



**RETURN BIDS TO:**

**RETOURNER LES SOUMISSIONS À:**

Public Works and Government Services Canada  
ATB Place North Tower  
10025 Jasper Ave./10025 ave. Jasper  
5th floor/5e étage  
Edmonton  
Alberta  
T5J 1S6  
Bid Fax: (780) 497-3510

**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**  
Public Works and Government Services Canada  
ATB Place North Tower  
10025 Jasper Ave./10025 ave Jasper  
5th floor/5e étage  
Edmonton  
Alberta  
T5J 1S6

<b>Title - Sujet</b> Waterton Visitor Centre Project	
<b>Solicitation No. - N° de l'invitation</b> 5P427-180003/A	<b>Amendment No. - N° modif.</b> 001
<b>Client Reference No. - N° de référence du client</b> 5P427-180003	<b>Date</b> 2019-02-28
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$PWU-183-11576	
<b>File No. - N° de dossier</b> PWU-8-41260 (183)	<b>CCC No./N° CCC - FMS No./N° VME</b>
<b>Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2019-03-20</b>	<b>Time Zone Fuseau horaire</b> Mountain Standard Time MST
<b>F.O.B. - F.A.B.</b> <b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input type="checkbox"/> <b>Other-Autre:</b> <input type="checkbox"/>	
<b>Address Enquiries to: - Adresser toutes questions à:</b> Tikhonovitch (RPC), Alex	<b>Buyer Id - Id de l'acheteur</b> pwu183
<b>Telephone No. - N° de téléphone</b> (780) 901-7940 ( )	<b>FAX No. - N° de FAX</b> (780) 497-3510
<b>Destination - of Goods, Services, and Construction: Destination - des biens, services et construction:</b>	

**Instructions: See Herein**

**Instructions: Voir aux présentes**

<b>Delivery Required - Livraison exigée</b>	<b>Delivery Offered - Livraison proposée</b>
<b>Vendor/Firm Name and Address Raison sociale et adresse du fournisseur/de l'entrepreneur</b>	
<b>Telephone No. - N° de téléphone Facsimile No. - N° de télécopieur</b>	
<b>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)</b>	
<b>Signature</b>	<b>Date</b>

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**ADDENDUM #1**

The contents of this addendum are as follows:

- 1.0 General Content
  - Bidder's Conference Meeting Notes .....
  - Bidder's Conference Sign in sheet.....
- 2.0 Architectural Related Content.....
- 3.0 Structural Related Content .....
- 4.0 Electrical Related Content .....
- 5.0 Civil Related Content.....
- 6.0 Landscape Related Content .....
- 7.0 Interpretive Related Content.....

**1.0 GENERAL CONTENT**

Refer to Attachment 1 – Meeting Notes from Bidder's Conference (4 pages) and also Bidder's Conference Sign-In Sheet.

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## **2.0 ARCHITECTURAL RELATED CONTENT**

### **2.1 SPECIFICATIONS**

- 2.1.1 Section 04 43 26 Stone Veneer Cladding**  
Delete: Section in its entirety  
Substitute: Specification section 04 43 26 Stone Veneer Cladding, labeled "Addendum 01"
- 2.1.2 Section 08 00 00 Door Schedule**  
Door No. A105-1.  
Delete: Frame type DSD-02a  
Add: Frame type DSD-20a as per attached sketch drawing.
- 2.1.3 Section 08 80 50 Glazing**  
Delete: Section in its entirety  
Add: Specification section 08 80 50 labeled "Addendum 01"

### **2.2 DRAWINGS**

- 2.2.1 Drawing A03-02**  
Construction Assemblies  
Item f01 to read:  
- Concrete slab, see structural  
- 15mil. poly. vapour barrier  
- RSI 2.8 (104-140mm) 275 kPa radon insulation  
- Compacted gravel, see structural  
Item f09 to read:  
- Concrete slab, see structural  
- 15mil. poly. vapour barrier  
- RSI 2.8 (104-140mm) 275 kPa radon insulation  
- Compacted gravel, see structural
- 2.2.2 Drawing A04-03**  
Delete: drawing in its entirety  
Substitute: drawing A04-03 issued 2019.02.19
- 2.2.3 Drawing A07-01**  
Delete drawing in its entirety  
Substitute drawing A07-01 issued 2019/02/15.
- 2.2.4 Drawing A07-02**  
Detail 4:  
Delete: detail in its entirety  
Substitute: sketch detail ASK-04
- 2.2.5 Drawing A07-10**  
Detail 4  
Delete: detail in its entirety.  
Substitute: sketch detail ASK-3. It is intended that membrane flashings shown on sketch detail be typical to the base of all exterior stone veneer
- 2.2.6 Drawing A07-12**  
Detail 6  
Delete: detail in its entirety  
Substitute: detail ASK-10  
Detail 2  
Delete: detail in its entirety  
Substitute: detail ASK-11
- 2.2.7 Drawing A07-13**  
Detail 3  
Delete: detail in its entirety.  
Substitute: sketch details ASK-1 and ASK-2. Details reflect conditions at the top and base of the stud wall.
- 2.2.8 Drawing A08-01**  
Delete: drawing in its entirety.  
Substitute: drawing A08-01 issued 2019.02.19
- 2.2.9 Drawing A08-02**

- Delete: drawing in its entirety.  
Substitute: drawing A08-02 issued 2019.02.19

**2.2.10 Drawing A08-03**  
Detail H13  
Delete: detail in its entirety.  
Substitute: detail ASK-14
- 2.2.11 Drawing A08-05**  
Detail Jamb J21  
Delete: detail in its entirety  
Substitute detail ASK-13
- 2.2.12 Drawing A08-06**  
Detail S15  
Delete: detail in its entirety  
Substitute: detail ASK-15  
Detail S19  
Delete: detail in its entirety.  
Substitute: detail ASK-9
- 2.2.13 Drawing A08-07**  
Detail M4  
Delete: detail in its entirety  
Substitute: detail ASK-5  
Detail M5  
Delete: detail in its entirety  
Substitute: detail ASK-6  
Detail M6  
Delete: detail in its entirety  
Substitute: drawing ASK-7
- 2.2.14 Drawing A08-08**  
Add detail ASK-8
- 2.2.15 Drawing A10-02**  
Detail P  
Delete: detail in its entirety  
Substitute: detail ASK-16
- 2.2.16 Drawing A10-03**  
Delete drawing in its entirety  
Substitute drawing A10-03 issued 2019/02/15
- 2.2.17 Drawing A10-05**  
Detail 10  
Delete: detail in its entirety.  
Substitute: detail ASK-17
- 2.2.18 Drawing A10-6**  
Detail 1  
Delete: Detail in its entirety  
Substitute: detail ASK-12

### **3.0 STUCTURAL RELATED CONTENT**

#### **3.1 DRAWINGS**

**3.1.1 Drawing S1.0 “General notes”**

Under 'Soils Conditions' heading:

Delete: 345 kPa.

Add: **276 kPa**

**3.1.2 Drawing S2.0 “Foundation / Crawlspace Plan”**

Delete: References to Radon Pits in each Building.

**3.1.3 Drawing S2.2 “Mezzanine / Low Roof Framing Plan”**

Expand extent of Vestibule A81 Roof 630mm to the south and 600mm to the north. This includes the associated W360x72 beams on grids 'Ax' and 'At' to keep the overhang distance at 900mm. This does not include the overhang within the building footprint north and east of the concrete walls on grids 12 and Av.

**3.1.4 Drawing S6.0 “Landscape Bridge Plans and Sections”**

Delete: Section 4/S6.0

Add: **SSK-01**

#### **4.0 ELECTRICAL RELATED CONTENT**

##### **4.1 Drawings**

###### **4.1.1 Drawing E3.01 “Main Floor Power and Communication”**

Add: 21mm EMT conduit c/w pull string and box from nearby 120/208V panel to each radon extraction pipe location. Three (3) locations: Crawlspace below Comm A110, Mech/Elec B102, Mech C101. Refer to architectural and mechanical drawings.

## **5.0 CIVIL RELATED CONTENT**

### **5.1 Drawings**

#### **5.1.1 Drawing C100**

Replace with attached drawing within this Addendum 01.

## **6.0 LANDSCAPE RELATED CONTENT**

### **6.1 SPECIFICATIONS**

#### **6.1.1 Section 32 15 40 Crushed Stone Surfacing**

Delete Item 2.1.1.1

Add item: 2.1.1.1 Crushed aggregate pathways: 6mm (1/4") down black granite

Delete Item: 2.1.1.2

Add item: 2.1.1.2. Building apron rock mulch: 19mm down rundle rock

Add item: 2.1.5 Crushed aggregate binder

.1 Organic-Lock Permeable Aggregate binder or approved  
equal

### **6.2 DRAWINGS**

#### **6.2.1 Drawing L100, Materials Plan**

Delete: Drawings: L100, L300, L350, L401, L804, L805, in entirety.

Add: Drawings: **L100, L300, L350, L401, L804 and L805, Revision #6**

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## **7.0 INTERPRETIVE RELATED CONTENT**

### **7.1 SPECIFICATIONS**

#### **7.1.1 Appendix B Exhibitory**

Add: Section 1.2 Submittals, Subsection 1.2.3-f.:

The Contractor shall submit to the Departmental Representative, Engineering document and approvals, where required, for all Exhibit structures, Concrete work and Foundations.

#### **7.1.1 Appendix F Graphic Schedule**

Delete: Graphic 1.0.1-2 Notice Board/Regulatory Info

Delete: Graphic 1.0.1-3 Town Map

Delete: Graphic 1.0.1-4 Park Images

Revise: Dimensions of graphic 1.01-1 Park Map

Revised: Thickness of graphics 1.01-5 Display Board #2

Revised: Thickness of graphics 1.01-6 Display Board #2

Revised: Dimensions of graphics 2.01-3 Welcome Song Interpretation

Revised: Dimensions of graphics 2.01-4 Treaty Song Interpretation

### **7.2 DRAWINGS**

#### **7.2.1 Drawing X1.01, Exhibit 1.01 Exterior Orientation Kiosk**

Delete: Drawings: Graphic 1.0.1-2, 1.0.1-3 and 1.0.1-4

Add: Revised graphic layout and display case design



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## **BIDDER'S CONFERENCE MEETING NOTES**

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***The following is a documentation of the information presented at the Bidder's Conference that occurred for Solicitation 5P427-180003/A***

Meeting Details:

- February 22, 2019
- 1 PM to 2:30 PM (Mountain Time)

Location:

Parks Canada Operations and Resource Conservation Building  
#1 Compound Road in Waterton Lakes, AB.

Bidders Present:

- See attachment in Addendum 01.

Project Team Present:

- FWBA Consultants (Dan Westwood) – Prime Consultant
- Panther Creative (Stacy Ellwein) – Exhibit sub-consultant to FWBA Consultant
- Parks Canada (Andrew Oosting, Jim Lambe, Stephen Suen, Dallas Meidinger, Jennifer Carpenter)

### **1. Project Context**

Jim Lambe (PCA, Project Lead) provided an overall welcome and description of the project within the emphasis on how it fits into the overall Federal Infrastructure Program for Waterton Lakes National Park. The Visitor Centre represents the final investment of an approximate \$100 million investment in Waterton, starting in 2015.

It was noted that this facility contributes to Parks Canada mandate (Protection/ Preservation/ Presentation). It was encouraged for all contractors to visit site where it will be built, get an idea of what it's like to work in Waterton in the winter. It was noted that it is critical to have an early construction start, and aggressive construction program in the summer to meet project timelines.

The Blackfoot Confederacy, especially the Kainai and Piikani, have been involved in the project design with respect to interpretation program

### **2. Project Overview**

Andrew Oosting (PCA, Project Manager) outlined the project, anticipated schedules, and projects occurring within the timeframe of this project.

Project is to construct a new Visitor Centre, administrative building, and washroom building. Scope of project is a New Visitor Centre, interpretive exhibits; indoor and outdoor, and administrative building. All 3 buildings connect under one roof line and it includes visitor and staff parking and landscaping.

The anticipated start date for the construction is May 2019, with an anticipated 18 – 20 month construction schedule with the grand opening planned for spring 2021. During the spring and fall of 2019 and 2020, other Parks Canada project work will be underway within the community. Utility and surface work will be underway at a number of locations, including Waterton Avenue, Alley 2, Peace Park Plaza/Marina area, and the Townsite campground. During these periods, safety



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## **BIDDER'S CONFERENCE MEETING NOTES**

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protocols will be critical as you will be sharing the road with other contractors, and the public. In addition, there a number of contractors also working on leasehold cottage developments.

It was reiterated that contractors are responsible to protect their site. For public safety purposes and Parks Canada will work as much as we can in terms of any notifications or signage within the campground to educate, think of it when you are in your staging.

### **3. Architectural Presentation**

FWBA (Dan Westwood, Principal Architect) provided a synopsis of the project design using Design Development Perspective to review the project design.

Drawings are over a year old, so contract documents would govern if there are changes. Secondary roads are not priority for plowing in the winter, highway is taken care of first. Site design has specific planting and interpretive elements. The plaza has major interpretive elements, specific concrete work, tree planting and some rock out croppings. Large overhangs on buildings to enjoy shelter from sun and rain. Interpretive elements have been part of project right from the very beginning. CLT used as roof decking, stone on building is a stone masonry wall that uses the rain screen principle. Using triple glazing on the building.

It was noted that concrete work that is going to be part of the plaza is not typical concrete work, is very specific and requires specialty trades.

### **4. Interpretative Program Presentation**

Panther Creative (Stacy Ellwein) provided a brief summary of the interpretative design program.

Project design is over two years in the development with up to three years with the exhibits and interpretation program. The project was developed through closely working with Parks Canada and Blackfoot. Waterton is within the crown of the continent, the crown of the continent is a convergence of culture of biology, ecology and environment.

Within the appendices in the contract document it is described that there is an exhibit description that has the messaging and the function of all the exhibits.

It was noted that the Fabrication of the diversity wall is under a separate contract. The General Contractor will require coordination of this piece with the fabricator early in the project execution.

### **5. Park Canada's Expectations**

Jim Lambe (PCA, Project Lead) provided an account of PCA's expectations with regard to this project. There was a general reminder that while the contractor is a separate Contractor, that to remember the entire time the work is progressing that on-site and off-site you are perceived as a PCA employee. Contractors are asked to be very mindful of that perception and hold their conduct appropriately.

A description of the parks expectations were outlined and are listed below.

#### Community

- RCMP/EMS – only from May 1<sup>st</sup> - Sept 30 annually
- Closest hospital (Oct 1– April 30) is Pincher Creek or Cardson



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**BIDDER'S CONFERENCE MEETING NOTES**

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- The contractor will be working in a “fish bowl” with lots of eyes on the project. Think about that reality every day.

Seasons

- May 1<sup>st</sup> – post Sept long weekend – very busy, several thousand visitors per day. Long weekends extremely busy. Accommodation places and regional campgrounds open.
- Oct 1<sup>st</sup> – April 30 Less busy, but Park still open to visitation.
- One hotel & 1 restaurant open.
- Local residents all year. Winter population 50 60 persons

Traffic & Public Safety

- May – Sept 30 Waterton is a busy place. Visitor traffic will slow you down, especially near weekends.
- Schedule concrete pours, material deliveries accordingly.
- Respect traffic laws during this period. The RCMP will enforce speeding in particular.
- Designated construction traffic routes will be strictly enforced.

Wildlife

- Unpredictable –wildlife will easily walk onto your site and jump over fences.
- It is up to the contractor to address and mitigate the issues as per the BIA.

Weather in Waterton

- Very high wind location – sustained winter wind often exceeds 100KM/hr. April and November can be very bad.
- Management of your site critical – Proper storage of material a necessity (tie down material)
- In the Mountains so, weather can change in 5 minutes, from heavy rain to (snow in July)
- This winter is mild –last winter was not –heavy snow all winter (Oct – April)
- Store snow on your site as required.
- Contaminated snow will leave the park at the contractor's expense.
- Snow removal in the townsite is not a high priority during heavy snow event. Access roads are PCA's priority.
- 4x4 complete with winter tires is the norm – the general contractor and sub-contractors should be prepared.

**6. Description of Tender Process**

Ian Taylor (PSPC) provided a description and summarization of the tender process.

All tenders are posted on Buy and Sell website and the instructions are in the tender documents. Bids must be submitted to Edmonton office. There is a 2 envelope process, 1 bid but the 1<sup>st</sup> technical evaluation and supporting documentation and then the price will be in the sealed price envelope. For this solicitation, for revisions, it needs to be submitted because of the 2 envelope process. This is our standard process.

The bid bond needs to be an original and signed by the assurity and the company. PSPC is bound by what is required as is outlined in the ITT documentation.



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## **BIDDER'S CONFERENCE MEETING NOTES**

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All questions must go to PSPC to be considered, not Parks Canada. All official answers will come from PSPC through addendums. You can ask up to 7 days prior to the date of the tender close. Posting of addendums can take up to 5 days.

The contractor sign in sheet will be made available in the addendums.

PSPC encourages to have questions in writing through emails. Bidders are encouraged to be as clear as possible, state what you are looking for and put in any necessary rationale to explain the situation. All procedures described are as outlined in the main general conditions outlined within the contract document.

### **7. Environmental Assessment**

Jennifer Carpenter (PCA, Environmental Officer) indicated that the contractors should read the BIA (an appendix within the specifications) which includes mitigations related to construction. These mitigations are consistent and are used on multiple construction projects in the Park, so is well tested. Contractors were told to remember that the work is taking place in a National Park, not an urban setting.

### **8. Administration**

Andrew Oosting (PCA, Project Manager) outlined some additional administration procedures and project requirements that are listed below:

- Business Licenses are required for all contractors and sub-contractors in the Park. Call the Town site office for requirements of work here.
- **Work can progress on site from 8 AM to 8 PM, 7 days a week, with a low noise restriction from 8 AM to 10 AM on Saturdays and Sundays. All parking, especially on weekends, must take place on the footprint of the block to avoid taking up public spots on the weekend.**

### **9. Other Items**

Indigenous Employment Contacts (equipment and personal availability) are listed below.

- Kainai Blood Tribe
  - Wayna Beebe, Director of Employment and Skills Training  
[Wbeebe@bloodtribe.org](mailto:Wbeebe@bloodtribe.org)  
Office 403-737-8149  
Cell 403-634-6327
  - Employment officer, Jaime Blood  
[jblood@bloodtribe.org](mailto:jblood@bloodtribe.org)
- Piikani First Nation  
[pes.admin@piilanihrd.ca](mailto:pes.admin@piilanihrd.ca)

There will be a special sod turning event/ceremony in early May. The exact date is still to be determined. The General Contractor is to plan for the event. The event will precede construction activity. The General Contractor should allow 1 day in their project schedule for this event.

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ATTENDANCE REGISTER  
PUBLIC WORKS AND GOVERNMENT SERVICES CANADA  
SITE VISIT

PROJECT: WATERTON LAKES NATIONAL PARK VISITOR CENTRE

SOLICITATION NO: 5P427-180003/A

PROJECT NO:

DATE: Feb 22, 2018

PLACE:

COMPANY NAME	SIGNATURE	PRINT NAME	PHONE NO.	FAX NO.	BUS. CARD
Lean Construction	<i>[Signature]</i>		403-250-3818	403-271-2590	
PCL	<i>[Signature]</i>		507-830-3304		
OSKAR CONSTRUCTION	<i>[Signature]</i>		403-763-8041	403-762-3135	
OSKAR CONSTRUCTION	<i>[Signature]</i>		403-763-8041	403-762-3135	
Ornithum	<i>[Signature]</i>		403-795-5391		
Schaffar Plumbing	<i>[Signature]</i>		403-894-0670		
Kreusgard Const.	<i>[Signature]</i>		403 203 2651		
Lebard Bros. Const.	<i>[Signature]</i>		403 582 7635		
Jenex Contracting	<i>[Signature]</i>		403-634-4102		
MISS A. MILLER ACCESSORY	<i>[Signature]</i>		403 302-6971	403-210-1099	
Liquid Empire Plumbing	<i>[Signature]</i>		403 812-8873		
Patker Management	<i>[Signature]</i>		604-681-1298		

CHAIRPERSON: *Andrew Costing* PHONE: \_\_\_\_\_





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**Part 1**      **General**

**1.1**      **REFERENCE STANDARDS**

- .1 All Standards listed below are to be the most current edition at the time of tender regardless of any older dates that may be listed herein unless specifically noted otherwise. Withdrawn or obsolete standards may still apply unless it has been replaced with a different Standard in which case the new Standard shall apply. Report any withdrawn Standards to the Departmental Representative for instructions.
- .2 [ASTM C97/C97M](#) -18: Standard Test Methods for Absorption and Bulk Specific Gravity of Dimension Stone.
- .3 [ASTM C99/C99M](#) -18: Standard Test Method for Modulus of Rupture of Dimension Stone.
- .4 [ASTM C150/C150M](#) -18: Standard Specification for Portland Cement
- .5 [ASTM C847](#) -14a: Standard Specification for Metal Lath
- .6 [ASTM C897](#) -15: Standard Specification for Aggregate for Job-Mixed Portland Cement-Based Plasters.
- .7 [ASTM C926](#) -18b: Standard Specification for Application of Portland Cement-Based Plaster
- .8 [ASTM C932](#) -06(2013): Standard Specification for Surface-Applied Bonding Compounds for Exterior Plastering.
- .9 [ASTM C1063](#) -18b: Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster
- .10 [ASTM C119](#) -16: Standard Terminology Relating to Dimension Stone.
- .11 [ASTM C170/C170M](#) -17: Standard Test Method for Compressive Strength of Dimension Stone.
- .12 [ASTM C568/C568M](#) -15 : Standard Specification for Limestone Dimension Stone.
- .13 [ASTM C616/C616M](#) -15 : Standard Specification for Quartz-Based Dimension Stone.
- .14 [ASTM C880/C880M](#) -18: Standard Test Method for Flexural Strength of Dimension Stone.
- .15 [ASTM C1242](#) -18a: Standard Guide for Selection, Design, and Installation of Dimension Stone Attachment Systems
- .16 [ASTM C1528/C1528M](#) -18: Standard Guide for Selection of Dimension Stone.
- .17 [CAN/CSA A179](#) -14: Mortar and Grout for Unit Masonry.
- .18 [CSA A370](#) -14: Connectors for Masonry.
- .19 [CAN/CSA A371](#) -14: Masonry Construction for Buildings
- .20 [CSA-S16](#) -14: Design of steel structures,
- .21 [CSA S304](#) -14: Design of Masonry Structures.

- .22 [CSA G40.20-13/G40.21](#) -13(R2018):General Requirements for Rolled or Welded Structural Quality Steel/Structural Quality Steel
- .23 [CSA G164](#) -18: Hot Dip Galvanizing of Irregularly Shaped Articles.
- .24 [CSA W59](#) -18: Welded Steel Construction (Metal-Arc Welding).
- .25 [CSA W178.1](#) -14: Certification of Welding Inspection Organizations.
- .26 [CSA W178.2](#) -14: Certification of Welding Inspectors.
- .27 [CSA PLUS 4001](#) -95: ASTM Specifications for Steel: ASTM Standards Referenced in CSA's CAN/CSA-S16.1-94
- .28 [CSA A3000](#) -13: Cementitious materials compendium
- .29 [CSA G40.20-04/G40.21](#) -13(R2018): General Requirements for Rolled or Welded Structural Quality Steel/Structural Quality Steel
- .30 If requested by the Departmental Representative provide a PDF digital copy of any or all of the Standards above as selected by the Departmental Representative at no additional cost.

## 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 ledge stone veneer cladding and include product characteristics, performance criteria, physical size, finish and limitations.
- .3 Shop Drawings:
  - .1 Submit drawings stamped and signed by professional engineer registered or licensed in Alberta, Canada.
  - .2 Indicate sizes and sections of stone, arrangements of joints and bonding, anchoring, dowelling and cramping.
  - .3 Each stone indicated on shop drawings must bear corresponding number marked on its back or bed.
- .4 Samples:
  - .1 Submit sample for each finish product specified, 2 complete sets representing manufacturer's full range of available colours, textures, and patterns.

## 1.3 QUALITY ASSURANCE

- .1 Test Reports: submit certified test reports including sand gradation tests in accordance with CAN/CSA-A179 showing compliance with specified performance characteristics and physical properties, and in accordance with Section 04 05 00 - Common Work Results for Masonry.
- .2 Mock-ups:
  - .1 Construct mock-ups in accordance with Section 01 45 00 - Quality Control.

- .1 Construct mock-up panel of exterior dimension stone veneer construction 1200 x 1800 mm, showing colours and textures, use of reinforcement, ties, through wall flashing, weep holes, jointing, coursing, mortar and quality of work.
- .2 Mock-up used:
  - .1 To judge quality of work, substrate preparation, operation of equipment and material application.
- .3 Perform test cleaning on mock-up to ensure desired result as per article CLEANING.

#### **1.4 DELIVERY, STORAGE AND HANDLING**

- .1 Deliver, store and handle materials in accordance with Section 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 dimension stone veneer cladding from damage.
  - .3 Replace defective or damaged materials with new.

#### **1.5 SUBMITTALS**

- .1 Submit completed and signed LEED Material Information Sheets in accordance with Section 01 61 01.

#### **1.6 WASTE MANAGEMENT**

- .1 Separate and divert waste material from the landfill in accordance with Section 01 74 21.

#### **1.7 SITE CONDITIONS**

- .1 Ambient Conditions:
  - .1 Do not install at temperatures below 12 degrees C or above 38 degrees C.
  - .2 Maintain temperatures at or above 12 degrees C until cementitious materials have fully cured.
  - .3 Do not apply epoxy mortar and grouts at temperatures below 15 degrees C or above 25 degrees C.
- .2 Field Measurements:
  - .1 Make field measurements necessary to ensure the proper fit of all members.

#### **1.8 WARRANTY**

- .1 Warrant the work of this Section against defects in materials and workmanship for a period of fifteen (15) years after the date of substantial performance of the work.

- .2 State in the warranty that, should any defects develop within the warranty period such as spalling, cracking, splitting, deformation due to water freezing, improper materials, staining, discolouration, workmanship or arrangement, such defects, together with any work affected in correcting such defect, upon written notice that the defect exists, shall be made good at the convenience of and without expense to the Departmental Representative.
- .3 Warrant that sealants, mortars and grouts will be free from deterioration from sunlight, weather and oxidation, and will be free from permanent deformation under load. Warrant that the sealants, mortars and grouts are compatible with the stone and will not stain or contribute to staining the stone.
- .4 Include in the remedy, all labour, materials, equipment and services required to make good defective areas of the work, and in the case of factory fabricated components, to supply and install new components.
- .5 Include in the warranty, making good other building parts and finishes and the Departmental Representative's property or adjacent property damaged or disturbed in the course of remedying defects.
- .6 In the case of work performed by Subcontractors and where warranties are specifically requested, secure such additional written warranties and deliver same to the Departmental Representative.

