

LEVEL 1 ROOF FRAMING PLAN
SCALE 3\"/>

SUBMITTALS

- SUBMIT FOR REVIEW BY THE CONSULTANT, DETAILED SHOP DRAWINGS FOR ALL STRUCTURAL WORK INCLUDING, BUT NOT LIMITED TO STRUCTURAL STEEL AND TEMPORARY SHORING.
- THE SCALE OF THE DRAWINGS SHALL BE SUCH THAT THE DETAILS OF THE STRUCTURAL WORK ARE CLEARLY SHOWN, AND IN NO CASE SMALLER THAN 1:50 (1/4\"/>

GENERAL NOTES

- CHECK ALL DIMENSIONS ON THESE DRAWINGS WITH ALL OTHER DRAWINGS, INCLUDING BUT NOT LIMITED TO DRAWINGS PREPARED ARCHITECTURAL, MECHANICAL OR ELECTRICAL CONSULTANTS. REPORT ANY INCONSISTENCIES TO THE ENGINEER PRIOR TO COMMENCING WITH THE WORK. DO NOT SCALE THE DRAWINGS.
- THE DESIGN LIVE LOADS ARE INDICATED ON THE DRAWINGS. CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN LOADS.
- THE COMPLETED STRUCTURE IS SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY BRACING, SHORING AND ANY OTHER TEMPORARY OR PERMANENT MEASURES AS REQUIRED DURING CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY SUPPORT OF EXISTING OR ADJACENT STRUCTURES AS REQUIRED. ALL BRACING AND SHORING IS THE RESPONSIBILITY OF THE CONTRACTOR.
- CONSTRUCTION FEATURES NOT FULLY SHOWN ARE COMPARABLE TO SIMILAR CONDITION DETAILS.
- ALL CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE LATEST ONTARIO BUILDING CODE, LATEST APPLICABLE REGULATIONS AND GOOD CONSTRUCTION PRACTICES.
- THE STRUCTURAL DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL OTHER CONTRACT DRAWINGS AND SPECIFICATIONS.
- CLARIFY ANY QUERIES WITH THE ENGINEER REGARDING THE INTERPRETATION OF THE DRAWINGS, PRIOR TO THE COMMENCEMENT OF ANY WORK.

STRUCTURAL STEEL NOTES

- ALL STRUCTURAL STEEL ELEMENTS, INCLUDING DESIGN OF ELEMENTS AND CONNECTIONS SHALL BE IN ACCORDANCE WITH CAN/CSA S16.
- ALL STRUCTURAL STEEL SHALL CONFORM TO CSA G40.21 (300W) EXCEPT W SECTIONS AND PLATES G40.21 (350W), HSS MEMBERS G40.21 (350W) CLASS C OR ASTM A500 GRADE C, ANCHOR BOLTS ASTM A307, COLD FORM SECTIONS ASTM A570M GRADE 350W. UNLESS OTHERWISE NOTED, ALL SECTIONS SHALL BE PRIME PAINTED WITH THE SURFACE PREPARATION AND PAINTING PROCEDURES IN ACCORDANCE WITH CAN/CGSB 85.10.
- ALL WELDING SHALL BE CARRIED OUT IN ACCORDANCE WITH CAN/CSA W59. THE STEEL FABRICATOR SHALL BE FULLY QUALIFIED UNDER THE REQUIREMENTS BY THE CANADIAN WELDING BUREAU IN CONFORMANCE WITH CAN/CSA W47.1.
- ERECT STRUCTURAL STEEL IN ACCORDANCE WITH CSA S16 AND IN CONFORMANCE WITH THE APPROVED SHOP DRAWINGS.

