General:

1. This page must accompany plans for this project which have been submitted for a building permit. These notes apply unless noted otherwise on the drawings.
2. Farhill Engineering Ltd. has been retained to provide structural engineering services as set forth on Building Code Schedule B.
3. All construction and materials to conform to the Building Code of British Columbia 2018.
4. It is the client's responsibility to ensure that the engineer is informed when the various aspects of the project are ready for review. Please provide at least 24 hours notice.

Scope of work:

Items Not Covered by Farhill Engineering Ltd.

1. Some elements and components may need professional design by other professionals. This may or may not involve structural design and review. This remains the responsibility of the contractor or owner to arrange and complete. Unless noted otherwise Farhill Engineering Ltd. is only responsible for the design of the primary structure.

2. Farhill Engineering Ltd. is not responsible and does not provide design or review for the following items:
i. Concrete Slabs poured on grade including but not limited to, sidewalks, driveways, garage floor slabs or basement Floor Slabs
ii. Interior or exterior back framing
iii. Exterior Railings
iv. Interior Railings
v. Retaining Walls not Attached to Structure
vi. Architectural details including masonry veneer
vii. Cladding, glazing, integrated window mullions
viii. Interior non-load bearing partition walls and all finishes including drywall and suspended ceilings
ix. Brick or Stone veneers and their attachments
x. Chimneys

3. Farhill Engineering Ltd. provides structural engineering services only and does not take any responsibility for BUILDING ENVELOPE particularly in residential design where a building envelope engineer may not be retained. Farhill Engineering Ltd. recommends that in all cases a qualified Building Envelope Engineer be retained for design of the building envelope system and details. Any references made to components associated with building envelope is best practice only and should be completed with design provided by a qualified building envelope engineer. In the case of any discrepancy between the structural components and building envelope a Building Envelope engineer shall be retained.

Engineered Trussed Roof Systems:

Roof Trusses

1. It is the contractor or owner's responsibility to provide a truss layout prior to the completion of the structural design. If a layout is not available the engineer will provide design for the placement of common and girder trusses. The contractor and truss provider shall then provide trusses which conform to the truss locations as shown on the plans. The engineer reserves the right to design additional structure to accomodate truss layouts which do not match the provided sealed design.
2. The truss supplier is to provide sealed shop drawings and a layout plan at time of delivery of trusses. Review and sealing of truss shop drawings will be by truss supplier's engineer.

Engineered Wood Floor Systems:

1. The following schedule shall be applied for fastening all LVL or PSL laminated beams:

   Maximum 2 or 3 ply beam:
   i. Beam depth of 11 $\frac{7}{8}$" or less - 2 - 3.5" 16d Nails at 12"o.c.
   ii. Beam depth of 11 $\frac{7}{8}$" to 18" - 3 - 3.5" 16d Nails at 12"o.c.
   iii. Beam depth of 18" to 24" - 4 - 3.5" 16d Nails at 12"o.c.

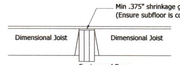
   4Ply or greater Beam:
   i. Provide above nailing schedule for depth of beam and apply the following bolting pattern:
   2 rows $\frac{3}{4}$" bolts at 24" o.c. staggered, min 3" from each edge.

2. Floor system supplier must design and supply the entire floor system including the following elements:
   - Engineered I-Joist with design for minimum L/480 deflection and all applicable loads
   - Engineered Beams with design for minimum L/480 deflection and all applicable loads
   - All required hangers and connections per their manufacturer's specifications
   - All blocking locations as required.
   - All Rim joist material shall be minimum 1.75" thick.
   - All components shall come with sealed shop drawings and layouts by the suppliers component engineer.
   - All components to be minimum 3100Fb 2.0E LVL or PSL unless noted otherwise

6. Do not cut, notch, or damage I-Joist flanges. Follow manufacturer guidelines for all hole locations and dimensions
7. Contact engineer prior to drilling any engineered beam
8. All Engineered Wood Products to be kept dry and protected from the environment during storage on the job site as per manufacturer requirements.

Structural Shrinkage:

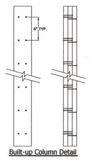
1. It is the Contractor or Owner responsibility to ensure shrinkage is taken into account during construction.
2. The Contractor must ensure framing details accommodate uniform vertical shrinkage. The structure shall contain equivalent amounts of vertical and horizontal timber.
3. Framing details around non-shrinking structural elements (concrete, steel frames LVLs) shall take into account shrinkage of timber and are the responsibility of the contractor.
4. Only kiln dried lumber may be used. Lumber Moisture must be 15% or less.
5. Ensure that shrinkage gaps are incorporated when mixing dimensional lumber and flush engineered beams.



Structural Materials:

1. All Walls shall have continuous double top plates and continuous single bottom plates.
   Minimum 24" splice length for plates required. Corners shall be lapped and have at least 3 -3" Nails.
2. Provide 1 Simpson MSTC40 strap at any location where the top plates are discontinuous

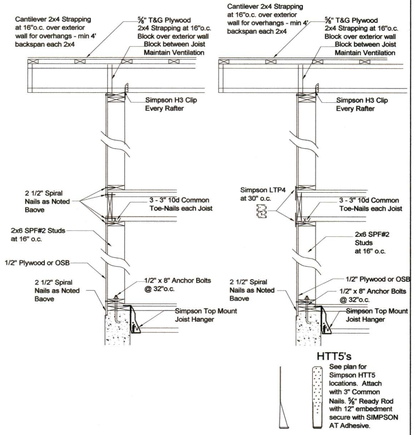
2. All wall studs to be SPF #2 or better unless noted otherwise.
3. All built-up columns to be SPF#2 or better as specified on plans
4. Ensure number of plies in built-up lumber column matches number of plies or width of engineered beam. Provide a king stud on both one sides of dropped engineered beams to prevent rotation.
5. Nails are specified by length and refer to the following:
   - 2 1/2" Nails - 0.131" dia. - 8d
   - 3" Nails - 0.148" dia. - 10d
   - 3 1/2" Nails - 0.162" dia. - 16d
6. All window walls must meet Part 9 requirements for continuous jack studs and king studs in between windows. At least 2- 2x6 SPF#2 king studs must be continuous from bottom plate to top plate (roof or ceiling) per window.
7. Any framed wall over 14' tall must be framed with 2x8 SPF#2 studs at 16"o.c. unless noted otherwise by engineer on the sealed plans
8. Ensure all built up columns are nailed with a minimum of 2 - 3" 10d nails at 6"o.c. and as noted in Part 9 of the 2018 British Columbia Building Code
9. All load paths to transfer to foundation.
10. Ensure blocking is installed in joist cavities.
11. All site safety and temporary shoring is the sole responsibility of the contractor and owner.



Farhill Standard Framing Detail:

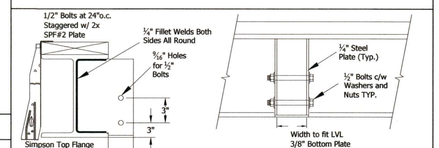
This detail to be applied on all exterior walls not designated as shear walls.