## **Part 2 Products**

### **2.1 DESIGN CRITERIA**

- .1 General: design, fabricate and install stonework to withstand normal loads from wind, gravity, movement of building structure, seismic force and thermally induced movement, as well as to resist deterioration under conditions of normal use including exposure to weather, without failure.
- .2 Retain services of cladding engineer, as described below, to design the cladding support and retention system. Cladding engineer will prepare engineering calculations for justification of principal stonework, units, fasteners, and anchorage components for compliance with performance criteria.
- .3 Engineering Calculations: base calculations on design loads, material properties, and applicable safety factors, in compliance with applicable codes and Building Standards. Include following information as part of calculations:
  - .1 Stone loads and allowable loads,
  - .2 Stone thicknesses,
  - .3 Support and anchorage loads, stresses, safety factors, design loads, and allowable loads,
  - .4 Support and anchorage sizes.
- .4 Design connections and attachments for stone to CAN/CSA-A370.

- .5 Design, detail and fabricate connections to provide allowance for fabrication tolerances, erection tolerances and structural deflections. Refer to CAN/CSA-A371 and ASTM C1242.
- .6 Control of Corrosion: prevent galvanic and other forms of corrosion by insulating metals and other materials from direct contact with non-compatible materials, or by suitable coating.

## 2.2 MORTAR MATERIALS

- .1 Portland Cement: to CAN/CSA-A3000, Type GU; colour as selected by Departmental Representative.
- .2 Hydrated Lime: to ASTM C207, Type SA.
- .3 Mortar Aggregate: to CAN/CSA-A179, standard masonry type; clean, dry, protected against dampness, freezing, and foreign matter.
- .4 Colour Pigment: natural oxide pigment, colour as selected by Departmental Representative.
- .5 Water: potable, clean and free of deleterious amounts of acids, alkalies or organic materials.

## 2.3 STONE MATERIALS

- .1 Natural Argillite Stone Veneer: to ASTM C1528/C1528M; Argillite: Fine-grained sedimentary, precambrian metasedimentary rock, indurated with clay particles and coloured blend of chocolate brown, tans, and blue/gray tones.
  - .1 Density: 2654 kg/m<sup>3</sup>(166 lbs/ft<sup>3</sup>).
  - .2 Hardness: 7 Mohs minimum.
  - .3 Average Moisture Absorption: To ASTM C970, 0.36 %.
  - .4 Freeze-Thaw: To USACE –CRD-C 144, 0.01 %.
  - .5 Compressive Strength: To ASTM C170/C170M, 146.5 MPa (21,000 psi).
  - .6 Sizes: Random 50mm to 180mm heights, 50mm to 150mm bed depths and 150mm to 460mm lengths.
  - .7 Canyon Creek Ledge Stone as supplied by Glacier Stone Supply (406)755-5718.

## 2.4 REINFORCEMENT AND ANCHORAGES

- .1 Anchors, Cramps, Dowels: stainless steel, Type 316.
- .2 Wall Ties: to CAN/CSA-A370, corrugated strap type, stainless steel.
- .3 Fasteners: stainless steel.
- .4 Shop Finishing:
  - .1 Hot Dip Galvanizing: to ASTM A153/A153M, Class B2.
  - .2 Stainless Steel: to ASTM A508/A508M, Type 316.

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## 2.5 FLASHING

- .1 Flexible Flashing: air/vapour barrier sheet membrane, as specified under Section 07 26 00.
- .2 Sheet Metal: refer to Section 07 62 00.

## 2.6 ACCESSORIES

- .1 Setting Buttons: resilient plastic type; non-staining; sized to suit joint thicknesses and bed depths without intruding into required depths of joint sealants or causing third-side adhesion between sealant and setting button.
- .2 Weep Hole Vents: purpose made plastic louvered vents, insect proof.
- .3 Sealant and Backer Rod: in accordance with Section 07 92 00 - Joint Sealants.

## 2.7 MORTAR MIXES

- .1 Dimension Stone Mortar: to CAN/CSA-A179, Proportion specification, 1 part Portland cement, 1 part hydrated lime, 6 parts mortar aggregate by volume for both cementitious materials and aggregate; integral colour selected by Departmental Representative.

## 2.8 MORTAR MIXING

- .1 Thoroughly mix mortar ingredients in proper quantities needed for immediate use to requirements of CAN/CSA-A179.
- .2 Add mortar colour and admixtures to requirements of manufacturer's instructions.
- .3 Provide uniformity of mix and colouration.
- .4 Start masonry work after mortar is tested and approved by Departmental Representative.
- .5 Take representative samples for testing consistency of strength and colour according to CAN/CSA-A179.
- .6 Use mortar within 2 hours after mixing at temperatures of 26 degrees C, or 2-1/2 hours at temperatures under 10 degrees C.

## 2.9 FABRICATION

- .1 Cut stone for copings, cornices, caps, and sills, to lay on its natural quarry bed.
- .2 Cut-in reglets for flashings where indicated.
- .3 Execute profiled work from full size details and templates.
  - .1 Make exposed arises in true alignment and ease slightly to prevent snipping.
- .4 Back-check stone contacting structural members as indicated.
  - .1 Allow minimum of 25 mm clearance between back of stone and steel and concrete structural members.
  - .2 Shape beds of stone resting on structural work to fit supports.
- .5 Cut stones for anchors, cramps, dowels and support systems.
  - .1 Provide Lewis pin and clamp holes in pieces which cannot be manually lifted.

- .2 Do not cut holes in exposed surfaces.
- .6 Finish exposed faces and edges of stones to comply with requirements indicated for finish and to match approved samples and field-constructed mock-up.

## **2.10 JOINT SEALANTS AND BACKER RODS**

- .1 Non-staining type, as specified in Section 07 92 00 - Joint Sealants.

## **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 ledge stone veneer cladding 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 and after receipt of written approval to proceed from Departmental Representative.

### **3.2 PREPARATION**

- .1 Waterproof exterior slabs on back prior to setting.
- .2 Clean stone surfaces by washing with stiff fibre brush and water.

### **3.3 INSTALLATION/TOLERANCES**

- .1 Variation from Plumb: plus or minus 6 mm overall average per 3 metres maximum.
- .2 Variation from Linear Building Line: plus or minus 13 mm per 6 metres maximum.
- .3 Variation in Cross-Sectional Dimensions: plus 13 mm or minus 6 mm.

### **3.4 SETTING STONE - GENERAL**

- .1 Construction in accordance with CAN/CSA-A371.
- .2 Reinforcement and anchorage in accordance with CSA-A370 and the reviewed shop drawings.
- .3 Set stones plumb, true, and level, to requirements as indicated and approved shop drawings.
- .4 Align stone edges and faces according to established relationships and indicated tolerances.
- .5 Provide movement joints of widths and at locations indicated. Ensure movement joints are kept free of mortar.

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### 3.5 SETTING STONE WITH MORTAR

- .1 Set stones in full bed of mortar with vertical joints buttered and placed full, except where otherwise specified.
  - .1 Completely fill anchor, dowel and lifting holes.
- .2 Lay stone veneer in random patterns as indicated on the Drawings.
  - .1 Connect stone veneer to structural back-up with approved wall ties, spaced not more than 405 mm horizontally and 610 mm vertically.
- .3 Make joints 10 mm thick.
- .4 Embed only ends of lugged sills and steps in mortar.
  - .1 Leave balance of joint open for final pointing.
- .5 Place setting buttons under stones to maintain joint thickness.
  - .1 Set heavy stones and projecting courses after mortar in courses below has hardened sufficiently to support weight.
- .6 Brace and anchor projecting stones until wall above is set.
- .7 Use soaked softwood wedges to support stone in proper alignment until mortar has set.
  - .1 Remove wedges when dry and without breaking them off, fill voids with pointing mortar.
- .8 Install through-wall flashing membranes at continuous shelf angles, steel lintels, ledges and similar obstructions to the downward flow of water.
- .9 Install weep hole vents at 600 mm on centre horizontally above through-wall flashing and above shelf angles, at bottom of walls.
- .10 Tool joints after initial set has occurred.
- .11 Rake out joints to 25 mm depth and make ready for pointing with pointing mortar.
  - .1 Sponge stone face along joints and remove droppings and splashed mortar immediately.
- .12 Set cornices, platforms, copings, projecting belt courses, with unfilled vertical joints.
- .13 Grouting: pack ends of exposed joints with plastic foam joint filler and after wetting ends of stone, fill joint with grouting mortar to within 19 mm of top.
  - .1 Grout vertical joints of copings, projecting belt courses, cornices, platforms.
  - .2 After grout has set, remove packing for pointing.
- .14 Pointing: remove dirt and loose mortar from joints by using pressurized airstream.
  - .1 Wet joints for mortar pointing. Dry joints for sealant pointing.
  - .2 Point joints with pointing mortar in 3 stages. Rub smooth with appropriate tool to slightly concave joint.
  - .3 Point sill and coping joints with sealant. Do work in accordance with Section 07 92 00 - Joint Sealants.

### **3.6 CLEANING**

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
  - .1 Leave Work area clean at end of each day.
- .2 Clean stone as work progresses.
  - .1 Allow mortar droppings on stone to partially dry then remove by means of brushing with a stiff fibre brush.
- .3 Post-Construction: clean mock-up panel as directed below and leave for one week. If no harmful effects appear and after mortar has set and cured, clean masonry as follows:
  - .1 Protect windows, sills, doors, trim and other work from damage.
  - .2 Remove large particles with stiff fibre brushes without damaging surface. Saturate masonry with clean water and flush off loose mortar and dirt.
  - .3 Scrub with solution of 25 ml trisodium phosphate and 25 ml household detergent dissolved in 1 litre of clean water using stiff fibre brushes, then clean off immediately with clean water using hose.
  - .4 Repeat cleaning process as often as necessary to remove mortar and other stains.
- .4 Use alternative cleaning solutions and methods for difficult to clean stone only after consultation with masonry unit manufacturer.
- .5 Waste Management: separate waste materials for recycling and reuse in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
  - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

### **3.7 PROTECTION**

- .1 Protect stone from damage resulting from subsequent construction operations.
- .2 Use protection materials and methods which will not stain or damage stone.
- .3 Remove protection materials upon Substantial Performance of Work, or when risk of damage is no longer present.

**END OF SECTION**

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**Part 1            General**

**1.1                REFERENCE STANDARDS**

- .1 All Standards listed below are to be the most current edition at the time of tender regardless of any older dates that may be listed herein unless specifically noted otherwise. Withdrawn or obsolete standards may still apply unless it has been replaced with a different Standard in which case the new Standard shall apply. Report any withdrawn Standards to the Departmental Representative for instructions.
- .2 [UL 9](#): Fire Tests of Window Assemblies
- .3 [UL 10B](#): Fire Tests of Door Assemblies
- .4 [ULC 104](#): Standard Method for Fire Tests of Door Assemblies (CAN/ULC S104-15)
- .5 [ULC 106](#): Standard Method for Fire Tests of Window and Glass Block Assemblies (CAN/ULC S106-15)
- .6 [ULC ORD-C263.1](#) -99: Sprinkler-Protected Windows Systems
- .7 [ANSI Z97.1](#) -2015: Safety Glazing Materials Used in Buildings - Safety Performance Specifications and Methods of Test
- .8 [CAN/CGSB-12.1](#) -2017: Safety Glazing.
- .9 [CAN/CGSB-12.3](#) -M91(R2017): Flat, Clear Float Glass.
- .10 [CAN/CGSB-12.4](#) -M91(R2017): Glass Heat Absorbing.
- .11 [CAN/CGSB-12.6](#) -M91 (Withdrawn): Transparent (One-Way) Mirrors.
- .12 [CAN/CGSB-12.8](#) -2017: Insulating Glass Units.
- .13 [CAN/CGSB-12.9](#) -M91 (Withdrawn): Spandrel Glass.
- .14 [CAN/CGSB-12.10](#) -M76 (Withdrawn): Glass, Light and Heat Reflecting.
- .15 [CAN/CGSB-12.11](#) -M90 (Withdrawn): Wired Safety Glass.
- .16 [CAN/CGSB-12.20](#) -M89 (Withdrawn): Structural Design of Glass for Buildings.
- .17 [CSA A440](#) -17: NAFS - North American Fenestration Standard/Specification for Windows, Doors, and Skylights
- .18 [ASTM C542](#) -05(2017): Standard Specification for Lock-Strip Gaskets
- .19 [ASTM C864](#) -05(2015): Standard Specification for Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers
- .20 [ASTM C920](#) -18: Standard Specification for Elastomeric Joint Sealants
- .21 [ASTM C1036](#) -16: Standard Specification for Flat Glass.
- .22 [ASTM C1048](#) -12e1: Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass
- .23 [ASTM C1172](#) -14: Standard Specification for Laminated Architectural Flat Glass

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- .24 [ASTM C1265](#) -17: Standard Test Method for Determining the Tensile Properties of an Insulating Glass Edge Seal for Structural Glazing Applications
  - .25 [ASTM C1279](#) -13: Standard Test Method for Non-Destructive Photoelastic Measurement of Edge and Surface Stresses in Annealed, Heat-Strengthened, and Fully Tempered Flat Glass.
  - .26 [ASTM C1503](#) -08(2013): Standard Specification for Silvered Flat Glass Mirror .
  - .27 [ASTM D412](#) -16: Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers - Tension
  - .28 [ASTM D1149](#) -16: Standard Test Methods for Rubber Deterioration-Cracking in an Ozone Controlled Environment
  - .29 [ASTM D3359](#) -17: Standard Test Methods for Rating Adhesion by Tape Test
  - .30 [ASTM E84](#) -18a: Standard Test Method for Surface Burning Characteristics of Building Materials
  - .31 [ASTM E283](#) -04(2012): Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen
  - .32 [ASTM E330/E330M](#) -14: Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference
  - .33 [ASTM E546](#) -14: Standard Test Method for Frost/Dew Point of Sealed Insulating Glass Units
  - .34 [ASTM E998](#) -12: Standard Test Method for Structural Performance of Glass in Windows, Curtain Walls, and Doors Under the Influence of Uniform Static Loads by Nondestructive Method.
  - .35 [ASTM E1300](#) -16: Standard Practice for Determining Load Resistance of Glass in Buildings.
  - .36 [ASTM E2188](#) -10: Standard Test Method for Insulating Glass Unit Performance.
  - .37 [ASTM E2190](#) -10: Standard Specification for Insulating Glass Unit Performance and Evaluation.
  - .38 [ASTM E2353](#) -16: Standard Test Methods for Performance of Glass in Permanent Glass Railing Systems, Guards, and Balustrades
  - .39 [ASTM E2358](#) -17: Standard Specification for the Performance of Glass in Permanent Glass Railing Systems, Guards, and Balustrades
  - .40 [ASTM E2431](#) -12: Standard Practice for Determining the Resistance of Single Glazed Annealed Architectural Flat Glass to Thermal Loadings.
  - .41 GANA (Glass Association of North America)
  - .42 [GANA Glazing Manual](#) (50th Anniversary Edition)
  - .43 [GANA Guide to Architectural Glass](#) (2010 Edition)
  - .44 [GANA Laminated Glazing Reference Manual](#) (2009 Edition)
  - .45 [GANA/PGC International Protective Glazing Manual](#) (2010 Edition)

- .46 [GANA Sealant Manual](#) (2008 Edition)
- .47 [GANA Fully Tempered Heavy Glass Door and Entrance System Design Guide](#) (1999 Edition)
- .48 IGMA (Insulating Glass Manufacturers Alliance).
- .49 [IGMAC \(Insulating Glass Manufacturers Association of Canada\) - Certification Program for the CGSB 12.8 Standard.](#)
- .50 [Canadian Glass Association \(CGA\) - Glazing Specification Manual 2010 National Version](#)
- .51 Glass & Architectural Metals Association (GAMA)
- .52 If requested by the Departmental Representative provide a PDF digital copy of any or all of the Standards above as selected by the Departmental Representative at no additional cost.

## 1.2 ADMINISTRATIVE REQUIREMENTS

- .1 Pre-Installation Meetings:
  - .1 Convene pre-installation meeting 1 week prior to beginning work of this Section, with Contractor's Representative and Departmental Representative in accordance with Section 01 31 19 - Project Meetings to:
    - .1 Verify project requirements.
    - .2 Review installation and substrate conditions.
    - .3 Co-ordination with other building subtrades.
    - .4 Review manufacturer's written installation instructions and warranty requirements.
  - .2 Arrange for site visit with Departmental Representative prior to start of Work to examine existing site conditions adjacent to demolition Work.
  - .3 Hold project meetings every week.
  - .4 Ensure key personnel, subcontractor representatives, site supervisor, and project manager attend.
  - .5 Departmental Representative will submit written notification of change to meeting schedule established upon contract award 24 hours prior to scheduled meeting.

## 1.3 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 glass, sealants, and glazing accessories and include product characteristics, performance criteria, physical size, finish and limitations.
- .3 Shop Drawings:
  - .1 Submit drawings stamped and signed by professional engineer registered or licensed in Alberta, Canada.

- .4 Samples:
  - .1 Submit for review and acceptance of each unit.
  - .2 Samples will be returned for inclusion into work.
  - .3 Submit duplicate mm size samples of and sealant material.
- .5 Certificates: submit product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.
- .6 Test Reports: certified test reports showing compliance with specified performance characteristics and physical properties.
- .7 Submit completed and signed LEED Material Information Sheets in accordance with Section 01 61 01.

#### **1.4 WASTE MANAGEMENT**

- .1 Separate and divert waste material from the landfill in accordance with Section 01 74 21.

#### **1.5 CLOSEOUT SUBMITTALS**

- .1 Submit in accordance with Section 01 78 00 - Closeout Submittals.
- .2 Operation and Maintenance Data: submit operation and maintenance data for glazing for incorporation into manual.

#### **1.6 QUALITY ASSURANCE**

- .1 Certificates: product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.
- .2 Mock-ups:
  - .1 Construct mock-ups in accordance with Section 01 45 00 - Quality Control.
  - .2 Construct mock-up to include glass and perimeter air barrier.
  - .3 Mock-up will be used:
    - .1 To judge quality of work, substrate preparation, operation of equipment and material application.
    - .2 For testing to determine compliance with performance requirements.
  - .4 Locate where directed.
  - .5 Allow 24 hours for inspection of mock-up before proceeding with work.
  - .6 When accepted, mock-up will demonstrate minimum standard of quality required for this work. Approved mock-up may remain as part of finished work.

#### **1.7 DELIVERY, STORAGE AND HANDLING**

- .1 Deliver, store and handle materials in accordance with Section 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 accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
  - .2 Store and protect glazing and frames from nicks, scratches, and blemishes.
  - .3 Protect prefinished aluminum surfaces with wrapping strippable coating.
  - .4 Replace defective or damaged materials with new.

## 1.8 AMBIENT CONDITIONS

- .1 Ambient Requirements:
  - .1 Install glazing when ambient temperature is 10 degrees C minimum. Maintain ventilated environment for 24 hours after application.
  - .2 Maintain minimum ambient temperature before, during and 24 hours after installation of glazing compounds.

## Part 2 Products

### 2.1 MATERIALS

- .1 Design Criteria:
  - .1 Ensure continuity of building enclosure vapour and air barrier using glass and glazing materials as follow:
    - .1 Utilize inner light of multiple light sealed units for continuity of air and vapour seal.
  - .2 Size glass to withstand wind loads, dead loads and positive and negative live loads to ASTM E330 acting normal to plane of glass to design pressure of in accordance with the National Building Code.
  - .3 Limit glass deflection to flexural limit of glass with full recovery of glazing materials.
- .2 Flat Glass:
  - .1 Float glass: to CAN/CGSB-12.3, glazing quality, minimum 6 mm thick.
  - .2 Sheet glass: to CAN/CGSB-12.2, AA-special selected, minimum 6 mm thick.
  - .3 Safety glass: to CAN/CGSB-12.1, transparent, minimum 6 mm thick.
    - .1 Type 2-tempered.
    - .2 Class B-float.
    - .3 Category 11.
    - .4 Polished Edge treatment.
  - .4 Heat absorbing glass: to CAN/CGSB-12.4, minimum 6 mm thick.
    - .1 Type 2-insulating glass unit.
    - .2 Class B-heat strengthened and C-tempered where required by Code.
    - .3 Style 1-high light transmittance.
    - .4 Grade B-medium shading co-efficient.

- .5 Tint as selected by the Departmental Representative.
- .5 Silvered mirror glass: 5 mm thick.
  - .1 Type 1A-float glass for normal use.
- .6 Spandrel glass: to CAN/CGSB-12.9, colour as selected by the Departmental Representative, minimum 6 mm thick.
  - .1 Type 2-heat strengthened.
  - .2 Class A-float.
  - .3 Style 1-ceramic coated.
  - .4 Form M-monolithic.
- .7 Wired glass: to CAN/CGSB-12.11, 6 mm thick.
  - .1 Type 1-polished both sides (transparent).
  - .2 Wire mesh styles 3-square.
- .8 Low emissivity (LOW E) glass, minimum 6 mm thick.
  - .1 Metallic coating: hard, pyrolitic.
  - .2 Light transmittance: 40%.
  - .3 Shading co-efficient: 0.53.
  - .4 U-Value: winter 0.29 maximum.
- .3 Insulating Glass Units:
  - .1 Insulating glass units: to CAN/CGSB-12.8, triple unit, 46 mm overall thickness.
    - .1 Glass: float glass to CAN/CGSB-12.3 inner lite, heat strengthened CAN/CGSB-12.10 and CAN/CGSB-12.4 to outer lite.
    - .2 Glass thickness: minimum 6 mm each light.
    - .3 Inter-cavity space thickness: with low conductivity spacers 12 mm between inner and middle lights 12 mm between middle and outer lights.
    - .4 Glass coating: surface number 2, low "E" colour as selected by the Departmental Representative.
    - .5 Inert gas fill: argon.
    - .6 Minimum performance values:
      - .1 VLT: 57%
      - .2 External Reflectance: 16%
      - .3 SHGC: 0.25
      - .4 Winter u-value: 0.18 Btu/Fhr ft<sup>2</sup>

Sealant: in accordance with Section 07 92 00 - Joint Sealants.

- .5 Insulating Glass Units:
  - .1 Insulating glass units: to CAN/CGSB-12.8, dual unit, 25 mm overall thickness.
    - .1 Glass: tempered to CAN/CGSB-12.1 both lites.
    - .2 Glass thickness: minimum 6 mm each light.
    - .3 Inter-cavity space thickness: with low conductivity spacers 12 mm between inner and middle lights 12 mm between middle and outer lights.

- .4 Glass coating: surface number 2, low "E" colour as selected by the Departmental Representative.
- .5 Inert gas fill: argon.
- .6 Minimum performance values:
  - .1 VLT: 57%
  - .2 External Reflectance: 16%
  - .3 SHGC: 0.25
  - .4 Winter u-value: 0.24 Btu/Fhr ft<sup>2</sup>
- .6 Sealant: in accordance with Section 07 92 00 - Joint Sealants.

## 2.2 ACCESSORIES

- .1 Setting blocks: neoprene EPDM, 80-90 Shore A durometer hardness to ASTM D2240, to suit glazing method, glass light weight and area length of 25 mm for each square metre of glazing, minimum 100 mm x width of glazing rabbet space minus 1.5 mm x height.
- .2 Spacer shims: neoprene, 50-60 Shore A durometer hardness to ASTM D2240, 75 mm long x one half height of glazing stop x thickness to suit application. Self adhesive on one face.
- .3 Glazing tape:
  - .1 Preformed butyl compound with integral resilient tube spacing device, 10-15 Shore A durometer hardness to ASTM D2240; coiled on release paper; size to suit; black colour.
- .4 Glazing splines: resilient polyvinyl chloride, extruded shape to suit glazing channel retaining slot, colour as selected by Departmental Representative.
- .5 Glazing clips: manufacturer's standard type.
- .6 Lock-strip gaskets: to ASTM C542.
- .7 Decorative Films: types as indicated on the Finish Schedule.
- .8 Mirror attachment accessories:
  - .1 Stainless steel clips.
  - .2 Plastic rosettes.
  - .3 Mirror adhesive, chemically compatible with mirror coating and wall substrate.

## Part 3 Execution

### 3.1 EXAMINATION

- .1 Verification of Conditions: verify conditions of substrates previously installed under other Sections or Contracts are acceptable for glazing installation in accordance with manufacturer's written instructions.
  - .1 Verify that openings for glazing are correctly sized and within tolerance.

- .2 Verify that surfaces of glazing channels or recesses are clean, free of obstructions, and ready to receive glazing.
- .3 Visually inspect substrate in presence of Departmental Representative.
- .4 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
- .5 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative.

### **3.2 PREPARATION**

- .1 Clean contact surfaces with solvent and wipe dry.
- .2 Seal porous glazing channels or recesses with substrate compatible primer or sealer.
- .3 Prime surfaces scheduled to receive sealant.

### **3.3 INSTALLATION: EXTERIOR WET/DRY METHOD (PREFORMED TAPE AND SEALANT)**

- .1 Perform work in accordance with GANA Glazing Manual and GANA Laminated Glazing Reference Manual for glazing installation methods.
- .2 Cut glazing tape to length and set against permanent stops, 6 mm below sight line. Seal corners by butting tape and dabbing with sealant.
- .3 Apply heel bead of sealant along intersection of permanent stop with frame ensuring full perimeter seal between glass and frame to complete continuity of air and vapour seal.
- .4 Place setting blocks at 1/4 points, with edge block maximum 150 mm from corners.
- .5 Rest glazing on setting blocks and push against tape and heel head of sealant with sufficient pressure to attain full contact at perimeter of light or glass unit.
- .6 Install removable stops with spacer strips inserted between glazing and applied stops 6 mm below sight line. Place glazing tape on glazing light or unit with tape flush with 16 mm below sight line.
- .7 Fill gap between glazing and stop with sealant to depth equal to bite of frame on glazing, maximum 9 mm below sight line.
- .8 Apply cap head of sealant along void between stop and glazing, to uniform line, flush with sight line. Tool or wipe sealant surface smooth.

### **3.4 INSTALLATION: INTERIOR - DRY METHOD (TAPE AND TAPE)**

- .1 Perform work in accordance with GANA Glazing Manual and GANA Laminated Glazing Reference Manual for glazing installation methods.
- .2 Cut glazing tape to length and set against permanent stops, projecting 1.6 mm above sight line.
- .3 Place setting blocks at 1/4 points, with edge block maximum 150 mm from corners.
- .4 Rest glazing on setting blocks and push against tape for full contact at perimeter of light or unit.

- .5 Place glazing tape on free perimeter of glazing in same manner described.
- .6 Install removable stop without displacement of tape. Exert pressure on tape for full continuous contact.
- .7 Knife trim protruding tape.

