CONSTRUCTION NOTES:

A. GENERAL

1. ALL WORK SHALL CONFORM TO THE ONTARIO BUILDING CODE AND ALL STANDARDS REFERENCED WITHIN, LOCAL REGULATIONS AND BYLAWS, AND THE OCCUPATIONAL HEALTH AND SAFETY ACT FOR CONSTRUCTION PROJECTS. THE LATEST VERSIONS OF STANDARDS SHALL APPLY.
2. READ THESE DRAWINGS IN CONJUNCTION WITH ALL RELATED CONTRACT DOCUMENTS AND CONSULTANT DRAWINGS.
3. THE CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE THEMSELVES WITH ALL CONDITIONS WHICH MAY ADVERSELY AFFECT THE PROPER COMPLETION OF THE PROJECT. THE CONTRACTOR SHALL CHECK ALL DIMENSIONS IN RELATION TO THE DRAWINGS AND NOTIFY THE ENGINEER TO ALL DISCREPANCIES PRIOR TO PROCEEDING WITH THE WORK.
4. DRAWINGS ARE NOT TO BE SCALED.
5. THE DESIGN DOCUMENTS ARE PREPARED SOLELY FOR THE USE WITH THE PARTY WHOM THE ENGINEER HAS ENTERED INTO CONTRACT. THERE ARE NO REPRESENTATIONS MADE TO ANY PARTY WITH WHOM THE ENGINEER HAS NOT ENTERED INTO CONTRACT.
6. THE CONTRACTOR SHALL RETAIN AN INDEPENDENT TESTING AND INSPECTION COMPANY TO ENSURE THAT THE WORK IS DONE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS INCLUDING COMPACTION TESTING, REINFORCING STEEL PLACEMENT, CONCRETE TESTING AND STRUCTURAL STEEL.
7. THE ENGINEER SHALL BE GIVEN MINIMUM 24 HOURS NOTICE BY THE CONTRACTOR FOR ALL CONSTRUCTION REVIEWS. SITE VISITS AND REVIEWS BY THE ENGINEER OR THEIR REPRESENTATIVES ARE INTENDED FOR THE SOLE PURPOSE OF ASCERTAINING CONFORMANCE WITH THE GENERAL DESIGN CONCEPT. THE REVIEWS SHALL NOT MEAN THAT THE ENGINEER HAS SEEN ALL CONSTRUCTION PROCEDURES. REVIEW BY THE ENGINEER SHALL NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY FOR ERRORS AND OMISSIONS AND FOR MEETING ALL THE REQUIREMENTS OF THE CONSTRUCTION AND CONTRACT DOCUMENTS.
8. THE CONTRACTOR SHALL MAKE ADEQUATE PROVISIONS FOR CONSTRUCTION LOADS AND TEMPORARY BRACING TO ENSURE SAFETY AND THE BUILDING IS PLUMB AND IN TRUE ALIGNMENT AT ALL PHASES OF CONSTRUCTION AS PER O.REG 213/91. ALL BRACING MEMBERS SHOWN ON THE DRAWINGS ARE DESIGNED FOR THE FINISHED STRUCTURE AND MAY NOT BE SUFFICIENT FOR ERECTION PURPOSES. SHORING AND BRACING IS REQUIRED UNTIL PROPOSED STRUCTURE IS PROPERLY IN PLACE. SHORING AND BRACING SHALL BE DESIGNED, REVIEWED AND APPROVED BY A PROFESSIONAL ENGINEER. SHOP DRAWINGS SHALL BE SUBMITTED WITH P.ENG'S STAMP FOR OUR REVIEW PRIOR TO CONSTRUCTION.
9. NO SUBSTITUTIONS FROM THE SPECIFIED PRODUCTS AND MATERIALS ARE PERMITTED WITHOUT THE APPROVAL OF THE ENGINEER.

TESTING REQUIREMENTS	
TEST	
STRUCTURAL STEEL CONNECTIONS	INSPECT ALL FIELD WELDS
ALL TESTING TO BE COMPLETED BY A CERTIFIED INDEPENDENT TESTING AND INSPECTION COMPANY. COPIES OF ALL REPORTS ARE TO BE FORWARDED TO THE ENGINEER FOR REVIEW.	