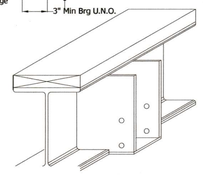
1. Engineer to be notified if resawn lumber is used as sheathing. Resawn lumber should only be applied diagonally (45°) to locations approved by engineer. Resawn only to be used when wall length is equal or greater than wall height (Do not use on short <48" sections). Nail all intersections with 3 -2½" nails.
2. Farhill Engineering standard framing detail consists of:
   - $\frac{1}{2}$" D.Fir plywood - 2.5" nails - 4" o.c. perimeter - 12"o.c. in field - 341plf lateral resistance.
   - $\frac{7}{16}$" OSB - 2.5" nails - 4" o.c. perimeter - 12"o.c. in field - 300plf lateral resistance.
3. Nails must be 2.5" x 0.131"(3.33mm) diameter
4. Anchorage is minimum $\frac{5}{8}$" x 8" anchor bolts at 32"o.c.
5. **All Sheathing to extend to corner edge. No "California Corners" to be used at exterior wall corners.**

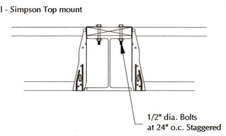


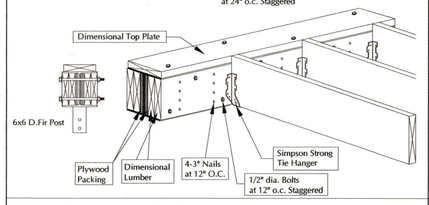
Steel Fabrication:

Notes on steel beams and other fabrications. The following notes apply unless indicated otherwise on the accompanying drawings.
1. Contractor to confirm all dimensions. Contractor must verify length of beams, height of columns, etc.
2. All construction and materials to conform to the Building Code of British Columbia. Design conforms to CSA S16.1-1974 "Steel Structures for Buildings - Limit States Design"
3. Structural steel to CSA G40.21. Steel to be grade 44W (Fy = 44 ksi)
4. Welds. 1/4" minimum fillet welds all around unless indicated otherwise on accompanying drawing. All welds to use E70XX electrodes and conform to CSA S16 and CSA W59.
5. Minimum Fillet Size:
1/4" Fillet weld for all material.
6.Bolts:
a. Bolts to conform to ASTM A325.
7. For beams, provide web stiffeners at supports and under point loads. Stiffener thickness to be the same as that of the web. Stiffener to extend from web to edge of flanges on both sides. Fillet welds all around in accordance with notes above.
8. For exterior applications, steel is to be treated with a coat of zinc rich primer, sealed with an epoxy top coat.
9. Capacity of 1/2" A307 bolt in 1.5" thick wall plate: S-P-F 6.19 kN 1392 lbs. DF 6.68 kN 1501 lbs.



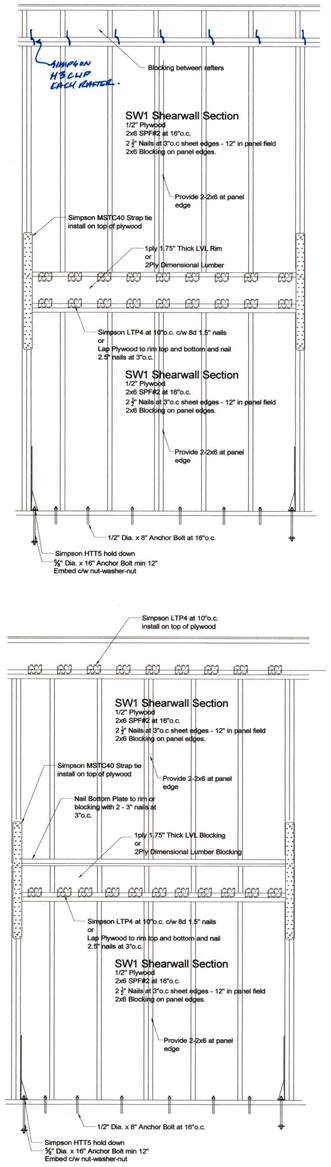






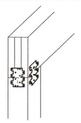
Shearwall SW1 Details:

Notes on the Construction of Shear Walls (SW1)
1. All construction and materials to conform to the Building Code of BC 2018.
2. These details are for typical cross sections, shearwall SW1 must be incorporated within the structure in manner which accommodates structural and architectural requirements . In all cases review the attached sealed building plans for SW1 locations.
3. See attached sealed plans for locations of hold downs. Hold downs are required at each end of each shear wall unless noted otherwise. Hold downs are to be installed in accordance with manufacturer's specifications.
4. Panel edges are to be fully blocked with 2x6 SPF#2 on the flat.
5. Minimum Rim Member thickness is 1Ply LVL Material or 2Ply Dimensional Lumber
6. SW1 Shearwall with $\frac{7}{16}$" D.Fir Plywood will resist 10.6kN/m or 726lbs/ft of shear. Rd"Ro is 5.1.
7. Nails are to be 2.5" Long 3.33mm/0.131" Dia. smooth shank and driven flush but not overdriven.
8. Install Simpson Strap Ties as noted on plans between floors or where studs are noted continuous.
9. Interior SW1 walls may be 2x4 SPF#2 at 16" centers. Exterior shear walls to be 2x6 SPF#2 @ 16" centers.
10. The following values have been applied to the design:
i. 6255lbs - HTT5 holddown with $\frac{5}{8}$" Dia. x 10" anchor bolt or A307 Rod and Simpson AT Epoxy c/w 3.5" 16d Nails
ii. 3635lbs - MSTC40 Strap tie c/w 3" 10d nails in all holes
iii. 5715lbs - MSTC52 Strap tie c/w 3" 10d nails in all holes



Post Top Attachment:

1. Unless noted otherwise all beam to post connections to be completed with a minimum of 2 Simpson Strong tie LTP4 connectors

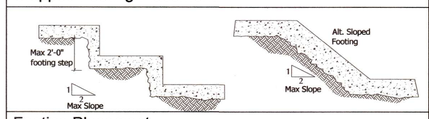


Concrete:

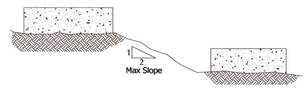
Footings and Foundation
1. All concrete to meet CSA A23.1 and A23.2 requirements
2. The engineer must be contacted at least 24 hours prior to pouring to allow for inspection of the cribbing and reinforcement for concrete footings, suspended slabs and foundation walls.
3. Floor joist are not considered to provide lateral support for walls unless explicitly noted by engineer.
4. See Farhill Engineering foundation details for rebar placement and coverages. If the required detail is not shown please contact the engineer.
5. Typical Concrete Mixes:
   i. Footings - 25Mpa - 19mm Aggregate - 0.55(max) water ratio - 4-7% Air - 80mm±30 Slump - F2
   ii.Fdtn Walls - 25Mpa - 19mm Aggregate - 0.55(max) water ratio - 4-7% Air - 80mm±30 Slump - F2
   iii.Sus Slabs - 35Mpa - 19mm Aggregate - 0.55(max) water ratio - 4-7% Air - 80mm±30 Slump - F2,C1

6. Reinforcing Steel to be Grade 400 (400MPa) Metric or Grade 60 Imperial Reinforcing bars to CSA G30.18.
   Cover as follows
   i. Cast against or exposed to earth - 3" (75mm)
   ii. Exposed to air - 2" (50mm)
   iii. Walls with damp proofing - 1.5"(38mm)
7. Ensure all rebar splices are minimum 24" length.
8. All corners to have hooks with minimum 24" legs in both directions walls only, **not required in footings**
9. All Backfill must be free draining granular material. Foundation should be sealed with two layers of bituminous membrane and utilize a dimpled drain mat, ie. Delta Drain®
10. This foundation design is completed with the bearing capacity as provided by a Geotechnical engineer. If a geotechnical engineer has not been retained it is assumed that the soils will meet at least 150kPa (3000psf) or better bearing capacity as provided in table 9.4.4.1 of the BCBC 2018. Retain a geotechnical engineer immediately if the soil encountered will not meet this section of the building code.
11. The foundation walls have been designed for lateral earth pressure per section 9.4.4.6 of BCBC 2018 and 480Kg/m² equivalent static fluid force.
12. Ensure horizontal steel bars are continuous - all corners to have hooks with min 24" Legs both directions.
13. Farhill Engineering takes no responsibility for formwork or its design.

Stepped Footing Placement:



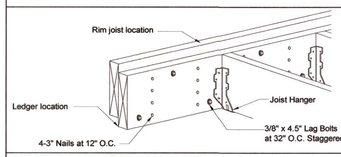
Footing Placement:



Foundation Backfill:

1. Backfilling is the responsibility of the contractor or owner. All concrete design completed by Farhill Engineering requires full strength of concrete to be reached at 28 days.
2. All interior areas must be backfilled first and the slab on grade must be installed. Any backfilling completed prior to 28 days or without the installation of the basement slab or ground seal is at the sole responsibility of the contractor or owner.
3. All backfill must be free draining granular material or approved by the owner's or contractor's Geotechnical Engineer. 3/4" drain rock or crushed road base is a generally acceptable option.