### **3.5 INSTALLATION: MIRRORS**

- .1 Set mirrors with adhesive, applied in accordance with adhesive manufacturer's instructions.
- .2 Set mirrors with clips. Anchor rigidly to wall construction.
- .3 Set in frame.
- .4 Place plumb and level.

### **3.6 INSTALLATION: DECORATIVE FILM**

- .1 Install plastic film with adhesive, applied in accordance with film manufacturer's instructions.
- .2 Place without air bubbles, creases or visible distortion.
- .3 Fit tight to glass perimeter with razor cut edge.

### **3.7 CLEANING**

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
  - .1 Leave Work area clean at end of each day.
    - .1 Remove traces of primer, caulking.
    - .2 Remove glazing materials from finish surfaces.
    - .3 Remove labels.
    - .4 Clean glass and mirrors using approved non-abrasive cleaner in accordance with manufacturer's instructions.
  - .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
- .2 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition 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 After installation, mark each light with an "X" by using removable plastic tape or paste.
  - .1 Do not mark heat absorbing or reflective glass units.
- .3 Repair damage to adjacent materials caused by glazing installation.

---

**END OF SECTION**

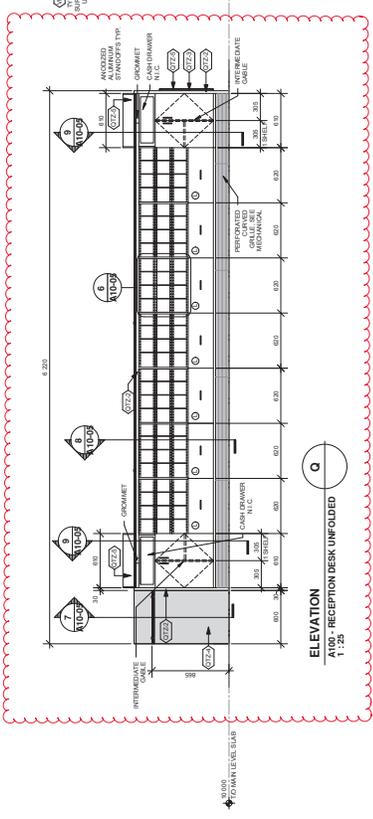
ADDENDUM 01



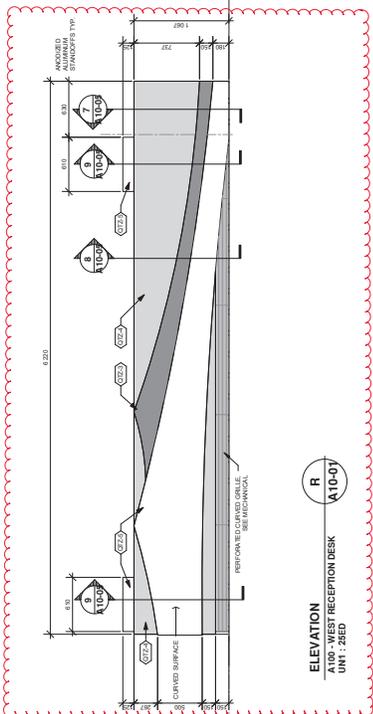








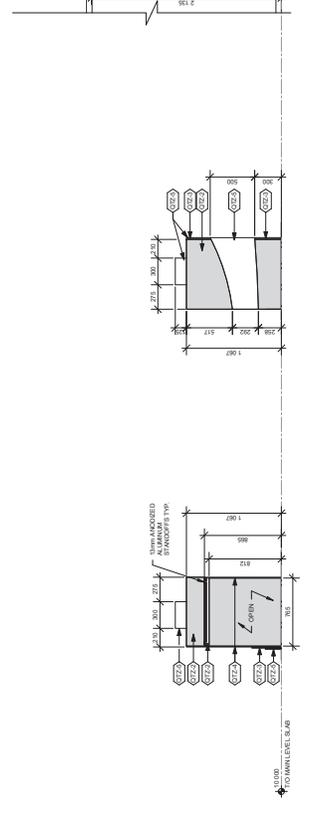
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**Q-Q** - RECEPTION DESK UNFOLDED  
 1:25



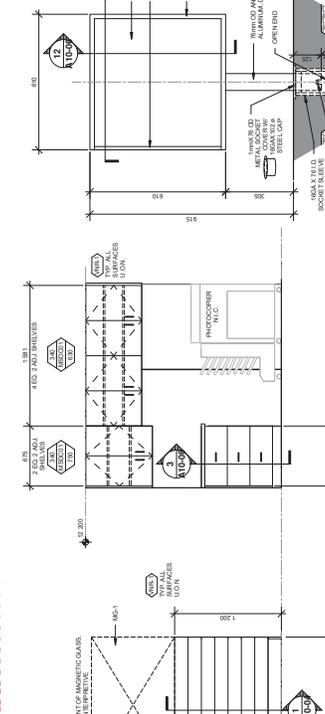
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**R-R** - RECEPTION DESK  
 UNIT: 2:50

**NOTES**

1. RESEECTION DRAWING IN ACCORDANCE WITH THE REVISIONS DOCUMENT FOR THE PROJECT.
2. COORDINATE WITH ALL OTHER DRAWINGS AND REVISIONS.
3. CONSULT WITH ARCHITECT FOR MATERIALS AND FINISHES.
4. CONSULT WITH ARCHITECT FOR MATERIALS AND FINISHES.
5. ALL APPLICABLE ARE TO BE PROVIDED AND INSTALLED UNDER THIS CONTRACT.



**ELEVATION**  
**T-T** - RECEPTION BENCH  
 1:25



**ELEVATION**  
**U-U** - RECEPTION BENCH  
 1:25

**REVISIONS**

No.	By	Date	Remarks
1	CS	2010/07/14	ISSUED FOR PER
2	CS	2010/07/14	ISSUED FOR PER
3	CS	2010/07/14	ISSUED FOR PER
4	CS	2010/07/14	ISSUED FOR PER
5	CS	2010/07/14	ISSUED FOR PER

**FWBA ARCHITECTS**  
 LITTONVILLE - ALBERTA - CANADA  
 TEL: 403.277.1111

**CONSULTANTS**

**CLIENT**  
 WILMP VISITOR CENTRE  
 WATERTON LAKES, ALBERTA

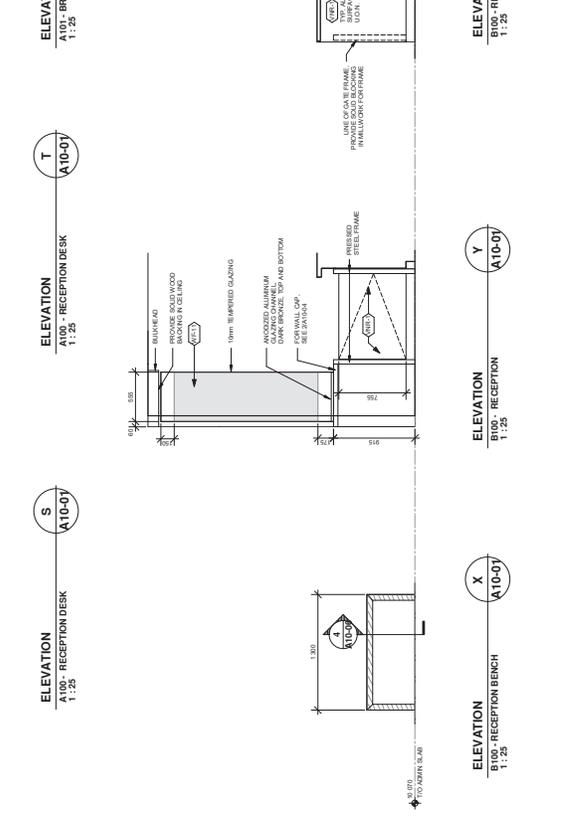
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 WILMP VISITOR CENTRE  
 WATERTON LAKES, ALBERTA

**DATE**  
 2010/07/14

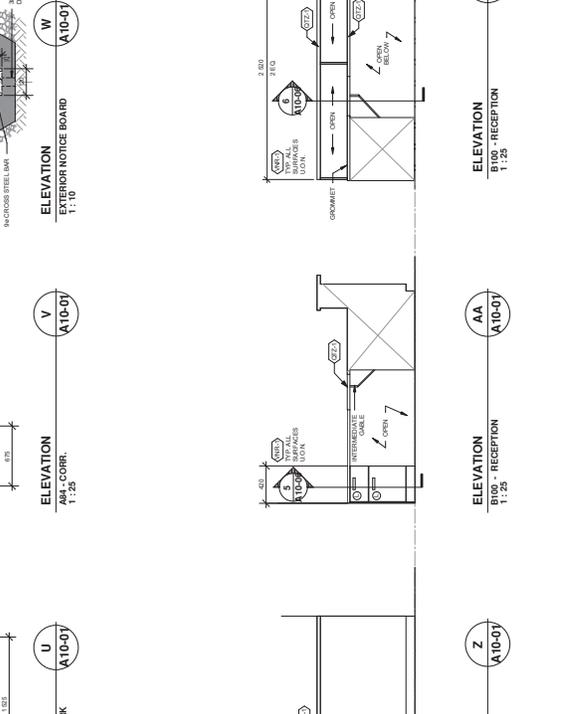
**SCALE**  
 As indicated

**PROJECT NO.**  
 1004

**DRAWING NO.**  
**A10-03**



**ELEVATION**  
**X-X** - RECEPTION BENCH  
 1:25



**ELEVATION**  
**Y-Y** - RECEPTION  
 1:25

**FWBA ARCHITECTS**  
 LITTONVILLE - ALBERTA - CANADA  
 TEL: 403.277.1111

**CONSULTANTS**

**CLIENT**  
 WILMP VISITOR CENTRE  
 WATERTON LAKES, ALBERTA

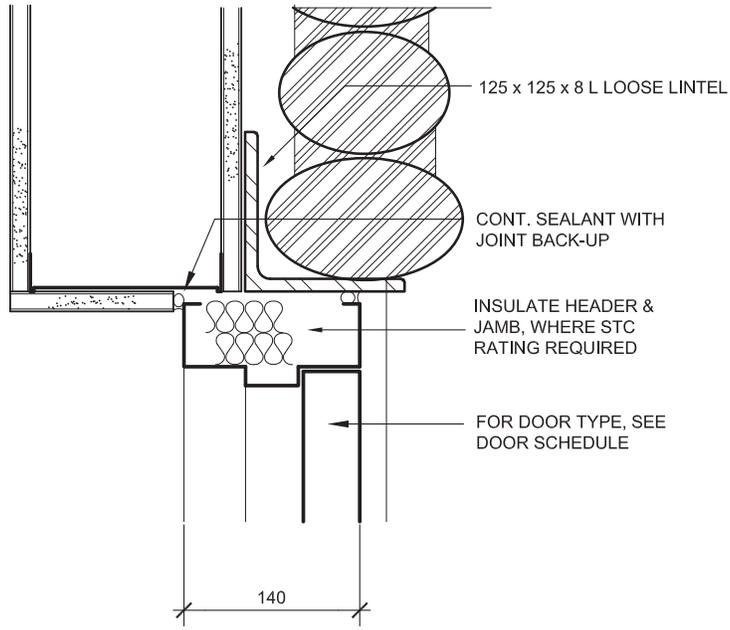
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 WILMP VISITOR CENTRE  
 WATERTON LAKES, ALBERTA

**DATE**  
 2010/07/14

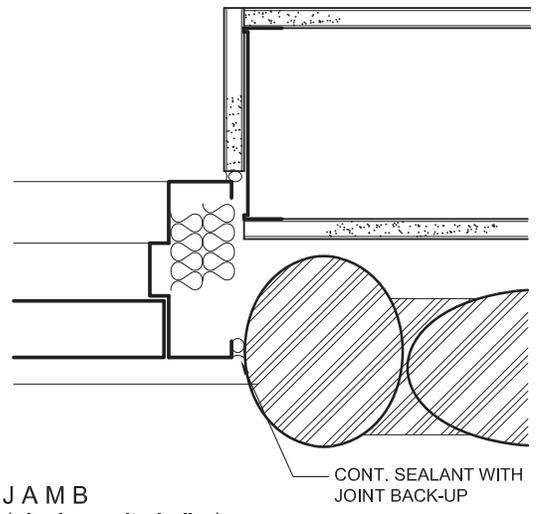
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 As indicated

**PROJECT NO.**  
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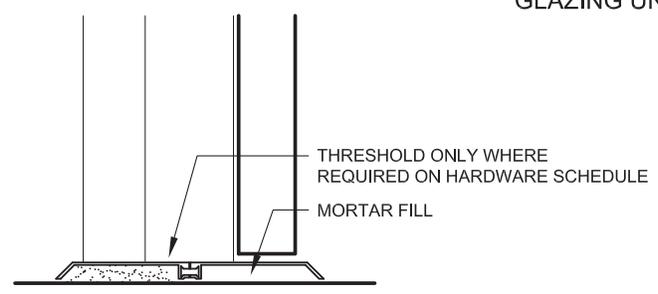
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HEAD



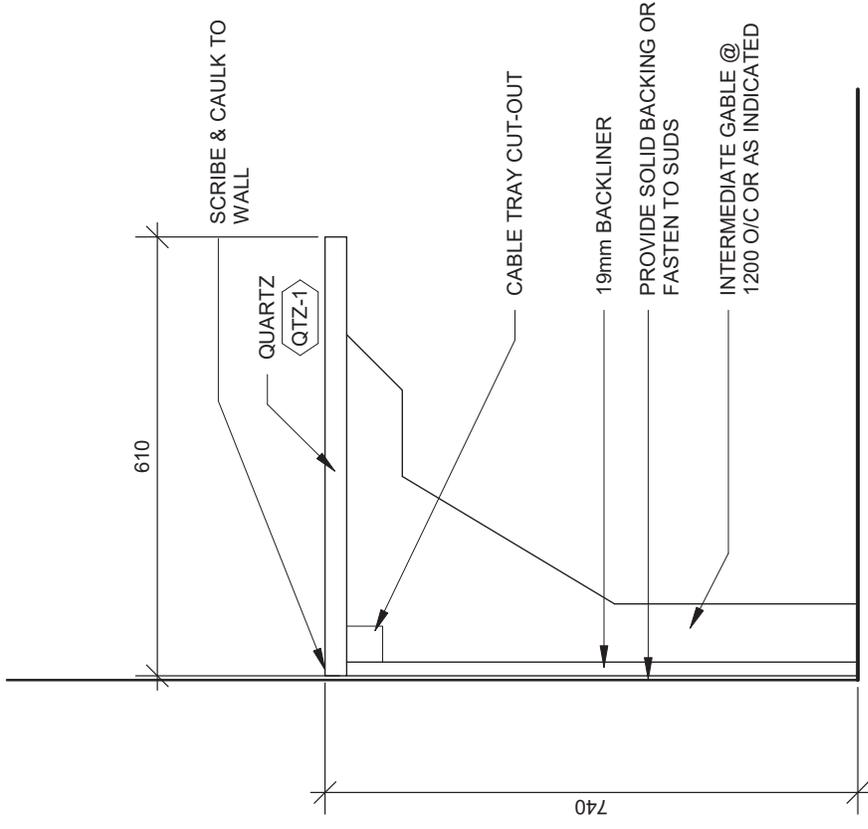
J A M B  
(glazing unit similar)  
GLAZING UNIT SILL sim.



THRESHOLD

**NOTE:**  
ANCHOR FRAME AS PER MANUFACTURERS REQUIREMENTS.  
WALL CONSTRUCTION MAY VARY FROM DRAWINGS. CONFIRM CONSTRUCTION WITH DRAWINGS. DRAWINGS HAVE PRECEDENCE

drawn: H.w scale: 1 : 5 date: JAN.15.19 file: LIB.DOOR	refer to dwg: A0-00	no.	by	date	remarks
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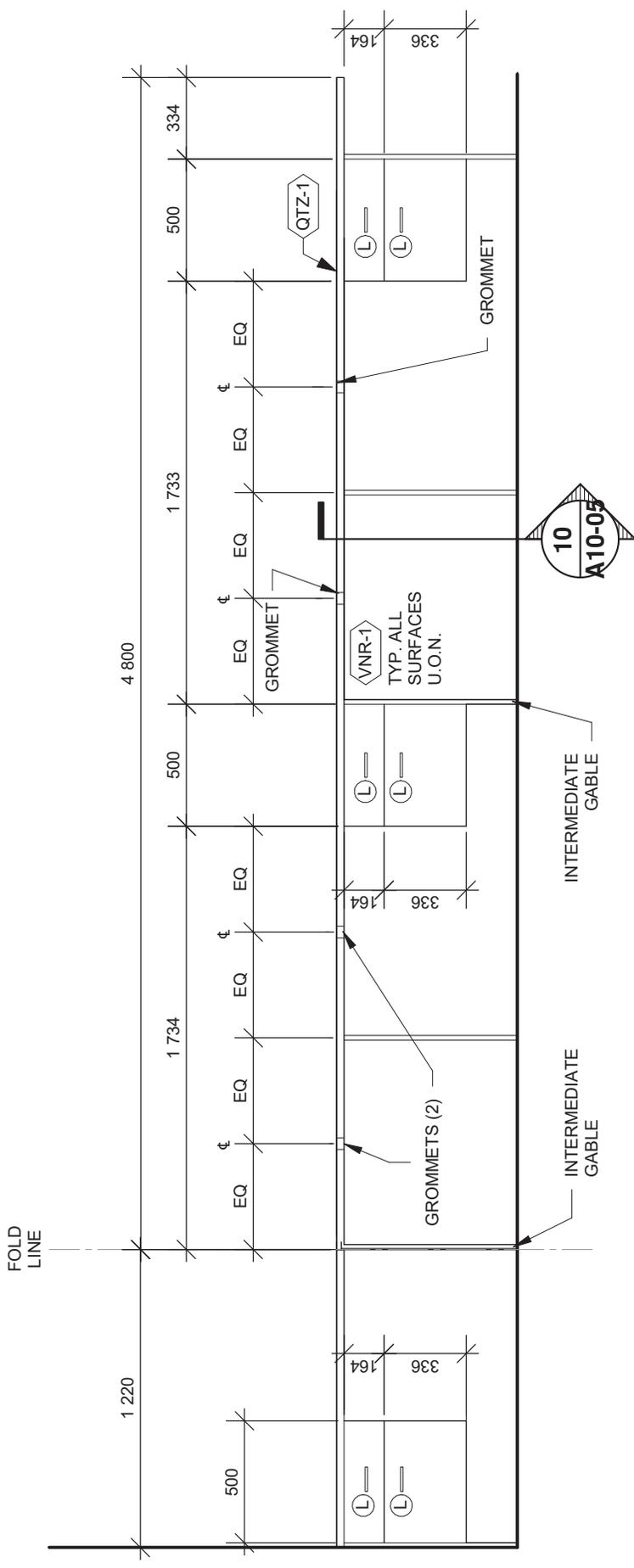


1

**DETAIL**  
**A114 - MONETARY OFFICE DESK**  
**1 : 10**

drawn: CB	refer to dwg:			
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date: 02/13/19				remarks
file: 1634				revisions
project title: WLNp VISITOR CENTRE		dwg. title A114 - MONETARY OFFICE DESK		
		dwg. no.: ASK-17		

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2  
A10-01

**ELEVATION**  
A114 - OFFICE/MONETARY  
UNFOLDED



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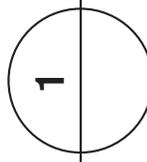
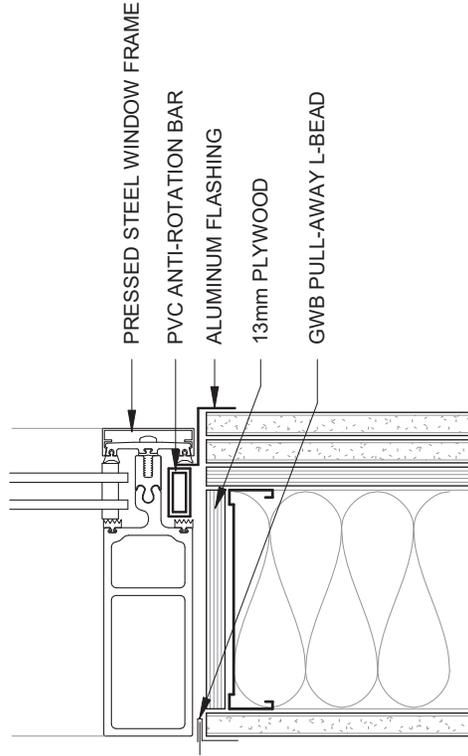
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scale: 1 : 25	A10-02
date: 02/13/19	
file: 1634	

project title:  
WLN P VISITOR CENTRE

no.	by	date	remarks
			revisions

dwg. title  
A114 - OFFICE/MONETARY DESK

dwg. no.:  
ASK-16

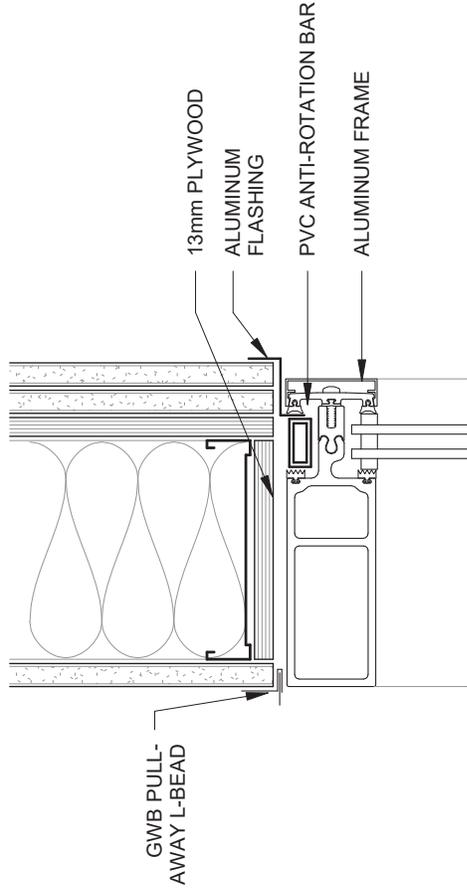


**DETAIL**

**SILL - S15**  
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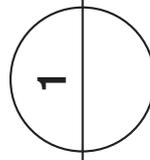
**FWBA**  
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drawn: CB	refer to dwg:			
scale: 1 : 5				
date: 02/13/19				
file: 1634	A08-06	no.	by	date
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		dwg. no.: ASK-15		



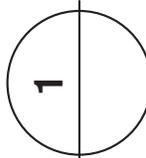
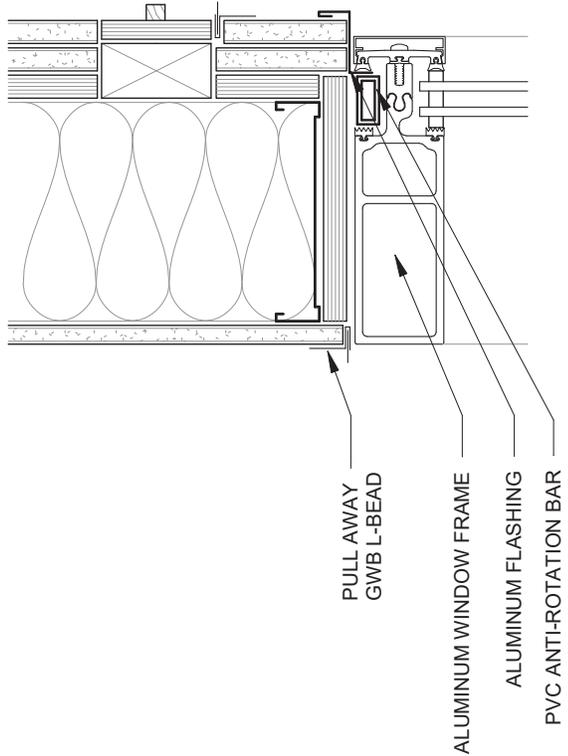
**DETAIL**

**HEAD H13**  
**1 : 5**



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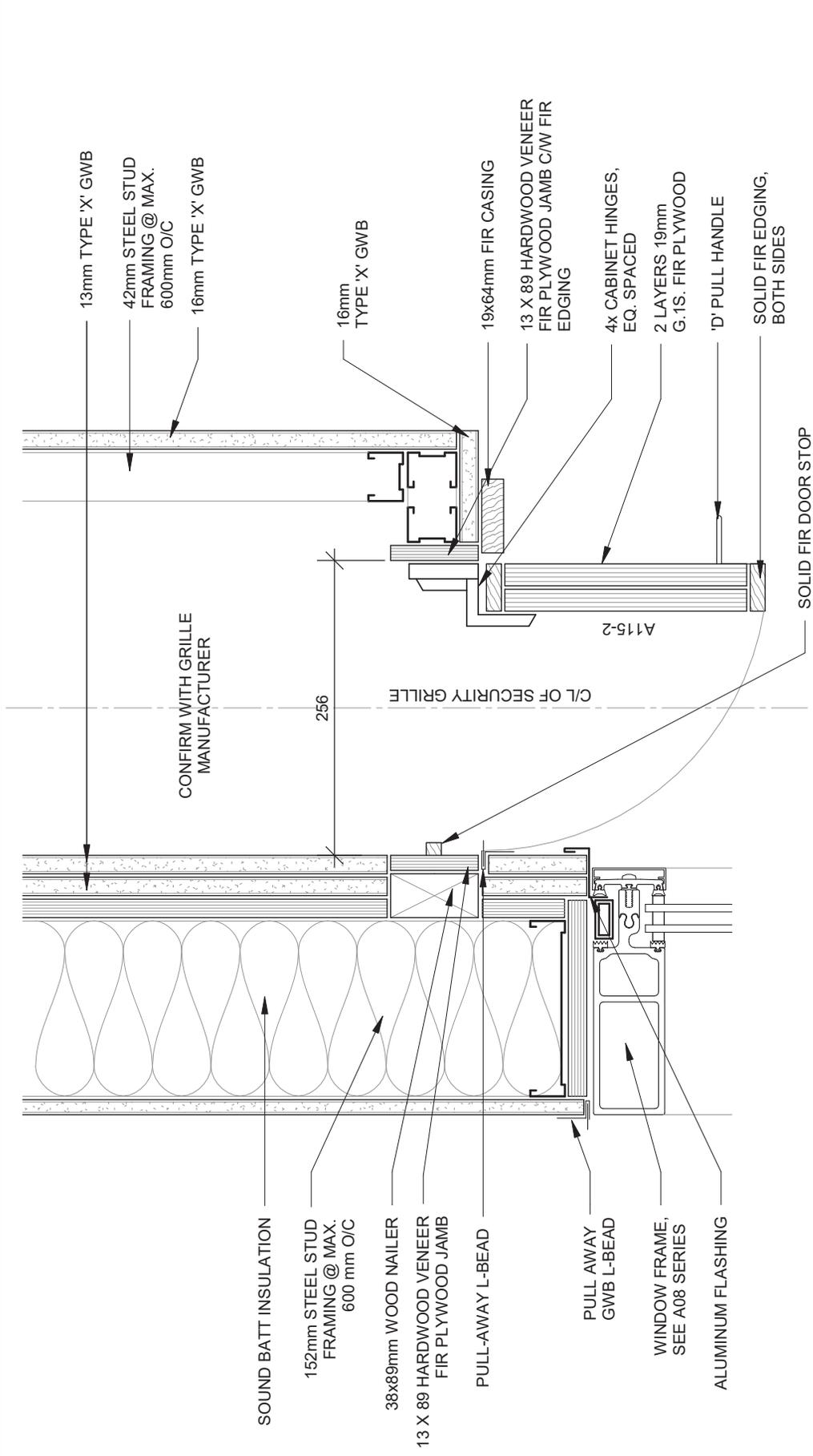
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**DETAIL**  
**JAMB 21**  
**1 : 5**

