

**MASONRY - KENT STREET STAIR**

**1.0 MASONRY QUALIFICATIONS**

- 1.1 USE SINGLE MASONRY CONTRACTOR FOR ALL MASONRY WORK.
  - 1.2 MASONRY CONTRACTOR TO HAVE 10 YEARS EXPERIENCE MINIMUM IN HISTORIC MASONRY WORK.
- 2.0 MASONRY DOCUMENTATION AND RECORDING (PRIOR TO DISMANTLING)**
- 2.1 TAKE PHOTOS OF EXISTING CONDITIONS.
  - 2.2 TAKE MEASUREMENTS OF THE EXISTING HEIGHT AND DEPTH OF THE STAIR TREADS AND LANDINGS. CONTRACTOR TO ENSURE THE BENCHMARKS BEING TAKEN AS REFERENCE POINTS WILL NOT BE REMOVED.
  - 2.3 ENSURE STONES ARE NUMBERED SUCH THAT THEY CAN BE REINSTALLED IN THE ORIGINAL ORDER.
  - 2.4 NUMBER THE CRATES THAT WILL STORE THE STONES AND DOCUMENT WHICH STONES ARE IN WHICH CRATES.

**3.0 MASONRY HERITAGE MATERIAL HANDLING, PROTECTION AND STORAGE**

- 3.1 ENSURE MASONRY UNITS ARE PROTECTED WHEN MOVING AND BEING MOVED. USE SOFTENERS TO PROTECT EDGES AT ALL TIMES WHEN MOVING STONES.
- 3.2 DO NOT DULL INTO THE EXPOSED TOP AND FRONT OF THE STONES.
- 3.3 SECURE IN PLACE, TRANSPORT AND STORE THE STONES IN CRATES TO ENSURE THEY ARE IN THEIR ORIGINAL CONDITION FOR THE RE-BUILDING PHASE.
- 3.4 PROVIDE PROTECTION TO ADJACENT SANDSTONE STRINGER/KNEE WALLS AND SURROUNDING ENTRANCE WALLS PRIOR TO DISMANTLING WORK.

**4.0 MASONRY DISMANTLING**

- 4.1 ENSURE ALL HOISTING AND RIGGING ACTIVITIES RELATED TO THE MASONRY UNITS DISMANTLING ARE DONE BY A QUALIFIED PERSON.
- 4.2 THE HERITAGE MASONRY CONTRACTOR IS TO TAKE ALL NECESSARY PRECAUTIONS TO MAINTAIN THE ORIGINAL CONDITION AND STRUCTURAL INTEGRITY OF THE MASONRY UNITS.
- 4.2.1 EMPTY MASONRY JOINTS PRIOR TO DEBONDING THE STONES IN ORDER TO PREVENT DAMAGE.
- 4.2.2 IF MASONRY UNIT CRACKS OR BREAKS, USE A MINIMAL INTERVENTION APPROACH FOR HISTORIC STONE REPLACEMENT / REPAIR METHOD AND MATERIAL THEN SUBMIT TO THE DEPARTMENTAL REPRESENTATIVE FOR APPROVAL.
- 4.2.2.1 CHOOSE REPLACEMENT / REPAIR MATERIAL TO MATCH EXISTING.

**5.0 MASONRY REBUILD**

- 5.1 ENSURE THAT ALL HOISTING AND RIGGING ACTIVITIES RELATED TO THE MASONRY UNITS AND REBUILDING ARE DONE BY A QUALIFIED PERSON.
- 5.2 FOR THE GRANITE STAIRS, THE 2012 OBC REQUIRES RISERS AND TREADS TO HAVE UNIFORM DIMENSIONS. WHERE RISERS ARE REQUIRED NOT TO VARY BY MORE THAN 3/16" (5mm) BETWEEN ADJACENT RISERS AND 3/8" (10mm) BETWEEN THE TALLEST AND SHORTEST RISERS IN A FLIGHT SIMILARLY, TREADS ARE REQUIRED NOT TO VARY BY MORE THAN 3/16" (5mm) BETWEEN ADJACENT TREADS AND 3/8" (10mm) BETWEEN THE DEEPEST AND SHALLOWEST TREADS IN A FLIGHT.
- 5.3 REBUILD RAMPS TO THE ORIGINAL DOCUMENTED MEASUREMENTS AND LOCATION.