Deck connection detail:



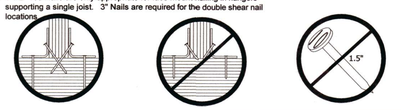
Manufactured Engineered Hangers:

1. Ensure all hangers are installed according to Manufacturer Specification.

2. All Standard Hangers use 3" - 10d Common Nails.

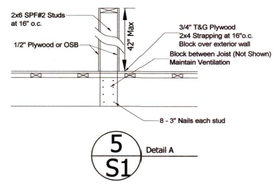
3. All HGUS, HUS, HHUS Hangers to use minimum 3 1/2" - 16d Common Nails or as specified by manufacturer.

4. 1 1/2" 10d Nails are only appropriate for face mount nailing in hangers supporting a single joist. 3" Nails are required for the double shear nail locations

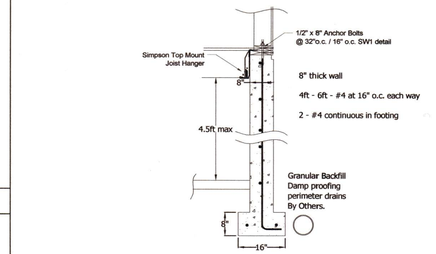


Construction Tolerance and Movements:

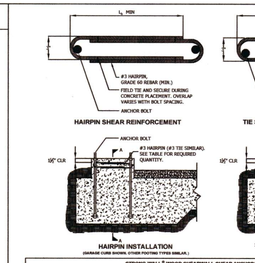
Construction
1. The contractor is responsible to ensure best construction practices are implemented.
2. The contractor is responsible for all onsite dimensions and lengths.
3. It is the contractors responsibility to ensure that shrinkage is taken into account when integrating different materials such as steel or concrete with the wood structure.



5 S1 Detail A



4 S1 Foundation Wall Detail

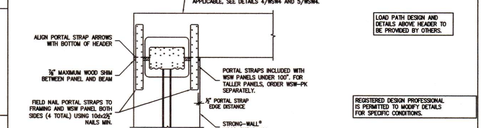


STRONG-WALL® WOOD SHEARWALL SHEAR ANCHORAGE

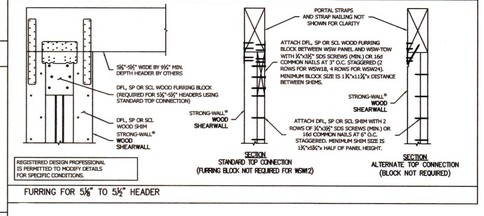
MODEL	L_s OR L_h (in.)	SEISMIC: SHEAR REINFORCEMENT	SEISMIC: MINIMUM CURB/ STEMWALL WIDTH (in.)	WIND: SHEAR REINFORCEMENT	WIND: MINIMUM CURB/ STEMWALL WIDTH (in.)	ASD ALLOWABLE SHEAR LOAD, V (lb.) [4] UNCRACKED	ASD ALLOWABLE SHEAR LOAD, V (lb.) [4] CRACKED
WSW12	10[5]	(1) #3 HAIRPIN	8"	SEE NOTE 6	6	1,035	740
WSW18	15	(1) #3 HAIRPIN	8"	(1) #3 HAIRPIN	6	HAIRPIN REINFORCEMENT ACHIEVES MAXIMUM ALLOWABLE SHEAR LOAD OF THE WSW	
WSW24	19	(2) #3 HAIRPINS	8"	(1) #3 HAIRPIN	6		

NOTES:
1. SHEAR ANCHORAGE DESIGNS CONFORM TO ACI 318-11 AND ACI 318-14 AND ASSUME MINIMUM 2,500 PSI CONCRETE.
2. REINFORCEMENT IS NOT REQUIRED FOR INTERIOR FOUNDATION APPLICATIONS (PANEL INSTALLED AWAY FROM EDGE OF CONCRETE), OR BRACED WALL PANEL APPLICATIONS.
3. SEISMIC INDICATES SEISMIC DESIGN CATEGORY C THROUGH F. DETACHED 1 AND 2 FAMILY DWELLINGS IN SDC C MAY USE WIND ANCHORAGE SOLUTIONS.
4. WIND INCLUDES SEISMIC DESIGN CATEGORY A AND B AND DETACHED 1 AND 2 FAMILY DWELLINGS IN SDC C.
5. WHERE NOTED, MINIMUM CURB/STEMWALL WIDTH IS 6 INCHES WHEN STANDARD STRENGTH ANCHOR BOLT IS USED.
6. VISE (1) #3 TIE FOR WSW12 WHEN PANEL DESIGN SHEAR FORCE EXCEEDS TABULATED ANCHORAGE ALLOWABLE SHEAR LOAD.
7. #4 GRADE 40 SHEAR REINFORCEMENT MAY BE SUBSTITUTED FOR WSW SHEAR ANCHORAGE SOLUTIONS.

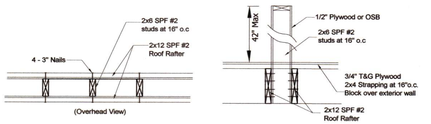
STRONG-WALL® WSW SHEAR ANCHORAGE SCHEDULE AND DETAILS



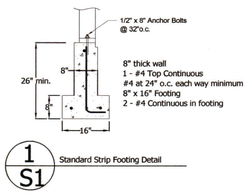
PORTAL TOP CONNECTION



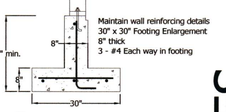
FURRING FOR 5⅛" TO 5½" HEADER



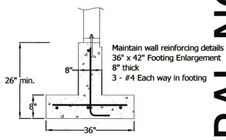
6 S1 Detail B



1 S1 Standard Strip Footing Detail



2 S1 Point Load Enlargement Detail



3 S1 Point Load Enlargement Detail

Farhill Engineering Seismic
Part 9 Structure designed according to Section 9.23.13.2 Sentence 2, c) of the BCBC 2018 using 2014 CWC Engineering Design Guide

Farhill Engineering Seismic - Concrete Topping
Part 9 Structure designed according to Section 9.23.13.3 Sentence 2, b) of the BCBC 2018 using CWC Engineering Design Guide 2014

Rd = 3.0
Ro = 1.7
I = 1.0 importance factor per CWC
Sa(0.2) = 1.3
Fa = 1.0

Farhill Engineering Loads
All work to Part 9 BCBC 2018
Seismic Design Data for Town of Sidney
Sa(0.2) = 1.23 Sa(0.5) = 1.10
Snow Loads for Town of Sidney
Ground Snow Load (Ss) = 1.6 kPa
Rain Load (Sr) = 0.2 kPa
Part 9 Specified Snow Load
0.55*Ss + Sr = 1.1 kPa
= 22.6 psf
Roof Dead Load = 0.6kPa/12psf
Live Load (LL) = 2.0 kPa / 40 psf
Dead Load (DL) = 0.75 kPa / 15 psf
No Concrete Topping on floor joist
Foundation Loading does not exceed
Soil Bearing of 145 kPa / 3000psf (ULS)
Geotechnical review may be required