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drawn: CB	refer to dwg:			
scale: 1 : 5	A08-05	no.	by	date
date: 02/13/19				remarks
file: 1634				revisions
project title: WLNIP VISITOR CENTRE		dwg. title JAMB - J21		dwg. no.: ASK-13



13mm TYPE 'X' GWB  
 42mm STEEL STUD FRAMING @ MAX. 600mm O/C  
 16mm TYPE 'X' GWB  
 16mm TYPE 'X' GWB  
 19x64mm FIR CASING  
 13 X 89 HARDWOOD VENEER FIR PLYWOOD JAMB C/W FIR EDGING  
 4x CABINET HINGES, EQ. SPACED  
 2 LAYERS 19mm G.1S. FIR PLYWOOD  
 'D' PULL HANDLE  
 SOLID FIR EDGING, BOTH SIDES

CONFIRM WITH GRILLE MANUFACTURER

256

C/L OF SECURITY GRILLE

A115-2

SOLID FIR DOOR STOP

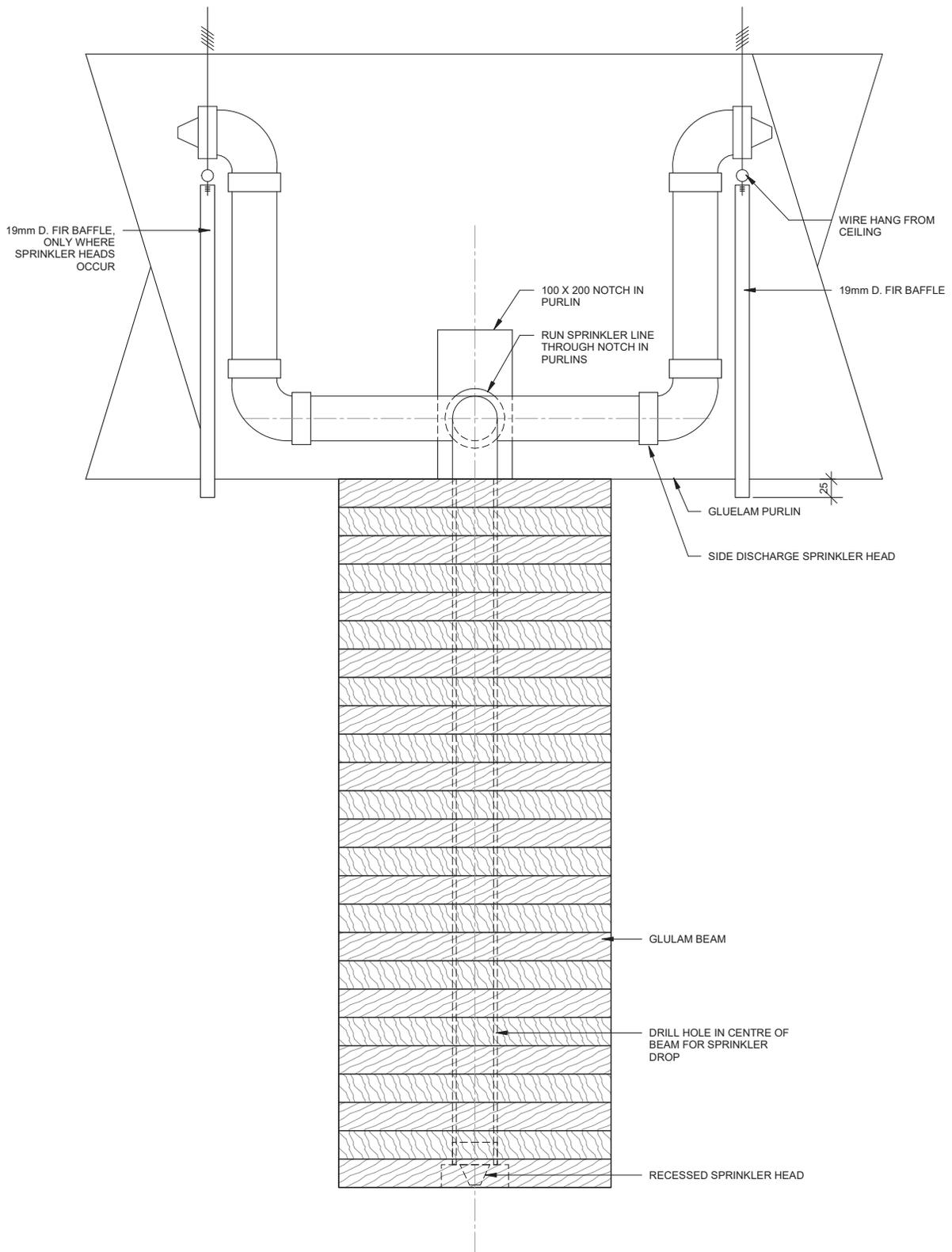
SOUND BATT INSULATION  
 152mm STEEL STUD FRAMING @ MAX. 600 mm O/C  
 38x89mm WOOD NAILER  
 13 X 89 HARDWOOD VENEER FIR PLYWOOD JAMB  
 PULL-AWAY L-BEAD  
 PULL AWAY GWB L-BEAD  
 WINDOW FRAME, SEE A08 SERIES  
 ALUMINIUM FLASHING

1

**DETAIL**  
**SECURITY GRILLE - DOOR POCKET**  
**1 : 5**

drawn: CB	refer to dwg:			
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date: 02/13/19				remarks
file: 1634				revisions
project title: WLN P VISITOR CENTRE		dwg. title SECURITY GRILLE DOOR POCKET		
		dwg. no.: ASK-12		

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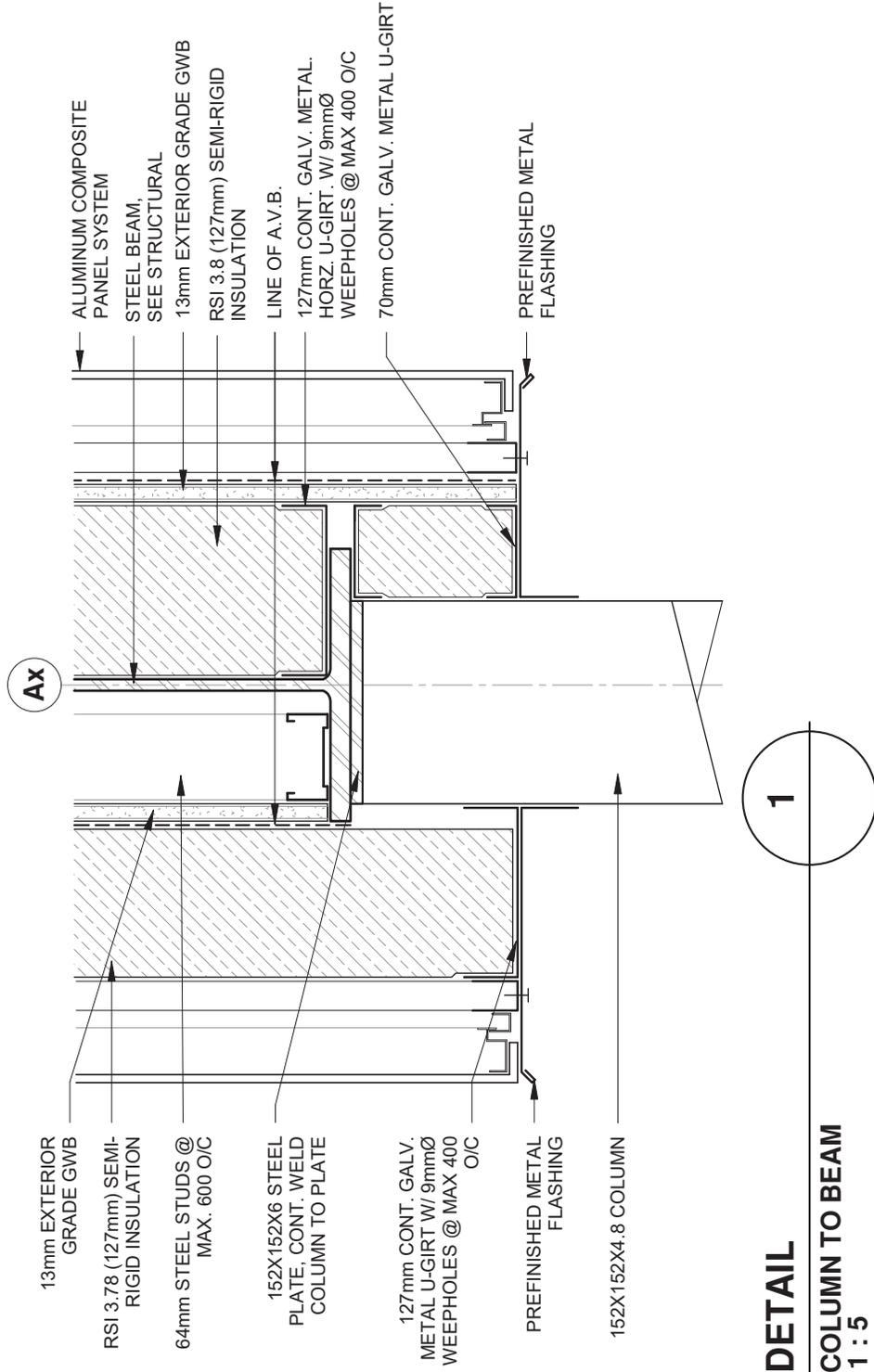


**DETAIL**

**SPRINKLER & BAFFLE**  
1 : 5

1

drawn: CB	refer to dwg:				
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date: 02/13/19	A07-12	no.	by	date	remarks
file: 1634		revisions			
project title: WLNP VISITOR CENTRE		dwg. title: SPRINKLER & BAFFLE			dwg. no.: ASK-11



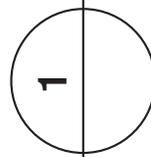
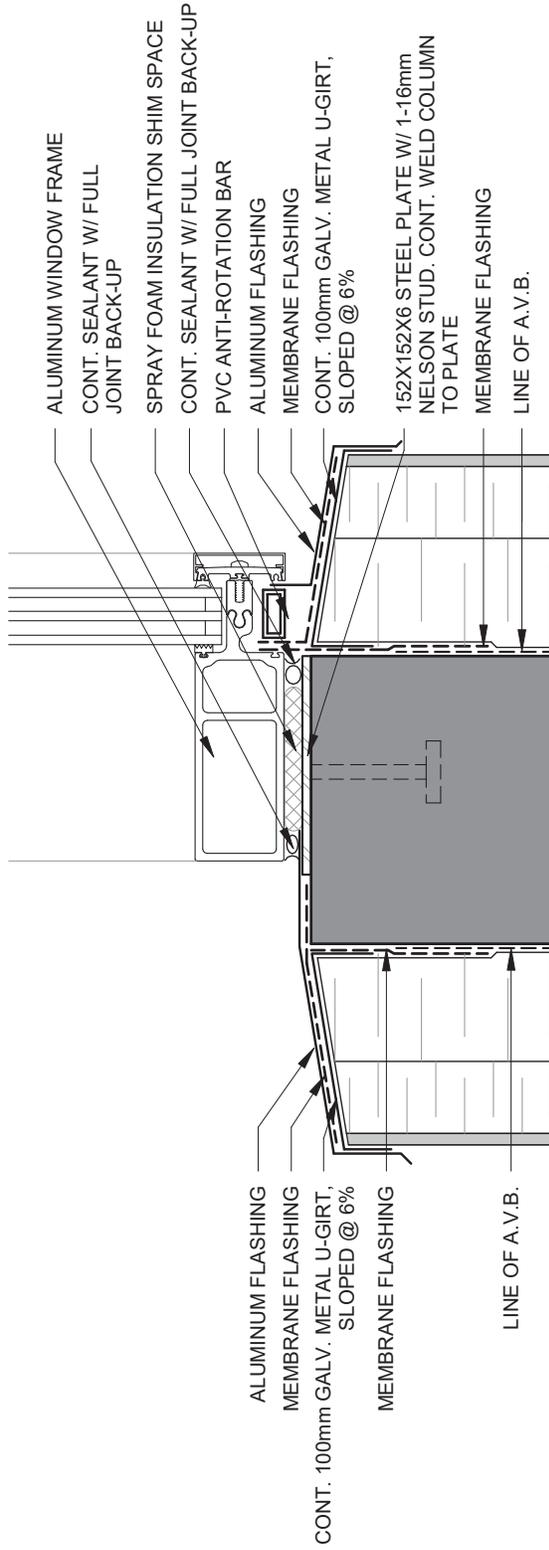
**DETAIL**  
**COLUMN TO BEAM**  
**1 : 5**

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drawn: CB	refer to dwg:
scale: 1 : 5	A07-12
date: 02/13/19	
file: 1634	

project title: WLN P VISITOR CENTRE	dwg. title: COLUMN TO BEAM
	dwg. no.: ASK-10

no.	by	date	remarks
			revisions

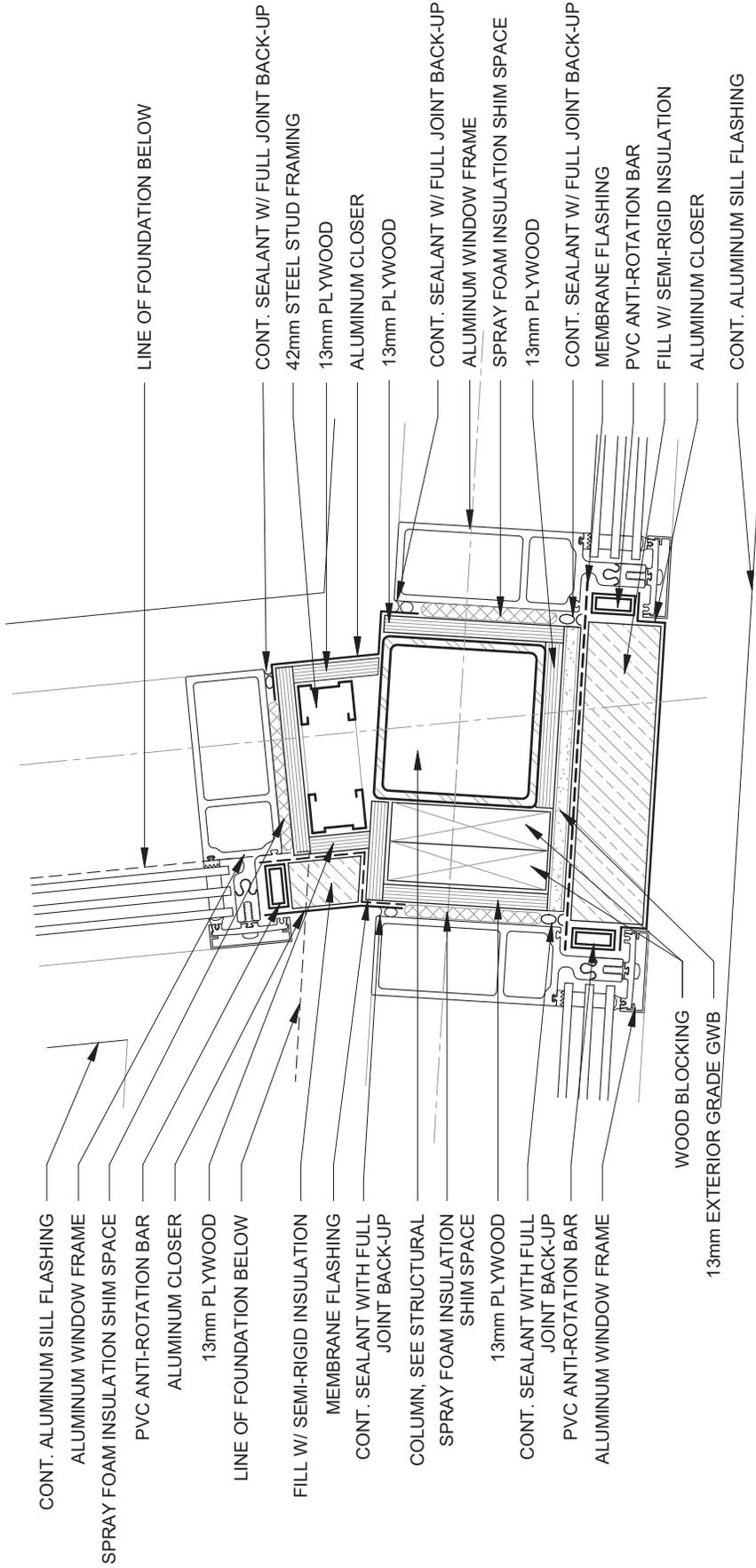


**DETAIL**

**SILL 19**  
**1 : 5**

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**ARCHITECTS**  
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drawn: CB	refer to dwg:			
scale: 1 : 5	A08-06	no.	by	date
date: 02/13/19				remarks
file: 1634				revisions
project title: WLNp VISITOR CENTRE		dwg. title SILL S19		
		dwg. no.: ASK-9		



1

**DETAIL**

**MULLION - M20**  
**1 : 5**

**FWBA**  
**ARCHITECTS**  
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 TEL 403.327.3113  
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drawn: CB  
 scale: 1 : 5  
 date: 02/14/19  
 file: 1634

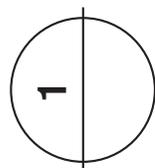
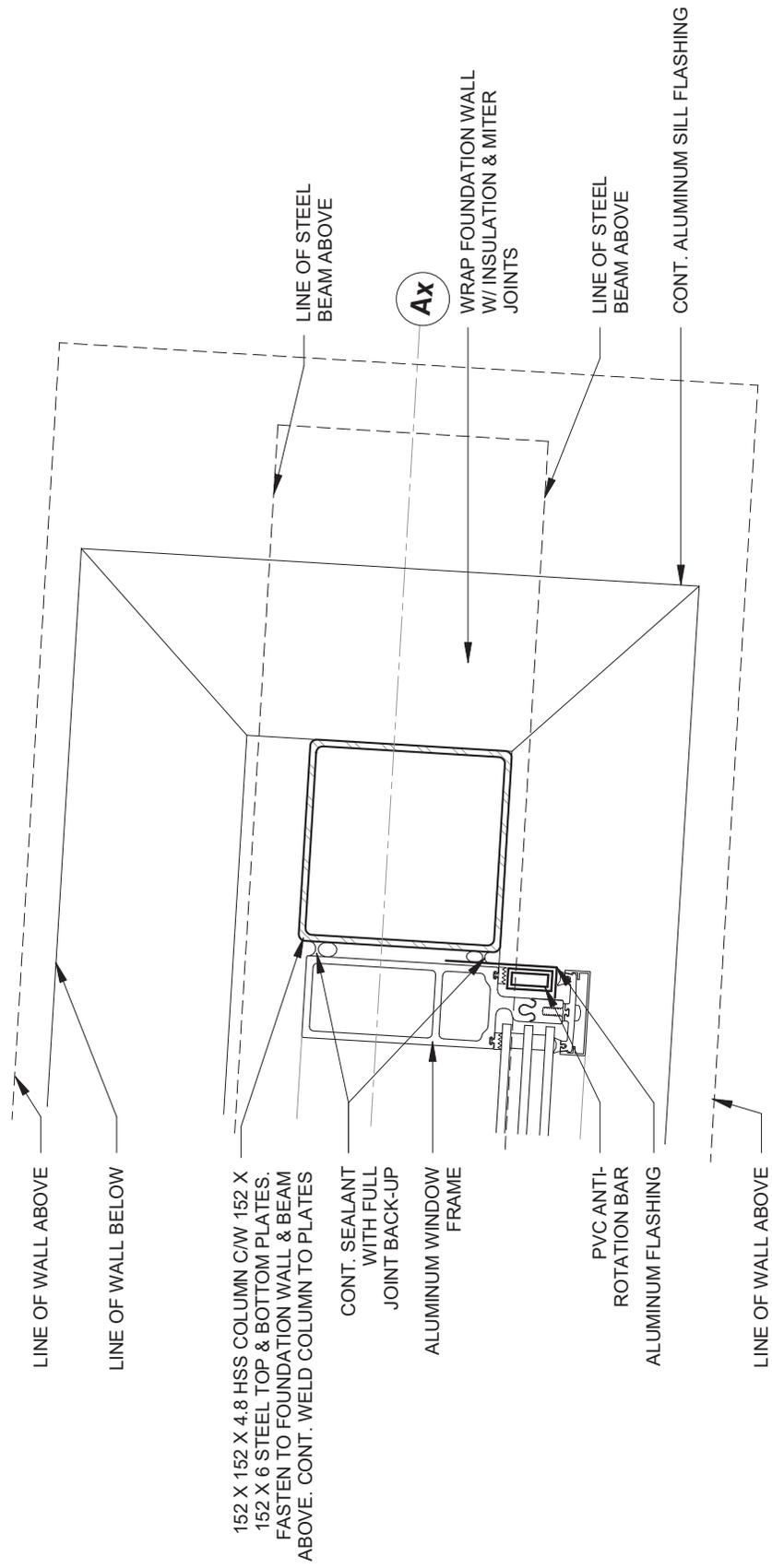
refer to dwg:  
 A08-08

no.	by	date	remarks
revisions			

project title:  
 WLNP VISITOR CENTRE

dwg. title  
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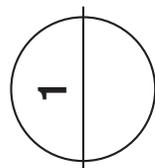
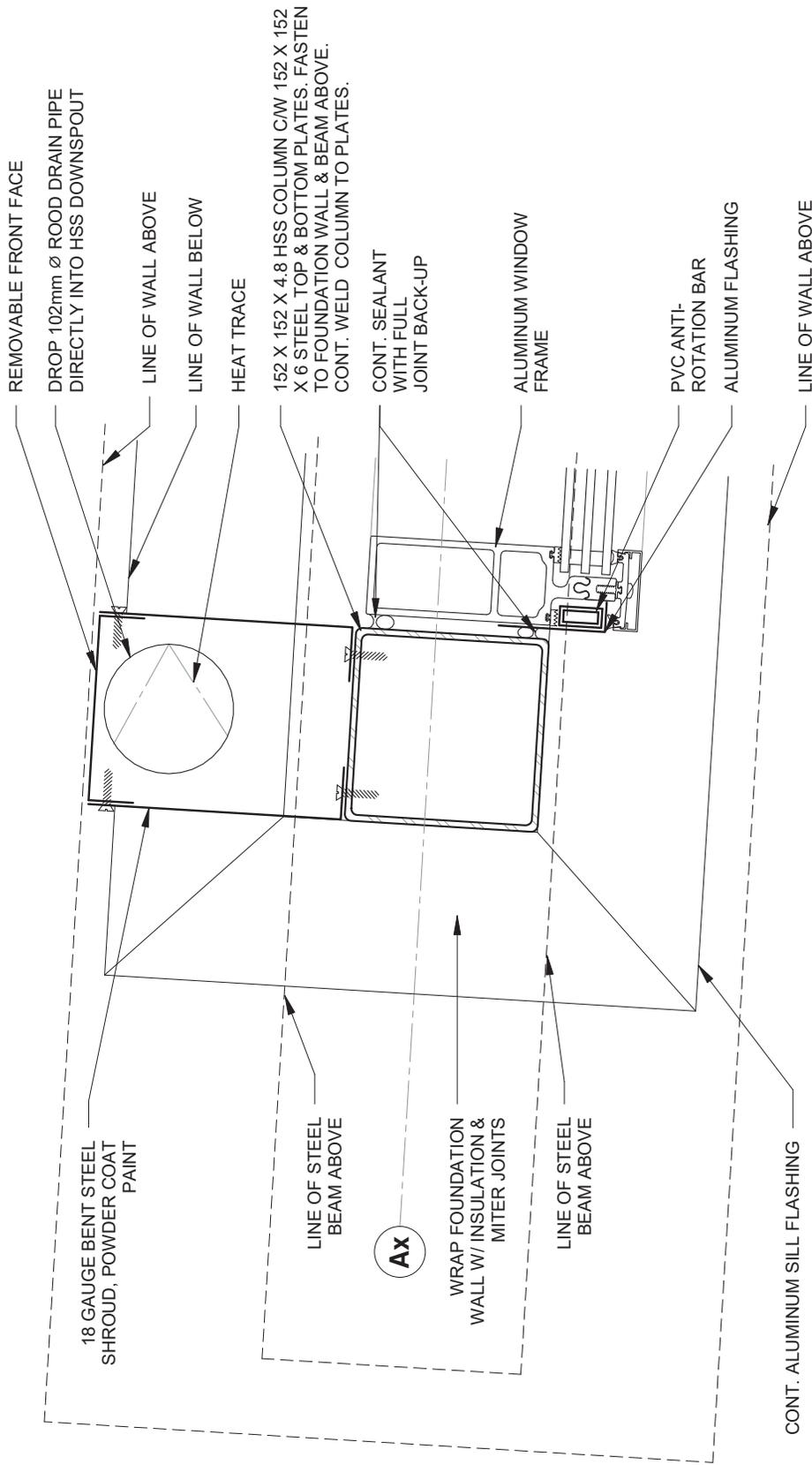
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**DETAIL**  
**MULLION M6**  
**1 : 5**

