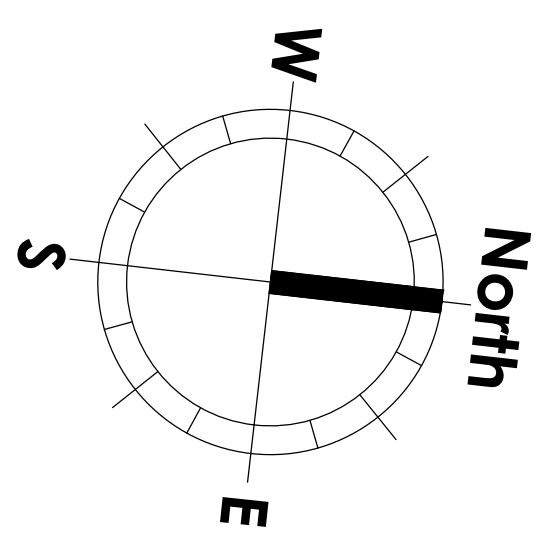
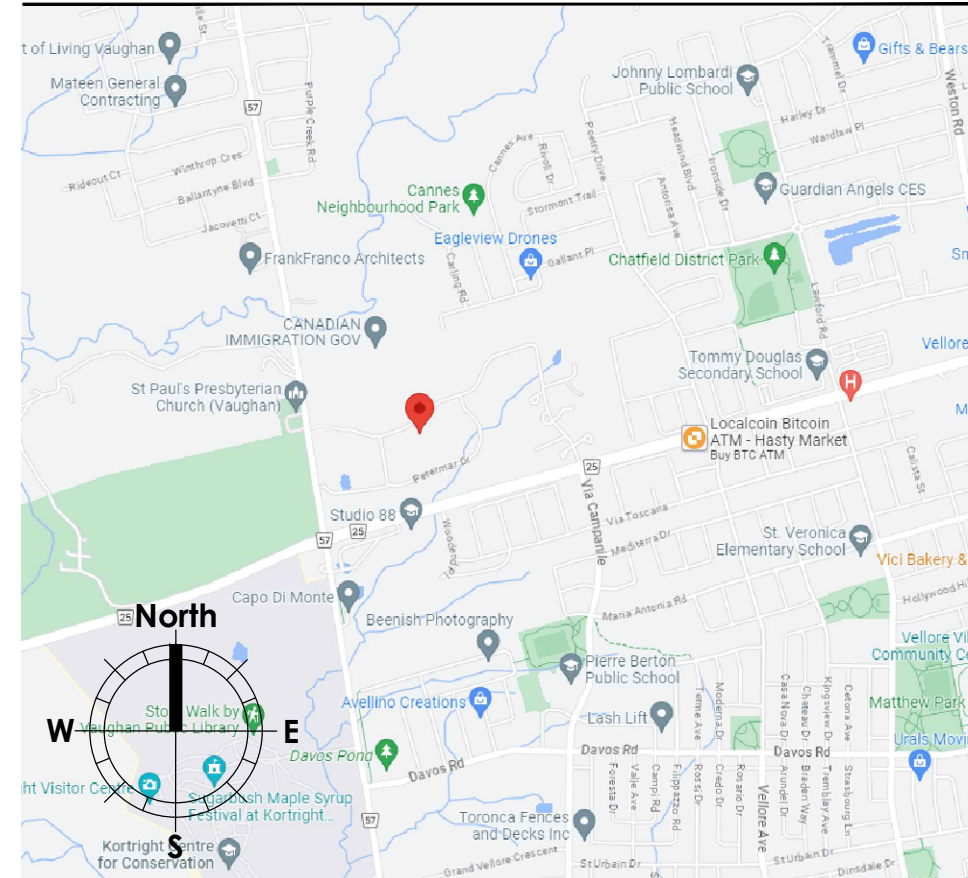
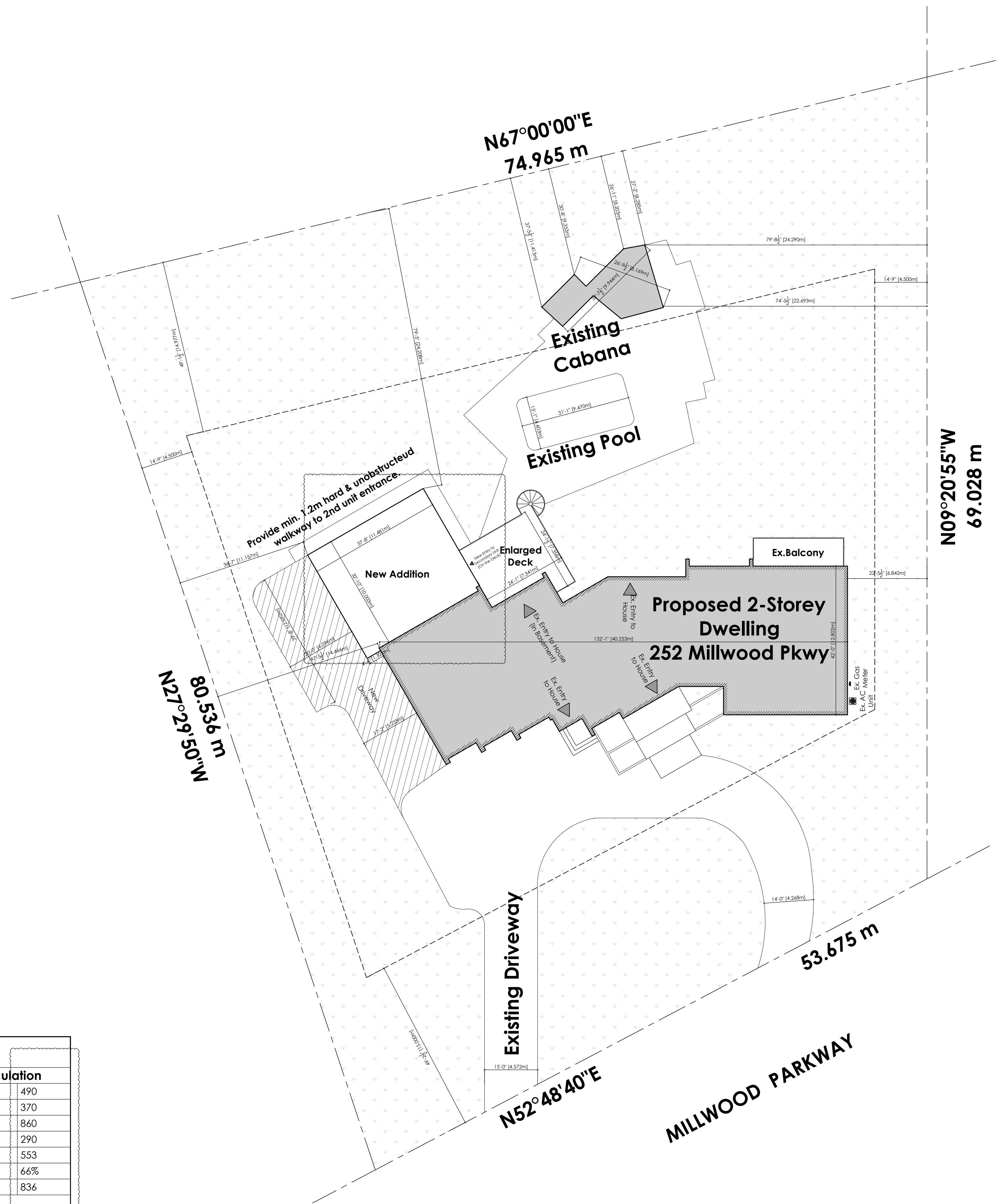


- General notes**
- All dimensions to be checked and verified on site prior to commencement of work. Any discrepancies shall be brought to the attention of permitguy's prior to continuation of work.
 - The contractor shall take all precautionary measures under the occupational health and safety act as required by the ministry of labour.
 - All work shall be done in accordance with the minimum standards and specifications of the municipality's engineering department.
 - All work in the municipal road allowance shall meet the minimum standards and specifications of the municipality's engineering department. The contractor is required to obtain & pay for permit to work in municipal R.O.W.
 - Prior to commencing any work on the installation of services & grading, an approved set of plans and specifications must be available on the job site and shall remain there while work is being done.
 - The owners of the utilities must be informed at least two weeks prior to construction on any existing municipal road allowance. All existing underground utilities within the limits of construction shall be located and marked. Any utilities, damaged or disturbed during construction, shall be repaired or replaced to the satisfaction of the governing body at the contractors expense.
 - Prior to commencing any construction, all sewer outlet information, benchmarks, elevations, dimensions and grades must be checked by the contractor and verified and any discrepancies reported to the engineer.
 - The contractor is responsible for ensuring that there is no interruption of any surface or subsurface drainage flow that would adversely affect neighboring properties



Scope of Work
Garage & 2nd floor Addition
New Accessory Apartment

Existing Dwelling
 More than 5 year old
 Less than 5 year old



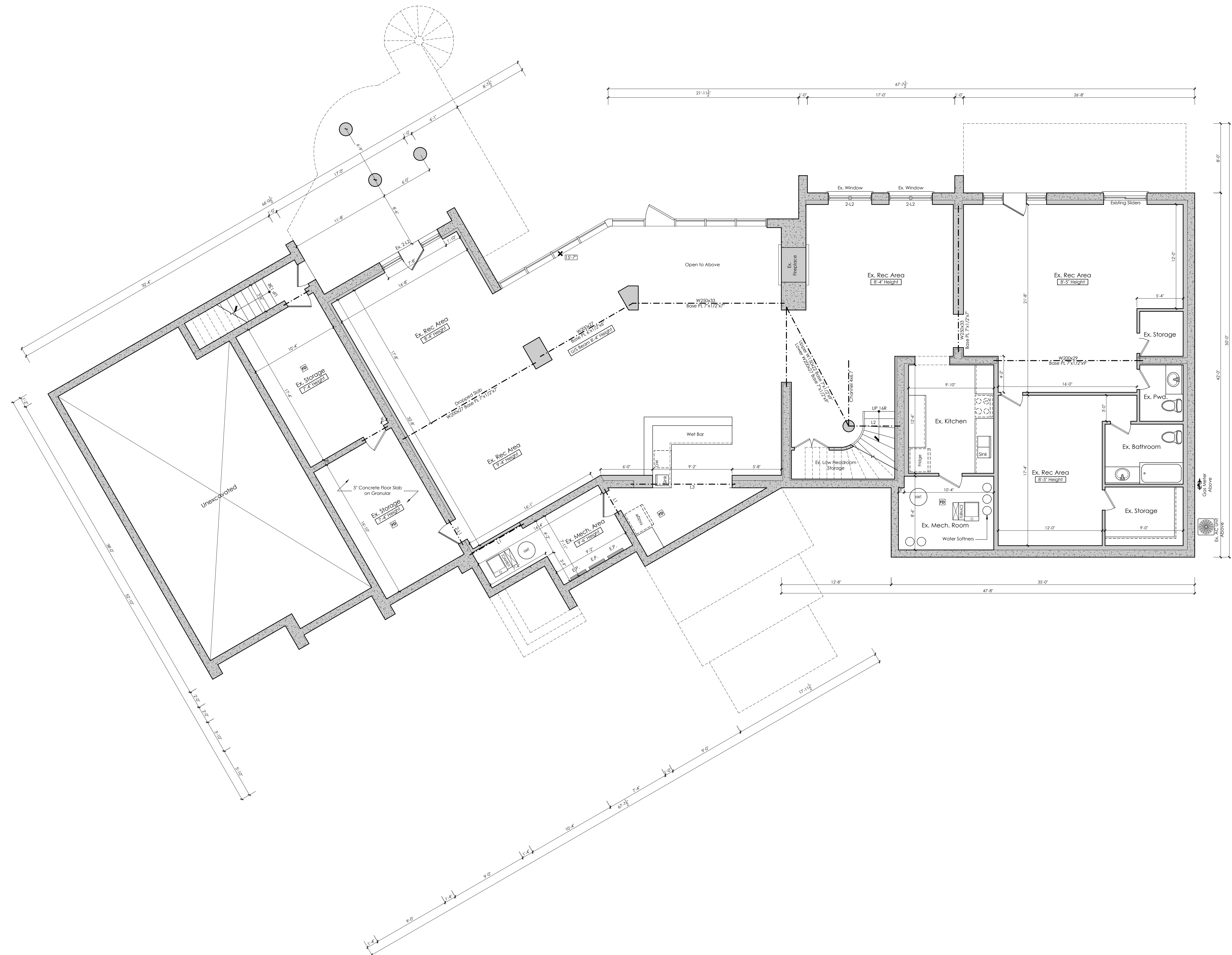
Site Statistics (All Units in Metric)

Lot Information		Gross Floor Area Calculation	
Lot Depth	80	Ground Floor GFA	490
Lot Frontage	53.6	Second Floor GFA	370
Lot Area	4645	Total	860
Zone	RE	Basement Area	290
Lot Coverage		Accessory APT.	553
Dwelling Area	451	Accessory APT.(%)	66%
Ex. Porch & Deck	64	Primary Unit	836
Addition	115		
Total Area	630		
Total Coverage (%)	13.6%		

Addition & Accessory Apartment Permit

Wood Lintel Schedule
 WL1: 2x6 SP
 WL2: 3x2x10 SP
 WL3: 3x2x10 SP
 WL4: 3x2x10 DF
 WL5: 3x2x12 DF

Steel Lintel Schedule
 L1 Angle 3x2x1/2
 L2 Angle 3x3x1/2
 L3 Angle 5x3x1/2
 L4 Channel 5x4.7



Existing Basement

permitguys.ca
 Tel: 416-293-5555
 Email: info@permitguys.ca
 2-22 Bayview Square
 Brampton, ON L6Y 1C1

The undersigned has reviewed and takes responsibility for the accuracy of the information provided in this permit application. I am a duly qualified professional engineer in the Province of Ontario, Canada, and I am registered with the Professional Engineers Ontario (PEO) under the Professional Engineers Act, R.S.O. 1990, c. 19, as amended.

Qualification Information
 Name: Adamou Rafiq
 License No.: 1113576
 Registration Information: Permitguys.ca Inc. 110882

Existing Ground Floor Plan
 Project Name: 252 Millwood Pkwy
 Project No.: 23-32
 Sheet No.: A2

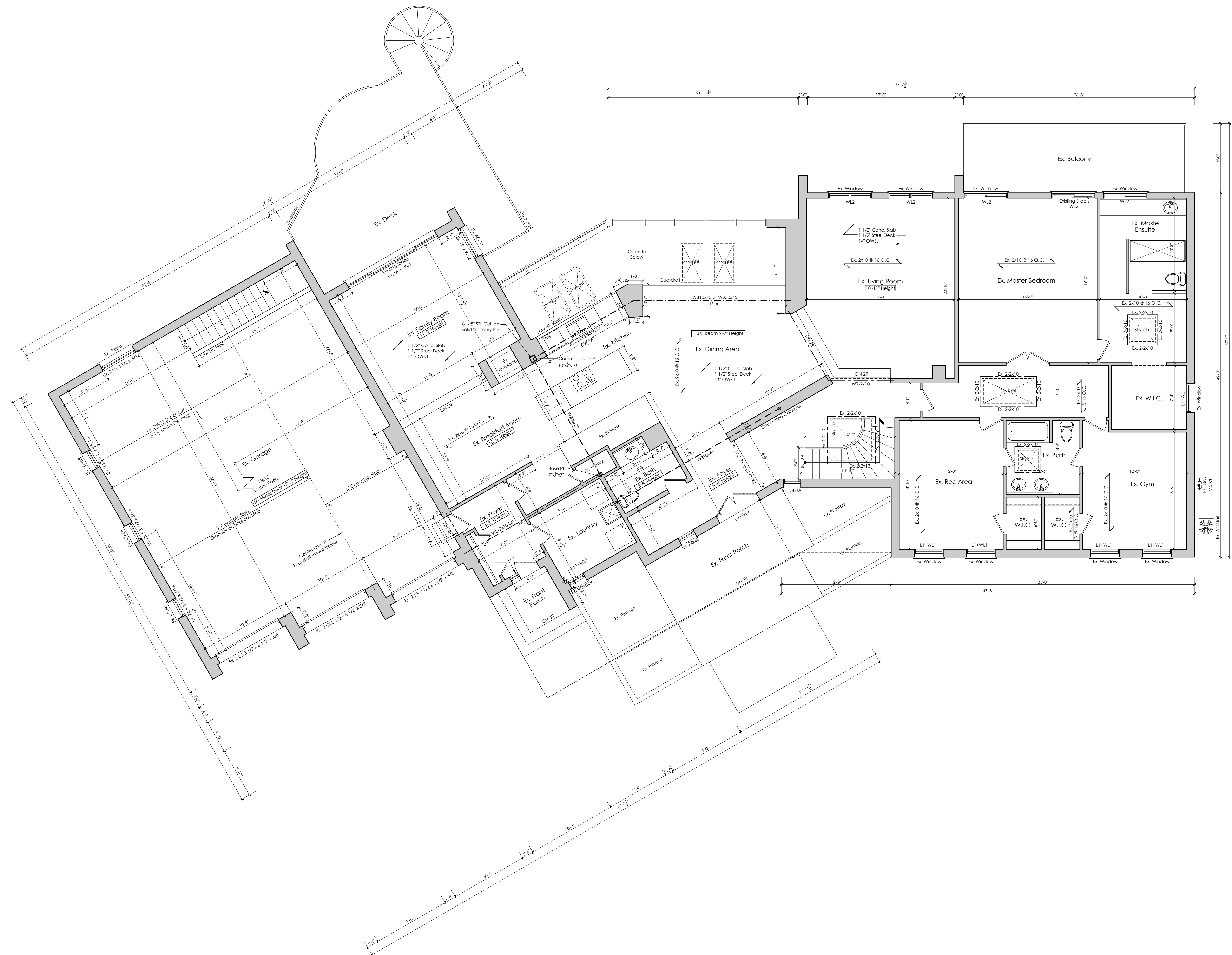
Municipality: Woodbridge, ON

Created By: 2024-04-01 3:16:11 PM
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File Path: P:\2023-23-32-252 MILLWOOD PKWY\252 MILLWOOD PKWY_VAC\DWG\2024-04-01-15:16:23 PM by ERM\DWG

Wood Lintel Schedule
 WL1: 2x6 SP
 WL2: 3x2x10 SP
 WL3: 3x2x10 SP
 WL4: 3x2x10 DF
 WL5: 3x2x12 DF

Steel Lintel Schedule
 L1 Angle 3x2x1/2
 L2 Angle 3x3x1/2
 L3 Angle 5x3x1/2
 L4 Channel 5x4.7



Existing Ground Floor Plan

permitguys.ca
 118876
 110882

Existing Ground Floor Plan
 252 Millwood Pkwy
 Woodbridge, ON
 23-32
 A3

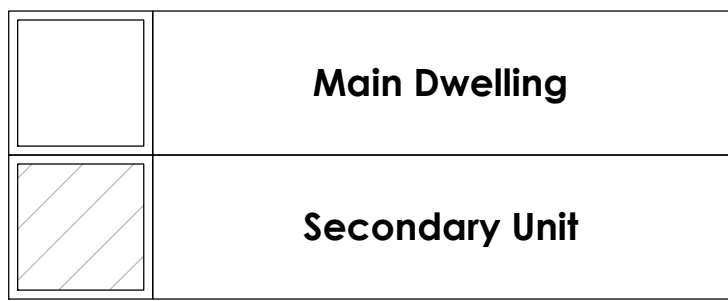
W/L Schedule (2.0E Grade)	# Plies	Description
LVL1	1 Ply	1-3/4"x7-1/4"
LVL2	2 Ply	
LVL3	3 Ply	
LVL4	4 Ply	
LVL5	1 Ply	1-3/4"x9-1/2"
LVL6	2 Ply	
LVL7	3 Ply	
LVL8	4 Ply	
LVL9	1 Ply	1-3/4"x11-7/8"
LVL10	2 Ply	
LVL11	3 Ply	
LVL12	4 Ply	
LVL13	1 Ply	1-3/4"x14"
LVL14	2 Ply	
LVL15	3 Ply	
LVL16	4 Ply	

Column Schedule	Description
C1	HSS 3.5"x3.5"x1/4" Steel Column w/ 8" X width to suit X 1/4" top plate w/ 10"x5"x5/8" base plate.
C2	HSS 4"x4"x1/4" Steel Column w/ 8" X width to suit X 5/8" top plate w/ 10"x5"x5/8" base plate.
C3	HSS 5"x5"x1/4" Steel Column w/ 8" X width to suit X 5/8" top plate w/ 10"x5"x5/8" base plate.