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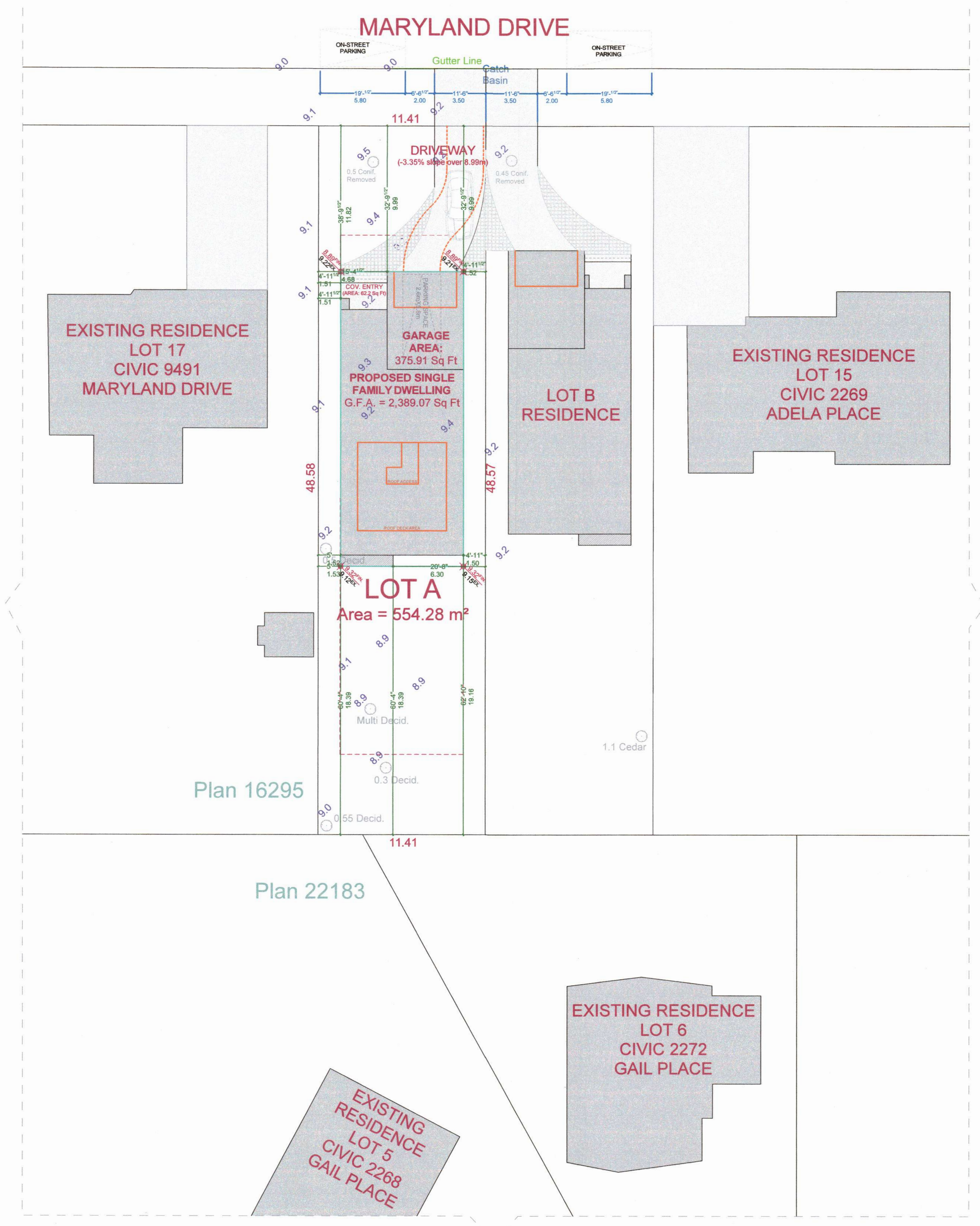
steve@farhill.ca
www.Farhill.ca

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA S. P. MALKOW # 35748 APR 28 2020 — FARHILL ENGINEERING Ltd. STRUCTURAL
APR 28 2020
www.farhill.ca Victoria BC Ph: 250-818-8937
APR 28, 2020

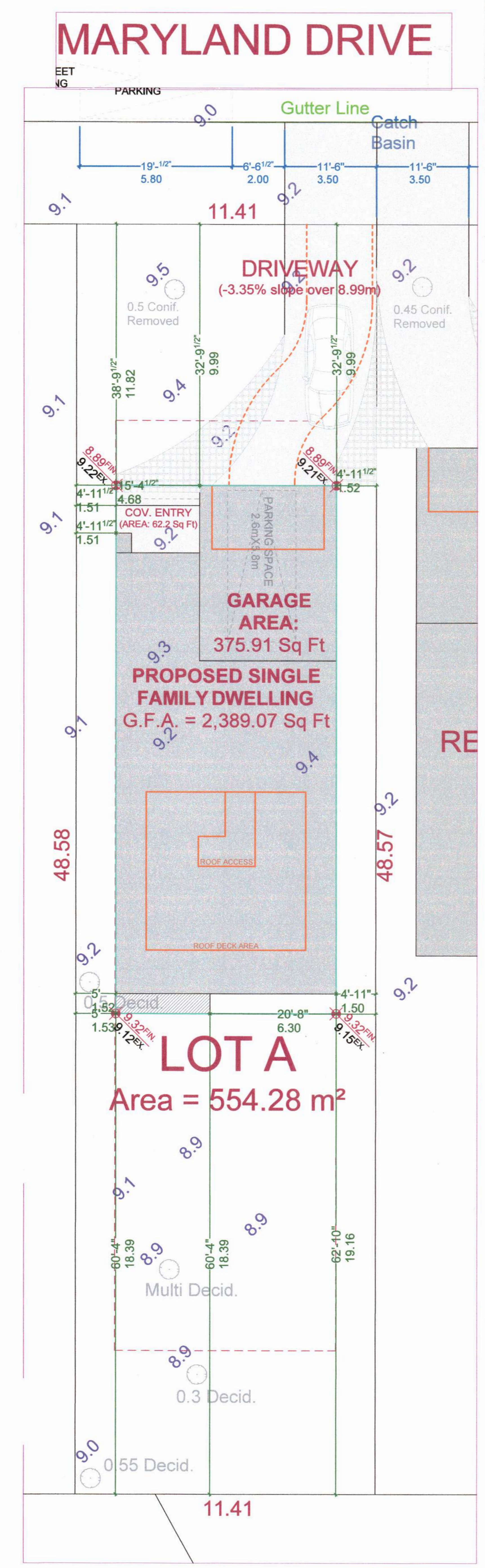
Farhill Engineering Ltd. - Structural Engineering
New Home
Lot A - 9495 Maryland Drive - General Notes
(Part 9 Structure)
Town of Sidney
April 08, 2020
Anthony Porco
Farhill File No.: 31529

Sheet Title
S1 - General Notes

FARHILL GENERAL NOTES



A SITE PLAN: NEIGHBOURING LOTS
1 : 200 SCALE



A SITE PLAN
SCALE: 3/32" = 1'-0"

Design Criteria: Part 9 BC Building Code (pt.9 BCBC)

Roof SL = 22.6 PSF DL = 12 PSF

Floor LL = 40 PSF DL = 15 PSF

Assumed Soil bearing capacity ULS 3000 PSF
All framing Per Pt. 9 BCBC
Lintels to be 2-2x10 unless noted otherwise (UNO)
Minimum bearing for engineered beams is 3" (double cripple) or 3.5" top wall plate bearing UNO

FARHILL

Farhill Engineering - Note:
- All material to be SPF #2 UNO
- No concrete topping on floor joist`
- 3/4" T&G Plywood/OSB glued and screwed
- Contractor to provide layouts and shop drawings for all engineered products
- Refer to Farhill Engineering General Notes - Sheet S1 for further details

FARHILL

PROJECT DATATABLE - SINGLE FAMILY DWELLING		
Address	Lot A - 9495 Maryland Drive	
Lot Size	554.28m²	
Zoning	R2 - Sidney	
	Proposed	Allowed
Lot coverage (total)	2 Storey 29.73% 164.79m²	2 Storey 30.00% 166.28m²
Maximum building height	7.96m 2 Storeys	8.00m 2.5 Storeys
Avrg. Finished Grade	9.18m Geo.	
Front Setback	9.99m	7.50m
Rear Setback	18.39m	5.50m
Side Setback (interior)	1.51m / 1.50m	1.50m
Side Setback (combined)	3.01m	3.00m
Roof deck area	27.18 m² (292.54 ft²)	
Roof access area	2.36 m² (25.39 ft²)	
Upper floor area	99.84 m² (1,074.64 ft²)	
Main floor area	119.76 m² (1,289.04 ft²)	
Garage area	34.92 m² (375.91 ft²)	
Front Yard Area	114.01m² (1,227.24 ft²)	
Front Yard Lot Coverage	49.62% 63.26 m² (680.97 ft²)	

Note: Overhead Wiring
Variance requested: Building area to be 8.4m wide vs. 9m wide