**6.0 MORTAR SPECIFICATIONS**

- 6.1 MORTAR:
  - 6.1.1 GRANITE STAIR TREADS AND LANDING STONES (FOR BEDDING AND FRONT POINTING)
    - 6.1.1.1 TYPE S PREMIXED MORTAR; NO EXTRA PIGMENTATION. FOLLOW MORTAR MANUFACTURER'S RECOMMENDATION FOR CURING METHODS AND TIMES
  - 6.1.2 SANDSTONE STRINGER / KNEE WALLS
    - 6.1.2.1 NEPEAN AND / OR ST CANUT SCOTCHWORK:
      - 6.1.2.1.1 LITER FEDERAL WHITE PORTLAND CEMENT - 2.5 LITERS AIR ENTRAINING MASON'S & STUCCO LIME - 8 LITERS NESBITT SAND - 35ml YELLOW IRON OXIDE
      - 6.1.2.1.2 WALLACE ARCHITECTURAL STONES:
        - 6.1.2.1.2.1 LITER FEDERAL WHITE PORTLAND CEMENT - 1 LITER AIR ENTRAINING MASON'S & STUCCO LIME - 6 LITERS NESBITT SAND - 25ml YELLOW IRON OXIDE
  - 6.2 PROTECTION DURING CURING PROCESS:
    - 6.2.1 COVER COMPLETED AND PARTIALLY COMPLETED WORK NOT ENCLOSED OR SHELTERED AT END OF EACH WORK DAY.
      - 6.2.1.1 EXTEND MEMBRANES 0.5m OVER SURFACE AREA OF WORK. INSTALL TIGHTLY. PREVENT FINISHED WORK FROM DRYING OUT TOO RAPIDLY.
    - 6.2.2 PROVIDE DAMP CURE FOR REPOINTED MORTAR JOINTS. COVER WITH WATERPROOF TARPS. PREVENT WEATHER FROM ERODING

**RECENTLY REPOINTED MATERIAL:**

- 6.2.2.1 MAINTAIN TARPS IN PLACE FOR MINIMUM OF 3 DAYS AFTER REPOINTING.
- 6.2.2.2 ENSURE THAT BOTTOMS OF TARPS PERMIT AIRFLOW TO REACH MORTAR IN JOINTS.
- 6.2.2.3 WET MIST BURLAP ONLY - ENSURE NO DIRECT SPRAY REACHES SURFACE OF CURING MORTAR. SHADE AREAS OF WORK FROM DIRECT SUNLIGHT AND MAINTAIN CONSTANT DAMPNESS AND BURLAP.
- 6.3 THICKNESS OF THE STAIR TREAD BED JOINTS WILL VARY BASED ON THE VARYING CONDITION OF THE UNDERSIDE OF EACH STAIR TREAD.
- 6.3.1 USE CONCRETE BRICK PAVERS AS SHIMMING MATERIALS WHERE NEEDED.

**CONCRETE REMOVAL - KENT STREET STAIR**

**7.0 REFERENCE STANDARDS**

- 7.1.1 CSA INTERNATIONAL
  - CSA S360-M1990(R2003), CODE OF PRACTICE FOR SAFETY IN DEMOLITION OF STRUCTURE.

**8.0 SUBMITTALS**

- 8.1 PROVIDE SUBMITTALS IN ACCORDANCE WITH SECTION 01 33 00 - SUBMITTAL PROCEDURES.
- 8.2 SUBMIT DEMOLITION, SHORING AND BRACING SHOP DRAWINGS.
- 8.2.1 PROVIDE SHORING AND BRACING DRAWINGS FOR REMOVALS AS REQUIRED BY TECHNICAL SECTIONS HEREIN AND AS OTHERWISE NECESSARY TO COMPLETE THE WORK. PROVIDE DRAWINGS PREPARED BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN PROVINCE OF WORK.
- 8.2.2 SHORING ENGINEER TO CONFIRM THAT FLOORS SUPPORTING SHORING WILL NOT BE OVERLOADED.
- 8.2.3 SHORING DRAWINGS SUBMITTED MUST SHOW DESIGN CRITERIA INCLUDING:
  1. LOADS AND FORCES ACCOUNTED FOR IN THE DESIGN;
  2. REMOVAL LIMITS ON CONCRETE SLABS, COLUMNS AND WALLS;
  3. PROCEDURAL SEQUENCE TO BE FOLLOWED FOR SHORING INSTALLATION; AND
  4. HEADER AND SILL PLATES AT EACH POST SHORE OR TOWER SHORE SUPPORT.
- 8.3 PROVIDE SHORING INSTALLATION REVIEW LETTER FROM SHORING DESIGN ENGINEER CONFIRMING THEY VISITED SITE AND VERIFIED INSTALLATION CONFORMS AND RESPECTIVE SHOP DRAWINGS PRIOR TO DEMOLITION.
- 8.4 PROVIDE DEMOLITION / CONCRETE REMOVAL PROCEDURE.

**9.0 SITE CONDITIONS**

- 9.1 NOTIFY DEPARTMENTAL REPRESENTATIVE BEFORE DISRUPTING ACCESS OR SERVICES.

**10.0 INSPECTION AND TESTING**

- 10.1 PROVIDE DEPARTMENTAL REPRESENTATIVE MINIMUM 48 HOURS NOTICE FOR REVIEW OF THE FOLLOWING MILESTONES:
  - 10.1.1 ALL IDENTIFIED DELAMINATED CONCRETE;
  - 10.1.2 COMPLETED REMOVALS WITHIN DESIGNED AREAS; AND
  - 10.1.3 COMPLETED SURFACE PREPARATION.