LOADING SUMMARY DESIGN STANDARDS

- ONTARIO BUILDING CODE, 2012, PART 4: STRUCTURAL DESIGN
- CAN/CSA-S16-14, LIMIT STATES DESIGN OF STEEL STRUCTURES
- CAN/CSA-086-14, ENGINEERING DESIGN IN WOOD

SNOW, ICE AND RAIN LOADS

- APPLIED PER OBC, PART 4, SECTION 4.1.6
- IMPORTANCE FACTOR, I_s 0.9 (SLS) 1.15 (ULS)
 - GROUND SNOW LOAD, S_g 1.5 kPa (31.3 PSF)
 - ASSOCIATED RAIN LOAD, S_r 0.4 kPa (8.4 PSF)
 - WIND EXPOSURE FACTOR, C_w 1.0
 - ROOF SNOW LOAD, S 1.84 kPa (38.4 PSF)
 - DRIFT LOADS PER CLAUSE 4.1.6.2.(5) TO (7)
 - SLOPE FACTORS PER CLAUSE 4.1.6.2.(5) TO (7)

WIND LOADS

- APPLIED PER OBC, PART 4, SECTION 4.1.7
- IMPORTANCE FACTOR, I_w 0.75 (SLS) 1.00 (ULS)
 - REFERENCE VELOCITY PRESSURE FOR STRUCTURAL MEMBERS 0.46 kPa 1/50 YEAR PROBABILITY (9.6 PSF)
 - REFERENCE VELOCITY PRESSURE FOR CLADDING & NON-STRUCTURAL MEMBERS 0.36 kPa 1/10 YEAR PROBABILITY (7.5 PSF)
 - GUST FACTORS C_g :
 - 2.0 FOR WHOLE & MAIN STRUCTURAL MEMBERS
 - 2.5 FOR SMALL ELEMENTS INCLUDING CLADDING
 - 2.0 FOR INTERNAL PRESSURES
 - BUILDING INTERNAL PRESSURE CATEGORY 2 PER NBC 2010 STRUCTURAL COMMENTARY (PART B), COMMENTARY B.

SEISMIC LOADS

- APPLIED PER OBC, PART 4, SECTION 4.1.8
- IMPORTANCE FACTOR, I_e 1.3 (ULS)
 - $S_a(0.2)$ 0.260
 - $S_d(0.5)$ 0.129
 - $S_d(1.0)$ 0.081
 - $S_d(2.0)$ 0.028
 - RCA 0.168
 - SOIL CLASS: C (ASSUMED)
 - F_a 1.00

SEISMIC SWAY BRACING

ARTICLE 4.1.8.18(2) OF THE ONTARIO BUILDING CODE NOTES THAT IF THE PRODUCT OF $I_e \cdot F_a \cdot S_d(0.2)$ IS LESS THAN 0.35, THE REQUIREMENTS NOTED ABOVE NEED NOT APPLY. THESE VALUES ARE EXPLORED BELOW. THIS EXEMPTION IS NOT APPLICABLE TO POST-DISASTER BUILDINGS.

BASED ON THE ABOVE NOTED VALUES, THE PRODUCT OF $I_e \cdot F_a \cdot S_d(0.2) = 1.3 \cdot 1.00 \cdot 0.26 = 0.338$. GIVEN THIS IS LESS THAN THE THRESHOLD OF 0.35, THE APPLICATION OF THE LATERAL FORCE (V_p) TO ALL ELEMENTS AND COMPONENTS AND SWAY BRACING IS NOT REQUIRED.

DEAD:	
- ROOFING	0.30 kPa (7.3 psf)
- INSULATION	0.10 kPa (3.1 psf)
- RAPIDEX	1.91 kPa (40.0 psf)
- MECHANICAL & ELECTRICAL	0.25 kPa (5.2 psf)
TOTAL	2.56 kPa (55.6 psf)
USED	2.56 kPa (55.6 psf)

NOTE:

- INFILL EXISTING BLOCK AT ABANDONED DUCT OPENINGS.
- PROVIDE SHORING AND BREAK OPEN EXISTING WALL, AND PROVIDE STEEL LINTEL AS PER TYPICAL LINTEL SCHEDULE AT ALL NEW DUCT OPENINGS. MAKE GOOD EXISTING BLOCK AS REQUIRED. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS AND QUANTITIES.
- INFILL EXISTING OPENINGS IN ROOF DECK AS REQUIRED, AS PER MECHANICAL DETAIL. NOT ALL LOCATIONS SHOWN ON PLAN.
- PROVIDE FRAMING FOR ALL FLOOR & ROOF OPENINGS AS PER TYP. DETAIL. REFER TO MECHANICAL FOR LOCATIONS.
- SHORING SHALL BE, BUT MAY NOT BE LIMITED TO, NEEDLE SHORING. CONTRACTOR TO PROVIDE TEMPORARY SHORING AS REQUIRED TO SUIT PROPOSED SCOPE OF WORK.

