

# Application for a Permit to Construct or Demolish

This form is authorized under subsection 8(1.1) of the *Building Code Act, 1992*

For use by Principal Authority	
Application number: <b>17-000000-00-R9</b>	Permit number (if different): <b>17-000000-01-R9</b>
Date received: <b>24/9/17</b>	Roll number: <b>2518.081.00000.0000</b>

Application submitted to: Region, Anytown  
(Name of municipality, upper-tier municipality, Board of health or conservation authority)

A. Project information			
Building number, street name <b>000 Anywhere St.</b>	Unit number <b>—</b>	Lot/con. <b>1</b>	
Municipality <b>Region</b>	Postal code <b>A0B1C2</b>	Plan number/other description <b>62M-XXXX</b>	
Project value est. \$ <b>\$400,000</b>	Area of work (m <sup>2</sup> ) <b>300m<sup>2</sup></b>		

B. Purpose of application				
<input checked="" type="radio"/> New construction	<input type="radio"/> Addition to an existing building	<input type="radio"/> Alteration/repair	<input type="radio"/> Demolition	<input type="radio"/> Conditional Permit
Proposed use of building <b>Single Family Dwelling</b>		Current use of building <b>Vacant Land</b>		

Description of proposed work  
**To erect a two storey 300m<sup>2</sup> brick veneer and protected frame single family dwelling with a contained garage. To install a 16mm Diameter Water Meter.**

C. Applicant			
Applicant is:		<input type="radio"/> Owner or	<input type="radio"/> Authorized agent of owner
Last name <b>Matthews</b>	First name <b>Jane</b>	Corporation or partnership <b>Generic Homes</b>	
Street address <b>00 Imaginary St.</b>		Unit number <b>4</b>	Lot/con. <b>11</b>
Municipality <b>Region</b>	Postal code <b>D3E 4F5</b>	Province <b>Ontario</b>	E-mail <b>jane.matthews@email.ca</b>
Telephone number (XXX) XXX-XXXX	Fax (XXX) XXX-XXXX	Cell number (XXX) XXX-XXXX	

D. Owner (if different from applicant)			
Last name		First name	Corporation or partnership <b>Generic Homes</b>
Street address <b>00 Imaginary St.</b>		Unit number <b>4</b>	Lot/con. <b>11</b>
Municipality <b>Region</b>	Postal code <b>D3E 4F5</b>	Province <b>Ontario</b>	E-mail <b>info@generichomes.ca</b>
Telephone number (XXX) XXX-XXXX	Fax ( )	Cell number ( )	



# Energy Efficiency Design Summary: Prescriptive Method

(Building Code Part 9, Residential)

This form is used by a designer to demonstrate that the energy efficiency design of a house complies with the building code using the prescriptive method described in Subsection 3.1.1. of SB-12. This form is applicable where the ratio of gross area of windows/sidelights/skylights/glazing in doors and sliding glass doors to the gross area of peripheral walls is not more than 22%.

For use by Principal Authority	
Application No: <b>17-000000-00-R9</b>	Model/Certification Number

### A. Project Information

Building number, street name <b>000 Anywhere St.</b>		Unit number _____	Lot/Con <b>1</b>
Municipality <b>Region</b>	Postal code <b>A0B1C2</b>	Reg. Plan number / other description <b>G2M-XXXX</b>	

### B. Prescriptive Compliance [indicate the building code compliance package being employed in this house design]

SB-12 Prescriptive (input design package): Package: **A1** Table: **3.1.1.2.A (IP)**

### C. Project Design Conditions

Climatic Zone (SB-1):	Heating Equipment Efficiency	Space Heating Fuel Source
<input checked="" type="checkbox"/> Zone 1 (< 5000 degree days)	<input type="checkbox"/> ≥ 92% AFUE	<input checked="" type="checkbox"/> Gas <input type="checkbox"/> Propane <input type="checkbox"/> Solid Fuel
<input type="checkbox"/> Zone 2 (≥ 5000 degree days)	<input checked="" type="checkbox"/> ≥ 84% < 92% AFUE	<input type="checkbox"/> Oil <input type="checkbox"/> Electric <input type="checkbox"/> Earth Energy
Ratio of Windows, Skylights & Glass (W, S & G) to Wall Area		Other Building Characteristics
Area of walls = _____ m <sup>2</sup> or _____ ft <sup>2</sup>	W, S & G % = _____	<input type="checkbox"/> Log/Post&Beam <input type="checkbox"/> ICF Above Grade <input type="checkbox"/> ICF Basement
Area of W, S & G = _____ m <sup>2</sup> or _____ ft <sup>2</sup>	Utilize window averaging: <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Slab-on-ground <input type="checkbox"/> Walkout Basement
		<input type="checkbox"/> Air Conditioning <input type="checkbox"/> Combo Unit
		<input type="checkbox"/> Air Sourced Heat Pump (ASHP)
		<input type="checkbox"/> Ground Sourced Heat Pump (GSHP)

### D. Building Specifications [provide values and ratings of the energy efficiency components proposed]

Energy Efficiency Substitutions			
<input type="checkbox"/> ICF (3.1.1.2.(5) & (6) / 3.1.1.3.(5) & (6))			
<input type="checkbox"/> Combined space heating and domestic water heating systems (3.1.1.2.(7) / 3.1.1.3.(7))			
<input type="checkbox"/> Airtightness substitution(s)			
Airtightness test required (Refer to Design Guide Attached)		<input type="checkbox"/> Table 3.1.1.4.B Required: _____ Permitted Substitution: _____	
		<input type="checkbox"/> Table 3.1.1.4.C Required: _____ Permitted Substitution: _____	
		Required: _____ Permitted Substitution: _____	
Building Component	Minimum RSI / R values or Maximum U-Value <sup>(1)</sup>	Building Component	Efficiency Ratings
<b>Thermal Insulation</b>	Nominal   Effective	<b>Windows &amp; Doors</b> Provide U-Value <sup>(1)</sup> or ER rating	
Ceiling with Attic Space	<b>R60</b>	Windows/Sliding Glass Doors	<b>25er</b>
Ceiling without Attic Space	<b>R31</b>	Skylights/Glazed Roofs	<b>.49</b>
Exposed Floor	<b>R31</b>	<b>Mechanicals</b>	
Walls Above Grade	<b>R22</b>	Heating Equip.(AFUE)	<b>96%</b>
Basement Walls	<b>R20</b>	HRV Efficiency (SRE% at 0°C)	<b>75%</b>
Slab (all >600mm below grade)		DHW Heater (EF)	
Slab (edge only ≤600mm below grade)		DWHR (CSA B55.1 (min. 42% efficiency))	# Showers _____
Slab (all ≤600mm below grade, or heated)		Combined Heating System	

(1) U value to be provided in either W/(m<sup>2</sup>·K) or Btu/(h·ft<sup>2</sup>·F) but not both.

### E. Designer(s) [name(s) & BCIN(s), if applicable, of person(s) providing information herein to substantiate that design meets the building code]

Qualified Designer Declaration of designer to have reviewed and take responsibility for the design work.		
Name _____	BCIN _____	Signature _____

# Guide to the Prescriptive Energy Efficiency Design Summary Form

This form must accurately reflect the information contained on the drawings and specifications being submitted. Refer to Supplementary Standard SB-12 for details about building code compliance requirements. Further information about energy efficiency requirements for new buildings is available from the provincial building code website or the municipal building department.

The building code permits a house designer to use one of four energy efficiency compliance options:

1. Comply with the SB-12 Prescriptive design tables (this form is for this option (Option 1)),
2. Use the SB-12 Performance compliance method, and model the design against the prescriptive standards,
3. Design to Energy Star, or
4. Design to R2000 standards.

