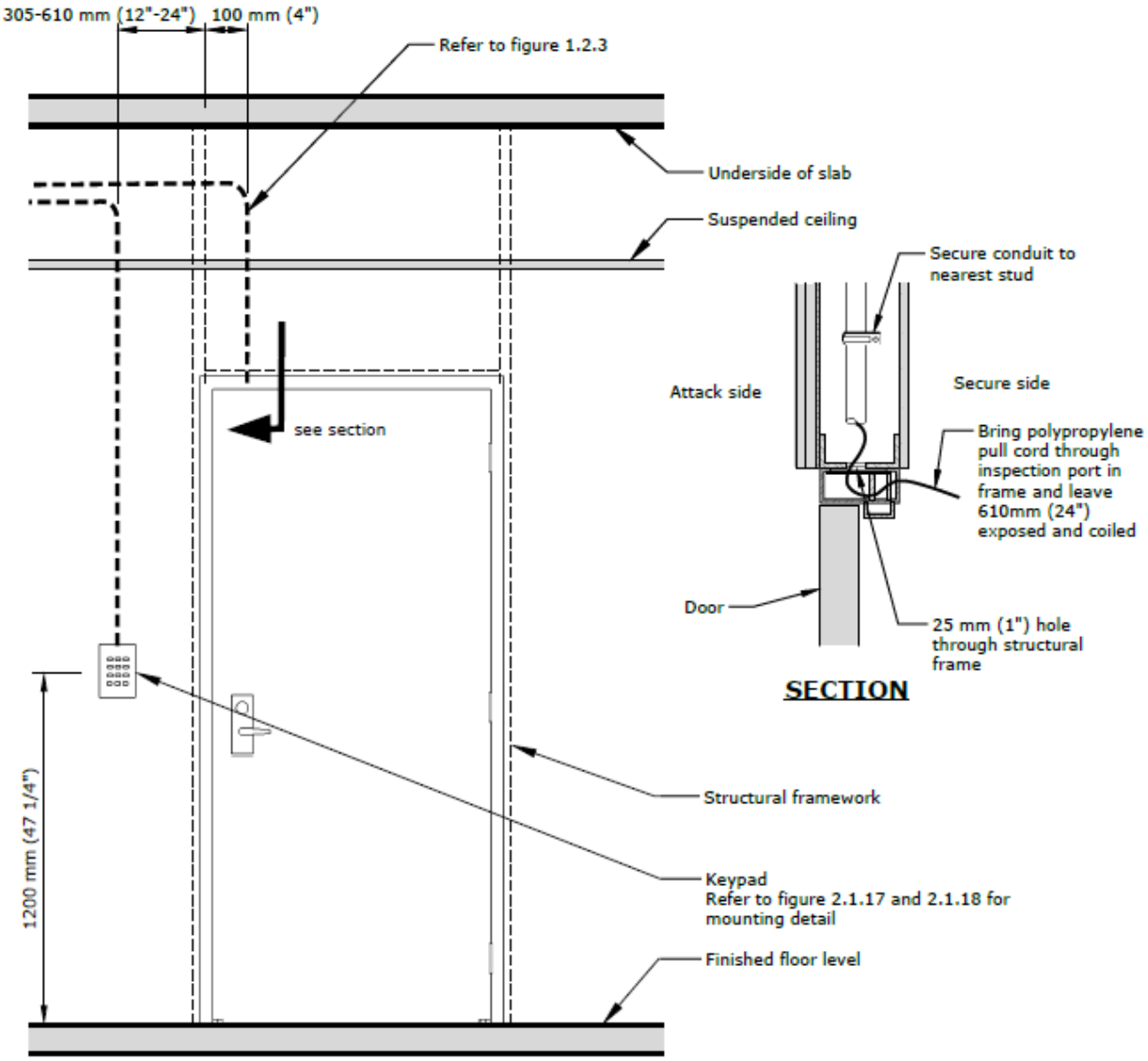
25 mm (1") conduit c/w Polypropylene Pull Cords

PERSPECTIVE VIEW

Figure 2.1.10

ANNEX – C

Figure 2.1.11 | Access Control Door Conduit Layout (for GAC supplied doors)



NOTES:

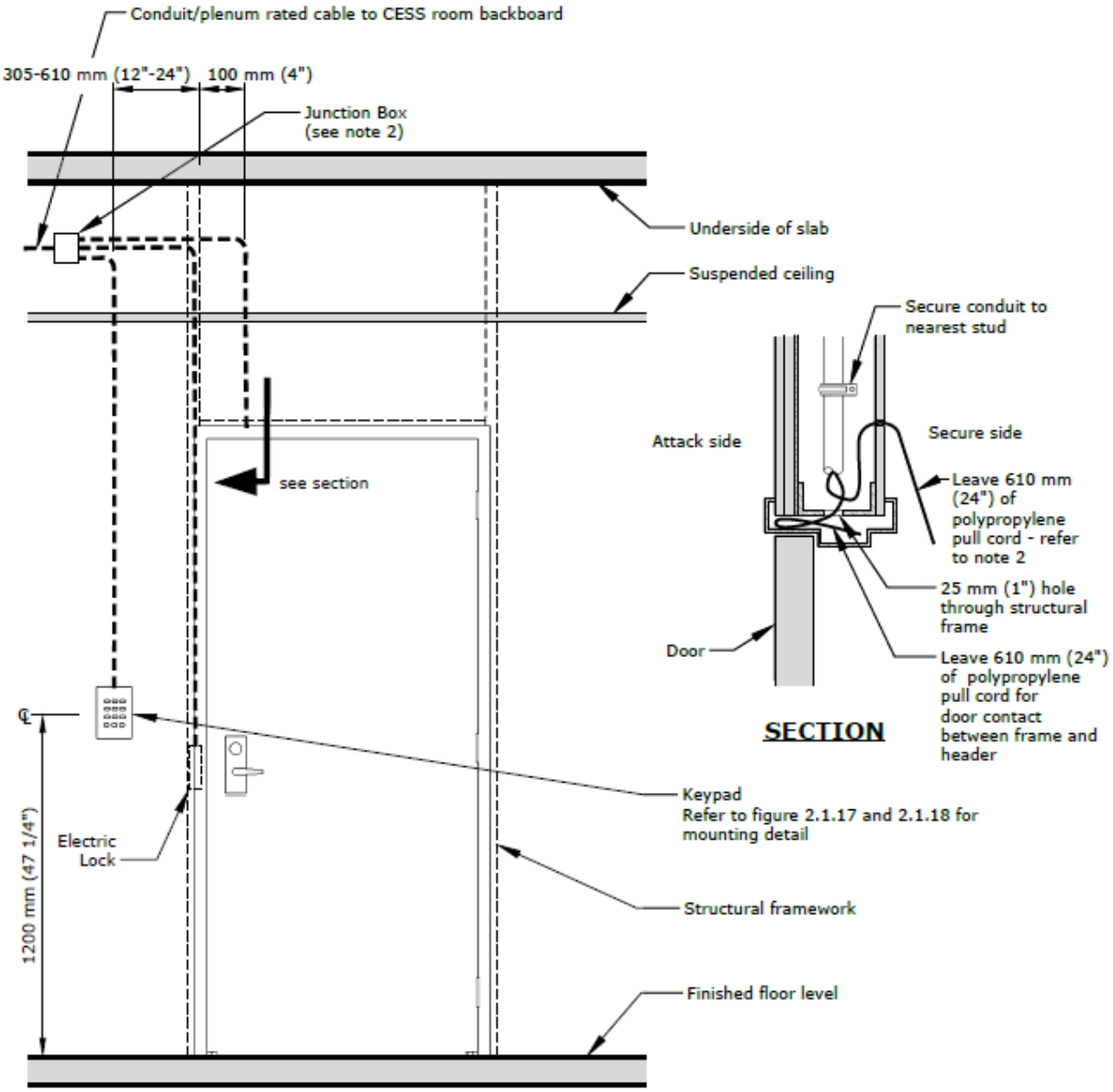
1. Any deviation from this layout must be documented and approved by the project authority prior to construction .
2. Where codes allow, conduit will be terminated in ceiling space and plenum rated cable used.

---- 25 mm (1") conduit c/w Polypropylene Pull Cord

Figure 2.1.11

ANNEX – C

Figure 2.1.12 | Access Control Door Conduit Layout (for locally supplied doors)



NOTES:

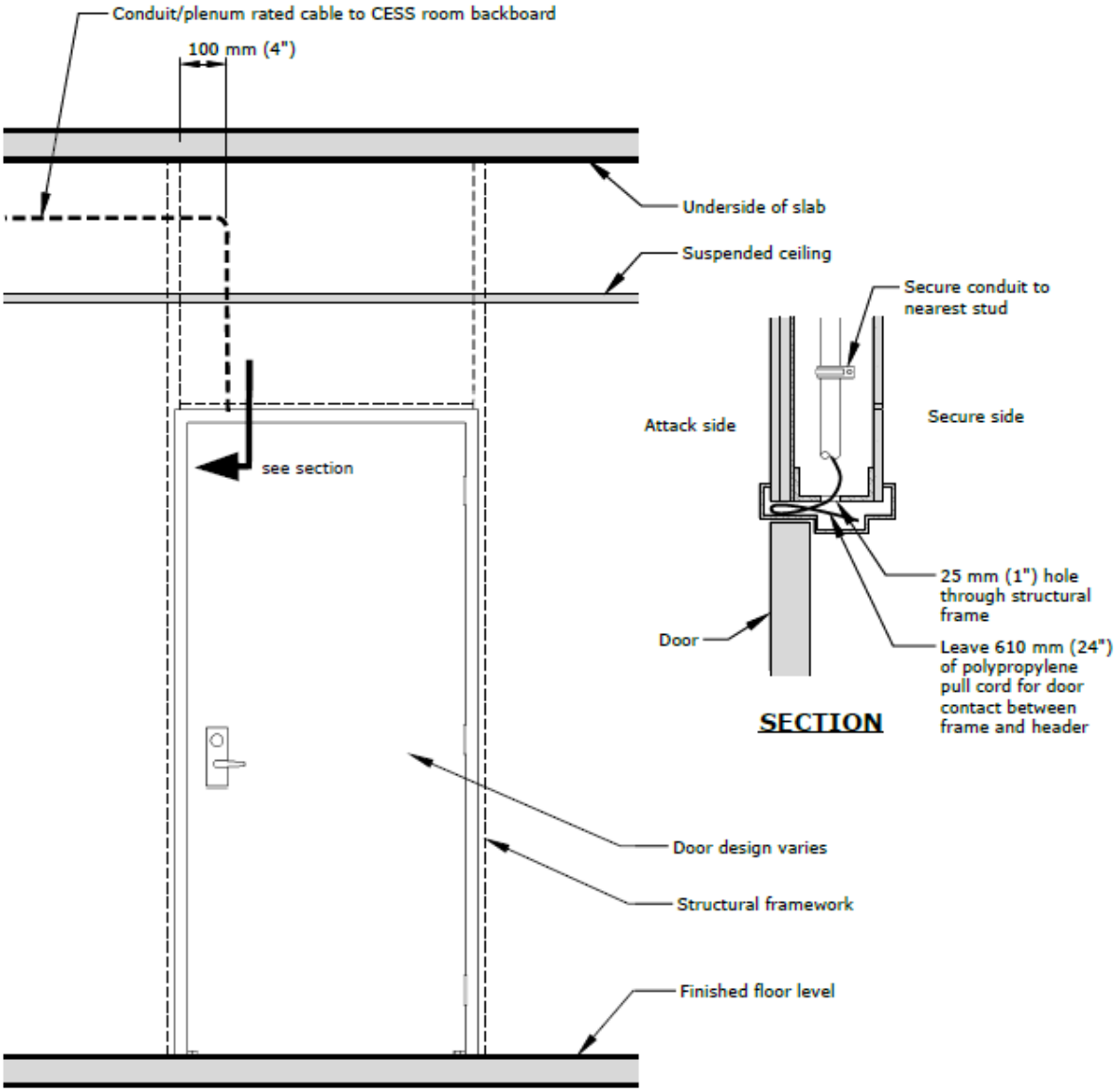
1. Any deviation from this layout must be documented and approved by the project authority prior to construction.
2. Where codes allow, conduit will be terminated in ceiling space and plenum rated cable used.
3. The 6 mm (1/4") access hole for "request to exit" device is to be 250 mm (10") from door post and 100 mm (4") above door frame located on secure side.

---- 25 mm (1") conduit c/w Polypropylene Pull Cord

Figure 2.1.12

ANNEX – C

Security Figure 2.1.14 | Recessed Door Contact Conduit Layout



NOTES:

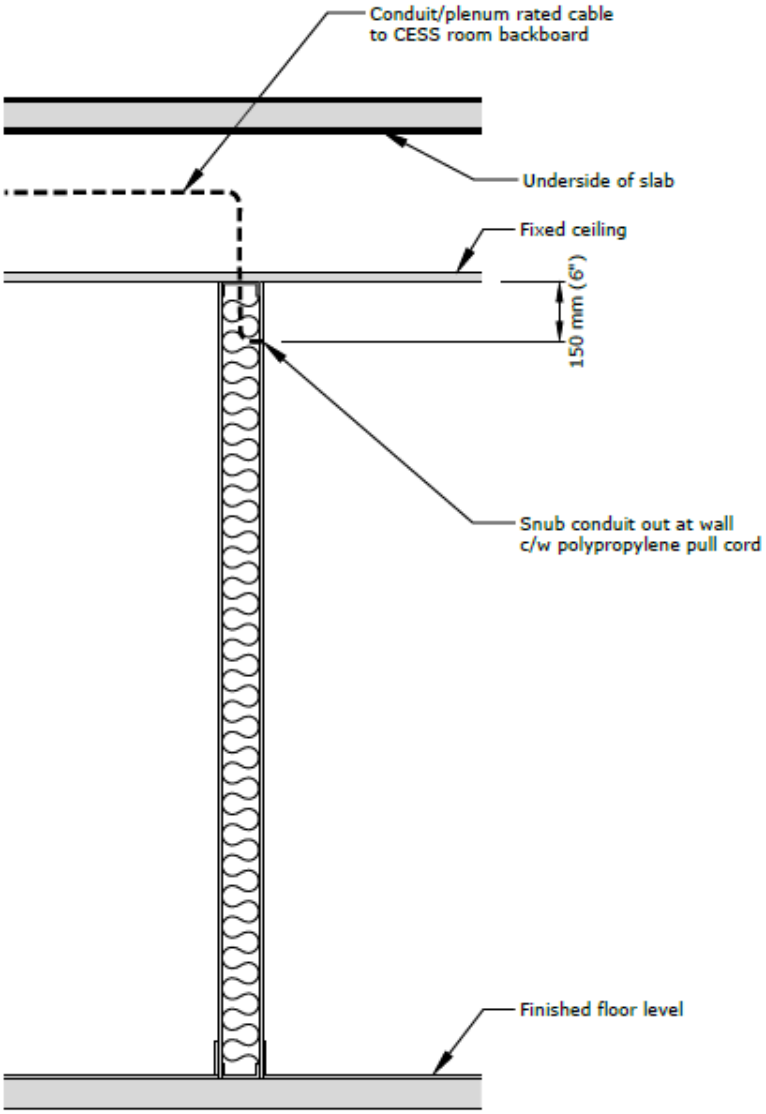
1. Any deviation from this layout must be documented and approved by the project authority prior to construction.
2. Where codes allow, conduit will be terminated in ceiling space and plenum rated cable used.

---- 25 mm (1") conduit c/w Polypropylene Pull Cord

Figure 2.1.14

ANNEX – C

Security Figure 2.1.15 | Wall Mounted Device Conduit Layout



ELEVATION

NOTES:

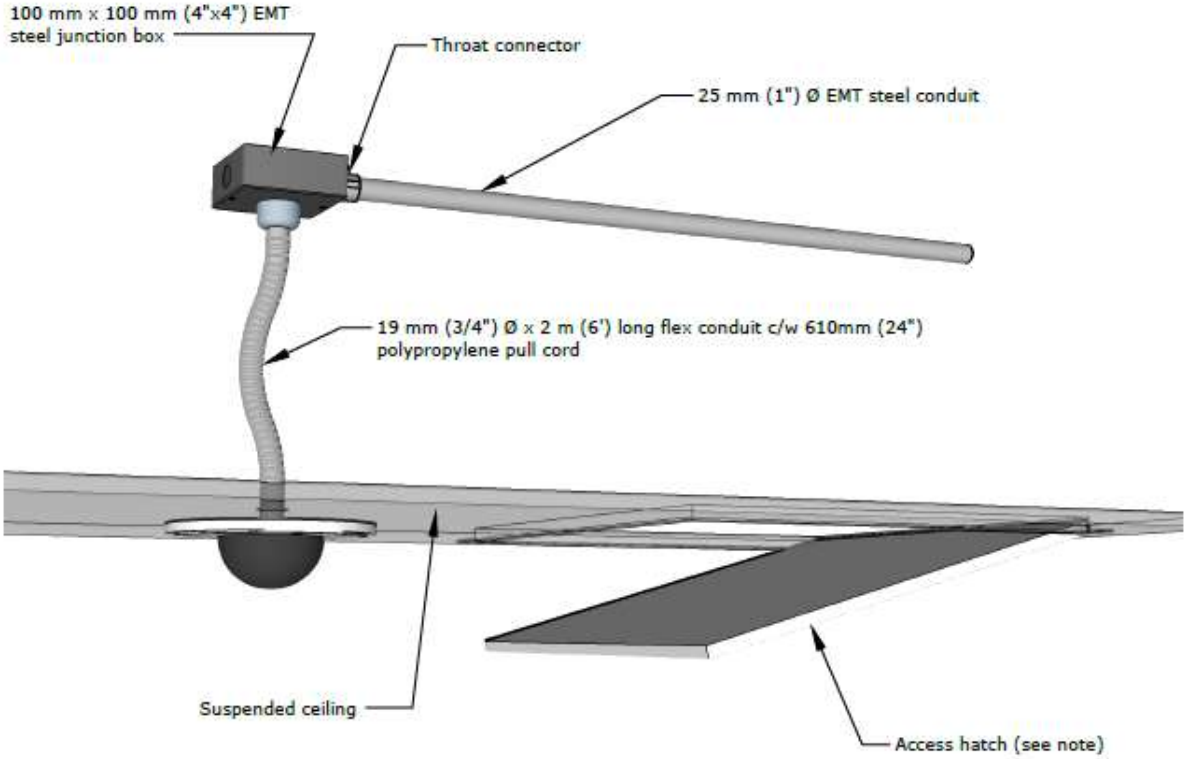
1. This installation is required only where fixed ceiling and/or conduit are being used.
2. In cases where plenum cable and suspended ceilings are used, installation will be by others.

25 mm (1") conduit
c/w Polypropylene Pull Cord

Figure 2.1.15

ANNEX – C

Security Figure 2.1.16 | Ceiling Mounted Device Conduit Layout



PERSPECTIVE VIEW

Note:
1. Provide 450 mm x 450 mm (18" x 18") access hatch
2. Leave 610mm (24") of polypropylene pull cord exposed and coiled pass end of flex conduit.

