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Bid Fax: (418) 566-6167

SOLICITATION AMENDMENT
MODIFICATION DE L'INVITATION

The referenced document is hereby revised; unless otherwise indicated, all other terms and conditions of the Solicitation remain the same.

Ce document est par la présente révisé; sauf indication contraire, les modalités de l'invitation demeurent les mêmes.

Comments - Commentaires

Vendor/Firm Name and Address
Raison sociale et adresse du fournisseur/de l'entrepreneur

Issuing Office - Bureau de distribution

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Title - Sujet Fire Alarm Upgrade, Prince Albert, Fire Alarm Upgrade, Prince Albert, Saskatchewan	
Solicitation No. - N° de l'invitation EV385-220747/A	**Amendment No. - N° modif.** 012
Client Reference No. - N° de référence du client CSC EV385-220747	**Date** 2021-11-09
GETS Reference No. - N° de référence de SEAG PW-$PWU-183-12154	
File No. - N° de dossier PWU-1-44068 (183)	**CCC No./N° CCC - FMS No./N° VME**
Solicitation Closes - L'invitation prend fin **at - à** 02:00 PM Mountain Standard Time MST **on - le** 2021-11-23 Heure Normale des Rocheuses HNR	
F.O.B. - F.A.B. **Plant-Usine:** ☐ **Destination:** ☐ **Other-Autre:** ☐	
Address Enquiries to: - Adresser toutes questions à: Tikhonovitch (RPC), Alex	**Buyer Id - Id de l'acheteur** pwu183
Telephone No. - N° de téléphone (780) 901-7940 ( )	**FAX No. - N° de FAX** (418) 566-6167
Destination - of Goods, Services, and Construction: **Destination - des biens, services et construction:**	

Instructions: See Herein

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Telephone No. - N° de téléphone **Facsimile No. - N° de télécopieur**	
Name and title of person authorized to sign on behalf of Vendor/Firm (type or print) **Nom et titre de la personne autorisée à signer au nom du fournisseur/ de l'entrepreneur (taper ou écrire en caractères d'imprimerie)**	
Signature	**Date**

Canada

ADDENDUM No. 6

The following changes to the tender documents are effective immediately and will form part of the contract documents:

1. GENERAL

1.1	The Bidding Documents are amended as noted in this Addendum, which consists of four (4) pages plus the following attachment: 1. Specification Section 01 11 00 – Summary of Work. 2. Specification Section 07 84 00 – Fire Stopping. 3. Specification Section 07 92 00 – Joint Sealants. 4. Specification Section 07 92 10.13 – Security Sealant. 5. Drawing E2-5-1. 6. Drawing E0-3.
1.2	This Addendum is issued prior to bid closing to incorporate revisions noted herein. Include in the Bid price all such revisions which will become part of the Work. Perform all such Work in accordance with the Contract Documents.
1.3	All affected drawings, schedules and panel changes shall be reflected in final as-built and manual submissions.

2. ANSWERS TO BIDDERS' QUESTIONS

2.1	**Question:** There is discrepancies between the drawing and the specification about the Vesda system • Diagram show VEA -040 with a local relay stacX • A cabinet for FA relays for monitoring • Power supply But specification request A VLI to network (vesda net .) Witch one is the right one ? • VEA with relays monitoring with interface modules • VEA with vesda net and VLI at the FACP . **Answer:** The drawings and the specifications are both correct. The smoke aspiration systems are to be networked together to form a "VESDA net". The interface to the fire alarm panel does not need to be done directly through the "VESDA net" but can be done through monitor modules. Though if the smoke aspiration system can interface directly with the fire alarm system than it should.
2.2	**Question:** Topography of network: a. **<u>Is a FACP required at each panel location</u>**. Or can we use <u>FACP with transponder for the topology</u> .that could simplify the network structure . b. . I count more than 30 node (FACP)E0-1 drawing c. Proposed Network with FACP and FARP i. 1 FACP with transponder for min security building panel (F1-F77) ii. 1 AFCP with transponder for medium and MAX security building A,B C) iii. 1 GUI (danger Management) iv. May be one other node for operation building v. node for FAAN with global view if required . **Answer:** FACP is required at each panel location as indicated on the drawings.

2.3	**Question:** Can we please get a clarification as to what this symbol represents as it isn't on the legends  Located on E2-1-1 in the squad room. **Answer:** Symbol represents an existing fire alarm panel to be removed.
2.4	**Question:** Is there a list of approved security sealant contractors? **Answer:** No but any commercial contractor that has experience with a bulk gun can do this work as it is a two-part product. See attached revised Section 07 92 10.13 – Security Sealant for modified requirements.
2.5	**Question:** Is there a list of approved Fire stop contractors? **Answer:** Refer to https://www.fcia.org/loc/saskatchewan/ for list of Firestop Contractor International Association members for Province of Saskatchewan. Please also refer to attached revised Section 07 84 00 – Fire Stopping complete with modified requirements.
2.6	**Question:** Is there any sprinkler work to be done on this project if so are there sprinkler drawings available? **Answer:** No sprinkler work is required except for monitor modules on sprinkler trees as shown on the drawings.
2.7	**Question:** In the specifications document Section 28 31 00.01 Part 1.5.1.1 "Alarm Output Circuits" it states 24VDC. The power supplies for our panels, in regards to Notification appliances, operate at 29VDC. We want to ensure this is acceptable, as it should be. This conforms to, CAN/ULC-S524, CAN-ULC-S525, CAN/ULC-S526 and CAN/ULC-S537. **Answer:** 29VDC is acceptable provided it conforms to CAN/ULC requirements.
2.8	**Question:** In the specifications document Section 28 31 00.01 Part 1.11.1 & Part 1.12.1 "Audible Signal Devices & Visual Alarm Signal Devices" it states 24VDC. Our Notification devices operate at 29VDC. We want to ensure this is acceptable, as it should be. This conforms to, CAN/ULC-S524, CAN/ULC-S525, CAN/ULC-S526 and CAN/ULC-S537. **Answer:** 29VDC is acceptable provided it conforms to CAN/ULC requirements.
2.9	**Question:** In the Addendum issued on October 4th, 2021 it is noted that the annunciator on Drawing E2-6-3 which is located in the C-19 office is to be replaced with a Fire Alarm Control Panel. When checking the zoning documents this is considered an inmate accessible area, so is this Fire Alarm Panel enclosure to also be vandal resistant? **Answer:** As this is an identified inmate accessible area, yes this panel will need to be within a vandal resistant enclosure.
2.10	**Question:** In the Addendum issued on October 4th, 2021 it is noted that the annunciator on Drawing E2-6-1 which is located in the B-12 control post is to be replaced with a Fire Alarm Control Panel. When checking the zoning documents this is considered an inmate accessible area, so is this Fire Alarm Panel enclosure to also be vandal resistant?

	Answer: The control post is a non inmate accessible area. Per the October 4th addendum, revise the fire alarm panel withing the B-12 control post back to an annunciator; provide and install a new fire alarm panel within storage room near pharmacy (location to be confirmed on site).
2.11	**Question:** For the "B" Buildings Floors 1 through 4, each cell has an addressable smoke detector within the cell. As the Simplex, Edwards and Notifier Addressable smoke detectors are all two piece devices (Bases and heads), meaning that the design is for easy installation and replacement of deficient devices, this means inmates within these cells would be able to easily remove the device heads from the bases within their cells. Should a 1 piece conventional device with an addressable IAM (monitor module) mounted either behind the device or within the service duct be utilized? This way the inmates cannot remove the devices and we can still have individual addresses for each cells smoke detector? **Answer:** If manufacturer's devices are of two piece design, conventional devices with monitor modules shall be an acceptable alternative for cells.
2.12	**Question:** Will the Penitentiary allow the fire alarm to be in a 'trouble' status for the turnover from the old system to the new? The fire alarm will still remain in an active/supervisory state at that time. **Answer:** Trouble signals will be allowed provided the contractor provides daily updates on systems/areas affected to the institution. The existing fire alarm system should be operational at all times.
2.13	**Question:** In the appendices where the Operational Limitations are listed, under General Notes it is said that 'a limit of eight facility provided commissionaires are available for this project'. Are they available at no cost to the us? Are they able to take care of any fire watches if needed? Are they available to supervise the area while we do our work in inmate occupied areas? **Answer:** Commissionaires are no cost to the contractor during the installation. Commissionaires responsibility does not include fire watch; this task must be completed by contractor forces. Commissionaires will be used to escort contractor personnel through the facility and to supervise work within the facility.
2.14	**Question:** Can we have a cash allowance to keep the existing fire alarm system operable while the new system is being installed to keep all fire alarm suppliers on an equal playing field? **Answer:** No cash allowance will be provided. The intent of the project is to install the new fire alarm system while maintaining the existing system functional. Trouble signals will be allowed per response to previous questions. Any alarm/supervisory signals initiated by the contractor will be the contractor's responsibility to resolve; those signals initiated outside of the contractor's work will be the responsibility of the institution.

3. SPECIFICATIONS

3.1	Section 01 11 00 – Summary of Work: 1. See attached revised section complete with revisions to fire stopping article as well as new articles on joint sealants and security sealants.

3.2	Section 01 61 00 – Common Product Requirements: 1. Revise Article 1.14 – Fasteners – Security Type to read "All exposed fasteners in secure areas to be stainless steel Torx with Pin type".
3.3	Section 07 84 00 – Fire Stopping: 1. See attached revised section.
3.4	Section 07 92 00 – Joint Sealants: 1. See attached new section.
3.5	Section 07 92 10.13 – Security Sealant: 1. See attached revised section.

4. DRAWINGS

4.1	**E0-3 PACKAGE 0 – SITE PLAN & DIAGRAMS B-BLOCK (DETENTION) FIRE ALARM RISER DIAGRAM** 1. Revise device schedule as per attached drawing.
4.2	**E2-5-1 PACKAGE 2 – B-BUILDINGS B-01, B-07, B-13 – ATTIC FIRE ALARM LAYOUT** 1. Revise smoke detector layout as per attached revised drawing.

5. APPENDICES

5.1	**Appendix 2 – Operational Limitations** 1. Revise General note 1 to the following: "Typical contractor work hours will be Monday-Friday, 0800-1630h (8.5 hour days), however some night work will be required as indicated in this table. All night work will need to be coordinated and approved by CSC Operations". 2. "Prior to the General Contractor (GC) beginning work in the following areas – B3, B5, B7, Unit 6 and Unit 7 – the GC shall provide 3 months of notice to the PSPC Departmental Representative, who will inform CSC Operations. Refer to other information in 'Appendix 2 – Operational Limitations' of the specifications, including but not limited to, the numbers of inmates able to be moved at a time, and the length of time they can be moved. The intent is that after the first range is completed, inmates will be rotated out of the next range into the completed range."