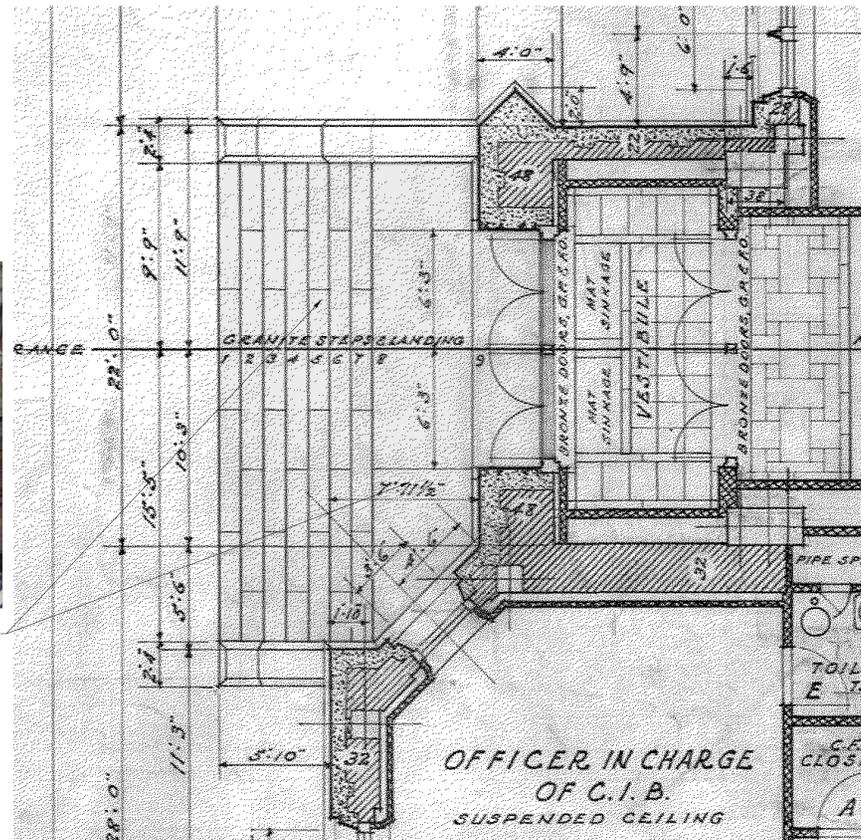
**11.0 PRODUCTS**

- 11.1 EQUIPMENT AND MACHINERY
  - 11.1.1 BULK REMOVAL MAY BE UNDERTAKEN USING CORING AND SAWCUTTING TO EXTENTS ON PLAN. REMOVALS IN PROXIMITY OF THE BEAM / WALLS TO REMAIN MUST BE UNDERTAKEN USING CHIPPING HAMMERS AS DESCRIBED BELOW.
  - 11.1.2 THE USE OF CHIPPING HAMMERS FOR REMOVALS:
    - 11.1.2.1 CHIPPING SURFACE CONCRETE TO DEPTH OF EMBEDDED STEEL. USE MAXIMUM 14kg PNEUMATIC HAMMERS ARE PERMITTED.
    - 11.1.2.2 CONCRETE AT AND BEYOND EMBEDDED STEEL. USE MAXIMUM 7kg PNEUMATIC HAMMERS.
  - 11.1.3 IF REMOVALS ARE INTENDED TO BE UNDERTAKEN FROM THE SOFFIT SIDE. USE MAXIMUM 7kg PNEUMATIC HAMMERS.
  - 11.1.3.1 HAMMERS LARGER THAN THOSE SPECIFIED WILL IMPART TOO MUCH ENERGY INTO THE CONCRETE SUBSTRATE AND HAVE THE POTENTIAL FOR DAMAGING THE CONCRETE FURTHER EXTENDING THE REQUIRED REMOVALS.