Figure 2.1.16

ANNEX – C

Security Figure 2.1.17 | Keypad Backbox - Composite Wall

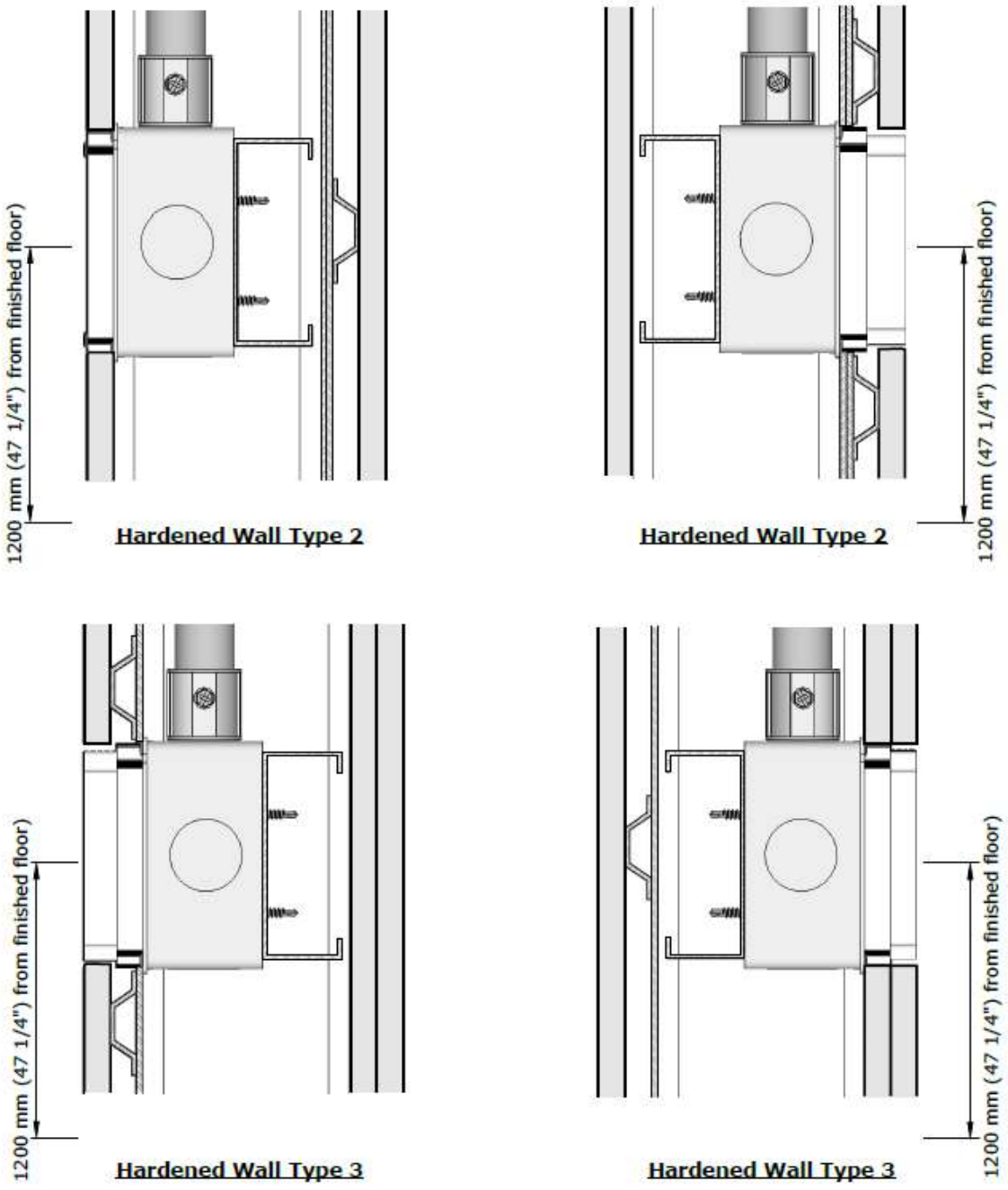
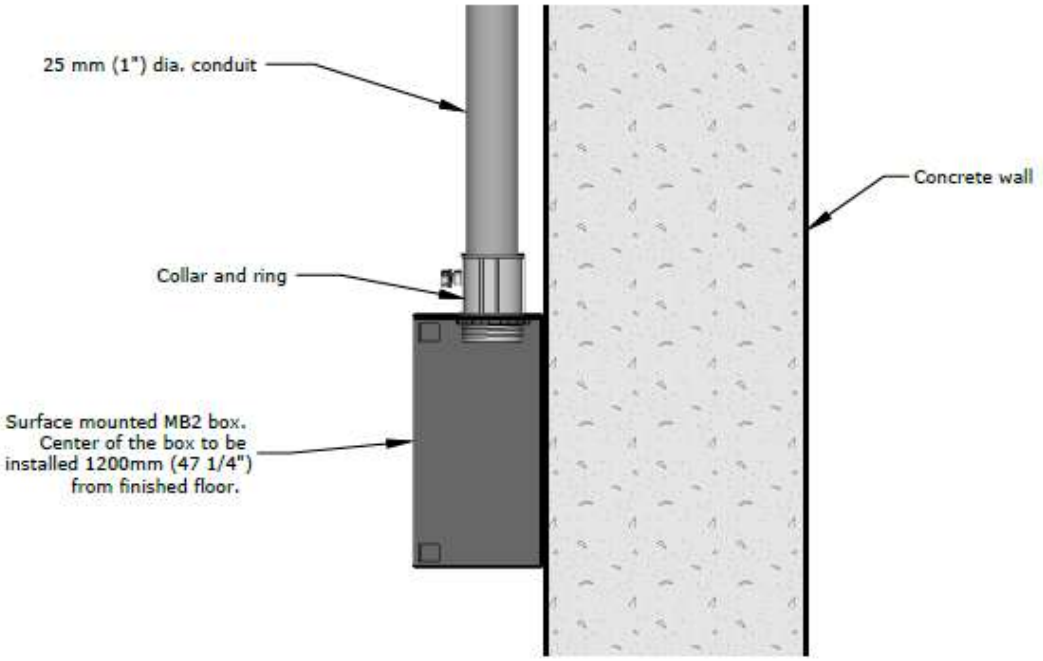


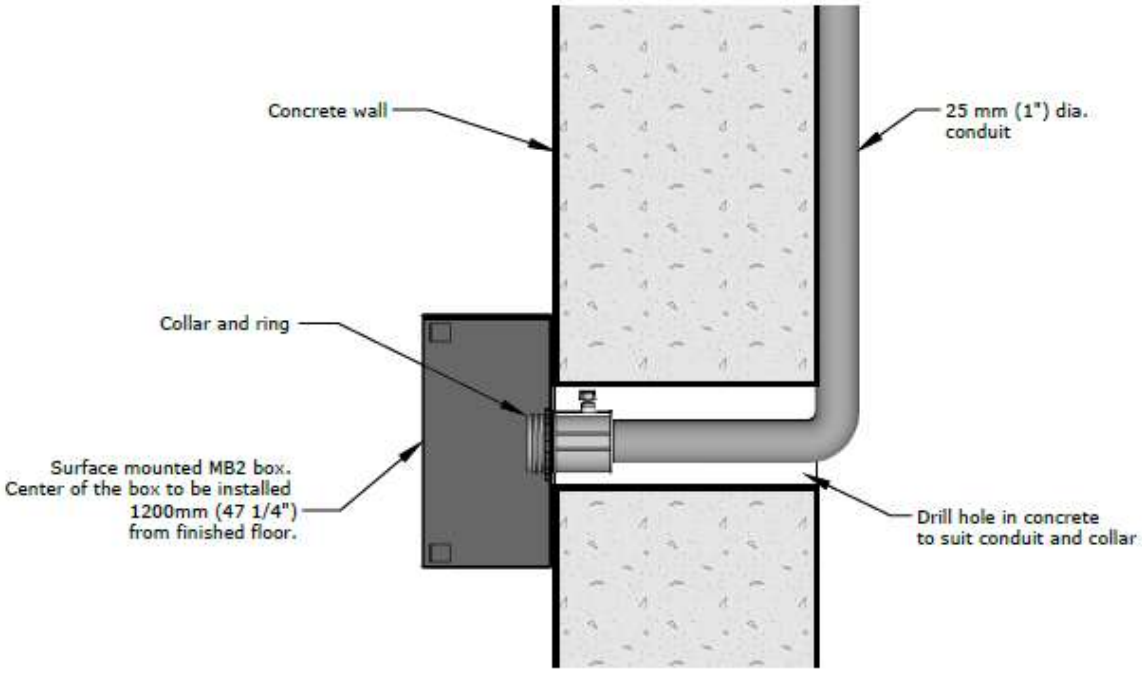
Figure 2.1.17

ANNEX – C

Security Figure 2.1.18 | Keypad Backbox - Concrete Wall



SECTION



SECTION

Figure 2.1.18

ANNEX – C

Security Figure 2.1.22 | Reception Zone Infrastructure

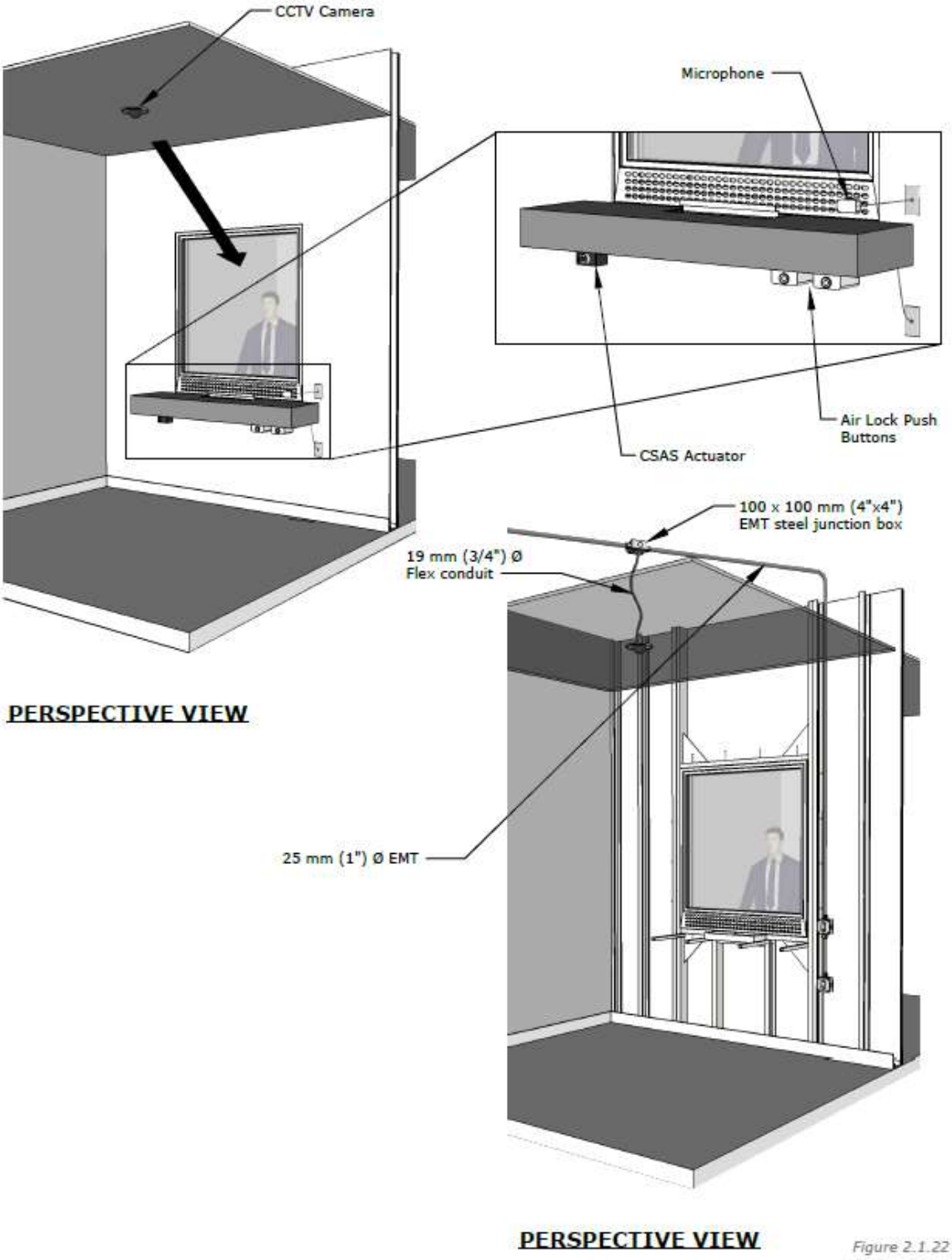


Figure 2.1.22

ANNEX – D

CCTV – Closed Circuit Television

The following technical requirements are to be adhered to in conjunction with the attached generic drawings:

Figure 2.1.16 | Ceiling mounted devices Conduit Layout

CCTV Conduit Requirements

All conduits required will be based on GAC supplied drawing. The final termination and installation of all CCTV equipment is to be performed and provided by GAC.

All conduits to include nylon pull cords. All conduit measurements are inside diameter. 25mm (1") Conduit is to terminate in an electrical box approximately 100mm x 100mm x 50mm (4 x 4 x 2") and greater than 25mm (1") is to terminate in an electrical box approximately 150mm x 150mm x 50mm (6 x 6 x 2"), both sizes depending on local standards. The conduit runs shown for CCTV indicate a possible route that can be used by the contractor but can be installed in a different pattern provided the sizes are maintained and they do not cross public areas. All junction boxes must be marked with blue paint indicating that it is security infrastructure.

Bends in conduit runs will be avoided when possible. For the main security conduit backbone a maximum of one 90° bend between junction boxes. From the main security conduit backbone to endpoints there will be no more than a maximum of two 90° bends or a maximum of 180° bends in total between junction boxes.

Conduit Markings of all CCTV conduits will be marked with one (1) Blue band and one (1) Green band within 150mm (6") of any termination point and within 150mm (6") of every junction box. The bands will be no less than 25mm (1") wide.

CCTV Device Requirements

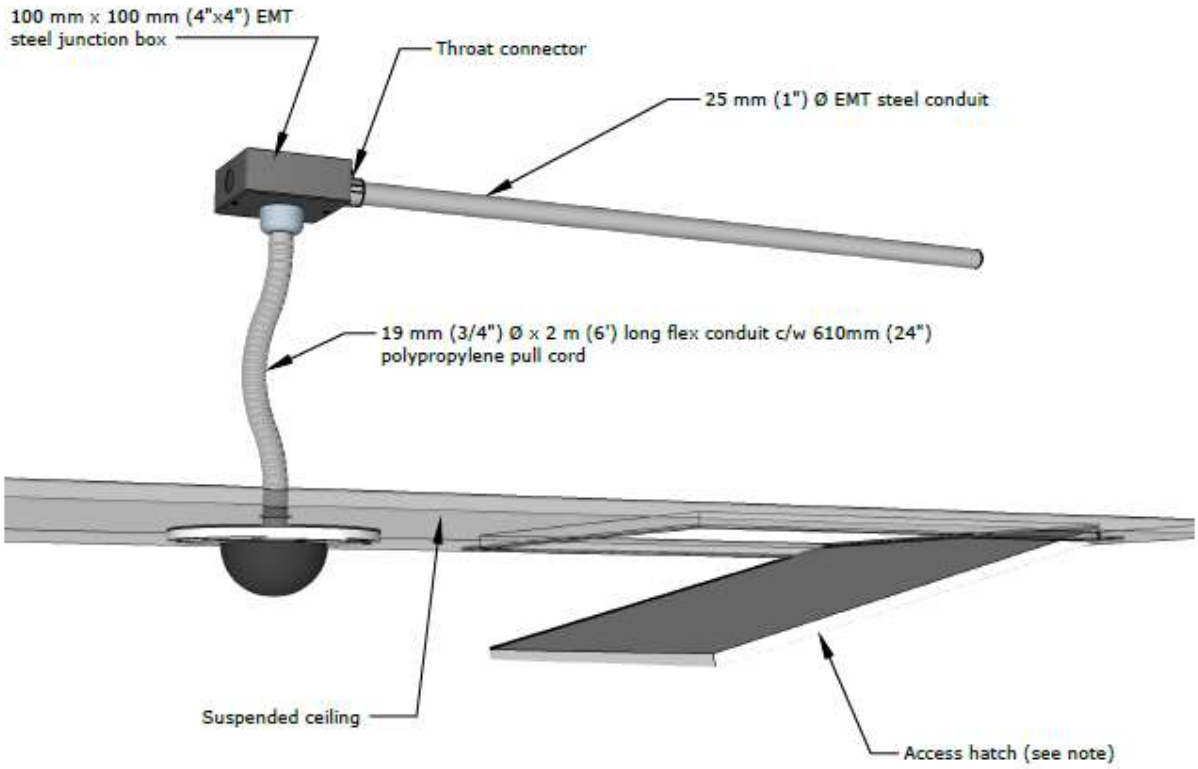
Cameras
Cameras are to be mounted on the finished ceiling unless otherwise specified. The contractor is to provide a 100mm x 100mm x 50mm (4 x 4 x 2") electrical box above the suspend or solid ceiling with a two metre metal flex conduit attached. A solid ceiling must have a minimum access hatch of 46mm x 46mm (18” x 18”) installed for junction box accessibility. For conduit layout, refer to figures attached.

Office Monitor (Guard)
The contractor is to provide a 100mm x 100mm x 50mm (4 x 4 x 2") electrical box above the suspend or solid ceiling with a conduit installed down to below office desk (at electrical outlet height A solid ceiling must have a minimum access hatch of 46mm x 46mm (18” x 18”) installed for junction box accessibility. For conduit layout, refer to figures attached**.**

SOS Monitor
See Annex “E”

ANNEX – D

Security Figure 2.1.16 | Ceiling Mounted Device Conduit Layout



PERSPECTIVE VIEW

Note:
1. Provide 450 mm x 450 mm (18" x 18") access hatch
2. Leave 610mm (24") of polypropylene pull cord exposed and coiled pass end of flex conduit.

Figure 2.1.16

ANNEX – E

CSAS – Chancery Security Alert System

The following technical requirements are to be read in conjunction with the attached generic drawings:

Figure 2.1.19 | Security Officer's Station Conduit Layout & Section (conduit in ceiling)
Figure 2.1.20 | Security Officer's Station Conduit Layout & Section (conduit in raised floor)
Figure 2.1.21 | Security Officer's Station
Figure 2.1.22 | Reception Zone Infrastructure

CSAS Conduit Requirements

All conduits to include nylon pull cords. All conduit measurements are inside diameter. 25mm (1") Conduit is to terminate in an electrical box approximately 100mm x 100mm x 50mm (4 x 4 x 2") and greater than 25mm (1") is to terminate in an electrical box approximately 150mm x 150mm x 50mm (6 x 6 x 2"), both sizes depending on local standards. The conduit runs shown for CSAS indicate a possible route that can be used by the contractor but can be installed in a different pattern provided the sizes are maintained and they do not cross public areas.

Bends in conduit runs will be avoided when possible. For the main security conduit backbone a maximum of one 90° bend between junction boxes. From the main security conduit backbone to endpoints there will be no more than a maximum of two 90° bends or a maximum of 180° bends in total between junction boxes.