END OF ADDENDUM NO. 6

Part 1 General

1.1 WORK COVERED BY CONTRACT DOCUMENTS

.1 Work of this Contract comprises of a Fire Alarm Upgrade for the Saskatchewan Penitentiary also identified as PSPC project # R.079411.001.

1.2 CONTRACT METHOD

.1 Construct Work under stipulated price contract.

1.3 SUBMITTALS

.1 Submit in accordance with Section 01 33 00 - Submittal Procedures.

.2 Submit Project construction progress schedule in accordance with Section 01 32 16.19 - Construction Progress Schedule - Bar (GANTT) Chart.

.3 Sustainable Design Submittals:

.1 Construction Waste Management:

.1 Submit project Waste Management Plan highlighting recycling and salvage requirements.

.2 Submit calculations on end-of-project recycling rates, salvage rates, and landfill rates demonstrating 50% of construction wastes recycled or salvaged.

.4 Submit site-specific and Work Plan Health and Safety Plan in accordance with Section 01 35 29.06 - Health and Safety Requirements.

1.4 WORK SEQUENCE

.1 Construct Work in phases to accommodate the Departmental Representative's continued use of premises during construction.

.2 Co-ordinate the Progress Schedule with the Departmental Representative’s Occupancy during construction.

.3 In medium and maximum security units, do not proceed with another phase of the Work within the same unit until the preceding phase has been commissioned, completed and is occupied. This is a critical aspect of the Work. At the discretion of the Departmental Representative, there may also be an operational decant period between phases.

.4 Do not perform work in more than one medium security unit at the same time.

.5 Do not perform work in more than one maximum security unit at the same time.

.6 The warranty period for any given portion of the Work will begin once it is complete and the area affected by that portion of the Work has been determined by the Departmental Representative to be ready for occupancy.

.7 A Certificate of Substantial Performance will not be issued until the entire project is substantially completed. The Departmental Representative will only issue one Certificate of Substantial Performance for the whole project.

.8 Maintain fire department access.

1.5 CONTRACTOR USE OF PREMISES

.1 Limit use of premises for access, for Work and for storage to allow:

.1 Departmental Representative's occupancy.

.2 Co-ordinate use of premises under direction of Departmental Representative.

.3 Obtain and pay for use of additional storage or work areas needed for operations under this Contract.

.4 Refer to Section 01 51 00 - Temporary Utilities, Section 01 52 00 - Construction Facilities and Section 01 56 00 - Temporary Barriers and Enclosures for temporary facilities, access roads, parking areas, traffic regulations and utilities.

.5 Remove or alter existing work to prevent injury or damage to portions of existing work which remain.

.6 Repair or replace portions of existing work which have been altered during construction operations to match existing or adjoining work, as directed by Departmental Representative.

.7 Ensure that operations conditions of exiting work at completion are still the same, equal to or better than that which existed before new work started.

1.6 DEPARTMENTAL REPRESENTATIVE'S OCCUPANCY

.1 Departmental Representative will occupy premises during entire construction period for execution of normal operations.

.2 Co-operate with Departmental Representative in scheduling operations to minimize conflict and to facilitate Departmental Representative's usage.

1.7 ALTERATIONS, ADDITIONS OR REPAIRS TO EXISTING BUILDING

.1 Execute work with least possible interference or disturbance to building operations, occupants, public and normal use of premises. Arrange with Departmental Representative to facilitate execution of work.

1.8 EXISTING SERVICES

.1 Notify Departmental Representative and utility companies of intended interruption of services and obtain required permission.

.2 Where Work involves breaking into or connecting to existing services, give the Departmental Representative 48 hours of notice for necessary interruption of mechanical or electrical service throughout course of work. Minimize duration of interruptions. Carry out work at times as directed by governing authorities with minimum disturbance to Departmental Representative's operations, pedestrian traffic and vehicular traffic.

.3 Provide alternative routes for pedestrian and vehicular traffic.

.4 Establish location and extent of service lines in area of work before starting Work. Notify Departmental Representative of findings.

.5 Submit schedule to and obtain approval from Departmental Representative for any shut-down or closure of active service or facility including power and communications services. Adhere to approved schedule and provide notice to affected parties.

.6 Provide temporary services when directed by the Departmental Representative to maintain critical building and user systems.

.7 Provide adequate bridging over trenches which cross sidewalks or roads to permit normal traffic.

.8 Where unknown services are encountered, immediately advise Departmental Representative and confirm findings in writing.

.9 Protect, relocate or maintain existing active services. When inactive services are encountered, cap off in manner approved by authorities having jurisdiction.

.10 Record locations of maintained, re-routed and abandoned service lines.

.11 Construct barriers in accordance with Section 01 56 00- Temporary Barriers and Enclosures.

1.9 DOCUMENTS REQUIRED

.1 Maintain at job site, one copy each document as follows:

.1 Contract Drawings.

.2 Specifications.

.3 Addenda.

.4 Reviewed Shop Drawings.

.5 List of Outstanding Shop Drawings.

.6 Change Orders.

.7 Other Modifications to Contract.

.8 Field Test Reports, System Components List C/W Commissioning Verification Forms and Check Sheets and Commissioning Issues/Resolution Log.

.9 Copy of Approved Work Schedule.

.10 Health and Safety Plan and Other Safety Related Documents.

.11 Other documents as specified.

1.10 INSTITUTIONAL SECURITY AND SAFETY REQUIREMENTS

.1 Refer to Section 01 14 00 – Work Restrictions for Institutional Security and Safety Requirements.

1.11 HERITAGE PRESERVATION REQUIREMENTS

.1 The Saskatchewan Penitentiary Guard Towers D1, D4 and D12 are ‘Recognized’ Federal Heritage Buildings, under the care of Correctional Services Canada. Protection of the heritage value of the historic place, as outlined in the Heritage Character Statements, Statements of Significance, and in accordance with the Standards and Guidelines of Historical Places in Canada (Standards 1 to 12) is required during all stages of the scope of work in this project.

.2 Restore, rehabilitate and preserve the existing finishes in Guard Towers D1, D4 and D12 that are impacted by the fire alarm upgrades. Observe nearby existing conditions and match existing conditions within the construction of the upgrades. Be careful of nearby character-defining elements within the scope of work in the guard towers as explained in the Historic Conservation Advice Report included in Appendix 1.

.3 As indicated above, follow the requirements stated in the Statements of Significance for Guard Towers D1 and D4 which can be found at the following web addresses:

.1 Tower D1: https://www.historicplaces.ca/en/rep-reg/place-lieu.aspx?id=9903&pid=0.

.2 Tower D4: https://www.historicplaces.ca/en/rep-reg/place-lieu.aspx?id=9905&pid=0.

.3 Note that the Statement of Significance for Tower D12 is not available to the public yet so use the Statements of Significance for Towers D1 and D4 as all three towers have similar conservation requirements.

.4 Also note that the Statements of Significance are a little broader in scope than the Heritage Character Statements. They contain additional information and references such as Description, Heritage Value and Character Defining Elements all of which are covered in the Historic Conservation Advice Report.

.4 As indicated above, follow the requirements stated in the FHBRO (Federal Heritage Buildings Review Office) Heritage Character Statements for Towers D1 and D4 which are included in the appended Historic Conservation Advice Report.

.1 Note that the FHBRO (Federal Heritage Buildings Review Office) Heritage Character Statement for Tower D12 is not available to the public yet so use the Heritage Character Statements for Towers D1 and D4 as all three towers have similar conservation requirements.

.2 A download link for the FHBRO (Federal Heritage Buildings Review Office) Heritage Character Statements for Towers D1 and D4 can also be found at the web address for the Statements of Significance for Guard Towers D1 and D4 indicated above.

.5 As indicated above, follow the requirements stated in the Standards and Guidelines of Historical Places in Canada (Standards 1 to 12). Especially follow the requirements of Standards 1, 3, 8, 10 11 and 12 as they directly apply to the present project. The document in question can be downloaded at the following web address: https://www.historicplaces.ca/en/pages/standards-normes.aspx:

.1 Standards 1, 3, 8, 10 11 and 12 can be summarized as follows:

.1 Standard 1:

.1 Conserve the heritage value of an historic place.

.2 Do not remove, replace or substantially alter its intact or repair its character-defining elements.

.2 Standard 3:

.1 Conserve heritage value by adopting an approach calling for minimal intervention.

.3 Standard 8:

.1 Repair character-defining elements by reinforcing their materials using recognized conservation methods.

.2 Replace in-kind any extensively deteriorated or missing parts of character-defining elements.

.4 Standard 10:

.1 Repair rather than replace character-defining elements.

.2 Where character-defining elements are too severely deteriorated to repair, and where sufficient physical evidence exists, replace them with new elements that match the forms, materials and detailing of sound versions of the same elements.

.5 Standard 11:

.1 Conserve the heritage value and character-defining elements when creating any new additions to an historic place or any related new construction.

.2 Make the new work physically and visually compatible with, subordinate to and distinguishable from the historic place.

.6 Standard 12:

.1 Create any new additions or related new construction so that the essential form and integrity of an historic place will not be impaired if the new work is removed in the future.

.6 As proposed in the Historic Conservation Advice Report and as part of the pre-construction kick-off meeting, organize and take part in a site review of Towers D1, D4 and D12 with the Departmental Representative to confirm heritage conservation requirements.

.7 Per the S&G, all work is to be completed with minimal intervention approach which includes requirements for protecting existing materials, surface and finishes from damage. Refer to Appendix 1, HERITAGE CHARACTER STATEMENT - 1989-036 northern towers D1/D4 and D12 #09-151 for additional information, as per Appendix 1.

.8 Refer to Section 02 03 00 – Heritage Conservation Measures for further information on heritage preservation requirements.

1.12 HAZARDOUS MATERIAL REQUIREMENTS

.1 The Work of this contract will involve contact with hazardous materials.

.2 Perform minimum amount of hazardous material abatement work necessary to perform Work of this contract in accordance with the requirements of Authority Having Jurisdiction.

.3 Refer to the following documents in the Appendices for survey information regarding existing hazardous materials at the Saskatchewan Penitentiary.

