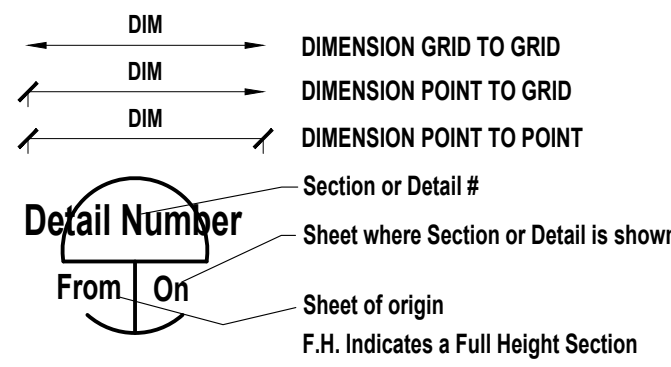


GENERAL NOTES

- DO NOT SCALE DRAWINGS.
- Design live loads shall not be exceeded at any time during construction. For concrete structures, design live loads may only be applied after concrete reaches its design strength.
- Construction loads must not be imposed on structure in excess of specified design live load. Design live loads may only be applied after concrete reached its design strength.
- The contractor is to verify dimensions, elevations, slopes, details, conditions and other data noted on the structural drawings with conditions on the site, co-ordinate all dimensions with the architectural drawings prior to construction or fabrication of any building component, and is held responsible for reporting any discrepancies that effect structural framing to the engineer before proceeding with the work. Variations and modifications to work shown on the structural drawings shall not be carried out without written permission from the engineer.
- Modifications, alterations or substitutions must be authorized in writing by the Design Engineer.
- The General Contractor shall locate all existing site services prior to construction.
- For openings in slabs, floor, walls, roof, etc. refer to architectural, mechanical, structural and or other pertinent drawings.
- Location of construction joints not indicated on plans is the responsibility of the general contractor but approval must be obtained from the Design Engineer before proceeding.
- The contractor shall be responsible for the design and installation of all necessary shoring, bracing and form work. Form work for new construction shall be bridged over existing services.
- The structure and grade beams shall be braced in all directions to safely withstand all lateral forces which may be encountered during erection. The bracing shall remain in place until all permanent bracing, framing, cladding and backfill are in place.
- All codes referenced in these notes shall be of the latest applicable revision.
- All beams, angles and miscellaneous metals indicated on architectural drawings but not shown on structural drawings, shall be included in the tender price. The contractor is responsible for confirming sizes and locations of these members with both the architect and the engineer prior to tender closing.
- Do not cut or drill any openings into structural members without obtaining written permission from the structural consultant.
- The Contractor shall retain a manufacturer's representative to provide onsite anchor installation training for all of their products specified. The structural engineer of record must receive documented confirmation that the contractors personnel are trained prior to the commencement of installing anchors.

DIMENSIONS & SYMBOLS



DESIGN SPECIFICATIONS

- The building modifications are designed in accordance with the 2024 Manitoba Building Code.
- Importance Category for building = Post Disaster
- Design specified loads:
 - Live Loads: as per floor plans
 - Dead Loads: as per floor plans
- All climatic data based on Winnipeg, MB.
- Snow loads:
 - Design snow load = 2.15 kPa (45 psf)
 - Ground snow load, S_g = 1.90 kPa (40 psf) (1/50 year return)
 - Associated rain load, S_r = 0.20 kPa (4 psf) (1/50 year return)
 - Additional snow loads adjacent higher roofs, walls, mechanical units, etc. as indicated on drawings.
- Wind loads:
 - Hourly wind pressure, q = 0.45 kPa (9 psf) (1/50 year return)
 - Exposure factor, C_e = 0.90, based on open terrain
 - Internal wind pressure category: coefficient, C_{pi} = -0.45 to +0.30
 - Design wind loads calculated in accordance with NBCC static procedure.
- Seismic loads:
 - Site Class = SC1
 - Seismic Category = D (Assumed)
 - $S_a(0.2)$ = 0.104 $S_a(2.0)$ = 0.0179
 - $S_a(0.5)$ = 0.092 $S_a(5.0)$ = 0.00358
 - $S_a(1.0)$ = 0.046 $S_a(10.0)$ = 0.00107
 - PGA = 0.0619 PGV = 0.0467
 - Seismic base shears calculated in accordance with Equivalent Static Force Procedure.
 - Seismic Force Resisting System (SFRS) = Steel; conventional construction of moment-resisting frames, braced frames or plate walls.
 - T_a = 0.1 s
 - $S(T_a)$ = 0.104
 - R_d = 1.5
 - R_o = 1.5
 - V = 0.06W