Conduit Markings of all CSAS conduits will be marked with one (1) Blue band and one (1) Black band within 150mm (6") of any termination point and within 150mm (6") of every junction box. The bands will be no less than 25mm (1") wide.

Speaker Requirements

Speakers are to be mounted on the finished ceiling unless otherwise specified. The contractor is to provide a 100mm x 100mm x 50mm (4 x 4 x 2") electrical box above the suspend or solid ceiling with a two metre metal flex conduit attached. A solid ceiling must have a minimum access hatch of 46mm x 46mm (18" x 18") installed for junction box accessibility. For conduit layout, refer to figures attached.

Security Officer's Station Requirements

Refer to figures attached for the SOS layout and conduit designs.

The wall within the recess of the SOS will require 15mm (1/2") plywood, in order to accommodate the weight of mounting bracket and monitor.

ANNEX – E

Security Figure 2.1.19 | Security Officer's Station Conduit Layout & Section (conduits in ceiling)

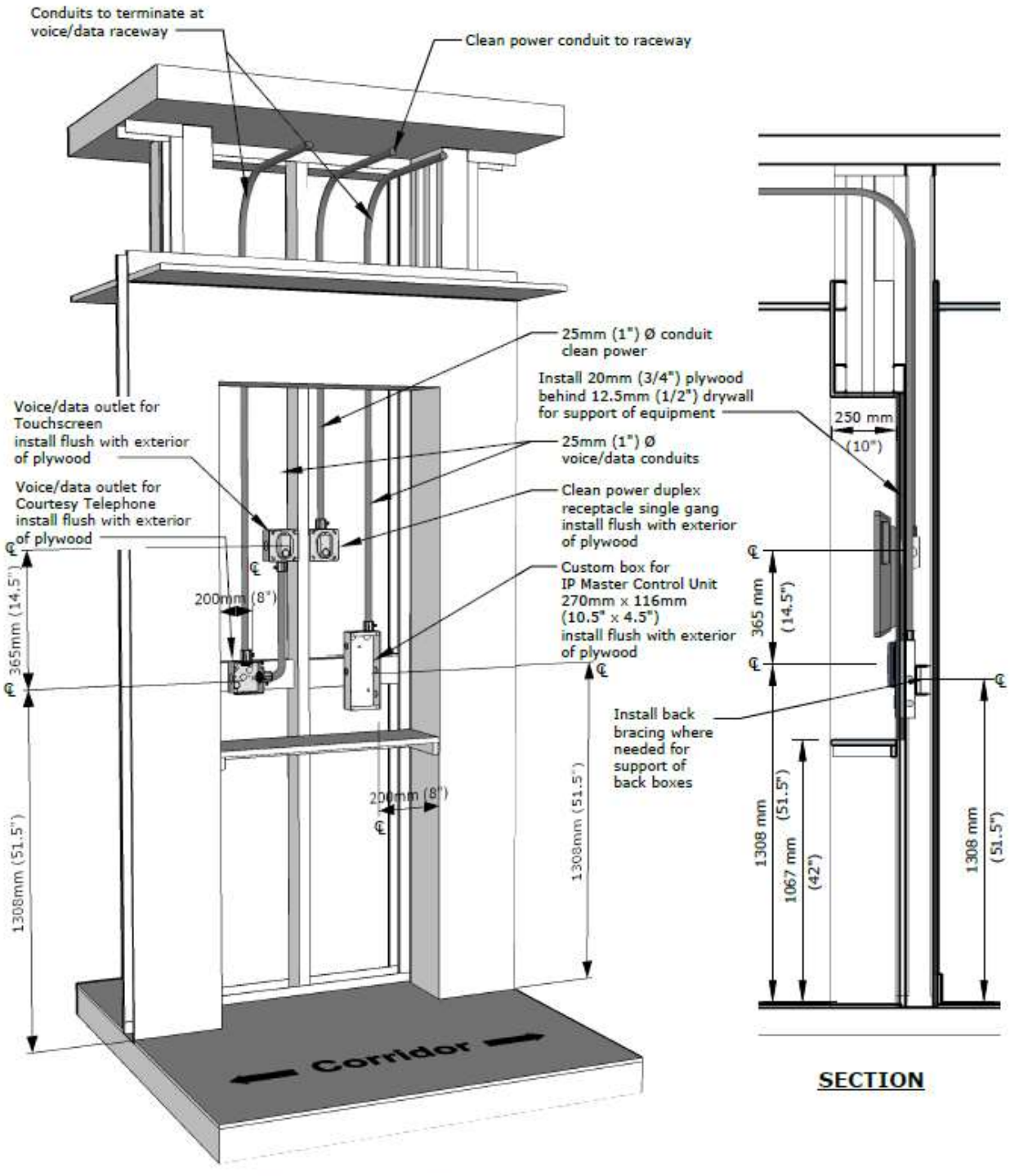


Figure 2.1.19

ANNEX – E

Security Figure 2.1.20 | Security Officer's Station Conduit Layout & Section (conduits in raised floor)

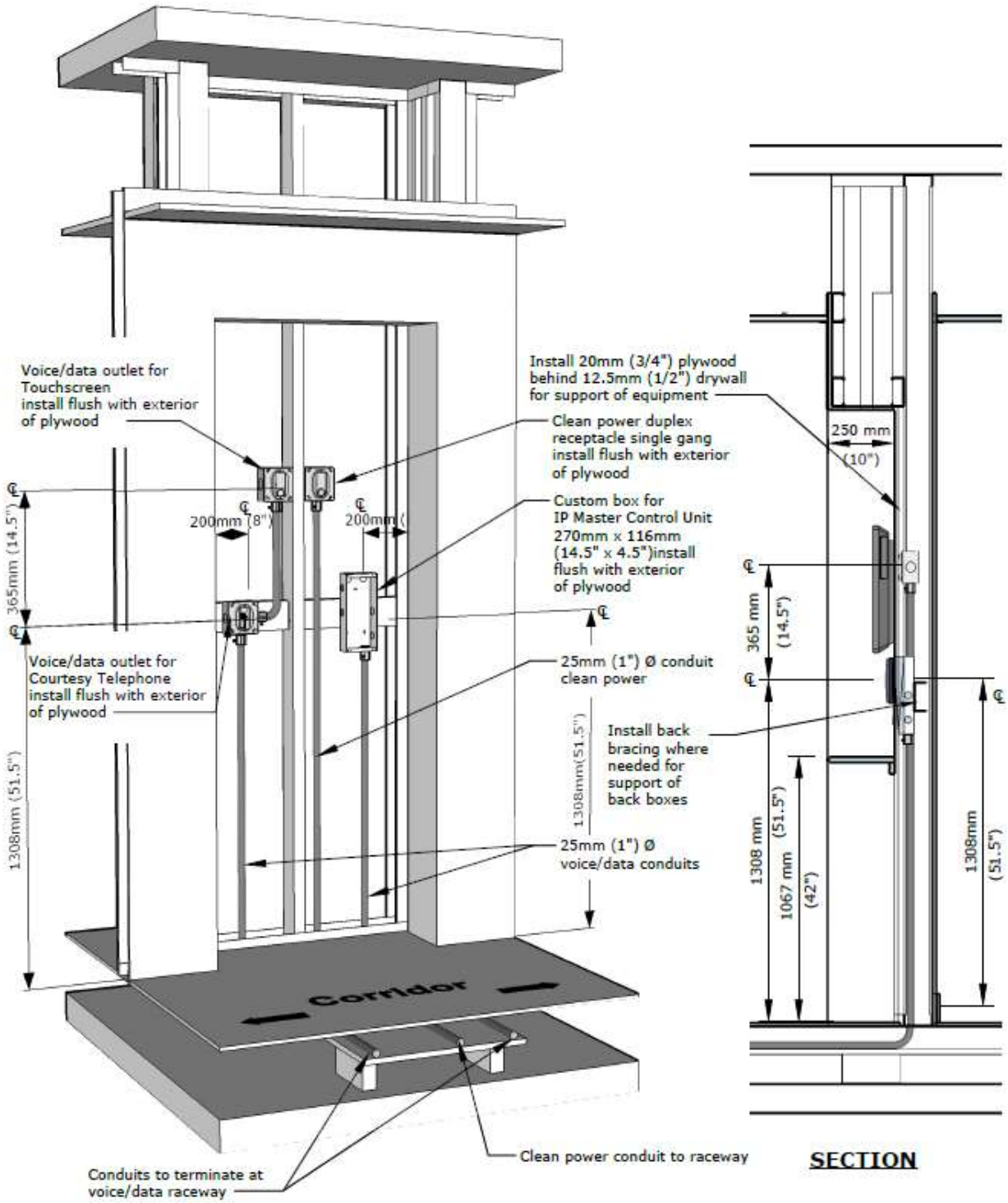
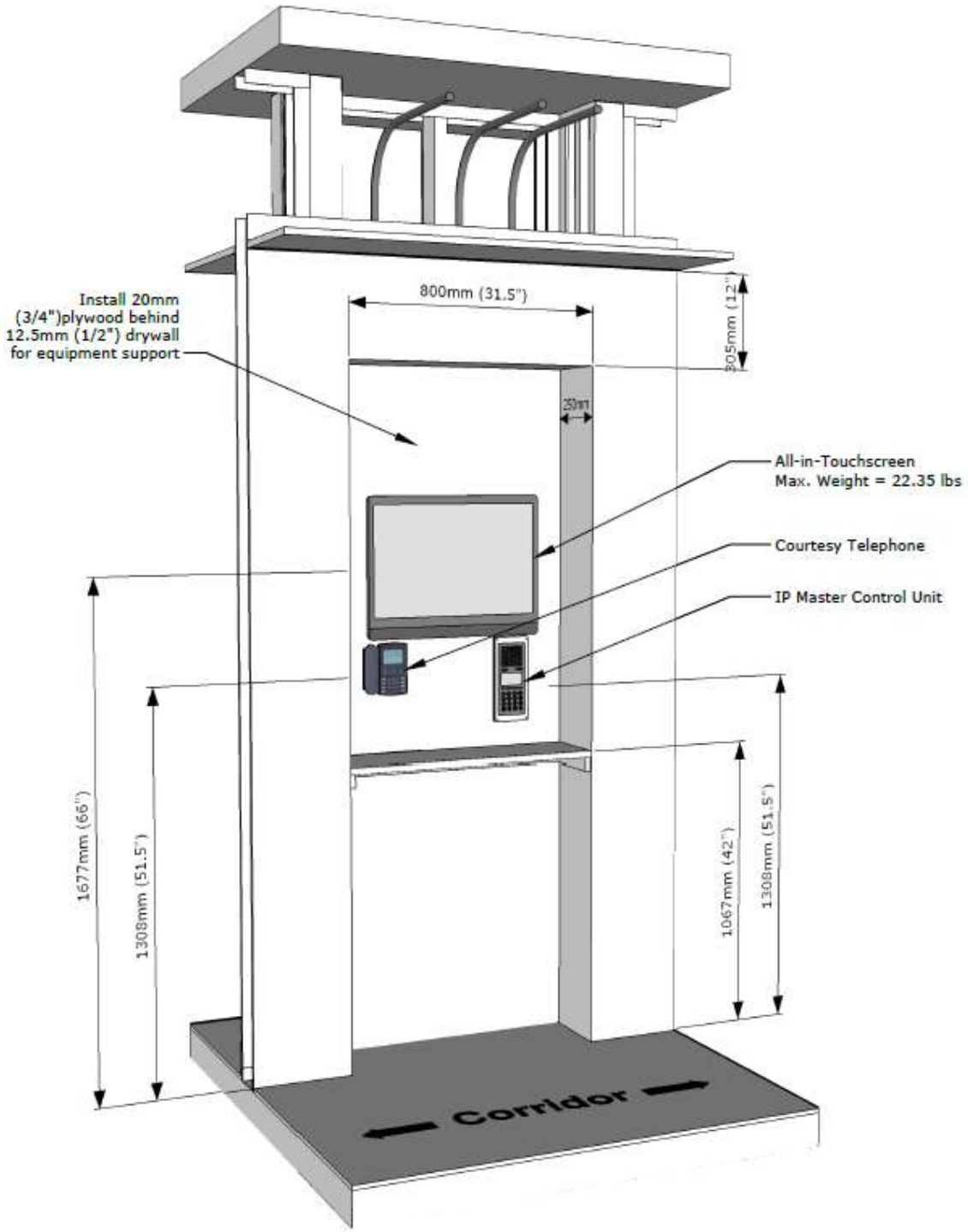


Figure 2.1.20

ANNEX – E

Security Figure 2.1.21 | Security Officer's Station



PERSPECTIVE VIEW

Figure 2.1.21

ANNEX – E

Security Figure 2.1.22 | Reception Zone Infrastructure

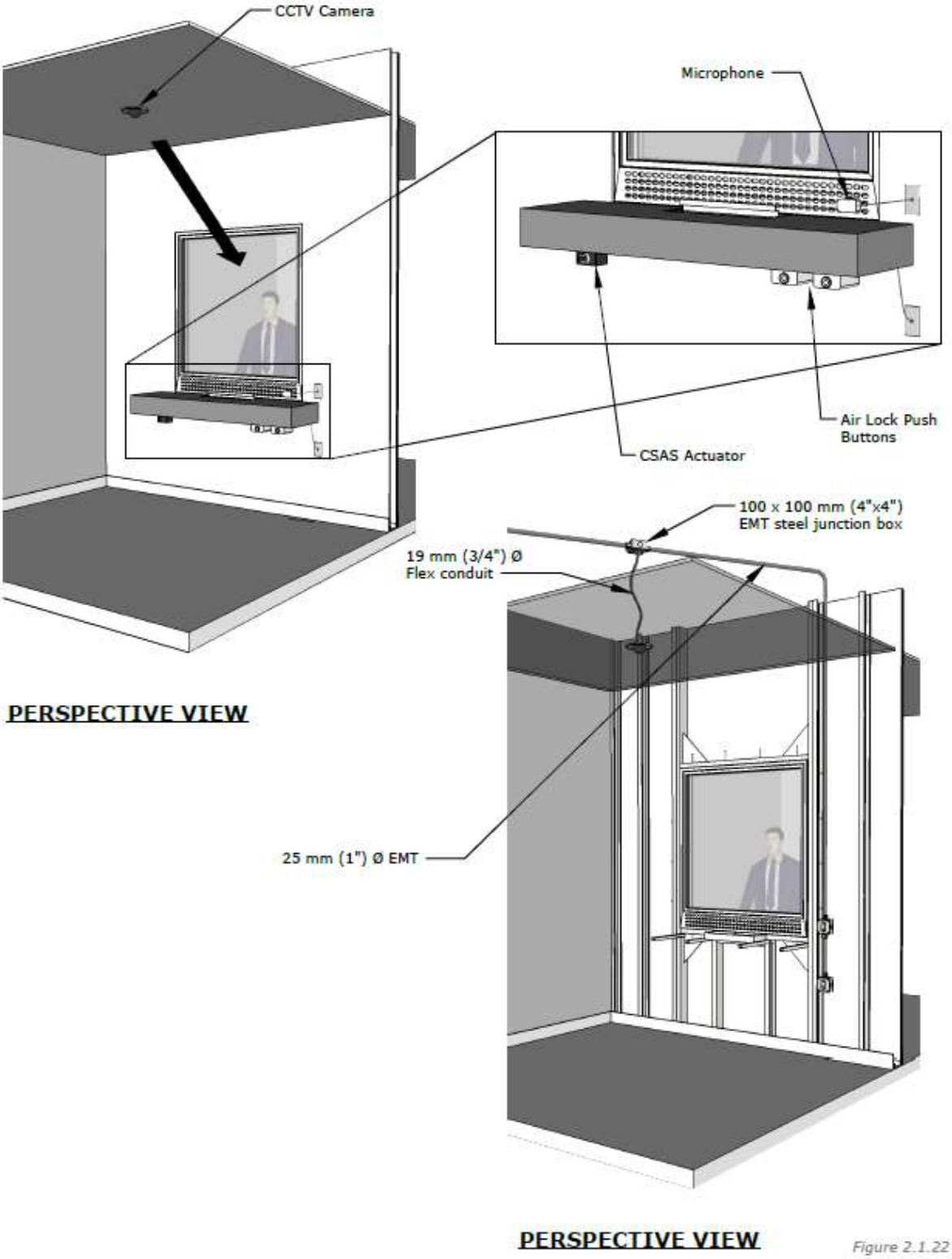
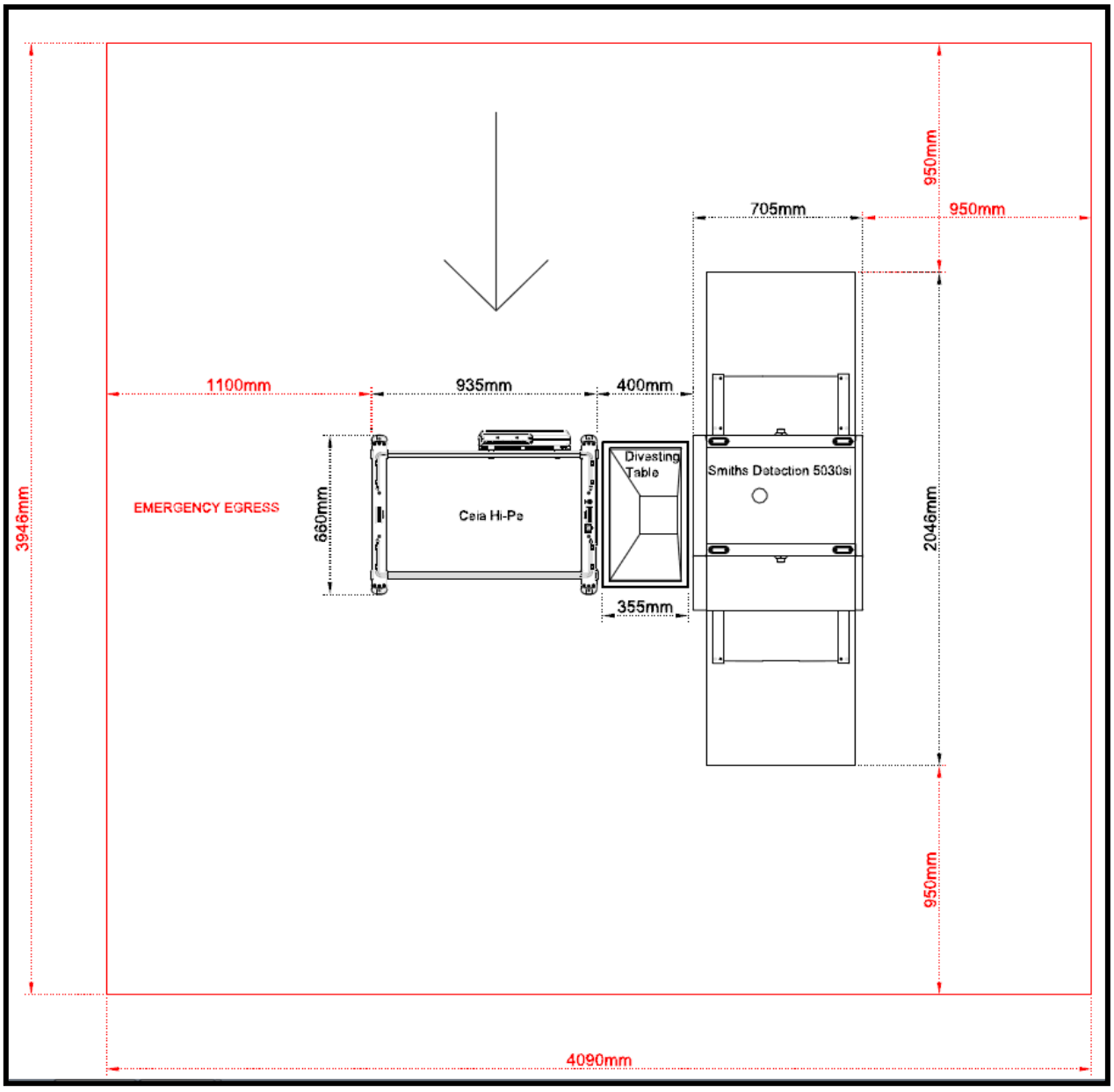


Figure 2.1.22

ANNEX – F

Typical Screening Equipment Layout



END of PART 8

RELOCATION OF THE CONSULATE GENERAL OF CANADA SAN SALVADOR

PROJECT BRIEF

PART 9 COMMISSIONING

Project Number: L-SSAL-100

9 Commissioning (Cx)

9.1 General

9.1.1 Commissioning is a process that takes place at all stage of the project. At concept design stages, commissioning activities serve to assure that the Owner's Project Requirements for items such as energy efficiency, sustainability, indoor air quality, fire protection and life safety, etc. are sufficiently defined and adequately and accurately reflected in the contract documents. It will provide the opportunity to assure that building systems and assemblies as designed will function according to the user expectations.