B. DESIGN PARAMETERS

1. REFERENCE FRAMING PLANS FOR DESIGN LOADS OF FLOORS AND ROOFS.

C. STRUCTURAL STEEL

3. STRUCTURAL STEEL SHALL CONFORM TO THE LATEST VERSION OF CAN/CSA-S16 AND THE CISC CODE OF STANDARD PRACTICE.
4. STRUCTURAL STEEL SHALL CONFORM TO THE LATEST VERSION OF CAN/CSA G40.20, G40.21 GRADE 350W CLASS C FOR H.S.S., G40.21 GRADE 350W FOR W.SHAPE SECTIONS AND G40.21 GRADE 300W FOR CHANNELS, ANGLES AND MISCELLANEOUS METAL.
5. BOLTED CONNECTIONS SHALL USE GRADE A325 BOLTS.
6. ANCHOR BOLTS SHALL BE FABRICATED USING STEEL ROD CONFORMING TO THE LATEST VERSION OF CSA G40.21 GRADE 300W.
7. WELDING SHALL CONFORM TO CSA W59 AND CSA W47 DIVISION 1 OR DIVISION 2.1 BY THE CANADIAN WELDING BUREAU. WELDING SHALL BE COMPLETED BY CWB CERTIFIED FABRICATOR AND ERECTOR TO THE CSA STANDARDS W178.1 AND W178.2.
8. WHERE FORCES ARE NOT SHOWN ON THE DRAWINGS BEAM REACTIONS SHALL BE 1/2 THE TOTAL UNIFORM DISTRIBUTED FACTORED LOADS NOTED IN THE BEAM LOAD TABLES OF PART 5 OF THE CISC'S HANDBOOK OF STEEL CONSTRUCTION.
9. COLUMN BEARING GROUT SHALL BE 40 MPa MINIMUM, NON-SHRINK AND 1 1/2" (38mm) MINIMUM THICK.
10. STRUCTURAL STEEL MEMBERS SHALL NOT BE SPLICED WITHOUT THE APPROVAL OF THE ENGINEER.
11. STEEL BEAMS AND LINTELS SHALL HAVE MINIMUM 8" (203mm) BEARING ON MASONRY UNLESS OTHERWISE NOTED. WELD BEAMS AND LINTELS TO BEARING PLATES WHERE PROVIDED WITH MINIMUM 3/16"x2" (4.8mmx51mm) FILLET WELD EACH SIDE.
12. PROVIDE (2) 3/8" (9.5mm) STIFFENER PLATES EACH SIDE OF BEAMS CANTILEVERED OVER COLUMNS OR SUPPORTS OR SUPPORTING COLUMNS.
13. ALL COLUMNS EMBEDDED IN OR ADJACENT TO MASONRY WALLS SHALL HAVE ADJUSTABLE ANCHORS @ 16" (406mm) O.C.
14. ALL STRUCTURAL STEEL IS TO BE SHOP PRIME PAINTED UNLESS NOTED OTHERWISE. STRUCTURAL STEEL WHICH IS TO BE PROTECTED WITH SPRAY APPLIED FIREPROOFING IS TO BE KEPT CLEAN AND UNCOATED. STRUCTURAL STEEL EXPOSED TO WEATHER IS TO BE HOT DIP GALVANIZED CONFORMING TO THE LATEST VERSION OF CAN/CSA-G164. ALL COATINGS ARE TO BE TOUCHED UP ON SITE WITH APPROVED PAINT FOR PRIMED STEEL AND ZINC RICH PAINT FOR GALVANIZED STEEL.

D. LIGHT GAUGE STRUCTURAL STEEL FRAMING

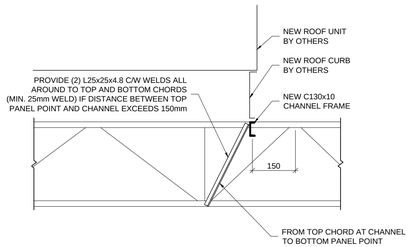
1. DESIGN AND INSTALLATION OF COLD FORM STEEL FRAMING TO CONFORM TO THE LATEST VERSION OF CAN/CSA-136.
2. DESIGN OF COLD FORM STEEL FRAMING TO BE AS PER THE GRAVITY AND LATERAL LOADS SPECIFIED ON THE DRAWINGS AND AS PER THE ONTARIO BUILDING CODE. FOR STUDS BRACING MASONRY VENEER THE DEFLECTION CRITERIA SHALL CONFORM TO THE LATEST VERSION OF CSA S304.1.
3. THE COLD FORM STEEL FRAMING DESIGN ENGINEER SHALL VISIT THE SITE TO PROVIDE FINAL CONSTRUCTION CERTIFICATION FOR THE WORK.
4. COLD FORM STEEL MEMBERS SHALL CONFORM TO THE LATEST VERSION OF ASTM A653. MEMBERS WITH THICKNESS OF 18 Ga. OR LIGHTER TO BE MINIMUM 230 MPa (33 ksi) YIELD STRENGTH. MEMBERS HEAVIER THAN 18 Ga. TO BE MINIMUM 345 MPa (50 ksi).