DRAWINGS REFERENCED USING INFORMATION FROM EX. DRAWINGS PREPARED BY: VICTOR P. PALA ARCHITECT DATED OCT. 7, 1968

EXISTING DRAWINGS LAYOUT PREPARED BY: HALL & MCINTYRE ARCHITECTS DATED OCT. 10, 1961

1	ISSUED FOR TENDER	2025-01-08
0	ISSUED FOR PERMIT	2024-11-28
No	Revisions	Date
Orientation		Seal

The Contractor shall check and verify all dimensions and report all errors and omissions to the IO-Owner's/MBS Designee (as applicable) for his/her written direction before proceeding with the Work.

A	Detail No
B	Sheet No where detailed



300 YORK BLVD HAMILTON, ONTARIO L8R 3K6
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PROJECT NO. 24200



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Ministry PSF Number

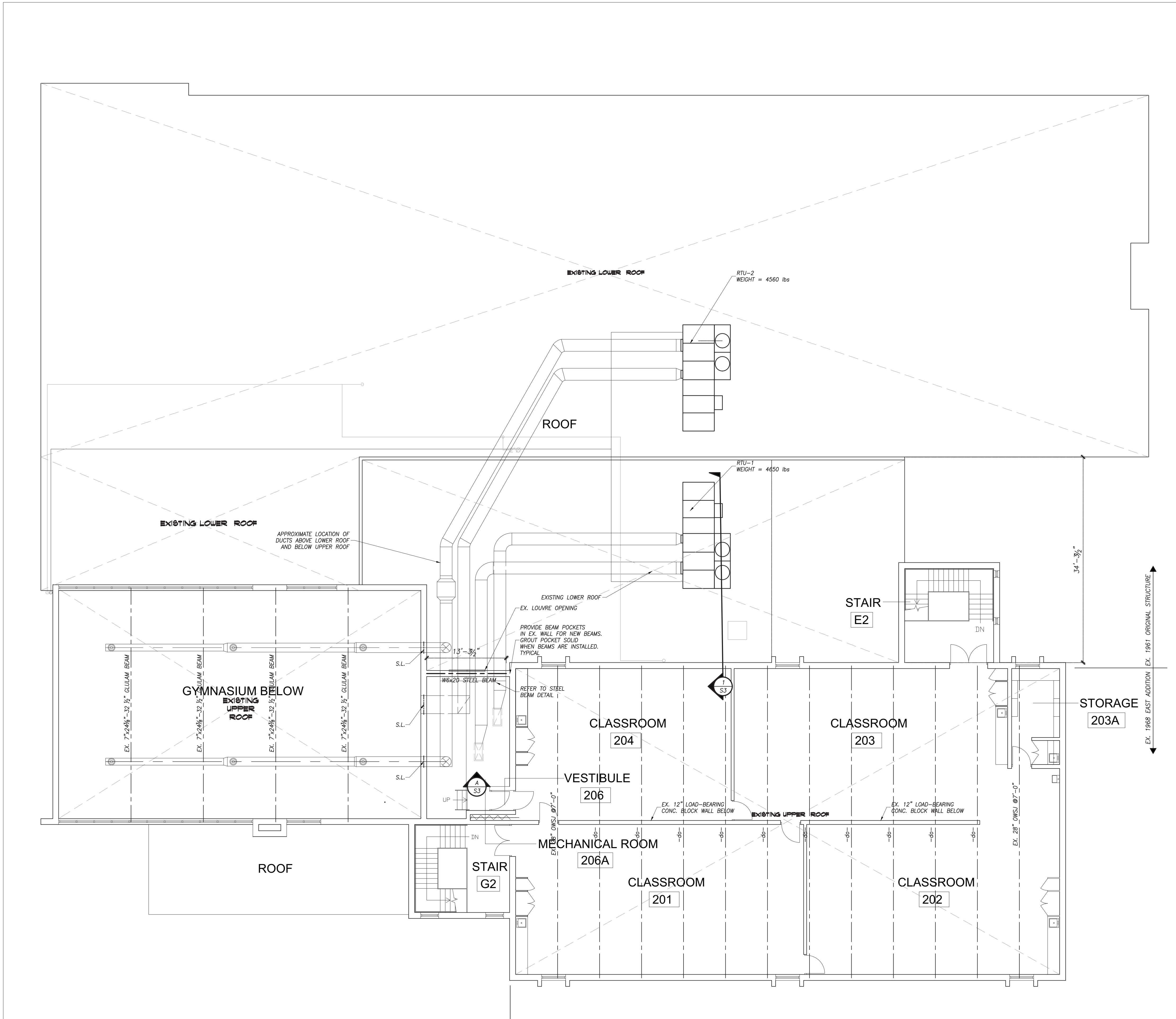
Project
HOLBROOK ELEMENTARY SCHOOL
GYM RENOVATION