9.1.2 The Consultant will be responsible to prepare the documentation for the commissioning process to be followed by the contractor. The process includes construction checklists developed with the intent to convey pertinent information to the installers regarding concerns on installation and long-term operation of the facility and systems. The approach to the structure of the checklists is to keep it short and simple by focusing on key elements. Checklists span the duration from when equipment is delivered to the job site until the point that the system/component is started up and operational. Construction checklists are tools for transferring the information contained in the contract documents (drawings and specifications) to the workers in the field. This includes testing, adjusting and balancing and control system tuning.

9.1.3 Typically, at the construction stage, the Consultant will supervise the installation of the equipment, material and systems, and witness the commissioning performed by the contractor and by an independent certification firm when required. The two overarching goals of the Construction Phase are to assure the level of quality desired and to assure the requirements of the contracts are met.

9.1.4 For this project, the building systems will be commissioned by the general contractor prior to occupancy, with oversight and verification by Global Affairs Canada (GAC) team resources. During construction, quality assurance will be performed in collaboration with the Design Consultant, GAC Subject Matter Experts (SME) and with the aid of the Project Management Support Service (PMSS) retained, as per their scheduled visits to site. The PMSS will communicate their observations of the work completed during that week with a weekly report.

9.1.5 The design consultant will be responsible to ensure that the quality of installation is in accordance to their design expectations. The design consultant will remain responsible for the design; if changes are required due to site conditions during construction, the design consultant will have to approve the proposed modifications.

9.1.6 The GAC SME team will visit the site periodically. GAC will meet the Design Consultant, PMSS and the contractor to communicate our expectations. GAC SME will make observations on the installation and will communicate their concerns, if any, to the Project Manager documented through their trip reports.

9.2 Fire Protection and Life Safety Systems SOW

9.2.1 The Fire Suppression and Life Safety systems certification will be performed by the fire protection firm nominated by the building landlord to design, construct, install and test the fire protection equipment within our floor space.

9.2.2 Within the tender document specification, the consultant will identify the process, procedures, methods and documentation for each phase of the Commissioning process and describe the requirement of the verification and testing to be performed by the contractor.

9.2.3 Once the contractor installation, initial verification and testing is complete, the contractor will certify all of the fire protection and life safety systems installed in our floor space. The contractor must prepare a written report detailing the steps of all the verifications performed and a brief description of the process and instrumentation used and the result of the certification.

9.2.4 The completed Cx plan and certification, including all appendices must form part of the Cx records turned over at the end of the construction phase. All active and passive (components installed on the floor and walls and doors rating and operation) fire protection and life safety systems must be commissioned.

9.3 Electrical Systems – Scope

9.3.1 This section addresses static verification, start-up, and functional performance of four areas of the electrical system. The delineation of each system will be determined by the commissioning team for this project. The four areas are as follows:

- Incoming electrical service;
- Main distribution system;
- Branch distribution system; and
- Fire alarm and detection system.

9.4 Electrical – Documentation

9.4.1 The following contract reference documents, as a minimum, will be provided to the commissioning team prior to commencement of the commissioning process:

- A complete set of contract drawings, specifications, and associated documents;
- single-line diagrams;
- control schematics;
- wiring diagrams;
- cable schedules; and
- AC/DC schematics.

9.5 Electrical – Intent

9.5.1 Section 9.3 is intended to address the verification and performance testing of the independent elements (equipment) and integrated systems of the services listed in 9.3.1. The requirements specified in 9.3 are intended to supplement, not replace, the requirements of the authorities having jurisdiction or of applicable codes and standards.

9.6 Electrical Static Verification

9.6.1 Static verification will be completed and performed prior to energization. Static verification will include, as a minimum, the following procedures:

- factory tests and verification documentation;
- field visual and mechanical inspections;
- field electrical tests;
- testing of field values;
- testing of key interlock schemes;
- testing of mechanical interlock schemes;
- operation of control circuits;
- operation of trip circuits; and
- Testing of safety interlocks and operations.

9.7 Electrical Start-up

9.7.1 As part of the overall commissioning of a particular system, all electrical components will be energized. Start-up will include, but not be limited to, the following procedures:

- completion of static verification;
- initial site energization;
- voltage measurements;
- phase rotation;
- thermographic survey/report;
- load balancing; and
- Post-energization visual inspections.

9.8 Electrical Functional Performance Testing

9.8.1 Before the performance testing of each system, the commissioning provider will ensure that the components and systems being tested have been installed and labelled in accordance with the contract documents. The documentation will include the following, as a minimum:

- Static verification of components: and
- Start-up of equipment and systems.

9.8.2 Commissioning procedures will be carried out to ensure that electrical equipment and systems are functionally operating in accordance with contract documents and shop drawings. Functional performance testing will include, but not be limited to, the following procedures:

- tests to ensure that equipment and systems, including components such as interlocks, conditional control logic, and control sequences, are operational under all normal operating modes (including part and full load) and abnormal or emergency conditions;
- power quality measurements;
- measurement of voltage drop for all major equipment;
- measurement of voltage drop at 10% of end devices (i.e., receptacles, hard-wired equipment connection points);
- receptacle testing;
- harmonic measurements;
- power factor measurements of load balancing;
- thermographic survey;
- Illumination measurements; and
- Grounding measurements.

9.9 Mechanical Systems – Scope and Documentation

9.9.1 Plumbing Systems, HVAC Systems, and Fire Protection Systems will be commissioned. More stringent verification and performance testing will be considered for Life Safety Systems and Information Technology Rooms. As a minimum, the following reference contract documents will be provided to the commissioning team prior to the commencement of the commissioning process:

- A complete set of contract drawings, specifications and associated documents;
- Shop drawings of all equipment and components;
- Controls drawings and sequences;
- Wiring diagrams;
- Operation Manuals; and
- Air and water balancing (and any associated pressure test reports) reports.

9.10 Intent (Mechanical)

9.10.1 Commissioning of mechanical systems will include static verification, start-up, functional performance testing, post occupancy evaluation, and documentation of the installation and performance of all systems. Commissioning will begin with individual pieces of equipment before moving to complete systems, and will progress from manual operation to fully automatic operation under building automation control. When the functional performance of all individual systems (including architectural) have been tested and proven acceptable, functional testing of the integrated systems will be performed and verified.

9.11 Mechanical Static Verification

9.11.1 Static verification activities include the verification and documentation that all system elements are in accordance with the design requirements and will include, the following procedures, as applicable.

- Hydrostatic pressure testing;
- Flushing/cleaning;
- Chemical water treatment;
- Inspections by Authorities Having Jurisdiction;
- Documentation of all equipment and systems information, such as, model number, serial number; and
- Engineer’s review.

9.12 Mechanical Start-up

9.12.1 Before equipment start-up / system start-up, the following will be completed, witnessed and documented.

- Factory test and verification documentation;
- Field visual and mechanical inspections;
- Filed electrical tests;
- Checks of equipment and systems for proper operation;
- Tests of mechanical interlock schemes;
- Operation and control circuits;
- Tests of safety interlocks; and
- Phase rotation.

9.13 Mechanical Functional Performance Testing

9.13.1 Before the functional performance testing of each system, the commissioning authority will ensure that the components and systems being tested have been installed and labelled in accordance with the contract documents. Functional performance testing will include, as a minimum, the following:

- Start-up or activation of equipment and systems;
- Completion of testing, adjusting, and balancing; and
- Calibration and testing of controls.

9.14 Operation & Maintenance (O&M) Manuals

9.14.1 The manual will include: as-built drawings, equipment data, model numbers for the equipment, parts lists, equipment options, operating manuals for each piece of equipment, sequence of operation testing and balancing reports and certifications, maintenance schedules, videos, and warranty schedules. The manual must be reviewed and certified complete by the project manager before submission to the facilities manager.

9.14.2 Manuals are to be provided in Spanish and English and in electronic format and two (2) hard copies.

9.15 As Built Drawings

9.15.1 As-built drawings will be provided at completion of the project and will reflect all changes made in the working drawings during the construction process. They will show the exact dimensions geometry and location of all elements of the work completed under this contract.

9.16 Training

9.16.1 Within the specification, the consultant will identify the training requirements that the contractor will be responsible to provide.

9.16.2 For each system installed and controlled by the Tenant and the base building, training will be provided to the property section describing the design objectives and how to operate the equipment installed in our space. In addition to the information provided in the O&M manuals, the sequence of operation and the trouble shooting guide will be provided and posted close to the system if possible.

9.17 Spare parts

9.17.1 The consultant will include a list of spare parts within the specifications that the contractor will be responsible to provide at the end of the project. For each system installed and in addition to the final operating set, provide spare parts that are routinely changed as part of the maintenance program that may cause an interruption in the operation if not readily available.

9.18 Systems to be commissioned

9.18.1 The systems to be commissioned will include but no limited to the following:

System / Equipment / Process Description	Description of Cx activities (provided by Contractor)
MECHANICAL	
Potable Water Piping system	
Sanitary Sewage system	
Grease Interceptor	
Ductwork	
Hot water tank	
Washroom accessories - Urinal Flushing valves, thermostatic valves	
Exhaust Fans / Variable Speed Drives	
Main Air Handling Units / Variable Speed Drives	
Variable Refrigerant Flow (VRF) systems: Outdoor unit and individual indoor units	
Testing, Adjusting and Balancing (TAB) of all fluid and air delivering systems.	
ELECTRICAL	
Transformer	
Distribution/sub distribution boards including circuit breakers	
Grounding and Bonding	
Cables, Low Voltage 1kv Max	
Outlets	
Switches and cut-outs	
Lighting Control system	
General Light Fixtures	
LIFE SAFETY SYSTEMS	
Exit Lights	

System / Equipment / Process Description	Description of Cx activities (provided by Contractor)
Emergency Lights	
Fire Alarm / Detection System	
Sprinkler System	
Fire / Smoke Dampers – operation and accessibility	
Fire exit and fire egress door hardware	

9.19 Green Building Certification

9.19.1 The Consultant will prepare and submit all necessary documentation to the appropriate green building certification authority, on behalf of GAC. The consultant will coordinate with the green building authority for any required site visits and answer all questions about the project.

9.19.2 The Consultant will pay all fees required for certification, on behalf of GAC. The Consultant will not purchase any certification displays (e.g., plaques, banners, etc.).

9.19.3 Final certification documents will be awarded to the Consulate General of Canada to San Salvador.

END OF PART 9

ROOM DATA SHEETS

Schedule

1.0 | Room Data Sheets

Pedestrian Screening Area

Function

- A pedestrian screening area is located at every chancery entrance
- Function: clients and objects are screened by security guards
- Locker storage provided for visitors personal electronics

Finishes

- High quality suitable for representation purposes
- Hard surface flooring durable for high levels of traffic
- Glazing with clear view to receptionist in main waiting area.

Furnishings

- Guard's workstation (supplied & installed by GAC or millwork depending upon layout)
- Millwork to provide search area and support X ray machine with locked storage under.
- Integrated locker storage for visitors electronic devices. (Laptops and phones) Located before metal detector and readily accessible to exiting clients
- Ergonimic task seating (supplied & installed by GAC)

Equipment

- Walk-through metal detector (supplied & installed by GAC)
- X-ray scanner (supplied & installed by GAC)
- Analog telephone supplied and installed by GAC).
- DSL parcel scanning computer (supplied and installed by GAC)
- Parcel search box (entrance only)
- 3 analogue CCTV cameras

Communications and CESS

- Level 0 & 1 systems: Provide 4X V/D wall drop at desk (4 X RJ45 each)
- Level 0 systems: Provide 1X V/D above floor receptacle at x-ray scanner (2 X RJ45 each)
- Level 0 systems: Provide 3 BNC and power connectors

Lighting

- Standard LED fixtures* + additional accent lighting as required by architect.
- Specialized dimmable Art lighting fixtures at a locationTBD by architect .
- Security light (on 24/7).
- Emergency lighting and exit light.
- Light level: As per design brief, electrical part.
- Lighting Control: Centrally controlled by main lighting control unit and occupancy mode motion detectors. Provide separate control for art light fixtures.

*Standard light fixture refer to a light fixture compliant to RP-1 for light open space work area.

Electrical

- Two above floor duplex receptacle** fitting for X-Ray and metal detector each on a dedicated 15A circuit
- Provide two duplex receptacles beside the V/D drop + provision for 2 general utility receptacles installed on opposite walls.
- Above floor receptacle as per example on the indicative layout.
- Automated screening area doors locking mechanism to be controlled by fire detection systems.
- Fire annunciator panel to be located in waiting area.

Mechanical

- When possible, the Reception Zone shall be ventilated with a dedicated air handler unit. When independent units are not possible, these areas shall be 100% exhaust (no air return). The amount of cooling shall be sufficient to maintain design criteria of the design brief, mechanical part.
- All Reception Zone areas shall have a slightly lower air pressure compared to the Operational Zone to avoid migration of air from the Reception Zone to the Operational Zone

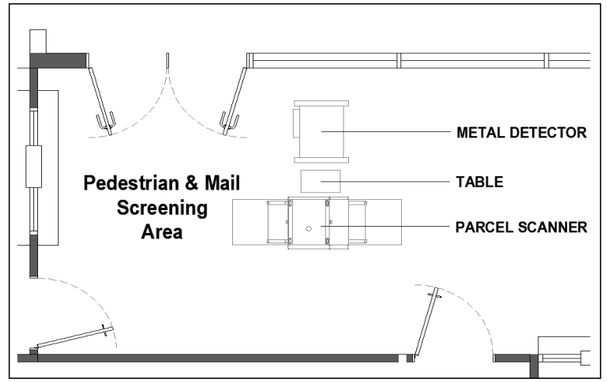
Acoustical

- STC rating: 45 between Reception Zone and Operational Zone

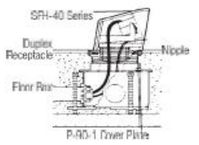
Special construction

- For wall construction details refer to design brief, physical security part.
- Wall must have glazing with views to Reception Wicket.
- Screening area doors are automated with options for operation by guard, client or receptionist depending upon sequence of operation.
- Provide an intercom between elevator lobby entrance and guard station and receptionist.

Indicative Layout 22 sq.m



SFH-40 Series
- Brushed-aluminum finish
- Low-profile design



1.0 | Room Data Sheets

Guards' Wicket

Function

- Primary point of contact for clients
- Accommodates receptionist with equipment
- Unobstructed view of the entire waiting area, airlock and airlock entrace. Also required to view into the pedestrian screening area.

Finishes

- High quality suitable for representation purposes
- Grommets in counter for voice/data/electrical

Furnishings

- Barrier free workstation and counter with storage for forms and documents for the receptionist, all constructed as millwork.

Equipment

- Computer (supplied and installed by GAC); hard drive under countertop.
- DSL Computer (supplied and installed by GAC) ; hard drive under countertop.
- Phone (supplied and installed by GAC).
- Printer (supplied and installed by GAC).
- Telephone switchboard (supplied and installed by GAC).
- CCTV monitor (supplied and installed by GAC)
- 1 analogue CCTV camera

Communications and CESS

- Level 0 & 1 systems: Provide 2X V/D wall drops (4 X RJ45 each)

Lighting

- Standard LED fixtures + additional accent lighting as required by architect. Locate this light to avoid unwanted shadow on the counter.
- Take precaution with the location and intensity of the light to avoid creating a 2 sided mirror condition.
- Light Level: As per design brief
- Lighting Control: Vacancy mode motion detector c/w light switch. Central Lighting control switch for open area to be located at this location;

Electrical

- Provide two duplex receptacles beside each the Voice Data (V/D) drop located under the counter. Those duplex receptacles should be on a dedicated 15A circuit.
- One general purpose receptacle on wall close to the door

Mechanical

- HVAC provided from the main building system. The amount of cooling and heating shall be sufficient to maintain design criteria of the design brief, mechanical part.
- The receptionist wicket shall have a slightly higher air pressure than the waiting area.

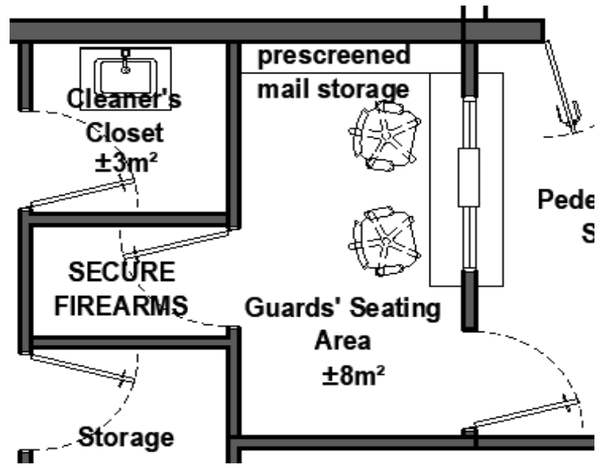
Acoustical

- STC 45

Special construction

- For wall and counter construction details refer to design brief, physical security part.
- For CSAS details refer design brief, physical security.
- Screening area doors are automated with options for operation by guard, client or receptionist depending upon sequence of operation.