Wood Lintel Schedule	Steel Lintel Schedule
WL1	L1 Angle 3x2x4
WL2	L2 Angle 3x2x4
WL3	L3 Angle 3x2x4
WL4	L4 Angle 3x2x4
WL5	L5 Angle 3x2x4
WL6	L6 Angle 3x2x4
WL7	L7 Angle 3x2x4
WL8	L8 Angle 3x2x4
WL9	L9 Angle 3x2x4
WL10	L10 Angle 3x2x4
WL11	L11 Angle 3x2x4
WL12	L12 Angle 3x2x4
WL13	L13 Angle 3x2x4
WL14	L14 Angle 3x2x4
WL15	L15 Angle 3x2x4
WL16	L16 Angle 3x2x4
WL17	L17 Angle 3x2x4
WL18	L18 Angle 3x2x4
WL19	L19 Angle 3x2x4
WL20	L20 Angle 3x2x4
WL21	L21 Angle 3x2x4
WL22	L22 Angle 3x2x4
WL23	L23 Angle 3x2x4
WL24	L24 Angle 3x2x4
WL25	L25 Angle 3x2x4
WL26	L26 Angle 3x2x4
WL27	L27 Angle 3x2x4
WL28	L28 Angle 3x2x4
WL29	L29 Angle 3x2x4
WL30	L30 Angle 3x2x4
WL31	L31 Angle 3x2x4
WL32	L32 Angle 3x2x4
WL33	L33 Angle 3x2x4
WL34	L34 Angle 3x2x4
WL35	L35 Angle 3x2x4
WL36	L36 Angle 3x2x4
WL37	L37 Angle 3x2x4
WL38	L38 Angle 3x2x4
WL39	L39 Angle 3x2x4
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WL41	L41 Angle 3x2x4
WL42	L42 Angle 3x2x4
WL43	L43 Angle 3x2x4
WL44	L44 Angle 3x2x4
WL45	L45 Angle 3x2x4
WL46	L46 Angle 3x2x4
WL47	L47 Angle 3x2x4
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WL49	L49 Angle 3x2x4
WL50	L50 Angle 3x2x4
WL51	L51 Angle 3x2x4
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WL95	L95 Angle 3x2x4
WL96	L96 Angle 3x2x4
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WL99	L99 Angle 3x2x4
WL100	L100 Angle 3x2x4

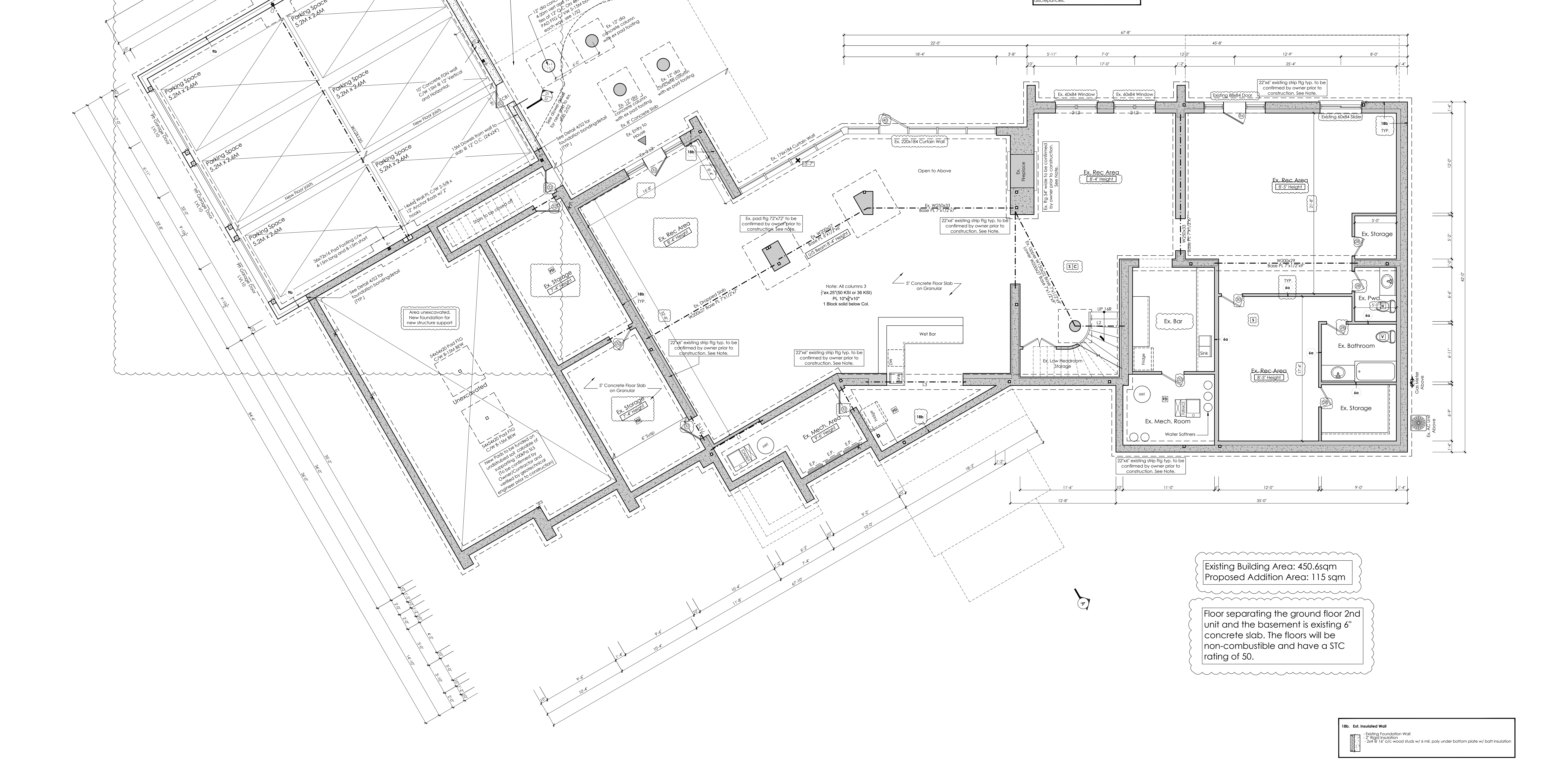
Wood Beam Schedule (SFP #2 Grade)	Description
WB1	2x8
WB2	2x10
WB3	2x12
WB4	3x8
WB5	3x10
WB6	3x12

Typ. Glass Area Calculation	Description
CA1	14" H x 8" Wide C/W 2.20M top and bottom and 10M single leg struts @ 4" O.C.



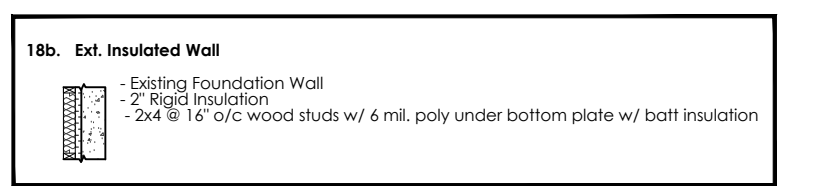
Structural Note:
Existing footings reviewed based on 200kPa SLS bearing capacity.
All existing footing sizes as noted and soil bearing capacity to be confirmed by Owner/Contractor and verified by geotechnical engineer prior to construction.
Notify structural engineer immediately of any discrepancies.

Floor Loads:
Dead Load = 20 pcf (0.96 kpa)
Live Load = 40 pcf (1.92 kpa)



Existing Building Area: 450.6sqm
Proposed Addition Area: 115 sqm

Floor separating the ground floor 2nd unit and the basement is existing 6" concrete slab. The floors will be non-combustible and have a STC rating of 50.



Wall Legend

- Walls to remain
- Proposed Wall
- Foundation Wall
- Walls to be removed
- Load Bearing Wall
- Fire Rated Wall

Construction Note

All existing structural specifications affected by the scope of the construction to be confirmed prior to construction start. Any discrepancies discovered on site must be reported to the Designer immediately before construction.

11.1.8 - Existing Lintel to Remain

Lintel Schedule

Buildings < 5 YR: 4-11" over entire floor, 6-5" under beam/duct.
Buildings ≥ 5 YR: 6-5" over all required room areas and any location normally used as means of egress.

All interior existing and proposed doors to be 68" high unless otherwise noted.

Typ. Glass Area Calculation

Shaded area denotes glass area required as per plan.

*Contractor to confirm w/ window manufacturer prior to installation.

Smoke Alarm Note

All Smoke Alarms to be interconnected with strobe light.

Interior Doors Between Dwellings

20 min. permitted door fire protection rating (FPR) equipped w/ self-closing device.

18a. Interior Partition wall w/ 45 Min. F.R.E. w/ S1 STC (S8-3, W50), OBC

- 5/8" Type X gypsum board
- Resilient metal channels
- 2x4 or 2x6 @ 16" o.c. wood studs w/ 6 mil. poly under bottom plate
- Sound insulation like that cavity
- 2 layers of 1/2" gypsum board

18c. Full Height Ceiling w/ 45 Min. F.R.E. w/ S3 STC (S8-3, FPH), OBC

- Subflooring
- Floor Joist
- 6" Sound Insulation
- Resilient Channel @ 24" O.C.
- 5/8" Type X Gypsum Board

Column Schedule	LVL Schedule (2.0E Grade)
TAG	Description
C1	HSS 3.5x3.5x1/4" Steel Column w/ 8" X width to suit X 1/4" top plate w/ 10"x5"x5/8" base plate.
C2	HSS 4"x4"x1/4" Steel Column w/ 8" X width to suit X 5/8" top plate w/ 10"x5"x5/8" base plate.
C3	HSS 5"x5"x1/4" Steel Column w/ 8" X width to suit X 5/8" top plate w/ 10"x5"x5/8" base plate.
C3A HSS 5x5x1/4" C/W same details C3	
Wood Lintel Schedule	
WL1: 2-2x2 SF	WL9: 1 Ply
WL2: 2-2x10 SP	WL10: 2 Ply
WL3: 3-2x10 SP	WL11: 3 Ply
WL4: 3-2x10 DF	WL12: 4 Ply
WL5: 3-2x12 DF	WL13: 1 Ply
	WL14: 2 Ply
	WL15: 3 Ply
	WL16: 4 Ply
Steel Lintel Schedule	
L1 Angle 3x2x1/2	
L2 Angle 3x3x1/2	
L3 Angle 3x3x1/2	
L4 Channel 5x6.7	
Wood Beam Schedule (SFF #2 Grade)	
WB1	2-2x8
WB2	2-2x10
WB3	2-2x12
WB4	3-2x8
WB5	3-2x10
WB6	3-2x12

Main Dwelling

Secondary Unit

Floor Loads
Dead Load = 20 psf (0.96 kpa)
Live Load = 40 psf (1.92 kpa)

Ex. Spiral Stairs as per OBC P.8.4.5.A.(2),(3).

Interior Doors Between Dwellings
20 min. permitted door fire protection rating (FPR) equipped w/ self-closing device.

Floor separating the ground floor 2nd unit and the basement is existing 6" concrete slab. The floors will be non-combustible and have a STC rating of 50.

GLASS AREA CALCULATION
PER O.B.C. TABLE 9.7.2.3

Room	Room Area	Glass Area Req'd	Glass Area Provided
Living & Kitchen	149.00 sq.ft.	84.5 sq.ft.	360.00 sq.ft.
Dining	130.00 sq.ft.	7.0 sq.ft.	55.00 sq.ft.
Bedroom	125.00 sq.ft.	6.3 sq.ft.	55.00 sq.ft.
	111.61 sq.m.	0.58 sq.m.	5.11 sq.m.

Existing Building Area: 450.6sqm
Proposed Addition Area: 115 sqm

Variance #3

Unit 1
Ground Floor Area: 2693 sqft
Second Floor Area: 1452 sqft

Total Area: 4145 sqft (385.08sqm)

Unit 2
Ground Floor Area: 2598 sqft
Second Floor Area: 2505 sqft

Total Area: 5103 sqft (474.08sqm)

Wall Legend

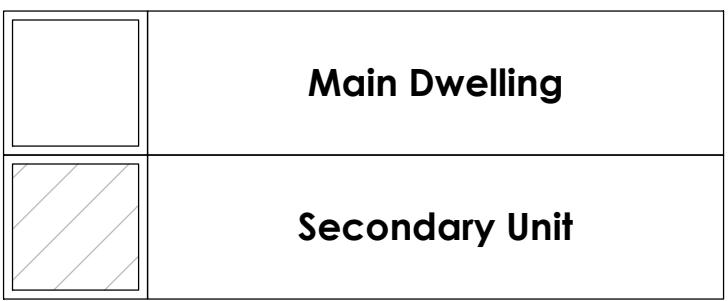
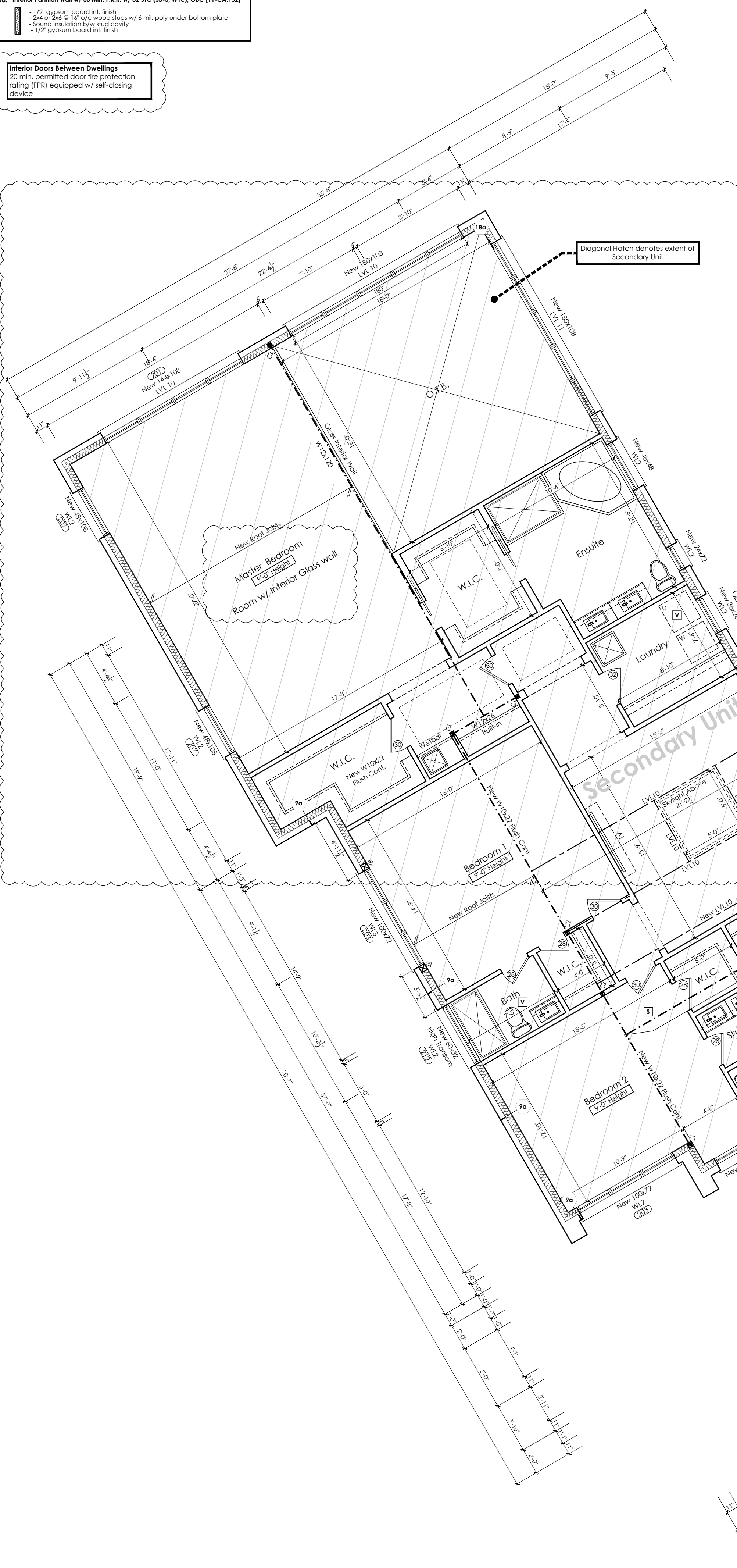
- Walls to remain
- Proposed Wall
- Foundation Wall
- Walls to be removed
- Load Bearing Wall
- Fire Rated Wall

Construction Note
All existing structural specifications affected by the scope of the construction to be confirmed prior to construction start. Any Discrepancies discovered on site must be reported to the Designer immediately before construction.