E. LUMBER

1. WOOD FRAMING DESIGN AND CONSTRUCTION SHALL CONFORM TO THE LATEST VERSION OF CSA O86.
2. SAWN LUMBER SHALL CONFORM TO CSA STANDARD O141 AND BE S-P-F GRADE NO. 2 OR BETTER.
3. STRUCTURAL COMPOSITE LUMBER SHALL BE:
   e) LAMINATED STRAND LUMBER (LSL) - TIMBERSTRAND GRADE 1.55E AS MANUFACTURED BY WEYERHAEUSER OR APPROVED EQUAL
   f) LAMINATED VENEER LUMBER (LVL) - MICROLAM GRADE 2.0E AS MANUFACTURED BY WEYERHAEUSER OR APPROVED EQUAL
   g) PARALLEL STRAND LUMBER (PSL) - PARALLAM GRADE 2.0E AS MANUFACTURED BY WEYERHAEUSER OR APPROVED EQUAL.
5. GLUE LAMINATED MEMBERS ARE TO CONFORM TO THE LATEST VERSION OF CAN/CSA-0122. THE MANUFACTURER SHALL BE QUALIFIED PER CSA STANDARD 0177. CONNECTIONS AND END BEARING CONDITIONS TO CONFORM TO CSA STANDARD S16. GLUE LAMINATED MEMBERS ARE NOT TO BE CUT OR MODIFIED IN THE FIELD. COAT ENDS OF GLUE LAMINATED MEMBERS WITH APPROVED END SEALER.
6. NAILS SHALL CONFORM TO STEEL WIRE NAILS AND SPIKES AS DEFINED IN CSA B111 UNLESS NOTED OTHERWISE.
7. LATERALLY SUPPORT ALL STEEL BEAMS BY PRE-DRILLING FLANGES FOR 1/2" (13mm) BOLTED ATTACHMENT OF WOOD NAILERS WITH 5/8" (16mm) HOLES STAGGERED @ 24" (610mm) O.C.
8. PROVIDE SOLID HORIZONTAL BLOCKING @ 48" (1220mm) O.C. IN THE FIRST TWO JOIST SPACES ADJACENT TO THE EXTERIOR WALLS. BRIDGING SHALL BE ATTACHED TO THE EXTERIOR WALL TO PROVIDE LATERAL STABILITY.
9. ALL NAILS AND FASTENERS IN CONTACT WITH PRESSURE TREATED WOOD ARE TO BE HOT DIP GALVANIZED OR STAINLESS STEEL.
10. ALL STUD WALLS TO BE ANCHORED TO THE FOUNDATION WALL OR FLOOR SLAB WITH 1/2" (13mm) DIAMETER ANCHORS @ 32" (813mm) O.C.. ANCHOR BOLTS SHALL BE PLACED WITHIN 16" (406mm) OF THE EXTERIOR EDGE OF ALL STUD WALLS.
11. RETIGHTEN ALL BOLTED CONNECTIONS SIX MONTHS AFTER FIRST INSTALLATION AND EVERY SIX MONTHS THEREAFTER UNTIL NO APPRECIABLE CHANGE IS EVIDENT.