Indicative Layout 8 sq.m each



1.0 | Room Data Sheets

Main Waiting Area + Multi Purpose Room

Function

- Visitor reception.
- First impression of the chancery which must portray a positive image of Canada
- Display Canadian artwork and official portraits

Finishes

- High quality suitable for representation purposes
- Hard surface flooring for high levels of traffic

Furnishings

- Soft, high quality seating for visitors
- Barrier free writing surface for guest book
- Disply of flags (Canada and the host country)
- Official portrait display
- Furniture to be supplied and installed by GAC

Equipment

- Analog Phone (supplied and installed by GAC)
- 30" wall mount TV display supplied and installed by Contractor)
- Provide and install 1x Chief PAC526FBP6 (or similar) behind TV
- 2 analogue CCTV cameras

Communications and CESS

- Level 0 systems: Provide 1X V/D drop in the ceiling for WiFi (2 X RJ45 each)
- Level 0 systems: Provide 1X V/D wall drop behind TV (2 X RJ45 each)
- Level 1 systems: Provide 1X V/D wall drop behind seating (2 X RJ45 each)
- Level 0 systems: Provide 2 BNC and power connectors

Lighting

- Standard LED fixtures + additional accent lighting as required by architect.
- Specialized dimmable Art lighting fixtures at a locationTBD by architect.
- Security light (on 24/7)
- Emergency lighting
- Light level: As per design brief, electrical part.
- Lighting Control: Centrally controlled by main lighting control unit and occupancy mode motion detectors. Provide separate control for art light fixtures

Electrical

- One duplex receptacle at the corner table.
- One general purpose duplex receptacle.
- One wall mounted duplex receptacle for TV on a dedicated circuit
- Automated screening area doors to be connected to fire detection systems.

Mechanical

- When possible, the Reception Zone shall be ventilated with a dedicated air handler unit. When independent units are not possible, these areas shall be 100% exhaust (no air return). The amount of cooling shall be sufficient to maintain design criteria of the design brief, mechanical part.
- All Reception Zone areas shall have a slightly lower air pressure compared to the Operational Zone to avoid migration of air from the Reception Zone to the Operational Zone

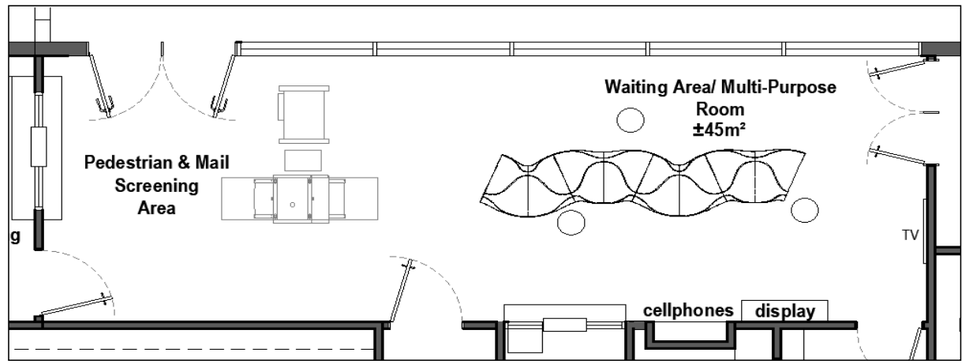
Acoustical

- STC rating: 45 between Reception Zone and Operational Zone

Special construction

- For wall construction details refer to design brief, physical security part.
- Wall to be reinforced to support TV screen.
- Screening area doors are automated with options for operation by guard, client or receptionist depending upon sequence of operation.

Indicative Layout 45 sq.m



1.0 | Room Data Sheets

Multi Purpose Room

Function

- Visitor reception.
- First impression of the chancery which must portray a positive image of Canada
- Display Canadian artwork and official portraits

Finishes

- High quality suitable for representation purposes
- Hard surface flooring for high levels of traffic

Furnishings

- Soft, high quality seating for visitors
- Barrier free writing surface for guest book
- Disply of flags (Canada and the host country)
- Official portrait display
- Furniture to be supplied and installed by GAC

Equipment

- Analog Phone (supplied and installed by GAC)
- 30" wall mount TV display supplied and installed by Contractor)
- Provide and install 1x Chief PAC526FBP6 (or similar) behind TV
- 2 analogue CCTV cameras

Communications and CESS

- Level 0 systems: Provide 1X V/D drop in the ceiling for WiFi (2 X RJ45 each)
- Level 0 systems: Provide 1X V/D wall drop behind TV (2 X RJ45 each)
- Level 1 systems: Provide 1X V/D wall drop behind seating (2 X RJ45 each)
- Level 0 systems: Provide 2 BNC and power connectors

Lighting

- Standard LED fixtures + additional accent lighting as required by architect.
- Specialized dimmable Art lighting fixtures at a locationTBD by architect.
- Security light (on 24/7)
- Emergency lighting
- Light level: As per design brief, electrical part.
- Lighting Control: Centrally controlled by main lighting control unit and occupancy mode motion detectors. Provide separate control for art light fixtures

Electrical

- One duplex receptacle at the corner table.
- One general purpose duplex receptacle.
- One wall mounted duplex receptacle for TV on a dedicated circuit
- Automated screening area doors to be connected to fire detection systems.

Mechanical

- When possible, the Reception Zone shall be ventilated with a dedicated air handler unit. When independent units are not possible, these areas shall be 100% exhaust (no air return). The amount of cooling shall be sufficient to maintain design criteria of the design brief, mechanical part.
- All Reception Zone areas shall have a slightly lower air pressure compared to the Operational Zone to avoid migration of air from the Reception Zone to the Operational Zone

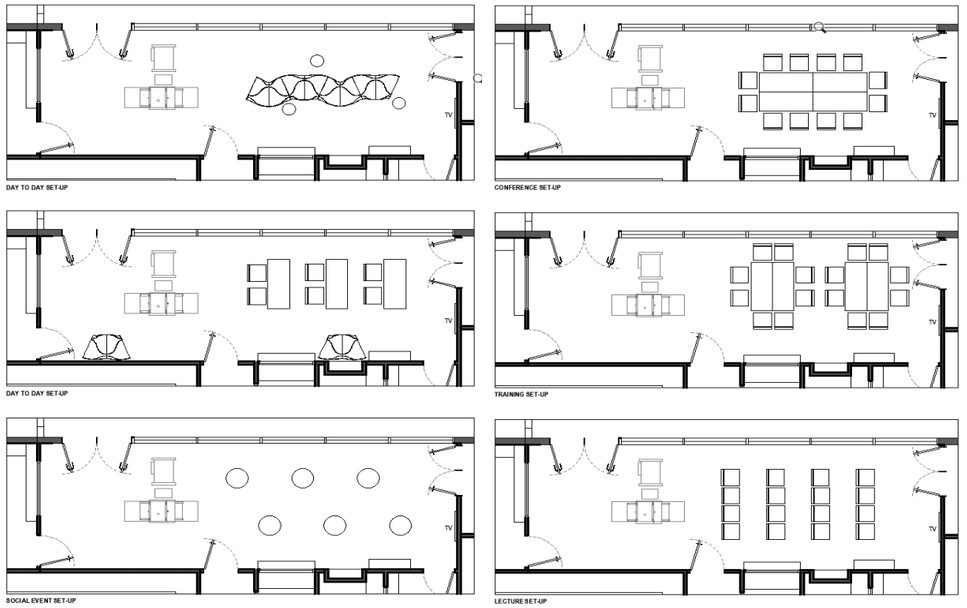
Acoustical

- STC rating: 45 between Reception Zone and Operational Zone

Special construction

- For wall construction details refer to design brief, physical security part.
- Wall to be reinforced to support TV screen.
- Screening area doors are automated with options for operation by guard, client or receptionist depending upon sequence of operation.

Indicative Layout 20 sq.m



1.0 | Room Data Sheets

Reception Wicket

Function

- Primary point of contact for clients
- Accommodates receptionist with equipment
- Unobstructed view of the entire waiting area, airlock and airlock entrace. Also required to view into the pedestrian screening area.

Finishes

- High quality suitable for representation purposes
- Grommets in counter for voice/data/electrical

Furnishings

- Barrier free workstation and counter with storage for forms and documents for the receptionist, all constructed as millwork.

Equipment

- Computer (supplied and installed by GAC); hard drive under countertop.
- DSL Computer (supplied and installed by GAC) ; hard drive under countertop.
- Phone (supplied and installed by GAC).
- Printer (supplied and installed by GAC).
- Telephone switchboard (supplied and installed by GAC).
- CCTV monitor (supplied and installed by GAC)
- 1 analogue CCTV camera

Communications and CESS

- Level 0 & 1 systems: Provide 2X V/D wall drops (4 X RJ45 each)
- Level 1 systems: Provide 2 x RJ45 in plenum.

Lighting

- Standard LED fixtures + additional accent lighting as required by architect. Locate this light to avoid unwanted shadow on the counter.
- Take precaution with the location and intensity of the light to avoid creating a 2 sided mirror condition.
- Light Level: As per design brief
- Lighting Control: Vacancy mode motion detector c/w light switch. Central Lighting control switch for open area to be located at this location;

Electrical

- Provide two duplex receptacles beside each the Voice Data (V/D) drop located under the counter. Those duplex receptacles should be on a dedicated 15A circuit.
- One general purpose receptacle on wall close to the door

Mechanical

- HVAC to be provided from fan coil unit. The amount of cooling shall be sufficient to maintain design criteria of the design brief, mechanical section.
- The receptionist wicket shall have a slightly higher air pressure than the waiting area.

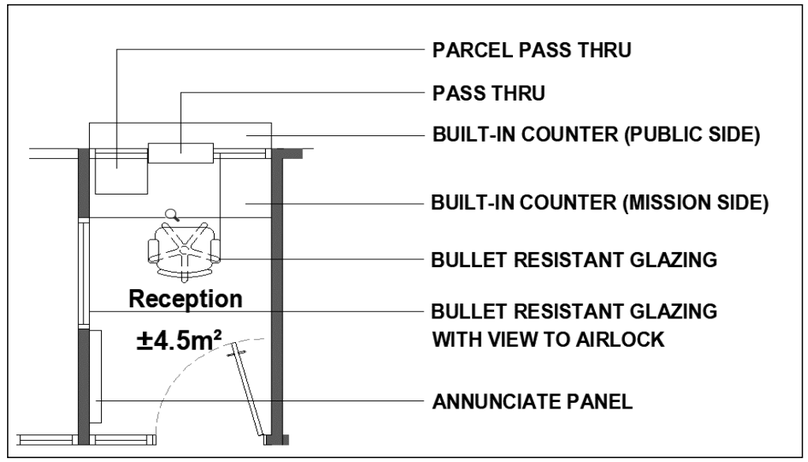
Acoustical

- STC 45

Special construction

- For wall and counter construction details refer to design brief, physical security part.
- For CSAS details refer design brief, physical security.
- Screening area doors are automated with options for operation by guard, client or receptionist depending upon sequence of operation.

Indicative Layout 4 sq.m each



1.0 | Room Data Sheets

Security Airlock

Function

- Entrance from Reception Zone to Operational Zone
- The airlock is visually supervised by the receptionist. Airlock doors are controlled by CESS and operated by the receptionist or by the individual using a keypad.

Finishes

- Hard surface flooring durable for high levels of traffic

Furnishings

- N/A

Equipment

- Digital in/out board adjacent to airlock in Operational zone. (supplied and installed by GAC)

Communications and CESS

- Level 0 systems: Provide 1X V/D wall drop (4 X RJ45 each) within OZ for digital in/out board

Lighting

- Standard LED fixtures
- Light Level: As per project brief
- Lighting Control: Light to be on 24/7

Electrical

- One duplex receptacle for Digital in/out board.

Mechanical

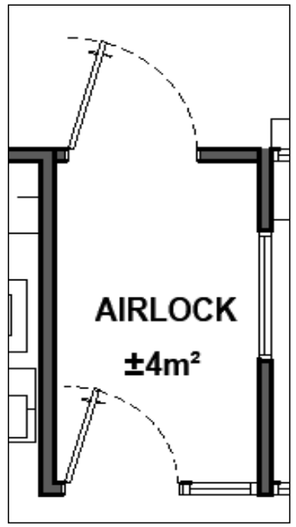
N/A

Acoustical

Special construction

- For wall construction and door frame support details refer to design brief, physical security part.
- Type 1 doors and BR windows (supplied by GAC and installed by Contractor)
- Type 1 doors are controlled by CESS and require the installation of a keypad backbox.
- A minimum distance of 9 feet between doors

Indicative Layout 4 sq.m



1.0 | Room Data Sheets

Interview Booths - Type A

Function

- Client interviews

Finishes

- Standard office finishes in co-ordination with interior concept
- Hard surface flooring durable for high traffic levels

Furnishings

- On Operational (interviewer) side - built-in 24 inch (610mm) deep counter at desk height
- On Reception (client) side - built-in 18 inch (457mm) deep counter at desk height
- Wall surface for suitable for forms and notices on Operational side
- Grommets in counter for data/voice/electrical cables

Equipment

- Computer (supplied and installed by GAC); hard drive under countertop; on the Operational side
- Phone (supplied and installed by GAC); on the Operational side
- Analog phone (supplied and installed by GAC); on the Reception side
- Interview Booth – Type C only: Fingerprint scanner (supplied and installed by GAC); on the Reception side
- Interview Booth – Type C only: Biometrics camera (supplied and installed by GAC); on the reception side
- 1 digital CCTV camera on Operational side

Communications and CESS

- Level 1 systems: Provide 1X V/D wall drop, under the counter (4 X RJ45 each) on the Operational side
- Level 1 systems: Provide 1X V/D wall drop, under the counter (2 X RJ45 each) on the Reception side
- Interview Booth – Type C only: Provide 1X V/D drop on the wall, under the counter (2 X USB) on the Operational side which connects to 1 X V/D drop on the wall, under the counter (2 X USB) on the Reception side
- Level 1 systems : provide 2xRJ45 in plenum on Operational side

Lighting

- Standard LED fixtures + additional accent lighting where required by architect. Locate light fixture to avoid unwanted shadow on the counter.
- Take precaution with the location and intensity of the light to avoid creating a 2 sided mirror condition.
- Light Level: As per design brief, electrical part.
- Lighting Control: Occupancy mode motion detector.

Electrical

- Four duplex receptacles on Operational side under the counter beside the V/D drop on a dedicated circuit.
- One duplex receptacle on reception side above the counter.

Mechanical

- HVAC to be provided from the main building system. The amount of cooling and heating shall be sufficient to maintain design criteria of the design brief, mechanical section.
- The Operational side shall have a slightly higher air pressure than the reception side to avoid migration of air from the Reception (client) side.

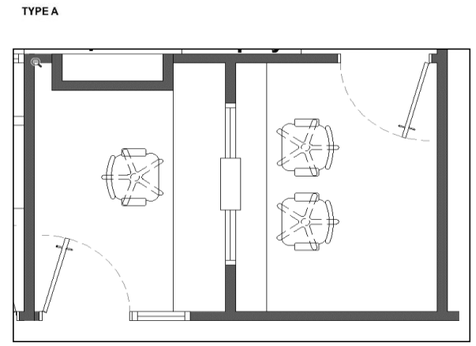
Acoustical

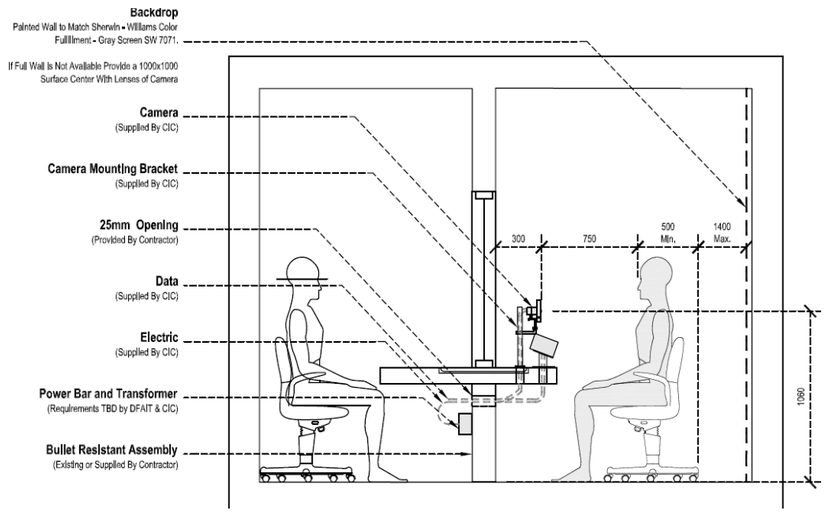
- STC rating: 45

Special construction

- BR window supplied by GAC and installed by Contractor
- Refer to design brief, physical security part, for wall and counter construction details.
- Refer to design brief, physical security part for CSAS construction details, biometric installation details
- installation of speakthrough and passthrough tray
- installation of CSAS actuator (kickbar)

Indicative Layout 10 sq.m





FOR ILLUSTRATIVE PURPOSES ONLY

1.0 | Room Data Sheets

Dermarcation Point

Function

■ Room to terminate incoming central office trunks or any other data services required by GAC.

Finishes

■ Anti-static flooring - Electrical resistance EN 1081 / 1 - 106 < R1 < 1 - 108 Ω: static dissipative
■ No ceiling.

Furnishings

Equipment

■ Local Telecommunications and CESS provider equipment room (supplied and installled by local telco)
■ GAC Telecommunications and CESS equipment (supplied and installed by GAC)
■ Analgoe CCTV camera equipment rack

Communications and CESS

■ 3 X Type2 GAC backboard with following dimensions: 4 feet width, 8 feet height
■ Metal “C” channel is required above the backboard(s) in order to support the backbone conduit and ladder/tray system
■ Backbone conduit requirements as per the design brief, ICT & Multimedia part
■ No other building systems transiting this space

Lighting

■ Strip LED light fixture c/w wire guard mounted over the door.
■ Light Level: As per design brief.
■ Lighting Control: Line voltage light switch or door contact.

Electrical

■ Two 5-15R duplex Receptacle, wall mounted underneath the back board, each on a dedicated circuit.
Grounding
■ Terminal Grounding Bar (TGB) mounted at 450mm from finish floor on or under the backboard connected with a # 2/0 AWG bare copper conductor in conduit.
■ Provide 3000mm of #10 awg ground copper conductor for connection of equipment by others.

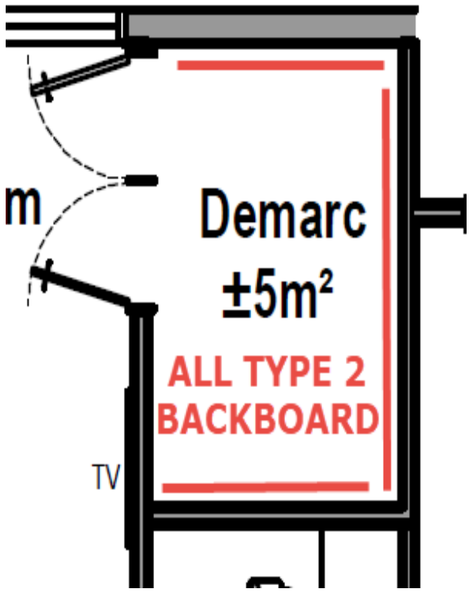
Mechanical

■ Provide mechanical ventilation through the provision of a transfer fan and door grille.
■ Add supplementary cooling if required, after a load calculation.
■ If additional cooling is required, the cooling unit shall have auto-restart capability

Acoustical

Special construction

Indicative Layout 8 sq.m



2.0 | Room Data Sheets

Touchdown Workstations

Function

■Unassigned workstation.