## COMPLETING THE FORM

### B. Compliance Options

Indicate the compliance option being used.

- SB-12 Prescriptive requires that the building conforms to a package of thermal insulation, window and mechanical system efficiency requirements set out in Subsection 3.1.1. of SB-12. Energy efficiency design modeling and testing of the building is not required under this option. Certain substitutions are permitted. In which case, the applicable airtightness targets in Table 3.1.1.4.A must be met.

### C. Project Design Conditions

*Climatic Zone:* The number of degree days for Ontario cities is contained in Supplementary Standard SB-1  
*Windows, Skylights and Glass Doors:* If the ratio of the total gross area of windows, sidelights, skylights, glazing in doors and sliding glass doors to the total gross area of walls is more than 17%, higher efficiency glazing is required. If the ratio is more than 22%, the SB-12 Prescriptive option may not be used. The total area is the sum of all the structural rough openings. Some exceptions apply. Refer to 3.1.1.1. of SB-12 for further details.

*Fuel Source and Heating Equipment Efficiency:* The fuel source and efficiency of the proposed heating equipment must be specified in order to determine which SB-12 Prescriptive compliance package table applies.

*Other Building Conditions:* These construction conditions affect SB-12 Prescriptive compliance requirements.

### D. Building Specifications

*Thermal Insulation:* Indicate the RSI or R-value being proposed where they apply to the house design. Under the SB-12 Prescriptive option, alternative ICF wall insulation is permitted in certain conditions where other design elements meet higher standards. Refer to SB-12 for further details. Where effective insulation values are being used, the Authority Having Jurisdiction may require supporting documentation.

## BUILDING CODE REQUIREMENTS FOR AIRTIGHTNESS IN NEW HOUSES

All houses must comply with increased air barrier requirements in the building code. Notice of air barrier completion must be provided and an inspection conducted prior to it being covered.

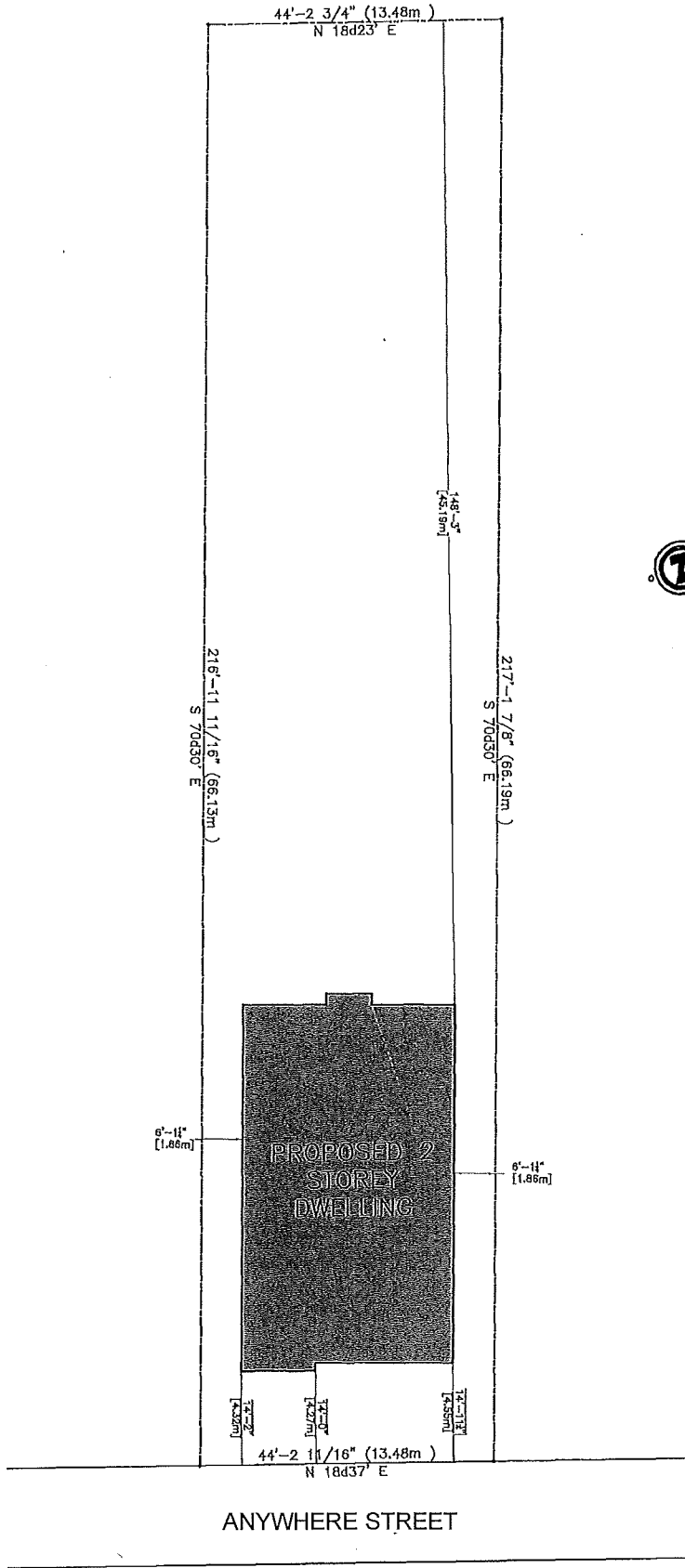
The air leakage rates in Table 3.1.1.4.A are not requirements. This provision is a voluntary provision for when credits for airtightness are claimed. Credit for air tightness allows the designer to substitute the requirements of compliance packages as set out in Table 3.1.1.4.B or 3.1.1.4.C. Neither the air leakage test nor compliance with airtightness targets given in Table 3.1.1.4.A are required, unless credit for airtightness is claimed. Table 3.1.1.4.A provides airtightness targets in three different metrics; ACH, NLA, NLR. Any one of them can be used. OBC Reference Default Air Leakage Rates (Table 3.1.1.4.A)