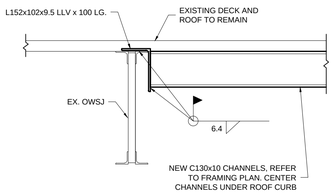
NAILING REQUIREMENTS		
MEMBER CONNECTION	NAIL LENGTH	NUMBER OF NAILS
STUD TO WALL PLATE	83mm (3 1/4")	2
BOTTOM WALL PLATE TO FLOOR JOISTS	83mm (3 1/4")	406mm (16") O.C.
BUILT-UP LINTELS	83mm (3 1/4")	305mm x 64mm (12"x2 1/2") O.C.
KING/JACK POSTS & COLUMNS	83mm (3 1/4")	2 @ 305mm (12") O.C.
FLOOR/CEILING JOIST TO TOP PLATE	83mm (3 1/4")	2
ROOF RAFTER TO TOP PLATE	83mm (3 1/4")	3
LINTEL TO KING POST	83mm (3 1/4")	51mm (2") O.C.
ROOF RAFTER TO RIDGE BEAM	83mm (3 1/4")	3
COLLAR TIE TO ROOF RAFTER	83mm (3 1/4")	3
WALL SHEATHING -PERIMETER -INTERIOR	51mm (2")	152mm (6") O.C. 305mm (12") O.C.
ROOF SHEATHING -PERIMETER -INTERIOR	51mm (2")	152mm (6") O.C. 305mm (12") O.C.
FLOOR SHEATHING -PERIMETER -INTERIOR	51mm (2") SCREWS	152mm (6") O.C. 305mm (12") O.C.

SHOP DRAWINGS REQUIREMENTS			
NAME	REQ'D	P.ENG. STAMP	MIN. CERTIFICATION REQUIREMENTS:
STRUCTURAL STEEL	YES	YES	CONNECTIONS ONLY
STEEL STUD FRAMING	YES	YES	MATERIALS, CONNECTIONS, BRACING AND BRIDGING
SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION. SHOP DRAWINGS MUST BE REVIEWED AND STAMPED BY THE GENERAL CONTRACTOR PRIOR TO ISSUING TO THE ENGINEER FOR REVIEW.			

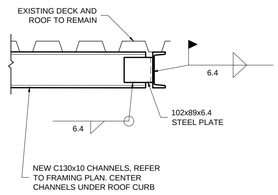


A S0.0 SECTION 1:25
PANEL POINT REINFORCING

CONTRACTOR TO SITE VERIFY ALL EXISTING CONDITIONS



B S0.0 SECTION 1:10
CHANNEL TO EX. OWSJ CONNECTION



C S0.0 SECTION 1:10
CHANNEL TO CHANNEL CONNECTION

No.	REVISIONS	DATE

LICENSED PROFESSIONAL ENGINEER
D. A. WITZEL
100149864
Mar 05, 2024
PROVINCE OF ONTARIO

ISSUED FOR TENDER	2024.03.05
ISSUED FOR PERMIT	2024.02.22
CHRONOLOGY	DATE

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www.witzeldyce.com

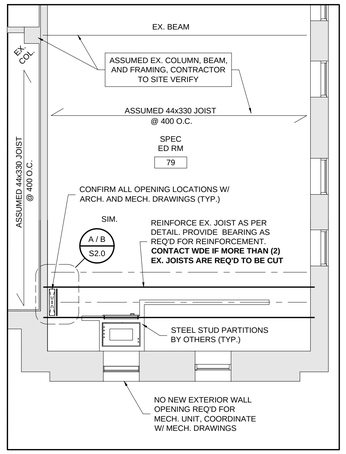
aba architects inc.
101 Randall Drive, Unit B, Waterloo ON. T0, 519 884 2711 www.abaarchitect.co