Finishes

■ Standard office finishes in coordination with interior concept
■ Non glare finishes

Furnishings

■ open office systems furniture (supplied and installed by GAC)

Equipment

■ Computer and peripherals (supplied and installed by GAC)
■ Phone (supplied and installed by GAC)

Communications and CESS

■ Level 0 & 1 systems: Provide 1X V/D wall drop (4 X RJ45 each) for each touchdown workstation

Lighting

■ Standard LED light fixture
■ Light Level:As per design brief
■ Lighting Control: Centrally controlled by main lighting control unit and occupancy mode motion detectors.

Electrical

■ Touchdown workstation will either be pre-wired by the furniture manufacturer or installed side by side against a drywall partition. Each workstation to be provided with 2 duplex receptacles installed beside V/D drop.
■ Provide one dedicated circuit per 4 touchdown workstation.

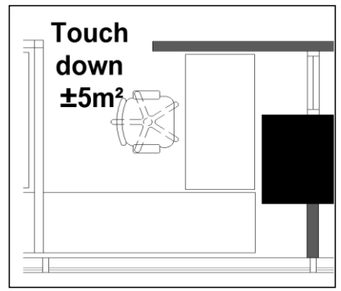
Mechanical

■ HVAC to be provided from the fan coil unit. The amount of cooling shall be sufficient to maintain design criteria of the design brief, mechanical section.

Acoustical

Special construction

Indicative Layout 1.5 sq.m



2.0 | Room Data Sheets

Open Workstation - 4.5 sq.m - Operational Zone / Secure Zone

Function

- open workstation

Finishes

- Standard office finishes in coordination with interior concept
- non glare finishes

Furnishings

- Open office systems furniture (Supplied and installed by GAC)

Equipment

- Computer and peripherals (supplied and installed by GAC)
- Phone (supplied and installed by GAC)

Communications and CESS

- Level 0 & 1 systems: Provide 1X V/D wall drop (4 X RJ45 each) for each open workstation
- Level 2 systems: Provide 1X V/D wall drop (2 X SC fiber each) for each desk area (Secure Zone only)

Lighting

- Standard LED light fixtures
- Light Level: As per design brief
- Lighting Control: Centrally controlled by main lighting control unit and occupancy mode motion detectors + day light harvesting for the fixtures within 3m from the windows

Electrical

- Provide an electrical consolidation point at the base of column or drywall partition.
- Bring power along the wall and connect to the manufacturer's power harness with liquid tight cable as shown on the indicative layout.
- Pre-wired partition to be provided with two duplex receptacles
- Provide one dedicated circuit per 2 workstations.

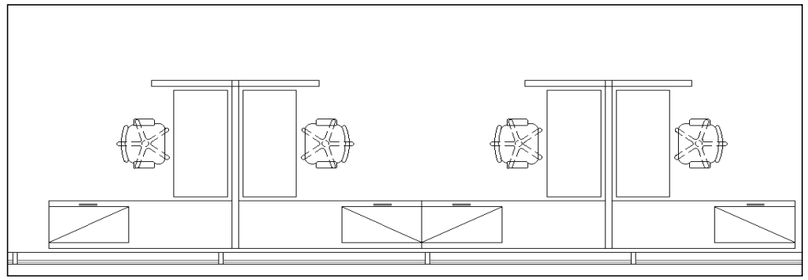
Mechanical

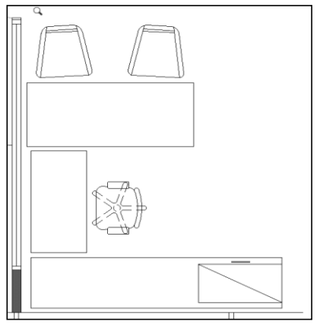
- HVAC to be provided from the fan coil unit. The amount of cooling shall be sufficient to maintain design criteria of the design brief, mechanical section.

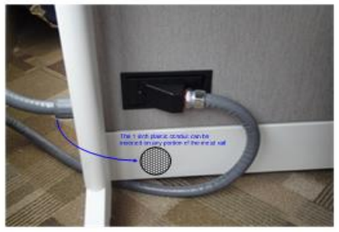
Acoustical

Special construction

Indicative Layout 4.5 sq.m







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2.0 | Room Data Sheets

Driver's Rest Area

Function

Finishes

- Standard office finishes in coordination with interior concept
- non glare finishes

Furnishings

- Open office systems furniture (Supplied and installed by GAC)

Equipment

- Computer and peripherals (supplied and installed by GAC)
- Phone (supplied and installed by GAC)

Communications and CESS

- Level 0 & 1 systems: Provide 3X V/D wall drops (4 X RJ45 each)

Lighting

- Standard LED light fixture
- Light Level: As per design brief
- Lighting Control: Vacancy mode motion detector and light switch.

Electrical

- One duplex receptacle beside each voice data outlet, circuit shared with other workstations. Max 8 duplex receptacles per circuit.
- Provide two general purpose receptacles.

Mechanical

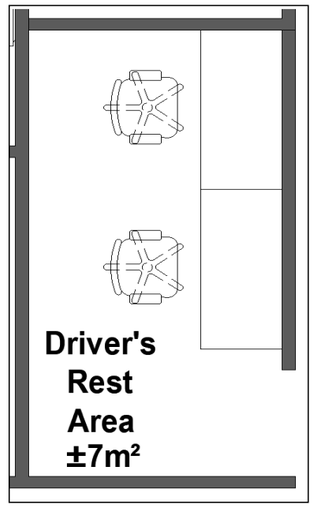
- HVAC to be provided from the fan coil unit. The amount of cooling shall be sufficient to maintain design criteria of the design brief, mechanical section.

Acoustical

- STC rating: 45

Special construction

Indicative Layout 30 sq.m



2.0 | Room Data Sheets

IT Workstop & Storage Operational Zone

Function

- Workshop for ICT technical staff for repair and storage of equipment and tools
- Proximity to ITP office and DCC

Finishes

- Anti-static flooring - Electrical resistance EN 1081 / 1 - 106 < R1 < 1 - 108 Ω: static dissipative

Furnishings

- Supplied and installed by GAC

Equipment

- Computers, printers, peripherals, Telecommunications and CESS network equipment (Supplied and installed by GAC)

Communications and CESS

- Level 0 systems: Provide 1X V/D wall drops (4 X RJ45 each)
- Level 0 systems: Provide 1X V/D wall drops (4 X RJ45 each) above workbench mounted 12" above work surface
- Level 1 systems: Provide 1X V/D wall drops (4 X RJ45 each)
- Level 1 systems: Provide 2X V/D wall drops (4 X RJ45 each) above workbench mounted 12" above work surface

Lighting

- Standard LED light fixtures
- Light Level: As per design brief
- Lighting Control: Vacancy mode motion detector and 3-way light switch
- One emergency lighting unit

Electrical

- Provide two duplex receptacles on a dedicated circuit under the work bench beside each V/D drop.
- Provide three receptacles above work bench mounted 150 mm above work surface each on three dedicated circuits.
- Provide two general purpose receptacles on opposite walls.

Mechanical

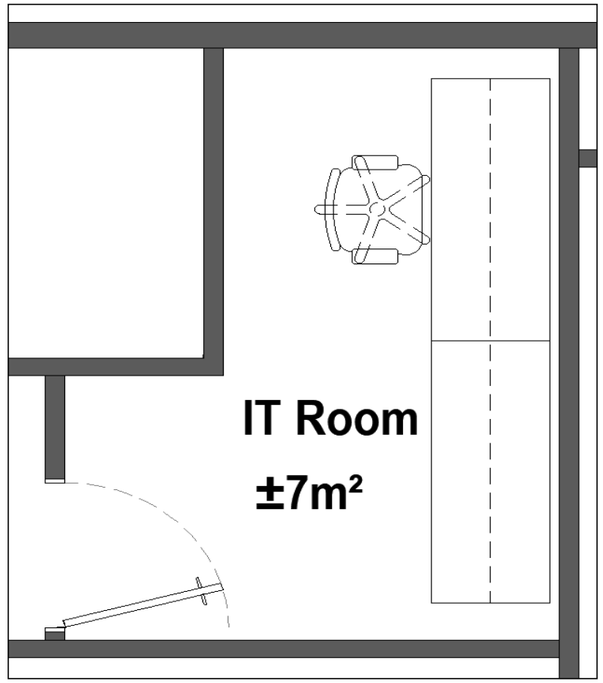
- HVAC to be provided from the fan coil unit. The amount of cooling shall be sufficient to maintain design criteria of the design brief, mechanical section.
- Enclosed room shall be an individual zone

Acoustical

Special construction

- Locate under the roof area
- For door frame support details refer to design brief, physical security part.
- Physical Resistant door (supplied by GAC and installed by Contractor)
- Physical Resistant door is controlled by CESS and requires the installation of a keypad backbox.

Indicative Layout 7 sq.m.



2.0 | Room Data Sheets

Business Centre / Prescreened Mail and Storage Room

Function

- Mail sorting, package preparation, franking

Finishes

- Standard office finishes in coordination with interior concept

Furnishings

- Custom millwork. Pigeon holes, work counter, storage.

Equipment

- Computer and peripherals (supplied and installed by GAC)
- Phone (supplied and installed by GAC)
- Postage franking machine (Supplied and installed by GAC)

Communications and CESS

- Level 0 systems: Provide 2X V/D wall drops (4 X RJ45 each)
- Level 1 systems: Provide 2X V/D wall drops (4 X RJ45 each)

Lighting

- Standard LED light fixture
- Light Level:As per design brief
- Lighting Control: Occupancy mode motion detectors + light switch
- Provide LED light strip under the milwork shelving

Electrical

- One duplex receptacle located beside each V/D drop.
- Provide two receptacles 150 mm above work bench each on a dedicated circuit.
- Provide one general purpose receptacle.
- One receptacle on a dedicated circuit for large printer.

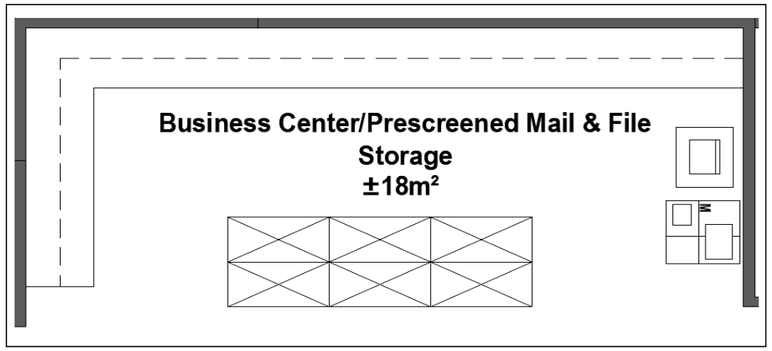
Mechanical

- HVAC to be provided from the fan coil unit. The amount of cooling shall be sufficient to maintain design criteria of the design brief, mechanical section.

Acoustical

Special construction

Indicative Layout 18 sq.m



2.0 | Room Data Sheets

Staff Kitchen

Function

- Staff lunchroom and lounge

Finishes

- Durable surfaces

Furnishings

- Millwork fixtures and fittings to suit purpose
- Provide for bins for recycling
- Provide a surface for informal posting of notices
- Freestanding furnishings supplied and installed by GAC

Equipment

- Wall mount phone (Supplied and installed by GAC)
- Coffee machine (supplied and installed by GAC)
- Kettle (supplied and installed by GAC)
- Toaster (supplied and installed by GAC)
- 75" wall mount TV display (supplied and installed by Contractor)
- Provide and install 1x Chief PAC526FBP6 (or similar) behind TV
- 1 X 36" wide fridge with a freezer (supplied and installed by Contractor)
- 1X 36" wide fridge (no freezer) (supplied and installed by Contractor)
- 1X dishwasher (supplied and installed by Contractor)
- 2X microwaves (supplied and installed by Contractor)

Communications and CESS

- Level 1 systems: Provide 1X V/D wall drop @ phone height (1 X RJ45 each)
- Level 0 systems: Provide 1X V/D wall drop behind TV (2 X RJ45 each)
- Level 0 systems: Provide 2X V/D wall drop to island (2 X RJ45 each)
- Level 1 systems: Provide 2X V/D wall drops to island (4 X RJ45 each)
- Level 1 systems: Provide 1X V/D wall drop behind TV (2 X RJ45 each)

Lighting

- Standard LED light fixture
- Task lighting under the upper cabinet.
- Light Level: As per design brief
- Lighting Control: Occupancy mode motion detector.
- Provide accent lighting above the island
- Provide separate light switch on the counter back spash for the under cabinet light fixtures .
- Emergency lighting

Electrical

- 5-20R duplex receptacle located above the kitchen counter as per NEC and connected on a 20 amps GFCI circuit if installed within 3 feet of water source.
- One duplex receptacle per fridge on a dedicated circuit
- One duplex receptacle for microwaves, toasters and kettles on dedicated circuits
- One duplex receptacle for the dishwasher on a dedicated circuit
- One duplex receptacle on each walls of the room
- One wall mounted duplex receptacles for TV on a dedicated circuit
- All 5-15R receptacle connected on a 15 amp circuits
- Provide electrical services to the island

Mechanical

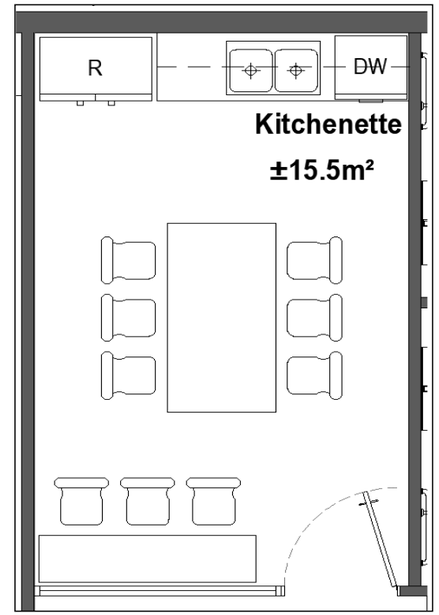
- HVAC provided from the main building system. The amount of cooling and heating shall be sufficient to maintain design criteria of the design brief, mechanical part.
- Appropriate air circulation to control the environment and to avoid migration of odour
- Exhaust rate of 1.5 l/s per m²
- Provide hot and cold domestic water to the sink complete with isolating valves under the sink
- Provide water treatment if the water is not potable
- Make the connection for the dishwasher
- Provide a hot water tank if there is no hot water available from the base building
- Provide drainage connected to the main building drain pipe.

Acoustical

- STC Rating: 45

Special construction

Indicative Layout 90 sq.m



2.0 | Room Data Sheets

Electrical Room

Function

Finishes

- Durable
- No finished ceiling

Furnishings

Equipment

Communications and CESS

- Level 1 systems: Provide 1X V/D wall drop @ phone height (1 X RJ45 each)

Lighting

- Industrial LED light fixtures
- Light Level:As per design brief
- Lighting Control: Line voltage light switch
- One emergency light unit

Electrical

- Provide two duplex receptacles, wall mounted at 18" (450mm) above the finished floor, each on a dedicated circuit.
- Grounding terminal bar mounted at 18" (450mm) from finish floor connected to the main building grounding terminal point.

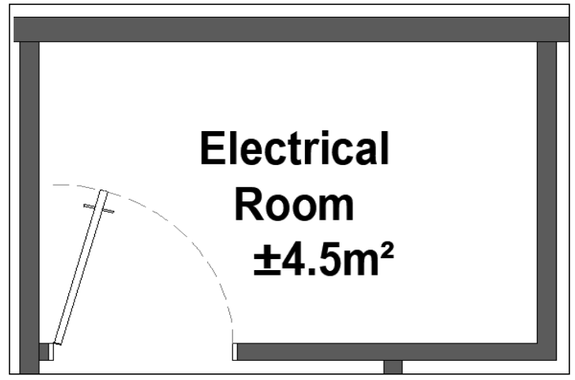
Mechanical

- Provide mechanical ventilation through the provision of a transfer fan and door grille.

Acoustical

Special construction

Indicative Layout 4.5 sq.m



2.0 | Room Data Sheets

Meeting Room - Large Operational Zone

Function

- Meeting room to seat 8 -14

Finishes

- Representational quality finishes in coordination with interior design concept
- Non glare finishes

Furnishings

- Supplied and installed by GAC
- smart board, widescreen or standard format??
- Meeting table will be equiped with wire management

Equipment

- Computer (Supplied and installed by GAC)
- 2 X Phones; regular & conference, (Supplied and installed by GAC)
- 80" Wall mount TV display (supplied and installed by Contractor) Operational Zone only
- 80" Wall mount TV display (supplied and installed by GAC) Secure Zone only
- Provide and install 1x Chief PAC526FBP6 (or similar) behind TV+C473
- Cisco Video conferencing equipment (Supplied and installed by GAC)
- Evoko Room Manager on exterior adjacent to door (Supplied and installed by GAC) on exterior adjacent to door (Supplied and installed by GAC)

Communications and CESS

- Level 0 & 1 systems: Provide 1X V/D wall drop within millwork (2 X RJ45 & AV each)
- Level 0 systems: Provide 1X V/D wall drop behind the TV (2 X RJ45 & AV each) Operational Zone only, 2 X SC fiber and AV each Secure Zone only
- Level 0 & 1 systems: Provide 2X V/D wall drops (2 X RJ45 & AV each)
- Level 0 & 1 systems: Provide 2X above floor monument located under the table floor boxes (4 X RJ45 & AV) & power each)
- Level 1 systems: Provide 1X V/D drop on exterior wall of entrance door (2 X RJ45 each)
- A/V interconnections within room (supplied and installed by Contractor). Final connections list TBD after proposal acceptance

Lighting

- Video conference type light fixtures above the table + accent light fixtures as per architect.
- Light Level: As per design brief
- Lighting Control: 4 scenes lighting controller fully dimmable multi programmable. Suggested source Lutron grafik eye

Electrical

- Provide two set of above floor receptacles located adjacent to the V/D drops, each on a dedicated circuit.
- Provide two duplex receptacles, wall mounted at 18" (450mm) above the finished floor, each on a dedicated circuit.
- Provide one duplex receptacle on each wall of the room each on a dedicated circuit
- Provision for a wall mounted receptacles behind the credenza on dedicated circuit.
- Provide one wall mounted duplex receptacle for TV on a dedicated circuit

Mechanical

- HVAC to be provided from fan coil unit. The amount of cooling shall be sufficient to maintain design criteria of the design brief, mechanical section.
- Control to maintain the comfort level whatever the occupancy is.
- Meeting room shall be an individual zone.