.1 Saskatchewan Penitentiary Asbestos Management Plan.

.2 Hazardous Building Materials Assessment.

.3 Asbestos Survey Correctional Service Canada Saskatchewan Penitentiary.

.4 Saskatchewan Penitentiary Hazardous Material Survey.

.1 Includes the following appendices:

.1 Lead Base Paint Spreadsheets.
.2 Lead Base Paint Floor Plans.
.3 Lead Based Paint Photos.
.4 Laboratory Results: Total Lead.
.5 Laboratory Results: Leachable Lead.
.6 Laboratory Results: Bulk Asbestos.
.7 Asbestos Photos.
.8 Asbestos Floor Plans.
.9 Laboratory Results: PCBs.

.5 REPORT/B11 – 520 – PWGSC No. – PRA No. – Kitchen and Basement Mould Assessment – 2006. Comprises of the following files:
.1 Preliminary Investigations Kitchen and Basement Mould Assessment.
.2 Investigation Report.

.6 REPORT/Site – 520 – PWGSC No. – PRA No. – Asbestos Survey – 1991. Comprises of the following files:
.1 Readme File.
.2 Asbestos Survey of Saskatchewan Penitentiary and Farm Institution.

.7 REPORT,SITE - 520 - PWGSC No. - PRA No. - PHASE I Environmental Site Assessment – 2010.
.1 Phase 1 Environmental Site Assessment Riverbend Institution, Prince Albert, SK.

.4 Contractor to engage independent inspection/testing agency to perform asbestos testing on Building D08 and to provide report to the Departmental Representative. Departmental Representative may issue a change to the contract based on the report's results.

1.13 HOT WORK REQUIREMENTS

.1 Refer to Section 01 14 00 – Work Restrictions for Hot Work Requirements.

1.14 OPERATIONAL LIMITATIONS

.1 Refer to Section 01 14 00 – Work Restrictions for Operational Limitations.

1.15 PROOF OF CONCEPT AND CONSTRUCTABILITY MOCK-UPS

.1 Provide the following mock-ups before proceeding with other inmate cell work in Unit 6, Unit 7 and Building B12:

.1 Proof of Concept Mock-Up:

.1 A proof of concept mock-up will be required for one of the larger (worst case) cells in Unit 6 where the smoke detection sample points are to be installed inside the existing light fixtures. Do not mount the ASD at this time. Provide Temporary connections for the ASD detector to operate stand alone. Install one of the sampling points from the ASD inside the Cell luminaire. Perform Paper Fire Test as noted in Section 28 31 00.01 Multiplex Fire Alarm System Article 1.34 to determine if the mock-up is

feasible. Commissioning agent, Departmental Representative, Contractor and supplier to be present for each test.

.2 Refer to Division 28 for further detail regarding Proof of Concept Installations..

.2 Constructability Mock-Up:

.1 A constructability mock-up will also be required to demonstrate the Contractor's ability to perform the Work as specified for one typical cell in each of the following buildings:

.1 Unit 6.

.2 Unit 7.

.3 B12.

.2 Full installation of the devices to be reviewed by Departmental Representative and consultants. Once the installation has been approved, then the work can commence on these buildings. Do not proceed with any other installation until the constructability mock-up has been approved in writing.

.2 Refer to Section 01 45 00 – Quality Control for general mock-up requirements and procedures.

1.16 SECURITY-TYPE FASTENER REQUIREMENTS

.1 Refer to Section 01 61 00 - Common Product Requirements for security-type fastener requirements on this project.

1.17 CONTROL OF DEBRIS, MATERIALS AND EQUIPMENT REQUIREMENTS

.1 Contractor to maintain control of debris, materials and equipment at all times in areas accessible to inmates. This is to avoid the loss of items to inmates who could use these contraband items for nefarious purposes.

.2 Refer to Section 01 14 00 – Work Restrictions for Institutional Security and Safety Requirements related to control of debris, materials and equipment.

.3 Refer to Section 01 74 00 – Cleaning for project cleanliness and final cleaning requirements.

1.18 FIRESTOPPING

.1 Provide a two-hour firestop for all new service penetrations through interior partitions and floor assemblies.

.2 Refer to Section 07 84 00 – Fire Stopping for other fire stopping requirements.

1.19 FIRE & LIFE SAFETY – OCCUPANCY STATEMENT LETTER

.1 Refer to Appendix 5 for Fire & Life Safety – Occupancy Statement Letter Template. The Department Representative will be working on completing this Letter during various milestones of the project. The Letter includes checkboxes and comment sections. One of the checkboxes has to do with updated Fire Safety Plans to reflect new construction and renovations in the affected spaces. Once a building or multiple buildings have a new fire

alarm system installed and commissioned, the Institution must revise the Fire Safety Plans and submit them to the Regional Fire Safety Officer for review and signature.

.2 The Occupancy Statement Letter will need to be filled in by the Departmental Representative in conjunction with CSC (Correctional Service Canada) for all commissioned portions of the project prior to the contractor being eligible for Substantial Completion.

1.20 FIRE WATCH

.1 Refer to specification Section 26 05 00 – Common Work Results for Electrical for fire watch requirements.

1.21 JOINT SEALANTS

.1 Refer to specification Section 07 92 00 – Joint Sealants for sealing requirements at exterior envelope penetrations.

1.22 SECURITY SEALANT

.1 Refer to specification Section 07 92 10.13 – Security Sealant for sealing requirements at new interior electrical conduits and other locations.

Part 2 Products

2.1 NOT USED

.1 Not used.

Part 3 Execution

3.1 NOT USED

.1 Not used.

END OF SECTION

Part 1 General

1.1 SYSTEMS DESCRIPTION

.1 This Section specifies fire stop systems and/or fire stop materials intended to fill gaps between fire separations, between fire separations and other construction assemblies, or used in or around items which fully or partially penetrate a fire separation, to restrict the spread of fire and smoke thus maintaining the integrity of a fire separation.

.2 This Section includes requirements for:

.1 Through-penetration fire stops:

.1 For openings created to allow a penetrating item such as piping, conduits, raceways, ducts, cable trays, cables, tubing or structural components to pass completely through a fire separation or fire-resistance rated assembly.

.2 Membrane penetration fire stops:

.1 For openings where penetrating items such as piping, conduits, raceways, ducts, cable trays, cables, tubing, recessed components (e.g.: panels, electric boxes, devices) or structural components pass through only one membrane of a fire separation or fire-resistance rated assembly.

.3 Blank opening fire stops:

.1 For openings created in a fire separation where the penetrating item has not yet been installed or has been removed.

.3 This Section includes fire stopping work for entire Project including selection, installation and inspection of all required fire stops.

1.2 REFERENCE STANDARDS

.1 ASTM International (ASTM)

.1 ASTM E595- 15, Standard Test Method for Total Mass Loss and Collected Volatile Condensable Materials from Outgassing in a Vacuum Environment.

.2 ASTM E2032- 09 (2013), Standard Guide for Extension of Data From Fire Resistance Tests Conducted in Accordance with ASTM E 119.

.3 ASTM E2174- 14b, Standard Practice for On-Site Inspection of Installed Firestops.

.4 ASTM E2393- 10a(2015), Standard Practice for On-Site Inspection of Installed Fire Resistive Joint Systems and Perimeter Fire Barriers.

.2 Firestop Contractors International Association (FCIA)

.1 FCIA Firestop Manual of Practice, 6th Edition 2015.

.3 Factory Mutual Approvals (FM)

.1 FM 4991, Approval Standard for Firestop Contractors.

.4 International Accreditation Service (IAS)

.1 IAS AC291, Accreditation Criteria for Special Inspection Agencies.

.5 International Firestop Council (IFC)

.1 IFC Guidelines for Evaluating Engineering Judgments.

.2 IFC Guidelines for Evaluating Engineering Judgments - Perimeter Fire Barrier Systems.

.3 IFC Inspection Guidelines for Penetration Firestop Systems and Fire Resistive Joint Systems in Fire Resistance Rated Construction, 5th Edition.

.6 National Research Council Canada (NRC)

.1 National Building Code of Canada 2015 (NBC).

.7 Underwriter's Laboratories of Canada (ULC)

.1 CAN/ULC-S115-11 (R2016), Standard Method of Fire Tests of Firestop Systems.

.2 ULC Qualified Firestop Contractor Program.

1.3 DEFINITIONS

.1 Fire Blocking: materials, components or system installed in a concealed space in the building to restrict the spread of fire and smoke in that concealed space or from that concealed space to an adjacent space.

.2 Fire Stop: a material, component or system, and its means of support, used to protect gaps between fire separations, between fire separations and other construction assemblies, or used in openings where penetrating items wholly or partially penetrate fire separations, to restrict the spread of fire and smoke thus maintaining the fire-resistance continuity of a fire separation.

.3 Fire Stop System: the combination of specific materials and/or devices required with the penetrating item(s), the assembly and the opening to assemble the fire stop.

.4 Intumescent: materials that expand with heat to prevent fire spread through fire separations.

.5 Listed Fire Stop System: a specific field erected construction consisting of the assembly, fire stop materials, any penetrating items and their means of support which have met the requirements for an F, FT, FH, FTH and/or L rating when tested in a fire-resistance rated assembly in accordance with CAN/ULC-S115 – Standard Method of Fire Tests of Firestop Systems.

.1 F-Rating: the amount of time a fire stop system can remain in place without the passage of flame through the opening or the occurrence of flaming on the unexposed face of the fire stop.

.2 FT-Rating: a fire stop system with an F-Rating for the required time period which can also resists the transmission of heat through the fire stop during the same period and limit the rise in temperature on the unexposed face and/or penetrating item of the fire stop.

.3 FH-Rating: a fire stop system with an F-Rating for the required time period which can also resists the force of a hose stream without developing openings for a prescribed period.

.4 FTH-Rating: a fire stop system with an FT-Rating for the required time period which also passed the hose stream test for a prescribed period.

.6 Multi-penetration: two or more service penetrations through an opening in the fire separation.

.7 Single-penetration: single service penetration through an opening in the fire separation.

.8 System Design Listing: document providing proof of testing with technical details, specifications and requirements that leads to the application of a specific listed fire stop system.

1.4 PRE-INSTALLATION MEETINGS

.1 Convene pre-installation meeting two weeks prior to beginning work of this Section, with Departmental Representative to:

.1 Verify Project requirements.

.2 Review sustainable requirements.

.3 Review installation and substrate conditions.