CLIENT
WATERLOO REGION DISTRICT SCHOOL BOARD

PROJECT NAME
COURTLAND PUBLIC SCHOOL
MECH UPGRADES
107 COURTLAND AVE. E., KITCHENER, ON. N2G 219

DRAWING TITLE
GENERAL NOTES & SECTIONS

SCALE: AS NOTED
SHEET SIZE: 24x36
PROJECT NUMBER: 11281-300
DRAWING NUMBER: S0.0

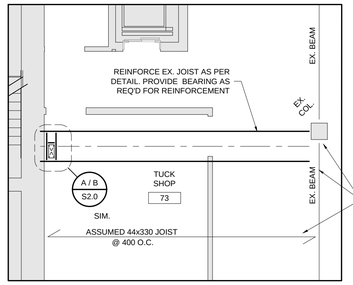


CONTRACTOR TO SITE VERIFY ALL EXISTING CONDITIONS

CONTACT WDE IF MORE THAN (2) EX. JOISTS ARE REQ'D TO BE CUT

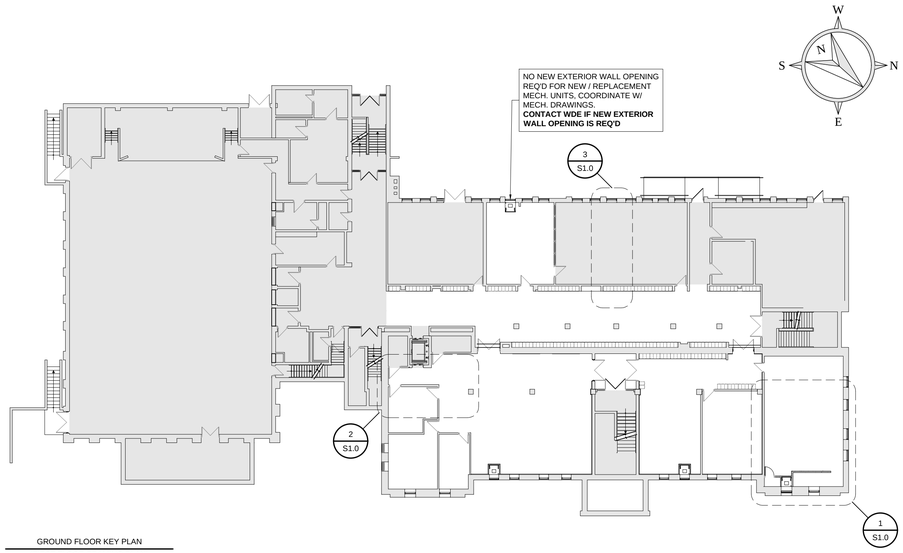
1 / S1.0 PARTIAL FIRST FLOOR FRAMING PLAN 1:75

ROOM 79
REFER TO ARCH. PLAN 2/A2.07



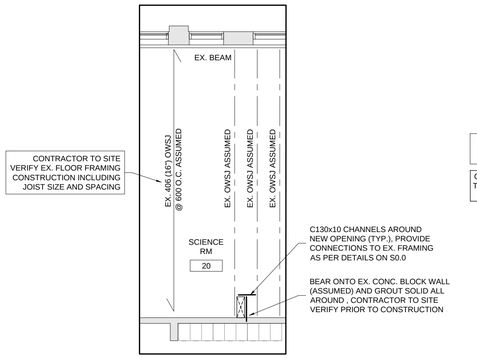
2 / S1.0 PARTIAL FIRST FLOOR FRAMING PLAN 1:75

ROOM 73
REFER TO ARCH. PLAN 2/A2.01 & 1/A2.03



GROUND FLOOR KEY PLAN

(FIRST FLOOR FRAMING PLAN)

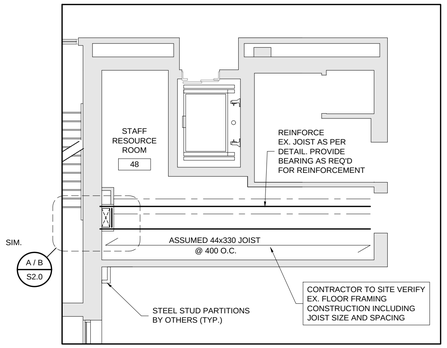


CONTRACTOR TO SITE VERIFY ALL EXISTING CONDITIONS

CONTACT WDE IF MORE THAN (2) EX. JOISTS ARE REQ'D TO BE CUT

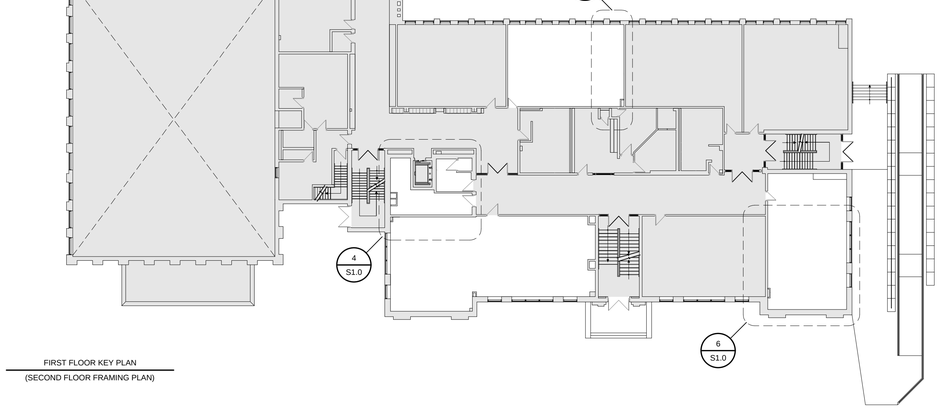
3 / S1.0 PARTIAL FIRST FLOOR FRAMING PLAN 1:75