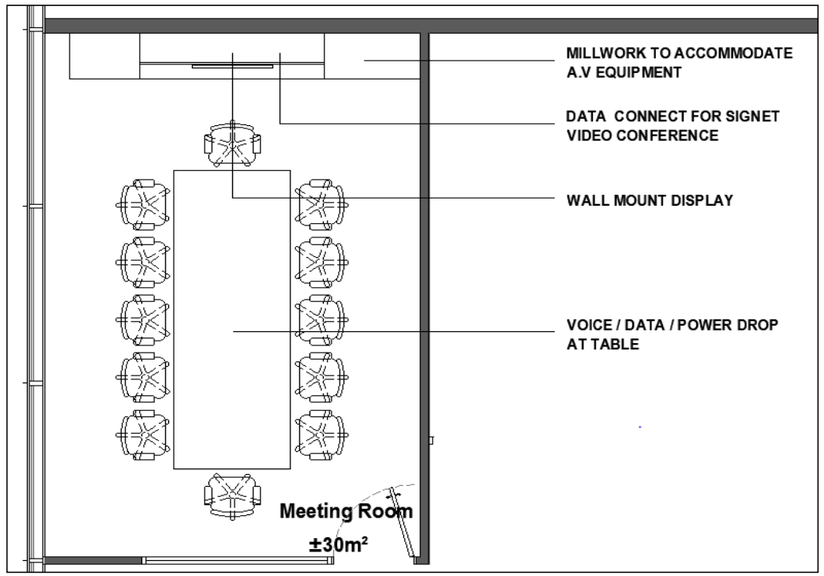
Acoustical

- STC Rating: 45

Special construction

- Provide black out blinds

Indicative Layout 30 sq.m



2.0 | Room Data Sheets

Quiet Rooms

Function

- Non reservable room for quiet work or adhoc discussions

Finishes

- Standard office in coordination with interior design concept
- Non glare finishes

Furnishings

- All furnishes to be approved by GAC interior designer

Equipment

- Computer and peripherals (supplied and installed by GAC)
- Phone (supplied and installed by GAC)
- Evoko Room Manager on exterior adjacent to door (Supplied and installed by GAC)

Communications and CESS

- Level 0 & 1 systems: Provide 1X V/D wall drop (4 X RJ45 each)
- Level 1 systems: Provide 1X V/D drop on exterior wall of entrance door (2 X RJ45 each)

Lighting

- standard LED light fixture
- Light Level: as per design brief
- Lighting Control: Vacancy mode motion detector + light switch

Electrical

- One duplex receptacle located beside the V/D drop

Mechanical

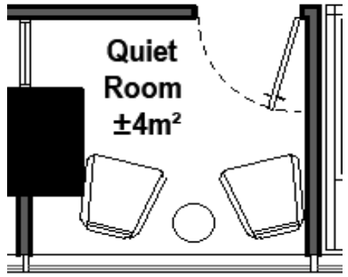
- HVAC to be provided from the main building system. The amount of cooling and heating shall be sufficient to maintain design criteria of the design brief, mechanical part.

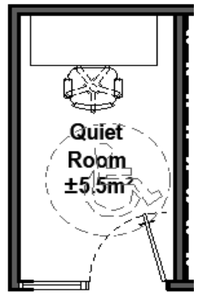
Acoustical

- STC Rating: 45

Special construction

Indicative Layout 6 sq.m | 8 sq.m | 10 sq.m





2.0 | Room Data Sheets

Telecommunication Closet / DCC

Function

■ Telecommunications and CESS room for interconnecting GAC horizontal cabling to various networks, devices. Transit area and interconnections for CESS CCTV endpoints and CESS backbone cabling. GAC backbone interconnects terminate and transit this room.

Finishes

■ Anti-static flooring - Electrical resistance EN 1081 / 1 - 106 < R1 < 1 - 108 Ω: static dissipative
■ No finished ceiling

Furnishings

Equipment

■ Telecommunications and CESS network equipment (Supplied and installed by GAC)

Communications and CESS

■ 2 X Type2 GAC backboard with following dimensions: 4 feet width, 8 feet height on each side of the room (TC and DCC)
■ Level 0 & 1 systems: Provide 4 X V/D wall drop (4 X RJ45 each) on the TC side of the room
■ Level 0 & 1 systems: Provide 5 X V/D wall drop (4 X RJ45 each) on the DCC side of the room
■ Metal “C” channel is required above the backboard(s) in order to support the backbone conduit and ladder/tray system
■ Backbone conduit requirements as per the design brief, ICT & Multimedia part
■ No other building systems transiting this space

Lighting

■ Strip light mounted above the door
■ Light Level: As per design brief
■ Lighting Control: Line voltage light switch or a door contact

Electrical

■ Provide two duplex receptacles wall mounted underneath the back board, each on a dedicated circuit.
■ Terminal Grounding Bar (TGB) mounted at 18" (450mm) from finish floor on or under the backboard connected with a # 2/0 AWG bare copper conductor in conduit.
■ Provide 3000mm of #10 AWG ground copper conductor for connection of equipment by others.

Mechanical

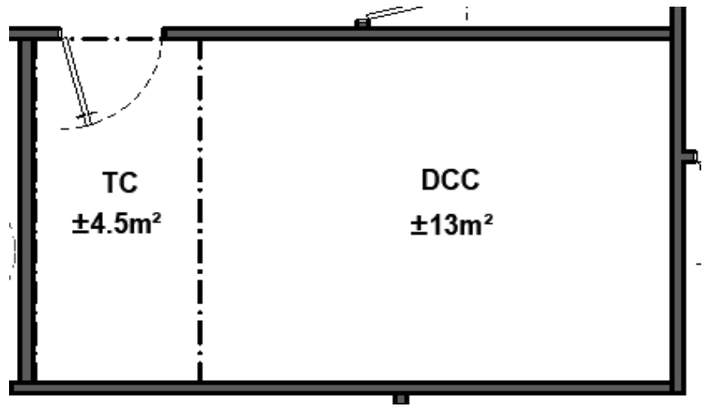
■ Provide mechanical ventilation through the provision of a transfer fan and door grille.
■ Add supplementary cooling if required, after a load calculation.
■ If additional cooling is required, the cooling unit shall have auto-restart capability

Acoustical

■ STC rating: 45

Special construction

Indicative Layout 3 sq.m



3.0 | Room Data Sheets

SOS Station Secure Zone

Function

- Security officer station (sos)

Finishes

- Standard office in co-ordination with interior concept

Furnishings

- Custom millwork suitable for purpose.

Equipment

- CESS Computer and peripherals (Supplied and installed by GAC)
- CESS Wall mount TV display (Supplied and installed by GAC)
- CESS IP Master (Supplied and installed by GAC)
- Phone (supplied and installed by GAC)

Communications and CESS

- Level 1 systems: Provide 1X V/D wall drop on the wall (4 X RJ45 each)
- Level 1 systems: Provide 2X RJ45s above the plenum

Lighting

N/A

Electrical

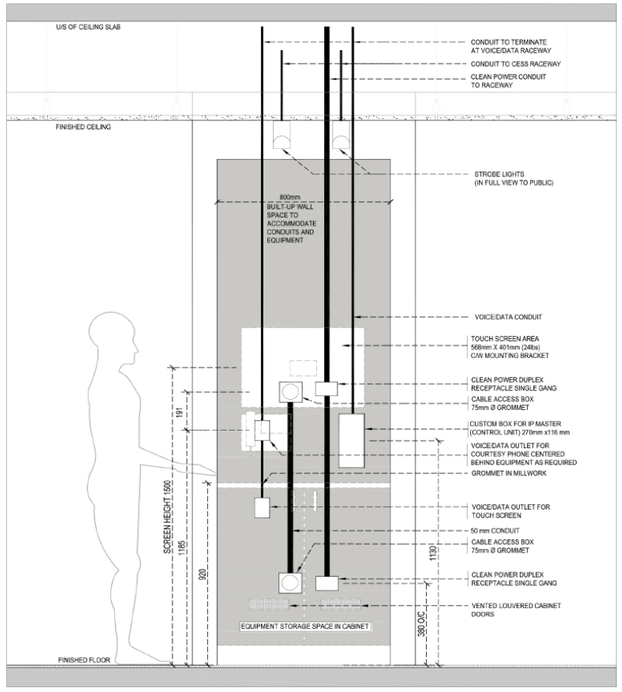
- Provide two duplex receptacles wall mounted located beside the V/D drop / C5 terminal point on a dedicated circuit
- General purpose duplex receptacles on each wall of the room
- One 15 amp receptacle located behind TV

Mechanical

Acoustical

Special construction

Indicative Layout



FOR ILLUSTRATIVE PURPOSES ONLY

3.0 | Room Data Sheets

HOM's Business Centre / Touchdown Workstations | Secure Zone

Function

- Unassigned workstation

Finishes

- Standard office finishes in coordination with interior concept
- Non glare finishes

Furnishings

- Open office systems furniture (Supplied and installed by GAC)

Equipment

- Computer and peripherals for Level 1 systems (supplied and installed by GAC)
- Computer and peripherals for Level 2 systems (supplied and installed by GAC)
- Phone (supplied and installed by GAC)

Communications and CESS

- Level 1 systems: Provide 1X V/D wall drop (4 X RJ45 each) for each touchdown workstation
- Level 2 systems: Provide 1X V/D wall drop (2 X SC fiber each) for each touchdown workstation
- Level 1 systems: Provide 1X V/D wall drop (4 X RJ45 each) for each business center
- Level 2 systems: Provide 1X V/D wall drop (2 X SC fiber each) for each business center

Lighting

- Standard LED light fixture
- Light Level:As per design brief
- Lighting Control: Centrally controlled by main lighting control unit and occupancy mode motion detectors.

Electrical

- Touchdown workstation will either be pre-wired by the furniture manufacturer or installed side by side against a drywall partition. Each workstation to be provided with 2 duplex receptacles installed beside each V/D drop.
- Provide one dedicated circuit per 4 touchdown workstation.

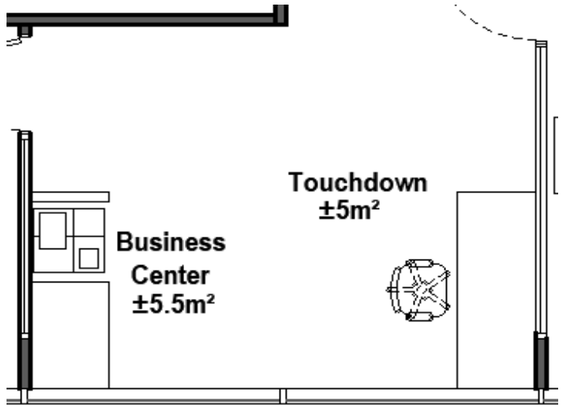
Mechanical

- HVAC provided from the main building system. The amount of cooling and heating shall be sufficient to maintain design criteria of the design brief, mechanical part.

Acoustical

Special construction

Indicative Layout 3.0 sq.m



3.0 | Room Data Sheets

HOM's Enclosed Office 21.5 sq.m. Secure Zone

Function

- Enclosed office in prime location

Finishes

- Enhanced office finishes in coordination with interior concept
- Non glare finishes

Furnishings

- Office systems furniture (Supplied and installed by GAC)

Equipment

- Computer and peripherals (supplied and installed by GAC)
- Phone (supplied and installed by GAC)
- 42" Wall mount TV display (supplied and installed by Contractor) Operational Zone only
- 42" Wall mount TV display (supplied and installed by GAC) Secure Zone only
- Provide and install 1x Chief PAC526FBP6 (or similar) behind TV
- Computer and peripherals for Level 2 system (supplied and installed by GAC) Secure Zone Only

Communications and CESS

- Level 0 systems: Provide 1X V/D wall drop behind the TV (2 X SC fiber)
- Level 1 systems: Provide 1X V/D wall drop (4 X RJ45 each) under the desk area
- Level 2 systems: Provide 1X V/D wall drop (2 X SC fiber each) for each desk (Secure Zone only)

Lighting

- Special LED light fixtures c/w dimming capability + accent lighting as required by the architect
- Light Level: As per design brief
- Lighting Control: Vacancy mode motion detector + dimming light switch

Electrical

- Provide two duplex receptacles wall mounted located beside each V/D drop point on a dedicated circuit.
- General purpose duplex receptacle on each wall of the room
- One wall mounted duplex receptacle for TV on a dedicated circuit

Mechanical

- HVAC provided from the main building system. The amount of cooling and heating shall be sufficient to maintain design criteria of the design brief, mechanical part.
- Enclosed room shall be an individual zone

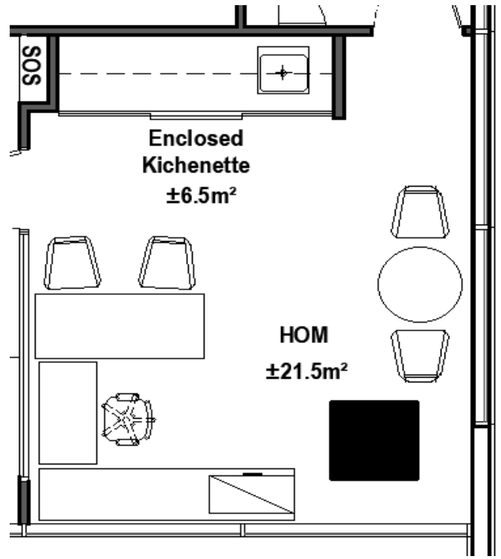
Acoustical

- STC Rating: 45

Special construction

- Locate under the roof area

Indicative Layout 14 sq.m



3.0 | Room Data Sheets

HOM's Kitchenette Secure Zone

Function

- Kitchenette

Finishes

- Durable surfaces

Furnishings

- All finishes to be approved by GAC interior designer
- Millwork fixtures and fittings to suit purpose
- Provide for bins for recycling

Equipment

- Coffee machine (supplied and installed by GAC)
- Kettle (supplied and installed by GAC)
- Toaster (supplied and installed by GAC)

- Microwave (supplied and installed by Contractor)
- Dishwasher (supplied and installed by Contractor)
- Mini fridge (supplied and installed by Contractor)

Communications and CESS

Lighting

- Standard LED light fixture
- Task lighting under the upper cabinet.
- Light Level: As per design brief
- Lighting Control: Centrally controlled by main lighting control unit and occupancy mode motion detectors.
- Provide separate light switch on the counter back spash for the under cabinet light fixtures .

Electrical

- Provide two 5-20R GFCI duplex receptacles located above the kitchen counter as per NEC and connected on a 20 amps circuit.
- Provide one duplex receptacle for each appliances on a dedicated circuit
- All 5-15R receptacle connected on a 15 amp circuits

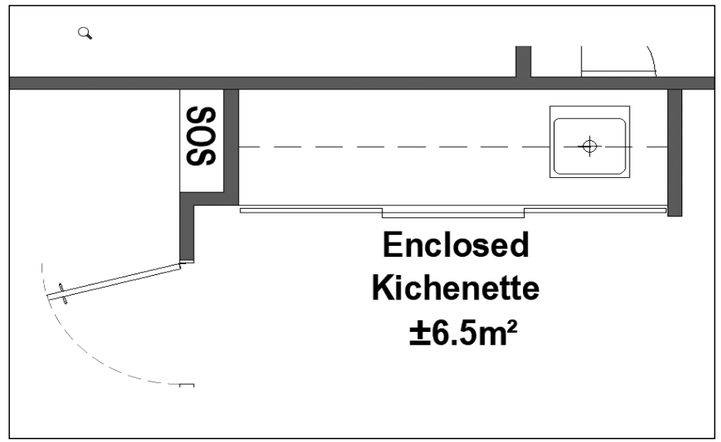
Mechanical

- HVAC to be provided from fan coil unit. The amount of cooling shall be sufficient to maintain design criteria of the design brief, mechanical section.
- Appropriate air circulation to control the environment and to avoid migration of odour to the surrounding area.
- Exhaust rate of 1.5 l/s per m²
- Provide hot and cold domestic water to the sink complete with isolating valves under the sink
- Provide water treatment if the water is not potable
- Make the connection for the dishwasher
- Provide a hot water tank if there is no hot water available from the base building
- Provide drainage connected to the main building drain pipe.

Acoustical

Special construction

Indicative Layout



3.0 | Room Data Sheets

Strong Room

Function

■ MITNET telephone room

Finishes

■ Anti-static flooring - Electrical resistance EN 1081 / 1 - 106 < R1 < 1 - 108 Ω: static dissipative
■ No finished ceiling

Furnishings

■ Supplied and installed by GAC

Equipment

■ Telecommunications equipment (Supplied and installed by GAC)

Communications and CESS

■ Level 1 systems: Provide 3X V/D wall drops (4 X RJ45 each) at 400mm above finished floor
■ Level 2 systems: Provide 2X V/D walll drops (2 X SC fiber each) at 400mm above finished floors
■ 1 X Type1 GAC backboard with following dimensions: 8 feet width, 4 feet height on back wall
■ 1 X Type2 GAC backboard with following dimensions: 8 feet width, 4 feet height on left side wall

Lighting

■ Standard LED light fixture
■ Light Level: As per design brief. Light fixture to be located so that both the front and back of the computer rack and backboard are provided with direct light.
■ Lighting Control: Line voltage light switch
■ One emergency lighting unit

Electrical

■ Provide two 20 amp circuits supplying four (2 per circuit) duplex receptacles 5-20R, two receptacles to be mounted at 39" (1000mm) behind each backboard.
■ Provide one 5-20R receptacle, mounted at 16" (400 mm) above finished floor on each wall of the room. One of these outlets to be positioned next to voice data outlet located in the room;
■ Install one 30 amp twist lock receptacle (L6-30R) protected with 30 amp double pole breaker.
■ Install two 20 amp single twist lock receptacles (L6-20R) each outlet to be protected with 20 amp double pole breaker from the

Grounding
■ Terminal Grounding Bar (TGB) mounted at 450mm from finish floor on or under the backboard connected with a # 2/0 AWG bare copper conductor in conduit.
■ Provide 3000mm of #10 AWG ground copper conductor for connection of equipment by others.

■ One smoke detector with base centrally located within the room.