SURFACE CALCULATION

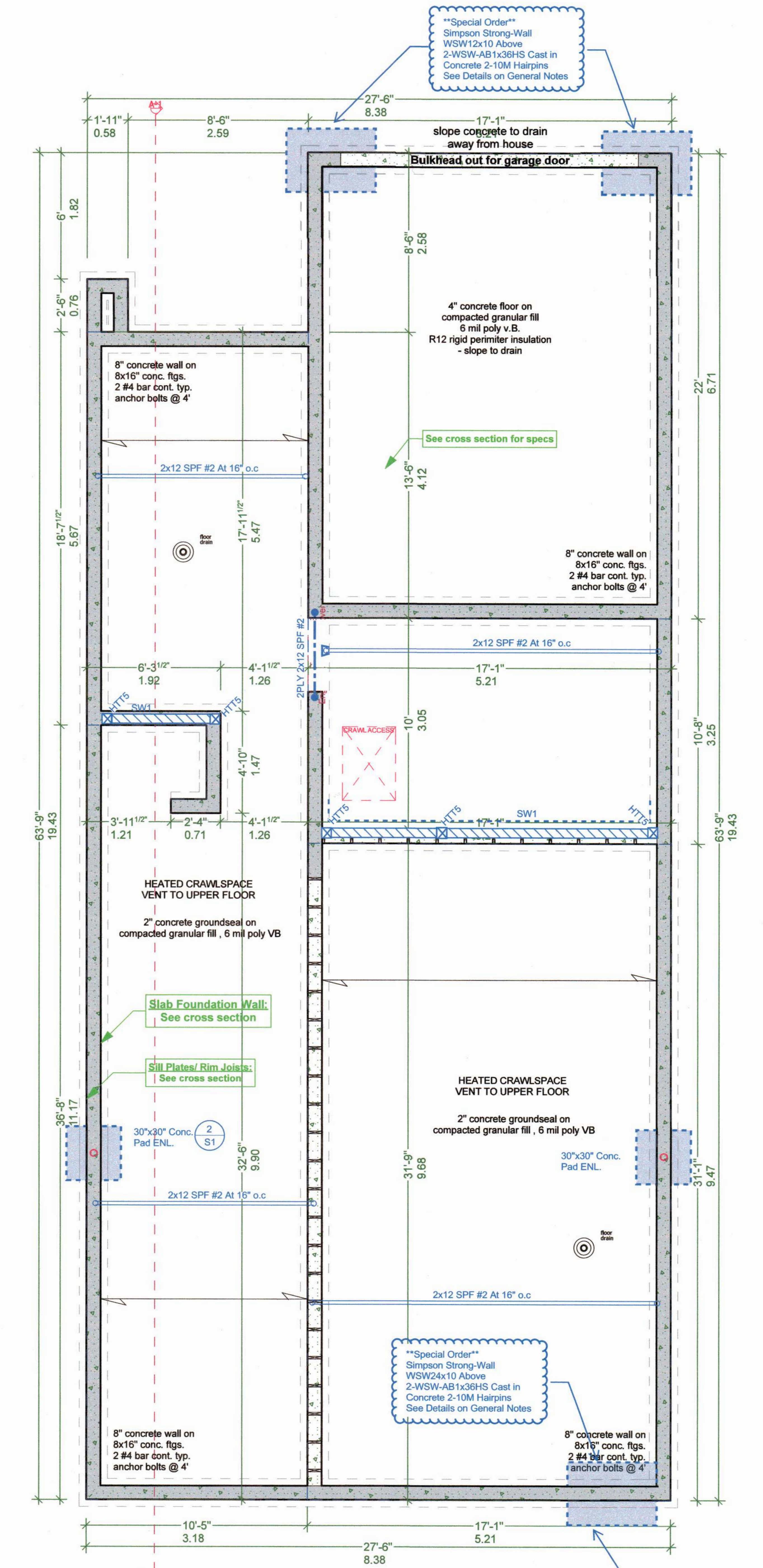
FRONT YARD AREA: 120.35 Sq M
TOTAL SURFACE AREA: 42.87%
HARD SURFACE AREA: 29.58%
PERMEABLE SURFACE AREA: 13.29%

Farhill Engineering Ltd. - Drawing Revision:

Rev No.	Description	Date
1	Issue For Permit/Construction	Apr 28, 2020
2		

Farhill Engineering LTD.
Structural Engineering
Lot A - 9495 Maryland Drive
(Part 9 Structure)
Town of Sidney
Apr 08, 2020
Anthony Porco
Farhill File No.: 31529

FARHILL



A FOUNDATION PLAN (CRAWL)
SCALE: 1/4" = 1' - 0"

FARHILL ENGINEERING Ltd.
STRUCTURAL
APR 28 2020
PROFESSIONAL ENGINEER, PROVINCE OF BRITISH COLUMBIA, S. E. MALKOW # 35748
www.farhill.ca
Victoria BC
Ph: 250-818-8937

CUSTOMER:
RYAN LARGE
ADDRESS:
LOT A:
9495 MARYLAND DRIVE, SIDNEY

DRAWING NAME:
LOT A: SITE PLAN, SITE PLAN SHOWING NEIGHBOURING LOTS & FOUNDATION PLAN
DRAWING SCALE:
SEE DRAWINGS

ISSUE DATE:
DEC. 07, 2019
DRAWN BY:
KYLE LEGGETT

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NAFS REQUIREMENTS:

Performance Grade of 30
Water Test Pressure of 260 Pa

GENERAL NOTES

ALL MATERIALS AND CONSTRUCTION METHODS TO CONFORM TO THE CURRENT EDITION OF THE BRITISH COLUMBIA BUILDING CODE AS WELL AS ANY LOCAL BUILDING CODES OR BYLAWS WHICH MAY TAKE PRECEDENCE.

ALL MEASUREMENTS MUST BE VERIFIED ON SITE BY BUILDER PRIOR TO CONSTRUCTION, AND ANY DISCREPENCIES REPORTED TO THE DESIGNER.

DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALE

-SMOKE DETECTORS SHALL BE PROVIDED ON EVERY FLOOR

SITE PLAN

ALL LAYOUTS SHOULD BE CONFIRMED BY A REGISTERED B.C. LAND SURVEYOR. ALL SETBACKS SHALL BE CONFIRMED BY THE OWNER/BUILDER. ALL GRADE ELEVATIONS ARE THE RESPONSIBILITY OF THE OWNER/BUILDER AND ANY MOFICATIONS ARE TO BE MADE ON SITE.

CONFORMITY OF THESE PLANS TO THE ACTUAL SITE IS THE RESPONSIBILITY OF THE OWNER/BUILDER.

CONCRETE AND FOUNDATIONS

ALL CONCRETE FOOTINGS TO HAVE SOLID BEARING ON COMPACTED, UNDISTURBED INORGANIC SOIL TO A SUITABLE DEPTH BELOW FROST PENETRATION.

IF SOFTER CONDITIONS APPLY, THE SOLID BEARING CAPACITY AND SIZE OF FOOTINGS ARE TO BE DESIGNED BY A QUALIFIED ENGINEER.

GARAGE & CARPORT FLOORS AND EXTERIOR STEPS SHALL NOT BE LESS THAN 32 MPA

FOUNDATION CONCRETE SHALL HAVE MIN. COMPRESSIVE STRENGTH OF 2900 psi (20MPa) AT 28 DAYS, MIXED, PLACED AND TESTED IN ACCORDANCE WITH CAN3-A438.

ALL WALLS ARE 8" CONCRETE UNLESS OTHERWISE NOTED. ALL GRADES ARE ESTIMATED ONLY AND SHALL BE ADJUSTED ON SITE. ALL WOOD IN CONTACT WITH CONCRETE SHALL BE TREATED OR SEPARATED BY A MOISTURE RESISTANT GASKET MATERIAL.

LUMBER, FRAMING AND BEAMS

BUILDING FRAMES TO BE ANCHORED TO FOUNDATION BY FASTENING SILL PLATE TO FOUNDATION WITH NOT LESS THAN 12.7mm DIAM ANCHOR BOLTS AT NOT MORE THAN 2.4M O.C.

ALL ENGINEERED BEAMS TO BE SIZED BY SUPPLIER.