.4 Coordinate with other building trades.

.5 Review system design listings, manufacturer's installation instructions and warranty requirements.

.6 Review quantity and location of mock-ups.

.2 Convene pre-installation meetings with other trades to review:

.1 Installation procedures and precautions.

.2 Location, scheduling and sequencing of other work around fire stops that can affect the outcome of the installation.

.3 Requirements for annular opening sizes.

.4 Requirements and preparations for wall/floor single and multi-penetrations.

.5 Mock-up requirements.

.3 Submit copies of applicable listed fire stop system details to each trade for opening preparation. Include installation details required for the listed system.

.4 Meeting minutes: Contractor to take minutes of pre-installation meetings and distribute to Departmental Representative and each affected trades.

1.5 SEQUENCING

.1 Proceed with installation only when submittals have been reviewed by Departmental Representative.

1.6 ACTION AND INFORMATIONAL SUBMITTALS

.1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.

.2 Qualification Statement

.1 Submit contractor qualification statements and certificates demonstrating compliance with the qualification requirements of this Section, as described in PART 1 – QUALITY ASSURANCE, within 10 working days after award of contract and before starting Work.

.3 Product Data:

.1 Submit manufacturer's printed product literature, specifications and datasheet. Submit complete product data for each individual component and include:

.1 Product name and product number.

.2 Product characteristics and performance criteria.

.3 Physical size, finish and limitations.

.4 Technical data on out-gassing, off-gassing and age testing.

.5 Curing time.

.6 Chemical compatibility to other construction materials.

.7 Shelf life.

.8 Life expectancy.

.9 Temperature range for installation.

.10 Humidity range for installation.

.11 Sound attenuation STC-Rating.

.2 Manufacture Product Certification:

.1 Submit certification by the manufacturer that products supplied comply with local regulations controlling use of Volatile Organic Compounds (VOC's) and are non-toxic to building occupants.

.2 Submit test reports showing compliance to ASTM E595.

.3 For each individual component, Submit copies of WHMIS Safety Data Sheets (SDS) in accordance with Section 02 81 00 - Hazardous Materials.

.4 Submit a comprehensive list of all products and components included in submittal.

.4 Shop Drawings:

.1 Submit shop drawings showing system design listings for Project including proposed materials, reinforcement, anchorage, fastenings and method of installation.

.2 Construction details to accurately reflect actual job conditions for each product and assembly.

.3 Submit details for materials and prefabricated devices.

.4 Submit electronic copy of shop drawings and include:

.1 Title page, labelled "Fire and Smoke Stop System Listings". Include project name, date and the names of the installation company and the manufacturer of proposed products. Insert title in front and spine of binder.

.2 Table of Contents at the front of each binder.

.3 List of each proposed listed fire stop system and corresponding service penetration type or joint type in a matrix spreadsheet schedule, indicating floor and wall system, including rating for each.

.4 Location of penetrations:

.1 Drawings showing the location of each penetration with a unique penetration identification number and associated listing number .

.2 Schedules listing each penetration with a unique identification number, their associated listing number, organized by floor, wall and ceiling area and indicating each room number.

.5 System Design Listings:

.1 Submit CAN/ULC-S115 design listings for each listed fire stop system and each application identified.

.2 When more than one product is specified for the listed fire stop system or more than one packing/damming material is indicated, identify the item that will be used on this Project.

.6 Certificates signed by manufacturer certifying that materials comply with specified performance characteristics and physical properties.

.5 Manufacturer's Instructions: submit manufacturer's installation instructions and special handling criteria, installation sequence and cleaning procedures.

.6 Engineering Judgments:

.1 Where there is no specific tested listed fire stop system available from the manufacturer for a particular fire stop configuration, review systems from other manufacturers to obtain a listed fire stop system.

.2 Submit an Engineering Judgment (EJ) from the system manufacturer if there are no listed systems available from other manufacturers.

.3 Prepare and submit an EJ in accordance with best practices established in the following documents:

.1 IFC Guidelines for Evaluating Engineering Judgments.

.4 For each EJ submitted, include:

.1 Project name, number and location.

.2 A description of the proposed system with detailed drawing.

.3 Installation instructions.

.4 Complete descriptions of critical elements for the fire stop configuration.

.5 Copies of all referenced system design listings on which the EJ is based on.

.6 EJ issuer name and contact information.

.7 Date of issue of EJ with authorization signature of issuer.

.8 Manufacturer letter stating their opinion, with supporting justification, that the EJ will perform as a fire stop system were it to be subjected to the appropriate standard fire test method for the required fire rating duration.

.7 Once the EJ has been reviewed, submit the EJ to the authority having jurisdiction for final approval.

.8 EJ shall be issued only by fire stop manufacturer’s qualified technical personnel or in concert with the manufacturer by a knowledgeable registered Professional Engineer, a Fire Protection Engineer or an independent testing agency that provides testing and listing services for fire stop systems similar to the EJ being contemplated.

.9 EJ shall be based upon interpolations of previously tested fire stop systems that are either sufficiently similar in nature or clearly bracket the conditions upon which the

Engineering Judgment is to be given. Additional knowledge and technical interpretations based upon accepted engineering principles, fire science and fire testing guidelines (e.g.: ASTM E2032) may also be used as further support data.

.10 EJ shall be based upon knowledge of the elements of the construction to be protected and understanding of the probable behaviour of that construction and the recommended fire stop system protecting it were they to be subjected to the adequate standard fire test method for the required fire rating duration.

.11 EJ shall be limited to the specific conditions and configurations upon which EJ was rendered and should be based upon reasonable performance expectations for the recommended fire stop system under those conditions.

.12 EJ shall be accepted only for a single specific job and location and should not be transferred to any other job or location without thorough and appropriate review of all aspects of the next job or location's circumstances.

1.7 CLOSEOUT SUBMITTALS

.1 Submit in accordance with Section 01 78 00 - Closeout Submittals.

.2 Operation and Maintenance Data: submit operation and maintenance data for incorporation into manual. Include:

- .1 WHMIS Safety Data Sheets (SDS).
- .2 Product data and manufacturer's installation and maintenance instructions for each product/system used on this project.
- .3 Approved system design listings and Engineering Judgments.
- .4 Matrix schedule listing all system design listings and Engineering Judgments with a description of their penetration or joint type.
- .5 Certifications:
  - .1 Proof of training for each worker that performed installation on the Project.
  - .2 Proof of company as a FCIA - Member in Good Standing.
  - .3 Certification of company as a ULC Qualified or FM 4991 Approved Firestop Contractor, including the Designated Responsible Individual (DRI) certificate.
  - .4 Accreditation of third-party inspection firm.
- .6 Manufacturer's field reports.
- .7 Warranty information on fire stop installations.
- .8 Life expectancy of each product installed as part of Project. For each system, list the installation date of products and the expected expiration date (month/year).

.3 Record Documentation:

- .1 Maintain a daily log of all activities on site during the course of construction. Submit a copy of all daily logs after completion of fire stopping work.
- .2 As-built Drawings:
  - .1 Submit marked-up set of drawings to provide referencing system identifying the location of each fire stop.

.2 Identify each penetration type fire stop with their penetration identification number.

.3 Provide detailed drawings of system design listings for each type of fire stop (i.e.: through-penetration, membrane penetration or blank opening.).

.3 Fire Stop Schedules:

.1 Submit complete fire stop schedules for floors, walls and ceilings.

.2 Indicate all penetration fire stops through each reference wall, floor and ceiling in the schedules.

.3 Cross-reference fire stop schedules with as-built drawings and indicate design listing numbers associated to each penetration fire stop and joint fire stop.

1.8 QUALITY ASSURANCE

.1 Provide systems selection and analysis, installation and inspection of fire stop systems in accordance with the recommended practices detailed in the following guides:

.1 FCIA Firestop Manual of Practice (MOP).

.2 Qualifications:

.1 Contractor specializing in selection and installation of fire stops approved by manufacturer with five years of documented experience. Submit a list of five successfully completed projects of similar scale and type.

.2 Company recognized as a Member in Good Standing with the Firestop Contractors International Association (FCIA). Submit written proof of current membership.

.3 Training: workers, including site supervisor, to have completed:

.1 Manufacturer training on the products/systems installed as part of this Section.

.2 Training under the FCIA Firestop Containment Worker Education Program.

.4 Certified Firestop Contractor: company certified with one of the following programs :

.1 ULC Qualified Firestop Contractor Program. Submit signed copy of ULC Qualified Firestop Contractor Program certificate.

.2 FM 4991 Approved Firestop Contractor. Submit signed copy of FM 4991 Approval certificate.

1.9 DELIVERY, STORAGE AND HANDLING

.1 Packing, shipping, handling and unloading:

.1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements.

.2 Deliver, store and handle materials in accordance with manufacturer's written instructions.

.3 Deliver materials to the site in undamaged condition and in original unopened containers, marked to indicate brand name, manufacturer, ULC markings, manufacturing date and shelf life expiry date.

.2 Storage and Protection:

.1 Store materials in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.

.2 Replace defective, expired or damaged materials with new.

.3 Coordinate delivery of materials with scheduled installation dates to allow minimum storage time on site.

.4 Comply with recommended procedures, precautions and measures described in WHMIS Safety Data Sheets (SDS).

.3 Waste Management and Disposal:

.1 Separate waste materials for recycling and reuse in accordance with Section 01 74 19 - Waste Management and Disposal.

1.10 FIELD CONDITIONS

.1 Ambient Conditions:

.1 Install fire stops when ambient and substrate temperatures are within the limits prescribed by the manufacturer and when the substrate is dry and without risk of condensation.

.2 Maintain manufacturer’s recommended ambient and substrate temperatures for 48 hours before and 72 hours after installation.

.2 Ventilate fire stops in accordance with manufacturers’ instructions by natural means or where this is inadequate using forced air circulation.

Part 2 Products

2.1 MANUFACTURERS

.1 Provide products from a single manufacturer, to the greatest extent possible, to perform all fire stopping work. Materials of different manufacturers will not be permitted without written authorization from Departmental Representative.

.2 Where there is no specific tested listed fire stop system available from the manufacturer for a particular fire stopping application, provide a listed system from an alternative manufacturer to avoid providing an Engineering Judgment.

2.2 DESIGN/PERFORMANCE CRITERIA

.1 Fire stop systems and systems providing a barrier to smoke spread consisting of a material or combination of materials installed to maintain the integrity of the fire resistance rating of a fire separation in accordance with the requirements of NBC-2015.