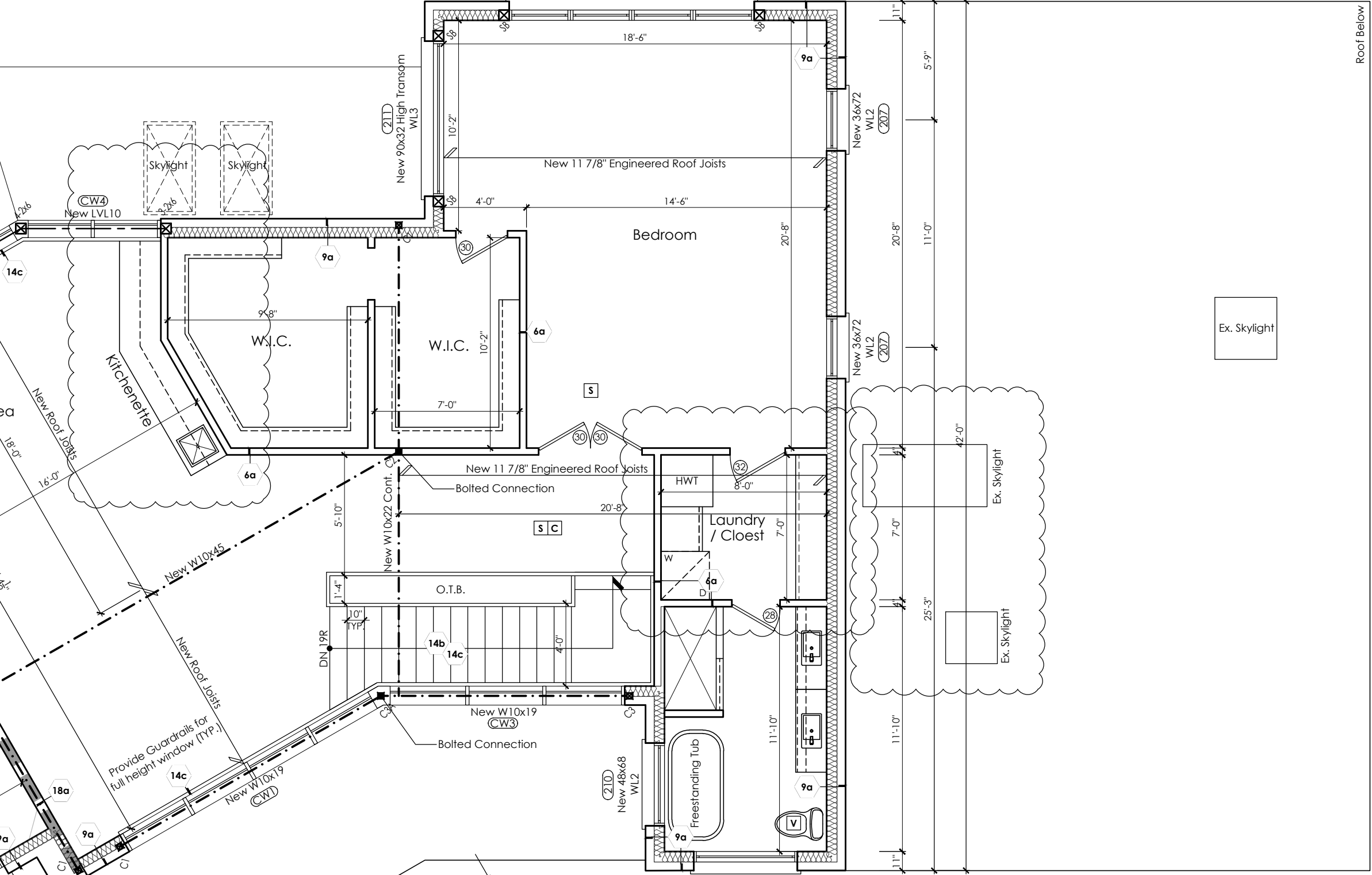
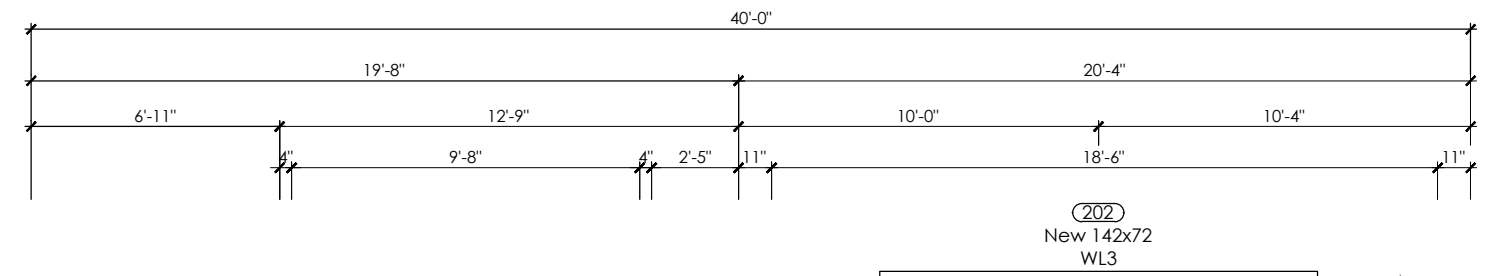
Interior Doors Between Dwellings
20 min. permitted door fire protection rating (FPR) equipped w/ self-closing device

Typ. Glass Area Calculation
Shaded area denotes glass area required as per plan

Smoke Alarm Note
All Smoke Alarms to be interconnected with strobe light



Column Schedule	LVL Schedule (2.0E Grade)
C1: HSS 3.5x3.5x1/4" Steel Column w/ 8" X width to suit X 1/4" top plate w/ 10x5x5/8" base plate.	LVL1: 1 Ply 1-3/4x7-1/4"
C2: HSS 4x4x1/4" Steel Column w/ 8" X width to suit X 5/8" top plate w/ 10x5x5/8" base plate.	LVL2: 2 Ply
C3: HSS 5x5x1/4" Steel Column w/ 8" X width to suit X 5/8" top plate w/ 10x5x5/8" base plate.	LVL3: 3 Ply
	LVL4: 4 Ply
	LVL5: 1 Ply 1-3/4x9-1/2"
	LVL6: 2 Ply
	LVL7: 3 Ply
	LVL8: 4 Ply
C3A HSS 5x5x1/4" C/W same details C3	LVL9: 1 Ply 1-3/4x11-7/8"
	LVL10: 2 Ply
	LVL11: 3 Ply
	LVL12: 4 Ply
	LVL13: 1 Ply 1-3/4x11-1/4"
	LVL14: 2 Ply
	LVL15: 3 Ply
	LVL16: 4 Ply
Steel I-Beam Schedule	Wood Beam Schedule (SPF #2 Grade)
I1 Angle 3x2x4	WB1 2x8
I2 Angle 3x3x4	WB2 2x10
I3 Angle 5x3x4	WB3 2x12
I4 Channel 5x6.7	WB4 3x8
	WB5 3x10
	WB6 3x12



GLASS AREA CALCULATION

TABLE 5.7.2.3

Room	Room Area	Glass Area Req'd	Glass Area Provided
Master Bedroom	340.00 sq.ft.	8.5 sq.ft.	17.00 sq.ft.
Bedroom 1	31.59 sq.m.	0.79 sq.m.	8.83 sq.m.
Bedroom 2	236.00 sq.ft.	5.9 sq.ft.	45.00 sq.ft.
Bedroom 3	271.93 sq.m.	0.55 sq.m.	4.18 sq.m.
	207.00 sq.ft.	5.2 sq.ft.	50.00 sq.ft.
	19.23 sq.m.	0.48 sq.m.	5.57 sq.m.
	340.00 sq.ft.	8.5 sq.ft.	110.00 sq.ft.
	31.59 sq.m.	0.79 sq.m.	10.22 sq.m.

Existing Building Area: 450.6sqm
Proposed Addition Area: 115 sqm

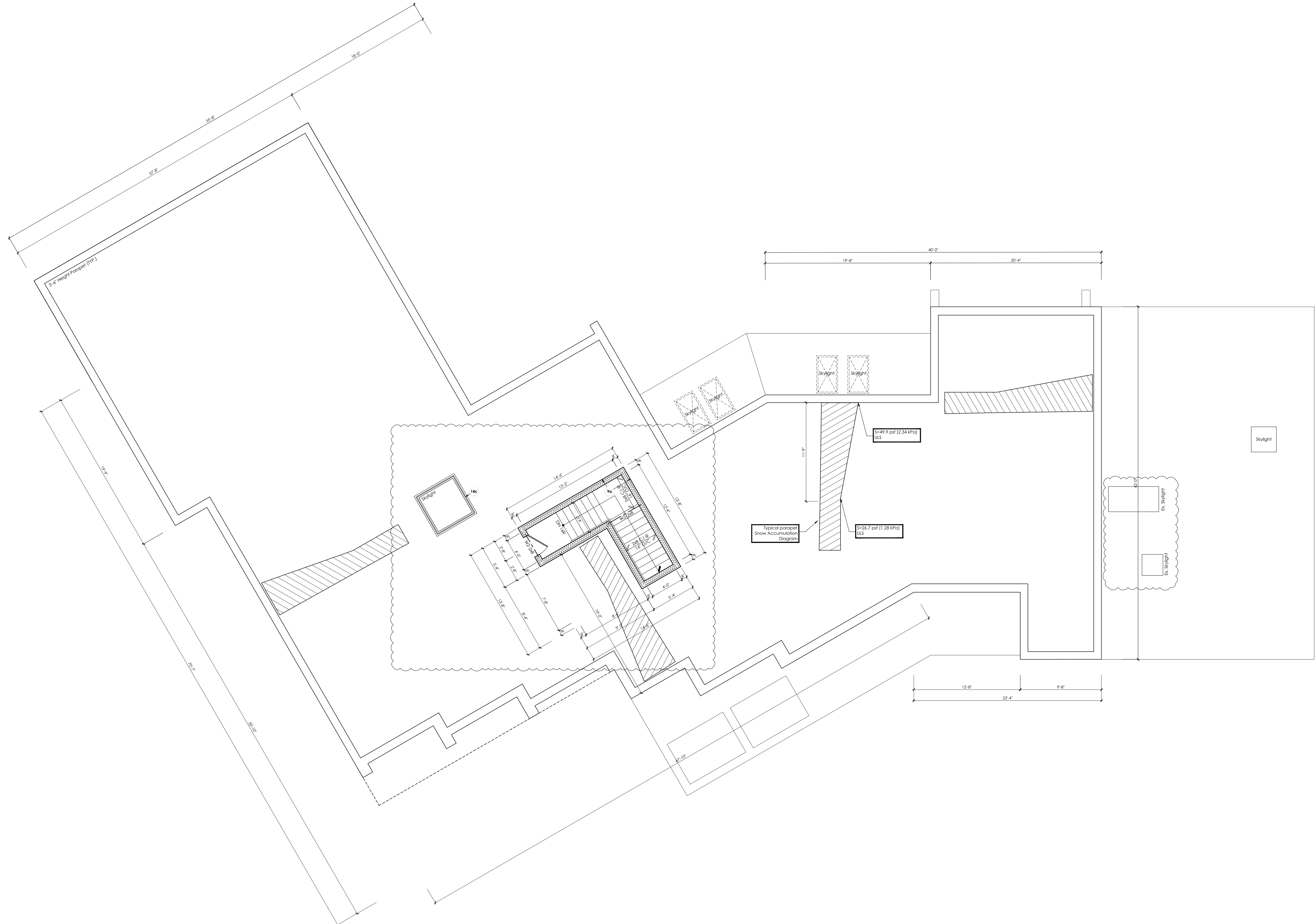
Roof Loads
 Dead Load = 20 psf (0.96 kPa)
 Snow Load
 OBC 9.4.2.1(f)
 $D_s = 10 \text{ (Ho=0.8 Ss/y)}$
 $H_s = 1.03 \text{ m}$
 $S_s = 1.1 \text{ kPa}$
 $C_{Gamma} = 2.7 \text{ kn/m}^3$
 $D_o = 10 \text{ [(1.07-0.8)(1.1/2.7)]}$
 $= 7.44 \text{ m}$

Obstructions less than 7.44m
 Therefore use part 4 snow load with accumulation

snow load = $S = S_s [C_d C_w C_e C_s + S_f] [4.1.6.2]$

Factors
 Location: Vaughan (Woodbridge), Ontario
 $S_s = 1.1 \text{ kPa} / S_f = 0.4 \text{ kPa}$
 Importance Factor, ULS: $S_s = 1.0 / SLS: S_s = 0.9$
 Roof Slope = 0 degrees
 Slope Factor
 For non-slippery roof,
 Slope <= 30 degrees
 $C_s = 1$
 ULS:
 $S = 1.0 [1.1 (0.8 * 1.0 * 1.0) + 0.4] = 1.28 \text{ kPa}$
 $S = 1.28 \text{ kPa}$
 $S = 26.7 \text{ psf}$

SLS:
 $S = 0.9 [1.1 (0.8 * 1.0 * 1.0) + 0.4] = 1.15 \text{ kPa}$
 $S = 1.15 \text{ kPa}$
 $S = 24.1 \text{ psf}$

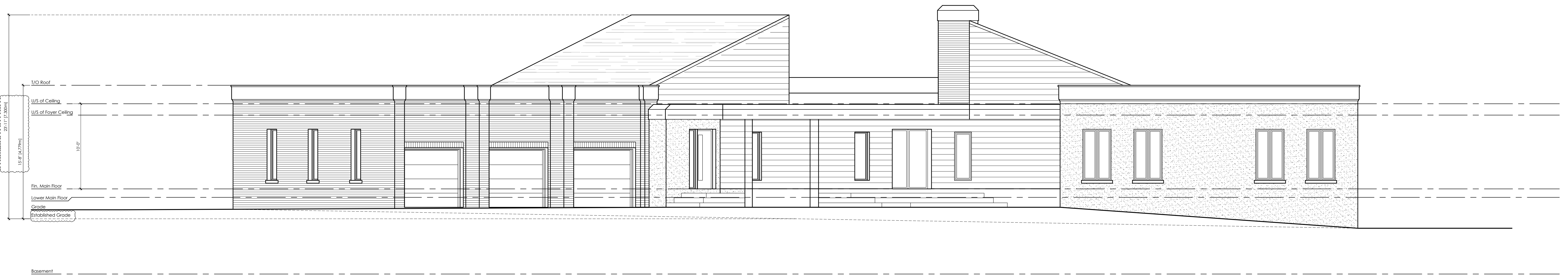


Proposed Roof Terrace Plan

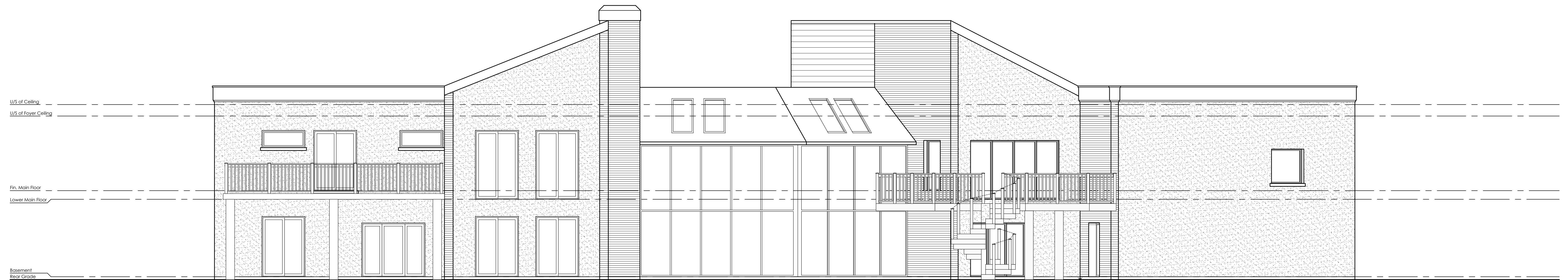
permitguys.ca
 Tel: 416-493-5555
 Email: info@permitguys.ca
 2-32 Bayview Street
 Brampton ON L6Y 1C1

The undersigned has reviewed and takes responsibility for the
 content of this plan and the qualifications and experience of
 the designer.
 Qualification Information
Adnan Rafiq 113576
 P.Eng. 19920078
 Registration Information: **Permitguys.ca Inc. 110882**

Proposed Roof Terrace Plan
 Project Name: **252 Millwood Pkwy**
 Project No: **23-32** | Drawn By: **MZ** | Checked By: **MZ** | Date: **2024-04-01** | Scale: **3/16"=1'-0"**
 Municipality: **Woodbridge, ON**
 Sheet No: **A7**
 File Path: **F:\2023-23-32\23-32-MILLWOOD-PKwy\23-32-MILLWOOD-PKwy\23-32-MILLWOOD-PKwy\23-32-MILLWOOD-PKwy_V24**



Existing Front Elevation



Existing Rear Elevation

U/S of Ceiling
U/S of Foyer Ceiling

Fin. Main Floor
Lower Main Floor
Grade

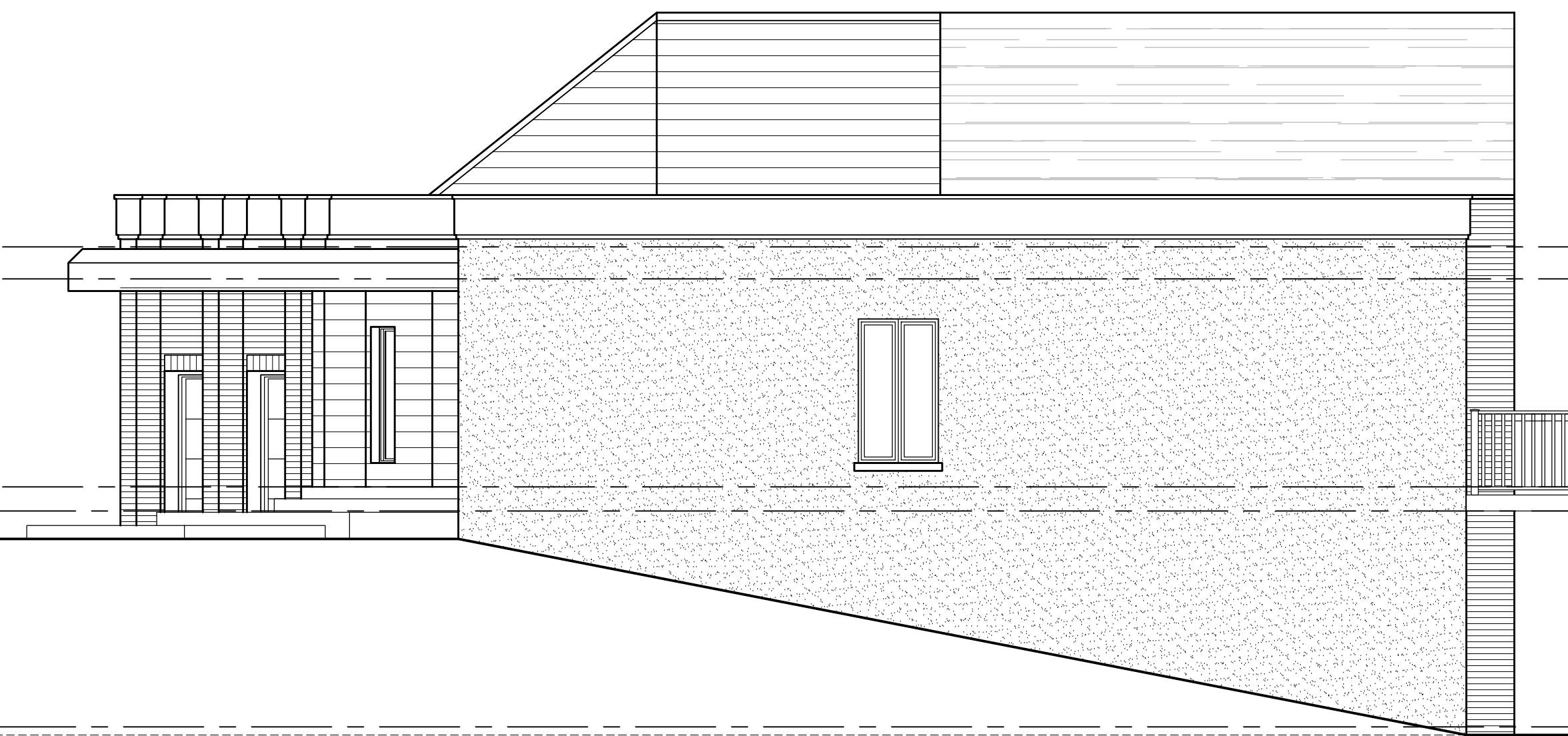
Basement
Rear Grade



U/S of Ceiling
U/S of Main Floor Joists

Fin. Main Floor
Lower Main Floor
Front Grade

Basement
Rear Grade



Existing Right Elevation

permitguys.ca

Tel: 416-493-5555
Email: info@permitguys.ca
252 Bay Street, Suite 200
Brimley (at Bay St)

The undersigned has reviewed and takes responsibility for the
accuracy of the information provided in this permit application.
Qualification Information
Name: **Adnan Rafiq** 113576
Registration Information: **Permitguys.ca Inc.** 110882

Existing Left & Right Elevation

Project Name: **252 Millwood Pkwy**
Project No: **23-32**

Client: **MZ**
Created By: **MZ**
Date: **2024-04-01**
Scale: **3/16"=1'-0"**

Municipality: **Woodbridge, ON**
Address: **252 MILLWOOD PKWY**

Sheet No: **A9**



Spatial Separation Calculations	
Limiting Distance	11.20 m
Exposed Building Face	1020.00 sq.ft
Permitted Glazing (%)	84 %
Permitted Glazing Area	856.00 sq.ft
Actual Glazing (%)	5.30 %
Actual Glazing Area	53.39 sq.m

Spatial Separation Calculations	
Limiting Distance	14.50 m
Exposed Building Face	1035.00 sq.ft
Permitted Glazing (%)	100 %
Permitted Glazing Area	1035.00 sq.ft
Actual Glazing (%)	13.91 %
Actual Glazing Area	144.00 sq.ft

Proposed Left Elevation



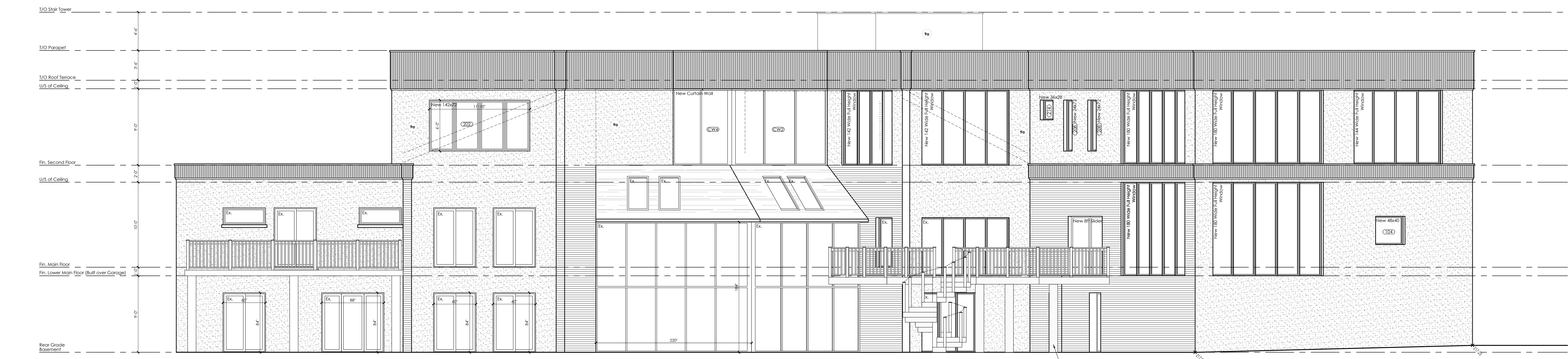
Spatial Separation Calculations	
Limiting Distance	6.80 m
Exposed Building Face	1488.00 sq.ft
Permitted Glazing (%)	19 %
Permitted Glazing Area	282.72 sq.ft
Actual Glazing (%)	3.36 %
Actual Glazing Area	50.00 sq.ft

Proposed Right Elevation



Limiting distance is 28m, permitted exposing building face is 100%.