ALL SPANS SHALL CONFORM TO THE TABLES SET OUT IN "THE SPAN BOOK" AND THE NATIONAL BUILDING CODE OF CANADA AND VERIFICATIONS OF ALL SPANS IS THE RESPONSIBILITY OF THE OWNER/BUILDER.

TRUSSES

TRUSSES AND LAYOUT ARE TO BE ENGINEERED AND INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS, INCLUDING ALL BRACING.

ROOFING

ALL ROOFING SHALL BE APPLIED TO MANUFACTURER'S SPECIFICATION AND SHALL INCLUDE EAVE PROTECTION FROM ICE DAMS AND SNOW BUILD UP.

PLUMBING & ELECTRICAL

ANY ELECTRICAL SHOWN ON PLANS IS TO SERVE AS A GUIDE ONLY AND MUST BE INSTALLED BY A QUALIFIED PERSONNEL.

FLASHING

ALL EXPOSED OPENINGS SHALL BE PROVIDED WITH AD[illegible] ALL ROOFING SHALL INCORPORATE STEP FLASHING. ALL PENTRATIONS THROUGH ROOF SHALL INCLUDE APPROPRIATE FLASHING.

DOORS - ROUGH OPENING SIZES
FRAME OPENING 1 1/4" WIDER THAN DOOR
FRAME HEIGHT 83" FOR EXTERIOR DOORS AND 82.5" FOR INTERIOR DOORS. FRAME OPENING 1 1/4" WIDER THAN BIFOLD DOORS AND FRAME HEIGHT 81.5".

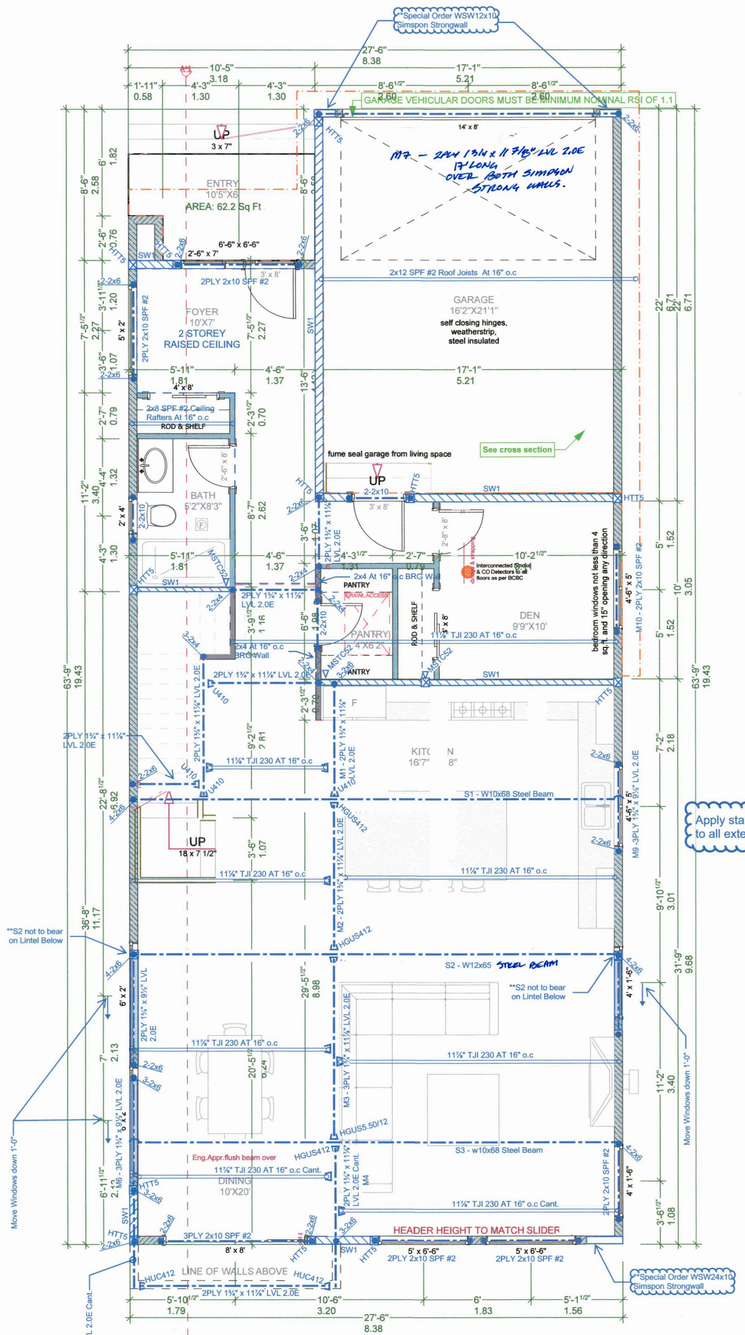
MISC.

CARBON MONOXIDE ALARMS TO BE HARDWIRED AND WITHIN 5M OF EACH BEDROOM IN EVERY SUITE AND INTERCONNECTED TO ALL FLOORS. CARBON MONOXIDE ALRAMS TO CONFORM TO CSA 6.19

NEITHER JAVA DESIGNS INC. NOR THE DESIGNER ACCEPT RESPONSIBILITY FOR THE FOLLOWING:

-INFORMATION PROVIDED ON EXISTING BUILDINGS OR SITE.
-CONFORMITY OF PLANS TO SITE.
-ERRORS AND OMMISSIONS
-ANY HOUSE BUILT FROM THESE PLANS

SHEET NUMBER
A1



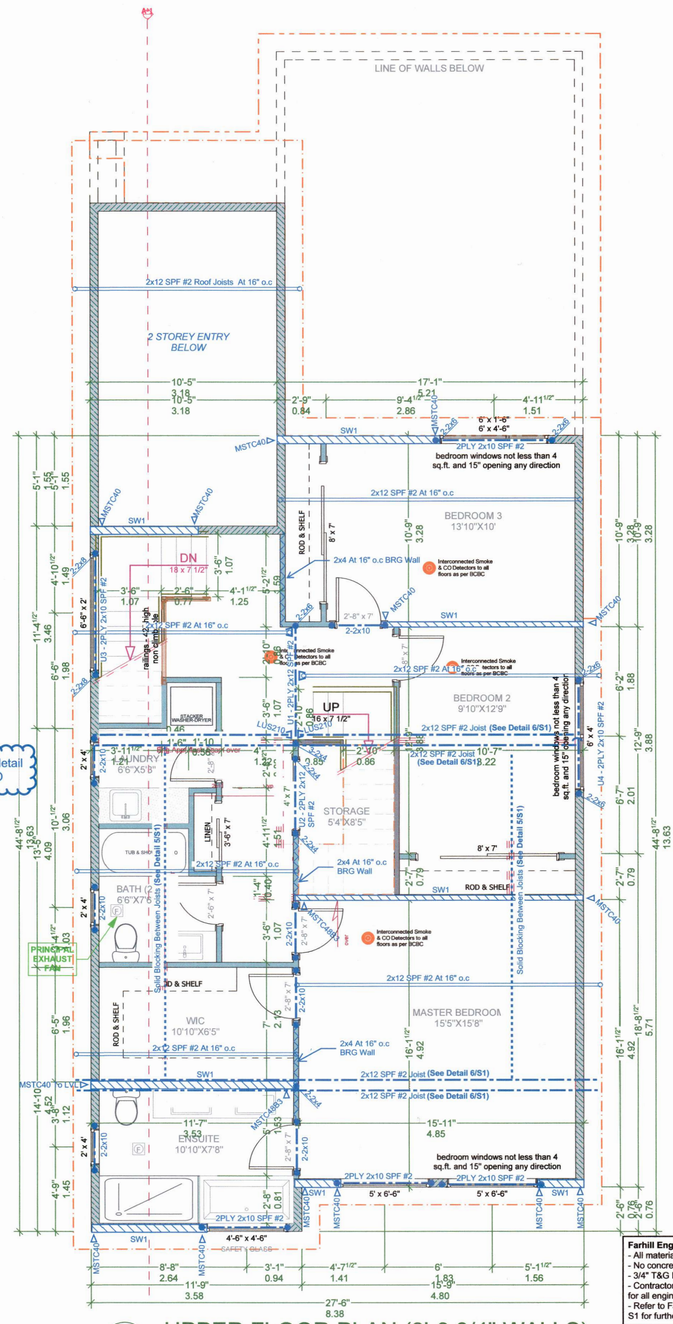
A MAIN FLOOR PLAN (10'-0 3/4" WALLS)