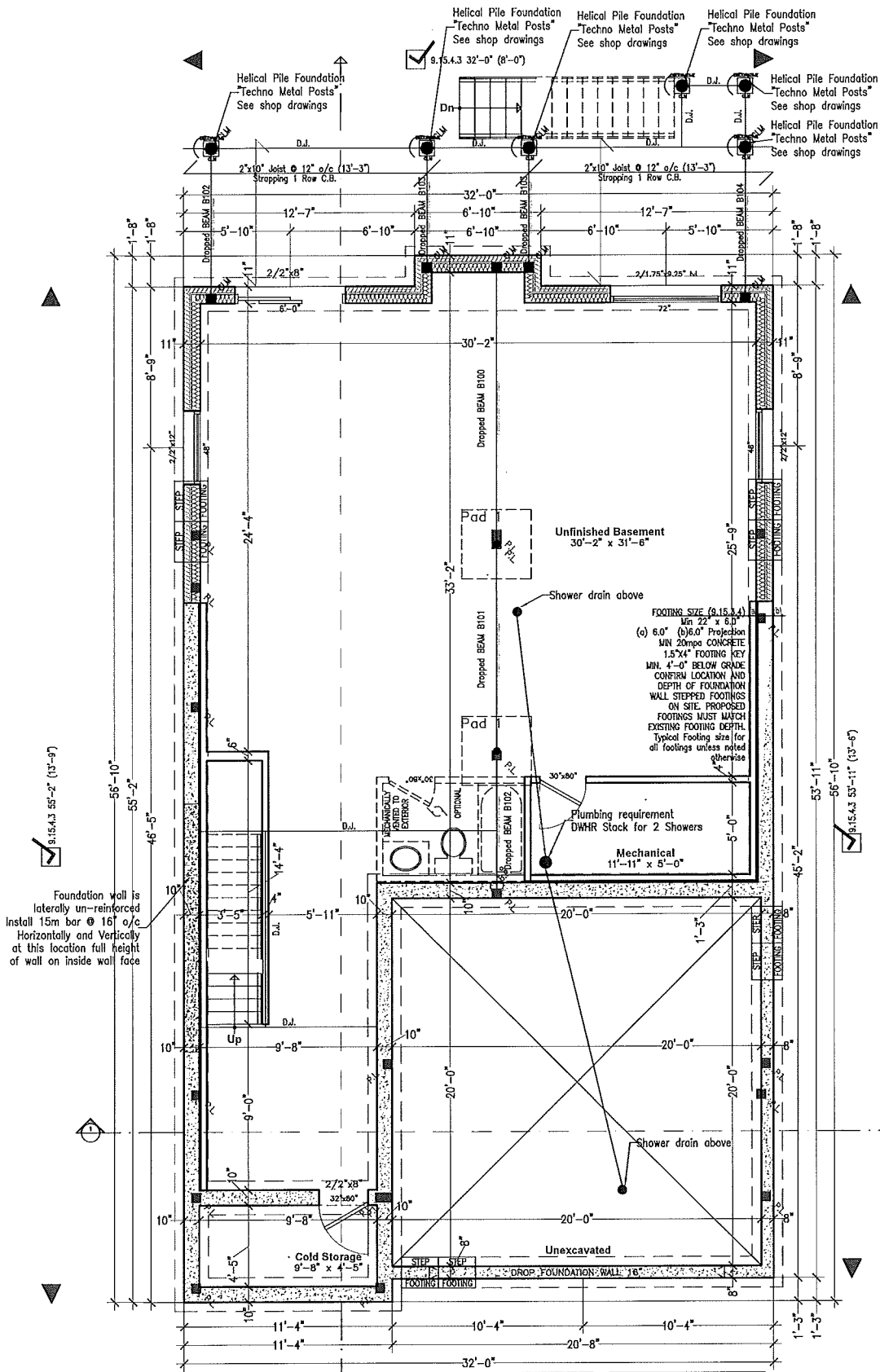
Building Type	Airtightness Targets				
	ACH @ 50 Pa	NLA @ 10 Pa		NLR @ 50 Pa	
Detached dwelling	2.5	1.26 cm <sup>2</sup> /m <sup>2</sup>	1.81 in <sup>2</sup> /100ft <sup>2</sup>	0.93 L/s/m <sup>2</sup>	0.18 cfm50/ft <sup>2</sup>
Attached dwelling	3.0	2.12 cm <sup>2</sup> /m <sup>2</sup>	3.06 in <sup>2</sup> /100ft <sup>2</sup>	1.32 L/s/m <sup>2</sup>	0.26 cfm50/ft <sup>2</sup>

The building code requires that a blower door test be conducted to verify the air tightness of the house during construction if the SB-12 Prescriptive option with airtightness credit being applied. Results of the airtightness test may need to be submitted to the Authority Having Jurisdiction. Airtightness of less than 2.5 ACH @ 50 Pa (or NLA or NLR equivalent) in the case of detached houses, or 3.0 ACH @ 50 Pa (or NLA or NLR equivalent) in the case of attached houses is necessary to meet the required energy efficiency standard.

### E. House Designer

The building code requires designers providing information about whether a building complies with the building code to have a BCIN. Exemptions apply to architects, engineers and owners designing their own house.





9.15.4.3 55'-2" (13'-9")

Foundation wall is laterally un-reinforced. Install 15m bar @ 16" o/c horizontally and vertically at this location full height of wall on inside wall face

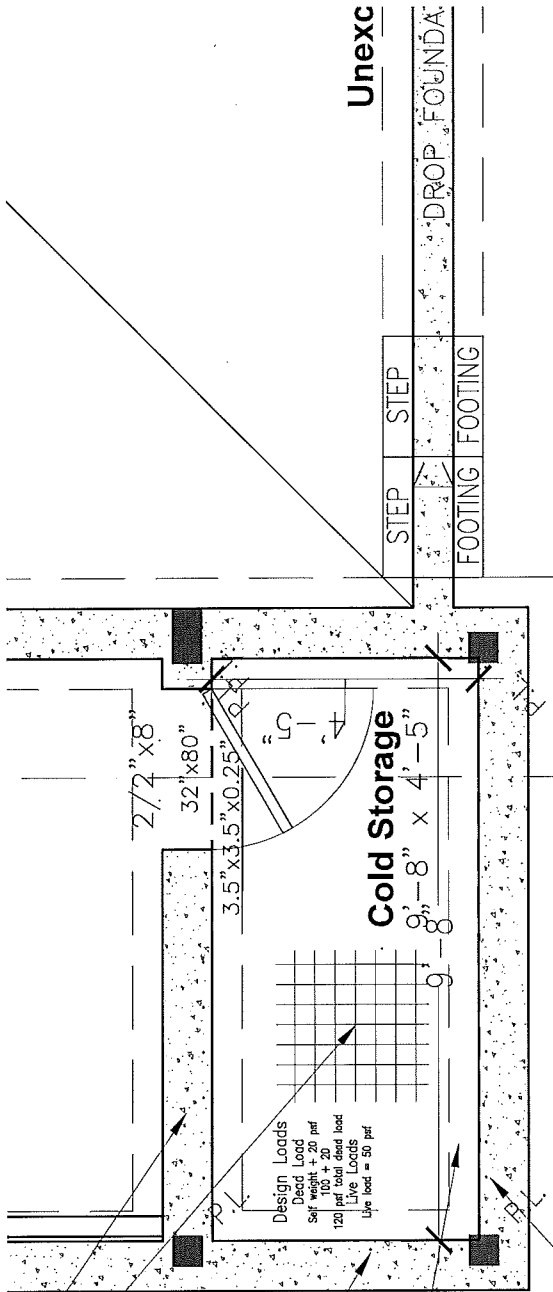
FOOTING SIZE (9.15.3.4)  
Min 22" x 6.0"  
(c) 6.0" (b) 6.0" Projection  
MIN 20mpa CONCRETE  
1.5" x 4" FOOTING KEY  
MIN. 4'-0" BELOW GRADE  
CONFIRM LOCATION AND DEPTH OF FOUNDATION WALL  
STEPPED FOOTINGS ON SITE PROPOSED  
FOOTINGS MUST MATCH EXISTING FOOTING DEPTH.  
Typical footing size for all footings unless noted otherwise

9.15.4.3 55'-11" (13'-6")

**A** Foundation Floor Plan  
**VD1** SCALE 3/16" = 1'-0"

Lumber company to provide specifications on ALL THE LVL BEAMS NOTED IN THESE DRAWINGS. I am not interested if the header could be conventional framing, I have specified LVL therefore I require LVL.