**FWBA**  
**ARCHITECTS**  
 LETHBRIDGE • CALGARY • MEDICINE HAT  
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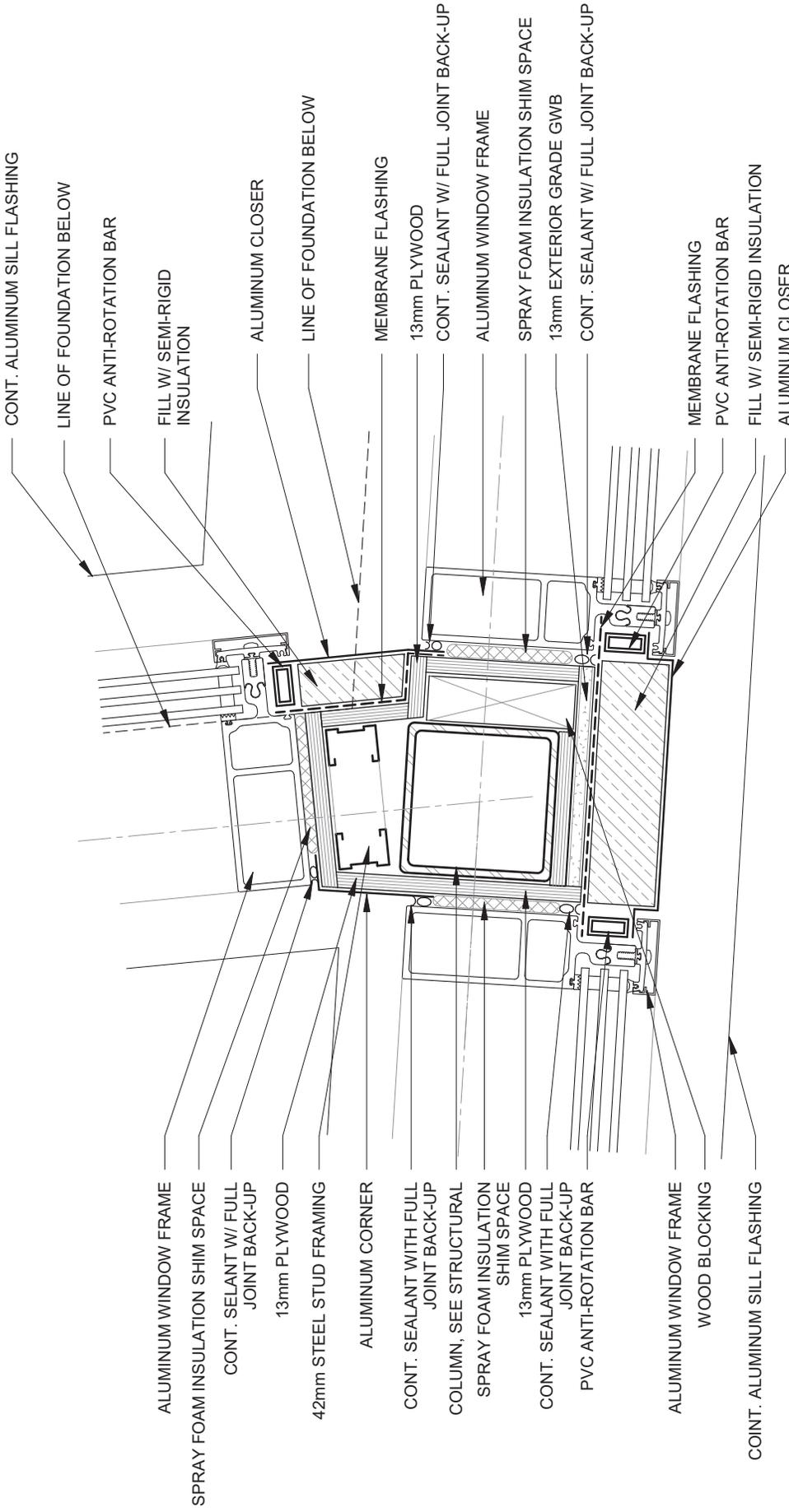
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project title: WLNp VISITOR CENTRE		dwg. title MULLION M6		
		dwg. no.: ASK-7		



**DETAIL**  
**MULLION M5**  
**1 : 5**

drawn: CB	refer to dwg:		
scale: 1 : 5	A08-07	no.	by
date: 02/13/19		date	remarks
file: 1634		revisions	
project title: WLNIP VISITOR CENTRE		dwg. title MULLION M5	
		dwg. no.: ASK-6	

**FWBA**  
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1

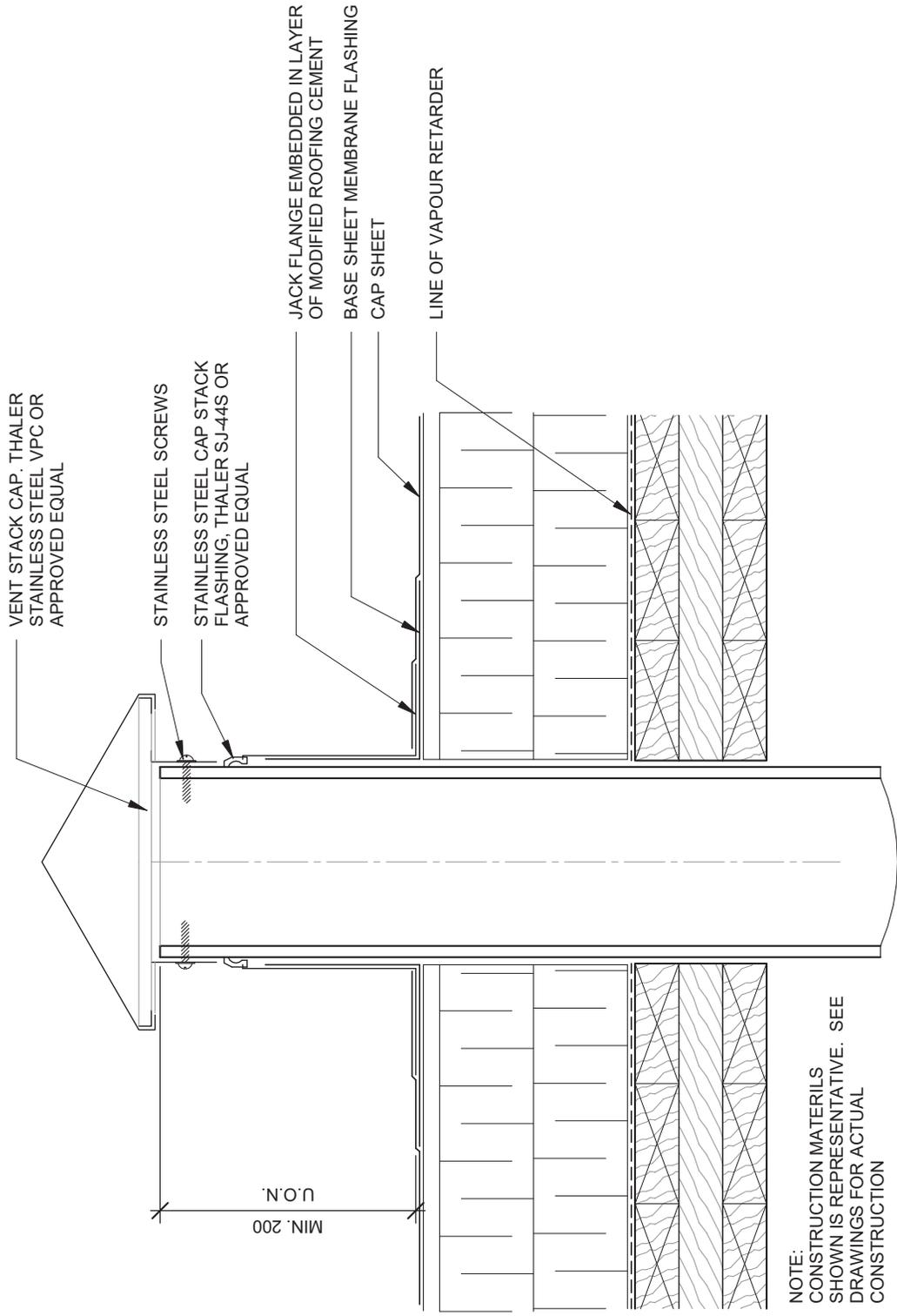
**DETAIL**  
**MULLION M4**  
**1 : 5**

CONT. ALUMINUM SILL FLASHING  
 LINE OF FOUNDATION BELOW  
 PVC ANTI-ROTATION BAR  
 FILL W/ SEMI-RIGID INSULATION  
 ALUMINUM CLOSER  
 LINE OF FOUNDATION BELOW  
 MEMBRANE FLASHING  
 13mm PLYWOOD  
 CONT. SEALANT W/ FULL JOINT BACK-UP  
 ALUMINUM WINDOW FRAME  
 SPRAY FOAM INSULATION SHIM SPACE  
 13mm EXTERIOR GRADE GWB  
 CONT. SEALANT W/ FULL JOINT BACK-UP  
 MEMBRANE FLASHING  
 PVC ANTI-ROTATION BAR  
 FILL W/ SEMI-RIGID INSULATION  
 ALUMINUM CLOSER

ALUMINUM WINDOW FRAME  
 SPRAY FOAM INSULATION SHIM SPACE  
 CONT. SEALANT W/ FULL JOINT BACK-UP  
 13mm PLYWOOD  
 42mm STEEL STUD FRAMING  
 ALUMINUM CORNER  
 CONT. SEALANT WITH FULL JOINT BACK-UP COLUMN, SEE STRUCTURAL  
 SPRAY FOAM INSULATION SHIM SPACE  
 13mm PLYWOOD  
 CONT. SEALANT WITH FULL JOINT BACK-UP  
 PVC ANTI-ROTATION BAR  
 ALUMINUM WINDOW FRAME  
 WOOD BLOCKING  
 CONT. ALUMINUM SILL FLASHING

drawn: CB	refer to dwg:		
scale: 1 : 5	A08-07	no.	by
date: 02/13/19		date	remarks
file: 1634		revisions	
project title: WLN P VISITOR CENTRE		dwg. no.: ASK-5	

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NOTE:  
 CONSTRUCTION MATERIALS  
 SHOWN IS REPRESENTATIVE. SEE  
 DRAWINGS FOR ACTUAL  
 CONSTRUCTION

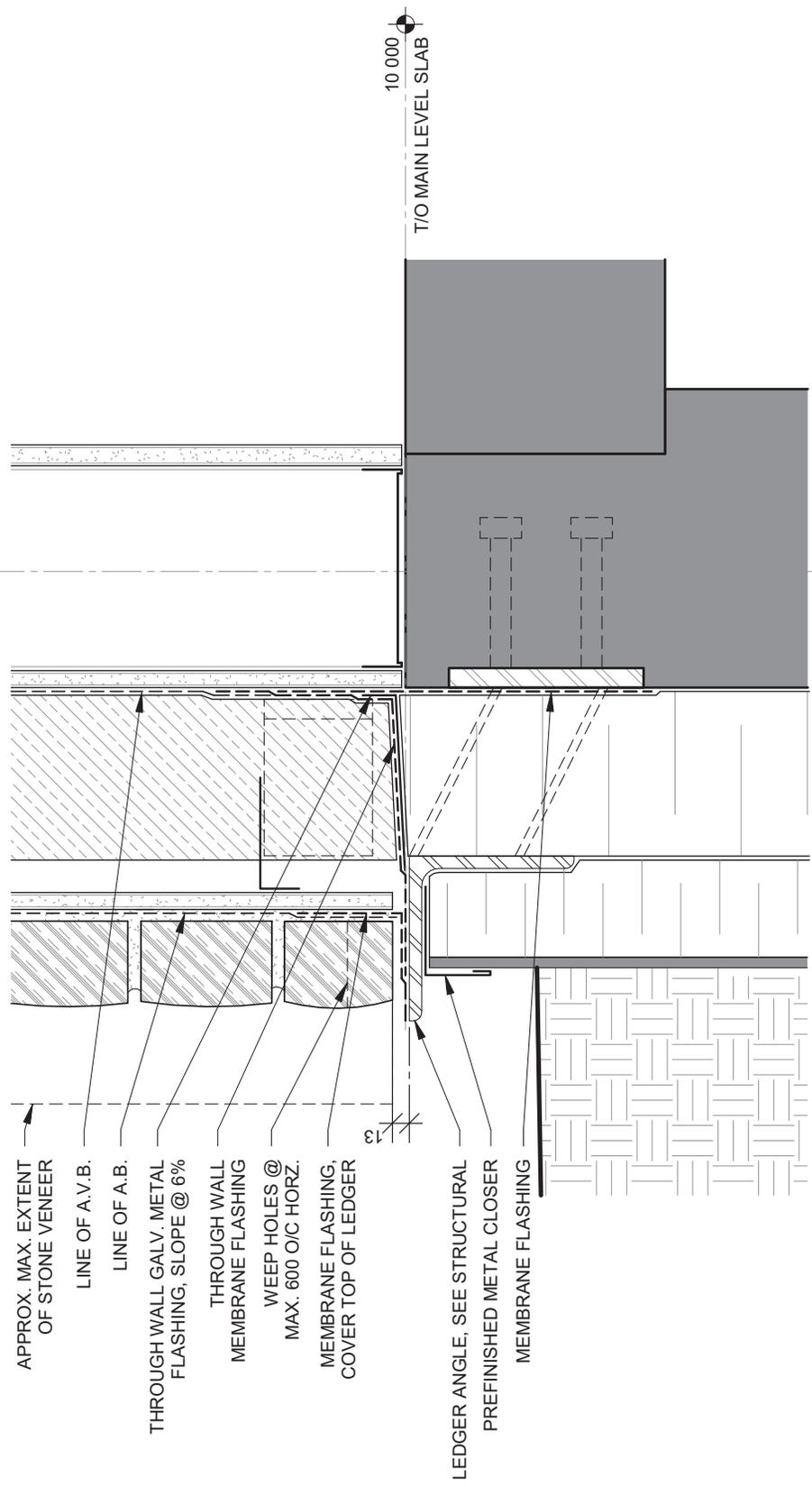
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**DETAIL**  
**TYPICAL CAP STACK JACK**  
**FLASHING**

drawn: CB	refer to dwg:	no.	by	date	remarks
scale: 1 : 5	4 / A07 - 02				revisions
date: 02/05/19					
file: 1634					
project title: WLN P VISITOR CENTRE			dwg. title TYP. CAP STACK JACK FLASHING		
			dwg. no.: ASK-4		

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A22

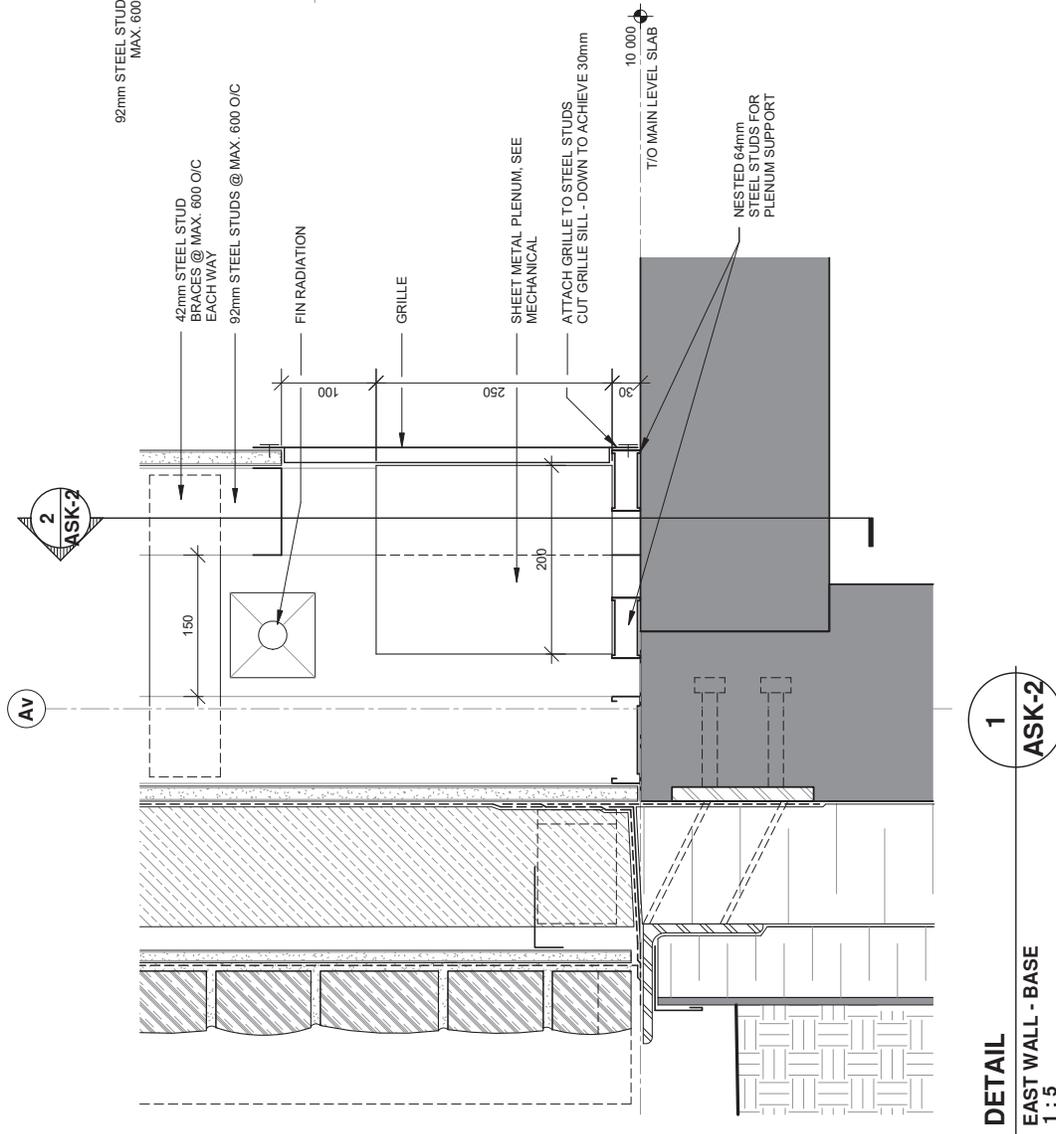


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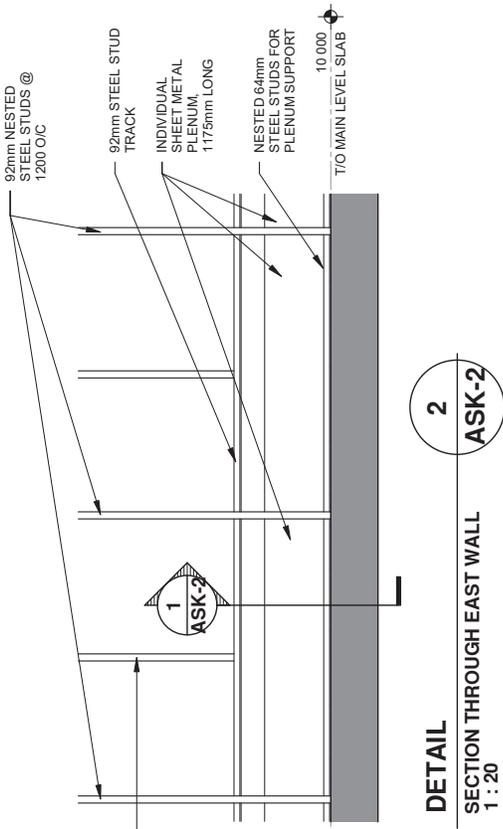
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**TYP. BASE OF STONE VENEER**  
**1 : 5**

drawn: CB	refer to dwg:	no.	by	date	remarks
scale: 1 : 5	4 / A07 - 10				revisions
date: 02/05/19					
file: 1634					
project title: WLN P VISITOR CENTRE			dwg. title TYP. BASE OF STONE VENEER		
			dwg. no.: ASK-3		

**FWBA**  
**ARCHITECTS**  
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**DETAIL**  
**EAST WALL - BASE**  
 1 : 5

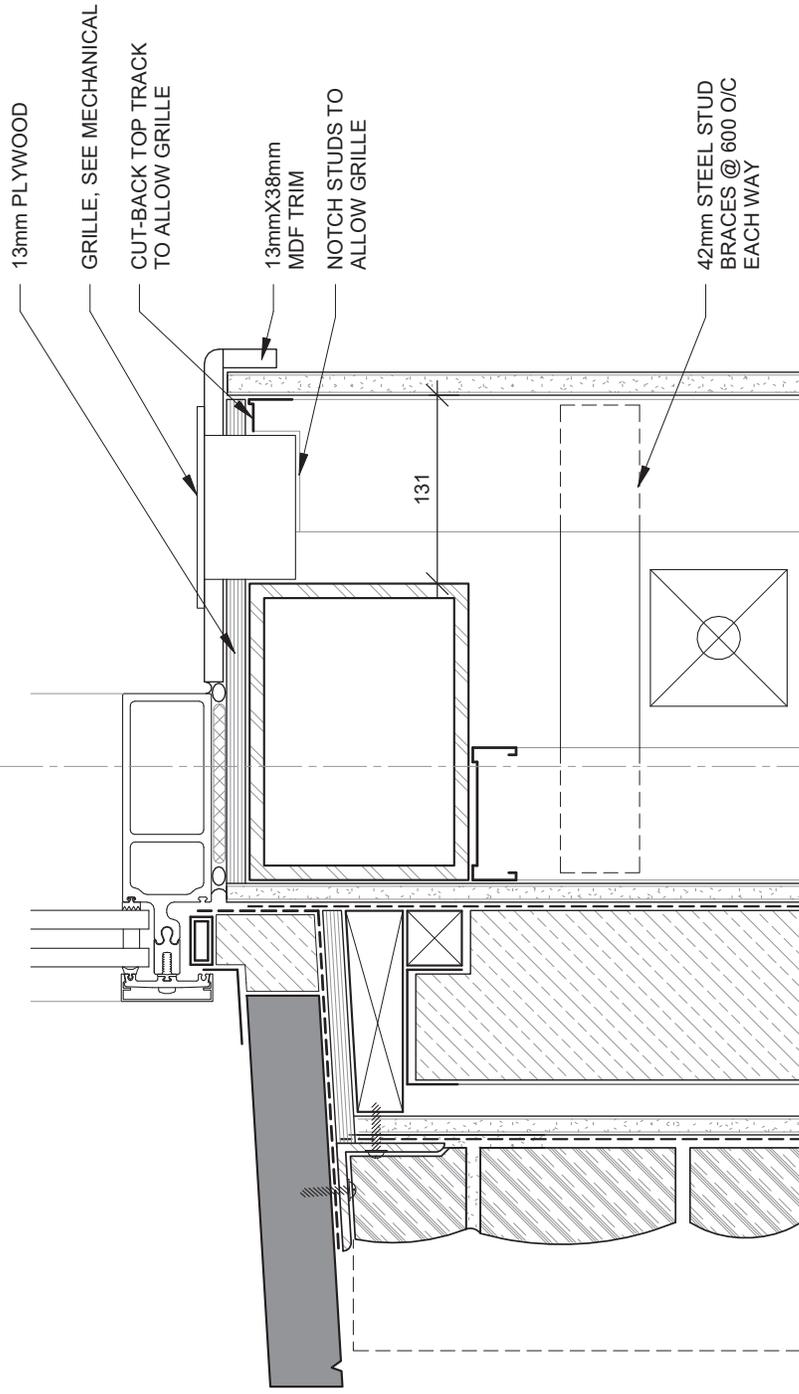


**DETAIL**  
**SECTION THROUGH EAST WALL**  
 1 : 20

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file: 1634					
project title:		dwg. no.:			
WLNIP VISITOR CENTRE		EAST INTERPRETIVE			
		WALL - BASE			
		ASK-2			

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AV



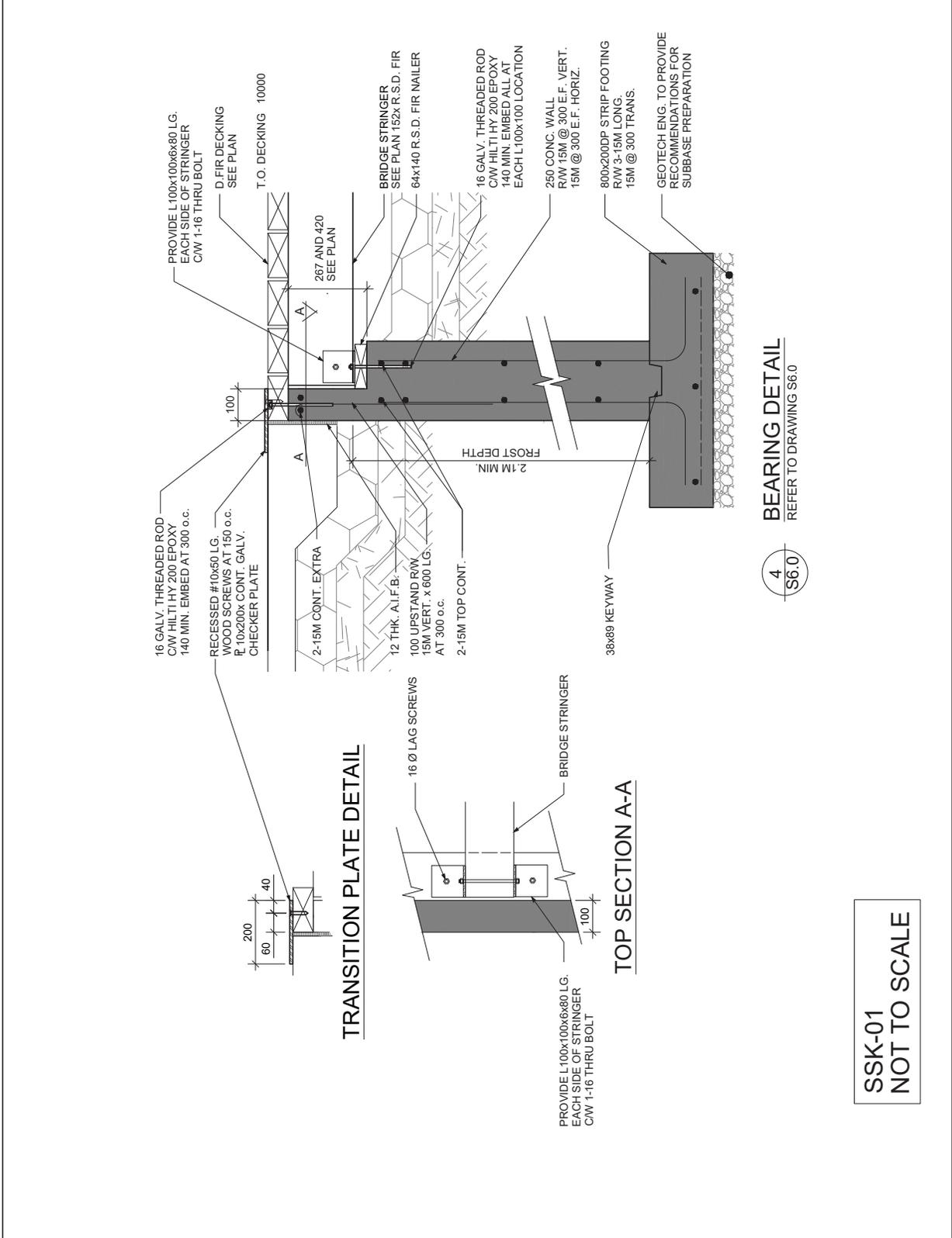
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**DETAIL**  
**EAST INTERPRETIVE WALL**  
**1 : 5**

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		no.	by
			date
			remarks
		revisions	
project title: WLNp VISITOR CENTRE		dwg. title EAST INTERPRETIVE WALL - SILL	
		dwg. no.: ASK-1	

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	Sheet No. SSK-01 26/39 Date: _____ Scale: _____								
<b>STRUCTURAL ADDENDUM #1</b> PARKS CANADA WATERTON VISITOR CENTRE WIND FLOWER AVE. WATERTON, ALBERTA									
									
Revisions: <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>No.</th> <th>DESCRIPTION</th> <th>BY</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>STRUCTURAL ADDENDUM #1</td> <td>UD</td> <td>FEB 19, 2019</td> </tr> </tbody> </table>		No.	DESCRIPTION	BY	DATE	1	STRUCTURAL ADDENDUM #1	UD	FEB 19, 2019
No.	DESCRIPTION	BY	DATE						
1	STRUCTURAL ADDENDUM #1	UD	FEB 19, 2019						



4  
 S6.0  
**BEARING DETAIL**  
 REFER TO DRAWING S6.0

**SSK-01**  
**NOT TO SCALE**

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NO.	DATE	DESCRIPTION
1	15/07/2018	Issue for Approval
2	15/07/2018	Issue for Approval
3	15/07/2018	Issue for Approval
4	15/07/2018	Issue for Approval
5	15/07/2018	Issue for Approval
6	15/07/2018	Issue for Approval
7	15/07/2018	Issue for Approval
8	15/07/2018	Issue for Approval
9	15/07/2018	Issue for Approval
10	15/07/2018	Issue for Approval
11	15/07/2018	Issue for Approval

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CLIENT:	WILMP VISITOR CENTRE
DATE:	NOV 17, 2018
PROJECT:	WILMP VISITOR CENTRE
LOCATION:	WATERLOO, ALBERTA
SCALE:	AS SHOWN
DRAWN BY:	AM
CHECKED BY:	AM
DATE:	NOV 17, 2018

**WILMP VISITOR CENTRE**  
 WATERLOO, ALBERTA

**PARKS CANADA**

**EXISTING CONDITIONS & REMOVALS PLAN**

**C100**



**LEGEND**

	DIRECTION OF STORMWATER FLOW
	EXISTING CONTOUR INTERVAL (0.2m)
	EXISTING WATER VALVE
	EXISTING CATCH BASIN
	PROPOSED STORMWATER VALVE
	PROPOSED CATCH BASIN
	PROPOSED STORMWATER LINE
	PROPOSED STORMWATER MANHOLE
	EXISTING STORMWATER LINE
	EXISTING STORMWATER MANHOLE
	EXISTING SEWER LINE
	EXISTING SEWER MANHOLE
	EXISTING GAS LINE
	EXISTING GAS MANHOLE
	PROPOSED STORMWATER LINE
	PROPOSED STORMWATER MANHOLE
	PROPOSED SEWER LINE
	PROPOSED SEWER MANHOLE
	PROPOSED GAS LINE
	PROPOSED GAS MANHOLE













NOTES

no.	by	date	remarks
7			ADDITIONAL CABINET
6			ISSUED FOR TENDER
5			ISSUED FOR TENDER
4			ISSUED FOR 90% CD
3			ISSUED FOR 90% CD
2			ISSUED FOR 90% CD
1			ISSUED FOR I.D.

