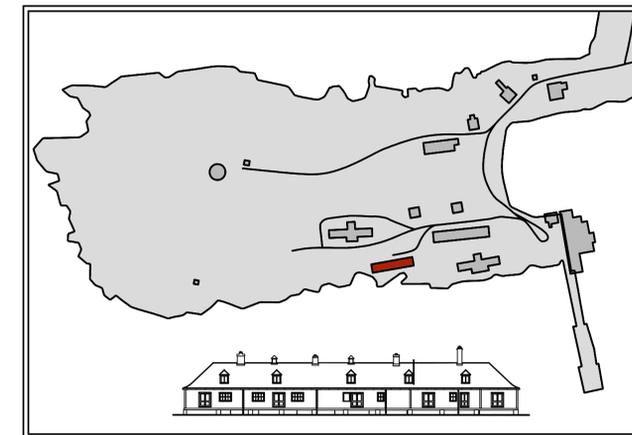


**Gouvernement du Canada    Government of Canada**

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GROSSE ÎLE AND THE IRISH MEMORIAL , QUEBEC (QC)  
NATIONAL HISTORIC SITE OF CANADA (NHS)

***ROOFING RESTORATION AND  
STRUCTURE CONSOLIDATION  
OF THE WASH HOUSE***



R.065403.001  
NOVEMBER 2015  
FOR REQUISITION

---

**Canada**

Project by:  
Public Works and  
Government Services Canada  
For:  
Parks Canada

**LEGEND OF WORKS**

**MASONRY**

APPLY LIME WHITWASH ON ALL SIDES OF ALL THE EXISTING PILLARS (SEE SPECIFICATIONS)

- (A) WHITWASH ONLY
- (B) REPOINT BASES OF STONE PILLARS OVER 300 MM IN HEIGHT OVER ALL SURFACES AND REPLACE CRACKED STONES.
- (C) REPOINT STONE PILLARS OVER THE ENTIRE HEIGHT, OVER ALL SURFACES AND REPLACE CRACKED STONES.
- (D) CLEAR THE PILLARS



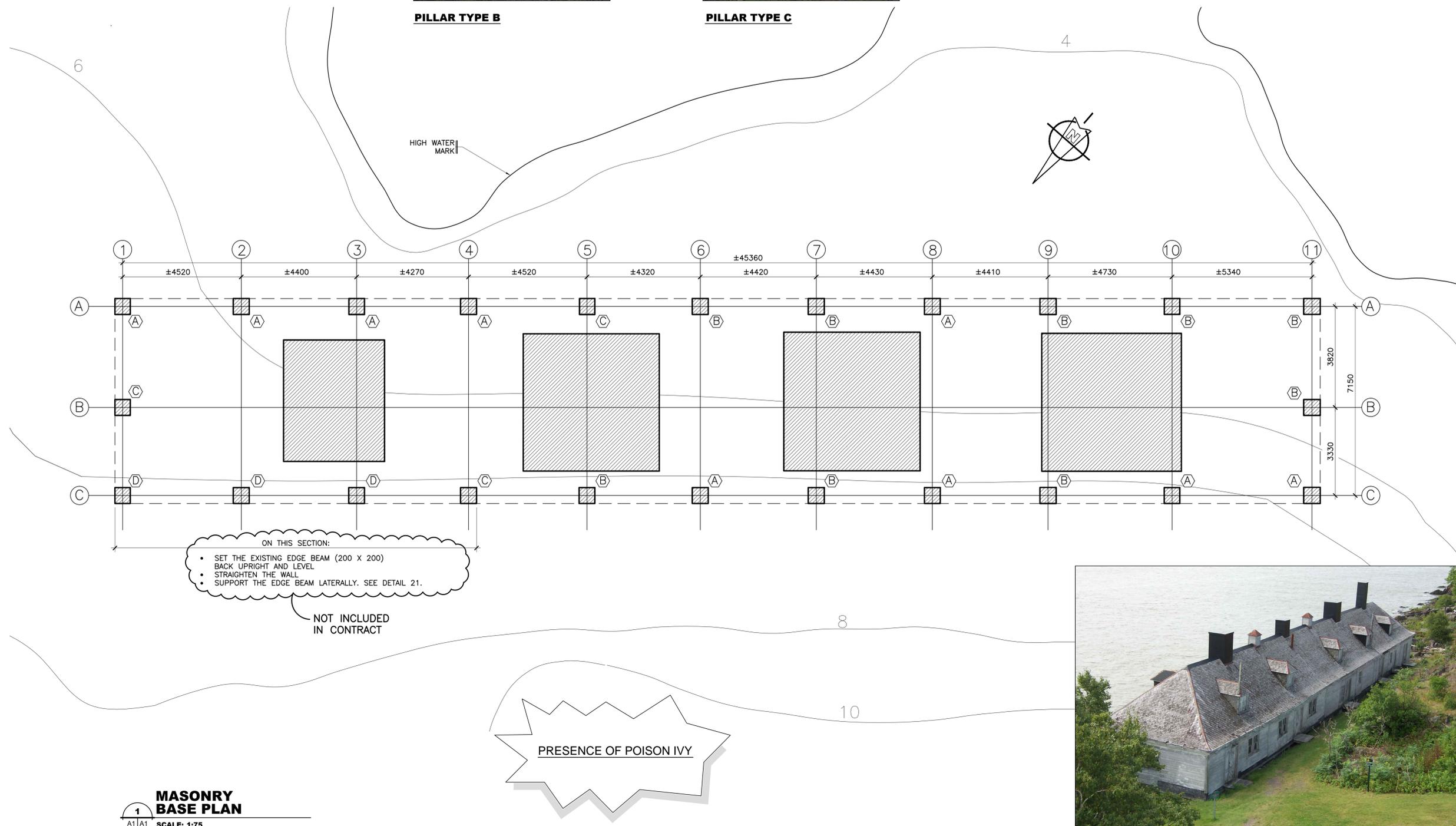
**PILLAR TYPE B**



**PILLAR TYPE C**

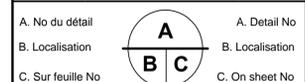


**WEST PILLARS**



**GENERAL VIEW OF THE WASH HOUSE**

Modification	Date
06	FOR REQUISITION 2015-11-03
05	FOR BIDDING 2014-04-09
04	APPROBATION 2014-02-26
03	ISSUED 90% 2014-02-04
02	PRELIMINARIES 2014-01-20
01	COORDINATION 2013-12-02



CONCEPTION: DESING:	
Conçu par: FÉLIX SIROIS-VAILLANCOURT, Head. Arch.	Designed by: FÉLIX SIROIS-VAILLANCOURT, Head. Arch.
Dessiné par: ANTOINE L'ITALIEN SAVARD, Architect	Drawn by: ANTOINE L'ITALIEN SAVARD, Architect
Verifié par: A. L.S.	Checked by: Project manager by: A. L.S.
VALIDÉ PAR:	VALIDATED BY:

Chargé de projet: A.L.S.	Project manager: JEAN-BENOÎT SAINT-LAURENT, Architect
Directeur de projet: JEAN-BENOÎT SAINT-LAURENT, Architect	Project director: JEAN-BENOÎT SAINT-LAURENT, Architect

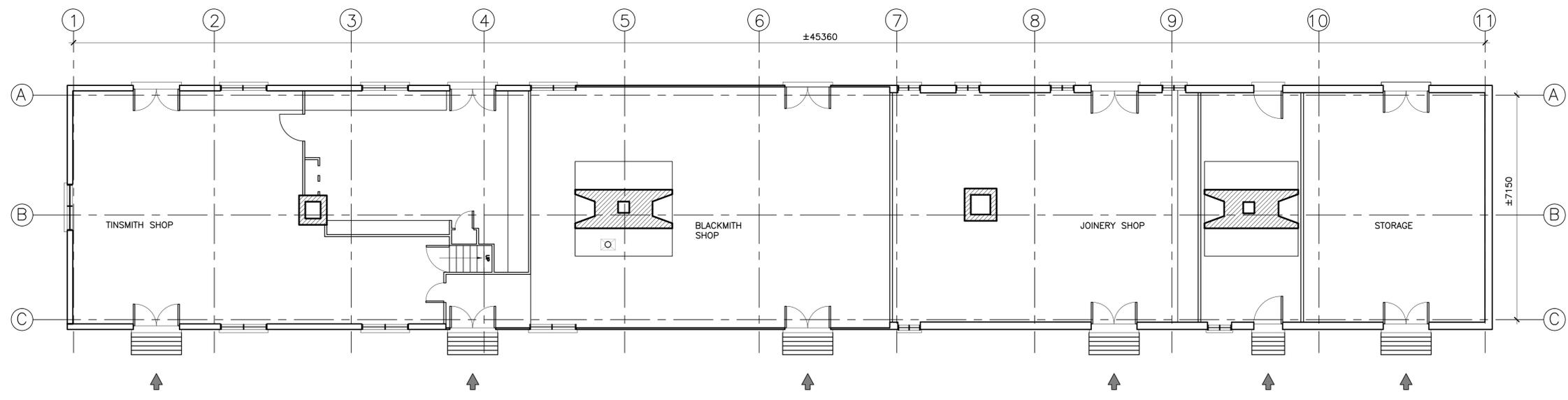
**ROOFING RESTORATION AND STRUCTURE CONSOLIDATION OF THE WASH HOUSE**

**GROSSE ÎLE AND THE IRISH MEMORIAL NATIONAL HISTORIC SITE OF CANADA**

**FOR PARKS CANADA AGENCY**

Titre du dessin: **PLAN**  
Drawing title: **- Masonry base plan**

Date: 2013-12-02	Feuille: 01/7
Echelle: SHOWN	Scale: 1/7
Ref. Consultant: R.065403.001	Sheet:
No de référence: 124/16/PR1-002	Reference no Ministry:



**GROUND FLOOR PLAN**  
SCALE: 1:75

Modification	Date
06	FOR REQUISITION 2015-11-03
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03	ISSUED 90% 2014-02-04
02	PRELIMINARIES 2014-01-20
01	COORDINATION 2013-12-02



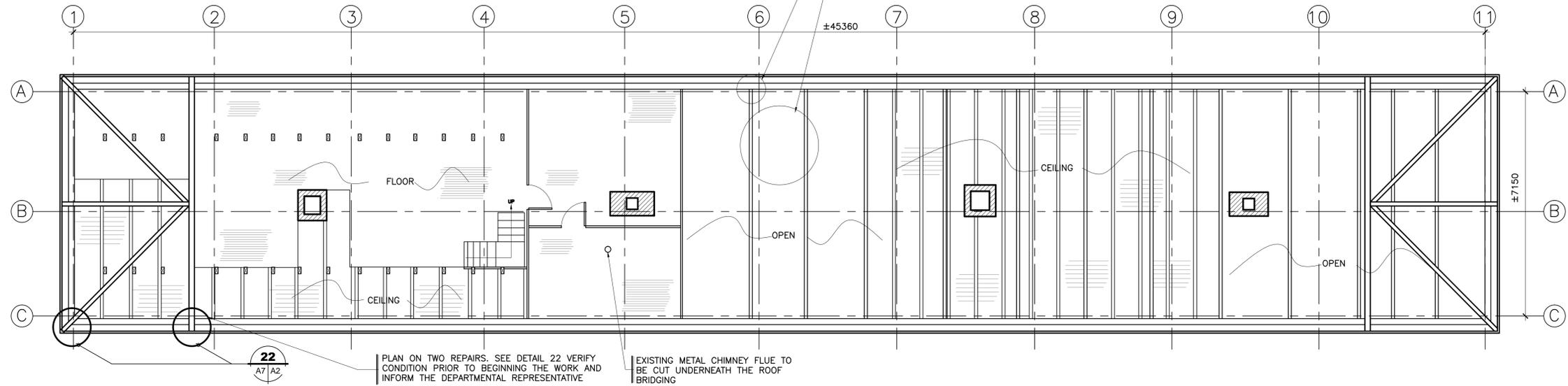
**STORAGE TO BE REMOVED**

NOT INCLUDED IN CONTRACT

STRAIGHTEN THE WALL TO ALLOW PLACEMENT OF TIE BEAM IN ITS GROOVE  
REMOVE ELEMENTS STORED ON THE TIE BEAMS. NEW LOCATION TO BE DETERMINED WITH THE CLIENT.



**TIE BEAM OUT OF ITS GROOVE ON AXIS 6**



**ATTIC (BEAM SYSTEM) PLAN**  
SCALE: 1:75

PLAN ON TWO REPAIRS. SEE DETAIL 22 VERIFY CONDITION PRIOR TO BEGINNING THE WORK AND INFORM THE DEPARTMENTAL REPRESENTATIVE  
EXISTING METAL CHIMNEY FLUE TO BE CUT UNDERNEATH THE ROOF BRIDGING

A. No du détail	A. Detail No
B. Localisation	B. Localisation
C. Sur feuille No	C. On sheet No

CONCEPTION:	DESIGN:
Conçu par:	Designed by:
FÉLIX SIROIS-VAILLANCOURT, Head Arch.	
Dessiné par:	Drawn by:
FÉLIX SIROIS-VAILLANCOURT, Head Arch.	
Verifié par:	Checked by:
ANTOINE L'ITALIEN SAVARD, Architect	
Chargé de projet:	Project manager by:
A. L.S.	
VALIDÉ PAR:	VALIDATED BY:

Chargé de projet:	Project manager:
A.L.S.	
Directeur de projet:	Project director:
JEAN-BENOÎT SAINT-LAURENT, Architect	
Projet:	Project:

**ROOFING RESTORATION AND STRUCTURE CONSOLIDATION OF THE WASH HOUSE**

**GROSSE ÎLE AND THE IRISH MEMORIAL NATIONAL HISTORIC SITE OF CANADA**

**FOR PARKS CANADA AGENCY**

Titre du dessin: **PLANS - Ground floor - Attic**

Drawing title:

Date:	12-02-2013	Feuille:	02/7
Echelle:	SHOWN	Scale:	
Ref. Consultant:	R.065403.001	Ref. Consultant:	
No de référence:		Reference no:	
Ministère:		Ministry:	

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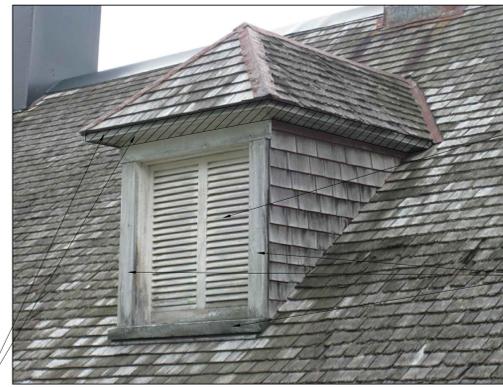


**EAST ROOF EAVE**



**ROOF RIDGE**

EXISTING WOODEN FASCIA AND SOFFIT TO BE REPAINT ON ALL DORMER



**TYPE VENTILATION DORMER**

EXISTING LOUVERS PROVIDED BY MINISTERIAL REPRESENTATIVE AND TO BE RE-INSTALLED BY CONTRACTOR. TOUCH-UP PAINT ON DAMAGED AREAS DURING INSTALLATION

EXISTING WINDOW MOULDING AND WINDOW SILL PROVIDED BY MINISTERIAL REPRESENTATIVE AND TO BE RE-INSTALLED BY CONTRACTOR. TOUCH-UP PAINT ON DAMAGED AREAS DURING INSTALLATION



**TYPE VENTING LANTERN**

VENTING LANTERN (EXISTING OR NEW - SEE PLAN) PROVIDED BY MINISTERIAL REPRESENTATIVE AND TO BE RE-INSTALLED BY CONTRACTOR. TOUCH-UP PAINT ON DAMAGED LOCATIONS DURING INSTALLATION

**LEGEND**

- WESTERN REDCEDAR SHINGLES
- VENTILATION MESH
- SELF-ADHESIVE ELASTOMERIC MEMBRANE
- 12mm PLYWOOD
- DOWNSPOUT
- DOWNSPOUT SLOPE DIRECTION

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01	COORDINATION	2013-12-02

Modification Date

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 C. Sur feuille No / C. On sheet No

CONCEPTION: DESING:

Conçu par: / Designed by:

FÉLIX SIROIS-VAILLANCOURT, Head Arch.

Dessiné par: / Drawn by:

FÉLIX SIROIS-VAILLANCOURT, Head Arch.

Vérifié par: / Checked by:

ANTOINE L'ITALIEN SAVARD, Architect

Chargé de projet: / Project manager by:

A. L.S.

VALIDÉ PAR: / VALIDATED BY:

Chargé de projet: / Project manager:

A.L.S.

Directeur de projet: / Project director:

JEAN-BENOIT SAINT-LAURENT, architect

Projet: / Project:

**ROOFING RESTORATION AND STRUCTURE CONSOLIDATION OF THE WASH HOUSE**

**GROSSE ÎLE AND THE IRISH MEMORIAL NATIONAL HISTORIC SITE OF CANADA**

**FOR PARKS CANADA AGENCY**

Titre du dessin: / Drawing title:

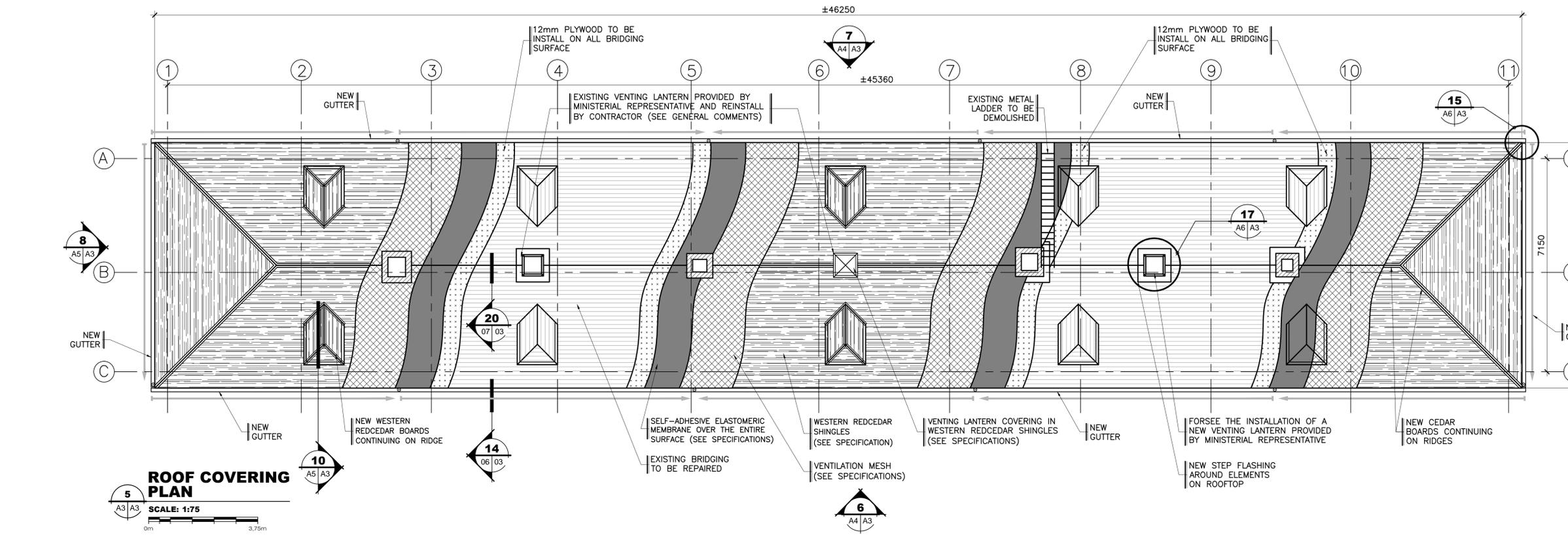
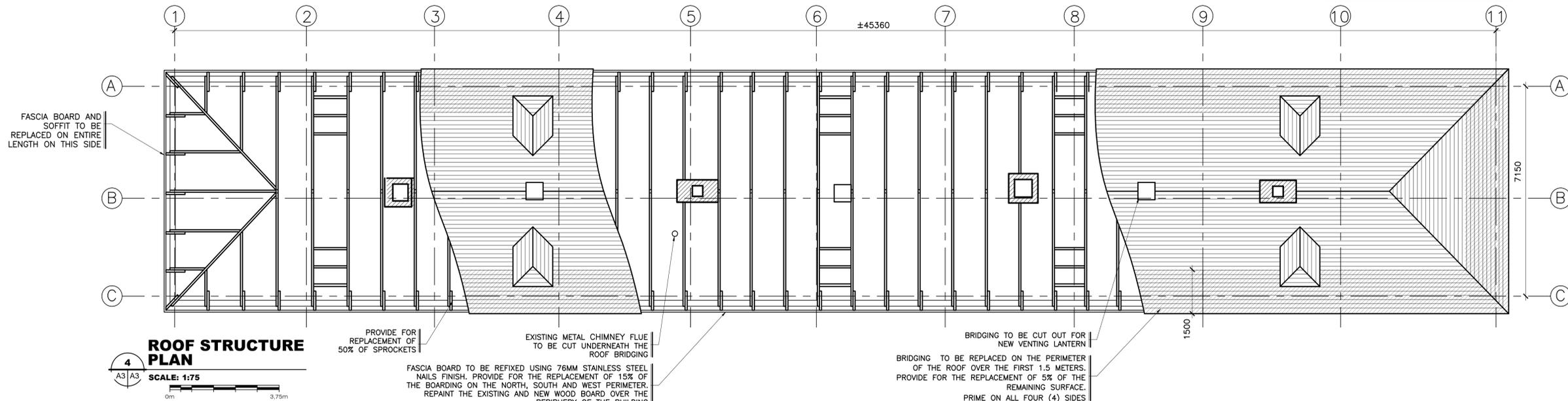
**PLANS - ROOF STRUCTURE - ROOF COVERING**

Date: 2013-12-02 / Feuille:

Échelle: SHOWN / Scale: 03/7

Réf. Consultant: R.065403.001 / Sheet:

No de référence: 124/16/PR1-002 / Reference no Ministry:



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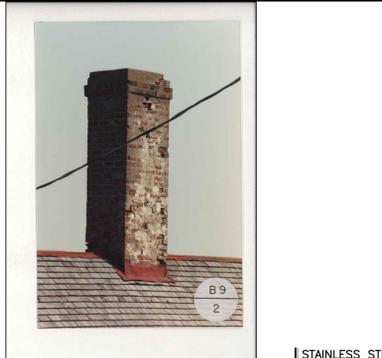
**CHIMNEY D**



**CHIMNEY C**



**CHIMNEY B**



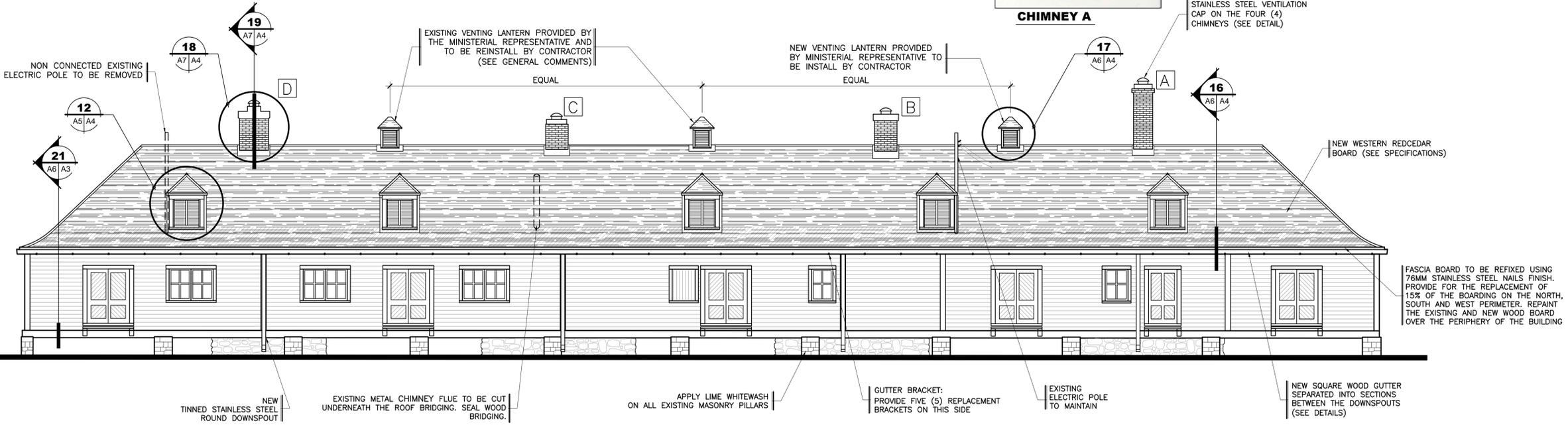
**CHIMNEY A**

**COMPOSITION OF ROOF "A"**

**EXT.**

- PRE-STAINED WESTERN RED CEDAR SHINGLES
- POLYETHYLENE VENTILATION MESH
- SELF-ADHESIVE ELASTOMERIC MEMBRANE
- 12mm PLYWOOD
- WOOD BRIDGING: GROOVED BOARD 30 MM X WIDE, VARIABLE FROM 140 @ 205mm

**INT.**



**6 NORTH ELEVATION**  
SCALE: 1:75  
0m 3,75m



**7 SOUTH ELEVATION**  
SCALE: 1:75  
0m 3,75m

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Modification	Date
A. No du détail	A. Detail No
B. Localisation	B. Localisation
C. Sur feuille No	C. On sheet No

<b>CONCEPTION:</b>		<b>DESIGN:</b>
Conçu par:	Designed by:	
FÉLIX SIROIS-VAILLANCOURT, Head Arch.		
Dessiné par:	Drawn by:	
FÉLIX SIROIS-VAILLANCOURT, Head Arch.		
Vérifié par:	Checked by:	
ANTOINE L'ITALIEN SAVARD, Architect		
Chargé de projet:	Project manager by:	
A. L.S.		
VALIDÉ PAR:	VALIDATED BY:	

Chargé de projet:	Project manager:
A.L.S.	
Directeur de projet:	Project director:
JEAN-BENOÎT SAINT-LAURENT, Architect	
Projet:	Project:

**ROOFING RESTORATION AND STRUCTURE CONSOLIDATION OF THE WASH HOUSE**

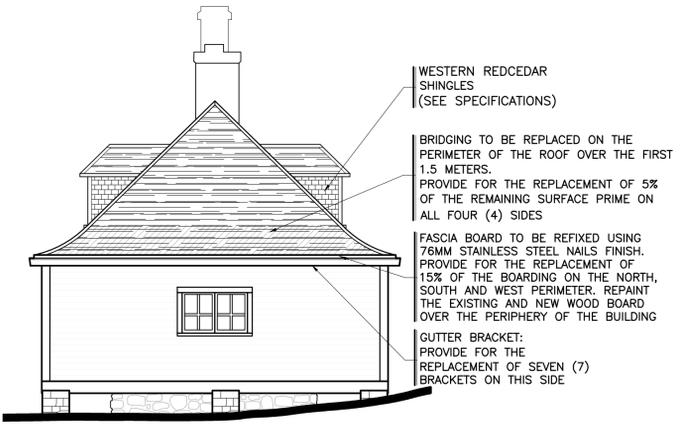
**GROSSE ÎLE AND THE IRISH MEMORIAL NATIONAL HISTORIC SITE OF CANADA**

**FOR PARKS CANADA AGENCY**

Titre du dessin: Drawing title:

**ELEVATIONS - SOUTH - NORTH**

Date:	2013-12-02	Feuille:	
Échelle:	Scale:	04	7
Ref. Consultant:	Ref. Consultant:	R.065403.001	Sheet:
No de référence: Ministère:	Reference no Ministry:	124/16/PR1-002	



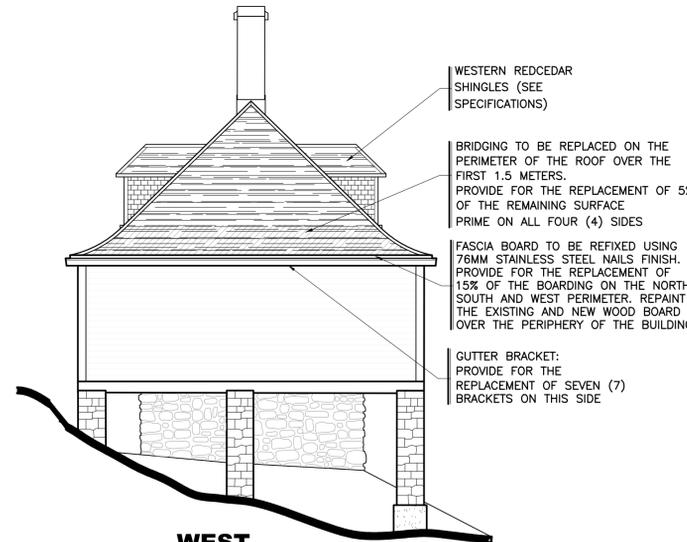
WESTERN RED CEDAR SHINGLES (SEE SPECIFICATIONS)

BRIDGING TO BE REPLACED ON THE PERIMETER OF THE ROOF OVER THE FIRST 1.5 METERS. PROVIDE FOR THE REPLACEMENT OF 5% OF THE REMAINING SURFACE PRIME ON ALL FOUR (4) SIDES

FASCIA BOARD TO BE REFIXED USING 76MM STAINLESS STEEL NAILS FINISH. PROVIDE FOR THE REPLACEMENT OF 15% OF THE BOARDING ON THE NORTH, SOUTH AND WEST PERIMETER. REPAINT THE EXISTING AND NEW WOOD BOARD OVER THE PERIPHERY OF THE BUILDING

GUTTER BRACKET: PROVIDE FOR THE REPLACEMENT OF SEVEN (7) BRACKETS ON THIS SIDE

**8 EAST ELEVATION**  
SCALE: 1:75



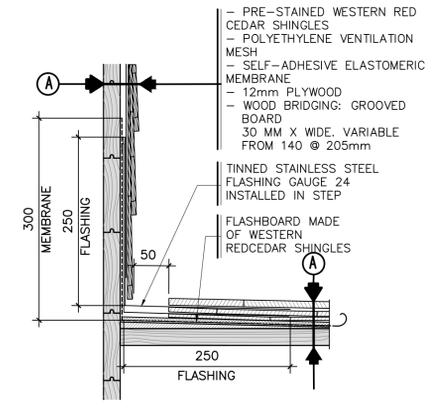
WESTERN RED CEDAR SHINGLES (SEE SPECIFICATIONS)

BRIDGING TO BE REPLACED ON THE PERIMETER OF THE ROOF OVER THE FIRST 1.5 METERS. PROVIDE FOR THE REPLACEMENT OF 5% OF THE REMAINING SURFACE PRIME ON ALL FOUR (4) SIDES

FASCIA BOARD TO BE REFIXED USING 76MM STAINLESS STEEL NAILS FINISH. PROVIDE FOR THE REPLACEMENT OF 15% OF THE BOARDING ON THE NORTH, SOUTH AND WEST PERIMETER. REPAINT THE EXISTING AND NEW WOOD BOARD OVER THE PERIPHERY OF THE BUILDING

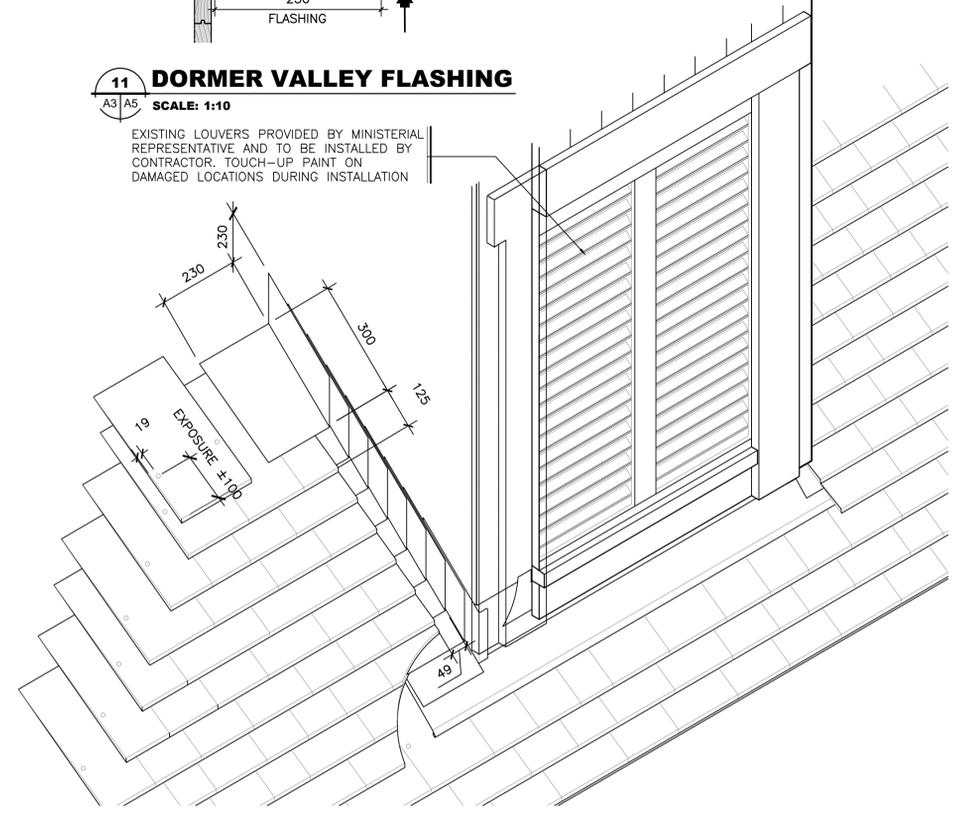
GUTTER BRACKET: PROVIDE FOR THE REPLACEMENT OF SEVEN (7) BRACKETS ON THIS SIDE

**9 WEST ELEVATION**  
SCALE: 1:75

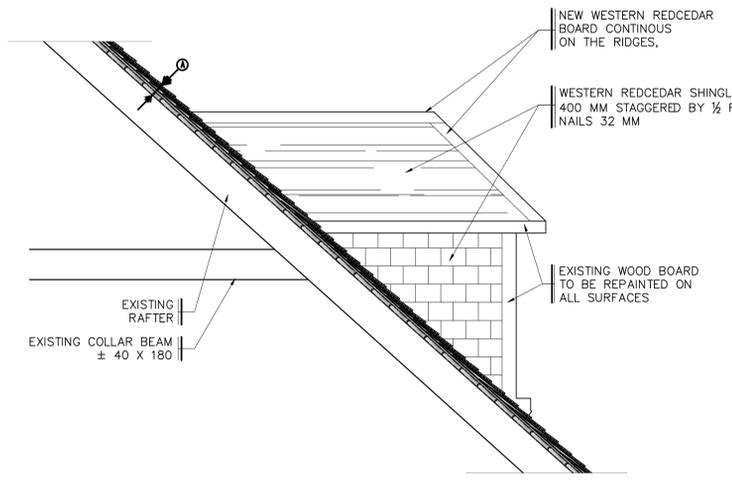


**11 DORMER VALLEY FLASHING**  
SCALE: 1:10

EXISTING LOUVERS PROVIDED BY MINISTERIAL REPRESENTATIVE AND TO BE INSTALLED BY CONTRACTOR. TOUCH-UP PAINT ON DAMAGED LOCATIONS DURING INSTALLATION



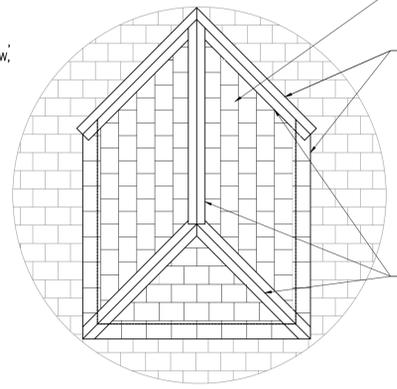
**12 DORMER FLASHING**  
SCALE: 1:10



NEW WESTERN RED CEDAR BOARD CONTINUOUS ON THE RIDGES,

WESTERN RED CEDAR SHINGLES, 400 MM STAGGERED BY 1/2 ROW, NAILS 32 MM

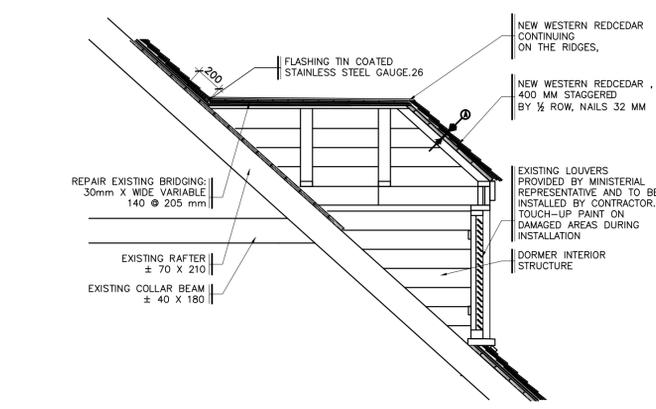
EXISTING WOOD BOARD TO BE REPAINTED ON ALL SURFACES