Proposed Front Elevation



Limiting distance is 28m, permitted exposing building face is 100%.

Proposed Rear Elevation

Structural Note:
 Existing footings reviewed based on 200kPa SLS bearing capacity.
 All existing footing sizes as noted and soil bearing capacity to be confirmed by Owner/Contractor and verified by geotechnical engineer prior to construction.
 Notify structural engineer immediately of any discrepancies.

Wall Legend

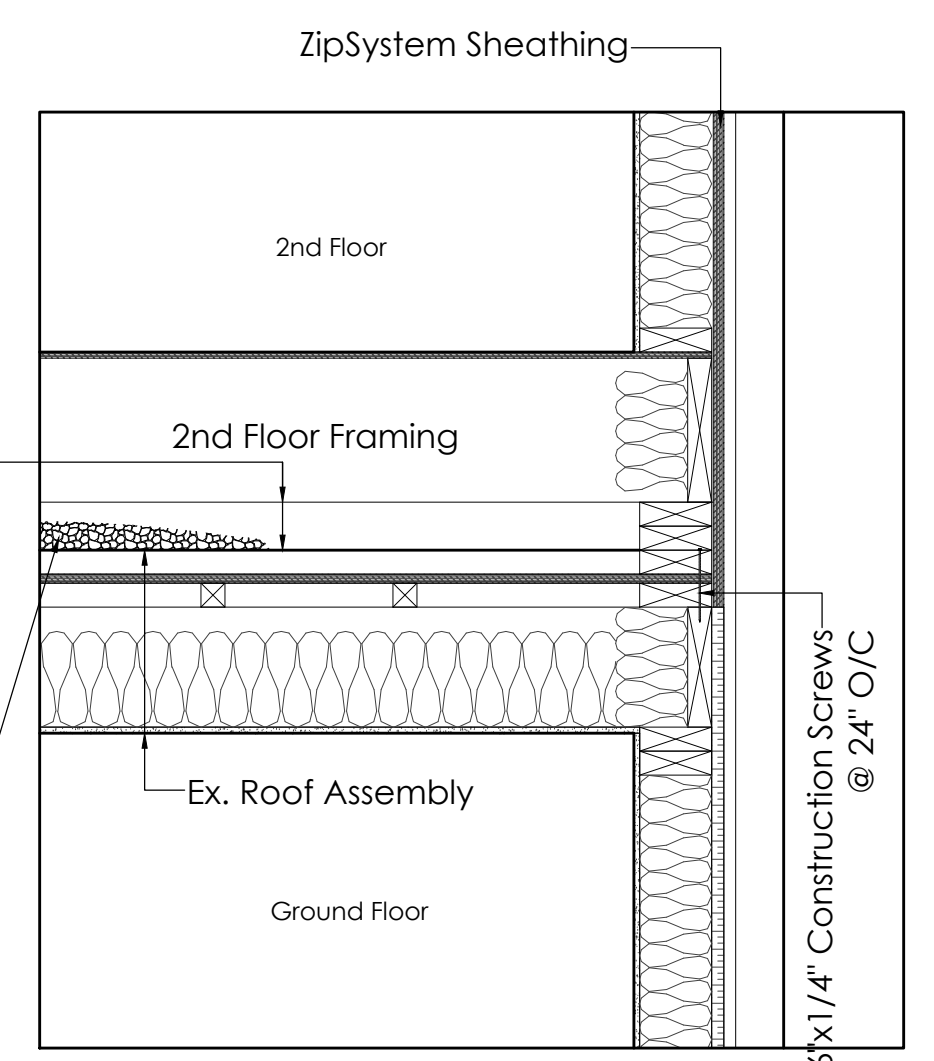
	Walls to remain
	Proposed Wall
	Foundation Wall
	Walls to be removed
	Load Bearing Wall
	Fire Rated Wall

Construction Note
 All existing structural specifications affected by the scope of the construction to be confirmed prior to construction start.
 Any Discrepancies discovered on site must be reported to the Designer immediately before construction.



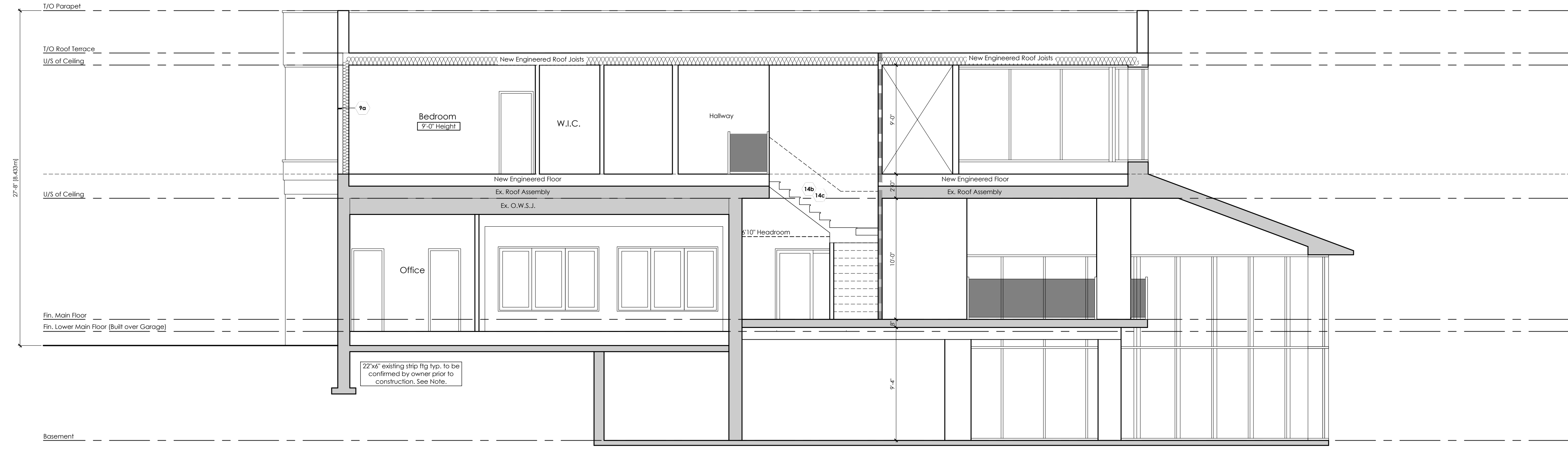
Contractor to ensure minimum 3" gap between existing roof and new floor. Existing roof to remain self supporting and no load should be transferred to the ex. roof.

Remove ballast from existing roof where new floor is constructed over (TYP.)



Wall and floor detail at header
 Scale: 3/4"=1'-0"

Proposed Section A



Proposed Section B

General Notes

General Notes

General

- All drawings are the property of the Designer. The Designer retains copyright in these documents which may not be used for any other project without the written permission of the Designer.
- All work shall conform to the Ontario Building Code, Ontario regulation 332/12 and all amending regulations., the Ontario Health and Safety Act Regulations for construction projects and all authorities having jurisdiction over the site.
- Any and all changes and/or deviations from these drawings are to be noted on a set of "As Built" drawings maintained by the General Contractor or Project Manager.
- All dimensional information and grades shown on drawings must be verified on site and any discrepancies reported to the Designer prior to commencing work. Drawings must not be scaled.
- No responsibility is hereby assumed for details and information not contained in these drawings.
- All Specifications and materials proposed by engineers shall be used in place of specifications and materials identified in Construction Notes.
- All manufactured items to be installed in accordance with manufacturers printed instructions. Submit all installation instructions to owner upon completion of job.
- Unless the drawings are accompanied with a letter by the structural engineer, the engineer will not have performed a site visit to inspect existing conditions and the review is solely based on information provided by to the engineer by permitguys.ca. If site conditions do not match drawings, the structural engineer stamping the drawings is to be notified prior to construction.

Windows

- Windows in dwelling units shall comply with 9.7.5.3. Resistance to Forced Entry for Windows
- A guard or a window with a maximum restricted opening width of 4" (100) is required where the top of the window sill is located less than 1'-7" (480) above fin. floor and the distance from the finished floor to the adjacent grade is greater than 5'-11" (1800). (9.8.8.1.)
- Windows in exit stairways that extend to less than 2'-11" (900) shall be protected by guards in accordance with MGN 7.1.3. or the window shall be non-operable and designed to withstand the specified loads for balcony guards as provided in 9.8.8.2

Doors

- Minimum Thermal Resistance of Doors (SB-12, 2.1.1.9.): Except for doors in enclosed unheated vestibules and cold cellars, and except for glazed portions of doors, all doors that separate heated space from unheated space shall have a thermal resistance of not less than RSI 0.7 where a storm door is not provided
- Entrance doors to dwelling units shall comply with 9.7.5.2. Resistance to Forced Entry for Doors.

Guards

- Guards are required where there is a difference in elevation of more than 600 mm between the walking surface and the adjacent surface.
- Guards are not required for windows when the top surface of the window sill is located more than 480 mm above the finished floor on one side of the window, or the window is located in a room or space with the finished floor located less than 1800 mm above the floor or ground on the other side of the window.
- In dwelling units, glazing installed over stairs, ramps and landings that extends to less than 900 mm above the surface of the treads, ramp or landing shall be protected by guards or non-openable and designed to withstand the specified lateral loads for guards as provided in Article 4.1.5.1.4.
- Except as provided in Sentence (5), guards shall be designed to resist the specified loads prescribed in Table 9.8.8.2.
- All guards within dwelling units shall be not less than 900 mm high. (9.8.8.3.(2))
- Exterior guards serving not more than one dwelling unit shall be not less than 900 mm high where the walking surface served by the guard is not more than 1 800 mm above the finished ground level.
- The height of guards shall be not less than 920 mm for required exit stairs, and 1 070 mm around landings. (9.8.8.3.(5))
- Openings through any required guard shall be of a size that will prevent the passage of a spherical object having a diameter of 100 mm. (9.8.8.5.)
- Guards shall be designed so that no member, attachment or opening located between 140 mm and 900 mm above the floor or walking surface protected by the guard will facilitate climbing. (9.8.8.6.)

Smoke Alarms (9.10.19)

- Smoke alarms conforming to ULC-S531 shall be installed shall be installed in conformance with CAN/ULC-S553.
- One smoke alarm shall be installed on each storey, including basements. Any storey of a dwelling unit containing sleeping rooms a smoke alarm shall be installed in each sleeping room and in a location between the sleeping rooms and the remainder of the storey. If the sleeping rooms are served by a hallway, the smoke alarm shall be located in the hallway.
- Smoke alarms shall be installed on or near the ceiling and shall have a visual signalling component conforming to 9.10.19.3.(3) and (4).
- Smoke alarms shall be installed with permanent connections to an electrical circuit and have no disconnect switch between the overcurrent device and the smoke alarm. In case the regular power supply to the smoke alarm is interrupted it shall be provided with a battery as an alternative power source that can continue to provide power to the smoke alarm for a period of not less than 7 days in the normal condition, followed by 4 min of alarm. Smoke alarms shall be wired so that the activation of one alarm will cause all alarms within the dwelling unit to sound.

Carbon Monoxide Alarms (9.33.4.)

- A carbon monoxide alarm shall be installed adjacent to each sleeping area in a dwelling unit. Carbon monoxide alarms shall be permanently connected to an electrical circuit and shall have no disconnect switch between the overcurrent device and the carbon monoxide alarm. The alarm shall be be wired so that its activation will activate all carbon monoxide alarms within the dwelling and be equipped with an alarm that is audible within bedrooms when the intervening doors are closed.

Excavation

- Every excavation shall be undertaken in such a manner to prevent damage to adjacent property, existing structures, utilities, roads and sidewalks at all stages of construction. (9.12.1.4.(1))

- The topsoil and vegetable matter in all unexcavated areas under a building shall be removed. (9.12.1.1.(1))
- The bottom of every excavation shall be free of all organic material. (9.12.1.1.(3))
- Material shall not be placed nor shall equipment be operated or placed in or adjacent to an excavation in a manner that may endanger the integrity of the excavation or its supports. (9.12.1.4.(2))
- Backfill shall be graded to prevent drainage towards the foundation after settling. (9.12.3.2.(1))
- Backfill within 600 mm of the foundation shall be free of deleterious debris and boulders larger than 250 mm diameter. (9.12.3.3.(1))

Drainage

- The building shall be located or the building site graded so that water will not accumulate at or near the building and will not adversely affect adjacent properties. (9.14.6.1.)
- Every window well shall be drained to the footing level or other suitable location. (9.14.6.2.)
- Where downspouts are provided and are not connected to a sewer, extensions shall be provided to carry rainwater away from the building in a manner that will prevent soil erosion. (9.26.18.2.)

Footings

- Footings shall rest on rock, undisturbed soil with min. bearing capacity of 75kPa, or compacted granular fill with min. bearing capacity of 150 kPa. (9.4.4.1.)
- Minimum footing width or area shall comply with Table 9.15.3.4.

Table 9.15.3.4. Minimum Footing Sizes

Floors Supported	Supporting Exterior Walls	Supporting Interior Walls	Footing Area for Columns
1	250mm	200mm	0.40m ²
2	350mm	350mm	0.75m ²
3	450mm	500mm	1.0m ²

- Increase exterior footing width by 65mm for each storey of brick veneer supported. (9.15.3.5.(1)(a))
- Footing thickness shall be not less than the greater of 100mm or the width of the projection of the footing beyond the supported element. (9.15.3.8.)

Foundation Walls

- The thickness of foundation walls made of solid concrete and subject to lateral earth pressure shall conform to Table 9.15.4.2.A. for walls not exceeding 3.0m in unsupported height. (9.15.4.2.(1))

Table 9.15.4.2.A. Thickness of Solid Concrete Foundation Walls

Type	Thickness	Unsupported at Top	≤2.5m	Supported At Top >2.5m & ≤2.75m
>2.75m & ≤3.0m	15MPa	200mm	1.2m	2.15
	15MPa	250mm	1.4m	2.6
	15MPa	300mm	1.5m	2.6
	20MPa	200mm	1.2m	2.3
	20MPa	250mm	1.4m	2.6
20MPa	200mm	1.5m	2.3	2.6

- Foundation Wall for Continuous Insulated Masonry Veneer Walls 9" (225mm) min. Thick foundation wall is required for masonry veneer finished exterior walls with continuous insulation condition, to provide min. bearing for sill plates, beams and floor joist as per 9.23.7.2., 9.23.8.1., & 9.23.9.1. of the O.B.C.
- Foundation Reduction in Thickness for Floor Joists Where the top of a foundation wall is reduced in thickness to permit the installation of floor joists, the reduced section shall be not more than 350 mm high and not less than 90 mm thick. (9.15.4.7.(1))
- Foundation Reduction in Thickness for Masonry Where the top of a foundation wall is reduced in thickness to permit the installation of a masonry exterior facing, the reduced section shall be not less than 90 mm thick, and tied to the facing material with metal ties conforming to Sentence 9.20.9.4.(3) spaced not more than 200 mm o.c. vertically, and 900 mm o.c. horizontally. The space between wall and facing shall be filled with mortar. (9.15.4.7.(2)(3))

Masonry Veneer Walls

- Masonry over openings shall be supported on corrosion resistant or prime painted steel lintels with a minimum of 150mm end bearing and shall bear on masonry, concrete or steel. (9.20.5.2.)
- Steel angle lintels supporting masonry veneer above openings shall conform to Table 9.20.5.2.B. (9.20.5.2.(3)). Refer to MCN 1.2.

General Requirements of Wood Frame Construction

- All lumber shall be spruce-pine-fir No. 1 & 2, and shall be identified by a grade stamp. (9.3.2.)
- Wood framing members that are supported on concrete in contact with the ground or fill shall be separated from the concrete by not less than 0.05 mm polyethylene film or Type S roll roofing. (9.23.2.3.)

Fasteners (9.23.3.)

- Nailing of framing shall conform to Table 9.23.3.4.
- Fastening of sheathing and subflooring shall conform to Table 9.23.3.5.

Notching and Drilling (9.23.5.)

- Holes in floor, roof and ceiling members to be not larger than 1/4 the actual depth of member and not less than 50mm from edges. (9.23.5.1.)
- Notches in floor, roof and ceiling framing members are to be located on the top of the member within half the joist depth from the edge of bearing and is not deeper than one-third the joist depth. (9.23.5.2.)
- Wall studs may be notched or drilled provided that no less than 2/3 the depth of the stud remains, if load bearing, and 40mm if non-load bearing, unless the weakened studs are suitably reinforced. (9.23.5.3.)
- Roof truss members shall not be notched, drilled or weakened unless accommodated in the design. (9.23.5.4.)

Columns, Beams & Wood Lintels

- Beams shall have even and level bearing and shall have not less than 89 mm length of bearing at end supports, except as required in notes to Tables A-8 to A-11. (9.23.8.1.)
- Steel beams shall at least meet the requirements for Grade 350 W steel and shall be shop primed with rust-inhibitive paint Grade 350 W steel. (9.23.4.3.(2), 9.23.8.2.(1))
- Build-up wood beams shall conform to 9.23.8.3.
- Columns shall be centrally located on a footing (9.17.2.1)
- Steel pipe columns shall have a minimum outside diameter of 73mm and a minimum wall thickness of 4.76mm (9.17.3.1.(1))

- Wood columns shall be not less than 184 mm for round columns and 140mm by 140 mm for rectangular columns. (9.17.4.1.(2))
- Provide solid blocking the full width of the supported member under all concentrated loads.
- Spans and sizes of wood lintels shall conform to the spans shown in Tables A-15, where the spans of supported joists do not exceed 4.9m and where the span of trusses do not exceed 9.8m (9.23.12.3.)
- All wood columns shall conform to 9.17, unless noted otherwise. Provide a built-up wood stud column equal to the width of the beam/girder truss under all beams/girder trusses, minimum unless noted otherwise. Continue all columns down to foundation or full bearing on beams. Block solid in joist spaces, typical.
- All lintels shall have 1 jack stud plus 1 king stud at each end unless noted otherwise.
- Lateral Support of Steel Beams: 3/4"x2" (19 mm by 38 mm) wood strips in contact with the top flange and nailed on both sides of the beam to the bottom of the joist supported.