SCALE: 1/4" = 1' - 0"

MAIN FLOOR AREA: 1,289.04 Sq Ft

GARAGE FLOOR AREA: 375.91 Sq Ft

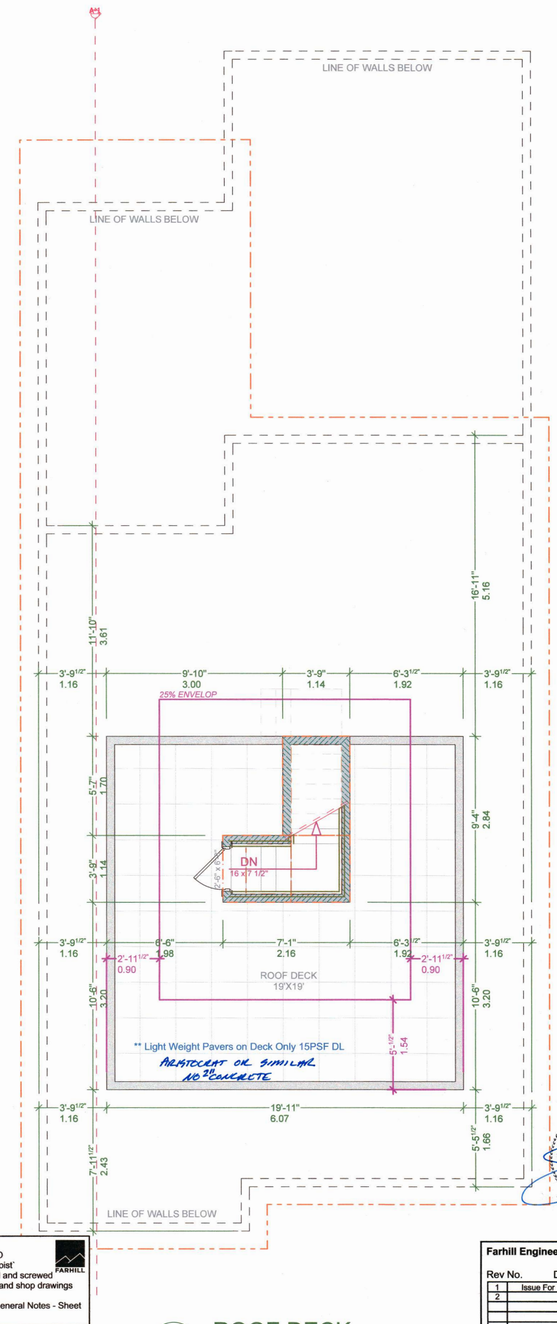
Apply standard framing detail to all exterior walls U.N.O



A UPPER FLOOR PLAN (9'-0 3/4" WALLS)

SCALE: 1/4" = 1' - 0"

UPPER FLOOR AREA: 1,074.64 Sq Ft



A ROOF DECK

SCALE: 1/4" = 1' - 0"

ROOF ACCESS AREA: 47.5 Sq Ft

DECK AREA: 313.3 Sq Ft

Farhill Engineering - Note:
- All material to be SPF #2 UNO
- No concrete topping on floor joist'
- 3/4" T&G Plywood/OSB glued and screwed
- Contractor to provide layouts and shop drawings for all engineered products
- Refer to Farhill Engineering General Notes - Sheet S1 for further details

Design Criteria: Part 9 BC Building Code (pt.9 BCBC)

Roof SL = 22.6 PSF DL = 12 PSF

Floor LL = 40 PSF DL = 15 PSF

Foundation Loading does not exceed
Soil Bearing of 145 kPa / 3000psf (ULS)
Geotechnical review may be required
All framing Per Pt. 9 BCBC
Lintels to be 2-2x10 unless noted otherwise (UNO)
Minimum bearing for engineered beams is 3" (double cripple) or 3.5" top wall plate bearing UNO

FARHILL ENGINEERING Ltd. STRUCTURAL
S. J. MALKOW 35748
APR 28 2020
www.farhill.ca
Victoria BC
Ph: 250-818-8937
APR 28, 2020

Farhill Engineering Ltd. - Drawing Revision:

Rev No.	Description	Date
1	Issue For Permit/Construction	Apr 28,2020
2		

Farhill Engineering LTD.
Structural Engineering
Lot A - 9495 Maryland Drive
(Part 9 Structure)
Town of Sidney
Apr 08, 2020
Anthony Porco
Farhill File No.: 31529

CUSTOMER: RYAN LARGE

ADDRESS: LOT A: 9495 MARYLAND DRIVE, SIDNEY

DRAWING NAME: LOT A - MAIN FLOOR, UPPER FLOOR PLANS AND ROOF DECK PLAN

DRAWING SCALE: 1/4"=1'-0"

ISSUE DATE: DEC. 07, 2019

DRAWN BY: KYLE LEGGETT

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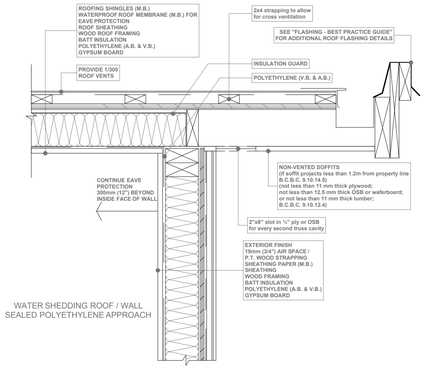
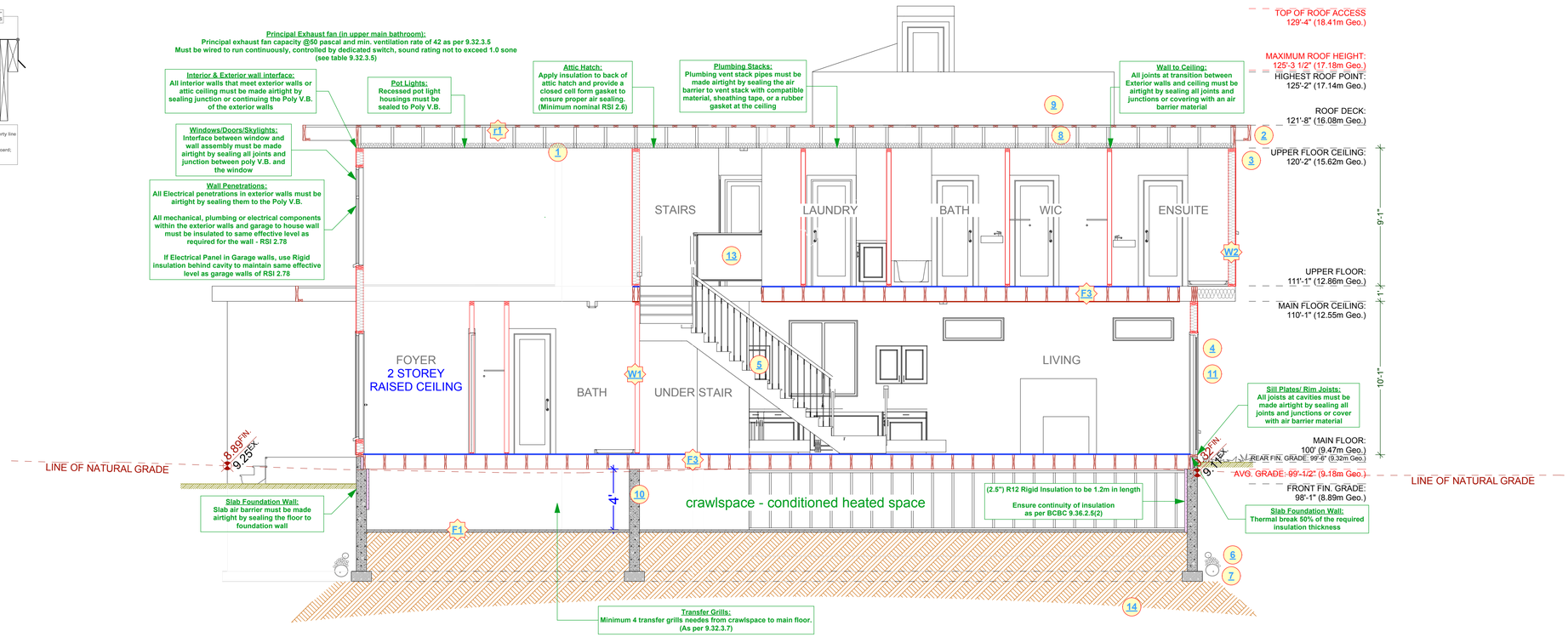
SHEET NUMBER A2