**FWBA ARCHITECTS**  
LITTONBERIE - CALGARY - REDDELEND BLDG  
TEL: 403.237.8113 www.fwba.ca

**Panther CREATIVE**  
consultants

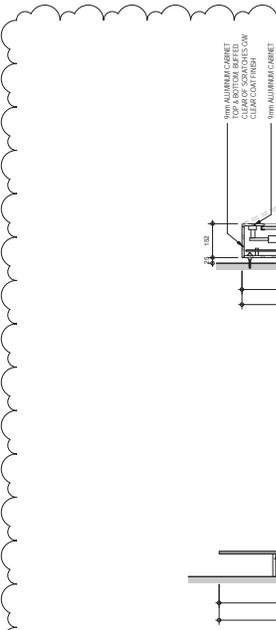
client: **WMLP VISITOR CENTRE**  
location: **Waterloo, Alberta**

drawing title: **1.01 EXTERIOR ORIENTATION KIOSK**

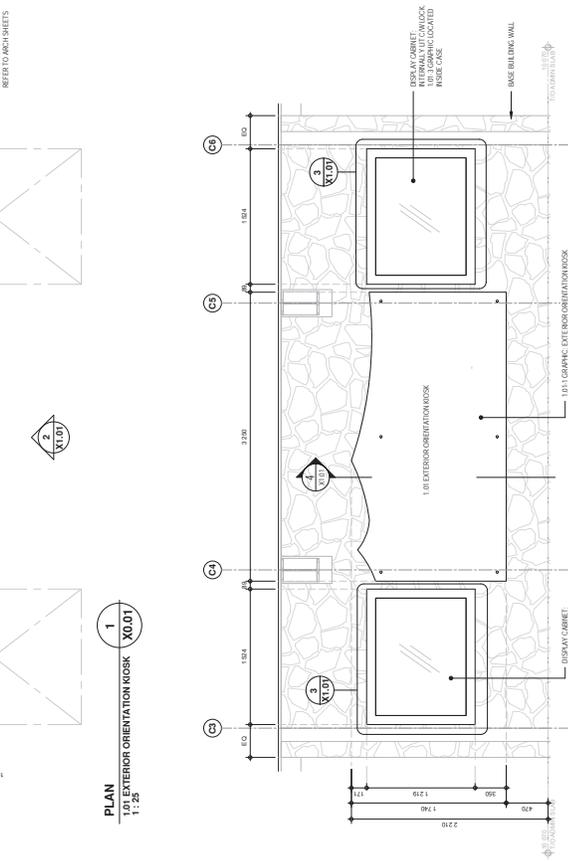
drawing no: **X1.01**

client: **PARKS CANADA**

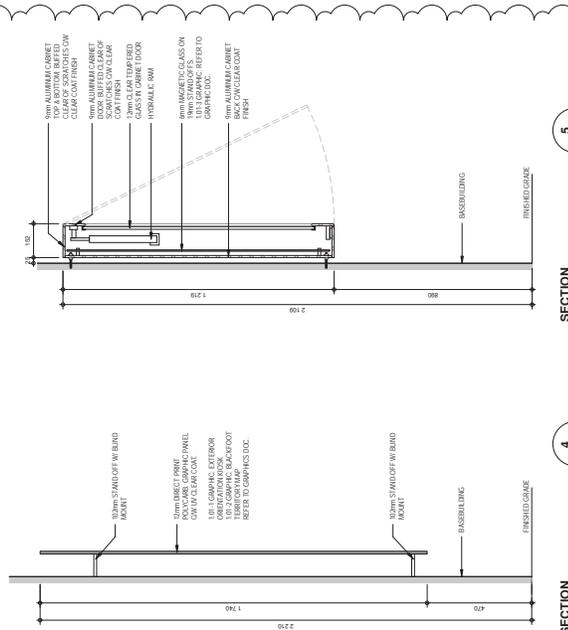
drawing title: **1.01 EXTERIOR ORIENTATION KIOSK**



**PLAN**  
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1:25

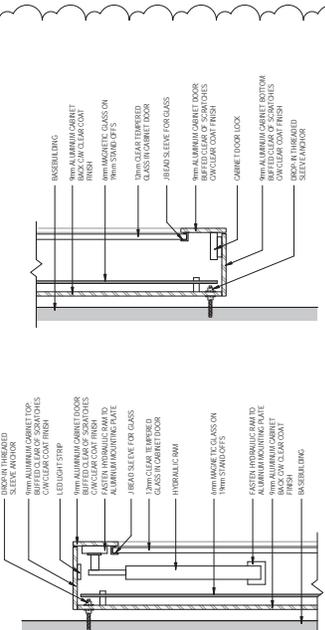


**ELEVATION**  
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1:25



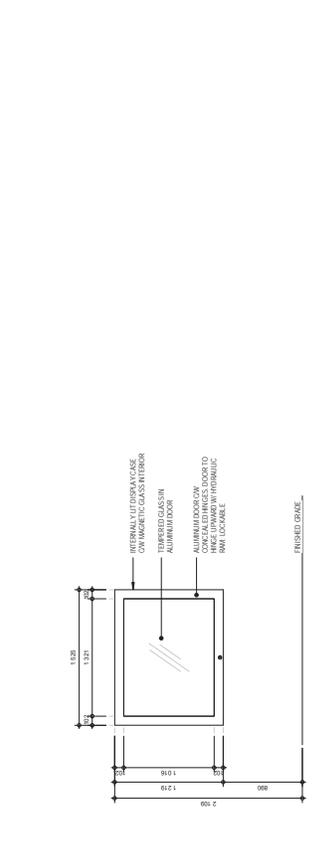
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1:10

**SECTION**  
1.01 DISPLAY CABINET  
1:10



**DETAIL**  
1.01 DISPLAY CABINET  
1:5

**DETAIL**  
1.01 DISPLAY CABINET  
1:5



**DETAIL ELEVATION**  
1.01 DISPLAY CABINET  
1:25

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EXHIBITRY (SECTION 13 00 00)

**PART ONE: GENERAL**

**1.1 Description**

- 1.1.1 Work of this section, as shown or specified shall be provided by the Contractor and shall be in accordance with the requirements of the Contract Documents.
- 1.1.2 Work under this section includes fabrication and installation of all Exhibitry and Exhibitry related Millwork, including Interpretive Exhibitry and related Millwork. Work also includes but not limited to: Coordination with Base Building Construction, Landscape elements including applicable concrete pads and footings, Wood, Metalwork and Fabrication, Glasswork, Graphics, Painting, Lighting, Electrical and Audio-Visual components as shown on drawings and as specified herein. (See also appendices A, C, D, D1, E, F, G, H and J)
- 1.1.3 All materials and products used in the construction of Exhibitry elements which fall within NMS divisions 03-10 must have a LEED Material Submittal form completed and signed by the Contractor or Sub-Trade, per section 01 61 00 LEED Product Requirements.
- 1.1.4 Related Sections of the General Specification will be cross referenced to this Appendix where applicable. Other Appendices which may relate to this Specification are listed as follows and shown in the Table of Contents to Interpretive Exhibitry (TOC):

- Appendix A – Exhibitry Description
- Appendix C – Audio-Visual Creative Outline
- Appendix D – Lighting
- Appendix D1- Networked Lighting Controls
- Appendix E – Integrated Audio-Visual Systems and Equipment
- Appendix F – Graphics
- Appendix G - Graphics Schedule
- Appendix H – Drapes
- Appendix J - Natural Poles and Logs

**1.2 Submittals**

- 1.2.1 All submittals shall be made according to Section 01 33 00 in the General Specification and as described herein.
- 1.2.2 Submittals to comply with LEED Product Requirements where applicable. (See 1.1.3 under Description).
- 1.2.3 Submit the following for each item of Exhibitry and Exhibitry related Millwork outlined in the Design Drawings and Exhibit descriptions:

- a. Shop Drawings indicating fabrication and installation methods, to include plans and elevations at not less than 1:20 scale (1/2" = 1'-0") and details not less than 1:5 scale (3" = 1'-0"). Indicate required anchorage and blocking, accessory items, field dimensions, materials and finishes. Indicate compliance with specification requirements. Include manufacturer's product data for specialty items not manufactured by Contractor.
- b. Two samples of each type of specified material including wood, wood panels, metal surface, laminate, acrylic, surface panel, fabric, paint and finish, etc. Samples shall be minimum 300mm x 300mm (12" x 12"), or full member width and thickness, where applicable, finished as specified on one face, one edge and one end. Samples shall be fire retardant treated where such has been specified or is required by code. Review will be for colour and texture only; compliance with other requirements is the responsibility of the Contractor. Samples of finishes shall be applied on the appropriate surface material as will occur in the final Exhibitory item when installed.
- c. Where natural variations in finish may occur, a minimum of three variations showing extremes which may be expected of any and all finishes as specified and shall be submitted to the Departmental Representatives for approval. Minimum size 300mm x 300mm (12" x 12").
- d. Where required by the Departmental Representatives, or by the nature of the Design, the Contractor shall provide full size mock-ups of Exhibitory Elements, including but not limited to panels, Millwork assemblies, etc. for approval.
- e. The Contractor shall submit to the Departmental Representatives three samples at 500mm (20") minimum length, of all mouldings and/or moulding assemblies, including trim in material specified to be used for the Exhibitory portion of the Project, including but not limited to wood, metal, laminate, acrylic, fabric, etc. These shall be full section size and finished as specified in the Contract Documents and or Design Drawings.
- f. The Contractor shall submit to the Departmental Representative, Engineering documents and approvals, where required, for all Exhibit structures, Concrete work and Foundations.

### 1.3 Quality Assurance

- 1.3.1 All work of this Section shall be performed by skilled tradespeople and mechanics of the trade using best practices in all Industry jurisdictions. Work is to comply with all applicable Industry Standards for all materials and products as specified. Such Industry Standards are to include, but are not limited to the applicable provisions or standards of the following:
  - a. American National Standards Institute (ANSI)
    1. ANSI A208.2-2009. Medium Density Fibreboard (MDF) for Interior Applications.
    2. ANSI/HPVA HP-1-2009, Standard for Hardwood and Decorative Plywood.

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- b. American Society for Testing and Materials International (ASTM)
    - 1. ASTM D2555-16, Standard practice for Establishing Clear Wood Strength Values.
    - 2. ASTM D2559-12ae1, Standard Specification for Adhesives for Bonded Structural Wood products for use under Exterior Exposure Conditions.
    - 3. ASTM D2832-92 (2016), Standard Guide for determining Volatile and Non-Volatile Content of Paint and related Coatings.
    - 4. ASTM D3930-08 (2015), Standard Specification for Adhesives for Wood-based materials for Construction of Manufactured Homes.
    - 5. ASTM D4300-01 (2013), Standard Test methods for ability of Adhesive Films to support or resist the growth of Fungi.
    - 6. ASTM D5116-10, Standard Guide for small-scale Environmental Chamber Determinations of Organic Emissions from Indoor Materials/ Products.
    - 7. ASTM E1333-14, Standard Test method for determining Formaldehyde concentrations in Air and Emissions rates from Wood Products using a large chamber.
  
  - c. Architectural Woodwork Institute (AWI) and Architectural Woodwork Manufacturers Association of Canada (AWMAC)
    - 1. AWMAC/ AWI Architectural Woodwork Standards, Edition 2, 2014 and Errata.
    - 2. NAAWS 3.1 North American Architectural Woodwork Standards July 1, 2017 and 2018 errata.
    - 3. Sustainable Architectural Woodwork (SAW) Certification manual (2012)
  
  - d. Canadian Standards Association (CSA International)
    - 1. CSA B111-74(R2003), Wire Nails, Spikes and Staples.
    - 2. CSA O112.9-10 (R2014), Evaluation of Adhesives for Structural Wood Products (Exterior Exposure), Includes Update No. 1 (2011)
    - 3. CSA O112.10-08 (R2013), Evaluation of Adhesives for Structural Wood Products (Limited Moisture Exposure), Includes Update No. 1 (2010), Update No. 2 (2010)
    - 4. CSA O121-08 (R2013), Douglas Fir Plywood, Includes Update No. 1 (2013)
    - 5. CSA O141-05 (R2014), Softwood Lumber
    - 6. CSA O151-17, Canadian Softwood Plywood
    - 7. CSA O153-13, Poplar Plywood
  
  - e. International Organization for Standardization (ISO)
    - 1. ISO 14040:2006, Environmental Management- Life-Cycle Assessment Principles and Framework.
    - 2. ISO 14041:1998, Environmental Management - Life-Cycle Assessment Goal and Scope Definition and Inventory Analysis.
  
  - f. National Electrical Manufacturers Association (NEMA)
    - 1. ANSI/NEMA LD-3-2005, High-Pressure Decorative Laminates (HPDL)

- g. National Hardwood Lumber Association (NHLA)
    - 1. Rules for the Measurement and Inspection of Hardwood and Cypress 2011.
  - h. National Lumber Grades Authority (NLGA)
    - 1. Standard Grading Rules for Canadian Lumber 2014
  - i. US Building Council. LEED v4 Reference Guide: For Building Design and Construction.
  - j. South Coast Air Quality Management District (SCAQMD). California State (SQAQMD)
    - 1. SCAQMD Rule 1113-16, Architectural Coatings
    - 2. SCAQMD Rule 1168-05, Adhesive and Sealant Applications.
- 1.3.2 The Contractor shall be responsible for obtaining and complying with all Code and Regulatory Agencies for Materials and methods. He / She shall also be responsible for obtaining applicable Permits and Approvals.
- 1.3.3 The Contractor shall be responsible for accurately obtaining all field dimensions related to his/her work prior to Fabrication. Where discrepancies are found which will affect Design Intent, he/she shall notify the Departmental Representatives in writing.
- 1.3.4 All Exhibit Materials and completed Exhibitry and Exhibitry related Millwork shall be stored in a dry, ventilated location, protected from the weather and complying with the temperature and humidity conditions specified by AWI Quality Standards.
- 1.3.5 Protect sanded and finished surfaces from soiling and damage during handling and installation.
- 1.3.6 Maintain requirements for heating, cooling and ventilation in installation areas as required to reach relative humidity necessary to maintain optimum moisture content specified for "Millwork" by AWI Standards. This shall also be applicable to Exhibitry.
- 1.3.7 Provide temporary protection of all Exhibitry and Exhibitry related Millwork as required to protect work from damage.

## **PART TWO: PRODUCTS**

### **2.1 Materials**

- 2.1.1 All Exhibitry materials shall be new and wood elements shall conform to the Custom Grade requirements of the NAAWS (North American Architectural Woodwork Standards) 3.1 – Adopted and published jointly by the Architectural Woodwork

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Institute (AWI) and the Architectural Woodwork Manufacturers Association of Canada (AWMAC)

- 2.1.2 All Lumber shall be kiln-dried to the average moisture content as recommended by the AWI Quality Standards, latest edition. The values shall be appropriate for the regional climatic conditions of the project site. Lumber and Plywood average 6% moisture content at time of fabrication with permitted range from 4% to 9%.
- 2.1.3 All Solid Wood elements, unless noted otherwise, shall be as specified in the Design Drawings and/or Finish Schedule and Clear, Straight Grained lumber of the best grade of specified species as listed by the NHLA. Lumber shall be free from any defects which might impair serviceability, aesthetics and/or visual appeal and/or finish. Solid Wood elements shall also be according to the following, unless indicated otherwise on drawings and/or specifications:
- a. Species of Face Woods receiving transparent or semi-transparent finishes as specified on the drawings and/or finish schedule, shall be selected for specific grain with uniform colour and grain suitable for the use for which it is intended.
  - b. Face Woods with Opaque finish shall be Birch, Poplar or wood as specified, but otherwise have same specification as solid stock for Face Woods above.
  - c. Unexposed woods shall be Custom Grade Poplar or Birch.
- 2.1.4 All exposed veneer core elements shall be as specified in the Design Drawings and/or Finish Schedule and clear straight-grain lumber of the best grade of the specified species as listed by the NHLA. Lumber shall be free from any defects which might impair serviceability, aesthetics and/or visual appeal and/or finish. Where veneers differ on two sides, veneers shall be of similar thickness, density and characteristics to prevent any warpage. Veneer core elements shall also be according to the following, unless indicated on the Design Drawings and/or Specifications:
- a Adhesives for interior use shall be water resistant resin or approved equal, using the following number of plies (unless otherwise noted) to achieve specified thickness:
    - 1. 6mm (1/4") Overall thickness shall be 3 ply veneer core construction.
    - 2. 9mm (3/8") Overall thickness shall be of 5 ply veneer core construction.
    - 3. 12mm (1/2") Overall thickness shall be of 7 ply veneer core construction. Baltic Birch or "Appleply" multiple ply may be used for drawer construction.
    - 4. 19mm (3/4") Overall thickness shall be of 7 ply veneer core construction.
  - b For Face Woods receiving transparent or semi-transparent finishes, species shall be as specified on Drawings and/or finish schedule. Faces shall be selected and matched by the Contractor with respect to cutting lengths, uniformity of colour, figure and grain character. Face veneers shall not contain open joints, face depressions, glue stain or other manufacturing irregularities.

- c Face Woods receiving Opaque finishes shall have Custom grade face veneer in selected Birch or Poplar, but otherwise shall have the same specification as plywood for face Woods receiving Transparent finishes.
  - d Unexposed woods shall be Birch, Poplar or Douglas Fir, either solid or ply. Ply may be rotary cut, good one side.
  - e Wood for Plastic lamination shall be minimum 19mm (3/4") Poplar smooth ply or Mahogany.
  - f For Painted or Opaque face woods, Medium Density Fibreboard (MDF) may be substituted for plywood panels as long as it complies with Quality Assurance Standards in Part One of this Specification.
  - g For Painted or Opaque unexposed woods, Medium Density Fibreboard (MDF) may be substituted for plywood panels as long as it complies with Quality Assurance Standards in Part One of this Specification.
  - h All Masonite shall be 3mm (1/8") tempered as manufactured by Masonite Corporation, Chicago IL or approved equal. Masonite must comply with Quality Standards in Part One of this Specification.
- 2.1.5 Composite wood products must document that the product contains no added formaldehyde resins, OR that formaldehyde emissions meet California Air Resources Board ATCM ultra-low emitting formaldehyde (ULEF) requirements. (see also section 01 61 01)

## **2.2 Finishes**

- 2.2.1 All Exhibitry, including related and/or integrated Millwork shall be finished in accordance with the Design Drawings, Finish Schedule and any and all related Specifications. Finishes shall also comply with the quality levels in Part 1.3 (Quality Assurance) and as described herein.
- 2.2.2 All finishes shall be as specified in the Finish Schedule and in compliance with Indoor requirements and / or Outdoor requirements as required by the location of the Exhibitry or Exhibitry related Millwork assembly. If there is a discrepancy between the finish/es specified in the Design Documents and the performance requirements determined by the use and/or location requirements of the Exhibitry Item/s, the Contractor is to notify the Departmental Representatives in writing immediately.
- 2.2.3 All finishes shall be in compliance with all Code and Regulatory Agency requirements for the project and location within the Project.

- 2.2.4 All site applied paints and finishes must comply with both the CDPH v1.1 General Emissions Evaluation and VOC content requirements of CARB 2007 SCM for Architectural Coatings or SC AQMD Rule 1113, 2011. Factory-applied finishes are exempt. (See also section 01 61 01)
- 2.2.5 All finish materials shall be treated with a Flame-retardant process where required by local code. Should Flame-retardant process cause any change in colour and/or texture of finish, Contractor shall notify the Departmental Representatives immediately in writing.
- 2.2.6 Prior to finishing, woods and all other surface substrates applicable to Exhibitry shall be filled, sanded, primed and cleaned if and where applicable.
- 2.2.7 Transparent finishes on wood shall be full filled and stained to match the colour specified in the Finish Schedule, and have a water, alcohol and burn-resistant finish. The degree of sheen is to comply with what is specified in the Finish Schedule. Consult Finish Schedule and data / cut-sheets for added information on specified finishing products.
- 2.2.8 All paint and other Finish material shall be pure and not diluted more than manufacturer recommendations for maximum performance.

### **2.3 Hardware and Accessories**

- 2.3.1 All Exhibitry and Exhibitry related Millwork hardware and accessories shall be furnished and installed by the Exhibitry Contractor as indicated on drawings and specifications.
- 2.3.2 Where products are not specified in the Drawings or Finish Schedule or anywhere in the Contract Documents, the Contractor shall recommend via submittal to the Departmental Representatives product description and applicable cut-sheets of suggested hardware to provide the function fulfilling Design Intent described. All methods of attachment including hinges to be concealed unless otherwise noted.
- 2.3.3 Contractor shall submit samples of each hardware item /type and accessory item/type to the Departmental Representatives for approval according to Part 1.2 Submittal Section.
- 2.3.4 All Exhibitry and Exhibitry related Millwork hardware and accessories shall be installed in accordance with manufacturers recommendations.
- 2.3.5 All hardware shall be provided with necessary facilities for locking, unless otherwise specified. Locks shall be flush mounted unless noted otherwise. All locks shall be furnished with two keys and all locks shall be master keyed.

## 2.4 Other Materials

- 2.4.1 Contractor shall be responsible for providing and installing all items and materials as indicated on drawings and specifications comprising all or part of the Exhibitry and Exhibitry related Millwork shown. Such items and materials shall be fabricated and installed according to manufacturer recommendations and comply with all applicable and related Industry Standards.
- 2.4.2 Such Items and Materials may include but not limited to the following and shall comply with following requirements and comply with all applicable Industry and Code standards, including but not limited to Fire Safety and Health unless noted otherwise in the Design and Specification documents:
- a. Concrete: Both Footings and Pads to support Exhibitry. General Design Intent and overall dimensional requirements, with respect to visual extents are described in the Design Drawings. The Detail and Specification is the responsibility of the Contractor. Specification and Detail must be reviewed for code compliance, signed and sealed by the Departmental Representative. This review and approval by the Departmental Representative is the responsibility of the Contractor. Design must also be submitted to the Departmental Representatives per submittal section for review.
  - b. Electrical: All electrical elements integrated into Exhibitry and/ or Exhibitry related Millwork shall comply with applicable sections of the General Specification including Section 26 00 00.
  - c. Lighting: All Exhibit Lighting shall be CSA or cUL approved unless specified otherwise, or as required by local electrical code. Contractor shall be responsible for providing Main Exhibit Lighting, Lighting Track and Fixtures, and Lighting within Exhibitry related Millwork items unless otherwise noted. All Exhibit Lighting shall comply with applicable sections of the General Specification including Section 26 50 00.
  - d. Glass and related items: Unless specified otherwise in drawings and specifications, shall be in accordance with section 08 80 50.
  - e. Specialty Acrylics: Custom Specialty Acrylic domes and viewports shall be as specified and shall be applied as per manufacturers recommendations. Products shall be of suitable durability for the purposes intended and able to withstand commercial public use over a period of ten years. Contractor to provide warranty information with submittals.
  - f. Adhesives: All adhesives, glues, bedding compounds and mastic shall be as recommended for the required application (for both indoors and outdoors) and conditions of installation by the manufacturer of the material / item being adhered and the substrate being adhered to, and meet Premium Grade / Best Quality

standards. Only compounds which are proven to be fully compatible with surfaces contacted shall be used. All site-applied adhesives and sealants must comply with both the CDPH V1.1 General Emissions Evaluation and VOC Content requirements of SCAQMD Rule 1168, 2005. Factory-applied adhesives and sealants are exempt. (See also section 01 61 01)

- g. Sculptural Foam: Custom Sculptural Foam shall be as specified and shall be applied as per manufacturers recommendations. Products shall be of suitable durability for the purposes intended and able to withstand commercial public use over a period of ten years. Contractor to provide warranty information with submittals.
- h. 3D printed Topographical map: Shall be fabricated from materials as specified in the Design Documents and shall be applied as per manufacturers recommendations. Products shall be of suitable durability for the purposes intended and able to withstand commercial public use over a period of ten years. Contractor to provide warranty information with submittals.
- i. Resilient Coverings: All resilient covering materials shall be as specified and shall be applied as per manufacturers recommendations.
- j. Upholstery / Fabric: Any and all Upholstery and Fabric shall be as indicated on the drawings and specifications and shall be applied as per manufacturers recommendations.
- k. Wallcoverings and Wall mounted Prints and Graphics shall be as indicated on drawings and shall be applied as per manufacturers recommendations.