Floor Joists

- Floor joists shall have not less than 38 mm length of end bearing (9.23.9.1.(1))
- Joists shall bear on a minimum 38mm by 89mm sill plate fixed to foundation with 12.7mm anchor bolts @ 2400mm o.c (9.23.7., 9.23.6.1.(2))
- Non-loadbearing walls parallel to the floor joists shall be supported by joists beneath the wall or on blocking between the joists. (9.23.9.8.(1))
- Loadbearing interior walls parallel to floor joists shall be supported by beams or walls of sufficient strength to transfer safely the design loads to vertical supports. (9.23.9.8.(4))
- Loadbearing interior walls at right angles to floor joists shall be located not more than 900 mm from the joist support when the wall does not support a floor, and not more than 600 mm from the joist support when the wall supports one or more floors. (9.23.9.8.(5))

Wall Studs (9.23.10.)

- Wall studs shall be continuous for the full storey height except at openings and shall not be spliced except by finger-jointing with a structural adhesive (9.23.10.4.)
- Corners and intersections shall be designed to provide adequate support for the vertical edges of interior finishes, sheathing and cladding materials, and in no instance shall exterior corners be framed with less than the equivalent of two studs. (9.23.10.5.(1))
- The number of studs in a wall directly below a girder truss or roof beam shall conform to Tables A-34 to A-37.
- The bottom plate in exterior walls shall not project more than one-third the plate width over the support. (9.23.11.2.(2))

Roof and Ceiling Framing (9.23.13.)

- Hip and valley rafters shall be not less than 50 mm greater in depth than the common rafters and not less than 38 mm thick, actual dimension (9.23.13.6.(1))
- 38x89 collar ties @ rafter spacing with 19x89 continuous brace at mid span if collar tie exceeds 2400mm in length (9.23.13.7.)

Heat Transfer, Air Leakage and Condensation Control

- All walls, ceilings and floors separating conditioned space from unconditioned space, the exterior air or the ground shall be, provided with, thermal insulation conforming to Subsection 9.25.2., an air barrier system conforming to Subsection 9.25.3., and a vapour barrier conforming to Subsection 9.25.4., and constructed in such a way that the properties and relative position of all materials conform to Subsection 9.25.5. (9.25.1.1.(2))
- Insulation and sealing of heating and ventilating ducts shall conform to Sections 9.32. and 9.33. 9.25.1.1.(3))
- All walls, ceilings and floors separating heated space from unheated space, the exterior air or the exterior soil shall be provided with thermal insulation in conformance with Section 12.2. to prevent moisture condensation on their room side during the winter and to ensure comfortable conditions for the occupants. (9.25.2.1.)
- Wall, ceiling and floor assemblies that separate conditioned spaces from unconditioned spaces or from the ground shall be constructed so as to include an air barrier system that will provide a continuous barrier to air leakage, from the interior of the building into wall, floor, attic or roof spaces sufficient to prevent excessive moisture condensation in such spaces during the heating season, and from the exterior inward sufficient to prevent moisture condensation on the room side during the heating season. The continuity of the air barrier system shall extend throughout the basement. (9.25.3.1.)
- Thermally insulated wall, ceiling and floor assemblies shall be constructed with a vapour barrier sufficient to prevent condensation in the wall spaces, floor spaces or attic or roof spaces. (9.25.4.1.(1))

Roofing

- Fasteners for roofing shall be corrosion resistant. Roofing nails shall penetrate through or at least 12mm into roof sheathing.
- Eave protection shall be provided on shingle, shake or tile roofs, extending from the edge of the roof a minimum of 900 mm up the roof slope to a line not less than 300 mm inside the inner face of the exterior wall. (9.26.5.1.(1))
- Eave protection is not required over unheated garages, carports, and porches, on roofs of asphalt shingles installed in accordance with Subsection 9.26.8 Asphalt Shingles on Slopes of Less Than 1 in 3., or on roofs with slopes of 1 in 1.5 or greater (9.26.5.1.(2))
- Asphalt Shingles on Slopes of Less Than 1 in 3 (4:12) shall conform to Section 9.26.8.
- Open valleys shall be flashed with 2 layers of roll roofing, or 1 layer of sheet metal min. 600mm wide. (9.26.4.3.(5))
- The intersection of shingle roofs and masonry walls or chimneys shall be protected with flashing shall conform to Section 9.26.4.4.
- The intersection of shingle roofs and walls clad with other than masonry shall be protected with flashing shall conform to Section 9.26.4.5.

Abbreviations

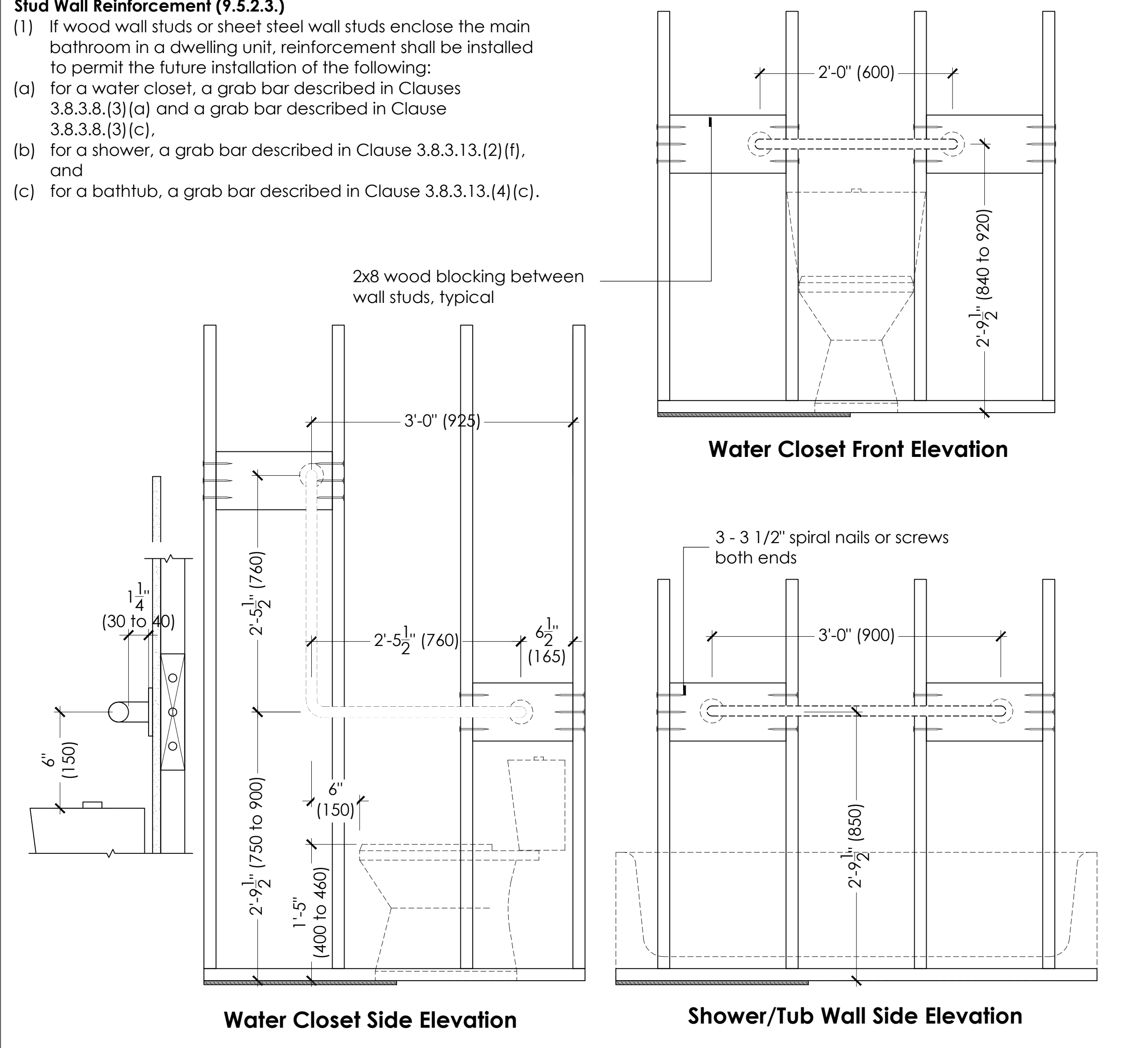
AFF	Above finished floor	GALV	Galvanized
ALUM	Aluminum	GT	Girder truss
BBFM	Beam by floor manufacturer	GWB	Gypsum Wall Board
BBRM	Beam by roof manufacturer	HB	Hose bib
BBSE	Beam by structural engineer	INSUL	Insulated or Insulation
BG	Fixed glass with black backing	INT	Interior
BM	Beam	JST	Joist
CLG	Ceiling	LVL	Laminated veneer lumber
CRF	Conventional roof framing	LSL	Laminated strand lumber
CMU	Concrete masonry unit	MAX	Maximum
COL	Column	MIN	Minimum
CONC	Concrete	MTL	Metal
CONT	Continuous	OBC	Ontario Building Code
CW	Complete with	OC	On center
DEMO	Demolish	OSB	Oriented strand board
DIM	Dimension	OTA	Open to above
DJ	Double joist	OTB	Open to below
DN	Down	PT	Pressure treated
DO	Do over	PTD	Paint or Painted
DR	Door	REQD	Required
DROP	Dropped	RM	Room
DS	Downspout	RT	Roof truss
DWG	Drawing	RWL	Rain water leader
EA	Each	SB	Solid bearing
EIFS	Exterior Insulated Finish System	SBFA	Solid bearing from above
ELEV	Elevation	SJ	Single joist
ENC	Enclosed	SPEC	Specified or Specification
ENG	Engineer or engineered	SPF	Spruce, pine, fir
EQ	Equal	STL	Steel
EST	Estimated	T&G	Tongue and groove
EXT	Exterior	TJ	Triple joist
FA	Flat arch	T/O	Top of
FD	Floor Drain	TYP	Typical
FG	Fixed glass	UNO	Unless noted otherwise
FL	Flush	U/S	Underside
FLR	Floor	WIC	Walk-in closet
GA	Gauge	WP	Weather proof

Electrical Symbols Legend

	Receptacle		Receptacle: GFI		Light: Waterproof		Light: Ceiling Mounted		Light: Wall Mounted		Chandelier (ceiling Mounted)
	Receptacle: Waterproof		Receptacle: Duplex 42"		Light: Pot Light		Light: Pull Chain		Cable		Electrical Panel
	Receptacle: Heavy Duty 220v		Switch		Telephone		Switch: 3/4 Way		Ceiling Fan		Central Vacuum Outlet

Stud Wall Reinforcement (9.5.2.3.)

- If wood wall studs or sheet steel wall studs enclose the main bathroom in a dwelling unit, reinforcement shall be installed to permit the future installation of the following:
 - for a water closet, a grab bar described in Clauses 3.8.3.8.(3)(a) and a grab bar described in Clause 3.8.3.8.(3)(c),
 - for a shower, a grab bar described in Clause 3.8.3.13.(2)(f), and
 - for a bathtub, a grab bar described in Clause 3.8.3.13.(4)(c).



Construction Notes

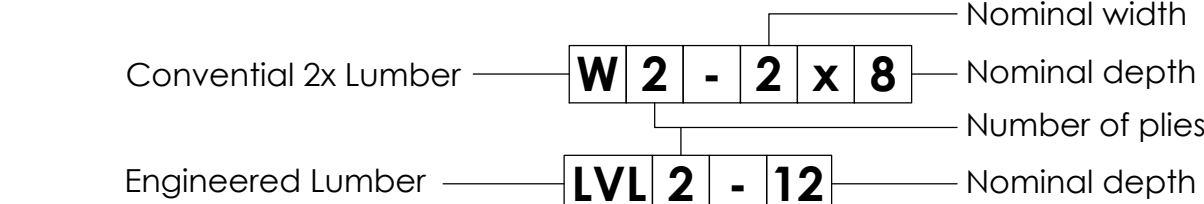
Construction Notes

Notes

- Minimum Thermal Performance Values for Building Components**
Construction Notes do not provide the required minimum thermal performance values of the building envelope component. The values can be found on the cover sheet of this construction drawing package listed in the Energy Efficiency Design Summary table.
- General Notes**
Additional information can be found on the general notes sheet.

1. Annotation Conventions

1A. Built-up Wood Beams and Lintels Annotation



1B. Steel Lintels Annotation

Table 9.20.5.2.B. Max. Allowable Spans for Stl. Lintels Supporting Masonry Veneer

Label	Angle size (Vert. x Horiz. x Thick.)	90mm Brick	100mm Stone
L2	3 1/2" x 3 1/2" x 1/4" (89 x 89 x 6.4)	8'-1" (2.47m)	7'-6" (2.30m)
L3	4" x 3 1/2" x 1/4" (102 x 89 x 6.4)	8'-9" (2.66m)	8'-1" (2.48m)
L4	4 7/8" x 3 1/2" x 5/16" (127 x 89 x 7.9)	10'-10" (3.31m)	10'-1" (3.08m)
L5	4 7/8" x 3 1/2" x 7/16" (127 x 89 x 11)	11'-5" (3.48m)	10'-8" (3.24m)
L6	4 7/8" x 3 1/2" x 17/32" (127 x 89 x 13)	11'-9" (3.59m)	10'-11" (3.33m)
L7	5 7/8" x 3 1/2" x 7/16" (152 x 89 x 11)	12'-6" (3.82m)	11'-7" (3.54m)
L8	5 7/8" x 3 1/2" x 17/32" (152 x 89 x 13)	13'-4" (4.07m)	12'-4" (3.77m)
L9	5 7/8" x 4" x 17/32" (152 x 102 x 13)	13'-6" (4.12m)	12'-6" (3.82m)
L10	7 1/8" x 4" x 17/16" (178 x 102 x 11)	14'-1" (4.30m)	13'-1" (3.99m)
L11	7 1/8" x 4" x 17/32" (178 x 102 x 13)	15'-1" (4.59m)	13'-11" (4.25m)

1C. Legend

	Door width reference (inches)		Mechanical ventilation (see 15)
	Floor drain		Exterior wall cladding and roofing flashing
	Smoke alarm		Carbon monoxide alarm
	Construction note reference (Hex note)		

1D. Patterns

	Exposed Building Face (Section 16a)		2 HR. Fire Wall (Section 16d)
	1 HR. Party Wall (Section 16b & 16c)		Two Storey Volume Space (Section 6f)
	Varying Plates, Built Out Floors, Bearing Walls		

2. Footings and Foundation walls

2A. Drainage Tile and Pipe:

4" (100) Ø weeping tile w/ filter cloth wrap & 6" (150) crushed stone cover (9.14.3.)

2B. Poured Concrete Foundation Wall Construction

15MPa (2200 psi) poured conc. foundation wall on continuous concrete footing. The outside of the foundation shall be damproofed from the top of the footing to finished grade and brush coated from the top to 2" below grade. Provide a drainage layer on the outside of the foundation wall. Seal the drainage layer at the top. The top of the conc. footing shall be damproofed.

2C. Reinforcement for Laterally Unsupported Foundation Walls

Foundation walls exceeding the maximum allowable height for laterally unsupported foundation walls shall be reinforced per the following table.

Unsupported Length	Required Bars
≤ 8'-0"	2-10M
>8'-0" & 10'-0"≤	3-10M
>10'-0" & 15'-0"≤	4-10M

Reinforcing bars described above shall be located on the inside face of the foundation wall, be stacked vertically @ 8 o.c., have minimum 2" concrete cover and extend min. 24" beyond the portion of the wall laterally unsupported.

2D. Poured Concrete Strip Footing

20" wide x 6" high 15MPa poured concrete strip footing (unless noted otherwise) with continuous shear key. Footings shall rest on rock, undisturbed soil with min. bearing capacity of 75kPa, or compacted granular fill with min. bearing capacity of 150 kPa. (9.4.4.1.)

2E. Reinforcement for Wide Openings in Foundation Walls

Required reinforcement at openings greater than 47" (1200mm) shall be 2-15M horiz. reinforcing on the inside and outside face of the foundation wall below the opening. Extend bars 24" (610) beyond the opening. 2-15M vertical reinforcing on the inside and outside face of the foundation wall on each side of the opening to the bottom of the foundation wall. Reinforcing bars shall have minimum 2" concrete cover. (see detail x-x)

2G. Concrete Stepped Footings

Where step footings are used the vertical rise between horizontal portions shall not exceed 600 mm, and the horizontal distance between risers shall be not less than 600 mm. (9.15.3.9.)

3. Concrete Slabs

3A. Concrete Slab in Basement

3" (80) min. 25MPa (3600psi) conc. slab on 4" (100) coarse granular fill, or 20MPa (2900psi) conc. with dampproofing below slab. Provide 1/2" (12.7) impervious board for bond break at edge. (9.13.) Where a basement slab is within 24" (610) of the exterior grade provide rigid insul. around the perimeter extending min. 24" (610) below grade. For slab on grade conditions rigid insulation shall be applied to the underside of the entire slab. (S8-12) 3.1.1.7.(5) & (6)

3B. Exterior Concrete Slab in Garage

4" (100) 32MPa (4640psi) conc. slab with 5-8% air entrainment on opt. 4" (100) coarse granular fill with compacted sub-base or compacted native fill. Slope to front @ 1% min.

3C. Exterior Concrete Slab with Cold Room Below

For max. 8'-2" (250) porch depth, 5" (127) 32 MPa (4640psi) conc. slab w/ 5-8% air entrainment. Reinf. with 10M bars @ 7/8" (200) o.c. each direction, w/ 1 1/4" (32) clear cover from bottom of slab to first layer of bars & second layer of bars laid directly on top of lower layer in opposite direction. 24"x24" (610x610) 10M dowels @ 23 5/8" (600) o.c., anchored in perimeter fnd. walls. Slope slab 1.0% from door.

3D. Exterior Concrete Slab on Porch without Cold Cellar Room

Min. 4" (100) 32 MPa (4640psi) concrete slab w/ 5-8% air entrainment on 4" (100) coarse granular fill and compacted sub-grade with reinforced 6x6xw2.9xw2.9 welded wire mesh placed near mid-depth of slab.

4. Columns

4A. Adjustable steel column

3 1/2" (90) diameter x 0.188" (4.78) steel column. Adjustable steel columns shall conform to CAN/CGSB-7.2m and have a maximum imposed design load of 8093 lb (36kN/8kip). Steel posts shall have minimum 4"x4"x1/4" (100x100x.35) steel plates at top & bottom. Field weld basement column and steel beam connection. Column shall bear on the center of the concrete pad footing or directly on the concrete foundation wall below.

4B. Non-adjustable steel column

3 1/2" (90)Ø x 0.188" (4.78) non-adjustable steel column with 4"x4"x1/4" (100x100x6.35) steel top plate & 4"x4"x1/4" (100x100x6.35) steel bottom plate. Field weld basement column and steel beam connection. Column shall bear on the center of the concrete pad footing or directly on the concrete foundation wall below. For columns in stud walls provide 3 steel straps (24" from ends and at center of the column) welded to column and nailed to adjacent studs for lateral support.

4C. Built-up wood column on concrete footing

3-2"x6" (3-38x140) (unless otherwise noted) built-up wood column located at center of pad footing below. Column shall be mechanically fastened to the footing or embedded into concrete slab. Wood in contact with concrete shall be protected by 2 mil poly. Column shall be laterally supported at the top with a metal post to beam cap or similar method. Post shall be supported on a 24"x24"x12" (610x610x305) 15 MPa concrete pad footing w/ 15M Rebars @ 8" o.c. or as noted on plan.