MASONRY

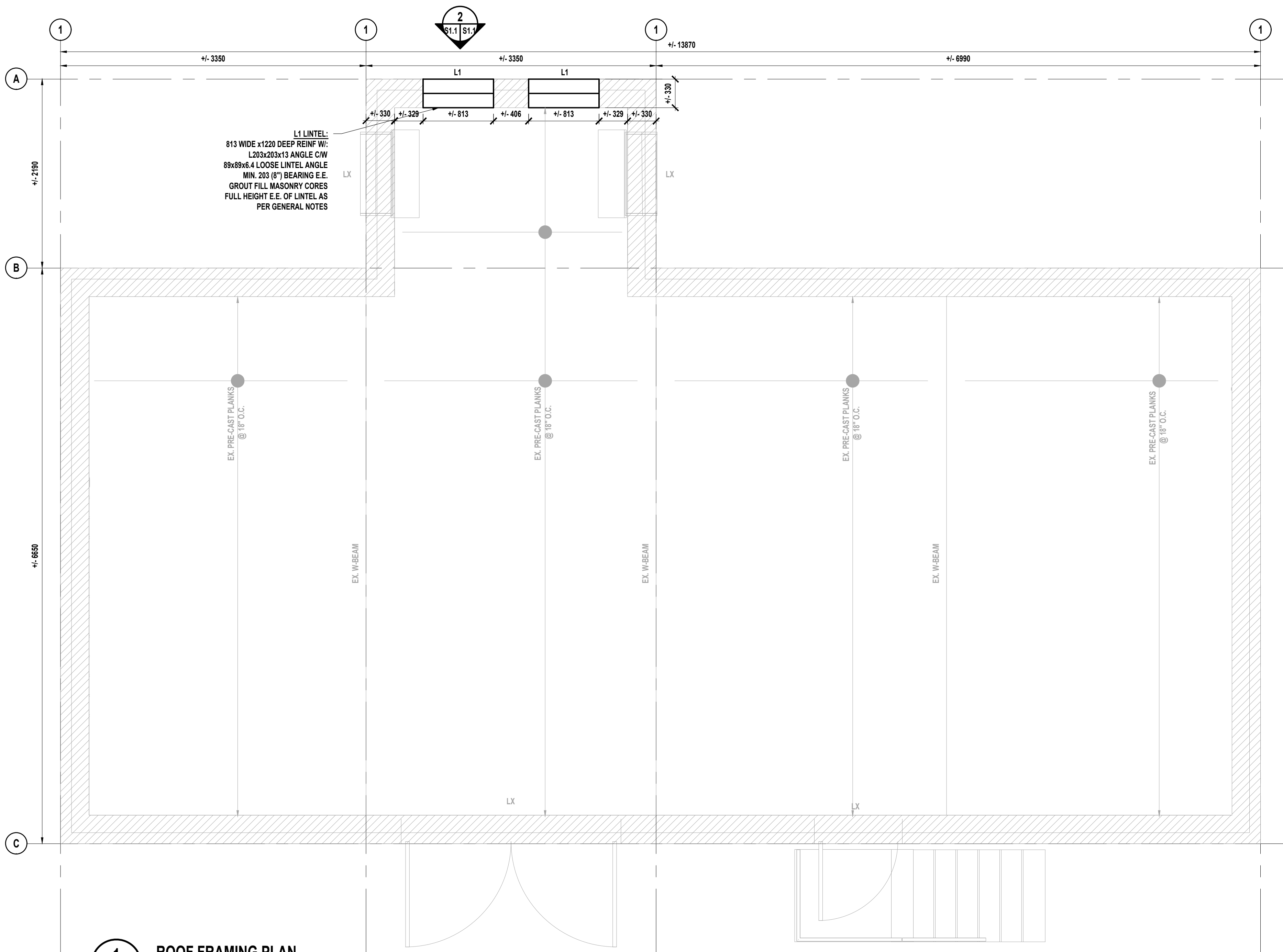
- Masonry work shall conform to CSA S304:14 and CAN/CSA A371:14.
- Masonry work shall comply with CSA S304:14 masonry design for buildings (limit states design) including design testing and workmanship. Refer to CSA S304:14 for material specifications.
- Vertical core fills to be cast in lifts of 1220 (4'-0") maximum. Vertical reinforcing to have a maximum length of 2032mm (6'-8") without splicing. Lap splice 10M bars: 457mm (18"), 15M bars: 660mm (26"), 20M bars: 914mm (36").
- Contractor to be responsible for temporary bracing of all masonry components until all masonry is self supporting or necessary structural elements are in place.
- For vertical core fills and reinforcement see plans. Core fill refers to grouting of the full height of wall. Unless otherwise noted on plans provide 1 void core fill complete with 1-15M vertical @ 914mm (32") o.c. Provide minimum of 2 void core fill with 1-15M each void at all ends of wall, each side of wall openings and every corner of walls. Provide minimum of 2 void core fill at W360 or smaller beam, 3 void core fill at W410 and W460 beams, 4 void core fills at W530 beams and 5 void core fill at W610 beams U.N.O. provide 2-15M vertical each void. Provide 3 void core fills, 2-15M each void at wall openings of 1830mm (72") to 2440mm (96") and provide 4 core fills, 2-15M each void at wall openings of 2440mm (96") to 3050mm (120") U.N.O. on the drawings. Provide matching dowels x 914mm (36") long at foundation, project 457mm (18") above concrete.
- Fully grout bottom three courses.
- LOOSE LINTEL ANGLES FOR 89mm (3 1/2") BRICK U.N.O. on the drawings:
 - Span L1 clear span - 0 to 1320mm (52");
 - L 89mmx89mmx6.4mm (3 1/2"x3 1/2"x1/4")Extend loose lintel angle 8" (200mm) past openings, typical.