ROOM 20
REFER TO ARCH. PLAN 2/A2.07



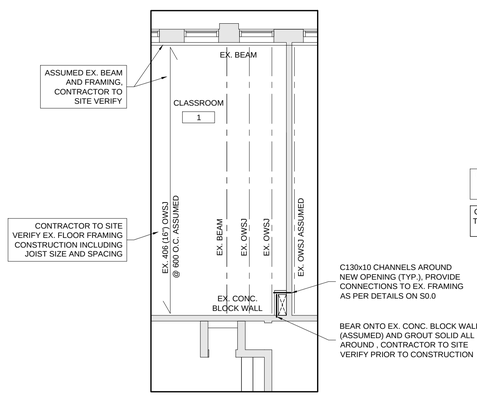
4 / S1.0 PARTIAL SECOND FLOOR FRAMING PLAN 1:75

ROOM 48
REFER TO ARCH. PLAN 1/A2.13



FIRST FLOOR KEY PLAN

(SECOND FLOOR FRAMING PLAN)

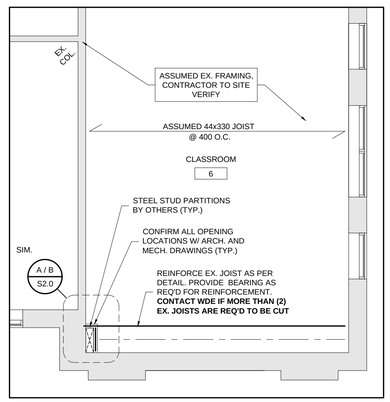


CONTRACTOR TO SITE VERIFY ALL EXISTING CONDITIONS

CONTACT WDE IF MORE THAN (2) EX. JOISTS ARE REQ'D TO BE CUT

5 / S1.0 PARTIAL SECOND FLOOR FRAMING PLAN 1:75

ROOM 1
REFER TO ARCH. PLAN 2/A2.15



6 / S1.0 PARTIAL SECOND FLOOR FRAMING PLAN 1:75

ROOM 6
REFER TO ARCH. PLAN 2/A2.17

ASSUMED EX. FLOOR CONSTRUCTION, TO BE SITE VERIFIED

FIRST AND SECOND FLOOR DESIGN LOAD - WOOD FRAMING

DL = 1.0 kPa (FLR.)
+ 1.0 kPa (PARTITIONS)
= 2.0 kPa (TOTAL)
LL = 2.4 kPa

ASSUMED NO EX. TILE FINISH, TBC

FIRST AND SECOND FLOOR DESIGN LOAD - CONC. ON OWSJ

DL = 1.5 kPa (64 mm CONC. FLR.)
+ 0.9 kPa (38 mm TILE / TERRAZZO)
+ 1.0 kPa (PARTITIONS)
= 3.4 kPa (TOTAL)
LL = 2.4 kPa

FLOOR / ROOF FRAMING NOTES

1. ENSURE DRAWINGS ARE USED IN COORDINATION WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.
2. CONTRACTOR TO PROVIDE TEMPORARY BRACING AS REQUIRED.

No.	REVISIONS	DATE

LICENSED PROFESSIONAL ENGINEER
D. A. WITZEL
100149864
Mar 05, 2024
PROVINCE OF ONTARIO

CHRONOLOGY	DATE
ISSUED FOR TENDER	2024.03.05
ISSUED FOR PERMIT	2024.02.22

WitzelDyce ENGINEERING INC.
826 King Street North, Unit 20
Waterloo, Ontario, N2J 4G8
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aba architects inc.
101 Randall Drive, Unit 8, Waterloo ON. TEL 519 884 2711 www.abaarchitect.ca