WESTERN RED CEDAR SHINGLES (SEE SPECIFICATIONS)

STEP FLASHING TIN COATED STAINLESS STEEL GAUGE.26 AROUND ROOFTOP ELEMENTS

NEW WESTERN RED CEDAR BOARD CONTINUOUS ON THE RIDGES, PREDYED IN RED



REPAIR EXISTING BRIDGING, 30mm X WIDE VARIABLE 140 @ 205 mm

EXISTING RAFTER ± 70 X 210

EXISTING COLLAR BEAM ± 40 X 180

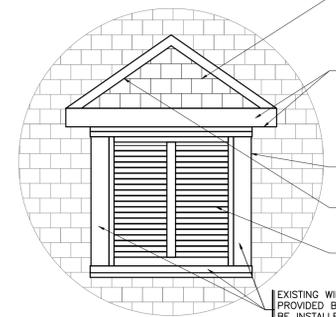
FLASHING TIN COATED STAINLESS STEEL GAUGE.26

NEW WESTERN RED CEDAR CONTINUING ON THE RIDGES,

NEW WESTERN RED CEDAR, 400 MM STAGGERED BY 1/2 ROW, NAILS 32 MM

EXISTING LOUVERS PROVIDED BY MINISTERIAL REPRESENTATIVE AND TO BE INSTALLED BY CONTRACTOR. TOUCH-UP PAINT ON DAMAGED AREAS DURING INSTALLATION

DORMER INTERIOR STRUCTURE



WESTERN RED CEDAR SHINGLES (SEE SPECIFICATIONS)

EXISTING WOODEN FASCIA AND SOFFIT TO REPAINT ON ALL DORMER

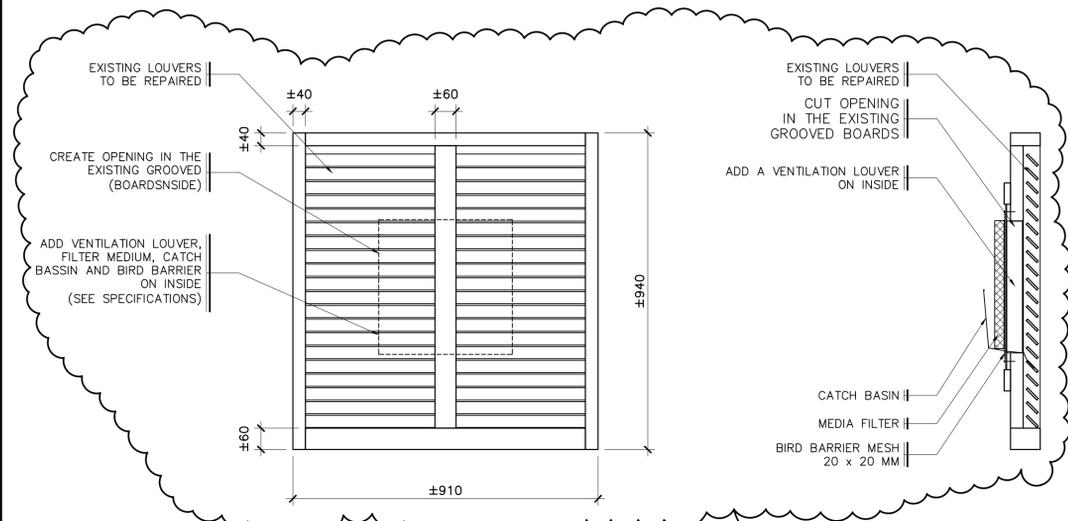
STEP FLASHING TIN COATED STAINLESS STEEL GAUGE.26 AROUND ROOFTOP ELEMENTS

NEW WESTERN RED CEDAR CONTINUING ON THE RIDGES,

EXISTING LOUVERS PROVIDED BY MINISTERIAL REPRESENTATIVE AND TO BE INSTALLED BY CONTRACTOR. TOUCH-UP PAINT ON DAMAGED AREAS DURING INSTALLATION

EXISTING WINDOW Moulding AND WINDOW SILL PROVIDED BY MINISTERIAL REPRESENTATIVE AND TO BE INSTALLED BY CONTRACTOR. TOUCH-UP PAINT ON DAMAGED AREAS DURING INSTALLATION

**10 DORMER**  
SCALE: 1:20



**13 DORMER LOUVERS**  
SCALE: 1:10

NOT INCLUDED IN CONTRACT

06	FOR REQUISITION	2015-11-03
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04	APPROBATION	2014-02-26
03	ISSUED 90%	2014-02-04
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01	COORDINATION	2013-12-02

Modification	Date

A. No du détail	A. Detail No
B. Localisation	B. Localisation
C. Sur feuille No	C. On sheet No
CONCEPTION: DESING:	
Conçu par:	Designed by:
FÉLIX SIROIS-VAILLANCOURT, Head Arch.	
Dessiné par:	Drawn by:
FÉLIX SIROIS-VAILLANCOURT, Head Arch.	
Vérifié par:	Checked by:
ANTOINE L'ITALIEN SAVARD, Architect	
Chargé de projet:	Project manager by:
A. L.S.	

VALIDÉ PAR:	VALIDATED BY:

Chargé de projet:	Project manager:
A.L.S.	
Directeur de projet:	Project director:
JEAN-BENOÎT SAINT-LAURENT, Architect	
Projet:	Project:

**ROOFING RESTORATION AND STRUCTURE CONSOLIDATION OF THE WASH HOUSE**

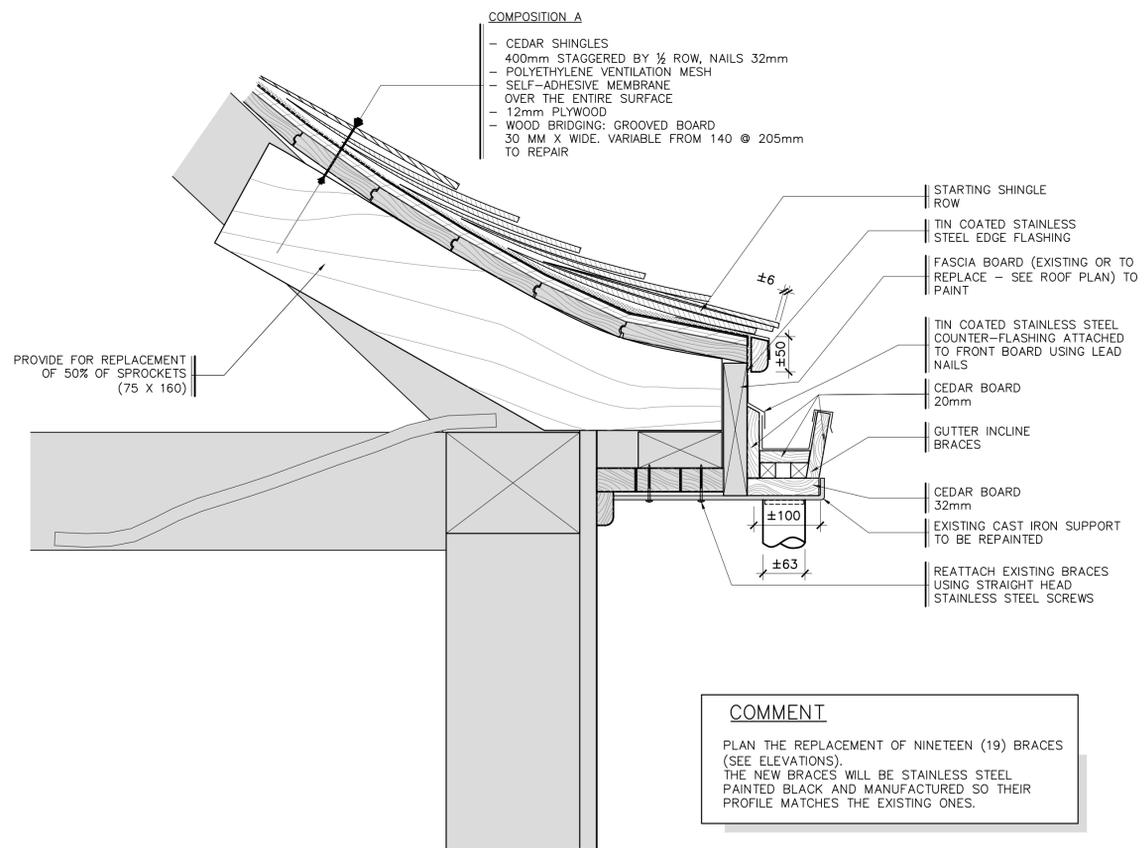
**GROSSE ÎLE AND THE IRISH MEMORIAL NATIONAL HISTORIC SITE OF CANADA**

**FOR PARKS CANADA AGENCY**

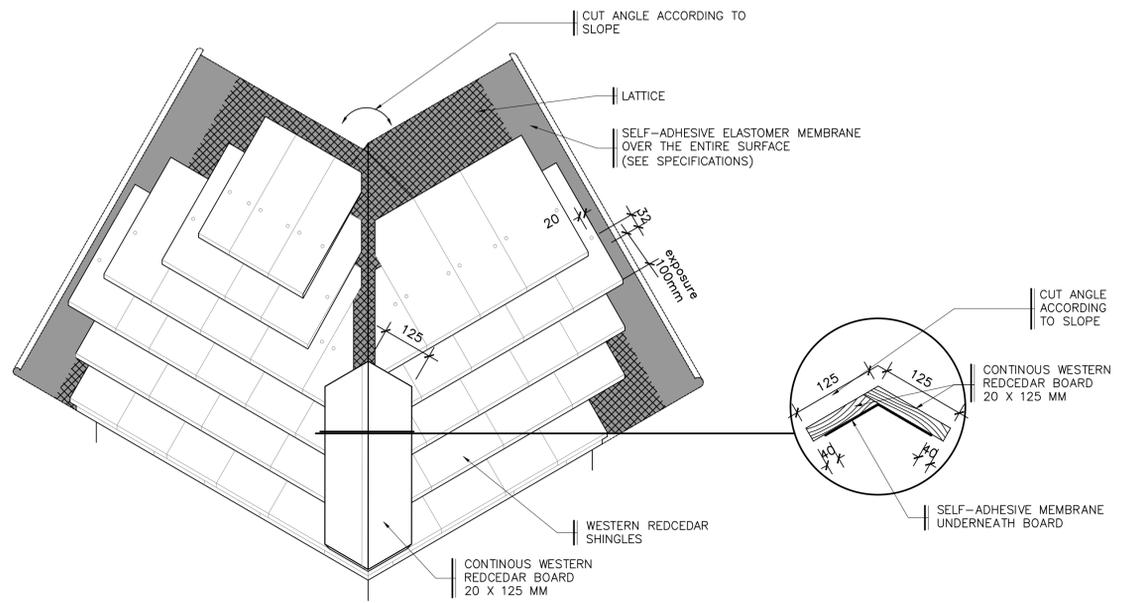
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**ELEVATIONS - EAST - WEST DETAILS**

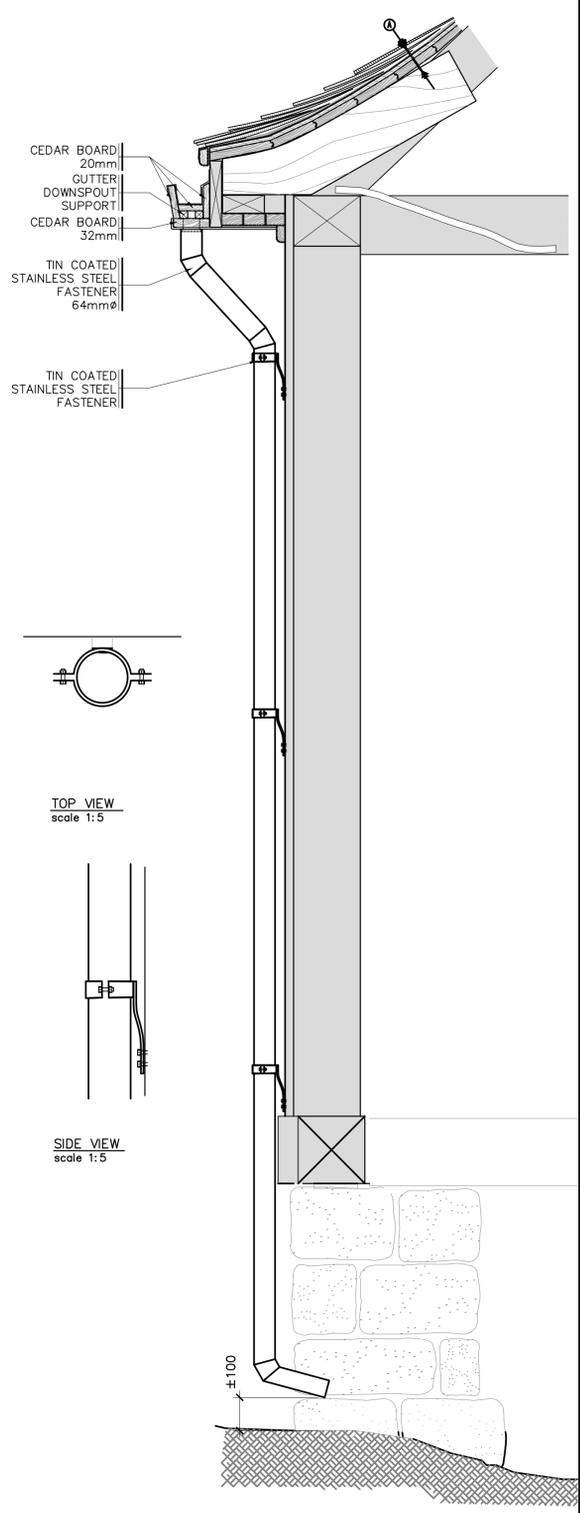
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Ref. Consultant:	Ref. Consultant:	<b>7</b>	
R.065403.001		Sheet:	
No de référence:	Reference no	Ministère:	
124/16/PR1-002			



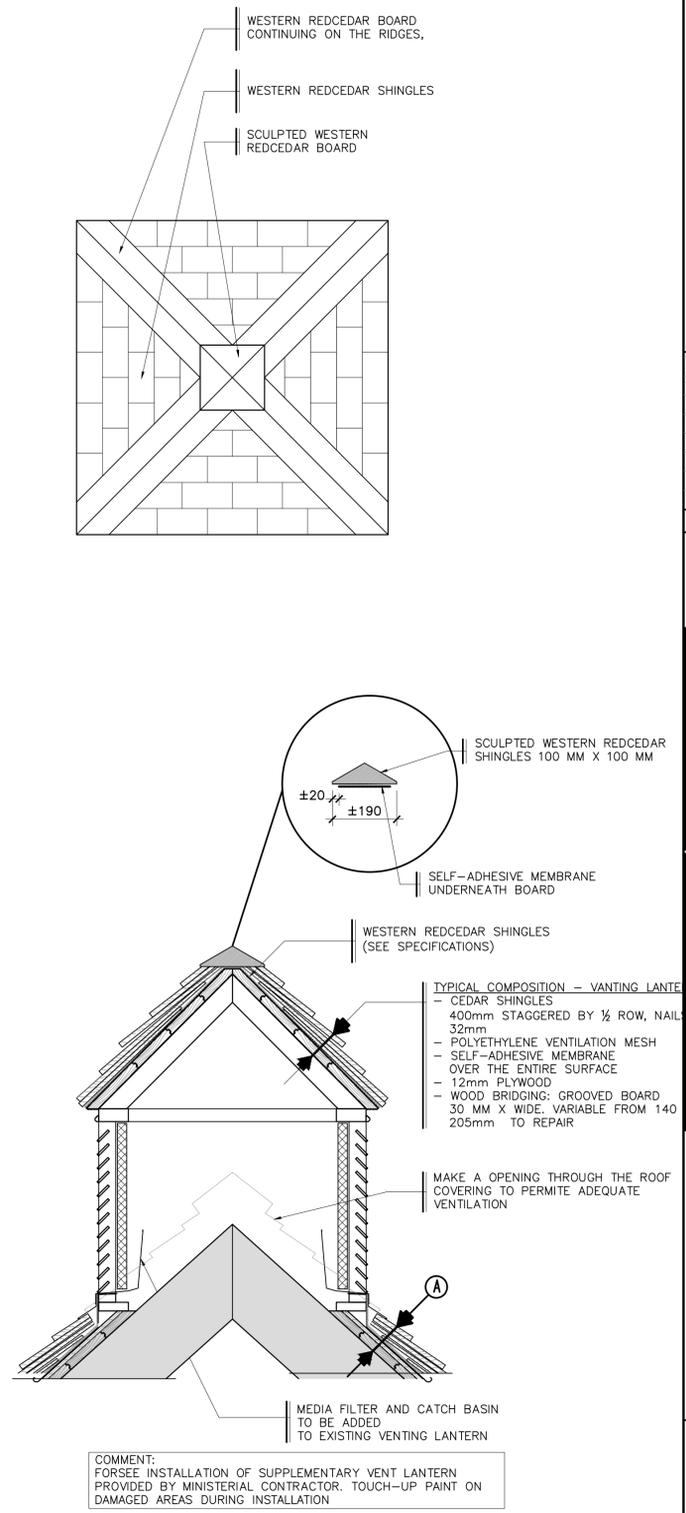
**14 ROOF EAVE**  
SCALE: 1:5



**15 ROOF RIDGE**  
SCALE: 1:10



**16 DOWNSPOUT**  
SCALE: 1:10



**17 VENTING LANTERN**  
SCALE: 1:20

Modification	Date
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03	ISSUED 90% 2014-02-04
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Conçu par:	DESIGN:
FÉLIX SIROIS-VAILLANCOURT, Head Arch.	Designed by:
Dessiné par:	Drawn by:
FÉLIX SIROIS-VAILLANCOURT, Head Arch.	
Vérifié par:	Checked by:
ANTOINE L'ITALIEN SAVARD, Architect	
Chargé de projet:	Project manager by:
A. L.S.	
VALIDÉ PAR:	VALIDATED BY:

Chargé de projet:	Project manager:
A.L.S.	
Directeur de projet:	Project director:
JEAN-BENOÎT SAINT-LAURENT, Architect	
Projet:	Project:

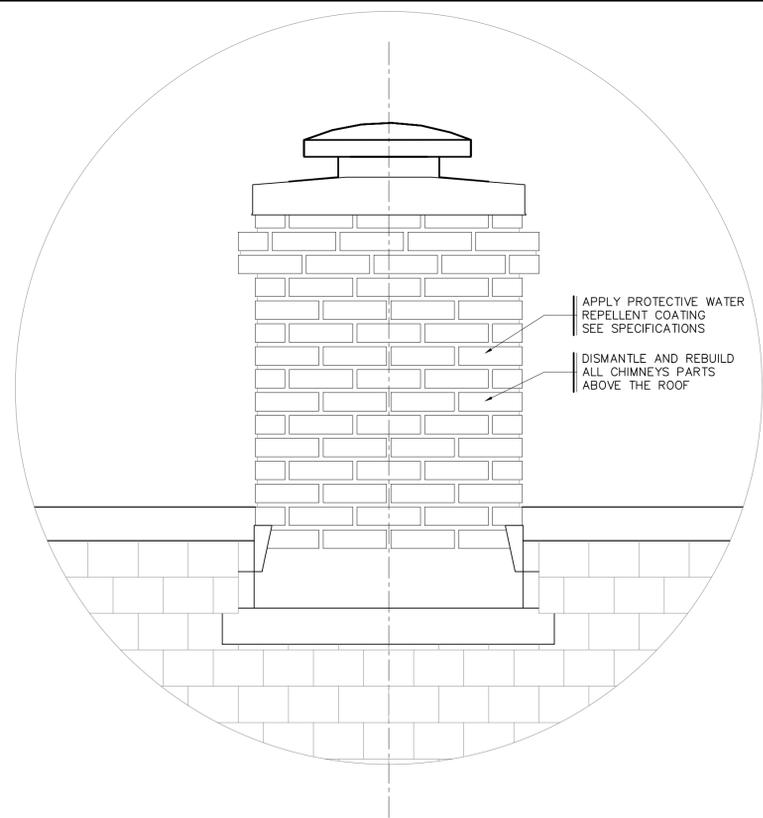
**ROOFING RESTORATION AND STRUCTURE CONSOLIDATION OF THE WASH HOUSE**

**GROSSE ÎLE AND THE IRISH MEMORIAL NATIONAL HISTORIC SITE OF CANADA**

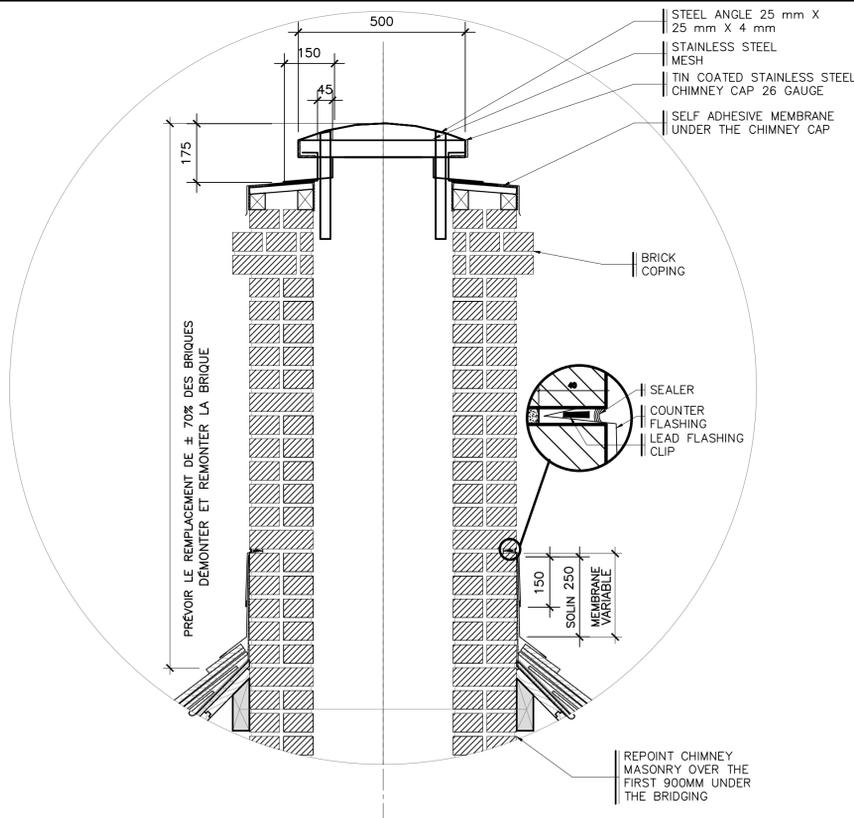
**FOR PARKS CANADA AGENCY**

Titre du dessin: **DETAILS** Drawing title:

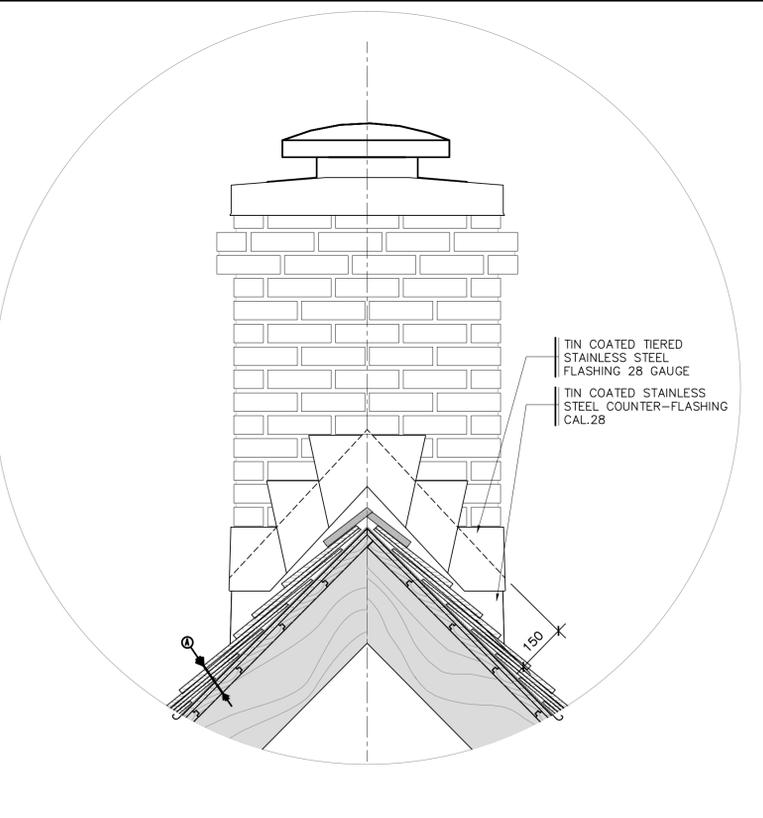
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Ref. Consultant:	R.065403.001	Ref. Consultant:	
No de référence:	124/16/PR1-002	Reference no:	
Ministère:		Ministry:	



**18 TYPICAL CHIMNEY ELEVATION**  
SCALE: 1:10



**19 TYPICAL CHIMNEY CROSS-SECTION**  
SCALE: 1:10



**20 TYPICAL CHIMNEY VALLEY**  
SCALE: 1:10

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CONCEPTION: DESING:  
Conçu par: Designed by:

FÉLIX SIROIS-VAILLANCOURT, M.arch.

Dessiné par: Drawn by:

FÉLIX SIROIS-VAILLANCOURT, M.arch.

Vérifié par: Checked by:

ANTOINE L'ITALIEN SAVARD, architect

Chargé de projet: Project manager by:

A. L.S.

VALIDÉ PAR: VALIDATED BY:

Chargé de projet: Project manager:

A.L.S.

Directeur de projet: Project director:

JEAN-BENOÎT SAINT-LAURENT, Architect

Project: Project:

**ROOFING RESTORATION AND STRUCTURE CONSOLIDATION OF THE WASH HOUSE**

**GROSSE ÎLE AND THE IRISH MEMORIAL NATIONAL HISTORIC SITE OF CANADA**

**FOR PARKS CANADA AGENCY**

Titre du dessin: Drawing title:

**DETAILS**

Date: 12-02-2013

Échelle: Scale: **07/7**

Ref. Consultant: Ref. Consultant: **R.065403.001**

No de référence: Reference no: **124/16/PR1-002**

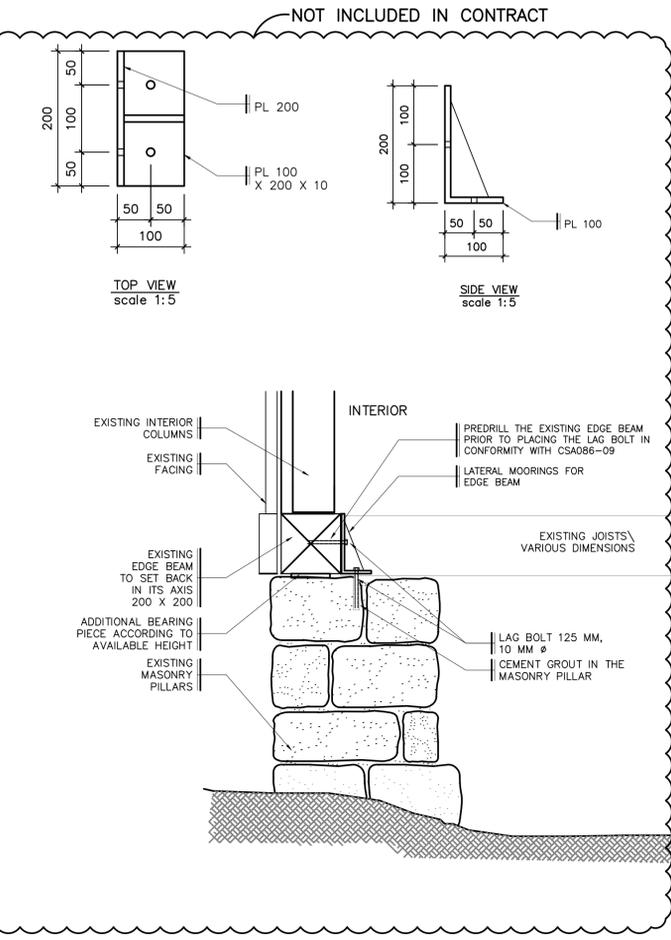
Ministère: Ministry:

**GENERAL COMMENTS**

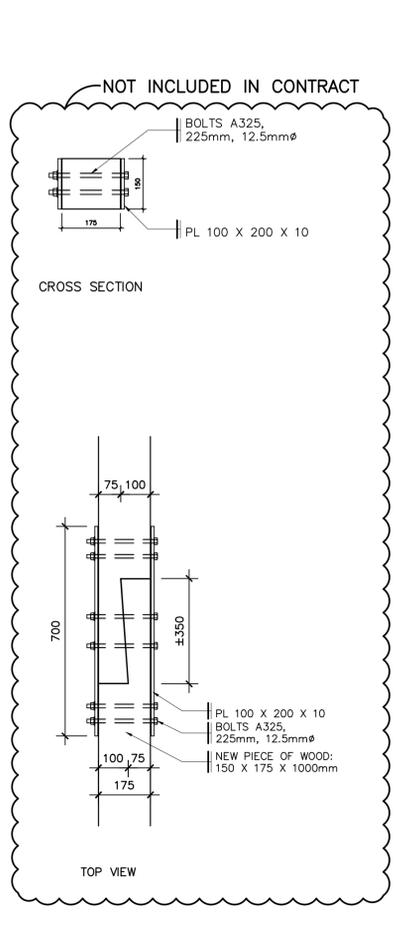
- All wood used for outside repairs will be Eastern or Western cedar with no sapwood or heartwood. A sample will be provided to the Departmental Representative for approval. After being toiled, the parts needing to be painted will be primed on all surfaces prior to being put in place.
- Replace all wooden parts that show signs of decay using scarf joints at an 45° outward angle in order to allow for drainage.
- All sheet metal used will be 28-gauge tin plated stainless steel. Unless otherwise indicated, fasteners such as nails, screws, lag bolts, stirrups, angle bars, lattice bars, etc. will be 304 stainless steel.
- Dismantling and rebuilding of the existing clay brick chimneys.** Remove the metal sheet overlap. Notify the Departmental Representative so that they can evaluate the condition of the masonry. Read measurements on devices prior to dismantling. Dismantle the part over the roof all the way beneath the bridging being careful to recover brick for reuse. Provide for the replacement of 70% of the brick. Over the first 900 mm below roof level clear the masonry joints over at least 20 mm. Repoint using a type-N lime-based mortar approved by the Departmental Representative.
- Existing stone pillar repair.** Notify the Departmental Representative so that they can evaluate the condition of the masonry. Repoint the base of the limestone pillars according to the state of degradation (A, B or C see page 01) using an N-type lime-based mortar approved by the Departmental Representative. Replace cracked stones or repair them where possible. Provide for the replacement of 5% of stones over the total surface of the pillar. Apply lime whitewash on 100% of the surface.
- Woodwork.** Provide for the replacement of the following parts:
  - The first bridging boards at the perimeter of the roof over a width of 1.5 meters as well as 5% of the bridging calculated on the remaining surface.
  - The fascia board on the entire length of the East side as well as 15% of the fascia board calculated on the remaining length of the perimeter. Reset the existing fascia boards and soffit using 76mm finishing nails.
 Repair the existing ten (10) dormers and the two (2) existing venting lantern. Provide for the following work:
  - Replace 15% of the surface of the bridging and the intermediary board behind the shingling.
  - Replace 25% of framing elements such as columns, ribbon strips, rafters, and tie beams.
  - Take down the existing louver for it to be repaired in the shop (not included in contract). Re-install the existing louver provided by ministerial representative.
  - Replace the woodwork of the equivalent of four (4) complete dormers such as frame mouldings, sills and mouldings (not included in contract).
- Carpentry.** Provide for the replacement of the following parts:
  - 50% of sprockets
  - The extremity of three bracing columns for the East second floor of the building as indicated in the plans.
 Replace the auxiliary girder in its axis at the bottom of the wall in the Northeast corner of the building as indicated in the plans. Replace a tie beam in its mortise at the floor level of the second floor in the center of the building as indicated in the plans.

- Lower venting lantern and dormer repair.** Replace sills, jambs, window heads showing decay. Provide and install metal ventilation grids in the back of the existing dormer louvers. Plan for the following work:
  - Replacement of one (1) complete dormer louver including the frame;
  - Replacement of one (1) complete venting lantern louver including the frame;
  - Supply and installation of ten (10) ventilation grills on the existing dormer louvers;
  - Supply and installation of media filters and catch basins on two (2) existing venting lantern;
  - Building of a new venting lantern as shown in the plans.
- Surface preparation.** Clean all surfaces including underneath elevated structures with a trisodium phosphate (TSP) cleaning solution and bleach. The treated surface must be suitable to be worked on within an hour. Follow the procedure below:
  - Wet surface with soft water. Let drip for 10 to 15 minutes.
  - Using a portable hand pump and starting from the bottom toward the top, apply a cleaning solution (120 grams of TSP, and 1 liter of bleach for 4 liters of hot water). Let stand for 15 to 20 minutes.
  - Scrub with a soft bristle brush soaked in soft warm and rinse abundantly in order to eliminate all traces of the cleaning solution.
  - Wood surfaces: Strip away all surfaces that do not provide adequate point film adherence until healthy wood is reached. Metal surfaces: remove rusted surface to expose solid metal.
  - Check remaining point adherence and scrape or repeat steps as needed. Wait for the material to be thoroughly dry prior to painting. Make sure water content does not exceed 19%; 2 days (48 hours) are needed for drying.
- Handling of existing rusty nail heads.**
  - Sand all rust stained point until head of nail is reached.
  - Sand head of nail where rust has formed.
  - Countersink nail.
  - Apply a coat of primer and apply filler on the outside.
  - Paint.

- Cedar shingle roofing.** Use cut shingle made of Western red cedar, 400 mm long, category 1, blue label, irregular width, squared and rectified. Have the shingles pre-dyed by a specialized company. Lay the shingles following the principles below.
  - Split the upper shingles to 200 mm before laying, and eliminate shingles that are less than 80 mm.
  - Lay the shingles in such a way as to obtain an exposure of the dimensions shown in the plans and so they cover the entire surface with at least three (3) layers of shingles.
  - On the eaves, lay two (2) layers of shingles and make sure they hang over the first sheathing board and the lower roof board by 25mm. Also make sure to lay the shingles at least 19mm over the gable ends.
  - Lay shingles so the grain is perpendicular to the eaves.
  - Out the shingles parallel to the axis of the valley. Do not stagger the joints in the valley. Lay metal flashing in steps, meaning between each layer of shingles according to the plans.
  - Use shingles of uniform width of approx. 150 mm over the angle rafters and the ridgeboards. Lay the shingles in a way to obtain the same exposure as the rest of the roofing.
  - Where vertical surfaces meet, lay step flashing as low as possible (base flashing) by placing it between the shingles.
  - Space the shingles from 3 to 10 mm according to their width and degree of moisture.
  - Offset the joints of successive rows by at least 40 mm. Make sure that all the joints are offset on each band of three (3) contiguous rows.
  - Use two (2) nails or less for each shingle and hammer the nails in until the head is 20 mm from the edge and 40 mm from an exposure.
  - Hammer the nails until they meet the surface of the cut shingle without crushing it.
  - The use of pneumatic tools is prohibited in laying shingles.
  - Use stainless steel flathead annular grooved nails 14 gauge, 32 mm long.



**17 EDGE BEAM CONSOLIDATION**  
SCALE: 1:10



**20 HORIZONTAL PIECES**  
SCALE: 1:10