STRUCTURAL STEEL

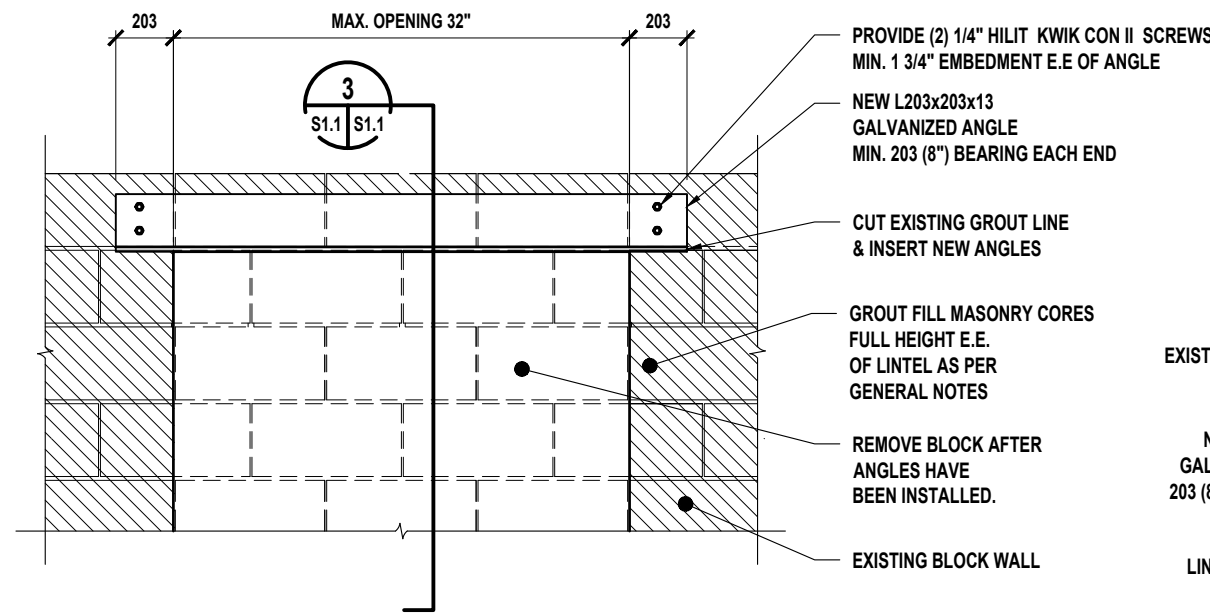
- Fabricate & erect structural steel to CSA S16:19. Structural steel and connections for lateral force resisting system shall meet the requirements of CSA S16 Clause 27.
- Structural steel shapes and plates shall conform to CSA G40.21:13, Grade 350W and CSA G40.21:13, Grade 350W for H.S.S., Class C.
- All welding shall be performed by qualified welders fully approved for structural welding by the Canadian Welding Bureau in accordance with CSA W47.1:19 and CSA W59:18.
- Splicing of members not permitted unless otherwise noted.
- Structural steel erector shall supply and install all temporary guying and bracing necessary to provide stability for the structure as a whole. These shall remain in place until floor slabs are well cured, steel roof deck is fully welded and/or permanent bracing is installed.
- Structural Steel supplier shall submit shop drawings bearing the seal of a Professional Engineer in the project Province showing all design and fabrication details of connections to the Architect for review prior to fabrication.
- Structural Bolts, nuts, and washers to ASTM F3125/F3125M-18, grade A325, minimum bolt diameter 19mm (3/4").
- Anchor bolts to ASTM A307:21.
- Primer to conform to the requirements of CGSB or CISC/CPMA standards.
- All bolted connections shall have a minimum of two bolts in each connected piece and be designed with bearing-type connections with threads included in shear plane, unless noted otherwise.
- All steel shall receive a shop coat of primer except surfaces to be concreted, welded, light zinc coated or galvanized.
- Clean all field welds after erection and touch up all unpainted surfaces with one coat of primer paint to match shop coat.
- There shall be no cutting of the structural steel members for the work of other trades without prior written approval of the structural consultant.
- Professional Engineer whose seal is on shop drawings shall review construction and provide a letter certifying that connections have been installed in accordance with the approved shop drawings.
- All exposed steel to be galvanized.