## **PART THREE: EXECUTION**

### **3.1 Examination of Conditions**

- 3.1.1 Contractor shall be responsible for examination of the substrates and the conditions under which the Exhibitry and Exhibitry related Millwork is to be installed. It is the responsibility of the Contractor not to proceed with this work unless satisfactory conditions have been met. It is also the responsibility of the Contractor to advise the Departmental Representatives in writing of any and all conditions which are unsatisfactory for the proper execution and installation of the of the Contractor's scope of work.

### **3.2 Fabrication**

- 3.2.1 All work shall be performed in such a manner as to fulfill the Design Intent of the Drawings and Specifications.

- 3.2.2 All items are to be Shop fabricated and in the case of Exhibitry related Millwork, in compliance recommendations of the "Millwork Standards" of the Architectural Woodwork Manufacturer's Association of Canada. (AWMAC) The NAAWS is to be used on this project. All Exhibitry and Exhibitry related Millwork items are to be fabricated according to the sizes and designs indicated on the drawings and specifications and assembled in single and complete units in so far as the dimensions thereof will permit shipment to and installation at the site. Large pieces requiring Sectional Construction shall have their divisional sections accurately fitted and aligned with each other. Ample necessary hardware for joining is to be provided including but not limited to, screws, glue, bolt locks, tongues, grooves and splines, dowels, mortises and tenons, key strips and any other suitable means of concealed fastening, as required to render the work substantial, rigid and permanently secured in proper position and to its related corresponding section.
- 3.2.3 Where necessary to fit at site, provide ample allowance for cutting and fitting. Sufficient additional material shall be allowed to permit accurate scribing to walls, ceilings and floors, as well as any adjoining surfaces. Allowance is also to be made for any shrinkage or movement which may develop after installation. All Single and Sectional units shall be provided with adequate cleating, blocking, crating and other forms of protection and/or support as required to prevent damages during shipping and handling to the point of installation.
- 3.2.4 Framing and Blocking members shall be assembled with bolted and screwed connections and shall be secured to the structural backings with screws or bolts as required, spaced and installed so as to insure ample strength and rigidity. Rails and Stiles or framing members shall be mortised and tenoned or doweled or splined and clamped tight with water resistant glue (Franklin Titebond or equal). All fixtures shall be assembled without face screws or nails. Where it is necessary to face fasten, adequate sized staples may be used with the grain, if applicable and resultant hole filled with matching surface filler.
- 3.2.5 In some cases, it may be necessary to use screws to face fasten. In this case, matching plugs are to be used and rendered flush.
- 3.2.6 On Exhibitry and Exhibitry related Millwork whose face or exposed surface is to receive a transparent or semi-transparent finish, all semi-exposed surfaces (interior or behind closed doors) of these items shall be sanded smooth and given one coat of sanding sealer and minimum two coats of water borne clear lacquer in the shop prior to shipping to job site. The interior or semi-exposed surface shall be without stain unless noted otherwise on the drawings and/or specifications.
- 3.2.7 On Exhibitry and Exhibitry related Millwork whose face or exposed surface is to receive an opaque or painted finish, all semi-exposed surfaces (interior or behind closed doors) of these items shall be sanded smooth and given the same finish as specified for the face.
- 3.2.8 All items where paint is required shall be shop sprayed except where impractical or otherwise specified.

- 3.2.9 All shelving shall be adjustable unless indicated otherwise on drawings and specifications.
- 3.2.10 Plastic Laminate edges shall be square, self-edges or postformed as indicated on drawings. Metal trim is not acceptable, unless specifically noted. Edges shall be neatly beveled. Joints shall be minimized in quantity and be made a smooth hairline.
- 3.2.11 All site-applied adhesives and sealants must comply with both the CDPH V1.1 General Emissions Evaluation and VOC Content requirements of SCAQMD Rule 1168, 2005. Factory-applied adhesives and sealants are exempt. (See also section 01 61 01)

### **3.3 Installation**

- 3.3.1 Install all Exhibitry and Exhibitry related Millwork straight, plumb, level and in true alignment except where otherwise indicated or Design Intent dictates an alternate condition. Fit all joints tightly and fasten all pieces rigidly in place, except where movement or directional travel is of Design Intent. Finished size shall be as indicated on drawings. If site dimensions do not allow intended finished size, Contractor is to notify the Departmental Representatives in writing and propose an alternate dimension.
- 3.3.2 Surfaces shall be left free from hammer marks, warp, twist. Defects shall be filled or scraped flat and sanded smooth ready for finish.
- 3.3.3 Length of all running trim shall be as long as practical.
- 3.3.4 Shim as required using concealed shims for tight and secure fit to opening, wall and/or floor.
- 3.3.5 Cut Exhibitry assemblies and Exhibitry related Millwork to fit on site unless specified to be shop fabricated and pre-cut to exact size. Where Exhibitry and Exhibitry related Millwork abuts other finished work, scribe and cut for accurate fit.
- 3.3.6 Upon Installation of Exhibitry assemblies and Exhibitry related Millwork, distribute defects allowed in the quality grade specified to the best overall advantage and appearance benefit.
- 3.3.7 Install trim and mouldings in single, unjointed lengths and for runs less than maximum length of material stock available. Stagger joints in adjacent lengths.
- 3.3.8 Attach Exhibitry and Exhibitry related Millwork securely in place with uniform joints providing for thermal and building movement. Attach to substrates by anchoring and fastening as shown in the drawings and as required by approved and accepted industry standards and as follows:

- a. Nailing / Stapling: Blind nail / staple where possible. Use staples of appropriate size where exposed with the grain where applicable.
  - b. Anchoring: Secure Exhibitry to anchors / blocking or directly attach to substrates.
- 3.3.9 Where finishes are applied on the job site, clean Exhibitry and/or Exhibitry related Millwork fill staple holes in preparation for finishes application. Where wood or surface is to receive a transparent finish, consult finish manufacturer for best means of hiding surface holes. Use best practices in the industry for this application.
- 3.3.10 For Fire Retardant Exhibitry and Exhibitry related Millwork as specified in the drawings and /or specification or required by local building code, handle, store and install in accordance with manufacturers direction and as required to meet the desired classification or rating. Provide special fasteners, adhesives and other accessories as tested and listed for the type of fire retardant rating. If the rating applies to the surface finish, ensure a field applied coating or re-coat any and all cut or resultant exposed surfaces of the same compound used for shop surface treatment.
- 3.3.11 Fit Exhibitry and Exhibitry related Millwork to other work, scribe and cope as required for accurate tight fit. Coordinate location of furring, nailers, blocking and support plinths and floor pads to properly support installations.

### **3.4 Cleaning and Protection**

- 3.4.1 Clean shop finished Exhibitry and Exhibitry related Millwork. Touch up finish as required and remove and re-finish damaged and/or soiled areas of finish to make new.
- 3.4.2 Provide temporary boxing and/or crating as required for shipping and delivery. Protect installed Exhibitry and/or Exhibitry related Millwork from site damage and damage by work from other trades until all items are securely installed and ready for Departmental Representative's acceptance of the work and Project handover has occurred.
- 3.4.3 Contractor is to advise the Departmental Representatives of procedures and precautions for protection of materials and installed assemblies of Exhibitry and Exhibitry related Millwork from damage and of the required temperature and humidity which must be maintained during the remainder of the Construction period.
- 3.4.4 The Contractor is to provide the Departmental Representatives with a Project Maintenance manual outlining procedures and precautions for protection and ongoing maintenance of materials and installed assemblies of Exhibitry and Exhibitry related Millwork during the lifespan of the completed project.

END OF SECTION

Waterton Lakes National Park								
GRAPHIC SCHEDULE								
DATE PREPARED:	Aug 30 2018	PROJECT MGR.:						
CITY:	Waterton	SHIP DATE:						
LOCATION:	WLNP	DESIGNER:						
CLIENT:	Parks Canada	PREPARED BY:						
LAST UP DATE:	2019-02-11							
ID#	Item Name	Photo Images	Qty	Overall / Nominal Dim.			Substrate	Notes
				Horiz't (mm)	Vert (mm)	Thickness		
1.0	Exterior Exhibits							
1.01	Exterior Orientation Kiosk							
1.01-1	Park Map		1	3250	1740	12	Polycarbonate	Artcraft Digital Diamond or equivalent
		Photo 1: WLNP: Colorful viny sunrise jan 2015	1					
		Photo 2: WLNP Waterton Winter	1					
		Photo 3: WLNP Blakiston Cteek	1					
		Photo 4: WLNP Marina Red Chairs	1					
		Photo 5: WLNP Red Rock Canyon	1					
		Photo 1: WLNP: Bears Hump View Spring 2015	1					
1.01-2	Notice Board/Regulatory Info		4	1505	1394	12	Polycarbonate	Artcraft Digital Diamond or equivalent
1.01-3	Town Map		4	772	1564	12	Polycarbonate	Artcraft Digital Diamond or equivalent
1.01-4	Park Images		4	1906	317	12	Polycarbonate	Artcraft Digital Diamond or equivalent
		Photo 1: WLNP Rowe Basin	4					
		Photo 2: WLNP Aerial view from park gate	4					
		Photo 3: WLNP Prairie Flowers	4					
		Photo 4: WLNP Viny Sunrise	4					
		Photo 5: WLNP Bellevue Ridge with flowers	4					
		Photo 6: WLNP Crandell Lake	4					
1.01-5	Territorial Map		1	1306	1176	12	Polycarbonate	Artcraft Digital Diamond or equivalent
		Metro Custom Illustration: Blackfoot territory map	1					
1.01-6	Display Board #1		1	1525	1220	6	Maglass	3M IJ180 with a GBC Artic sand 3mm lamination transmounted to maglass substrate
1.01-7	Display Board #2		1	1525	1220	6	Maglass	3M IJ180 with a GBC Artic sand 3mm lamination transmounted to maglass substrate
1.02	Crown of the Continent							
1.02.2	Convergence Node							
1.02-1	Crown of the Continent Introduction (side 2a)		1	737	1956	12	Polycarbonate	Artcraft Digital Diamond or equivalent
		Photo 1: Ryan Peruniak: Visitor Centre-146.JPG						
		Illustration background Metro: currently vector based w/c						
		Illustration griz bear: Metro: to be completed						
1.02-2	Not Used							
1.02-3	Etched Topo Lines (side 1b)		1			10	Weathered Steel	
1.02-4	Etched Topo Lines (side 2b)		1			10	Weathered Steel	
1.02-5	Etched Animal Element (side 1a)		1	264	241	10	Weathered Steel	
1.02-6a	Etched English Word (LAND)		1	120pt		10	Weathered Steel	
1.02-6b	Etched Blackfoot Word (?)		1	120pt		10	Weathered Steel	
1.02-6c	Etched French Word (LA TERRE)		1	120pt		10	Weathered Steel	
1.02.1-1	Canada/US Boarder (line and names)	Typography	1	120pt			Stainless Steel	
1.02.1-2	Alberta/BC Boarder (line and names)	Typography	1	120pt			Stainless Steel	
1.02.1-3	Montana/Idaho Boarder (line and names)	Typography	1	120pt			Stainless Steel	
1.02.1-4.1	City Name: Standoff		1	102 dia		10	Etched stainless steel dowels	Font size 48
1.02.1-4.2	City Name: Fernie		1	102 dia		10	Etched stainless steel dowels	Font size 48
1.02.1-4.3	City Name: Sparwood		1	102 dia		10	Etched stainless steel dowels	Font size 48
1.02.1-4.4	City Name: Elkford		1	102 dia		10	Etched stainless steel dowels	Font size 48
1.02.1-4.5	City Name: Crowsnest Pass		1	102 dia		10	Etched stainless steel dowels	Font size 48
1.02.1-4.6	City Name: Pincher Creek		1	102 dia		10	Etched stainless steel dowels	Font size 48
1.02.1-4.7	City Name: Cardston		1	102 dia		10	Etched stainless steel dowels	Font size 48
1.02.1-4.8	City Name: Eureka		1	102 dia		10	Etched stainless steel dowels	Font size 48
1.02.1-4.9	City Name: Whitefish		1	102 dia		10	Etched stainless steel dowels	Font size 48
1.02.1-4.10	City Name: Kalispell		1	102 dia		10	Etched stainless steel dowels	Font size 48
1.02.1-4.11	City Name: Poison		1	102 dia		10	Etched stainless steel dowels	Font size 48
1.02.1-4.12	City Name: Browning		1	102 dia		10	Etched stainless steel dowels	Font size 48
1.02.1-4.13	City Name: Choteau		1	102 dia		10	Etched stainless steel dowels	Font size 48
1.02.1-4.14	City Name: Cranbrook		1	102 dia		10	Etched stainless steel dowels	Font size 48
1.02.1-4.15	City Name: Calgary		1	102 dia		10	Etched stainless steel dowels	Font size 48
1.02.1-4.16	City Name: Lethbridge		1	102 dia		10	Etched stainless steel dowels	Font size 48
1.02.1-4.17	City Name: Great Falls		1	102 dia		10	Etched stainless steel dowels	Font size 48
1.02.1-4.18	City Name: Missoula		1	102 dia		10	Etched stainless steel dowels	Font size 48

Waterton Lakes National Park								
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<b>LOCATION:</b>	WLNP	<b>DESIGNER:</b>						
<b>CLIENT:</b>	Parks Canada	<b>PREPARED BY:</b>						
<b>LAST UP DATE:</b>	2019-02-11							
ID#	Item Name	Photo Images	Qty	Overall / Nominal Dim.			Substrate	Notes
				Horiz't (mm)	Vert (mm)	Thickness		
<b>1.0</b>	<b>Exterior Exhibits</b>							
1.02.1-5a	Metal River Medallions: Saskatchewan River	Cut etched metal - round	1	610 diam		10	Etched Stainless Steel	
1.02.1-5b	Metal River Medallions: Columbia River	Cut etched metal - round	1	610 diam		10	Etched Stainless Steel	
1.02.1-5c	Metal River Medallions: Missouri River	Cut etched metal - round	1	610 diam		10	Etched Stainless Steel	
1.02.1-6a	Community Name Plates: Saskatchewan River Community Panel a		1	305 diam		10	Etched Stainless Steel	
1.02.1-6b	Community Name Plates: Saskatchewan River Community Panel b		1	305 diam		10	Etched Stainless Steel	
1.02.1-6c	Community Name Plates: Saskatchewan River Community Panel c		1	305 diam		10	Etched Stainless Steel	
1.02.1-6d	Community Name Plates: Columbia River Community Panels Panel d		1	305 diam		10	Etched Stainless Steel	
1.02.1-6e	Community Name Plates: Columbia River Community Panels Panel e		1	305 diam		10	Etched Stainless Steel	
1.02.1-6f	Community Name Plates: Columbia River Community Panels Panel f		1	305 diam		10	Etched Stainless Steel	
1.02.1-6g	Community Name Plates: Missouri River Community Panels Panels Panel g		1	305 diam		10	Etched Stainless Steel	
1.02.1-6h	Community Name Plates: Missouri River Community Panels Panels Panel h		1	305 diam	s	10	Etched Stainless Steel	
1.02.1-6i	Community Name Plates: Missouri River Community Panels Panels Panel i		1	305 diam		10	Etched Stainless Steel	
<b>1.03</b>	<b>Water Path</b>							
1.03-1	Water Intro Panel (side 1a) other side is 1.04.1)		1	720	1670	12	Polycarbonate	Artcraft Digital Diamond or equivalent
		Photo 1: WLNP: high res image supplied in file. WLNP_Cameron Falls.tif Illustration Metro: currently vector based w/c Illustration Metro: to be completed						
1.03.1-1	Northern leopard frog species ID	Cut out	1	559	381	10	Weathered Steel	
1.03.2-1	Spotted sandpiper species ID	Cut out	1	457	381	10	Weathered Steel	
1.03.3-1	River otter species ID	Cut out	1	838	635	10	Weathered Steel	
1.03.4-1	Bull trout species ID	Cut out	1	635	368	10	Weathered Steel	
<b>1.04</b>	<b>Water &amp; Land Convergence Node</b>							
1.04-1	1.04-1 Water & Land Graphic (side 2a of 1.04.1) Other side is 1.03-1		1	737	1956	12	Polycarbonate	Artcraft Digital Diamond or equivalent
		Photo 1 - beaver dam: ING: ING_00896_16813.jpg Illustration - background Metro: currently vector based w/c Illustration - fish Metro: to be completed						Cost approx. \$15
1.04-2	NOT USED							
1.04-3	Etched Topo Lines (side 1b)		1			10	Weathered Steel	
1.04-4	Etched Topo Lines (side 2b)		1			10	Weathered Steel	
1.04-5	Etched Animal Element (side 1a)		1	249	244	10	Weathered Steel	
1.04-6a	Etched English Word (WATER)		1	120pt		10	Weathered Steel	
1.04-6b	Etched Blackfoot Word (?)		1	120pt		10	Weathered Steel	
1.04-6c	Etched French Word (L'EAU)		1	120pt		10	Weathered Steel	
<b>1.05</b>	<b>Land Path</b>							
1.05-1	Land Intro Panel (side 1a) Other side is 1.02.1)		1	720	1670	12	Polycarbonate	Artcraft Digital Diamond or equivalent
		Photo 1: WLNP: WLNP_trail perspective from a plant if 2014.jpg Illustration - background: Metro: currently vector based w/c						
1.05.1-1	Wolverine species ID	Cut out	1	1041	813	10	Weathered Steel	
1.05.2-1	Cougar species ID	Cut out	1	1856	1194	10	Weathered Steel	
1.05.3-1	Coyote species ID	Cut out	1	1473	965	10	Weathered Steel	
<b>1.06</b>	<b>Land &amp; Air Convergence</b>							
1.06-1	Land & Air Graphic (side 2a) other side is 1.07-1		1	737	1956	12	Polycarbonate	Artcraft Digital Diamond or equivalent
		Photo 1: WLNP: WLNP_icy foggy Upper Water sl 1978.jpg Illustration - background: Metro: currently vector based w/c						
1.06-2	NOT USED							
1.06-3	Etched Topo Lines (side 1b)		1			10	Weathered Steel	
1.06-4	Etched Topo Lines (side 2b)		1			10	Weathered Steel	
1.06-5	Etched Animal Element (side 1a)		1	322	303	10	Weathered Steel	
1.06-6a	Etched English Word (AIR)		1	120pt		10	Weathered Steel	
1.06-6b	Etched Blackfoot Word (?)		1	120pt		10	Weathered Steel	
1.06-6c	Etched French Word (L'AIR)		1	120pt		10	Weathered Steel	
<b>1.07</b>	<b>Air Path</b>							

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CLIENT:		Parks Canada		PREPARED BY:				
LAST UP DATE:		2019-02-11						
ID#	Item Name	Photo Images	Qty	Overall / Nominal Dim.			Substrate	Notes
				Horiz't (mm)	Vert (mm)	Thickness		
<b>1.0 Exterior Exhibits</b>								
1.07-1	Air Intro Panel (side 2b) Other side is 1.06.1	Photo 1: WLNP_larch wind blown.cs.jpg Background Illustration: Metro: low res pixel image. Illustration - raven Metro: w/c painting. not scanned at high res	1	720	1670	12	Polycarbonate	Artcraft Digital Diamond or equivalent
1.07.1-1	Sand hill crane species ID		1	1270	927	10	Weathered Steel	
1.07.2-1	Osprey species ID		1	1041	1041	10	Weathered Steel	
1.07.3-1	Trumpeter Swan species ID		1	1778	1041	10	Weathered Steel	
1.07.4-1	Common Nighthawk species ID		1	1041	711	10	Weathered Steel	
<b>1.08 Cultural Convergence</b>								
1.08-1	Cultural Convergence Panel (side 1a)	Photo 1: Ryan Peruniak: Visitor Centre-88.jpg Illustration - background: Metro: low res pixel image.	1	720	1670	12	Polycarbonate	Artcraft Digital Diamond or equivalent
1.08-2	Cultural Convergence Panel (side 2a)	Photo 1: Ryan Peruniak: Visitor Centre-88.jpg Illustration - background Metro: low res pixel image.	1	720	1670		Polycarbonate	Artcraft Digital Diamond or equivalent
1.08-3	Etched Topo Lines (side 1b)		1			10	Weathered Steel	
1.08-4	Etched Topo Lines (side 2b)		1			10	Weathered Steel	
1.08-5	Etched Animal Element (side 1a)		1	225	198	10	Weathered Steel	
1.08-6a	Etched English Word (PEOPLE)		1	120pt		10	Weathered Steel	
1.08-6b	Etched Blackfoot Word (?)		1	120pt		10	Weathered Steel	
1.08-6c	Etched French Word (LE GENES)		1	120pt		10	Weathered Steel	
1.08.2-1a	Blackfoot (English)		1	120pt			8x8 Douglas Fir	
1.08.2-1b	Blackfoot (French)		1	120pt			8x8 Douglas Fir	
1.08.2-2a	Blackfoot Story Panel (English)	TBD	1	190.5	444.5	6	Polycarbonate	Artcraft Digital Diamond or equivalent
1.08.2-2b	Blackfoot Story Panel (French)	TBD	1	190.5	444.5	6	Polycarbonate	Artcraft Digital Diamond or equivalent
1.08.2-3a	BF Colour Badget (Left)		1	73	170	6	Polycarbonate	Artcraft Digital Diamond or equivalent
1.08.2-3a/b	BF Colour Badget (Right)		1	73	170	6	Polycarbonate	Artcraft Digital Diamond or equivalent
1.08.3-1a	Waterton-Glacier International Peace Park (English)	Etched on post	1	120pt			8x8 Douglas Fir	
1.08.3-1b	Waterton-Glacier International Peace Park (French)	Etched on post	1	120pt			8x8 Douglas Fir	
1.08.3-2a	Waterton-Glacier International Peace Park Story Panel (English)		1	190.5	444.5	6	Polycarbonate	Artcraft Digital Diamond or equivalent
1.08.3-2b	Waterton-Glacier International Peace Park Story Panel (French)		1	190.5	444.5	6	Polycarbonate	Artcraft Digital Diamond or equivalent
1.08.3-3a	Waterton-Glacier International Peace Park (Left)	Photo 1: WLNP_Bundle firepit.jpg Photo 2: WLNP_Bundle ceremony site.jpg Illustration - background: METRO: w/c is low res placeholder	1	73	170	6	Polycarbonate	Artcraft Digital Diamond or equivalent
1.08.3-3b	Waterton-Glacier International Peace Park (Right)		1	73	170	6	Polycarbonate	Artcraft Digital Diamond or equivalent
1.08.4-1a	Rotary International (etched name) (English)		1	120 pnt			8x8 Douglas Fir	
1.08.4-1b	Rotary International (etched name) (French)		1	120 pnt			8x8 Douglas Fir	
1.08.4-2a	Rotary International Story Panel (English)		1	190.5	444.5	6	Polycarbonate	Artcraft Digital Diamond or equivalent
1.08.4-2b	Rotary International Story Panel (French)		1	190.5	444.5	6	Polycarbonate	Artcraft Digital Diamond or equivalent
1.08.4-3a	Rotary International Colour Badget (Left)	Photo 1: WLNP: white bark pine nursery.jpg METRO: w/c is low res placeholder	1	73	170	6	Polycarbonate	Artcraft Digital Diamond or equivalent
1.08.4-3b	Rotary International Colour Badget (Right)		1	73	170	6	Polycarbonate	Artcraft Digital Diamond or equivalent
1.08.5-1a/b	Waterton Biosphere Reserve Association (etched name) (English/French)		1				8x8 Douglas Fir	
1.08.5-2a	Waterton Biosphere Reserve Association Story Panel (English)		1	190.5	444.5	6	Polycarbonate	Artcraft Digital Diamond or equivalent
1.08.5-2b	Waterton Biosphere Reserve Association Story Panel (French)	Photo 1 FPO: Photo requested from PCA/partnering organization	1	190.5	444.5	6	Polycarbonate	Artcraft Digital Diamond or equivalent