CLIENT

WATERLOO REGION DISTRICT SCHOOL BOARD

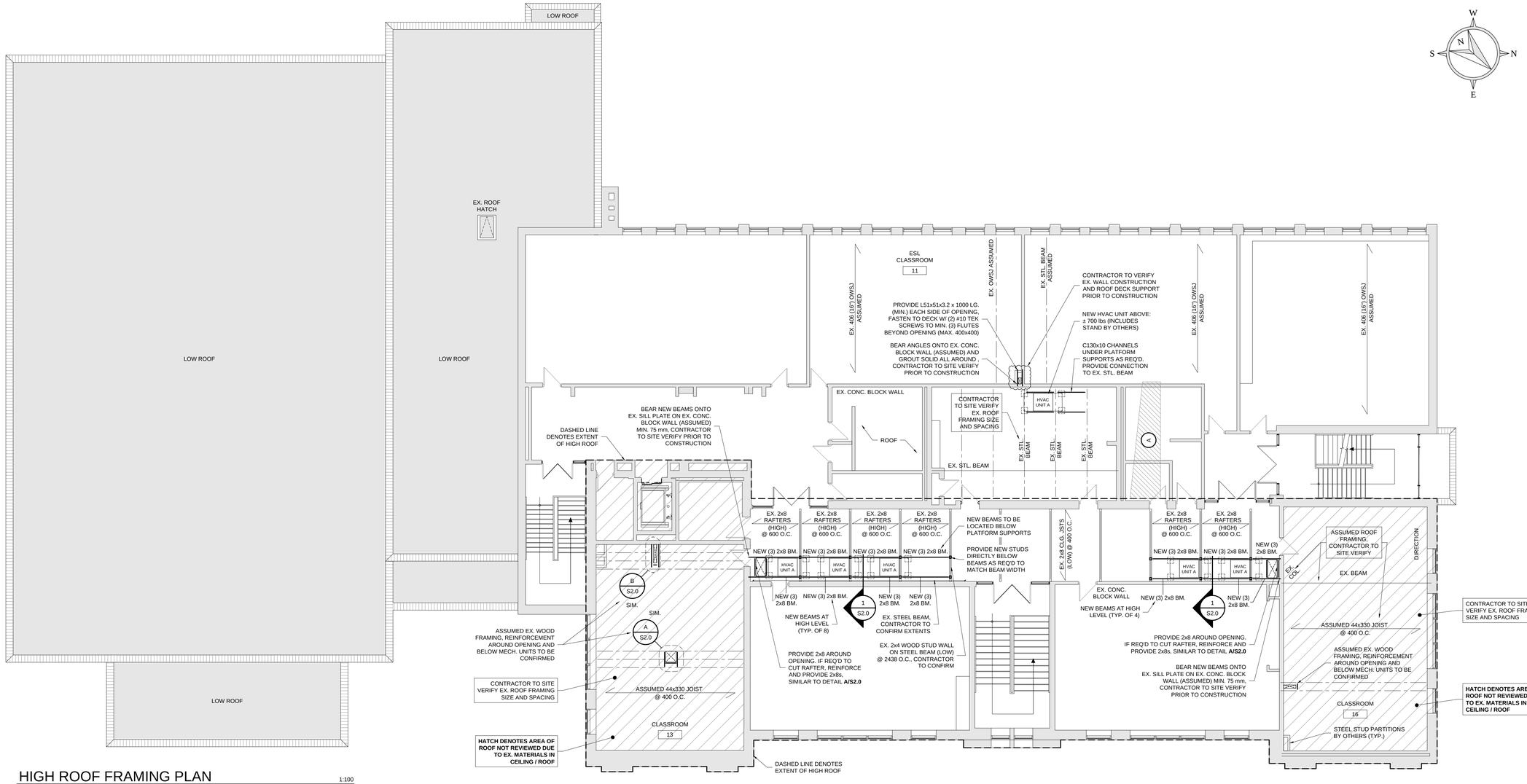
PROJECT NAME

COURTLAND PUBLIC SCHOOL
MECH UPGRADES
107 COURTLAND AVE. E., KITCHENER, ON. N2G 2T9

DRAWING TITLE

MAIN FLOOR & SECOND FLOOR FRAMING PLANS

SCALE: AS NOTED
SHEET SIZE: 24x36
PROJECT NUMBER: 11281-300
DRAWING NUMBER: S1.0



HIGH ROOF FRAMING PLAN 1:100

REFER TO ARCH. PLAN 1/A3.4

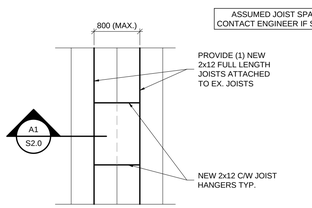
EX. ROOF FRAMING SUPPORTING NEW MECH. UNITS TO BE SITE VERIFIED, ROOF REINFORCING MAY BE REQUIRED

REINFORCEMENT / FRAMING TO BE ALIGNED W/ NEW MECH. UNIT PLATFORM FRAME SUPPORT (TYP.)