5. Anchorage

5A. Sill Plates

2"x4" (38x89) sill plate with 1/2" (12.7)Ø anchor bolts 8" (200) long, embedded min. 4" (100) into conc. @ 7'-10" (2400) o.c. with caulking or gasket between plate and top of foundation wall. Use non-shrink grout to level sill plate when required. Wrap the air barrier per **MCN-10C**.

6. Wood studs and Interior Partitions

6A. Interior Stud Wall Construction

Bearing partitions shall be a minimum 2"x4" (38x89) @ 16" (406) o.c. for 2 storey and 12" (305) o.c. for 3 storey, non-bearing partitions 2"x4" (38x89) @ 24" (610) o.c. Provide 2"x4" (38x89) bottom plate and 2-2"x4" (2-38x89) top plate. 1/2" (12.7) int. drywall both sides of studs. Provide 2"x6" (38x140) studs where noted. Provide 2"x4" (38x89) @ 24" (610) o.c. ladder framing where walls intersect perpendicular to one another.

6B. Walls Adjacent to Unheated Spaces

Approved air/water barrier as per O.B.C. 9.27.3. on exterior type rigid insulation (joints untaped) mechanically fastened as per manufacturer's specifications, on 1/2" exterior type sheathing, 2"x6" (38x140) studs @ 16" (406) o.c., insulation and 6 mil polyethylene vapour barrier with approved cont. air barrier. 1/2" (12.7) gypsum wallboard int. finish. (9.23.)

6C. Bearing Stud Wall in Basement

2"x4" (38x89) studs @ 16" (406) o.c., 2"x4" (38x89) or 2"x6" (38x140) sill plate on 6 mil poly., 1/2" (12.7) Ø x 8" (200) long anchor bolts embedded 4" (100) min. into conc. @ 7'-10" (2390) o.c. 4" (100) high conc. curb on conc. strip footing. For size of strip footing refer to MGN unless noted on plan. Add horiz. blocking at mid-height if wall is unfinished.

6D. Walls Adjacent to Storage Garages

1/2" (12.7) Gypsum board on ceiling and on walls installed over exterior type rigid insulation (joints untaped) mechanically fastened as per manufacturer's specifications on 1/2" exterior type sheathing on studs between house and garage, plus required insulation in walls & spray foam for ceilings. Tape and seal all joints gas tight. (9.10.9.16.)

6E. Stud Wall Reinforcement for Barrier Free Design

If wood wall studs enclose the main bathroom in a dwelling unit, reinforcement shall be installed to permit the future installation of the following: for a water closet, a grab bar described in Clauses 3.8.3.8.(3)(a) and a grab bar described in Clause 3.8.3.8.(3)(a), for a shower, a grab bar described in Clause 3.8.3.13.(2)(f) and for a bathtub, a grab bar described in Clause 3.8.3.13.(4)(c).

6F. Two Storey Walls (Double Volume)

The size and spacing of exterior wall studs for two storey walls shall comply to the following table.

Cladding Type	Stud Size	Wind Loads			
		≤ 0.5 kPa (q50)	> 0.5 kPa (q50)		
		Spacing	Max Height	Spacing	Max Height
Brick	2-2x6	12" o.c.	18'-4"	8" o.c.	18'-4"
Brick	2-2x8	12" o.c.	21'-0"	12" o.c.	21'-0"
Siding	2-2x6	16" o.c.	18'-4"	12" o.c.	18'-4"
Siding	2-2x8	16" o.c.	21'-0"	16" o.c.	21'-0"

Studs are to be continuous with 1/2" exterior type sheathing and solid wood blocking @ 1200 mm o.c. vertically.

For two storey walls less then 9'-6" in length on plan a minimum 3-ply built-up rim-board can provided instead of the two storey studs described in the table above. The bottom plates and top plates of the studs walls in direct contact with the beam shall be glued and nailed to the built-up rim board. This design is subject to engineering approval.

7. Exterior Masonry Veneer Walls

7A. Masonry Veneer Wall Construction at House

3 1/2" (90) brick veneer 1" (25) air space, 7/8"x7"x0.03" (22x180x0.76) galv. metal ties @ 16" (400) o.c. horiz. 24" (600) o.c. vert. bonding and fastening for ties to conform with 9.20.9. on approved air/water barrier as per o.b.c. 9.27.3. on exterior type rigid insulation (joints untaped) mechanically fastened as per manufacturer's specifications, on 1/2" exterior type sheathing, 2"x6" (38x140) studs @ 16" (406) o.c., insulation and 6 mil polyethylene vapour barrier with approved contin. air barrier. 1/2" (12.7) gypsum sheathing interior finish. Provide weep holes @ 32" (800) o.c. bottom course and over openings. Provide base flashing up min. 6" (150) over rigid insulation (9.20.13.6.)

7B. Masonry Veneer Wall Construction at Garage

3 1/2" (90) brick veneer, min 1" (25) air space, 7/8"x7"x0.03" (22x180x0.76) galv. metal ties @ 16" (400) o.c. horiz. 24" (600) o.c. vert. bonding and fastening ties to conform with 9.20.9. on approved sheathing paper, 1/2" exterior type sheathing or waterboard sheathing on studs conforming to 9.23.10.1., 1/2" (12.7) gypsum sheathing interior finish. Provide weep holes @ 32" (800) o.c. at bottom course and over openings, provide base flashing up 6" (150) min. behind building paper (9.20.13.6.)

8. Exterior Siding Walls

8A. Siding Wall Construction at House

Siding material as per elevation attached to furring members on approved air/water barrier as per o.b.c. 9.27.3. on R5 continuous exterior type rigid insulation (joints untaped) mechanically fastened as per manufacturer's specifications; on 1/2" exterior type sheathing on 2"x6" (38x140) studs @ 16" (406) o.c., R19 insulation, approved 6 mil polyethylene air/wapour barrier, on 1/2" (12.7) interior gypsum sheathing fin. (gypsum sheathing, rigid insulation, and fiberboard shall not be used for the attachment of siding (9.23.16.3.(1.))

8B. Siding Wall Construction at Garage

Siding material as per elevation attached to framing members, furring members or blocking between the framing members on approved sheathing paper on 1/2" exterior type sheathing on studs conforming to 9.23.10.1., 1/2" (12.7) gypsum wallboard interior finish. (gypsum sheathing, rigid insulation and fiberboard shall not be used for the attachment of siding per

9.23.16.3.(1))

9. Exterior Stucco Walls

9A. Stucco Wall Construction at House

Stucco finish conforming to section 9.28. and applied per manufacturers specifications over 1 1/2" (38) exterior rigid insulation board on approved drainage mat on; approved air/water barrier as per o.b.c. 9.27.3. on exterior type rigid insulation (joints untaped) mechanically fastened as per manufacturer's specifications, on 1/2" exterior type sheathing on 2"x6" (38x140) spruce studs @ 16" (406) o.c., insulation, approved 6 mil. polyethylene vapour barrier, 1/2" (12.7) gypsum wallboard interior finish.

9B. Stucco Wall Construction at Garage

Stucco finish conforming to o.b.c. section 9.28. and applied per manufacturers specifications over approved drainage mat on 1/2" exterior type sheathing over furring (as req.) and studs conforming to 9.23.10.1., 1/2" (12.7) gypsum wallboard int. finish.

10. Floors and Ceilings

10A. Conventional Floor Joists

1&G subfloor on wood floor joists. Joists to be bridged with 2"x2" (38x38) cross bracing or solid blocking @ 6'-11" (2108) o.c. max. All joists to be strapped with 1"x3" (19x64) @ 6'-11" (2108) o.c. unless a panel type ceiling finish is applied.

10B. Engineered Floor Joists

Engineered floor joists will be installed per manufacturer's approved details and specifications.

10C. Header Construction at Foundation

Provide continuous approved air barrier (header wrap) under the sill plate, around the rim board and under the bottom plate. The header wrap shall extend 6" (152) below the top of foundation wall and will be sealed to the concrete foundation wall. Extend header wrap 6" (152) up the interior side of the stud wall and overlap with the vapour barrier and seal the joint. All edges/joints must be mechanically clamped.

10D. Header Construction Between Storeys

Provide continuous approved air barrier (header wrap) between the double top plate, around the rim board and under the bottom plate. The header wrap shall extend 6" (152) above and below the wall plates overlap with the vapour barrier and seal the joint. All edges/joints must be mechanically clamped.

10E. Exposed Ceiling to Exterior (Batt or Loose-Fill Insulation)

Provide R60 batt or loose-fill insulation, 6 mil polyethylene vapour barrier, 1/2" (12.7) gypsum sheathing interior finish or approved eq.

10F. Exposed Ceiling to Exterior (Spray Foam Insulation)

Provide R60 spray foam insulation, 6 mil polyethylene vapour barrier, 5/8" (15.9) gypsum sheathing interior finish or approved eq.

10G. Exposed Floor to Exterior

Provide R31 spray foam insulation between joists and install fin. soffit or cladding as per elevation to u/s of exposed joist.

10H. Exposed Floor to Garage

Provide spray foam insulation between joists. Seal joist space from air and cover completely all pipes.

11. Beams and Lintels

11A. Steel Beam Bearing on Foundation Wall

Beam pocket or 8"x8" (200x200) poured conc. nib walls, min. bearing 3 1/2" (90).

11B. Beams bearing on Concrete Block Party Walls

12"x12"x5/8" (305x305x15.9) steel plate for steel beams and 12"x12"x1/2" (305x305x12.7) steel plate for wood beams bearing (min. 3-1/2" (89)) on conc. block party wall, anchored with 2-3/4" (2-19) x 8" (200) long galv. anchors within solid block course. Level w/ non-shrink grout.

12. Roof and Attic Construction

12A. General Roof and Overhang Construction

Minimum 210 lb (10.25 kg/m²) asphalt or fiberglass shingles on 3/8" plywood sheathing with "h" clips on approved wood trusses @ 24" (600) o.c. or conventional roof framing. Approved eaves protection to extend 36" (900) from edge of roof and min. 12" (305) beyond inner face of exterior wall. 2"x4" (38x89) truss bracing @ 6'-0" (1830) o.c. at bottom chord. Prefin. alum. eavestrough, fascia, RWL & vented soffit. attic ventilation: 1:300 of insulated ceiling area with 50% at eaves. Eavestrough to be 4" min. with RWL connected to storm sewers or to discharge onto concrete splash pads as per municipal requirements, townhouses to have 5" (127) min. eavestrough with elec. traced heater cable along eavestrough and down RWL.

12B. Conventional Roof Framing

2"x6" (38x140) rafters @ 16" (406) o.c., 2"x8" (38x184) ridge board. 2"x4" (38x89) collar ties at mid-span. Ceiling joists to be 2"x4" (38x89) @ 16" (406) o.c. for max. 9'-3" (2819) span & 2"x6" (38x140) @ 16" (406) o.c. for max. span 14'-7" (4450). Rafters for built up roof over pre-engineered roof trusses and or conventional framing to be 2"x4" (38x89) @ 24" (610) o.c. unless otherwise specified.

12D. Ice and Water Shield

Provide ice and water shield in the areas indicated. The ice and water shield shall be a self adhering and self sealing membrane. Side laps must be a minimum 3 1/2" (90) and end laps a minimum 6" (150) and extend up dormer walls a minimum 12" (300).

12E. Flat Roof Construction - Non Traffic

Waterproofing membrane fully adhered to 5/8" (15.9) 1&g exterior grade plywood sheathing on 2"x2" (38x38) purlins laid perpendicular to joists. Purlins sloped minimum 1:50 to scupper drain or gutter. 2"x8" (38x184) floor joists @ 16" (406) o.c. (unless otherwise noted). Minimum 3 1/2" wide built up wood curb 4" (100) min. above finished balcony roof surface. Continuous 'L' trim drip edge to be provided on outside face of curb. Scupper drains to be located 24" (610) min. away from house. Prefinished aluminum or approved sheathing for soffit. Remove curb where required on plans.

12F. Flat Roof Construction - Traffic (Deck/Balcony)

Per note 12e include 2"x4" (38x89) PT decking w/ 1/4" (6.4) gaps laid flat parallel to joists on 2"x4" (38x89) PT sleepers @ 12" (305) o.c. laid flat perpendicular to joists

12G. Raised Ceiling Construction

Roof trusses shall be profiled and/or stepped at raised coffer/tray ceilings. Angled tray ceilings will be sheathed w/ 3/8" (9.5) plywood.

12H. Sloped Ceiling Construction

2"x12" (38x286) roof joists @ 12" (400) o.c. max. (unless otherwise noted) w/ 2"x2" (38x38) purlins @ 16" (400) o.c. perpendicular to roof joists w/ insulation between joists on 6 mil poly. vapour barrier on 1/2" (12.7) interior gypsum sheathing.

12I. Barrel Vault Construction

Provide plywood header as per plan over the opening cut on the radius as per architectural plans. Fasten all plys together using Bulldog PL400 construction adhesive and screws as noted on plan. Provide minimum 2x6 roof joists at 16" OC to form the outer radius and minimum 2x4 ceiling joists at 16" OC to form the inner radius (unless noted otherwise on plan). Hang roof

and ceiling joists off the curved header on one side and framing as shown on plan on the other side. Provide thermal insulation and 6 mil poly. vapour barrier as required. Provide 2 layers of 1/4" flexible gypsum sheathing interior finish.

12J. Attic Access

21 1/2" x 28 1/2" attic access hatch with weather stripping. Attic access hatch shall have a min. area of 0.32 m² and no dim. less than 21 1/2" (545). Hatchways to the attic or roof space will be fitted with doors or covers and will be insulated with min. R20 (RSI 3.52) (S8-12 3.1.1.8.(1))

13. Insulation

13A. Basement Wall Insulation

1/2" (12.7) interior gypsum sheathing fin. on 2"x4" (38x89) studs @ 16" (406) o.c., insulation, approved 6 mil polyethylene air/vapour barrier on Rigid insulation (joints untaped) mechanically fastened as per manufacturer's specifications; on conc. foundation wall. Insulation to extend no more than 8" (200) above finished basement floor. Damproofed with building paper between the foundation wall and insulation up to grade level. (S8-12 3.1.1.7.)