.2 Use in wet areas: water based products are unacceptable in wet areas or areas that may be subject to occasional water exposure or flooding during and after construction.

.3 Architectural considerations: when exposed to view, fire stop system to consider architectural finish, potential traffic, and exposure to moisture and heat.

.4 Environment considerations: materials selected to consider the environment in which they will be used during and after curing as well as the intended use of space. Fire stop manufacturer to confirm compatibility of the proposed materials/products for the following cases:

.1 Spaces requiring resistance to infection and biological spread through assemblies.

.2 Spaces containing sensitive electronic equipment.

.3 Secure inmate areas prone to vandalism, self-harm or hiding of contraband.

2.3 MATERIALS

.1 Fire stop systems: in accordance with CAN-ULC-S115.

.1 Asbestos-free materials and systems capable of maintaining effective barrier against the passage of flame, smoke and water and the transmission of heat in compliance with requirements of CAN-ULC-S115 and not to exceed opening sizes for which they are intended, as indicated on System Design Listing.

.2 Fire stop system rating: to match fire resistance rating requirement of two hours as specified in Section 01 11 00 – Summary of Work.

.3 Service penetration assemblies and fire stop components: certified by test laboratory to CAN/ULC-S115.

.2 Fire stop systems at openings intended for re-entry such as cables: provide elastomeric seal or non-shrink foam cement mortar.

.3 Fire stops behind and around electrical boxes within wall, floor and ceiling assemblies: provide elastomeric seal.

.4 Primers: to manufacturer's recommendation for specific material, substrate, and end use.

.5 Water (if applicable): potable, clean and free from injurious amounts of deleterious substances.

.6 Packing/damming materials, supports and anchoring devices: to manufacturer's recommendations, and in accordance with tested assembly being installed as acceptable to authorities having jurisdiction.

.7 Fire stop insulation: pre-formed, semi rigid, non-combustible mineral wool, pre-cut in 1220 mm lengths to required depth and width.

.8 Junction box/outlet sealing putty: intumescent putty, pre-formed in pads.

.9 Sealants: good adhesion without use of primer, high visibility safety colours.

.1 Flame spread rating: maximum 25.

.2 Smoke development classification: maximum 50.

.3 For vertical joints: non-sagging.

.4 For horizontal joints: single component, self-levelling.

2.4 FIRE STOP IDENTIFICATION

.1 Identification labels and markings to be indelible for the expected service life of the installation.

.2 Fire Stopped Penetrations:

.1 Provide identification labels at each penetration.

.2 Identification labels: tamper-evident frangible stickers, adhesive plastic stickers, embossed metal tags or ceramic fiber tags with metal fastening device with the following information:

.1 Penetration number.

.2 Floor number.

.3 Room number.

.4 Product name and number.

.5 System Design number.

.6 Fire Rating Required: in hours.

.7 Fire Stop Contractor’s Name and phone number.

.8 Installer’s Name.

.9 Date of Installation.

.10 Re-penetrated by: Company, Installer and Date.

.3 Label shall state that the fill material around the penetration is a fire stop system and it shall not be disturbed except by authorized personnel.

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

.1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheets.

3.2 EXAMINATION

.1 Verify substrate conditions are acceptable for product installation in accordance with manufacturer’s instructions and approved system design listings for each condition.

.2 Verify each opening/annular space to ensure it does not exceed the maximum and minimum dimensions indicated on the approved system design listing.

.3 Verify that all service penetrating elements and supporting devices/hangers have been properly installed as indicated on approved system design listings. All temporary lines and markings have been removed to meet the approved system design listings.

.4 Verify that the proposed fire stop system is composed of components that are compatible with each other, the substrates forming the openings, and the items, if any, penetrating the fire stop under conditions of application and service, as demonstrated by the fire stop manufacturer based on testing and field experience.

.5 Ensure no additional items have been installed through opening that does not appear on the approved system design listing.

.6 Ensure areas that are to be fire stopped are accessible for proper application and conditions are suitable for installation of the fire stop system. Areas to remain accessible for inspection.

.7 Report in writing to Departmental Representative any defective surfaces or conditions affecting the fire stop system installation, immediately and prior to commencing any installations.

.8 Proceed only once defected surfaces or conditions have been corrected.

.9 Beginning of installation means acceptance of site conditions.

3.3 PREPARATION

.1 Examine sizes and conditions of voids to be filled to establish correct thicknesses and installation of materials.

.1 Ensure that substrates and surfaces are clean, dry and frost free.

.2 Ensure substrates and surfaces are free of dirt, grease, oil, rust, laitance, release agents, water repellents, and any other substances that may affect proper adhesion.

.2 Prepare surfaces in contact with fire stop materials to manufacturer's instructions.

.3 Mask where necessary to avoid spillage and over coating onto adjoining surfaces; remove stains on adjacent surfaces.

.4 Protect adjacent work areas and finish surfaces from damage during product installation.

.5 Ensure multi-penetration openings have been framed and boarded out, all around the annular opening as indicated in the system design listing prior to prepping the opening.

3.4 INSTALLATION

.1 Install fire stop materials and components in accordance with manufacturer's certified tested system listing.

.2 Coordinate with other sub-trades to ensure that all conduits, cables, and other items, which penetrate fire separations, have been permanently installed before installation of fire stop systems.

.3 Schedule work to ensure that fire separations and all other construction that conceals penetrations are not erected before installation of fire stop systems

.4 Protect holes or gaps made by through penetrations, poke through termination devices, and un-penetrated openings or joints to ensure that both continuity and integrity of fire separation are maintained.

.5 Provide temporary forming as required and remove forming only after materials have gained sufficient strength and after initial curing per manufacturer’s instructions.

.6 Tool or trowel exposed surfaces to neat finish.

.7 Remove excess compound promptly as work progresses and upon completion.

.8 Protect gaps around recessed components (e.g.: panels, electrical boxes, outlets) with sealing putty in accordance with manufacturer's instructions.

.9 Do not use damaged or expired material.

3.5 IDENTIFICATION

.1 General:

.1 Clean substrate prior to applying identification.

.2 Final location of identification to be determined on site.

.3 Refer to drawings for locations of fire separations and rating required.

.2 Fire Stopped Penetrations:

.1 Install identification label adjacent to each wall/floor service penetrations fire stopped Provide one identification label per single opening or per grouping cluster.

.2 Securely apply identification to substrate by providing adequate adhesive.

.3 Secure tags with metal fasteners or hang with metal chain or wire.

.4 Identification shall be completely filled out and installed prior to requesting substantial performance.

3.6 REPAIRS AND MODIFICATIONS

.1 Identify damaged or re-entered seals requiring repair or modification.

.2 Remove loose or damaged materials. If penetrating items are to be added, remove sufficient material to insert new elements and to avoid damaging the balance of the seal.

.3 Ensure that surfaces to be sealed are clean and dry.

.4 Use only materials that are suitable for repair of original seal, as approved by manufacturer. Do not mix products from different manufacturers.

.5 Repair all damage resulting from fire stop destructive testing.

3.7 FIRE STOPPING LOCATIONS

.1 Provide a two-hour firestop for all new service penetrations through interior partitions and floor assemblies as stated in Section 01 11 00 – Summary of Work.

3.8 CLEANING

.1 Proceed in accordance with Section 01 74 00 - Cleaning.

.2 Remove equipment, excess materials and debris and clean adjacent surfaces immediately after application. Use methods and cleaning materials approved by manufacturer.

.3 Protect fire stops during and after curing period from contact with contaminating substances. Repair all damage.

.4 Remove temporary dams after initial set of fire stop and smoke stop materials.

END OF SECTION

Part 1 General

1.1 REFERENCE STANDARDS

.1 Canadian General Standards Board (CGSB)

.1 CAN/CGSB-19.13-M87, Sealing Compound, One-component, Elastomeric, Chemical Curing.

.2 CAN/CGSB-19.17-M90, One-Component Acrylic Emulsion Base Sealing Compound.

.2 Health Canada/Workplace Hazardous Materials Information System (WHMIS)

.1 Safety Data Sheets (SDS).

1.2 ACTION AND INFORMATIONAL SUBMITTALS

.1 Submit in accordance with Section 01 33 00 - Submittal Procedures.

.2 Product Data:

.1 Submit manufacturer's instructions, printed product literature and data sheets for [joint sealants] and include product characteristics, performance criteria, physical size, finish and limitations.

.2 Manufacturer's product to describe:

.1 Caulking compound.

.2 Primers.

.3 Sealing compound, each type, including compatibility when different sealants are in contact with each other.

.3 Submit copies of WHMIS SDS in accordance with Section 01 35 29.06 - Health and Safety Requirements.

.3 Manufacturer's Instructions:

.1 Submit instructions to include installation instructions for each product used.

1.3 CLOSEOUT SUBMITTALS

.1 Submit in accordance with Section 01 78 00 - Closeout Submittals.

.2 Operation and Maintenance Data: submit operation and maintenance data for incorporation into manual.

1.4 DELIVERY, STORAGE AND HANDLING

.1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements and with manufacturer's written instructions.

.2 Delivery and Acceptance Requirements: Deliver materials to site in original factory packaging, labelled with manufacturer's name and address.

.3 Storage and Handling Requirements:

.1 Store materials in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.

.2 Store and protect joint sealants from nicks, scratches, and blemishes.

.3 Replace defective or damaged materials with new.

.4 Packaging Waste Management: remove for reuse and return by manufacturer of packaging materials]as specified in Construction Waste Management Plan in accordance with Section 01 74 19 - Waste Management and Disposal.

1.5 SITE CONDITIONS

.1 Ambient Conditions:

.1 Proceed with installation of joint sealants only when:

.1 Ambient and substrate temperature conditions are within limits permitted by joint sealant manufacturer or are above 4.4 degrees C.

.2 Joint substrates are dry.

.3 Conform to manufacturer's recommended temperatures, relative humidity, and substrate moisture content for application and curing of sealants including special conditions governing use.

.2 Joint-Width Conditions:

.1 Proceed with installation of joint sealants only where joint widths are more than those allowed by joint sealant manufacturer for applications indicated.

.3 Joint-Substrate Conditions:

.1 Proceed with installation of joint sealants only after contaminants capable of interfering with adhesion are removed from joint substrates.

1.6 ENVIRONMENTAL REQUIREMENTS

.1 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials; and regarding labelling and provision of Safety Data Sheets (SDS) acceptable to Health Canada.