Location
450 SANITORIUM ROAD
HAMILTON, ONTARIO
IO Project No 24200

Client
HAMILTON-WENWORTH DISTRICT S.B.

Drawing Title
LEVEL 1 ROOF FRAMING PLAN
AND NOTES

Scale AS NOTED	Project Start Date
Drawn by QN	Substantial Performance Date
Designed by HAPH	Drawing No S1 of
Approved by HAPH	Floor No
CADD File NAME	



LEVEL 2 ROOF FRAMING PLAN
SCALE 3'-1"=0"

MASONRY NOTES

- ALL STRUCTURAL ELEMENTS HAVE BEEN DESIGNED IN ACCORDANCE WITH CSA STANDARD S304.1. ALL MASONRY CONSTRUCTION SHALL BE IN ACCORDANCE WITH CSA STANDARD A371. ALL MASONRY CONNECTORS, REINFORCING AND TYING SHALL BE IN ACCORDANCE WITH CSA A370. ALL MORTAR AND GROUT SHALL BE IN ACCORDANCE WITH A179.
- GROUT SHALL CONSIST OF ON ONE PART PORTLAND CEMENT, THREE PARTS SAND (MAXIMUM AGGREGATE SIZE SHALL BE 3/8") WITH WATER TO PROVIDE A MINIMUM 10MPa COMPRESSIVE STRENGTH AT 28 DAYS. SLUMP SHALL BE 8" TO 10".
- ALL CELLS CONTAINING REINFORCING SHALL BE GROUTED SOLID. TWO BLOCK COURSES BELOW BEARING PLATES SHALL BE GROUTED SOLID.
- THE MASONRY SHALL BE CONSTRUCTED EVENLY WITH MAXIMUM LIFTS OF 1200 PER DAY. DO NOT TOOTH AND BOND OR STACK BOND MASONRY. RAKE BACK ENDS OF UNFINISHED WALLS.
- ALL MORTAR JOINTS SHALL BE TOOLED (CONCAVE). A MINIMUM BED JOINT OF 1/4" IS REQUIRED FOR THE STARTING COURSE TO A MAXIMUM OF 3/4". THE BED JOINTS SHALL BE 3/8".
- PROVIDE A STEEL LINTEL OVER ALL OPENINGS OR RECESSES INCLUDING OPENINGS FOR MECHANICAL AND ELECTRICAL COMPONENTS. ALL EXTERIOR LINTELS TO BE HOT DIP GALVANIZED.
- BUILD THE MASONRY SOLID AROUND ALL BEAM, LINTEL AND JOIST POCKETS. INSTALL BEARING PLATES AT THE SPECIFIED ELEVATION AND GROUT THE PLATE INTO THE WALL A MINIMUM OF 16".

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Orientation

Seal

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A

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IO Project No 24200 Site No Building No

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Drawing Title
LEVEL 2 ROOF FRAMING PLAN
AND NOTES

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Approved by HAPH	Floor No
CADD File NAME	