14. Stairs, Ramps, Handrails and Guards

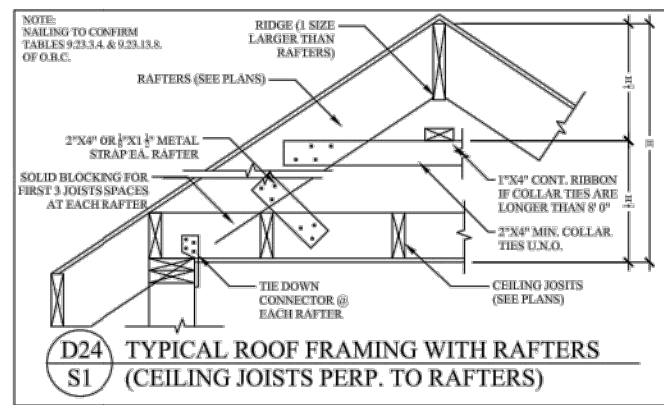
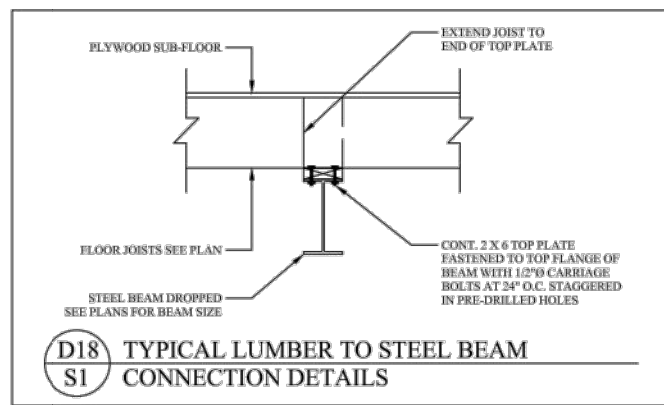
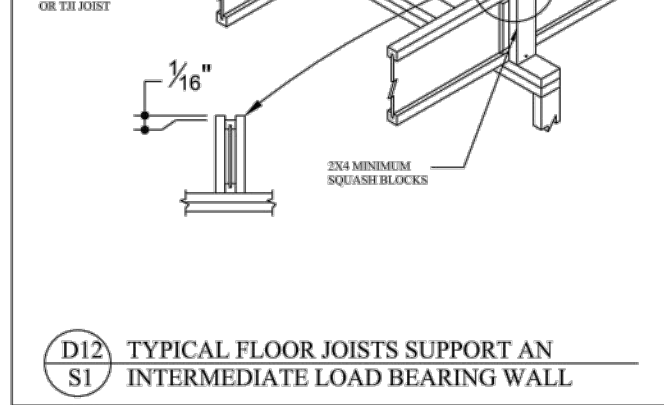
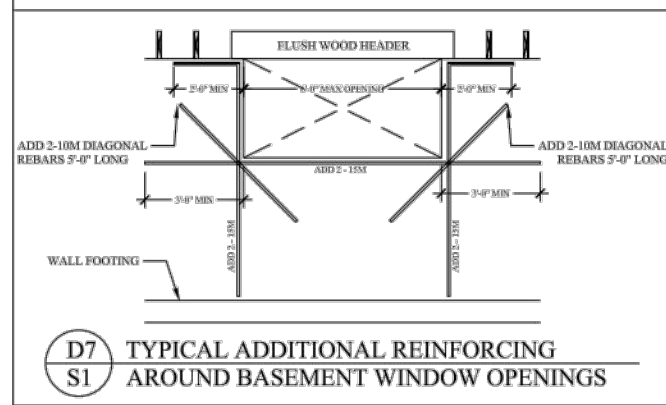
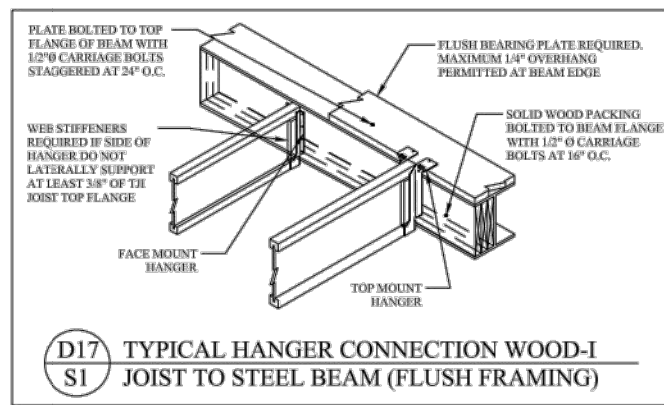
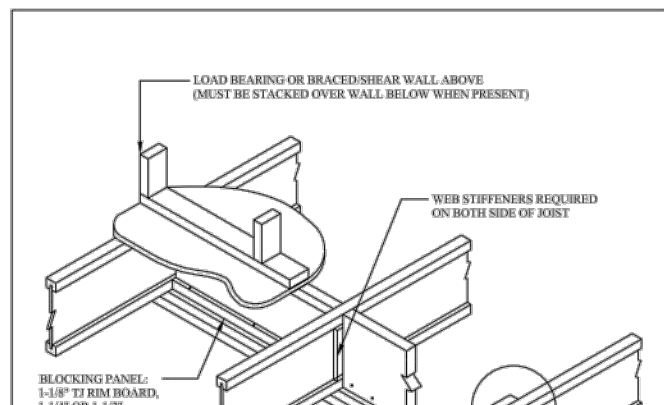
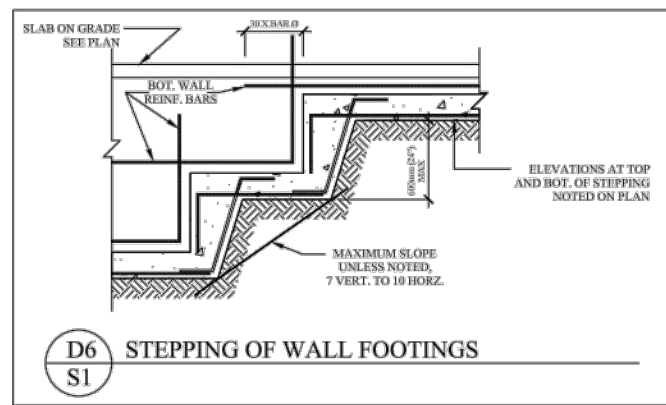
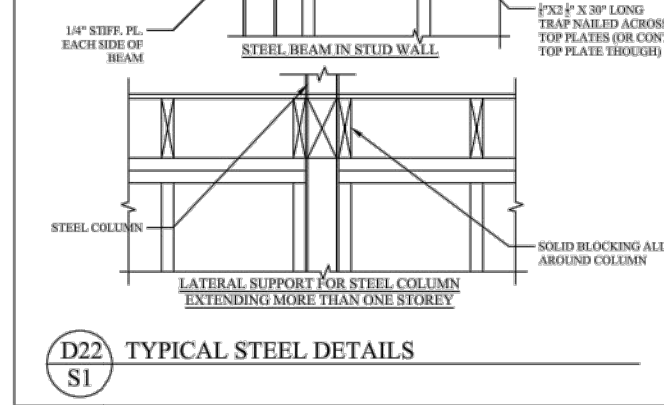
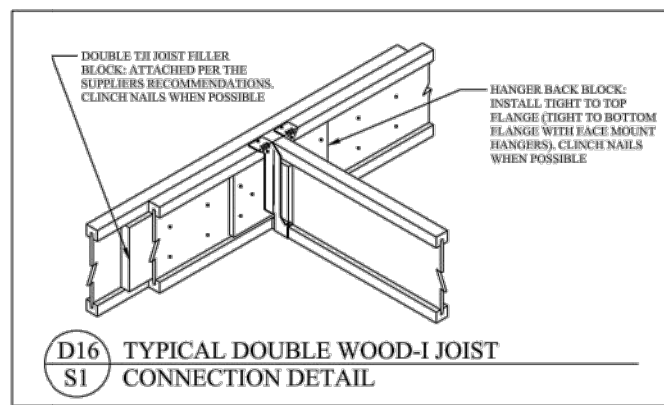
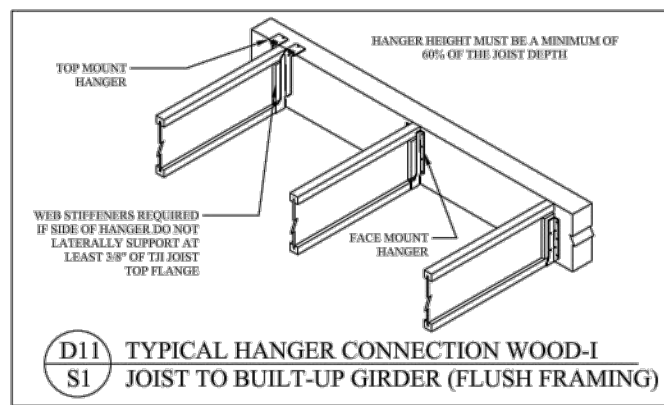
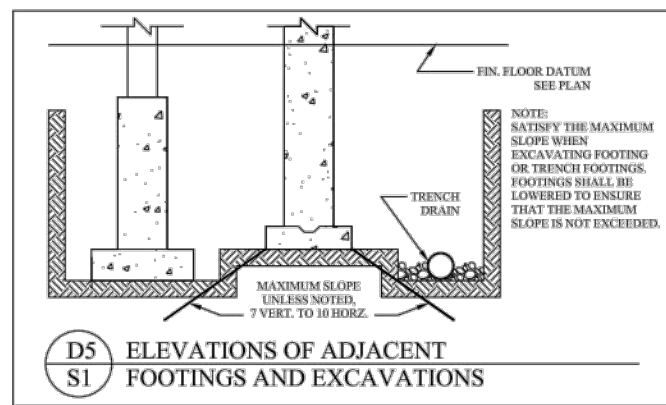
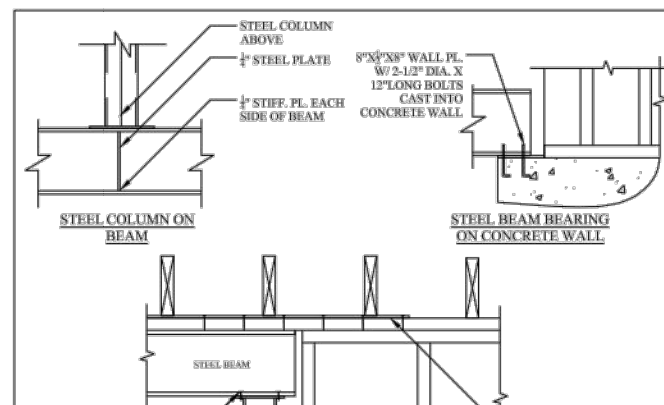
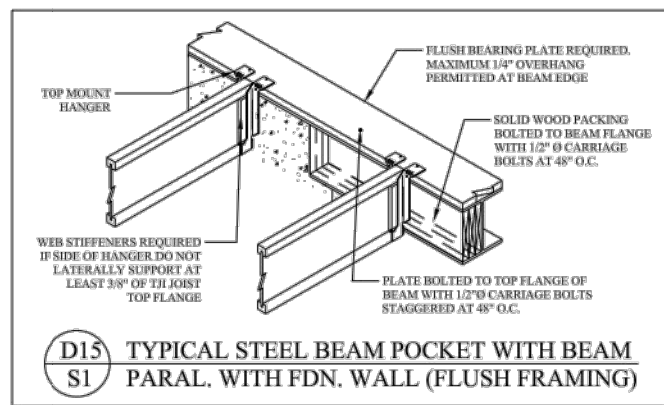
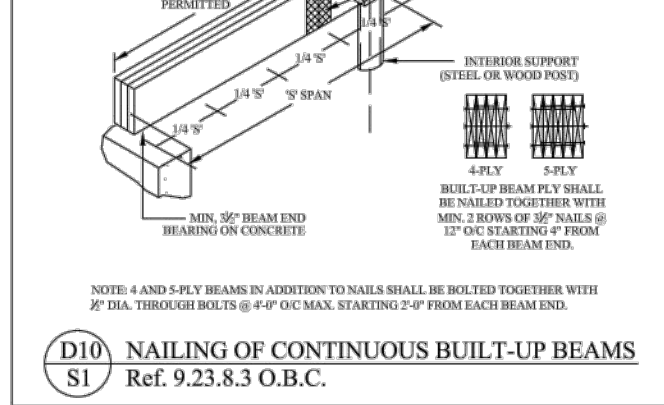
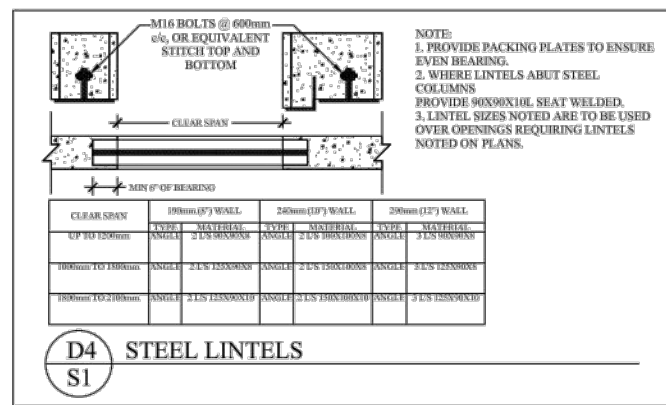
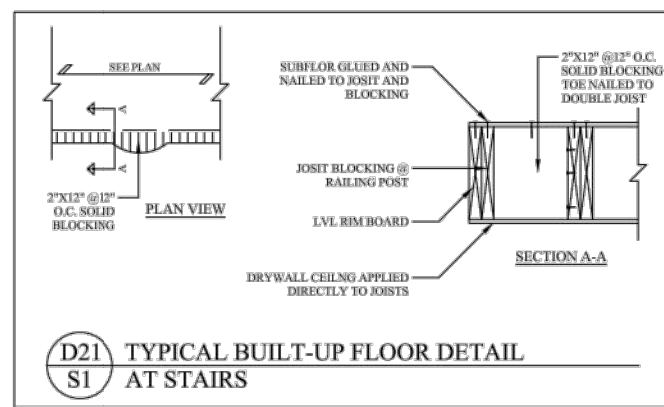
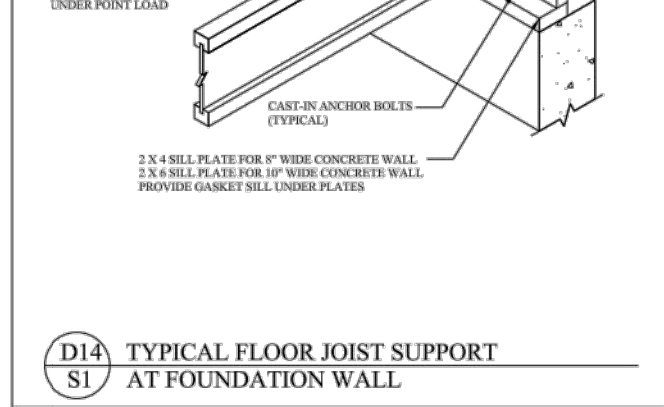
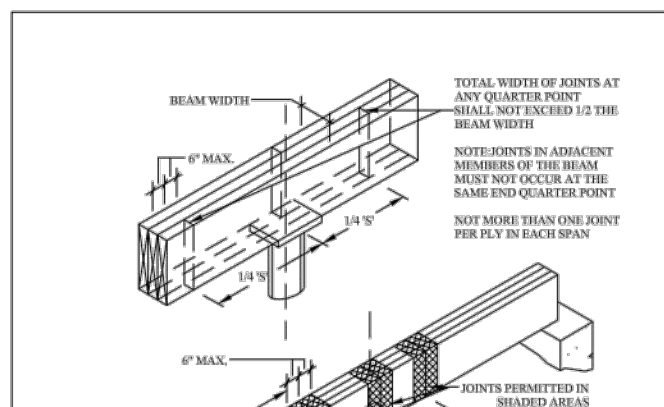
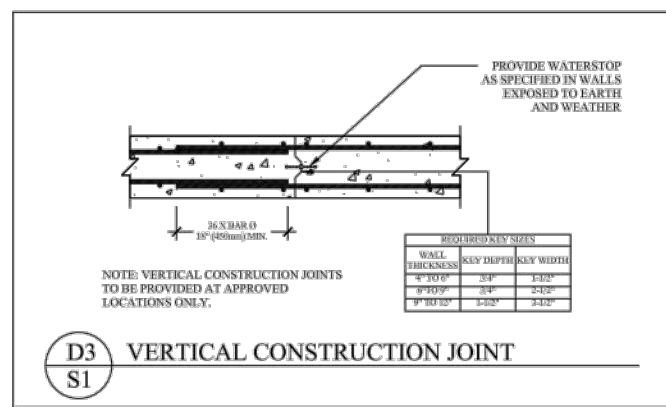
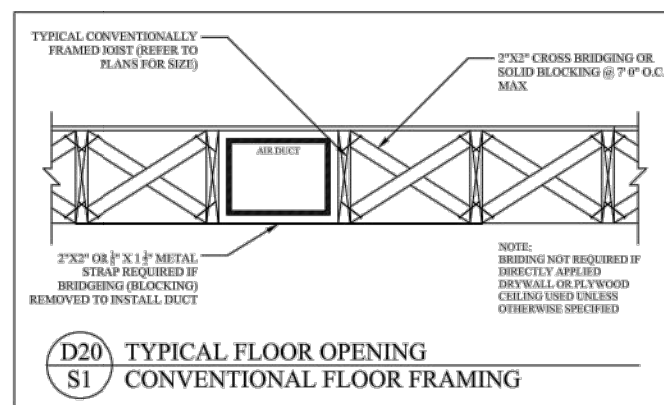
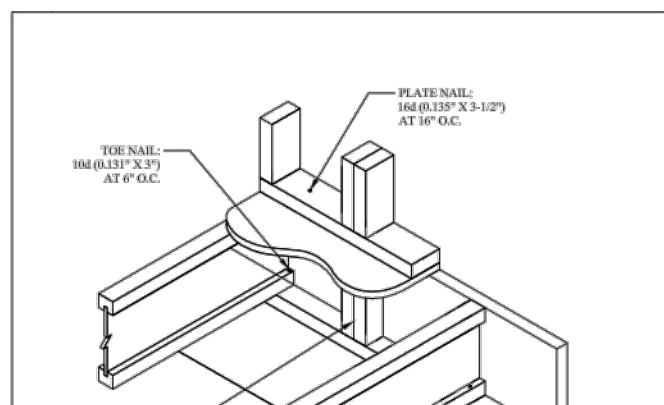
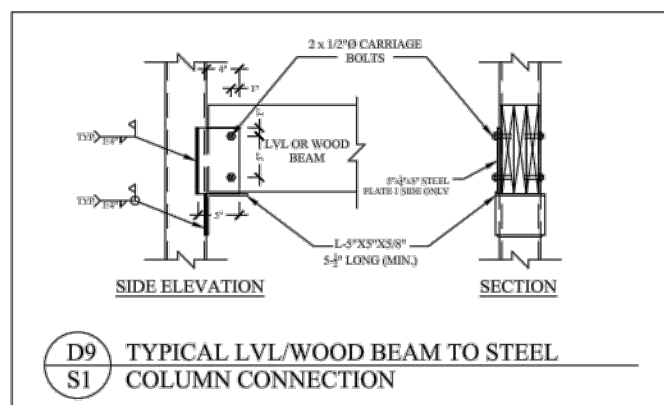
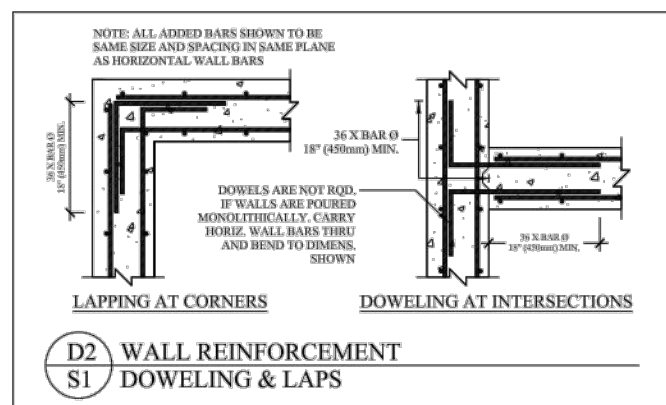
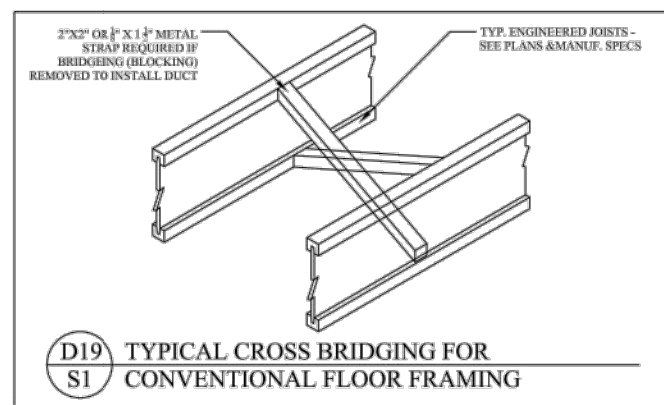
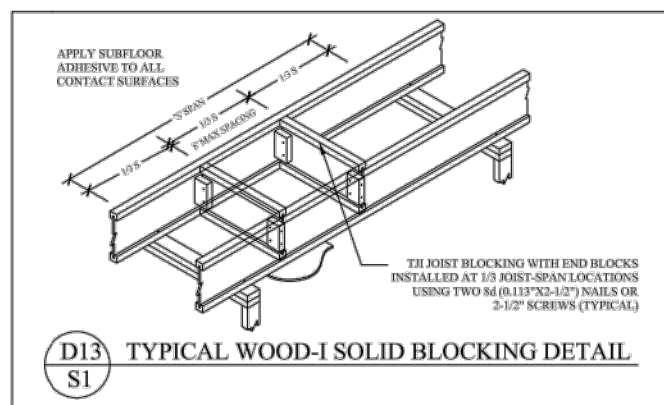
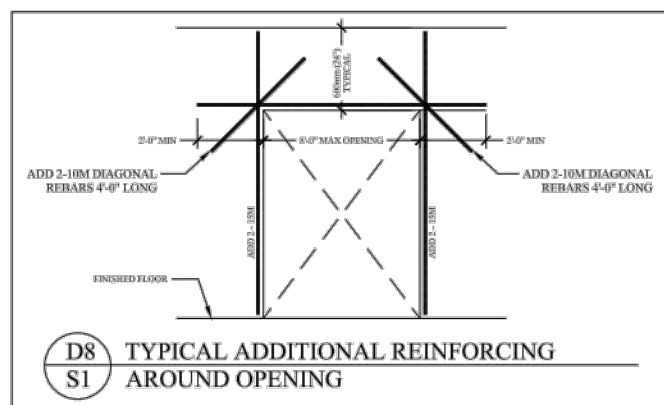
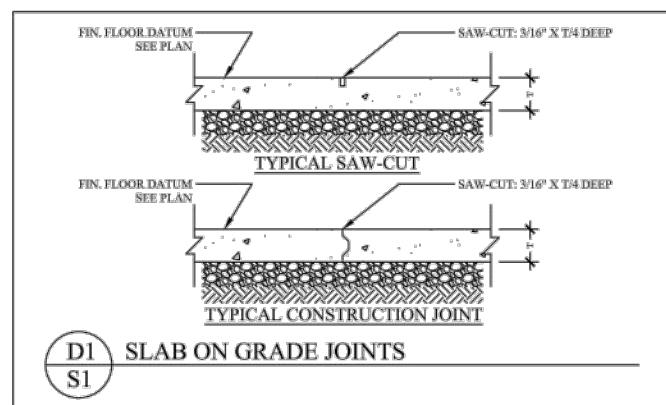
14A. Exterior and Garage Steps

Precast conc. step or wood step where not exposed to weather. Max rise 7-7/8" (200) min. tread 10" (255). For the required number of steps refer to siting and grading drawings. Exterior concrete stairs with more than 2 risers and 2 treads shall be provided with foundation as required by article 9.8.9.2. or shall be cantilevered as per subsection 9.8.10.

14B. Stairs, Ramps, Handrails and Landing (refer to MGN)

- The clear height over stairs shall be measured vertically, over the clear width of the stair, from a straight line tangent to the tread and landing nosings to the lowest point above, and not less than 1 950 mm for stairs serving a single dwelling unit. (9.8.2.2.)
- Rise, Run and Tread Depth for Rectangular Treads shall conform to Table 9.8.4.1.

Table 9.8.4.1. Rise, Run and Tread Depth for Rect



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2	DEC. 16, 2024	ISSUED FOR PERMIT R1
3		
4		
5		

SEALS

SE SCHILLER ENGINEERING LTD.