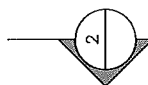
These plans must be used in conjunction with other consultant drawings like Structural engineer, truss layout & floor layouts



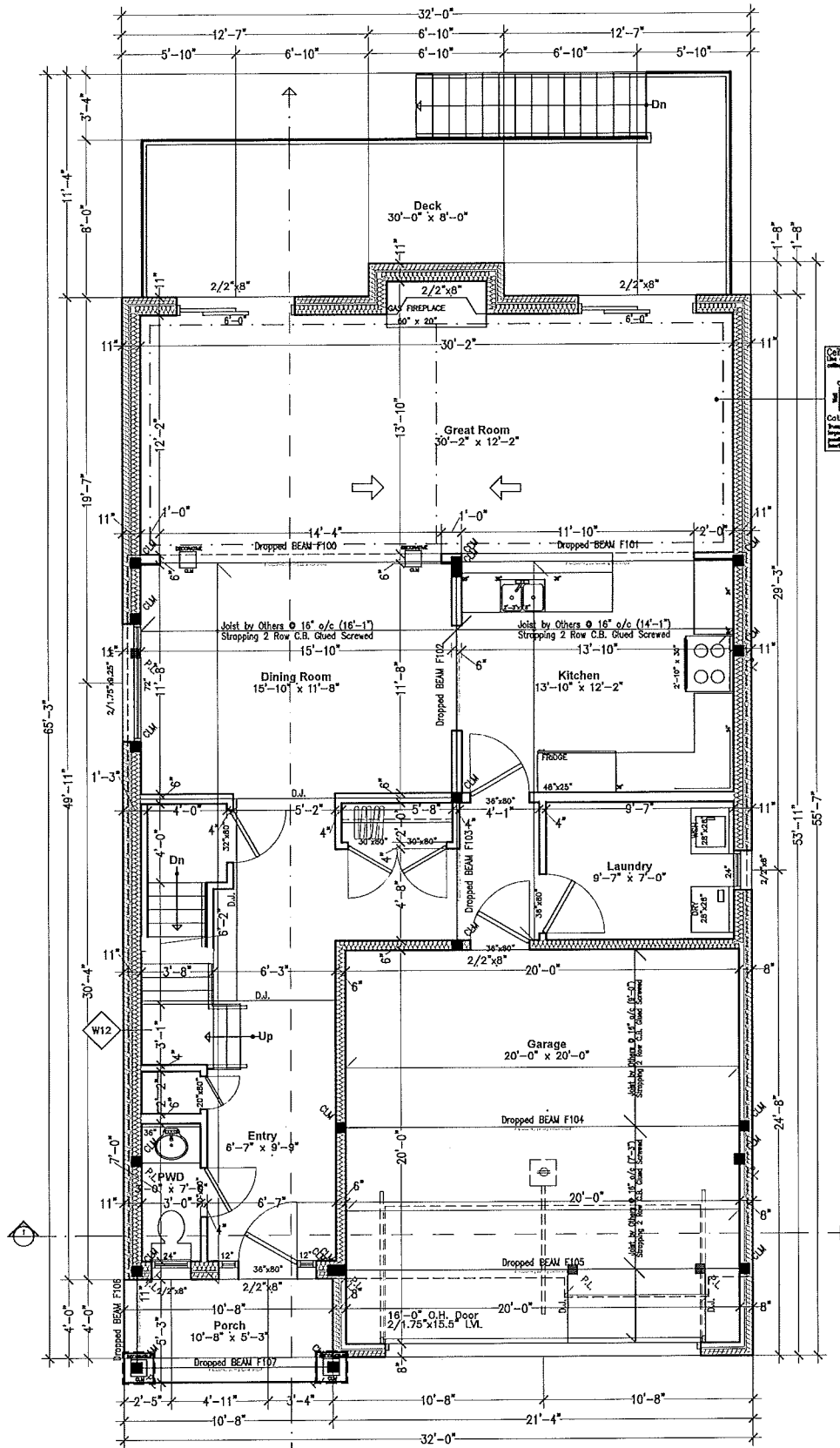
Unexc

- Min 10" 20 mpa concrete foundation walls
- Concrete Slab spanning Cold Storage below  
Min 8" thick conc. slab 32 mpa (4650 P.S.I.) 5% to 8% air.  
10M bars 8" o/c each direction  
the slab to the first layer of bars
- Slab to bear min 3" on foundation walls provide  
a 1" project on exterior face and creating a drip edge  
Slab to be anchored to walls with bent  
10M bars 24" into slab and 24" into wall 18" o/c
- Brick veneer finish to be installed on top of concrete slab.  
Concrete requirements shall be after 28 days  
& shall have an air entrainment of 5 to 8 percent.

- Slab to bear min 3" on foundation walls provide  
Exterior wall finish to be installed on top of concrete slab.  
Slab to be anchored to walls with bent  
10M bars 24" into slab and 24" into wall 24" o/c



A	Foundation Floor Plan
V01	SCALE 1/2" = 1'-0"



**Ceiling Finish Detail**  
 See page 10  
 Cathedral ceiling to be  
 installed by the  
 contractor. The  
 contractor shall be  
 responsible for  
 providing the  
 necessary materials  
 and labor for the  
 installation of the  
 ceiling.

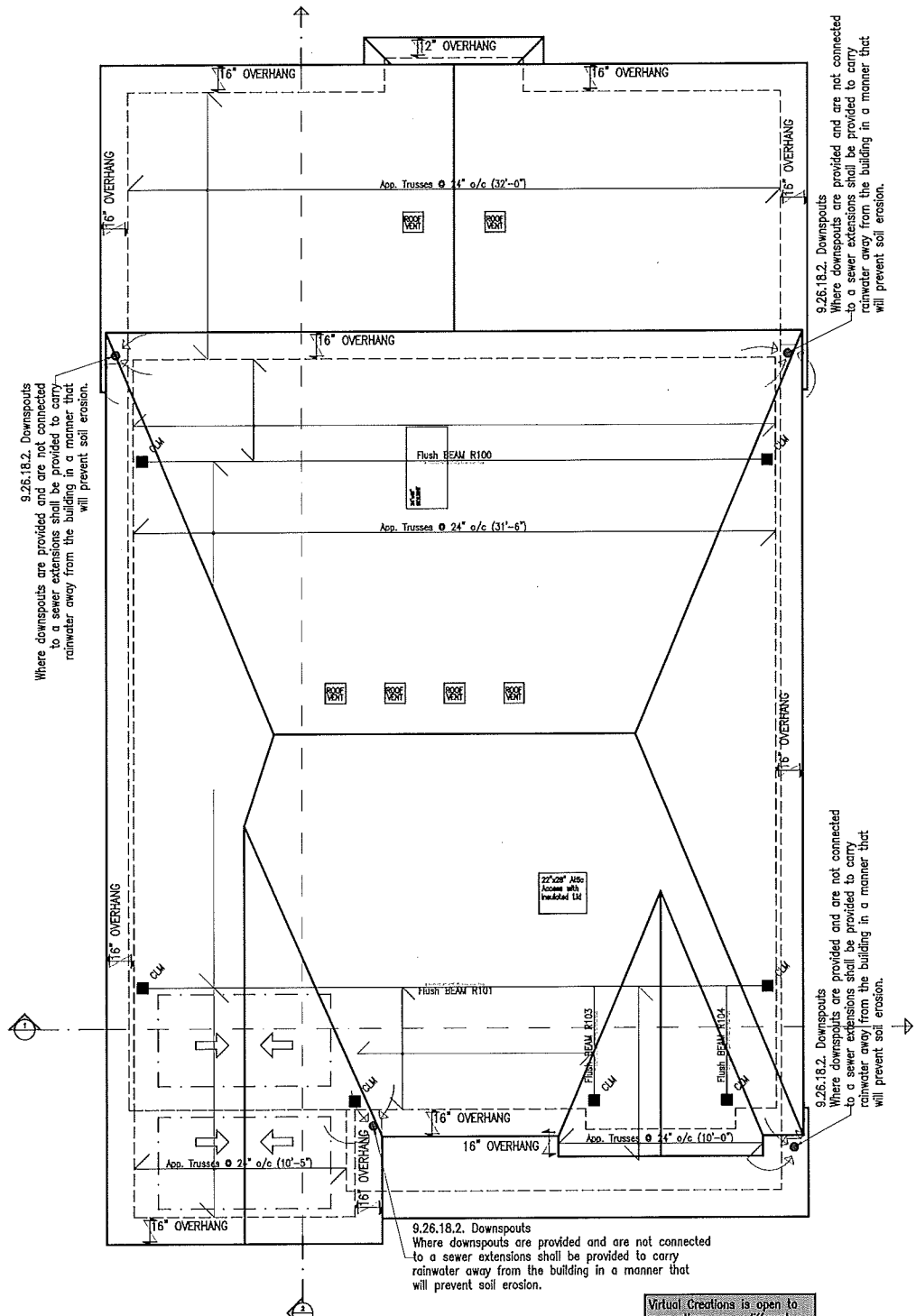
**A** First Floor Plan  
**101** SCALE 3/16" = 1'-0"