.2 Departmental Representative will arrange for ventilation system to be operated on maximum outdoor air and exhaust during installation of caulking and sealants.

Part 2 Products

2.1 SEALANT MATERIALS

.1 When low toxicity caulks are not possible, confine usage to areas which off gas to exterior, are contained behind air barriers, or are applied several months before occupancy to maximize off gas time.

.2 Where sealants are qualified with primers use only these primers.

2.2 SEALANT MATERIAL DESIGNATIONS

.1 Sealant Type 1: one component silicone sealant to CAN/CGSB-19.13, type 2, Class 25, shore A hardness of 25 - 30, non sag, neutral curing.

.2 Sealant Type 2: one component paintable acrylic latex, to CAN/CGSB-19.17.

.3 Sealant Type 3 - Security Sealant: as specified in Section 07 92 10.13.

.4 Preformed compressible and non-compressible back-up materials:

.1 Polyethylene, urethane, neoprene or vinyl foam:

.1 Extruded closed cell foam backer rod.

.2 Size: oversize 30 to 50 %.

.2 Bond breaker tape:

.1 Polyethylene bond breaker tape which will not bond to sealant.

2.3 SEALANT SELECTION

.1 Exterior perimeters of new penetrations through the existing exterior envelope: sealant Type 1.

.2 Interior perimeters of new penetrations through the existing exterior envelope: Sealant Type 3 to inmate-accessible areas, Sealant Type 2 to non-inmate accessible locations with a painted gypsum board interior finish, Sealant Type 1 elsewhere.

2.4 JOINT CLEANER

.1 Non-corrosive and non-staining type, compatible with joint forming materials and sealant in accordance with sealant manufacturer's written recommendations.

.2 Primer: in accordance with sealant manufacturer's written recommendations.

Part 3 Execution

3.1 EXAMINATION

.1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for joint sealants installation in accordance with manufacturer's written instructions.

.1 Visually inspect substrate in presence of Departmental Representative.

.2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.

.3 Proceed with installation only after unacceptable conditions have been remedied.

3.2 SURFACE PREPARATION

.1 Examine joint sizes and conditions to establish correct depth to width relationship for installation of backup materials and sealants.

.2 Clean bonding joint surfaces of harmful matter substances including dust, rust, oil grease, and other matter which may impair Work.

.3 Do not apply sealants to joint surfaces treated with sealer, curing compound, water repellent, or other coatings unless tests have been performed to ensure compatibility of materials. Remove coatings as required.

.4 Ensure joint surfaces are dry and frost free.

.5 Prepare surfaces in accordance with manufacturer's directions.

3.3 PRIMING

.1 Where necessary to prevent staining, mask adjacent surfaces prior to priming and caulking.

.2 Prime sides of joints in accordance with sealant manufacturer's instructions immediately prior to caulking.

3.4 BACKUP MATERIAL

.1 Apply bond breaker tape where required to manufacturer's instructions.

.2 Install joint filler to achieve correct joint depth and shape, with approximately 30% compression.

3.5 MIXING

.1 Mix materials in strict accordance with sealant manufacturer's instructions.

3.6 APPLICATION

.1 Sealant:

.1 Apply sealant in accordance with manufacturer's written instructions.
.2 Mask edges of joint where irregular surface or sensitive joint border exists to provide neat joint.
.3 Apply sealant in continuous beads.
.4 Apply sealant using gun with proper size nozzle.
.5 Use sufficient pressure to fill voids and joints solid.
.6 Form surface of sealant with full bead, smooth, free from ridges, wrinkles, sags, air pockets, embedded impurities.
.7 Tool exposed surfaces before skinning begins to give slightly concave shape.
.8 Remove excess compound promptly as work progresses and upon completion.

.2 Curing:

.1 Cure sealants in accordance with sealant manufacturer's instructions.
.2 Do not cover up sealants until proper curing has taken place.

3.7 CLEANING

.1 Progress Cleaning: clean in accordance with Section 01 74 00 - Cleaning.

.1 Leave Work area clean at end of each day.
.2 Clean adjacent surfaces immediately.
.3 Remove excess and droppings, using recommended cleaners as work progresses.

.4 Remove masking tape after initial set of sealant.

.2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 00 - Cleaning.

.3 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 19 - Waste Management and Disposal.

.1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

3.8 PROTECTION

.1 Protect installed products and components from damage during construction.

.2 Repair damage to adjacent materials caused by joint sealants installation.

END OF SECTION

Part 1 General

1.1 SUMMARY OF WORK

.1 Apply a bead of security sealant to both sides of each surface-mounted electrical conduit installed in inmate-accessible interior areas on this project in order to prevent inmate tampering. Paint conduit and security sealant to Section 09 91 23 – Interior Painting.

.2 Interior perimeters of new penetrations through the existing exterior envelope to receive security sealant in inmate-accessible areas. Refer to Section 07 92 00 – Joint Sealants.

1.2 REFERENCE STANDARDS

.1 ASTM Standards:

.1 ASTM D695–15, Standard Test Method for Compressive Properties of Rigid Plastics

1.3 QUALIFICATIONS

.1 Perform Caulking using parties recognized for ability in the trade, having at least five (5) years proven satisfactory experience, to carry out the work and/or supervise skilled mechanics thoroughly trained and competent in the use of caulking and sealing materials using pressure operated equipment.

.2 Perform Work in accordance with the sealant manufacturer's requirements for preparation of surfaces and materials installation instructions.

1.4 PRODUCT DATA

.1 Submit product data in accordance with Section 01 33 00.

.2 Submit duplicate copies of manufacturer's product literature for each type of sealant material specified.

1.5 MOCK-UPS

.1 Provide two-meter long mock-up of the security sealant application to electrical conduits as specified in Part 3 of this specification section before proceeding with remainder of security sealant work.

.2 Install mock-up in inside location acceptable to Departmental Representative.

.3 If acceptable, mock-up may remain as part of the Work.

1.6 PROTECTION

.1 If sealant can be damaged before it has cured sufficiently, provide adequate protection. If damaged, remove sealant and renew the application.

1.7 DELIVERY/STORAGE

.1 Deliver all materials and store in original wrappings and containers with manufacturer's seals and labels intact, and as recommended by the manufacturer of the sealant.

.2 Maintain containers and labels in undamaged condition.

1.8 ENVIRONMENTAL CONDITIONS

.1 Do not work at temperatures greater or less than those recommended by the manufacturer.

.2 Maintain air temperature range of 4ºC to 27ºC in areas to receive sealants, 24 hours before, during application, and until sealants have cured.

.3 Should it become necessary to apply sealants at temperatures below or above this range, advise the Departmental Representative and consult sealant manufacturer and follow the latter's recommendations.

.4 Protect all work against damage and disfigurations and work of other trades against soiling and damage arising out of this work. Upon completion, replace and repair all defective work.

.5 Examine substrate materials, joint voids, and note temperature/humidity conditions. Report unacceptable conditions to the Departmental Representative.

.6 Commencement of work implies acceptance of conditions.

1.9 SAFETY REQUIREMENTS

.1 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials; and regarding labeling and provision of material safety data sheets acceptable to Labour Canada and Occupational Health and Safety.

.2 Product may cause chemical burns on skin if not washed out within 5 minutes or in the eyes if not washed out immediately with water for a period of five minutes.

.1 Goggles, gloves and other suitable safety equipment should be used.

.2 Over time and over exposure can cause a skin reaction to occur.

.3 See manufactures Data Sheet before using.

.3 Ventilate area of work as using acceptable portable supply and exhaust fans.

1.10 COMPATIBILITY

.1 Ensure that all materials used are compatible.

.2 Declaration of Materials Compatibility: Submit written declaration stating that sealant materials are compatible with adjacent materials and substrates and are acceptable to the sealant manufacturer. Include a list of materials, suppliers and manufacturers.

Part 2 Products

2.1 MATERIALS

.1 Security Type Sealant: epoxy sealant, two-component “pick proof”, solvent-free, moisture-insensitive, high-modulus, high-strength, fire retardant, elastic-type epoxy with not less than 5% movement capability; to ASTM D 695. Colour to match adjacent substrate or as selected by the Departmental Representative. To the following properties:

Physical Properties	Part A	Part B	Part A & B
Viscosity	10,000 CPS	200 CPS	7,000 CPS
Specific Gravity	1.3	9.7	1.2

.2 Joint Cleaner: Non-corrosive solvent recommended by sealant manufacturer for applicable substrate materials.

.3 Primer: Non-staining type recommended by sealant manufacturer.

.4 Joint Filler: Round closed cell, non-staining, non-absorbent foam, extruded polyethylene shore hardness 20, tensile strength 138-207 KPa oversized 30-50%. For backup to large joints, cavities or voids, use fibreglass wool.

Part 3 Execution

3.1 PREPARATION

.1 Surface Cleaning: Clean all surfaces required to be caulked, removing all loose particles, dust, oil, wax, protective coatings, mould release agents, and the like, using brush, solvents, or acid etching methods.

.1 Concrete: Must be sound, free of grease, laitance, etc. Concrete must be dry.

.2 Steel: Remove rust, old paints, etc. Solvent cleaners to remove oil, etc.

.3 Wood: Must be dry and free of paint, oil, etc.

.4 Plastics: Consult sealant manufacturer for written instructions.

.2 Primer Application: Prior to application of primer where required, test primers for possible yellowing, discolouration, and dirt pick-up when applied over face of porous substrates.

.3 Following testing apply primers to joints following manufacturer's recommendations.

.4 When tests indicate discolouration, dirt pick-up and the like on surfaces, take special precautions when applying, by masking surfaces not required to be primed.

.5 Ensure that the sealant manufacturer's representative reviews site conditions, joint design and installers qualifications. Report unsatisfactory conditions to the Departmental Representative. Ensure that sealants are compatible with adjoining materials.

.6 Ensure that the sealant manufacturer's representative checks container labels, random inspect preparation of substrate materials and random test installed work.

3.2 APPLICATION - GENERAL

.1 Apply sealant in accordance with manufacturer's instructions.

.2 Use pressure gun fitted with suitable nozzle.

.3 Ensure finished surfaces of sealant are smooth and free from ridges, wrinkles, or foreign matter.

.4 Prime joints when recommended by manufacturer. Use a brush that will reach all parts of the joints.

.5 Wire brush loose surfaces (such as brick or masonry).

.6 Apply foam bead to within 10 mm of face of joint.

.7 Ensure all surfaces are clean. Caulk only when surface temperature is between 4°C and 26°C.