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CLIENT

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PROJECT

252 MILLWOOD PKWY
WOODBIDGE, ON

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TYPICAL DETAILS

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SCALE:	N.T.S.	
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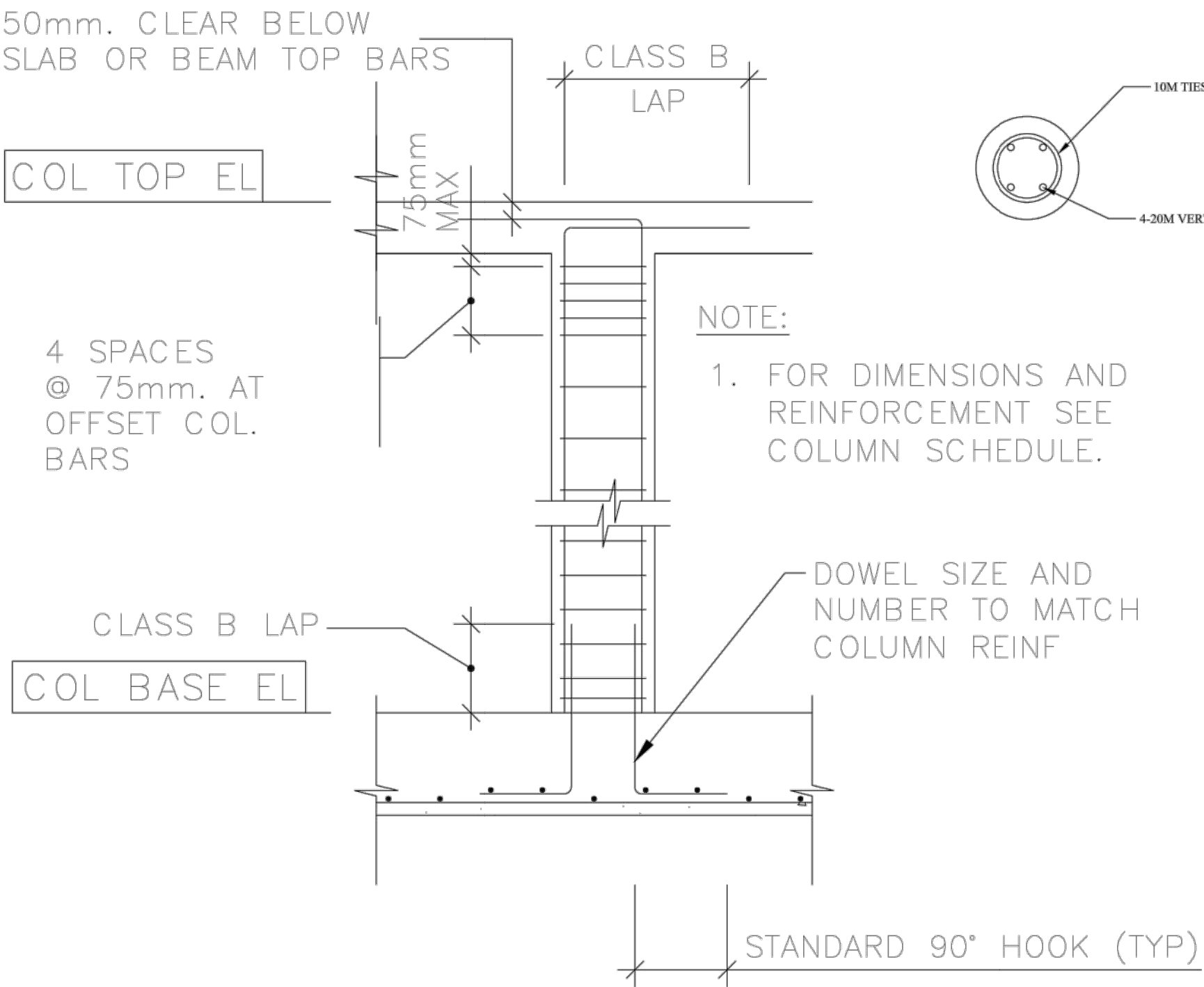
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252 MILLWOOD PKWY
WOODBRIIDGE, ON

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TYPICAL DETAILS

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DATE:	DEC 2024	
SCALE:	N.T.S.	
PROJECT No.	2023SE205	



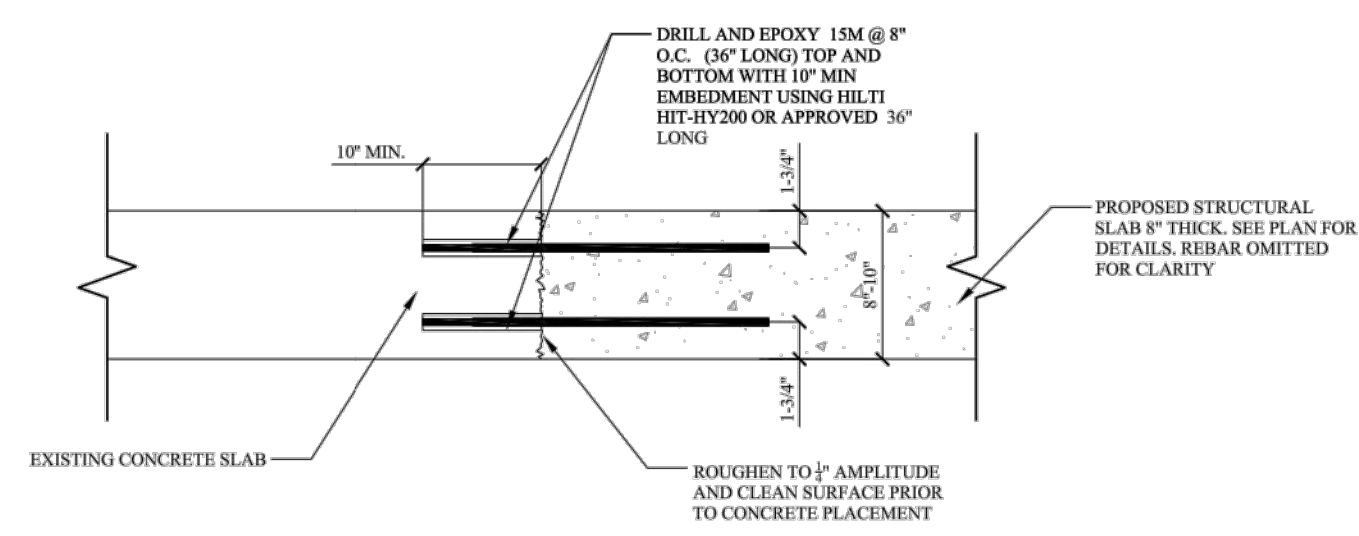
1 COLUMN REINFORCING
S2

ONLY FOR : 35 MPa CONCRETE , NORMAL WEIGHT
400 MPa REINFORCING BAR

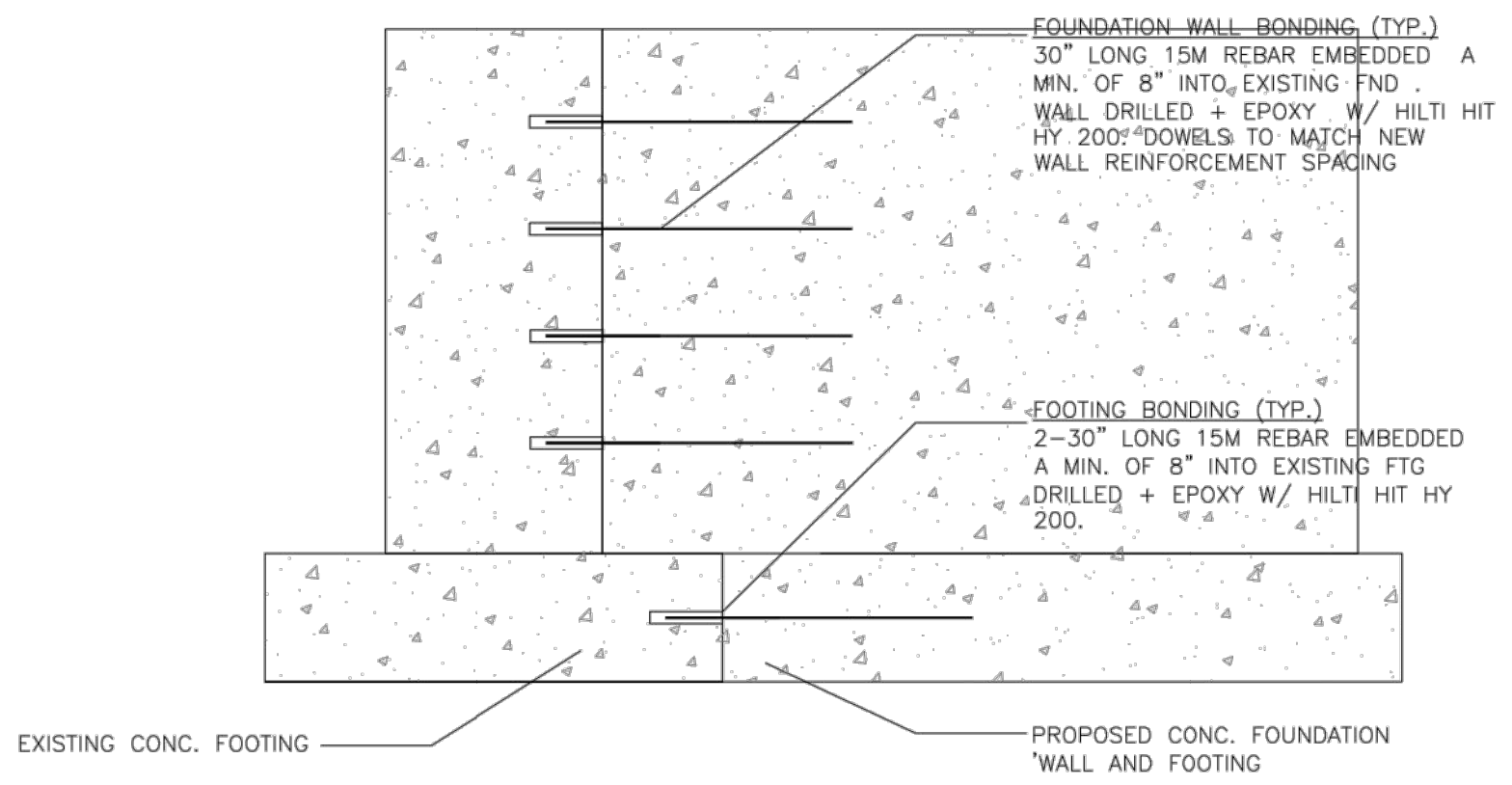
BAR SIZE	TOP BARS (mm)		OTHER BARS (mm)	
	CLASS A	CLASS B	CLASS A	CLASS B
10M	360	470	280	360
15M	500	660	390	500
20M	620	810	480	620
25M	1000	1300	770	1000
30M	1190	1540	910	1190
35M	1420	1840	1090	1420

- NOTES:**
- TOP BARS ARE:
 - ALL BARS IN CONCRETE WITH MORE THAN 300mm CONCRETE BELOW.
 - ALL HORIZONTAL BARS IN WALLS.
 - PROVIDE CLASS B LAP UNLESS NOTED OTHERWISE.
 - DEVELOPMENT LENGTHS SHOWN IN THE TABLE ARE BASED ON HEAVIER CONFINED BARS.
 - TABLE APPLIES UNLESS SHOWN OTHERWISE.

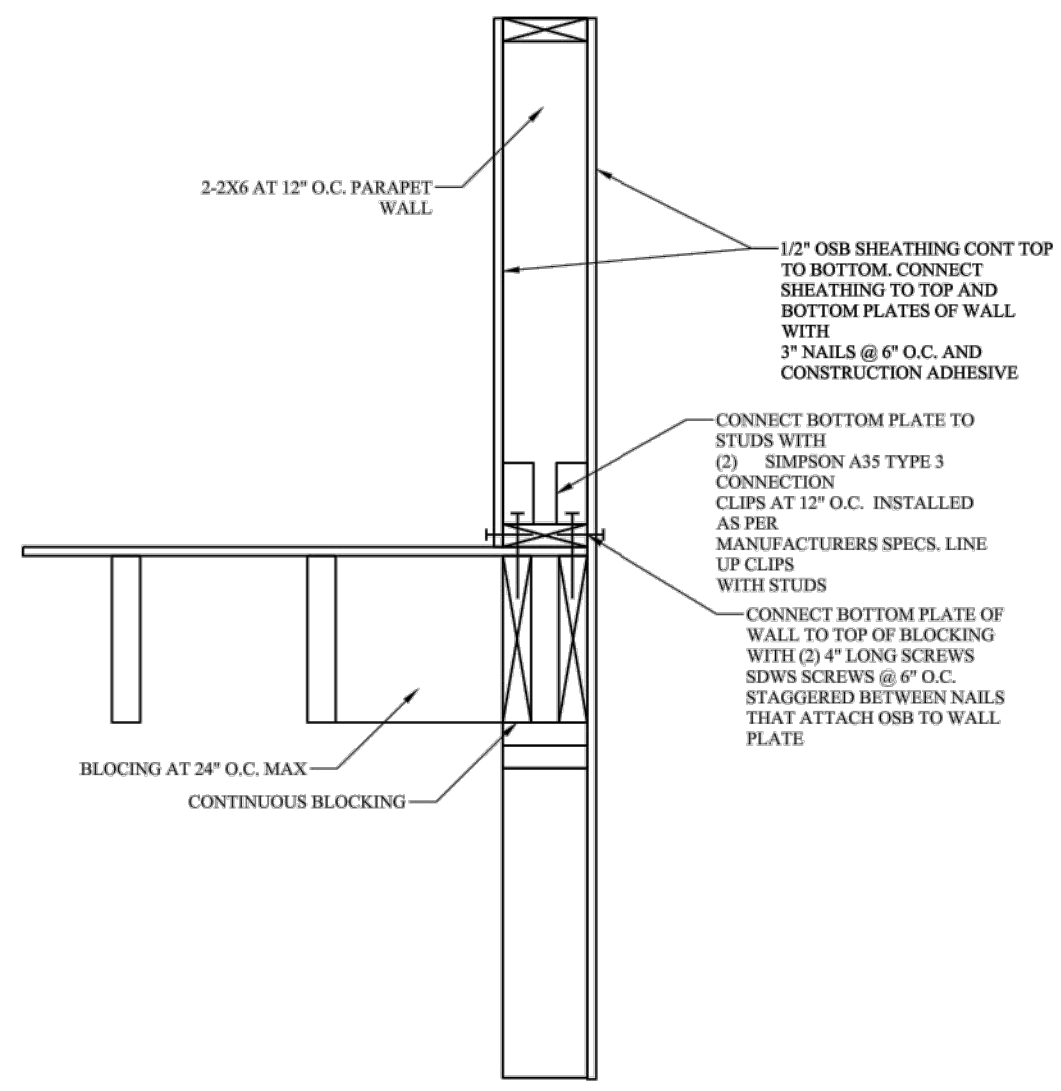
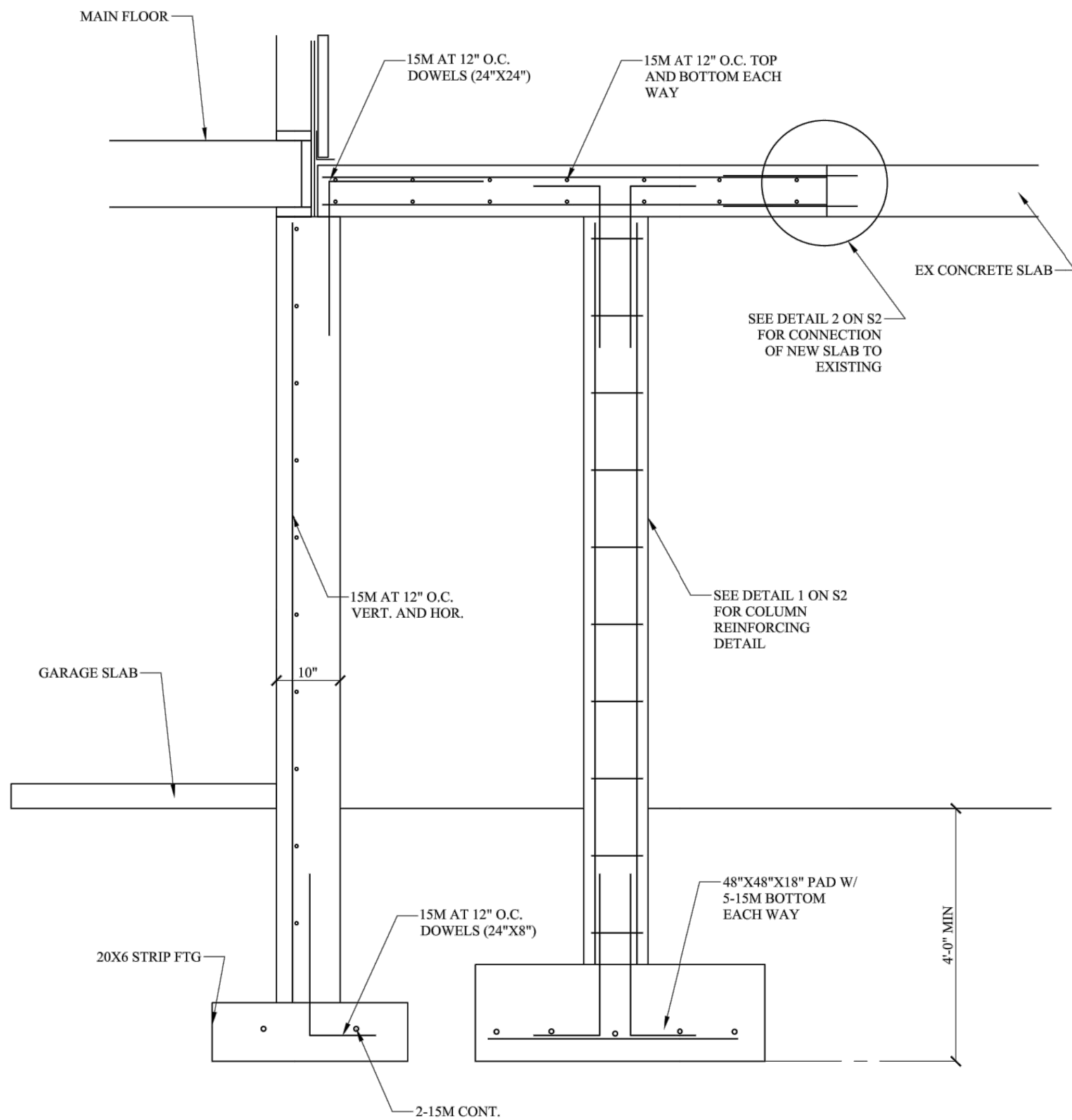
3 REINFORCING BAR TENSION LAP TABLE
S2



2 TYPICAL NEW SLAB TO EX SLAB DOWEL DETAIL
S2



4 TYPICAL CONCRETE FOUNDATION BONDING DETAIL
S2



NOTES

THIS DRAWING, AS AN INSTRUMENT OF SERVICE, IS PROVIDED BY AND IS THE PROPERTY OF THE DESIGNER. THE CONTRACTOR MUST VERIFY AND ACCEPT RESPONSIBILITY FOR ALL DIMENSIONS AND CONDITIONS ON SITE AND NOTIFY THE DESIGNER OF ANY VARIATIONS FROM THE SUPPLIED INFORMATION. THE DESIGNER IS NOT RESPONSIBLE FOR THE ACCURACY OF SURVEY, STRUCTURAL, MECHANICAL, ELECTRICAL INFORMATION SHOWN ON THIS DRAWING. REFER TO THE APPROPRIATE ENGINEERING DRAWINGS (I.E. FLOOR LAYOUT, TRUSS LAYOUT) BEFORE PROCEEDING WITH THE WORK. CONSTRUCTION MUST CONFORM TO ALL APPLICABLE CODES AND REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.

DRAWINGS SHALL NOT BE SCALED. THESE DRAWINGS SHALL NOT BE USED FOR CONSTRUCTION PURPOSES UNTIL THE REQUIRED BUILDING PERMITS HAVE BEEN ISSUED.

No.	DATE:	REVISION
1	SEP. 18, 2024	ISSUED FOR PERMIT
2	DEC. 16, 2024	ISSUED FOR PERMIT R1
3		
4		
5		

SEALS

SE SCHILLER ENGINEERING LTD.

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EMAIL: TRAVIS@SCHILLERCO.CA

CLIENT

PRIVATE RESIDENCE

PROJECT

252 MILLWOOD PKWY
WOODBRIIDGE, ON

PAGE

TYPICAL DETAILS

APPROVED BY:	TS	S3
DATE:	DEC 2024	
SCALE:	N.T.S.	
PROJECT No.	2023SE205	