These plans show nominal dimension. Meaning interior walls are typically shown at 4" not 3.5" for framing or 4.5" for finished thickness. Adjust accordingly.

Builder, Contractor or manager is responsible to verify ALL DIMENSIONS prior to starting construction.







9.26.18.2. Downspouts  
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.

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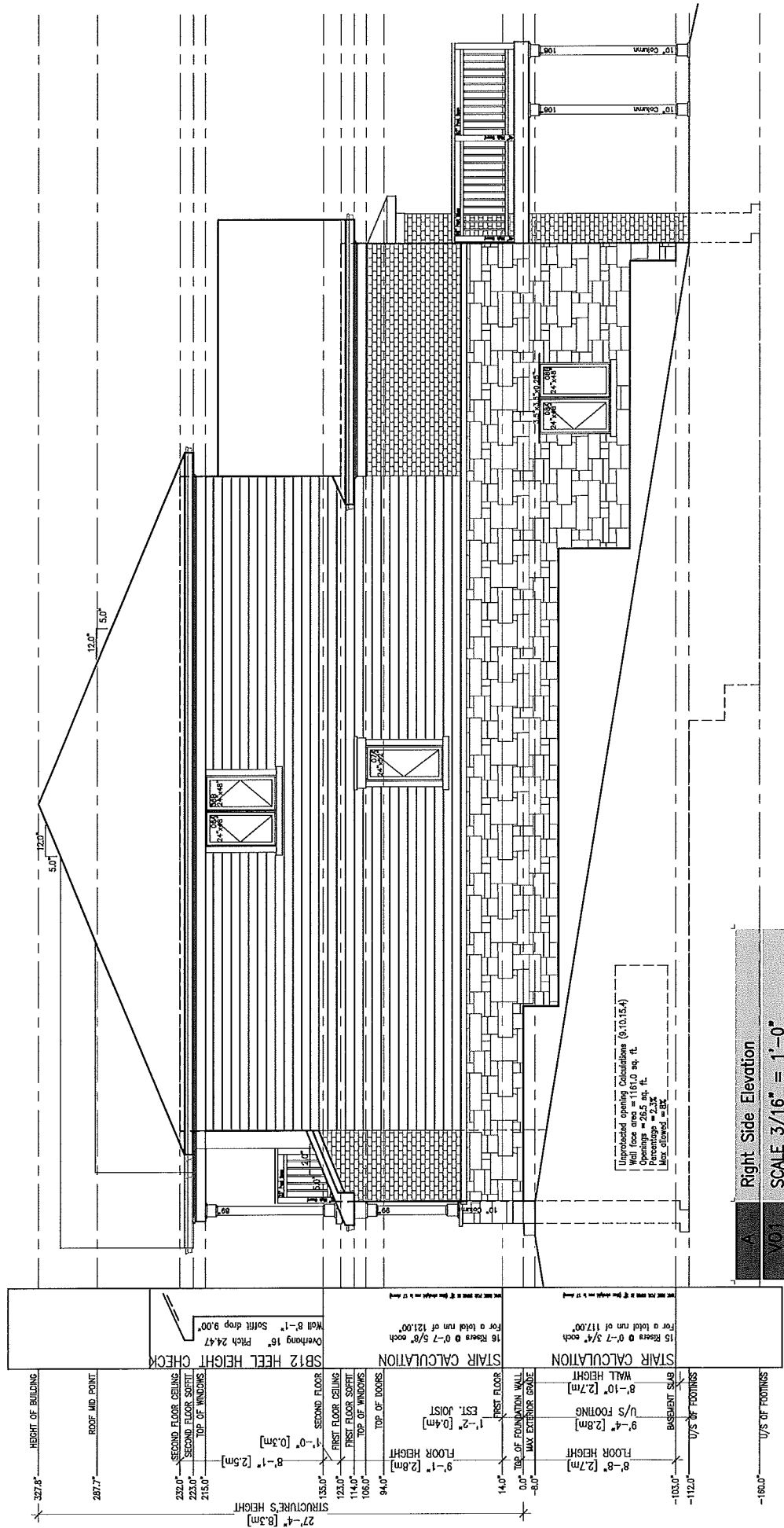
9.26.18.2. Downspouts  
Where downspouts are provided and are not connected to a sewer extensions shall be provided to carry rainwater away from the building in a manner that will prevent soil erosion.

Virtual Creations is open to suggestions on a different truss structural layout. However please call the office to discuss your proposed layout prior to issuing the drawings to the client.

A	Roof Plan
V01	SCALE 3/16" = 1'-0"