NOTES:

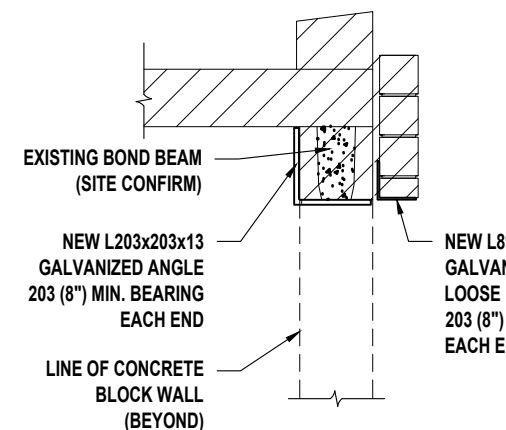
- THE EXISTING STRUCTURE EFFECTED BY THIS RENOVATION HAS BEEN REVIEWED AND IS CAPABLE OF HANDLING THE NEW OPENINGS AS SHOWN IN ACCORDANCE WITH PART 4 OF THE 2024 MANITOBA BUILDING CODE.
- ALL TEMPORARY SHORING BY G.C.



1 ROOF FRAMING PLAN
1:30
DESIGN LOADS:
SNOW LOAD = 2.15 kPa
DEAD LOAD = 1.0 kPa

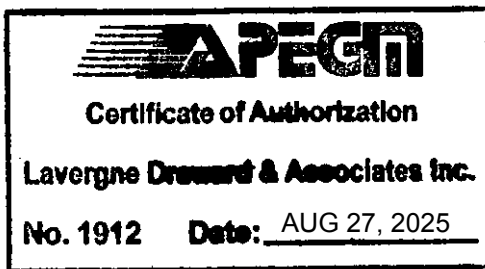


2 TYP. OPENING THROUGH EXISTING BLOCK WALL
SCALE 1:20



3 SECTION THROUGH NEW OPENING
SCALE 1:20

NOTE:
SITE CONFIRM BLOCK WALL THICKNESS
& REPORT TO ENGINEER IF CURRENT
ANGLE LESS ARE TOO LARGE, (TYP.)



NO.	REVISIONS	DATE (YYYY/MM/DD)	BY
2	RE- ISSUED FOR CONSTRUCTION	2025/08/27	NR
1	ISSUED FOR CONSTRUCTION	2025/07/02 (YYYY/MM/DD)	NR

LAVERGNE DRAWARD & ASSOCIATES INC. 200-193 DUMOULIN STREET, WINNIPEG, MANITOBA R2H 0E4 (204) 947-2222 general@ldaeng.ca www.LDAeng.ca	
DESIGNED BY NR	CHECKED BY CP
DRAWN BY NR	APPROVED BY TG
SCALE: HORIZONTAL AS NOTED VERTICAL	RELEASED FOR CONSTRUCTION 2025/08/27 DATE YYYY/MM/DD
PLOT DATE:	

ENGINEER'S SEAL
CONSULTANT DRAWING NUMBER S1.1

THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT ENGINEERING SERVICES DIVISION	
MACLEAN RESERVOIR VALVE HOUSE	
GROUND FLOOR - EXISTING	
CITY FILE NUMBER W-938	SHEET 1 OF 1
CITY DRAWING NUMBER 1-0630R-S0001-001	

BID OPP: 808-2025
CONTRACT NUMBER:

FILE PATH:
FILE NAME: