



VX ENGINEERING INC.

Structural Engineers

Tel. 416 670 9422

Fax. 289 327 0604

vaska@vxengineering.com

www.vxengineering.com

Suite 2500, 135 Marlee Avenue

Toronto, ON, M6B 4C6

STRUCTURAL ADDENDUM No 1

September 24, 2024

Page 1 of 4

Project #2413

Re: Renovation To Clarington Fire & Emergency Services Station 1
The Corporation of the Municipality of Clarington
2430 Durham Regional Hwy 2, Bowmanville, ON, L1C 6C8

The following structural items are to be included as part of the Structural Drawings and Specifications:

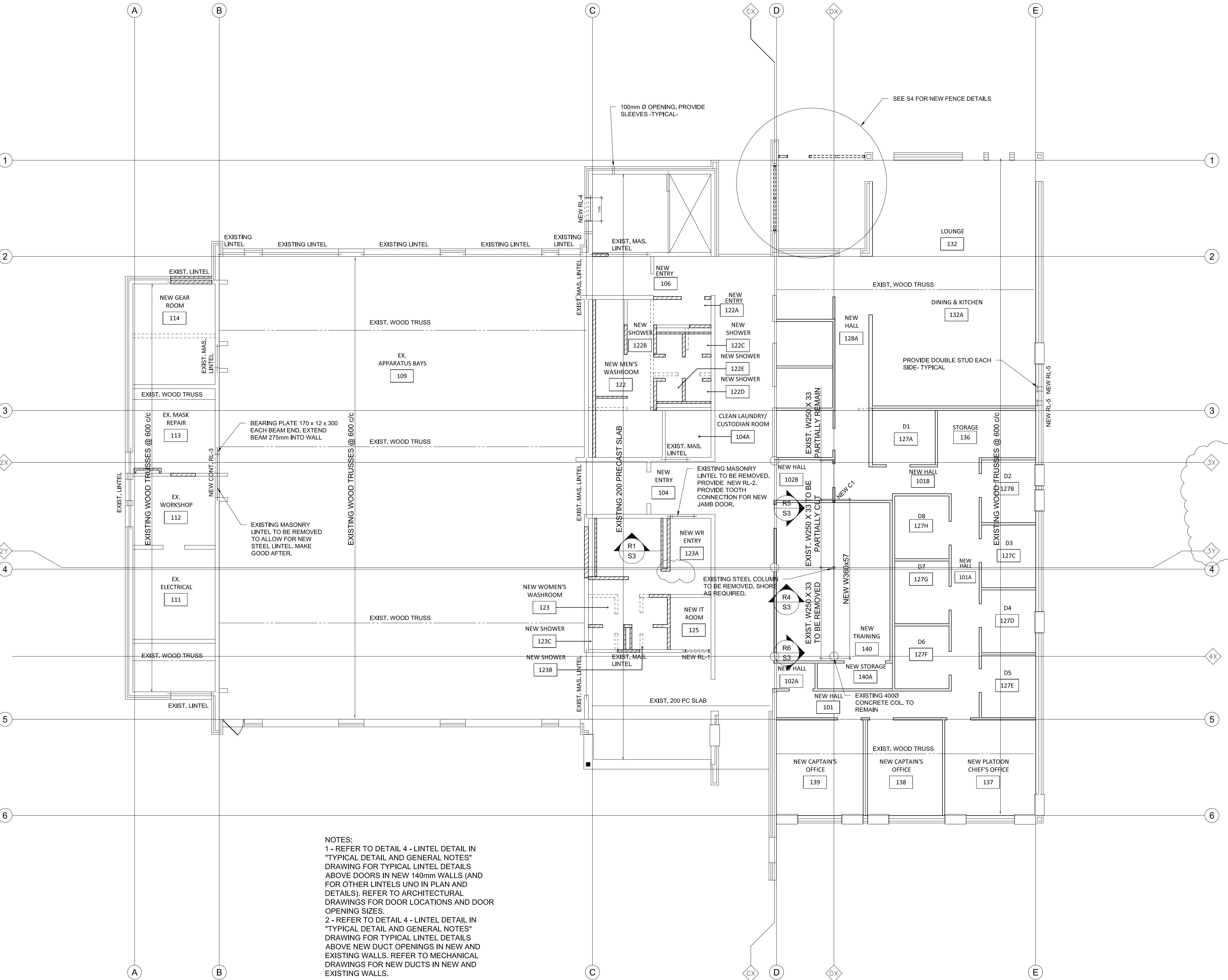
DRAWINGS S1, S2, S4:

1. Refer to note in the bubble in the typical detail 3/S1. The note is modified to specify that the bars drilled in existing slab to be epoxy grouted.
2. Grids are updated to match architectural drawings. See bubbles in plans 1/S1 and 1/S2.
3. See bubble in 1/S2, close to New WR Entry 123A. The nib wall is removed to match with the architectural drawings.
4. Refer to bubble in the fence details 2/S4, 3/S4 and 4/S4. The type of the epoxy for the drilled bolts is defined in the note. The note is typical and the same for the three sections. Use the described adhesive epoxy or equivalent.

Attachments:

S1 Revised, S2 Revised, S4 Revised

END OF STRUCTURAL ADDENDUM No.1



1
S2

EXISTING ROOF FRAMING PLAN
1:100

NOTES:
1 - REFER TO DETAIL 4 - LINTEL DETAIL IN "TYPICAL DETAIL AND GENERAL NOTES" DRAWING FOR TYPICAL LINTEL DETAILS ABOVE DOORS IN NEW 140mm WALLS (AND FOR OTHER LINTELS UNO IN PLAN AND DETAILS). REFER TO ARCHITECTURAL DRAWINGS FOR DOOR LOCATIONS AND DOOR OPENING SIZES.
2 - REFER TO DETAIL 4 - LINTEL DETAIL IN "TYPICAL DETAIL AND GENERAL NOTES" DRAWING FOR TYPICAL LINTEL DETAILS ABOVE NEW DUCT OPENINGS IN NEW AND EXISTING WALLS. REFER TO MECHANICAL DRAWINGS FOR NEW DUCTS IN NEW AND EXISTING WALLS.

ROOF FRAMING PLAN

SCALE 1:100

- FOR ROOF SLOPES AND ELEVATIONS SEE ARCHITECTURAL DRAWINGS.
- ROOF STRUCTURE IS EXISTING UNLESS NOTED OTHERWISE. EXISTING FRAMING DATA ARE TAKEN FROM THE ORIGINAL DRAWINGS DESIGNED BY POW, PETERMAN & ASSOCIATES INC. SIGNED BY R.D. PETERMAN P.ENG. DATED MARCH 1994. REPORT TO CONSULTANTS DISCREPANCIES AND NECESSARY ADJUSTMENTS DUE TO ACTUAL CONDITIONS BEFORE PROCEEDING WITH WORK.
- EXISTING ROOF IS DESIGNED FOR SNOW LOAD $S_s=0.9 \text{ kPa}$, $S_d=0.4 \text{ kPa}$. POST DISASTER.
- SPECIFIED SNOW LOAD AS PER ACTUAL CODE IS $S_s=1.4 \text{ kPa}$, $S_d=0.4 \text{ kPa}$. POST DISASTER. ADD DRIFT SNOW AS SHOWN. MULTIPLY SNOW LOADS BY IMPORTANCE FACTOR - SEE IMPORTANCE FACTOR TABLE.
- UNLESS NOTED OTHERWISE PROVIDE $L100 \times 76 \times 8.0$ LVL FRAMING US NEW ROOF MECHANICAL UNITS AND $L76 \times 76 \times 6.4$ ANGLE REINFORCING AROUND ALL OPENINGS IN ROOF DECK THAT ARE BIGGER THAN $150 \text{ mm} \times 150 \text{ mm}$.
- SEE ALSO TYPICAL DETAILS AND GENERAL NOTES ON THESE DRAWINGS.
- UNLESS NOTED OTHERWISE PROVIDE $170 \times 12 \times 200$ BEARING PLATES EACH END OF ALL STEEL BEAMS. ALL BEARING PLATES SHALL BE WITH 2-190 WELDED ANCHORS X 250 LG. WELD BEAM TO BEARING PLATES TYPICAL.
- W.P.L.1 - 75 X 6 CONTINUOUS STEEL PLATE WITH 120×200 LG. STUDS AT 800 c/c SET IN BLOCK VOIDS FILLED WITH 20MPa CONCRETE
- REFER TO OTHER CONSULTANTS DRAWINGS AND SPECIFICATIONS FOR ROOF MOUNTED OR SUSPENDED UNITS. SHOW THE UNITS ON THE STEEL FABRICATORS SHOP DRAWINGS AND OBTAIN ARCHITECT'S, MECHANICAL AND OR ELECTRICAL ENGINEERS APPROVAL OF WEIGHTS AND LOCATIONS BEFORE FABRICATION IS STARTED.
- UNLESS NOTED OTHERWISE FOR LINTELS OVER MECHANICAL WALL OPENINGS REFER TO "LINTELS FOR DUCTS AND SERVICES" ON TYPICAL DETAIL SHEET. FOR ALL NEW LINTELS IN EXISTING WALLS CONFIRM WALL THICKNESS BEFORE LINTELS ARE FABRICATED. REFER TO ARCHITECTURAL AND MECHANICAL DRAWINGS FOR EXACT LOCATIONS.
- BLOCK VOIDS WITH REINFORCING OR SHOWN AS "FILLED SOLID" SHALL BE FILLED WITH 20MPa CONCRETE WITH PEA GRAVEL OR 20MPa COARSE GROUT.
- WIND LOAD PARAMETERS, AS PER OBC 2012, PART 4, UPDATED IN 2020, $\frac{1}{10}$ WIND PRESSURE 0.48 kPa , $\frac{1}{10}$ WIND PRESSURE 0.37 kPa .
- REFER TO "IMPORTANCE FACTOR" TABLE, THE BUILDING IS "POST DISASTER".
- SHORE AS REQUIRED.
- VERIFY SITE CONDITIONS BEFORE SUBMITTING SHOP DRAWINGS.