3.3 APPLICATION OF SEALANTS

.1 Apply sealant in accordance with manufacturer's directions, using a pressure air gun with proper size nozzle. Use sufficient pressure to fill voids and joints solid. Superficial pointing with skin bead is not acceptable.

.2 Joints should be filled to approximately 2/3 full and let set for approximately 4 hours, then fill the remainder. The level of epoxy should be just above the surface. Passing a propane torch over the surface an hour after application will break any bubbles. Excess epoxy can be cut off with a scraper the next day.

.3 Sealant Application: Gun apply sealants through a nozzle opening of such shape and diameter that the full bead of sealant is gunned into the joint, filling the joint completely; to the approval of the Departmental Representative.

.4 A superficial or skin bead in joints will not be acceptable.

.5 Tool all beads immediately after application to ensure firm, full contact with the inner faces of the joint. Strike off excess material with tooling stick or knife.

.6 Upon completion ensure caulking surfaces are smooth, even, free from ridges, wrinkles, air pockets, and embedded foreign matter.

.7 Joint Finishes: Finish joints in flush surfaces; fill joints full in internal angles, except as otherwise detailed. Use wet tool as required. Avoid the use of face fillet (or angle bead) joints. Concave or convex joints will be rejected.

.8 Where sharp, exact bead lines are desired, use masking tape. When taping, avoid touching cleaned and primed areas to which sealant is to be applied. Remove masking tape immediately after bead is placed and tooled, to avoid damage to developing surface skin.

.9 Completely fill void with compound into which they are installed. Remove excess immediately following installation.

3.4 BOND BREAKER

.1 Use foam bead as specified, to limit depth of sealant and to act as bond breaker at back of joint (adhesion is not required at back of joint).

.2 Where depth of joint does not permit the use of foam bead, apply paper masking tape to the back of the joint to act as bond breaker.

3.5 CLEANING

.1 Promptly as work proceeds remove all excess material or smears from surfaces beyond joint or surface to be caulked, using solvents as recommended by the manufacturer's representative. If sealant or caulking has set up, employ mechanical removal.

.2 During application, maintain areas of work in clean condition daily removing from the premises and site all rubbish and surplus material.

.3 Clean immediately soiled non-porous materials.

.4 On porous surfaces, remove any excess sealant as recommended by manufacturer.

.5 Sealant manufacturer recommends that equipment must be cleaned after use with Sealant Manufacturers Solvent. Cured material can only be removed by burning.

END OF SECTION

171-15023-00

LEGEND:

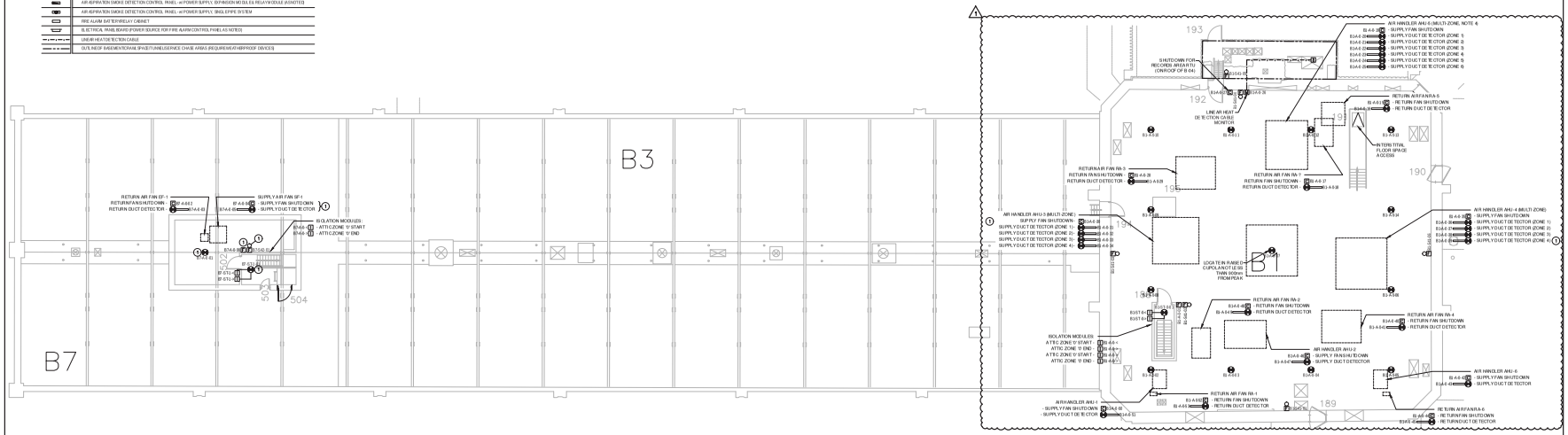
SYMBOL	DESCRIPTION
	FIRE ALARM PULL STATION
	FIRE ALARM AUDIBLE/VISUAL SIGNAL DEVICE - WALL MOUNTED (HORNS/STROBE)
	FIRE ALARM AUDIBLE/VISUAL SIGNAL DEVICE - WALL MOUNTED (HORNS/STROBE) c/w PROTECTIVE GUARD
	FIRE ALARM AUDIBLE SIGNAL DEVICE - WALL MOUNTED (BELL)
	FIRE FIGHTERS TELEPHONE
	FIRE ALARM VISUAL SIGNAL DEVICE - WALL MOUNTED (STROBE)
	FIRE ALARM AUDIBLE/VISUAL SIGNAL DEVICE - CEILING MOUNTED
	FIRE ALARM AUDIBLE/VISUAL SIGNAL DEVICE - CEILING MOUNTED c/w PROTECTIVE GUARD
	FIRE ALARM VISUAL SIGNAL DEVICE - CEILING MOUNTED c/w PROTECTIVE GUARD
	FIRE ALARM CONTROL MODULE
	FIRE ALARM MONITOR MODULE
	FIRE ALARM ISOLATION MODULE
	FIRE ALARM END OF LINE DEVICE
	SMOKE DETECTOR
	SMOKE DETECTOR c/w SOUNDER/BASE
	SMOKE DETECTOR c/w SOUNDER/BASE & CO DETECTOR
	SMOKE DETECTOR - c/w PROTECTIVE GUARD
	HEAT DETECTOR
	HEAT DETECTOR - RATE OF RISE
	HEAT DETECTOR - FIXED TEMPERATURE
	AIR ASPIRATION SMOKE DETECTION SYSTEM SAMPLING POINT
	CARBON MONOXIDE DETECTOR
	DUCT SMOKE DETECTOR
	BEAM TYPE SMOKE DETECTOR
	BEAM TYPE DETECTOR REC EIVER
	FIRE ALARM PANEL (AS NOTED)
	FIRE ALARM ANNUNCIATOR PANEL
	AIR ASPIRATION SMOKE DETECTION CONTROL PANEL w/ POWER SUPPLY, EXPANSION MODULE & RELAY MODULE (AS NOTED)
	AIR ASPIRATION SMOKE DETECTION CONTROL PANEL w/ POWER SUPPLY, SINGLE PIPE SYSTEM
	FIRE ALARM INTERPOSING CABINET
	ELECTRICAL PANELBOARD (POWER SOURCE FOR FIRE ALARM CONTROL PANELS AS NOTED)
	LINEAR HEAT DETECTION CABLE
	OUTLINE OF BASEMENT/CRAWL SPACE/TUNNEL/SERVICE CHASE AREAS (REQUIREMENT FOR FIRE PROOF DEVICES)

KEY NOTES:

1. EXISTING DEVICE TO BE RELOCATED. ENSURE SPECIFIED MOUNTING HEIGHT/LOCATION REQUIREMENTS ARE OBSERVED.
2. EXISTING DEVICE TO BE REMOVED ALONG WITH ASSOCIATED CABLE & CONDUIT TO SOURCE.

NOTES:

1. CONDUIT
   a. ALL EXISTING WIRE TO BE REWIRED. THE EXISTING INSTALLATION MUST BE THE REQUIREMENTS OF NOTE 1b.
   b. NEW CONDUITS ARE TO CONFORM TO THE SPECIFIED REQUIREMENTS FOR SIZE, TYPE AND SECURITY.
   c. IF EXISTING CONDUIT MAY WISH TO UTILIZE EXISTING CONDUITS, THEY MUST CONFORM TO THE FOLLOWING REQUIREMENTS
   - EXISTING CONDUIT MUST BE UTILIZED FOR NEW FIREALARM INITIATING AND SIGNAL DEVICES ONLY. ALL FIRE ALARM NETWORK AND FEMBT SANNUNCIATOR CONDUIT SHALL BE NEW.
   - EXISTING CONDUITS MUST CONFORM TO THE SPECIFIED REQUIREMENTS FOR SIZE, TYPE, AND SECURITY. WHERE EXISTING CONDUIT CANNOT BE DETERMINED TO BE SUITABLE, NEW CONDUIT MUST BE INSTALLED. EXISTING CONDUIT MUST BE ALLOWED
   - CONTRACTOR IS TO RECORD WHERE EXISTING CONDUIT IS UTILIZED ON AS-BUILT DRAWINGS ID TING LENGTH, SIZE AND TYPE.
   - CONTRACTOR IS TO PROVIDE A MATERIAL AND LABOUR CREDIT BASED UPON THE AS-BUILT DRAWINGS WHERE EXISTING CONDUIT IS UTILIZED
   - ALL EXISTING CONDUIT TO BE TESTED AND CERTIFIED BY THE CONTRACTOR AND ENGINEER DURING SITE VISITS THROUGHOUT THE CONSTRUCTION PERIOD AND CONFIRMED TO THE INSTALLATION TO ENSURE CONFORMANCE
   - ALL UNUTILIZED EXISTING FIRE ALARM SYSTEM CONDUITS TO BE REMOVED TO ITS SOURCE.
2. ALL DEVICES, CONDUIT & CABLING DOWN IN BASEMENT CRAWLSPACE/TUNNEL/SERVICE DUCT AREAS ARE TO BE MEA NBERPROOF RATED DEVICES.
3. ALL ISOLATION MODULES/MONITOR CONTROL MODULES ARE AND UPLED TOGETHER IN QUANTITIES GREATER THAN FIVE, A MODULE ENCLOSURE SHALL BE INSTALLED. THE MODULE ENCLOSURE SHALL BE CAPABLE OF HOUSING AM INIMUM OF TEN MODULES. THE ENCLOSURE SHALL BE LOCKABLE AND KEYED THE SAME AS THE ANNUNCIATOR ENCLOSURES.
4. ALL DUCTS TO CONFIRM AIRVELOCITY AT DUCT TYPE SMOKE DETECTOR LOCATIONS SHOWN. IF AIR VELOCITY EXCEEDS 12m/s, A DUCT TYPE DETECTOR SHALL BE INSTALLED TO REVISIT 1.5m² OF CROSSSECTIONAL AREA OF THE DUCT.



B-01 - CENTRAL DOME - ATTIC
FIRE ALARM LAYOUT
SCALE 1:100

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PROJECT NOTE:
THE SASKATCHEWAN PENITENTIARY IS A 'RECOGNIZED' FEDERAL HERITAGE BUILDING, UNDER THE CARE OF CORRECTIONAL SERVICES CANADA. PROTECTION OF THE HERITAGE VALUE OF THE BUILDING, ITS SITE AND ITS CONTENTS IS A PRIMARY CONSIDERATION. ITS ELEMENTS OF SIGNIFICANCE, AND IN ACCORDANCE WITH THE STANDARDS AND GUIDELINES OF HISTORICAL PLACES IN CANADA STANDARDS 1 TO 9 (SECOND EDITION), IS REQUIRED DURING ALL STAGES OF THE SCOPE OF WORK IN THIS PROJECT.

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1	ISSUES FOR ADDENDUM	11/03/2021
0	ISSUES FOR TENDER	03/26/2021
Revision/ Révision	Description/Description	Date/Date

Client/client
CORRECTIONAL SERVICE CANADA

Project title/Titre du projet
SASKATCHEWAN PENITENTIARY
FIRE ALARM UPGRADES 2017

Approved by/Approuvé par
HRJ

Designed by/Conceptif par
TK

Drawn by/Dessiné par
JRL

PWGSC Project Manager/Administrateur de Projets TPSGC

PWGSC, Architectural and Engineering Services Manager/ Responsable Architecture et de Génie-Ingénierie, PWGC

Client/client
CORRECTIONAL SERVICE CANADA

Drawing title/Titre du dessin
PACKAGE 2 - B-BUILDINGS
B-01,B-07,B-13 - ATTIC
FIRE ALARM LAYOUT

Project No./No. de projet	Sheet/ Feuille	Revision no./ Nº de Révision
R.079411.001	E2-5-1 OF XX	1

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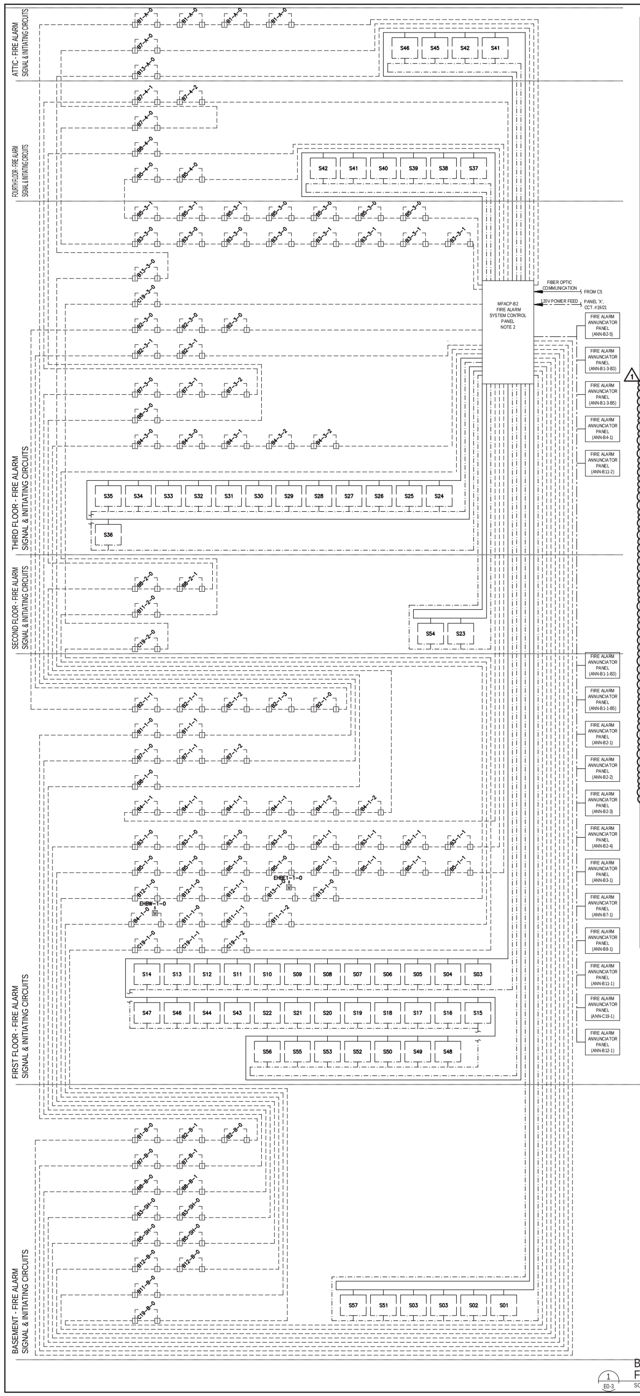

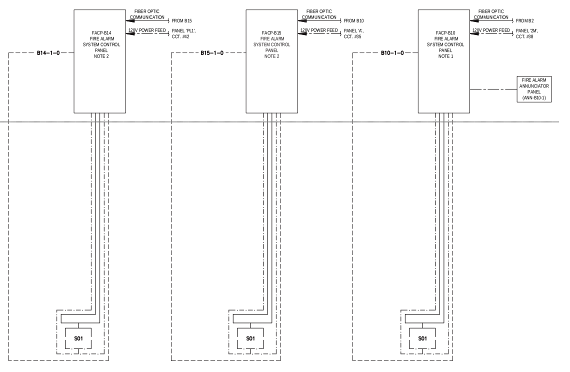

INITIATING DEVICES					
Z#	#	NAME	B2-1-0	<	ISO
B1-B-0	<	ISO	B2-1-0	01	SDET
B1-B-0	01	PULL	B2-1-0	02	SDET
B1-B-0	02	LHD	B2-1-0	03	SDET
B1-B-0	03	LHD	B2-1-0	04	SDET
B1-B-0	04	LHD	B2-1-0	05	SDET
B1-B-0	05	SDET	B2-1-0	06	PULL
B1-B-0	06	SDET	B2-1-0	07	SDET
B1-B-0	07	LHD	B2-1-0	08	SDET
B1-B-0	08	LHD	B2-1-0	09	PULL
B1-B-0	>	ISO	B2-1-0	10	SDET
B1-1-0	<	ISO	B2-1-0	11	SDET
B1-1-0	01	SDET	B2-1-0	12	SDET
B1-1-0	02	SDET	B2-1-0	>	ISO
B1-1-0	03	SDET	B2-1-1	<	ISO
B1-1-0	04	PULL	B2-1-1	01	SDET
B1-1-0	05	PULL	B2-1-1	02	SDET
B1-1-0	06	SDET	B2-1-1	03	SDET
B1-1-0	07	PULL	B2-1-1	04	SDET
B1-1-0	08	PULL	B2-1-1	05	SDET
B1-1-0	09	BEAM	B2-1-1	06	SDET
B1-1-0	10	BEAM	B2-1-1	07	SDET
B1-ST-1	<	ISO	B2-1-1	08	SDET
B1-ST-1	01	SDET	B2-1-1	09	SDET
B1-ST-1	>	ISO	B2-1-1	10	SDET
B1-1-0	>	ISO	B2-1-1	11	SDET
B1-1-1	<	ISO	B2-1-1	12	SDET
B1-1-1	01	SDET	B2-1-1	13	SDET
			B2-1-1	14	SDET

B-BLOCK (DETENTION)
FIRE ALARM RISER DIAGRAM

1
E0-3

SCALE: N.T.S.

LEGEND:

———	VISUAL SIGNAL DEVICE CCT.
—·—·—·	AUDIBLE SIGNAL DEVICE CCT.
– – – –	INITIATING SIGNAL DEVICE CCT.
—– – —–	POWER CCT.
I	ISOLATION MODULE
M	MONITOR MODULE

NOTES:

1. SINGLE STAGE FIRE ALARM SYSTEM.
2. TWO STAGE FIRE ALARM SYSTEM.
3. A REDUCTION IN THE QUANTITY OF ISOLATION MODULES IS PERMISSIBLE WHERE A MANUFACTURER SPECIFIC FIRE ALARM SYSTEM ALLOWS, WHILE ENSURING ISOLATORS ARE PROVIDED IN ACCORDANCE WITH LOCAL GOVERNING CODE REQUIREMENTS AND INSTALLED AS PER SYSTEM MANUFACTURER'S REQUIREMENTS TO ISOLATE/MONITOR ZONES, LOOPS AND GROUPS OF DEVICES WITHIN AND BETWEEN BUILDINGS.

ABBREVIATIONS:

CNTL	- CONTROL MODULE
H/S	- HORN STROBE
ISO	- ISOLATION MODULE
LHD	- LINEAR HEAT DETECTION MONITOR
MON	- MONITOR MODULE
PULL	- PULLSTATION
SDET	- SMOKE DETECTOR
SDET_AIR	- DUCT-TYPE SMOKE DETECTOR IN AIR HANDLING SYSTEM
STR	- STROBE LIGHT

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Revision/ Revision	Description/Description	Date/Date
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1	ISSUED FOR ADDENDUM	11/05/2021
0	ISSUED FOR TENDER	03/26/2021

Client/client

CORRECTIONAL SERVICE CANADA

Project title/Titre du projet

SASKATCHEWAN PENITENTIARY
FIRE ALARM UPGRADES 2017

Approved by/Approuve par
HRJ

Designed by/Concept par
TK

Drawn by/Dessine par
JRL

PWGSC Project Manager/Administrateur de Projets TPSGC

PWGSC, Architectural and Engineering Resources Manager/ *Ressources Architectural et de Directeur d'ingénierie, TPSGC*

Client/client
CORRECTIONAL SERVICE CANADA

Drawing title/Titre du dessin

PACKAGE 0 - SITE PLAN & DIAGRAMS
B-BLOCK (DETENTION)
FIRE ALARM RISER DIAGRAM

Project No./No. du projet	Sheet/ *Feuille*	Revision no./ *La Révision no.*
R.079411.001	E0-3 OF XX	1

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