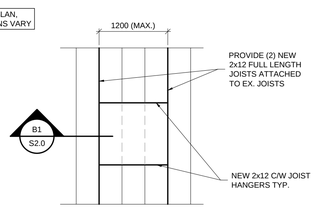
CONTRACTOR TO SITE VERIFY ALL EXISTING CONDITIONS

NOTIFY WDE WHEN FINISHES HAVE BEEN REMOVED SO THAT CEILING BEAMS IN CORRIDOR CAN BE REVIEWED

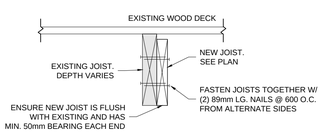
ASSUMED JOIST SPACING AS PER PLAN, CONTACT ENGINEER IF SITE CONDITIONS VARY



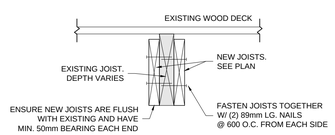
A S2.0 **FRAMING PLAN** 1:50
CUTTING 1 JOIST FOR OPENINGS



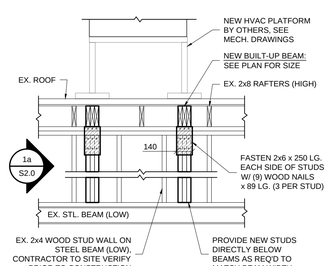
B S2.0 **FRAMING PLAN** 1:50
CUTTING 2 JOISTS FOR OPENINGS



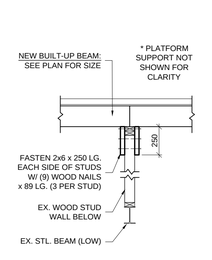
A1 S2.0 **SECTION** 1:10
DOUBLING OF JOISTS TYP.



B1 S2.0 **SECTION** 1:10
TRIPLING OF JOISTS TYP.



1 S2.0 **SECTION** 1:25
NEW BUILT-UP BEAM



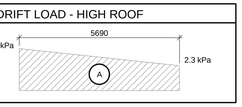
1a S2.0 **SECTION** 1:25
BEAM BEARING

HVAC UNIT WEIGHTS (NEW)

NEW HVAC UNIT A = 700 lbs (INCLUDES STAND BY OTHERS)

EX. DRIFT LOAD - HIGH ROOF

T/O OF ROOF AND T/O HIGH ROOF TO BE SITE VERIFIED



ROOF DESIGN LOAD - OWSJ

LOADS BASED ON ASSUMED ROOF FRAMING, TO BE SITE VERIFIED

DL = 1.2 kPa
SL = 2.3 kPa + EXISTING HIGH ROOF DRIFT LOAD

HIGH ROOF DESIGN LOAD - WOOD FRAMING

DL = 1.0 kPa
SL = 2.3 kPa

FLOOR / ROOF FRAMING NOTES

1. ENSURE DRAWINGS ARE USED IN COORDINATION WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.
2. CONTRACTOR TO PROVIDE TEMPORARY BRACING AS REQUIRED.

No.	REVISIONS	DATE

LICENSED PROFESSIONAL ENGINEER
D. A. WITZEL
100149864
Mar 05, 2024
PROVINCE OF ONTARIO

CHRONOLOGY	DATE
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aba architects inc.
101 Randall Drive, Unit 8, Waterloo ON. TEL 519.884.2711 www.abarchitect.co

CLIENT: WATERLOO REGION DISTRICT SCHOOL BOARD

PROJECT NAME
COURTLAND PUBLIC SCHOOL
MECH UPGRADES
107 COURTLAND AVE. E., KITCHENER, ON. N2G 2J9

DRAWING TITLE
ROOF & HIGH ROOF FRAMING PLAN & SECTIONS

SCALE: AS NOTED
SHEET SIZE: 24x36
PROJECT NUMBER: 11281-300
DRAWING NUMBER: S2.0