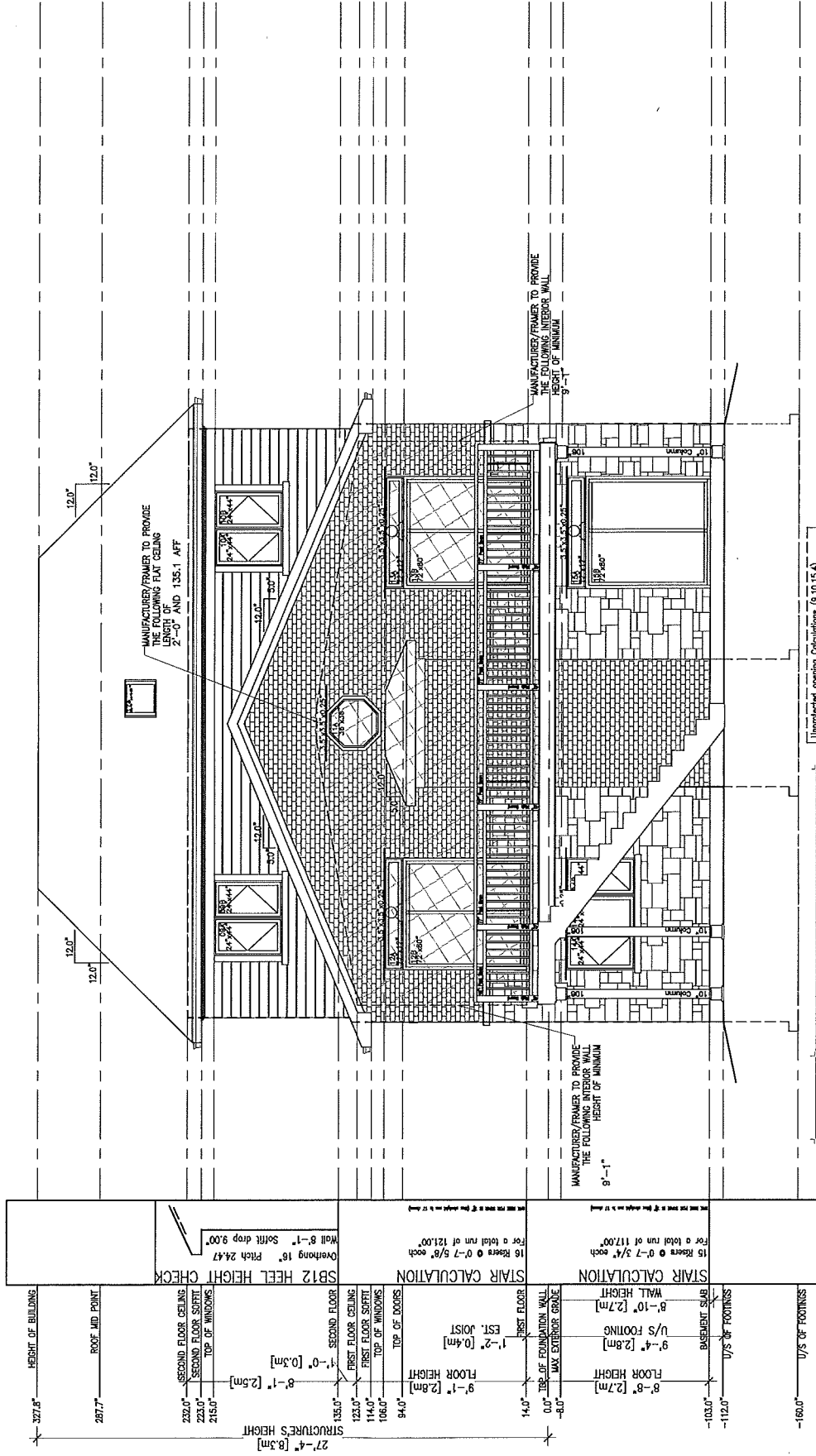
9.19.1.2. Roof Venting requirements:  
 Total roof area = 1950.5 OBC ratio = 300.0  
 Total OBC venting area requirements = 7 sq. ft.  
 50% of vent req. to be in soffit = 3 sq. ft.  
 Number of vents in roof space = 3  
 VORNC recommends = 7





A Right Side Elevation  
 V01 SCALE 3/16" = 1'-0"

Height / Level	Description
327.8'	HEIGHT OF BUILDING
287.7'	ROOF MID POINT
225.0'	SECOND FLOOR CEILING
223.0'	SECOND FLOOR SOFFIT
215.0'	TOP OF WINDOWS
138.0'	SECOND FLOOR
123.0'	SECOND FLOOR CEILING
114.0'	FIRST FLOOR SOFFIT
108.0'	TOP OF WINDOWS
94.0'	TOP OF DOORS
9'-1" [2.8m]	FLOOR HEIGHT
1'-2" [0.4m]	EST. JOIST
14.0'	FIRST FLOOR
0.0'	TOP OF FOUNDATION WALL
-8.0'	MAX EXTERIOR GRADE
8'-8" [2.7m]	FLOOR HEIGHT
9'-4" [2.8m]	U/S FOOTING
8'-10" [2.7m]	WALL HEIGHT
14.0'	STAIR CALCULATION
15 Risers @ 0'-7 3/4" each	For a total run of 117.00'
16 Risers @ 0'-7 5/8" each	For a total run of 121.00'
Overhang 15" Pitch 24.47	Well 8'-1" Soffit drop 9.00"
27'-4" [8.3m]	STRUCTURE'S HEIGHT
103.0'	BASEMENT SUB
-112.0'	U/S OF FOOTINGS
-160.0'	U/S OF FOOTINGS



MANUFACTURER/FRAMER TO PROVIDE THE FOLLOWING FLAT CEILING: 2'-0" AND 135.1 AFF

MANUFACTURER/FRAMER TO PROVIDE THE FOLLOWING INTERIOR WALL HEIGHT OF MINIMUM 9'-1"

MANUFACTURER/FRAMER TO PROVIDE THE FOLLOWING INTERIOR WALL HEIGHT OF MINIMUM 9'-1"

HEIGHT OF BUILDING	327.6'
ROOF MID POINT	287.7'
SECOND FLOOR CEILING	232.0'
SECOND FLOOR SOFFIT	223.0'
TOP OF WINDOWS	215.0'
STRUCTURE'S HEIGHT	27'-4" [8.3m]
SECOND FLOOR	135.0'
FIRST FLOOR CEILING	123.0'
FIRST FLOOR SOFFIT	114.0'
TOP OF WINDOWS	106.0'
TOP OF DOORS	94.0'
FLOOR HEIGHT	9'-1" [2.8m]
EST. VOIST	1'-2" [0.4m]
FIRST FLOOR	14.0'
TOP OF FOUNDATION WALL	0.0'
MAX EXTERIOR GRADE	-8.0'
WALL HEIGHT	8'-10" [2.7m]
U/S FOOTING	9'-4" [2.8m]
FLOOR HEIGHT	8'-8" [2.7m]
BASEMENT SLAB	-103.0'
U/S OF FOOTINGS	-112.0'
U/S OF FOOTINGS	-160.0'