IMPORTANCE FACTOR CATEGORY 'POST DISASTER'		
	ULS	SLS
SNOW	1.25	0.9
WIND	1.25	0.75
EARTHQUAKE	1.5	1.0

MASONRY WALL REINFORCING-TYPICAL
(UNLESS NOTED OTHERWISE ON PLANS OR SECTIONS)

- EXTERIOR WALLS:
 - 190 BACK UP WALL - 15M VERTICAL REINFORCING AT 800 c/c SET IN MIDDLE OF 190 WALL.
 - 240 BACK UP WALL - 15M VERTICAL REINFORCING AT 800 c/c SET IN MIDDLE OF 240 WALL.
- INTERIOR WALLS:
 - 190 WALL - 15M VERTICAL REINFORCING AT 1200 c/c SET IN MIDDLE OF 190 WALL.
 - 240 WALL - 15M VERTICAL REINFORCING AT 1200 c/c SET IN MIDDLE OF 240 WALL.
- PARTITIONS:
 - 140 WALL - 10M VERTICAL REINFORCING AT 800 c/c SET IN MIDDLE OF 140 WALL.
 - 190 WALL - PROVIDE EPOXY DOWELS INTO EXIST. SLAB 15M VERTICAL REINFORCING AT 1200 c/c SET IN MIDDLE OF 190 WALL. PROVIDE EPOXY DOWELS INTO EXIST. SLAB.
- PROVIDE 1-15M VERTICAL EACH FACE OF BLOCK AT EACH SIDE OF ALL WALL OPENINGS AND BEAM BEARINGS FOR SPANS LARGER THAN 1200 mm . TYPICAL FOR ALL EXTERIOR AND INTERIOR WALLS. (NOT REQUIRED IF PIER REINFORCING IS SPECIFIED ON PLANS AT THIS LOCATION).
- PROVIDE TRUSS TYPE HORIZONTAL MASONRY REINFORCING @ 400 c/c FOR 190 WALLS. LADDER TYPE @ 400 c/c PER 140 WALLS. SEE ALSO THE SPECIFICATIONS.
- ALL BLOCK VOIDS WITH REINFORCING SHALL BE FILLED SOLID WITH 20MPa COURSE GROUT OR 20MPa CONCRETE WITH PEA GRAVEL.
- MASONRY INDICATED ON PLAN AS "FILLED SOLID", SHALL BE FULLY FILLED WITH 20MPa COURSE GROUT OR 20MPa CONCRETE WITH PEA GRAVEL.
- PROVIDE MINIMUM SPLICE 600 mm FOR ALL VERTICAL REINFORCING.
- MASONRY REQUIRED TO BE "FILLED SOLID", SHALL BE FILLED IN LOW LIFTS UNLESS APPROVED BY THE CONSULTANT.
- COORDINATE MASONRY REINFORCING PLACEMENT WITH LINTEL AND BEAM BEARINGS.
- PROVIDE CONTINUOUS LINTEL BLOCK BAND COURSE WITH 2-15M CONT. BARS AT GROUND FLOOR LEVEL AND EACH SUBSEQUENT FRAMED LEVEL ABOVE.