**12.0 EXECUTION**

**12.1 GENERAL**

- 12.1.1 SCAN TOP OF SUSPENDED CONCRETE SLAB AND NOTE LOCATION OF CONCRETE WALLS BELOW. PROVIDE 150 CLEARANCE TO ALL CONCRETE WALLS BELOW TO ENSURE THAT OVERCUTTING DOES NOT DAMAGE WALLS. REMAINDER OF CONCRETE REMOVAL (WITHIN THE 150 CLEARANCE) TO BE COMPLETED WITH HAND TOOLS.
- 12.1.2 CONTRACTOR TO PROVIDE PROCEDURE FOR THE CONCRETE TO BE REMOVED FROM THE TOP SIDE WITHOUT LARGE PIECES OF LOOSE CONCRETE FALLING INTO THE VOID BELOW THE SLAB.
- 12.1.3 AS CONCRETE REMOVAL PROGRESSES, EXTENSIONS TO THE ABOVE MARKED AREAS MAY BE NECESSARY. OBTAIN DEPARTMENTAL REPRESENTATIVE'S APPROVAL OF THESE ADDITIONAL AREAS BEFORE PROCEEDING WITH REMOVAL.
- 12.1.4 DEPARTMENTAL REPRESENTATIVE MAY REQUIRE THAT SOUND CONCRETE ALSO BE REMOVED IN THE VICINITY OF THE APPROVED REPAIR AREAS. THIS MAY BE REQUIRED TO MINIMIZE THE NUMBER OF SMALL PATCHES OR THE ELIMINATE AREAS OF UNREPAIRED CONCRETE PROJECTING INTO PATCHES OR TO INVESTIGATE THE CONDITION OF THE STEEL.
- 12.2 CONCEALED CONDUIT
- 12.2.1 SCAN SLAB FOR LOCATIONS OF ELECTRICAL AND COMMUNICATIONS SERVICES CONTAINED WITHIN THE SLAB PRIOR TO COMMENCING WITH REMOVALS.
- 12.2.2 DAMAGE TO CONDUITS TO BE REPORTED IMMEDIATELY TO DEPARTMENTAL REPRESENTATIVE.
- 12.3 DELAMINATED CONCRETE REMOVAL
- 12.3.1 USE REMOVAL METHODS TO MINIMIZE DAMAGE TO SOUND CONCRETE WHICH REMAINS. TAKE MEASURES TO PREVENT DAMAGE TO REINFORCING STEEL, DRAINS, MECHANICAL AND ELECTRICAL SERVICES.
- 12.3.2 EXTEND REMOVALS ALONG REINFORCING BARS TO THE POINT WHERE 100mm OF THE EXPOSED BARS ARE FREE OF CORROSION.
- 12.4.1 DO NOT REMOVE CONCRETE BEYOND THIS LIMIT EXCEPT WHERE AUTHORIZED BY DEPARTMENTAL REPRESENTATIVE.
- 12.4.2 UPON COMPLETION OF INITIAL REMOVALS, SOUND THE CONCRETE SURFACE IMMEDIATELY SURROUNDING THE REPAIR AREA FOR LOCAL DELAMINATION. REVIEW ADDITIONAL DELAMINATED AREAS WITH DEPARTMENTAL REPRESENTATIVE AND REMOVE AS DIRECTED BY DEPARTMENTAL REPRESENTATIVE.

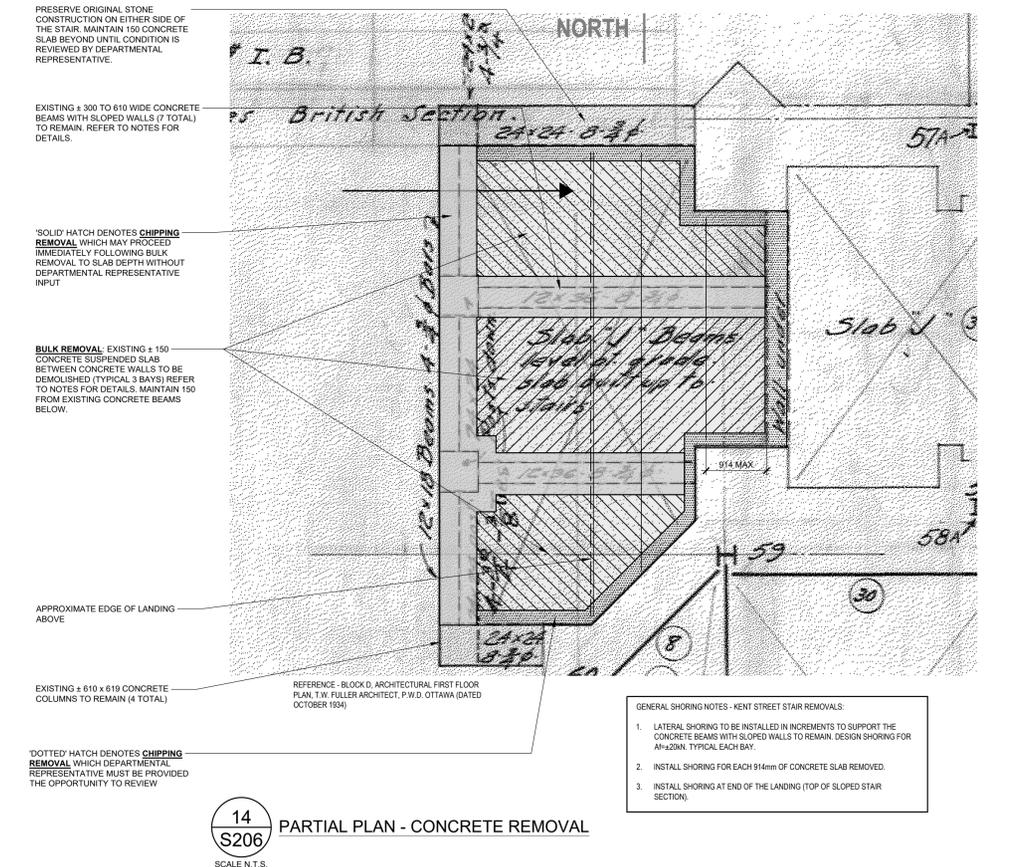


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SCALE N.T.S.