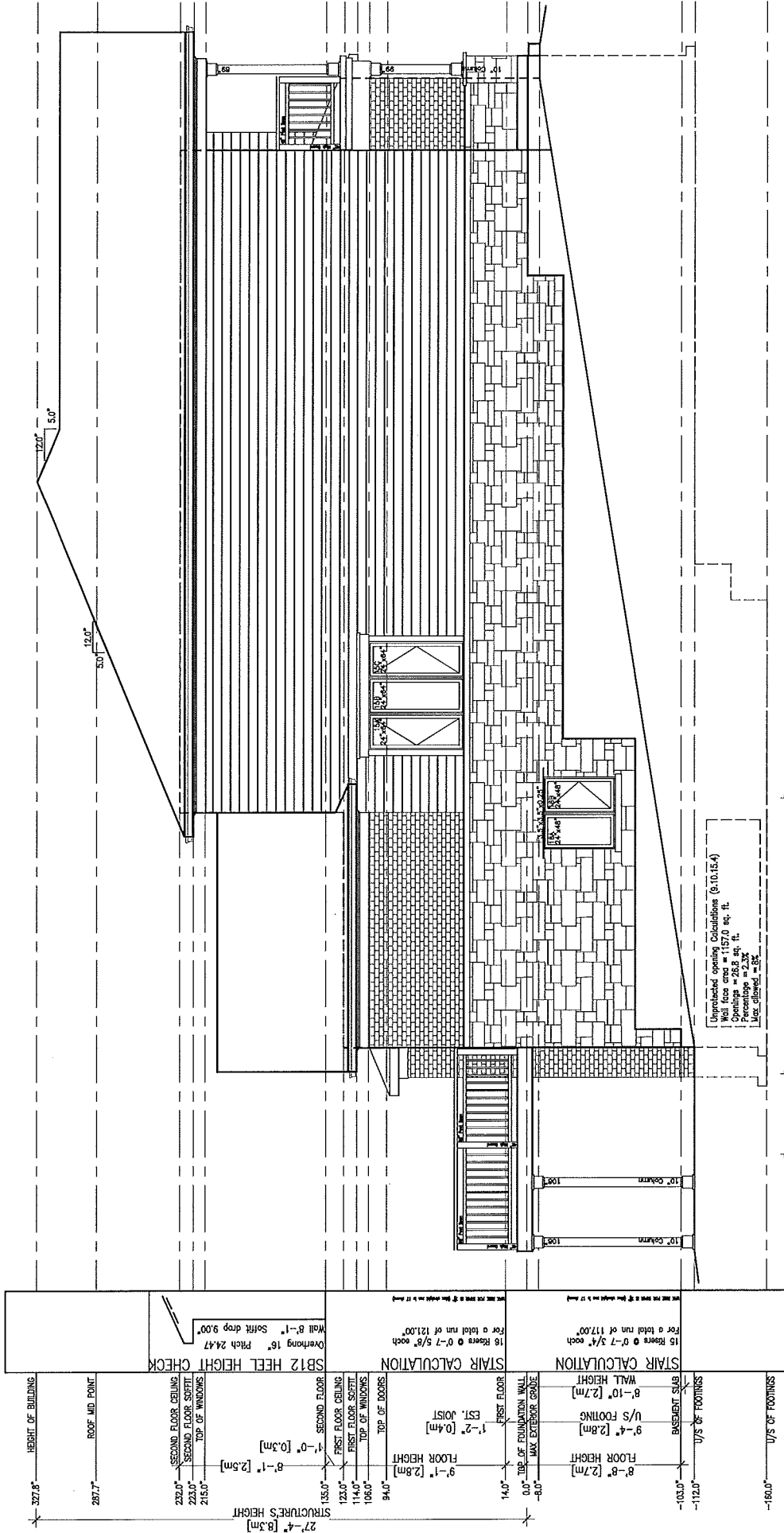
SB12 HEEL HEIGHT CHECK

STAIR CALCULATION

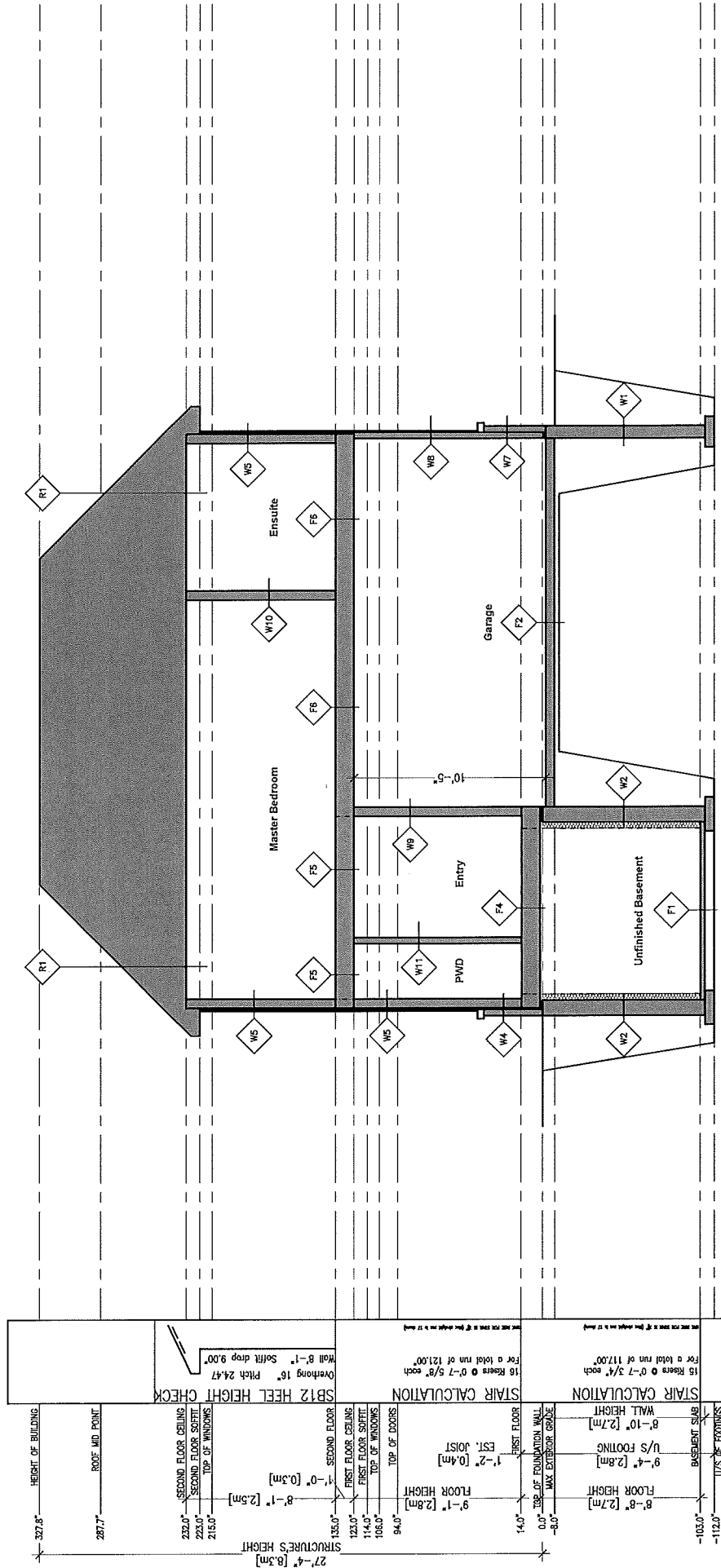
STAIR CALCULATION

Unanchored opening Calculations (8.10.15.4)  
 Wall face area = 912.0 sq. ft.  
 Openings = 151.0 sq. ft.  
 Percentage = 16.6%  
 Max. Allowed = 100%

**A** Rear Elevation  
**V01** SCALE 3/16" = 1'-0"



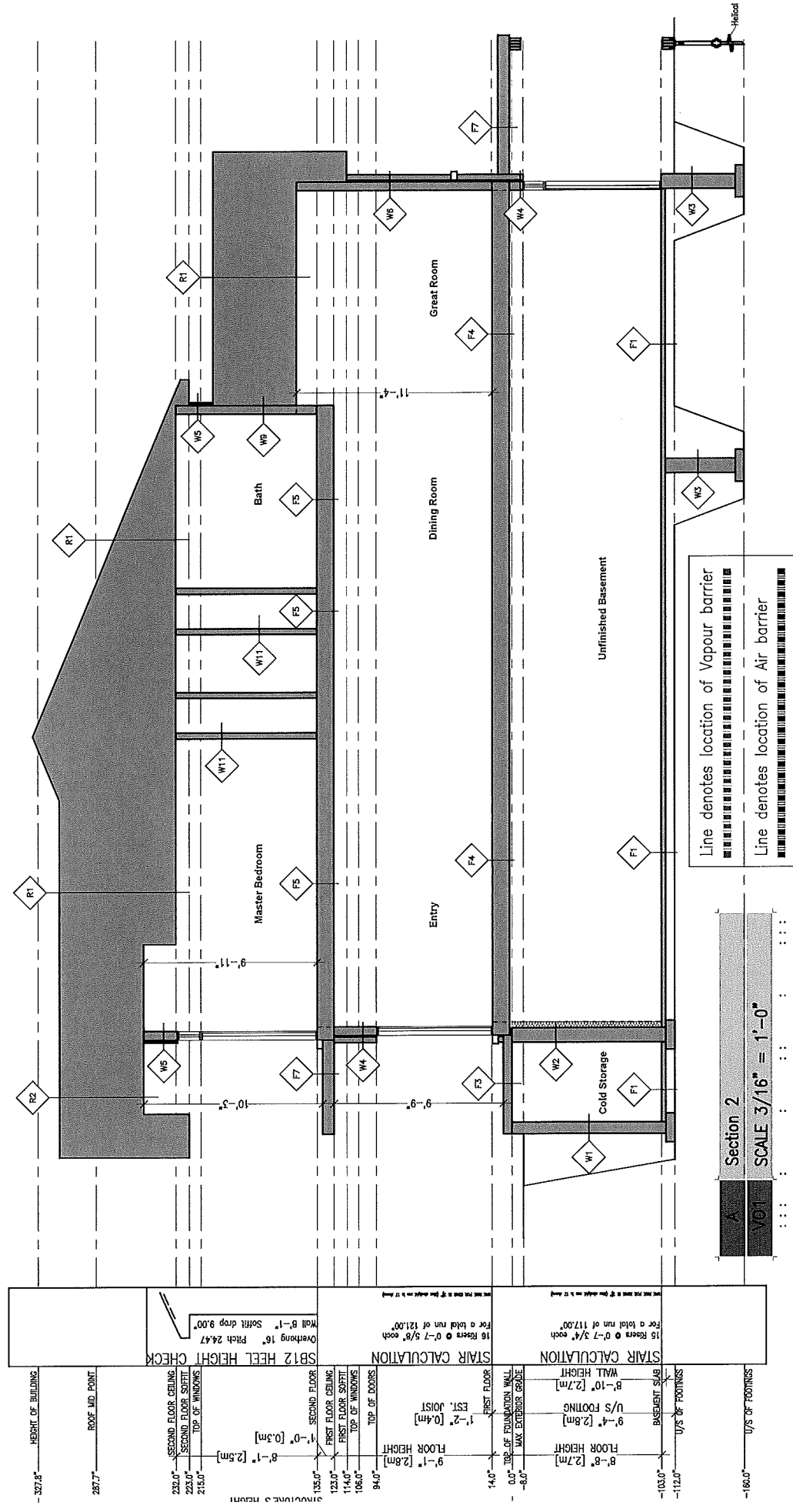
**A** Left Side Elevation  
**V01** SCALE 3/16" = 1'-0"