Mechanical

■ Operation 24 hours / 7 days a week.
■ Provide ventilation air from the main building system
■ Use the condenser water loop to cool this room
■ The cooling unit shall have auto-restart capability
■ Heat load 3520 W

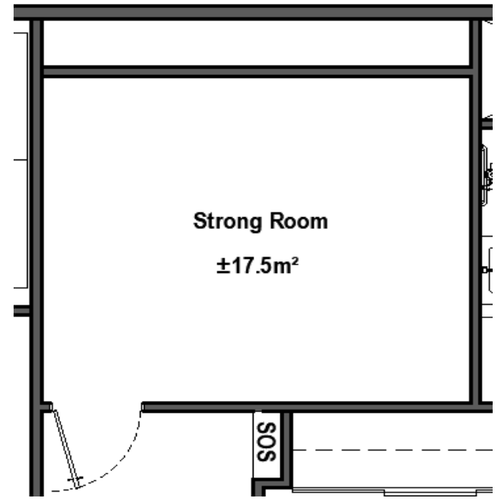
Acoustical

■ STC rating: 52

Special construction

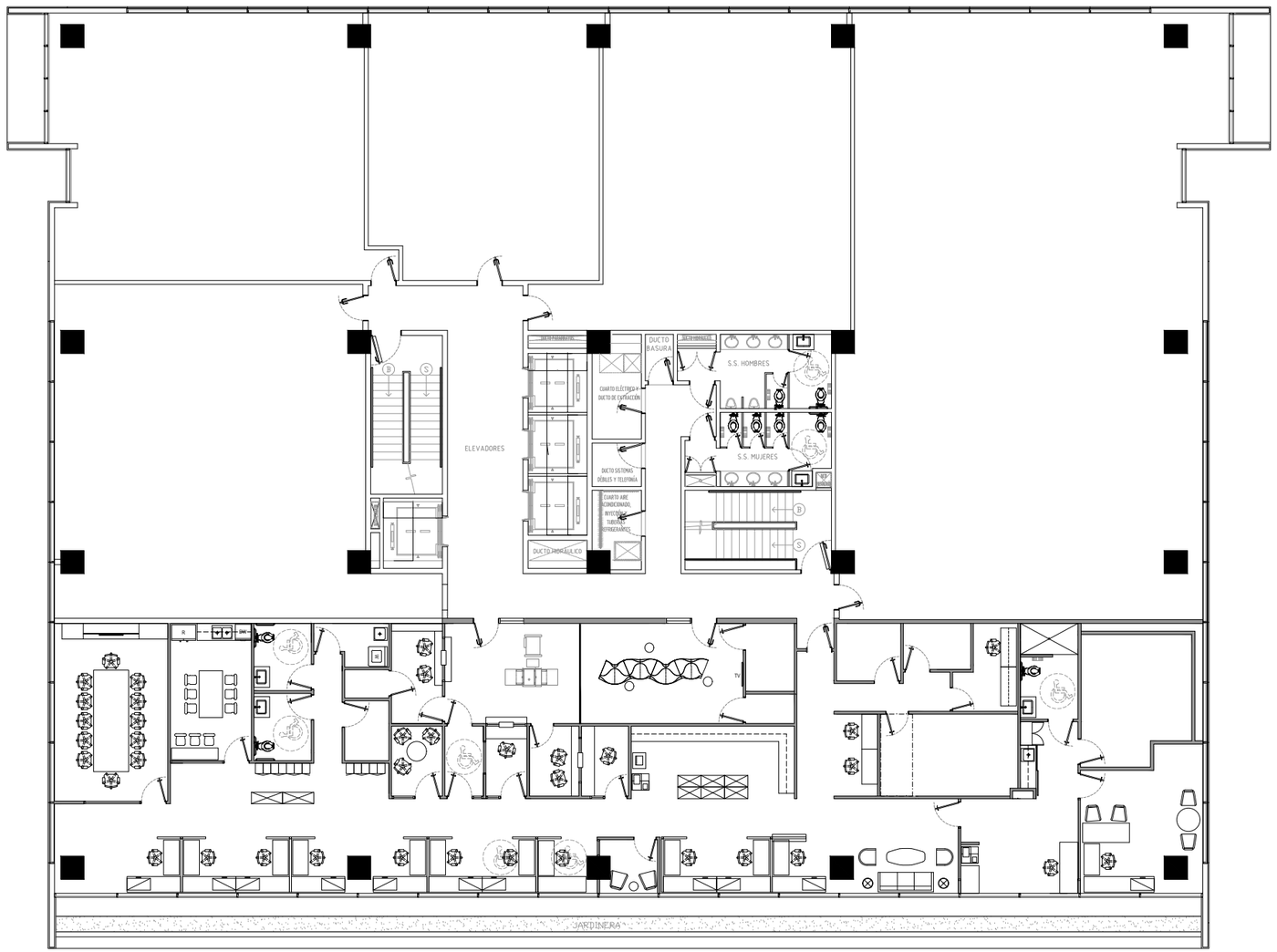
■ Locate under the roof area
■ For wall construction and door frame support details refer to design brief, physical security part.
■ Physical Resistant door (supplied by GAC and installed by Contractor)
■ Physical Resistant door is controlled by CESS and requires the installation of a keypad backbox.
■ Metal “C” channel is required above the backboard(s) in order to support the backbone conduit and ladder/tray system
■ Backbone conduit requirements as per the design brief, ICT & Multimedia part

Indicative Layout 17.5 sq.m



Canada

APPENDIX D



1 | 10th FLOOR PLAN

-20 -10 -5 0 5 10 20 50m

ISO A1 594 x 841 | Plotted: Trautmannsdorff, Paulina -AWBD / 2020.02.11 / 11:10 AM / SK-2015-0142_rev P.dwg

consultants | consultants

project north | nord du projet | true north | nord actuel

P	REVISED WALL TYPES (Based on M.Mazerolle - AWCA sketch)	19-12-12 B.C
O	FURNITURE PLAN REVISED (Reception Area Revision)	19-11-05 P.T
N	FURNITURE PLAN REVISED (HOM's Suite Revision)	19-10-28 B.C
M	FURNITURE PLAN REVISED (relocating HOM's Washroom and Strong Room)	19-10-23 B.C
L	FURNITURE PLAN REVISED	19-10-16 B.C
K	FURNITURE PLAN REVISED FOR ROOM DATA SHEET	19-10-07 B.C
J	WALL TYPES ADDED AS PER PHYSICAL SECURITY TEAM	19-10-02 B.C
I		
H		
G		
F		
E	REVISED FURNITURE LAYOUT AS PER SECURITY REQUIREMENTS	19-09-25 PT
D	REVISED FURNITURE LAYOUT AS PER SECURITY REQUIREMENTS	19-09-20 PT
C	REVISED FURNITURE LAYOUT	19-09-12 PT
B	REVISED FURNITURE LAYOUT	19-09-10 PT
A	PROPOSED FURNITURE LAYOUT	19-09-10 PT

revision description date initial | révision description date initiales

americas region | région des amériques

project title | titre du projet

CANADIAN EMBASSY
CHANCERY
SAN SALVADOR
EL SLAVADOR
Alameda Roosevelt & 63 Avenida Sur

drawing title | titre du dessin

FURNITURE PLAN
10TH FLOOR

architect | architecte	P. ALVES
sr. interior designer | sr. designer d'intérieur	B. CHAPMAN
jr. interior designer | jr. designer d'intérieur	P. TRAUTTMANSDORFF
project manager | gestionnaire de projet	S. HAAS
property number | numéro de propriété	NEW PROPERTY
scale | échelle	1:100
date | date	2019.11.01
sheet number | numéro de la page	1 OF 1

drawing number | numéro du dessin

SK-2015-0142 _rev P

Government of Canada / Gouvernement du Canada

Contract Number / Numéro du contrat	
Security Classification / Classification de sécurité	

SECURITY REQUIREMENTS CHECK LIST (SRCL)
LISTE DE VÉRIFICATION DES EXIGENCES RELATIVES À LA SÉCURITÉ (LVERS)

PART A - CONTRACT INFORMATION / PARTIE A - INFORMATION CONTRACTUELLE

1. Originating Government Department or Organization / Ministère ou organisme gouvernemental d'origine **Global Affairs Canada**	2. Branch or Directorate / Direction générale ou Direction AWD
3. a) Subcontract Number / Numéro du contrat de sous-traitance 20-164503	3. b) Name and Address of Subcontractor / Nom et adresse du sous-traitant TBD

4. Brief Description of Work / Brève description du travail

A&E Design services to complete a set of tender documents for the fit up of appox. 460 m2 of newly built office space in San Salvador, El Salvador. A&E Contractor will also assist GAC with TB Submission documents, and assist with the tender for a GC, and supervision and commissioning of the fit-up of the new Mission space.

5. a) Will the supplier require access to Controlled Goods? Le fournisseur aura-t-il accès à des marchandises contrôlées?	☑ No Non	☐ Yes Oui
5. b) Will the supplier require access to unclassified military technical data subject to the provisions of the Technical Data Control Regulations? Le fournisseur aura-t-il accès à des données techniques militaires non classifiées qui sont assujetties aux dispositions du Règlement sur le contrôle des données techniques?	☑ No Non	☐ Yes Oui

6. Indicate the type of access required / Indiquer le type d'accès requis

6. a) Will the supplier and its employees require access to PROTECTED and/or CLASSIFIED information or assets? Le fournisseur ainsi que les employés auront-ils accès à des renseignements ou à des biens PROTÉGÉS et/ou CLASSIFIÉS? (Specify the level of access using the chart in Question 7. c) (Préciser le niveau d'accès en utilisant le tableau qui se trouve à la question 7. c)	☑ No Non	☐ Yes Oui
6. b) Will the supplier and its employees (e.g. cleaners, maintenance personnel) require access to restricted access areas? No access to PROTECTED and/or CLASSIFIED information or assets is permitted. Le fournisseur et ses employés (p. ex. nettoyeurs, personnel d'entretien) auront-ils accès à des zones d'accès restreintes? L'accès à des renseignements ou à des biens PROTÉGÉS et/ou CLASSIFIÉS n'est pas autorisé.	☑ No Non	☐ Yes Oui
6. c) Is this a commercial courier or delivery requirement with **no** overnight storage? S'agit-il d'un contrat de messagerie ou de livraison commerciale **sans** entreposage de nuit?	☑ No Non	☐ Yes Oui

7. a) Indicate the type of information that the supplier will be required to access / Indiquer le type d'information auquel le fournisseur devra avoir accès

Canada ☐	**NATO / OTAN** ☐	**Foreign / Étranger** ☐

7. b) Release restrictions / Restrictions relatives à la diffusion

No release restrictions Aucune restriction relative à la diffusion ☐ Not releasable À ne pas diffuser ☐ Restricted to: / Limité à : ☐ Specify country(ies): / Préciser le(s) pays :	All NATO countries Tous les pays de l'OTAN ☐ Restricted to: / Limité à : ☐ Specify country(ies): / Préciser le(s) pays :	No release restrictions Aucune restriction relative à la diffusion ☐ Restricted to: / Limité à : ☐ Specify country(ies): / Préciser le(s) pays :

7. c) Level of information / Niveau d'information

PROTECTED A PROTÉGÉ A ☐	NATO UNCLASSIFIED NATO NON CLASSIFIÉ ☐	PROTECTED A PROTÉGÉ A ☐
PROTECTED B PROTÉGÉ B ☐	NATO RESTRICTED NATO DIFFUSION RESTREINTE ☐	PROTECTED B PROTÉGÉ B ☐
PROTECTED C PROTÉGÉ C ☐	NATO CONFIDENTIAL NATO CONFIDENTIEL ☐	PROTECTED C PROTÉGÉ C ☐
CONFIDENTIAL CONFIDENTIEL ☐	NATO SECRET NATO SECRET ☐	CONFIDENTIAL CONFIDENTIEL ☐
SECRET SECRET ☐	COSMIC TOP SECRET COSMIC TRÈS SECRET ☐	SECRET SECRET ☐
TOP SECRET TRÈS SECRET ☐		TOP SECRET TRÈS SECRET ☐
TOP SECRET (SIGINT) TRÈS SECRET (SIGINT) ☐		TOP SECRET (SIGINT) TRÈS SECRET (SIGINT) ☐

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PART A *(continued)* / PARTIE A *(suite)*

8. Will the supplier require access to PROTECTED and/or CLASSIFIED COMSEC information or assets? — [✓] No Non [ ] Yes Oui
Le fournisseur aura-t-il accès à des renseignements ou à des biens COMSEC désignés PROTÉGÉS et/ou CLASSIFIÉS?
If Yes, indicate the level of sensitivity:
Dans l'affirmative, indiquer le niveau de sensibilité :

9. Will the supplier require access to extremely sensitive INFOSEC information or assets? — [✓] No Non [ ] Yes Oui
Le fournisseur aura-t-il accès à des renseignements ou à des biens INFOSEC de nature extrêmement délicate?

Short Title(s) of material / Titre(s) abrégé(s) du matériel :
Document Number / Numéro du document :

PART B - PERSONNEL (SUPPLIER) / PARTIE B - PERSONNEL (FOURNISSEUR)

10. a) Personnel security screening level required / Niveau de contrôle de la sécurité du personnel requis

[ ] RELIABILITY STATUS / COTE DE FIABILITÉ	[ ] CONFIDENTIAL / CONFIDENTIEL	[✓] SECRET / SECRET	[ ] TOP SECRET / TRÈS SECRET
[ ] TOP SECRET– SIGINT / TRÈS SECRET – SIGINT	[ ] NATO CONFIDENTIAL / NATO CONFIDENTIEL	[ ] NATO SECRET / NATO SECRET	[ ] COSMIC TOP SECRET / COSMIC TRÈS SECRET
[ ] SITE ACCESS / ACCÈS AUX EMPLACEMENTS			

Special comments:
Commentaires spéciaux :

NOTE: If multiple levels of screening are identified, a Security Classification Guide must be provided.
REMARQUE : Si plusieurs niveaux de contrôle de sécurité sont requis, un guide de classification de la sécurité doit être fourni.

10. b) May unscreened personnel be used for portions of the work? — [ ] No Non [✓] Yes Oui
Du personnel sans autorisation sécuritaire peut-il se voir confier des parties du travail?
If Yes, will unscreened personnel be escorted? — [✓] No Non [ ] Yes Oui
Dans l'affirmative, le personnel en question sera-t-il escorté?

PART C - SAFEGUARDS (SUPPLIER) / PARTIE C - MESURES DE PROTECTION (FOURNISSEUR)

INFORMATION / ASSETS / RENSEIGNEMENTS / BIENS

11. a) Will the supplier be required to receive and store PROTECTED and/or CLASSIFIED information or assets on its site or premises? — [✓] No Non [ ] Yes Oui
Le fournisseur sera-t-il tenu de recevoir et d'entreposer sur place des renseignements ou des biens PROTÉGÉS et/ou CLASSIFIÉS?

11. b) Will the supplier be required to safeguard COMSEC information or assets? — [✓] No Non [ ] Yes Oui
Le fournisseur sera-t-il tenu de protéger des renseignements ou des biens COMSEC?

PRODUCTION

11. c) Will the production (manufacture, and/or repair and/or modification) of PROTECTED and/or CLASSIFIED material or equipment occur at the supplier's site or premises? — [✓] No Non [ ] Yes Oui
Les installations du fournisseur serviront-elles à la production (fabrication et/ou réparation et/ou modification) de matériel PROTÉGÉ et/ou CLASSIFIÉ?

INFORMATION TECHNOLOGY (IT) MEDIA / SUPPORT RELATIF À LA TECHNOLOGIE DE L'INFORMATION (TI)

11. d) Will the supplier be required to use its IT systems to electronically process, produce or store PROTECTED and/or CLASSIFIED information or data? — [✓] No Non [ ] Yes Oui
Le fournisseur sera-t-il tenu d'utiliser ses propres systèmes informatiques pour traiter, produire ou stocker électroniquement des renseignements ou des données PROTÉGÉS et/ou CLASSIFIÉS?

11. e) Will there be an electronic link between the supplier's IT systems and the government department or agency? — [✓] No Non [ ] Yes Oui
Disposera-t-on d'un lien électronique entre le système informatique du fournisseur et celui du ministère ou de l'agence gouvernementale?

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PART C - *(continued)* / PARTIE C - *(suite)*

For users completing the form **manually** use the summary chart below to indicate the category(ies) and level(s) of safeguarding required at the supplier's site(s) or premises.
Les utilisateurs qui remplissent le formulaire **manuellement** doivent utiliser le tableau récapitulatif ci-dessous pour indiquer, pour chaque catégorie, les niveaux de sauvegarde requis aux installations du fournisseur.

For users completing the form **online** (via the Internet), the summary chart is automatically populated by your responses to previous questions.
Dans le cas des utilisateurs qui remplissent le formulaire **en ligne** (par Internet), les réponses aux questions précédentes sont automatiquement saisies dans le tableau récapitulatif.

SUMMARY CHART / TABLEAU RÉCAPITULATIF

Category / Catégorie	PROTECTED / PROTÉGÉ			CLASSIFIED / CLASSIFIÉ			NATO				COMSEC					
	A	B	C	CONFIDENTIAL / CONFIDENTIEL	SECRET	TOP SECRET / TRÈS SECRET	NATO RESTRICTED / NATO DIFFUSION RESTREINTE	NATO CONFIDENTIAL / NATO CONFIDENTIEL	NATO SECRET	COSMIC TOP SECRET / COSMIC TRÈS SECRET	PROTECTED / PROTÉGÉ A	PROTECTED / PROTÉGÉ B	PROTECTED / PROTÉGÉ C	CONFIDENTIAL / CONFIDENTIEL	SECRET	TOP SECRET / TRES SECRET
Information / Assets / Renseignements / Biens																
Production																
IT Media / Support TI																
IT Link / Lien électronique																

12. a) Is the description of the work contained within this SRCL PROTECTED and/or CLASSIFIED?
La description du travail visé par la présente LVERS est-elle de nature PROTÉGÉE et/ou CLASSIFIÉE?

☑ No / Non ☐ Yes / Oui

If Yes, classify this form by annotating the top and bottom in the area entitled "Security Classification".
Dans l'affirmative, classifier le présent formulaire en indiquant le niveau de sécurité dans la case intitulée « Classification de sécurité » au haut et au bas du formulaire.

12. b) Will the documentation attached to this SRCL be PROTECTED and/or CLASSIFIED?
La documentation associée à la présente LVERS sera-t-elle PROTÉGÉE et/ou CLASSIFIÉE?

☑ No / Non ☐ Yes / Oui

If Yes, classify this form by annotating the top and bottom in the area entitled "Security Classification" and indicate with attachments (e.g. SECRET with Attachments).
Dans l'affirmative, classifier le présent formulaire en indiquant le niveau de sécurité dans la case intitulée « Classification de sécurité » au haut et au bas du formulaire et indiquer qu'il y a des pièces jointes (p. ex. SECRET avec des pièces jointes).

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PART D - AUTHORIZATION / PARTIE D - AUTORISATION

13. Organization Project Authority / Chargé de projet de l'organisme

Name (print) - Nom (en lettres moulées)	Title - Titre	Signature
Stephen Haas	Deputy Project Manager	

Telephone No. - N° de téléphone	Facsimile No. - N° de télécopieur	E-mail address - Adresse courriel	Date
343-203-8309	819-934-2242	Stephen.Haas@International.gc.ca	October 17th 2019

14. Organization Security Authority / Responsable de la sécurité de l'organisme

Name (print) - Nom (en lettres moulées)	Title - Titre	Signature
Magdalena Kostrz	A/contract security coordinator	Magdalena Kostrz

Telephone No. - N° de téléphone	Facsimile No. - N° de télécopieur	E-mail address - Adresse courriel	Date
343-203-6856		magdalena.kostrz@international.gc.ca	2019-11-08

15. Are there additional instructions (e.g. Security Guide, Security Classification Guide) attached?
Des instructions supplémentaires (p. ex. Guide de sécurité, Guide de classification de la sécurité) sont-elles jointes?

☑ No / Non ☐ Yes / Oui

16. Procurement Officer / Agent d'approvisionnement

Name (print) - Nom (en lettres moulées)	Title - Titre	Signature
Olivier Charbonneau	Procurement Specialist	Olivier Charbonneau

Telephone No. - N° de téléphone	Facsimile No. - N° de télécopieur	E-mail address - Adresse courriel	Date
343 203-1329		olivier.charbonneau@international.gc.ca	December 5th 2019

17. Contracting Security Authority / Autorité contractante en matière de sécurité

Name (print) - Nom (en lettres moulées)	Title - Titre	Signature

Telephone No. - N° de téléphone	Facsimile No. - N° de télécopieur	E-mail address - Adresse courriel	Date