NEW LINTEL SCHEDULE

MARK	MATERIAL	TYPE	REMARKS
RL-1	BACK TO BACK 2L's $90 \times 65 \times 8$ LVL FOR BLOCK SUPPORT		EXTEND L's 150mm EACH END
RL-2	BACK TO BACK 2L's $90 \times 90 \times 8$ FOR BLOCK SUPPORT		EXTEND L's 150mm EACH END
RL-3	$W200 \times 36 + 190 \times 8$ PL. BOT.		CUT BOT. PLATE SHORT OF OPENING AND PROVIDE TYP. B.P.L. + ANCHORS. UNLESS NOTED OTHERWISE IN PLAN (UNO).
RL-4	$W200 \times 27 + 190 \times 8$ PLATE BOT. + L $125 \times 90 \times 8$ FOR VENEER		CUT BOT. PLATE SHORT OF OPENING AND PROVIDE TYP. B.P.L. + ANCHORS. UNLESS NOTED OTHERWISE IN PLAN (UNO). EXTEND L 150MM EACH END
RL-5	$3 - 2 \times 8 + L 90 \times 90 \times 8$ FOR VENEER		PROVIDE DOUBLE STUD EACH SIDE OF NEW OPENING. EXTEND L 150MM EACH END

LINTEL NOTES:

- GENERAL CONTRACTOR SHALL PROVIDE $38 \times 5 \times 150$ MASONRY TIES WELDED TO BM. AT 600 c/c TYP. FOR ALL BEAM LINTELS AND BMS IN MASONRY.
- PROVIDE 1-190 A. BOLTS X 200 LG. GROUTED INTO BLOCK VOIDS OF PIERS BETWEEN OPENINGS. WHERE APPLICABLE.
- UNLESS NOTED OTHERWISE BOT. PLATE OF BEAM LINTELS SHALL STOP SHORT OF OPENINGS AND BEAM BEARING PLATE SHALL BE PROVIDED.
- FIRST BLOCK COURSE ABOVE STEEL LINTEL SHALL BE FILLED SOLID WITH 20MPa CONCRETE. TYP.

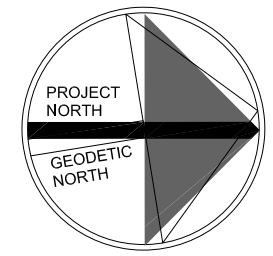
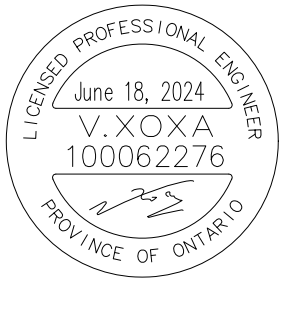
VX

VX ENGINEERING INC.
STRUCTURAL ENGINEERS

VX ENGINEERING Inc.
2500 - 135 Marlee Avenue
Toronto, Ontario M6B 4C6
416 670 9422 www.vxengineering.com

NOTE: THIS DRAWING IS NOT TO BE SCALED. THE CONTRACTOR IS RESPONSIBLE FOR THE VERIFICATION OF ALL SITE CONDITIONS AND FOR NOTIFYING THE ARCHITECT OF ANY SITE MEASUREMENTS THAT ARE NOT CONSISTENT WITH THE DRAWINGS.

no.	revision	date



no.	issue	date
1	Issued for Costing	June 05, 2024
2	Issued for Permit and Tender	June 18, 2024

project
RENOVATION TO CLARINGTON FIRE & EMERGENCY SERVICES STATION 1
The Corporation of the Municipality of Clarington

2430 Durham Regional Hwy 2, Bowmanville, ON L1C 6C8

drawing
EXISTING ROOF FRAMING PLAN

drawing scale

1:100

ward99 project number

24008 - DURHAM FIRE STATION

VX Engineering project number

2413 - DURHAM FIRE STATION

drawing no.

ward99 architects inc.

WaRD.99

ward99 architects inc.

ward99 architects inc.

ward99 architects inc.

ward99 architects inc.

ward99 architects inc.

ward99 architects inc.

ward99 architects inc.

ward99 architects inc.

ward99 architects inc.

ward99 architects inc.

ward99 architects inc.

ward99 architects inc.

ward99 architects inc.


ward99 architects inc.

S-2

REVISED



NOTE: THIS DRAWING IS NOT TO BE SCALED. THE CONTRACTOR IS RESPONSIBLE FOR THE VERIFICATION OF ALL SITE DIMENSIONS AND FOR NOTIFYING THE ARCHITECT OF ANY SITE CONDITIONS AND SITE MEASUREMENTS THAT ARE NOT CONSISTENT WITH THE DRAWINGS.



no.	issue	date
1	Issued for Costing	June 05, 2022
2	Issued for Permit and Tender	June 18, 2022

warden
architects

S-4

REVISÉD