Line denotes location of Vapour barrier  
 Line denotes location of Air barrier

Section 1  
 SCALE 3/16" = 1'-0"

Level / Feature	Height / Elevation	Notes
HEIGHT OF BUILDING	327.6'	
ROOF MID POINT	287.7'	
SECOND FLOOR CEILING	222.0'	
SECOND FLOOR SOFFIT	223.0'	
TOP OF WINDOWS	215.0'	
STRUCTURE'S HEIGHT	27'-4" [8.3m]	
SB12 HEEL HEIGHT CHECK	8'-1" [2.5m]	Overhang 16" Pitch 24.47
SECOND FLOOR	135.0'	15 Rafters @ 0'-7 3/4" each
FIRST FLOOR CEILING	123.0'	For a total run of 117.00'
FIRST FLOOR SOFFIT	114.0'	15 Rafters @ 0'-7 3/4" each
TOP OF WINDOWS	108.0'	For a total run of 121.00'
TOP OF DOORS	94.0'	
FIRST FLOOR FLOOR HEIGHT	9'-1" [2.8m]	
FIRST FLOOR EST. JOIST	1'-2" [0.4m]	
FIRST FLOOR	14.0'	
BASEMENT SLAB	0.0'	
BASEMENT WALL	-8.0'	
U/S OF FOOTINGS	-103.0'	
U/S OF FOOTINGS	-112.0'	
U/S OF FOOTINGS	-160.0'	



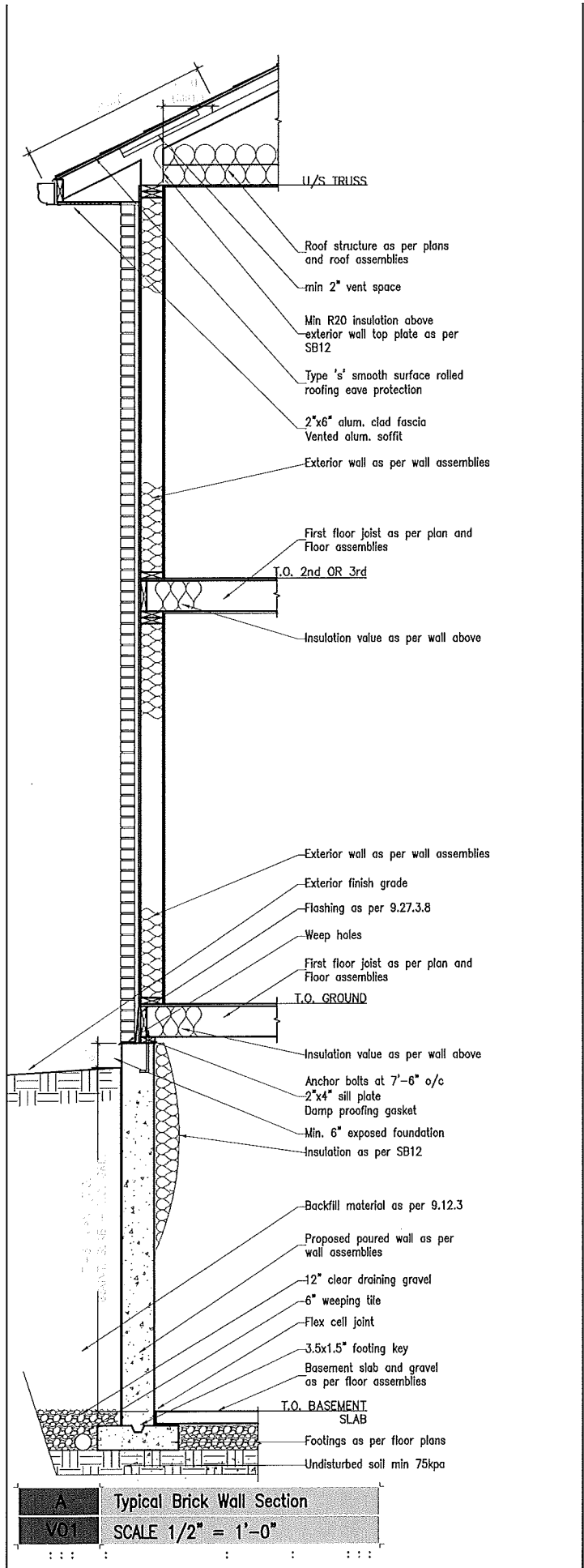
327.8'	HEIGHT OF BUILDING
287.7'	ROOF MID POINT
232.0'	SECOND FLOOR CEILING
223.0'	SECOND FLOOR SOFFIT
215.0'	TOP OF WINDOWS
135.0'	SECOND FLOOR
132.0'	FIRST FLOOR CEILING
114.0'	FIRST FLOOR SOFFIT
106.0'	TOP OF WINDOWS
94.0'	TOP OF DOORS
9.1'-1" [2.8m]	FLOOR HEIGHT
1'-2" [0.4m]	EST. JOIST
14.0'	FIRST FLOOR
0.0'	TOP OF FOUNDATION WALL
-8.0'	MAX EXTERIOR GRADE
8'-8" [2.7m]	FLOOR HEIGHT
9'-4" [2.8m]	U/S FOOTING
8'-10" [2.7m]	WALL HEIGHT
-103.0'	BASEMENT SLAB
-112.0'	U/S OF FOOTINGS
-180.0'	U/S OF FOOTINGS

15 Rafters @ 0'-7 3/4" each  
 For a total run of 117.00"

16 Rafters @ 0'-7 5/8" each  
 For a total run of 121.00"

Overhang 16" Pitch 24.47  
 Wall 8'-1" Soffit drop 9.00"





**A** Typical Brick Wall Section  
**V01** SCALE 1/2" = 1'-0"