LOADING ABBREVIATIONS		TG-ABBR-02
AI	FACTORED AXIAL LOAD IN kN (+ INDICATES TENSION, - INDICATES COMPRESSION)	
CI	FACTORED COMPRESSION IN kN	
fc	COMPRESSIVE STRENGTH OF CONCRETE, IN MPa	
fy	YIELD STRENGTH IN MPa	
Mf	FACTORED MOMENT IN kN.m	
Mfx	FACTORED MOMENT ABOUT X-X (STRONG) AXES IN kN.m	
Mfy	FACTORED MOMENT ABOUT Y-Y (WEAK) AXES IN kN.m	
MPL	MASONRY PARTITION DEAD LOAD IN kN/m	
MTI	FACTORED TORSION IN kN.m	
RH	FACTORED VERTICAL REACTION IN kN	
RHI	FACTORED HORIZONTAL REACTION IN kN	
P	SPECIFIED (UNFACTORED) POINT LOAD IN kN	
PI	FACTORED POINT LOAD IN kN	
VI	FACTORED SHEAR IN kN	
TI	FACTORED TENSION IN kN	
WT	WEIGHT OF MECHANICAL EQUIPMENT	

DRAWING ABBREVIATIONS				TG-ABBR-01
ABUT	ABUTMENT	DP	DEEP	
ACA	ADHESIVE CONCRETE ANCHORS	DWG	DRAWING	
ADDL	ADDITIONAL	DWL	DOWEL	
AEC	ARCHITECTURALLY EXPOSED CONCRETE	EA	EACH	
AECS	ARCHITECTURALLY EXPOSED STRUCTURAL STEEL	EA	EACH	
AIFB	ASPHALT IMPREGATED FIBERBOARD	EBF	ECCENTRICALLY BRACED FRAME	
ALT	ALTERNATE	EE	EACH END	
AMA	ADHESIVE MASONRY ANCHORS	EF	EACH FACE	
ARCH	ARCHITECTURAL	EJ EXP JT	EXPANSION JOINT	
A-ROD	ANCHOR ROD	ELECT	ELECTRICAL	
ASPH	ASPHALT	EL	ELEVATION	
AVG	AVERAGE	ELEV	ELEVATION	
B BOT	BOTTOM	EMBED	EMBEDMENT	
BOF	BOTTOM OF FOOTING	ENG	ENGINEER	
BOP	BOTTOM OF PILE	EOD	EDGE OF DECK	
BOE	BOTTOM CHORD EXTENSION	EOS	EDGE OF SLAB	
BCP	BORED CONCRETE PILE	ES	EACH SIDE	
BEW	BOTTOM EACH WAY	EQ	EQUAL	
BL	BOTTOM LOWER LAYER	EW	EACH WAY	
BP	BASE PLATE	EX EXIST	EXISTING	
BRG	BEARING	EXT	EXTERIOR	
BRP	BEARING PLATE	FC	FUTURE COLUMN	
BSMT	BASEMENT	FD	FLOOR DRAIN	
SUL	BOTTOM UPPER LAYER	FF	FAIR FACE	
BUP	BOTTOM OF UNDERPINNING	FIN	FINISHED	
C	CAMBER	FL	FLOOR	
CA	COLUMN ABOVE ONLY (NO COLUMN BELOW)	FMG	FULL MOMENT CONNECTION (FOR FULL MOMENT CAPACITY)	
CANT	CANTILEVER	FND	FOUNDATION	
CAT	CATEGORY (FOR AESS)	FTG	FOOTING	
CB	COLUMN BELOW ONLY (NO COLUMN ABOVE)	GA	GAUGE	
CDL	COMPRESSION DEVELOPMENT LENGTH	GALV	GALVANIZED	
CEL	CUT OFF ELEVATION FOR PILES	GB	GRADE BEAM	
CIP	CAST-IN PLACE	GEN	GENERAL	
CJ	CONTROL JOINT	GL	GRIDLINE	
CLR	CLEAR	GRD	GROUND	
CL	CENTRELINE	h	TOTAL THICKNESS, SLAB THICKNESS AWAY FROM DROP PANEL	
CMU	CONCRETE MASONRY UNITS	hd	SLAB OVERALL THICKNESS AT DROP PANEL	
CNT	STEEL DECK CORE NOMINAL THICKNESS	H, HORIZ	HORIZONTAL	
COMP	COMPOSITE	HI	HIGH BEAM	
COB	COLUMN	HC	HOLLOWCORE	
CONC	CONCRETE	HD	HOLD DOWN	
CONT	CONTINUOUS	HOG	HOT DIPPED GALVANIZED	
CONTD	CONTINUED	HOF	HORIZONTAL OUTSIDE FACE	
CONSTR.J	CONSTRUCTION JOINT	HIF	HORIZONTAL INSIDE FACE	
CP	CONNECTION PLATE	HI	HOOK EACH END	
CPL	CAP PLATE	HIC	HORIZONTAL IN CENTRE	
CS	COMPRESSION LAP SPLICE	HOF	HORIZONTAL OUTSIDE FACE	
COV	CLEAR COVER	HP	HIGH POINT	
CW	COMPLETE WITH, CONNECT WITH	HSC	HORIZONTAL SLOTTED CONNECTION	
CWS	(SEE TO GENERAL NOTES)	IBI	INTEGRITY BARS INTERIOR	
CLE	(SEE TO GENERAL NOTES)	IBE	INTEGRITY BARS EXTERIOR	
DCA	DRILLED CONCRETE ANCHOR, SEE GENERAL NOTES	IBA	INTEGRITY BARS ADDED	
DEMO	DEMOLITION	IBB	INTEGRITY BOTTOM BARS (THROUGHOUT)	
DET	DETAIL	ID	INSIDE DIAMETER	
D FIRL	DOUGLAS FIR-LARCH	INT	INTERIOR	
DIAM Ø	DIAMETER	IF	INSIDE FACE	
DIV	DIVIDER BEAM	JG	JOIST GIRDER	
DMA	DRILLED MASONRY ANCHOR, SEE GENERAL NOTES	KB	KNEE BRACING	
DN	DOWN	KB	KNEE BRACING	
DNW	DOUBLE NUT AND WASHER	KL	LOW BACK TO BACK ANGLES	
		2L	BACK TO BACK ANGLES	

DRAWING LIST	
DRAWING NO	DRAWING NAME
S206	KENT STREET STAIR DEMOLITION
S207	KENT STREET STAIR DEMOLITION
S208	KENT STREET STAIR REINSTATEMENT
S209	KENT STREET STAIR REINSTATEMENT



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SCALE N.T.S.

**Canada**  
Public Services and Procurement Canada / Services publics et Approvisionnement Canada

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Date: 2022/07/07 (yyyy/mm/dd)

DRAWN BY: Dessiné par  
Date: 2022/07/07 (yyyy/mm/dd)

REVIEWED BY: Examiné par  
Date: 2022/07/07 (yyyy/mm/dd)

APPROVED BY: Approuvé par  
Date: (yyyy/mm/dd)

TENDER: Soumission

PROJECT MANAGER: Administrateur de projets  
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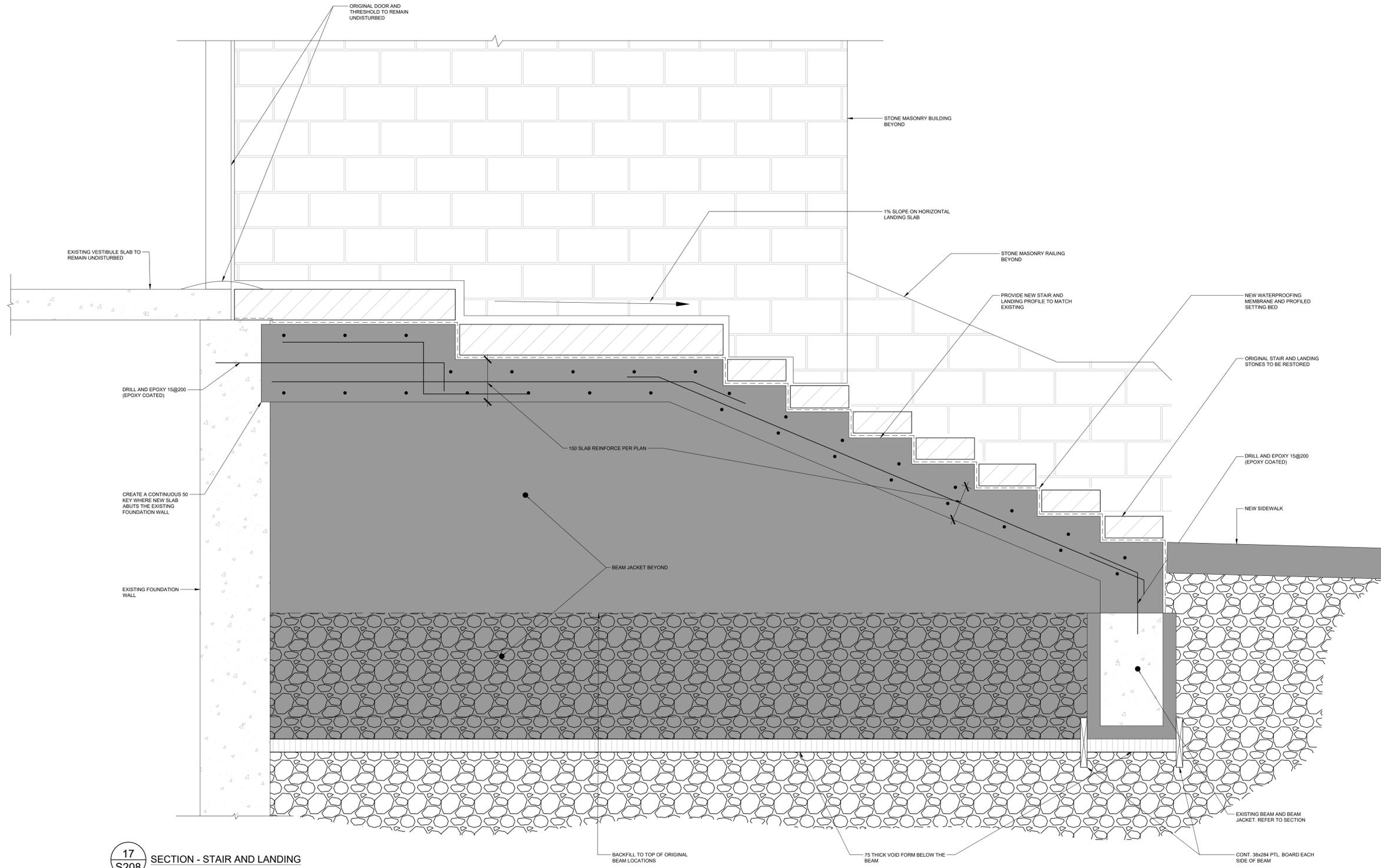
**JUSTICE BUILDING - KENT STREET STAIR DEMOLITION AND REINSTATEMENT**

**KENT STREET STAIR DEMOLITION**

GENERAL SHORING NOTES - KENT STREET STAIR REMOVALS:

1. LATERAL SHORING TO BE INSTALLED IN INCREMENTS TO SUPPORT THE CONCRETE BEAMS WITH SLOPED WALLS TO REMAIN. DESIGN SHORING FOR A<sub>h</sub>=20N, TYPICAL EACH BAY.
2. INSTALL SHORING FOR EACH 14mm OF CONCRETE SLAB REMOVED.
3. INSTALL SHORING AT END OF THE LANDING (TOP OF SLOPED STAIR SECTION).





**17**  
**S208** SECTION - STAIR AND LANDING  
NOT TO SCALE



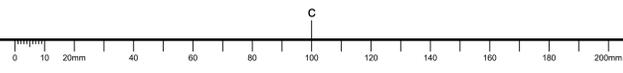
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revisions	description	date

A	A detail no.	A
B	B location drawing no.	B
C	C drawing no.	C

project project  
**JUSTICE BUILDING – KENT STREET STAIR DEMOLITION AND REINSTATEMENT**

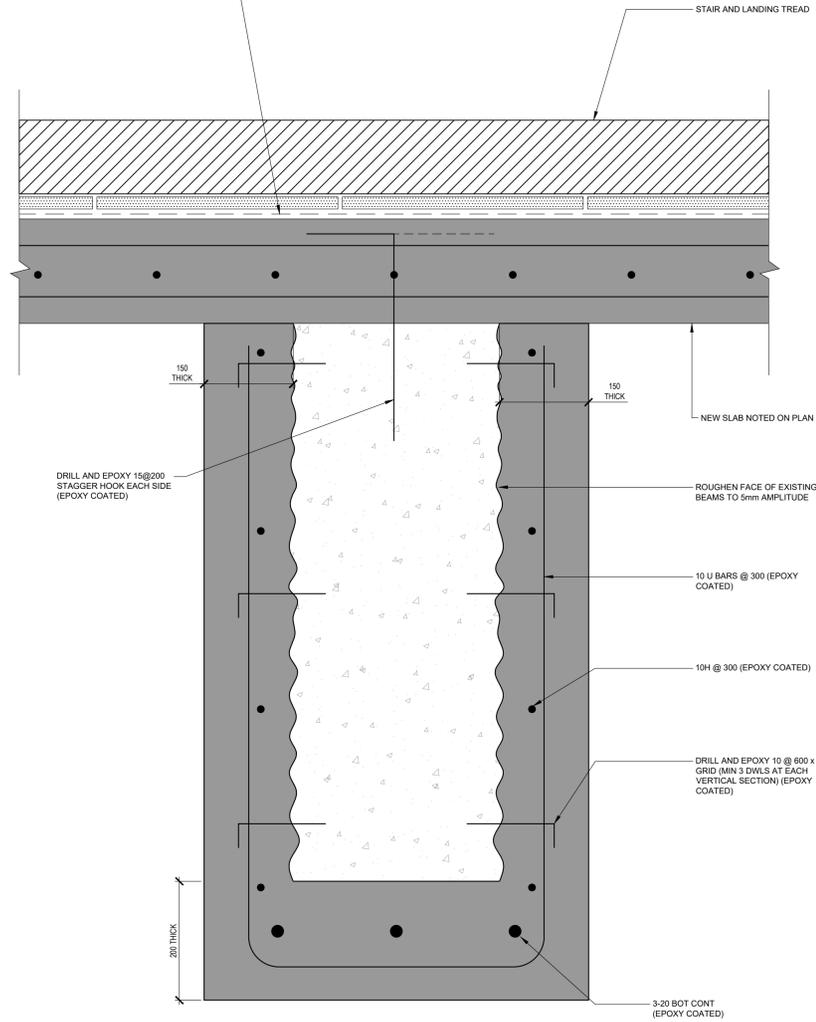
drawing dessin  
**KENT STREET STAIR REINSTATEMENT**

Designed By	Conçu par
Date	2022/07/07 (yyyy/mm/dd)
Drawn By	Dessiné par
Date	2022/07/07 (yyyy/mm/dd)
Reviewed By	Examiné par
Date	2022/07/07 (yyyy/mm/dd)
Approved By	Approuvé par
Date	(yyyy/mm/dd)
Tender	Soumission
Project Manager	Administrateur de projets
Project no.	No. du projet
	R.095822.212
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	<b>S208</b>

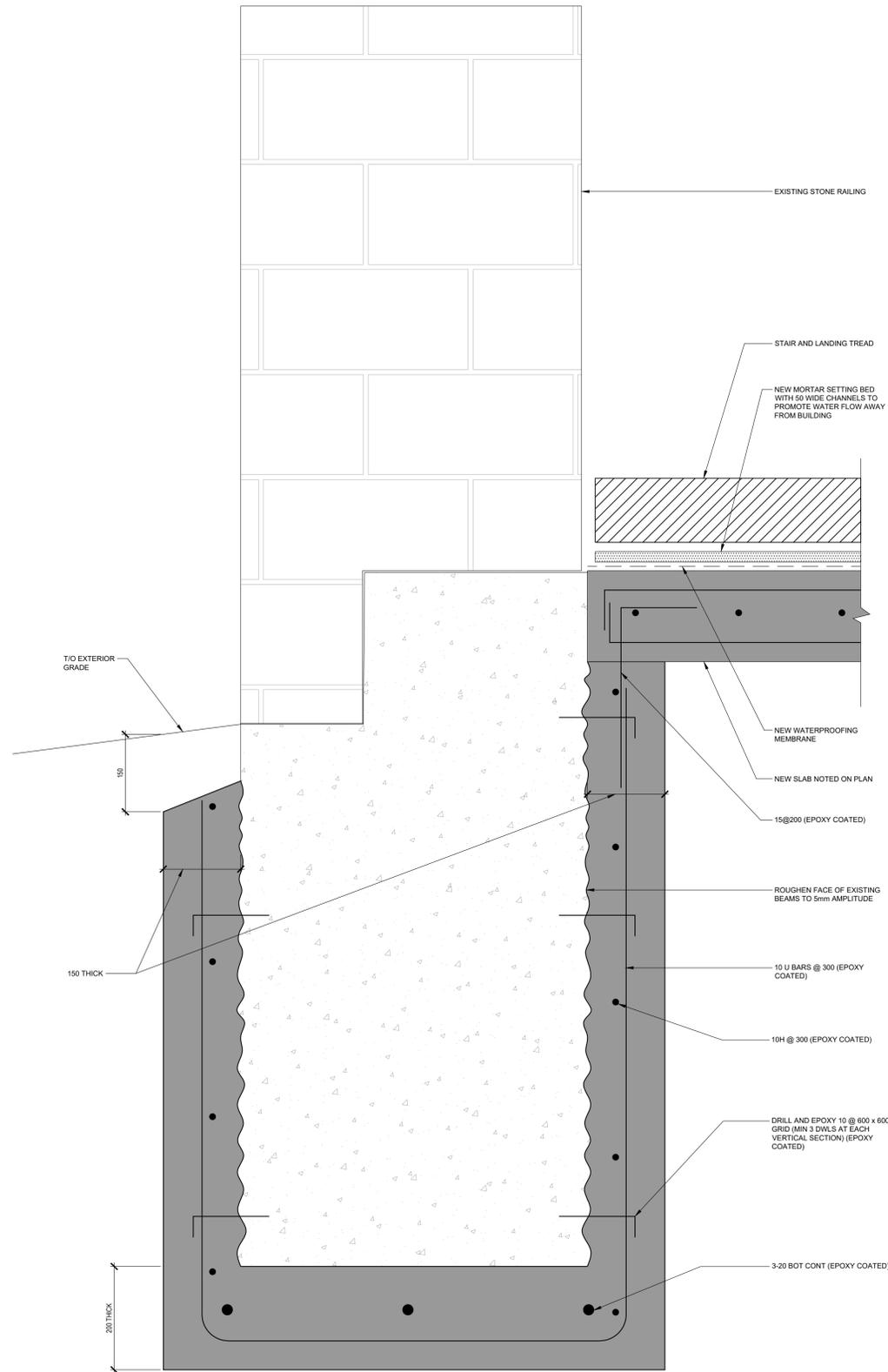




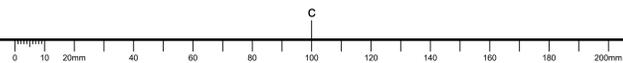
NEW WATERPROOFING SYSTEM BETWEEN NEW CONCRETE SLAB AND UIS OF GRANITE STEPS BY HERITAGE MASONRY CONTRACTOR



**18** SECTION - NEW CONCRETE JACKET AT INTERIOR BEAMS  
**S209**  
NOT TO SCALE



**19** SECTION - NEW CONCRETE JACKET AT STONE RAILING BEAMS  
**S209**  
NOT TO SCALE



revisions	description	date
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A	A detail no.	A
B	B location drawing no.	B
C	C drawing no.	C

JUSTICE BUILDING – KENT STREET STAIR DEMOLITION AND REINSTATEMENT

KENT STREET STAIR REINSTATEMENT

Designed By	Conçu par
Date	2022/07/07 (yyyy/mm/dd)
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Date	2022/07/07 (yyyy/mm/dd)
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