Waterton Lakes National Park GRAPHIC SCHEDULE								
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<b>LOCATION:</b>	WLNP	<b>DESIGNER:</b>						
<b>CLIENT:</b>	Parks Canada	<b>PREPARED BY:</b>						
<b>LAST UP DATE:</b>	2019-02-11							
ID#	Item Name	Photo Images	Qty	Overall / Nominal Dim.			Substrate	Notes
				Horiz't (mm)	Vert (mm)	Thickness		
<b>1.0</b>	<b>Exterior Exhibits</b>							
	Illustration - background	METRO: w/c is low res placeholder						
1.08.5-3a	Waterton Biosphere Reserve Association Colour Badget (Left)		1	73	170	6	Polycarbonate	Artcraft Digital Diamond or equivalent
1.08.5-3b	Waterton Biosphere Reserve Association Colour Badget (Right)		1	73	170	6	Polycarbonate	Artcraft Digital Diamond or equivalent
1.08.6-1a/b	Waterton Park Community (etched name) (English/French)		1 each			6	8x8 Douglas Fir	
1.08.6-2a	Waterton Park Community Story Panel (English)		1	190.5	444.5	6	Polycarbonate	Artcraft Digital Diamond or equivalent
	Photo	FPO: Photo requested from PCA/partnering organization						
1.08.6-2b	Waterton Park Community Story Panel (French)		1	190.5	444.5	6	Polycarbonate	Artcraft Digital Diamond or equivalent
	Illustration - background	METRO: w/c is low res placeholder						
1.08.6-3a	Waterton Park Community Colour Badget (Left)		1	73	170	6	Polycarbonate	Artcraft Digital Diamond or equivalent
1.08.6-3b	Waterton Park Community Colour Badget (Right)		1	73	170	6	Polycarbonate	Artcraft Digital Diamond or equivalent
1.08.7-1a/b	Crown of the Continent Managers (etched name) (English/French)		1 each				8x8 Douglas Fir	
1.08.7-2a	Crown of the Continent Managers Story Panel (English)		1	190.5	444.5	6	Polycarbonate	Artcraft Digital Diamond or equivalent
	Photo	FPO: Photo requested from PCA/partnering organization						
1.08.7-2b	Crown of the Continent Managers Story Panel (French)		1	190.5	444.5	6	Polycarbonate	Artcraft Digital Diamond or equivalent
	Illustration - background	METRO: w/c is low res placeholder						
1.08.7-3a	Crown of the Continent Managers Colour Badget (Left)		1	73	170	6	Polycarbonate	Artcraft Digital Diamond or equivalent
1.08.7-3b	Crown of the Continent Managers Colour Badget (Right)		1	73	170	6	Polycarbonate	Artcraft Digital Diamond or equivalent
<b>1.09</b>	<b>Respect Wildlife</b>							
1.09-1	Respect Wildlife Intro Panel	Panel 1.09-1 and 1.09-2 are a set	1	1273.7	811.4	12	Polycarbonate	Artcraft Digital Diamond or equivalent
1.09-2	Rule of Thumb	Panel 1.09-1 and 1.09-2 are a set	1	1273.7	844.6	12	Polycarbonate	Artcraft Digital Diamond or equivalent
1.09.2-1	Wolf species ID: Eng/Fr/BF	Post will be routed, text painted black and sealed or filled with resin	1		2133		8x8 Douglas Fir	Engrave 1 side of the post (TBD)
1.09.2-2	Wolf Family Story Panel		1	1068	460	12	Polycarbonate	Artcraft Digital Diamond or equivalent
	Photo	ING: Wolf family						
1.09.3-1	Black Bear species ID:Eng/Fr/BF	Post will be routed, text painted black and sealed or filled with resin	1		2133		8x8 Douglas Fir	3 sides of the post
1.09.3-2	Rubbing Tree Story Panel		1	1068	460	12	Polycarbonate	Artcraft Digital Diamond or equivalent
	Photo	Ryan Peruniak: Bear Marked Tree						
1.09.4-1	Badger species ID: Eng/Fr/BF	Post will be routed, text painted black and sealed or filled with resin	1x3		2133		8x8 Douglas Fir	Engrave 1 side of post TBD
1.09.5-1	Ground Squirrel species ID:Eng/Fr/BF	Post will be routed, text painted black and sealed or filled with resin	1x3		2133		8x8 Douglas Fir	3 sides of the post TBD
1.09.7-1	Big Horn Sheep species ID:Eng/Fr/BF	Post will be routed, text painted black and sealed or filled with resin	1x3		2133		8x8 Douglas Fir	3 sides of the post TBD
1.09.8-1	Mule Deer species ID:Eng/Fr/BF	Post will be routed, text painted black and sealed or filled with resin	1x3		2133		8x8 Douglas Fir	3 sides of the post TBD
1.09.0-1	Yellow-Rumped Warbler species ID:Eng/Fr/BF	Post will be routed, text painted black and sealed or filled with resin	1x3		2133		8x8 Douglas Fir	3 sides of the post TBD
<b>1.10</b>	<b>Demonstration Garden</b>							
1.10-1 thru xx	Species ID (quantity TBD)			125	54		polycarbonate	
<b>1.0</b>	<b>Interior Exhibits</b>							
<b>2.00</b>	<b>Welcome Stone</b>							
2.01-1	Welcome Message	etched message in welcome stone: English	1	500	400	12	Tempered Glass	
2.01-2	Display Boards		2	1016 da.		12	Maglass	3M IJ180 with a GBC Artic sand 3mm lamination transmounted to maglass substrate
2.01-3	Welcome Song Interpretation		1	610	510	12	Polycarbonate	
2.01-4	Treaty Song Interpretation		1	610	510	12	Polycarbonate	
<b>2.02</b>	<b>Interior Orientation Area</b>							
2.02-1	Welcome Panel		1	3827	1060	0.5	Polycarbonate	Artcraft Digital Diamond or equivalent
2.02-2	Park Map		1	2100	1300	0.5	Polycarbonate	Artcraft Digital Diamond or equivalent, will have standoffs
2.02-3	Town Map/Territorial Map	Monitor	1	3210	710	0.5	Polycarbonate	Artcraft Digital Diamond or equivalent
	Custom Illustration	Metro: Blackfoot territory map						
2.02-4	Regulatory Info		1	2785	370	0.5		
2.02-5	Fixed Notice Board	Design to reflect front desk design	1	915	1365	12	Polycarbonate	Open / Close / Full sliders
2.02-6	Magnetic Glass Display Board	Design to reflect front desk design	1	915	1830	12	Magnetic Glass	Mag Glass or equivalent
2.02-7	Magnetic Glass Display Board	Design to reflect front desk design	1	915	1830	12	Magnetic Glass	Mag Glass or equivalent

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<b>CLIENT:</b>	Parks Canada	<b>PREPARED BY:</b>						
<b>LAST UP DATE:</b>	2019-02-11							
ID#	Item Name	Photo Images	Qty	Overall / Nominal Dim.			Substrate	Notes
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<b>1.0</b>	<b>Exterior Exhibits</b>							
2.02-8	Magnetic Glass Display Board	Design to reflect front desk design	1	915	1830	12	Magnetic Glass	Mag Glass or equivalent
2.02-9	Fixed Notice Board	Design to reflect front desk design	1	915	1365	12	Polycarbonate	Open / Close / Full sliders
2.02-10	Welcom Panel (stage)		1	2134	1372	12	Polycarbonate	Artcraft Digital Diamond or equivalent
<b>2.04</b>	<b>Biodiversity Wall</b>							
2.04-1	Illustration of biodiversity walls for touch screen		1					
2.04-2	Bird Drawer		1	152	228			
		Photo: WLNP: CLNU with WBP seed in pouch 2-cs.jpg						
2.04-3	Fish Drawer		1	TBC	TBC			
		Photo: (123RF): 75358698-rainbow-trout-oncorhynchus-mykiss-close-up-under-water						
2.04-4	Amphibian & Reptile Drawer		1	TBC	TBC			
		Photo: WLNP: Salamander						
2.04-5	Mammal Drawer		1	TBC	TBC			
		Photo WLNP: 2 bison by lake ck						
2.04-6	Vascular Plant Drawer		1	TBC	TBC			
		Photo: WLNP): Limber pine cones 1st&2nd yr cs 06						
2.04-7	Rare and Diverse Plant Drawer		1	TBC	TBC			
		Photo: (Alamy) GD3N0F						
2.04-8	Invertebrates Drawer		1	TBC	TBC			
		Photo: WLNP): fritillary on asters ms 2003						
2.04-9	Labels (quantity TBD)							
<b>2.05</b>	<b>Night Sky</b>							
2.05-1	Night Sky Intro Mural		1	2570	2826		3M IJ180 with a GBC Artic sand 3mm lamination	Better adhesion is acheieved on semi gloss painted wall.
		WLNP great horned owl in tree.jpg						
	Illustration - background	METRO: w/c is low res placeholder						
2.05-2	Night Sky Exit Mural		1	2015	3300		3M IJ180 with a GBC Artic sand 3mm lamination	Better adhesion is acheieved on semi gloss painted wall.
2.05-3	Mural - Environmental Graphic		1	2700	3300		3M IJ180 with a GBC Artic sand 3mm lamination	Better adhesion is acheieved on semi gloss painted wall.
2.05-4	Mural- Star treatment Design part 1		1	2570	2826		3M IJ180 with a GBC Artic sand 3mm lamination	Better adhesion is acheieved on semi gloss painted wall.
2.05-5	Mural- Star treatment Design part 2		1	2570	2826		3M IJ180 with a GBC Artic sand 3mm lamination	Better adhesion is acheieved on semi gloss painted wall.
<b>2.06</b>	<b>Forces of Nature</b>							
2.06-1	Intro Mural w/ Stories	METRO: Low res w/c illustration	1	2499	4000		3M IJ180 with a GBC Artic sand 3mm lamination	Better adhesion is acheieved on semi gloss painted wall.
		WLNP_Summit Lake PB terra torch 2009						
2.06.2	Renewal Wall Environmental Graphic Background	Background vinyl	1				3M IJ180 with a GBC Artic sand 3mm lamination	Better adhesion is acheieved on semi gloss painted wall.
2.06-2.1	Renewal Wall Photo Panel 1	WLNP smoky trees.jpg	1	396	396	12	Polycarbonate	Artcraft Digital Diamond or equivalent
2.06-2.2	Renewal Wall Photo Panel 2	WLNP violets in black - Sofa Mtn Fire.jpg	1	396	396	12	Polycarbonate	Artcraft Digital Diamond or equivalent
2.06-2.3	Renewal Wall Photo Panel 3	METRO: Watercolor Illo	1	396	396	12	Polycarbonate	Artcraft Digital Diamond or equivalent
2.06-2.4	Renewal Wall Photo Panel 4	WLNP Sofa fire regrowth cs 2003	1	573	1018	12	Polycarbonate	Artcraft Digital Diamond or equivalent
2.06-2.5	Renewal Wall Photo Panel 5	GETTY: Getty_125981189.jpg (woodpecker)	1	573	1018	12	Polycarbonate	Artcraft Digital Diamond or equivalent
2.06-2.6	Renewal Wall Photo Panel 6	WLNP Rowe Basin pan 1 - cs.jpg	1	573	1018	12	Polycarbonate	Artcraft Digital Diamond or equivalent
2.06-2.7	Renewal Wall Photo Panel 7	WLNP Rowe Basin pan 1 - cs.jpg	1	573	1018	12	Polycarbonate	Artcraft Digital Diamond or equivalent
2.06-2.8	Renewal Wall Photo Panel 8	WLNP Sofa fire Fall colors 2 cs 2007	1	396	396	12	Polycarbonate	Artcraft Digital Diamond or equivalent
2.06-2.9	Renewal Wall Photo Panel 9	Alamy_AWR1PG.jpg (bird)	1	396	396	12	Polycarbonate	Artcraft Digital Diamond or equivalent
2.06-2.10	Renewal Wall Photo Panel 10	RyanP Visitor Centre-198 (frog)	1	396	396	12	Polycarbonate	Artcraft Digital Diamond or equivalent
2.06-3	Mosaic Screen Wall Background	Background vinyl					3M IJ180 with a GBC Artic sand 3mm lamination	Better adhesion is acheieved on semi gloss painted wall.
<b>2.07</b>	<b>365 Days</b>							
2.07-1	Intro Mural		1				3M IJ180 with a GBC Artic sand 3mm lamination	Better adhesion is acheieved on semi gloss painted wall.
		WLNP half moon Vimy sl 1981						
		Background Illustration: METRO: vector based w/c with photo manipulation	1	2570	2826			
2.07-2.1	Moon Phases	13 moons of BF	1	1614	457	12	Polycarbonate	Artcraft Digital Diamond or equivalent
2.07-2.2	Moon Phases	13 moons of BF	1	2764	457	12	Polycarbonate	Artcraft Digital Diamond or equivalent

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<b>1.0</b>	<b>Exterior Exhibits</b>							
2.07-2.3	Moon Phases	13 moons of BF	1	1210	457	12	Polycarbonate	Arctcraft Digital Diamond or equivalent
2.07-3	Images of WLNP (quantity: 104 photos)		1					
<b>2.08</b>	<b>A Day at WLNP</b>							
2.08-1	Intro Mural		1	4093	12798		3M IJ180 with a GBC Artic sand 3mm lamination	Better adhesion is acheived on semi gloss painted wall.
2.08-2	Story Panel	spin browser	1	550	550	12	Polycarbonate	Arctcraft Digital Diamond or equivalent
<b>2.09</b>	<b>Under the Surface</b>							
2.09-1	Under the Surface Environmental Graphic Background		1				3M IJ180 with a GBC Artic sand 3mm lamination	Better adhesion is acheived on semi gloss painted wall.
2.09-1.1	Illustration Panel	METRO: Watercolor tinting blue	1	396	396	12	Polycarbonate	Arctcraft Digital Diamond or equivalent
2.09-1.2	Photo Panel (colored rocks)	Ryan P: Visitor Centre 109	1	573	1018	12	Polycarbonate	Arctcraft Digital Diamond or equivalent
2.09-1.3	Photo Panel	WLNP: PC otters-1	1	680	1209	12	Polycarbonate	Arctcraft Digital Diamond or equivalent
2.09-1.4	Photo Panel	WLNP: PC otters-1	1	573	1018	12	Polycarbonate	Arctcraft Digital Diamond or equivalent
2.09-1.5	Photo Panel (pic of lake from mt. top)	Ryan P: Visitor Centre 146	1	573	1018	12	Polycarbonate	Arctcraft Digital Diamond or equivalent
2.09-1.6	Photo Panel (swimming beaver)	Ryan P: Visitor Centre 49	1	680	1209	12	Polycarbonate	Arctcraft Digital Diamond or equivalent
2.09-1.7	Photo Panel	WLNP: PC amphipod	1	396	396	12	Polycarbonate	Arctcraft Digital Diamond or equivalent
2.09-1.8	Photo Panel	WLNP: PC NLFER juvenile3 2008	1	573	1018	12	Polycarbonate	Arctcraft Digital Diamond or equivalent
2.09-1.9	Photo Panel	WLNP: PC tadpole	1	396	396	12	Polycarbonate	Arctcraft Digital Diamond or equivalent
2.09-1.10	Photo Panel	WLNP: PC otter with fish	1	396	396	12	Polycarbonate	Arctcraft Digital Diamond or equivalent
2.09-1.11	Photo Panel (waves)	Ryan P: Visitor Centre 195	1	680	1209	12	Polycarbonate	Arctcraft Digital Diamond or equivalent
2.09-1.12	Illustration Panel	ING: ISS 10621 00660	1	396	396	12	Polycarbonate	Arctcraft Digital Diamond or equivalent
2.09-1.13	Photo Panel	Getty 177665486.jpg	1	573	1018	12	Polycarbonate	Arctcraft Digital Diamond or equivalent
2.09-1.14	Photo Panel	Getty 177665486.jpg	1	573	1018	12	Polycarbonate	Arctcraft Digital Diamond or equivalent
2.09-1.15	Photo Panel	Getty 177665486.jpg	1	680	1209	12	Polycarbonate	Arctcraft Digital Diamond or equivalent
<b>2.10</b>	<b>Topographical Map</b>							
2.10-1	Mts meet Praries / Geological Story		1	3198	610		3M IJ180 with a GBC Artic sand 3mm lamination	
		Photo: WLNP Vimy and Prarie Gaillardia&Lupin						
		Photo: WLNP: Rock folding-tick face						
	Illustration	METRO: Illustration Lewis Thrust						
2.10-2	Topo Map with Map Key		1					this will be a 3D colour printed model
2.10-3	Blood Indian Reserve		1	673	250	12	Polycarbonate	Arctcraft Digital Diamond or equivalent
2.10-4	The Land Tells a Story: Wildlife Coridors		1				TBD	
2.10-5	The Land Tells a Story: Trade Routes		1				TBD	
2.10-6	The Land Tells a Story: Pipestone Gathering		1				TBD	
<b>2.11</b>	<b>Know Before You Go</b>							
2.11-1	Know Before You Go Panel		1	628	1462	12	Polycarbonate	Arctcraft Digital Diamond or equivalent
		WLNP Kavakers Mary Harding						
		WLNP Interpreters joy top of Bear's Hump						
		WLNP sunset mountain biker						
		WLNP snowshoe fun						
		WLNP red rock hiking						
		Illustration 1: METRO: Hiking Boot treads						
<b>2.12</b>	<b>Trip Planning</b>							
2.12-1	Trip Planning Intro Panel		1	468	1087	12	Polycarbonate	Arctcraft Digital Diamond or equivalent
		WLNP: 2011 car and back seats						
		WLNP: hiker boots						
		WLNP Vimy fall hiking cheer						
		WLNP Cameron Lake dock and people						
		WLNP mountain biking crandell loop						
		Illustration 1: METRO: Binoculars						
2.12-2	Interactive Graphic Base	Trip palning: what to bring?	1	914	914	12	Polycarbonate	Arctcraft Digital Diamond or equivalent
		WLNP: Blakiston Valley Trail						
		Illustration 1: METRO: Backpack						
2.12-3.1	Magnetic Round Disk	Illustration METRO: Bear Bell	1	76 diam		12	Polycarbonate	Arctcraft Digital Diamond or equivalent
2.12-3.2	Magnetic Round Disk	Illustration METRO: Hiking Shoes	1			12	Polycarbonate	Arctcraft Digital Diamond or equivalent
2.12-3.3	Magnetic Round Disk	Illustration METRO: Water Bottle	1			12	Polycarbonate	Arctcraft Digital Diamond or equivalent
2.12-3.4	Magnetic Round Disk	Illustration METRO: Extra Layer - tbc	1			12	Polycarbonate	Arctcraft Digital Diamond or equivalent
2.12-3.5	Magnetic Round Disk	Illustration METRO: food - tbc	1			12	Polycarbonate	Arctcraft Digital Diamond or equivalent
2.12-3.6	Magnetic Round Disk	Illustration METRO: cell phone - tbc	1			12	Polycarbonate	Arctcraft Digital Diamond or equivalent
2.12-3.7	Magnetic Round Disk	Illustration METRO: small first aid kit - tbc	1			12	Polycarbonate	Arctcraft Digital Diamond or equivalent
2.12-3.8	Magnetic Round Disk	Illustration METRO: extra socks - tbc	1			12	Polycarbonate	Arctcraft Digital Diamond or equivalent
2.12-3.9	Magnetic Round Disk	Illustration METRO: mitts - tbc	1			12	Polycarbonate	Arctcraft Digital Diamond or equivalent
2.12-3.10	Magnetic Round Disk	Illustration METRO: hat - tbc	1			12	Polycarbonate	Arctcraft Digital Diamond or equivalent
2.12-3.11	Magnetic Round Disk	Illustration METRO:	1			12	Polycarbonate	Arctcraft Digital Diamond or equivalent
2.12-3.12	Magnetic Round Disk	Illustration METRO:	1			12	Polycarbonate	Arctcraft Digital Diamond or equivalent
2.12-3.13	Magnetic Round Disk	Illustration METRO:	1			12	Polycarbonate	Arctcraft Digital Diamond or equivalent
<b>2.13</b>	<b>Awareness in the Environment</b>							

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2.13-1	Awareness in the Environment Intro Panel		1	468	1087	12	Polycarbonate	Artcraft Digital Diamond or equivalent
		WLNP: PC red chairs marina						
		WLNP: Bears Hump hiker green jacket						
		WLNP Climber David Musto						
		RyanP: Visitor Centre 147						
		Illustration 1: METRO: Canoe and Paddle						
2.13-2	Interactive Base	Touch Light sensitive dome	1	914	914	12	Polycarbonate	Artcraft Digital Diamond or equivalent
		Photo 1 background trees 123RF: 1062429 aerial top view						
2.13-3.1	Tree Silhouette Cut-Outs illustration	METRO: Tree silhouette	1			12	Polycarbonate	Artcraft Digital Diamond or equivalent
2.13-3.2	Hiker Silhouette Cut-Outs	ING: ISS 4605 01926.eps	1			12	Polycarbonate	Artcraft Digital Diamond or equivalent
2.13-3.3	Animal Silhouette Cut-Outs	ING: 02E35428 (bear)	1			12	Polycarbonate	Artcraft Digital Diamond or equivalent
<b>2.14</b>	<b>Animal Awareness</b>							
2.14-1	Animal Awareness Intro Panel		1	468	1087	12	Polycarbonate	Artcraft Digital Diamond or equivalent
		WLNP: PC Black Bear face						
		WLNP: PC cougar in snow						
2.14-2	Who's Scat is that interactive graphic base.	Scat sculpture with animal photo reveal	1	914	914	12		
		Photo 1 - background 123RF: 41719381 pine cones and twigs on the forest floor						
		Photo 2 - RyanP: Visitor Centre 34 Black bear photo (revealed when disc is moved)						
		Photo 3 - RyanP: Visitor Centre 12 Black bear photo(revealed when disc is moved)						
		Photo 4 - WLNP: mule deer grazing Deer photo (revealed when disc is moved)						
		Photo 5 - RyanP: Visitor Centre 62 Cougar photo (revealed when disc is moved)						
		Photo 6 - WLNP snow shoe hare - wintercoat3 Snowshoe hare photo (revealed when disc is moved)						
		Photo 7 WLNP Coyote running Coyote photo (revealed when disc is moved)						
		Photo 8 WLNP Spruce Grouse Grouse photo (revealed when disc is moved)						
2.14-3	round disc	bear scat 1	1	152.4	152.4	12	Polycarbonate	Artcraft Digital Diamond or equivalent
2.14-4	round disc	bear scat 2	1	152.4	152.4	12	Polycarbonate	Artcraft Digital Diamond or equivalent
2.14-5	round disc	deer poop	1	152.4	152.4	12	Polycarbonate	Artcraft Digital Diamond or equivalent
2.14-6	round disc	cougar scat	1	152.4	152.4	12	Polycarbonate	Artcraft Digital Diamond or equivalent
2.14-7	round disc	hare poop	1	152.4	152.4	12	Polycarbonate	Artcraft Digital Diamond or equivalent
2.14-8	round disc	coyote scat	1	152.4	152.4	12	Polycarbonate	Artcraft Digital Diamond or equivalent
2.14-9	round disc	grouse poop	1	152.4	152.4	12	Polycarbonate	Artcraft Digital Diamond or equivalent
<b>2.15</b>	<b>2017 Kenow Fire (Changeable Exhibit)</b>							
2.15-1	2017 Kenow Fire Intro Panel		1	468	1087	12	Polycarbonate	Artcraft Digital Diamond or equivalent
		WLNP Burning spruces2 ah 2013						
		WLNP Eskerine Prescribed burn 2013						
		WLNP The prescribed fire burns hot at Summit Lake						
		WLNP Summit Pfire - terra torch						
		Illustration 1: METRO: Burned tree						
2.15-2	2017 Kenow Fire Interactive Graphic Timeline	Slider reveal	1	914	914	12	Polycarbonate	Artcraft Digital Diamond or equivalent
		WLNP Burning snag ah Photo background						
2.15-3	WLNP Map Slider		1					
2.15-4/7	Extent of fire		1					
<b>2.16</b>	<b>Washrooms</b>							
2.16-1.1	Sound graphic			150	100	6	polycarbonate	
2.16-1.2	Sound graphic			150	100	6	polycarbonate	
2.16-1.3	Sound graphic			150	100	6	polycarbonate	
2.16-1.4	Sound graphic			150	100	6	polycarbonate	
2.16-1.5	Sound graphic			150	100	6	polycarbonate	
2.16-1.6	Sound graphic			150	100	6	polycarbonate	
2.16-1.7	Sound graphic			150	100	6	polycarbonate	
2.16-1.8	Sound graphic			150	100	6	polycarbonate	
2.16-1.9	Sound graphic			150	100	6	polycarbonate	
2.16-1.10	Sound graphic			150	100	6	polycarbonate	

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1.0	Exterior Exhibits							
2.16.2-2	Door graphic		1	700	2133		3M IJ180 with a GBC Artic sand 3mm lamination	Better adhesion is acheieved on semi gloss painted wall. Sizes to be confirmed on final drawings
2.16.2-3	Door graphic		1	700	2133		3M IJ180 with a GBC Artic sand 3mm lamination	Better adhesion is acheieved on semi gloss painted wall. Sizes to be confirmed on final drawings
2.16.2-4	Door graphic		1	700	2133		3M IJ180 with a GBC Artic sand 3mm lamination	Better adhesion is acheieved on semi gloss painted wall. Sizes to be confirmed on final drawings
2.16.2-5	Door graphic		1	700	2133		3M IJ180 with a GBC Artic sand 3mm lamination	Better adhesion is acheieved on semi gloss painted wall. Sizes to be confirmed on final drawings
2.16.2-6	Door graphic		1	700	2133		3M IJ180 with a GBC Artic sand 3mm lamination	Better adhesion is acheieved on semi gloss painted wall. Sizes to be confirmed on final drawings
2.16.2-7	Door graphic		1	700	2133		3M IJ180 with a GBC Artic sand 3mm lamination	Better adhesion is acheieved on semi gloss painted wall. Sizes to be confirmed on final drawings
2.16.2-8	Door graphic		1	700	2133		3M IJ180 with a GBC Artic sand 3mm lamination	Better adhesion is acheieved on semi gloss painted wall. Sizes to be confirmed on final drawings
2.16.2-9	Door graphic		1	700	2133		3M IJ180 with a GBC Artic sand 3mm lamination	Better adhesion is acheieved on semi gloss painted wall. Sizes to be confirmed on final drawings
2.16.2-10	Door graphic		1	700	2133		3M IJ180 with a GBC Artic sand 3mm lamination	Better adhesion is acheieved on semi gloss painted wall. Sizes to be confirmed on final drawings
2.16.2-11	Door graphic		1	700	2133		3M IJ180 with a GBC Artic sand 3mm lamination	Better adhesion is acheieved on semi gloss painted wall. Sizes to be confirmed on final drawings
2.16.2-12	Door graphic		1	700	2133		3M IJ180 with a GBC Artic sand 3mm lamination	Better adhesion is acheieved on semi gloss painted wall. Sizes to be confirmed on final drawings
2.16.2-13	Door graphic		1	700	2133		3M IJ180 with a GBC Artic sand 3mm lamination	Better adhesion is acheieved on semi gloss painted wall. Sizes to be confirmed on final drawings
2.16.2-14	Door graphic		1	700	2133		3M IJ180 with a GBC Artic sand 3mm lamination	Better adhesion is acheieved on semi gloss painted wall. Sizes to be confirmed on final drawings
2.16.2-15	Door graphic		1	700	2133		3M IJ180 with a GBC Artic sand 3mm lamination	Better adhesion is acheieved on semi gloss painted wall. Sizes to be confirmed on final drawings
2.16.2-16	Door graphic		1	700	2133		3M IJ180 with a GBC Artic sand 3mm lamination	Better adhesion is acheieved on semi gloss painted wall. Sizes to be confirmed on final drawings
2.16.2-17	Door graphic		1	700	2133		3M IJ180 with a GBC Artic sand 3mm lamination	Better adhesion is acheieved on semi gloss painted wall. Sizes to be confirmed on final drawings
2.16.2-18	Door graphic BF W/C A118		1	965	2133		3M IJ180 with a GBC Artic sand 3mm lamination	Better adhesion is acheieved on semi gloss painted wall. Sizes to be confirmed on final drawings
2.16.3-1	Wall graphic		1	1280	TBD			Graphic print is part of architectural wall finish. Refer to architectural specification for washroom wall finish.
2.16.3-2	Wall graphic		1	1280	TBD			
2.16.3-3	Wall graphic		1	1280	TBD			
2.16.3-4	Wall graphic		1	1280	TBD			
2.16.3-5	Wall graphic		1	1280	TBD			
2.16.3-6	Wall graphic		1	1280	TBD			
2.16.3-7	Wall graphic		1	1280	TBD			
2.16.3-8	Wall graphic		1	1280	TBD			
2.16.3-9	Wall graphic		1	1280	TBD			
2.16.3-10	Wall graphic		1	1280	TBD			
2.16.3-11	Wall graphic		1	1280	TBD			
2.16.3-12	Wall graphic		1	1280	TBD			
2.16.3-13	Wall graphic		1	1280	TBD			
2.16.3-14	Wall graphic		1	1280	TBD			
2.16.3-15	Wall graphic		1	1280	TBD			
2.16.3-16	Wall graphic		1	1280	TBD			
2.16.3-17	Wall graphic		1	1280	TBD			
2.16.3-7	Wall graphicBF W/C A118		1	2010	TBD			