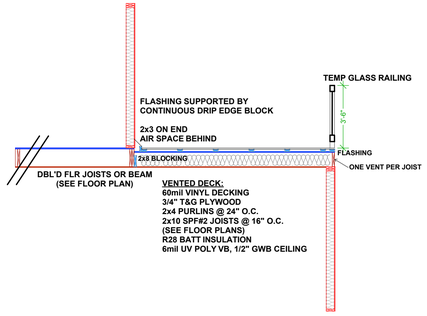


SOFFIT DETAIL
SCALE: 1" = 1' - 0"



A CROSS SECTION A-1
SCALE: 1/4" = 1' - 0"

HEAT SOURCE TO BE FORCED AIR WITH CRV (AS PER BUILDERS SPECIFICATION)



D1 DETAIL: DECK OVER HEATED SPACE
SCALE: 1/4" = 1' - 0"

CONSTRUCTION NOTES:

1. R40 insulation , 6 mil poly V.B. 1/2" ceiling board. RSI VALUE OF 6.91
2. Continuous gutters
3. Aluminum gutters and non-vented soffits - roof overhangs as per plans
4. All windows vinyl, supply rain -pan under, rainscreen as per BCBC. Windows in doors to be safety glass
5. Stairs: 7 5/8" rise, 10.04" tread, 1" nosing with continuous handrail
6. Provide drains to perimiter system
7. 4" drain tile with 6" rock over
8. Provide roof vents: vent 1/150 using Shinglevent II Ridge Vent
9. Eave protection to 12" beyond heated wall
10. 8" concrete wall on 8"x16" concrete footings - 2#4 bar continuous - R12 ridgid insulation - 2 coats damp proofing
11. Caulk over and around all exterior openings
12. 10" X 10" post saddle on 8" pilaster 2'6x2'6 concrete footing. NOT SHOWN
13. 42" non climbable continuous handrail
14. Undisturbed non-organic soil

CONSTRUCTION ASSEMBLIES:

- F1: 2" concrete slab with rigid insulation 4' around perimeter on 6 mil. poly V.B. compacted granular fill
- F2: 4" concrete floor on 6 mil poly V.B. compacted granular fill
- F3: 2x12 floor joist 16" O.C. typ. nail and glue 3/4" T&G plywood X bridging @ 6' O.C. typ. Vented Deck: 60mil vinyl decking, 3/4" t&g plywood, 2x4 purlins @ 24" O.C. 2x10 spf#2 joists @ 16" O.C. slope to drain (see floor plans) r28 batt insulation, 6mil uv poly vb, 1/2" gwb ceiling (NOT SHOWN)
- r1: Ply torch-on roofing, 7/16" O.S.B. (or 1/2" plywood), 2x4 strapping to allow cross ventilation, 2x12 roof joists @ 24" O.C. typ. R28 insulation, 6 mil. poly V.B. 1/2" GWB
- W1: 2x4 framing 16" O.C. typ. 1/2" GWB finish throughout
- W2: Exterior finish, 3/4" air space, pressure treated strapping, 2 layers 30 min. building paper, 1/2" sheathing, 2x6 studs at 16" O.C., R-20 batt insulation, 6 mil. poly V.B., 1/2" GWB. (See elevations)

ALL WINDOWS MUST COMPLY WITH BCBC AND NAFS REQUIREMENTS
MUST BE CLEARLY LABELED ON ALL WINDOW UNITS UPON INSTALLATION FOR INSPECTION. -ONE EXTERIOR DOOR IS PERMITTED TO HAVE A HIGHER U-VALUE OF 2.6, ALL OTHERS MUST HAVE U-VALUE LESS THEN 1.80 (AS PER TABLE 9.36.2.7.A) -GARAGE VEHICULAR DOORS MUST BE MINIMUM NOMINAL RSI OF 1.1

EFFECTIVE R-VALUE FOR EXTERIOR WALLS AGAINST LOWER ROOF:

Exterior Air Film	0.03
7/16" OSB Sheathing	0.11
R-22 Batt insulation	
2x6 Wood studs @ 16" O.C.	
RSIp=100/[(23/1.19)+(77/3.87)] =	*2.55*
6 MIL Poly V.B.	0
1/2" Gypsum Board	0.08
Interior Air Film	0.11
	RSI=2.88

Values from Table A-9.36.2.4.(1)D

EFFECTIVE R-VALUE FOR EXTERIOR WALLS ABOVE GRADE:

Exterior Air Film	0.03
Fibre-Cement Siding	0.02
1/2" Rain Screen Air Cavity	0.15
Building Paper	0
7/16" OSB Sheathing	0.11
R-20 Batt insulation	
2x6 Wood studs @ 16" O.C.	2.36
RSIp=100/[(23/1.19)+(77/3.34)] = 2.36	
6 MIL Poly V.B.	0
1/2" Gypsum Board	0.08
Interior Air Film	0.11
	RSI=2.86

Values from Table A-9.36.2.4.(1)D

EFFECTIVE R-VALUE FOR HOUSE TO GARAGE WALLS:

Exterior Air Film		0.03
1/2" Gypsum Board		0.08
R-20 Batt insulation	*(See Calculation Below)*	2.36
2x6 Wood studs @ 16" O.C.		
RSIp=100/[(23/1.19)+(77/3.34)] =		2.36
6 Mil Poly V.B.		0
1/2" Gypsum Board		0.08
Interior Air Film		0.12
		RS1=2.67

Values from Table A-9.36.2.4.(1)D
Since an enclosed space rating can reduced by 0.16

EFFECTIVE R-VALUE FOR FOUNDATION WALLS:

Damp proofing	0
8" poured-in place concrete	
(2.5") R12 Rigid Insulation	2.11
	RSI=2.11

Values from Table A-9.36.2.4.(1)D

EFFECTIVE R-VALUE FLOOR OVER UNHEATED SPACE (OUTSIDE):

Exterior Air Film	0.03
Aluminum Soffit	0.00
R31 Batt insulation	
2x12 Wood Joists @ 16" O.C.	
RSIp=100/[(13/2.43)+(87/5.46)] =	*4.70*
3/4" Sheathing	0.161
Interior Air Film	0.16
	RSI=5.05

Values from Table A-9.36.2.4.(1)D

EFFECTIVE R-VALUE CEILING BELOW ATTIC:

Asphalt shingles	0
Building Paper	0
1/2" Sheathing	0
Attic air film	0.03
R40 blown fibreglass insulation above truss cord	5.38
Wood trusses @ 24" O.C.	1.47
RSIp=100/[(11/0.76)+(89/1.67)] = 1.47	
6 MIL Poly V.B.	0
1/2" Gypsum Board	0.08
Interior Air Film	0.12
	RSI=7.08

Values from Table A-9.36.2.4.(1)D

EFFECTIVE R-VALUE FOR UNHEATED FLOORS ABOVE FROST LINE:

Interior Air Film	0.11
4" poured-in place concrete	0
2.5" R12 Rigid Insulation	2.11
Exterior Air Film	0.03
	RSI=2.25

Values from Table A-9.36.2.4.(1)D

CUSTOMER: **RYAN LARGE**
ADDRESS: **LOT A: 9495 MARYLAND DRIVE, SIDNEY**
DRAWING NAME: **CROSS SECTION A-1, DECK DETAIL AND SOFFIT DETAIL**
DRAWING SCALE: **SEE DRAWINGS**
ISSUE DATE: DEC. 07. 2019
DRAWN BY: KYLE LEGGETT

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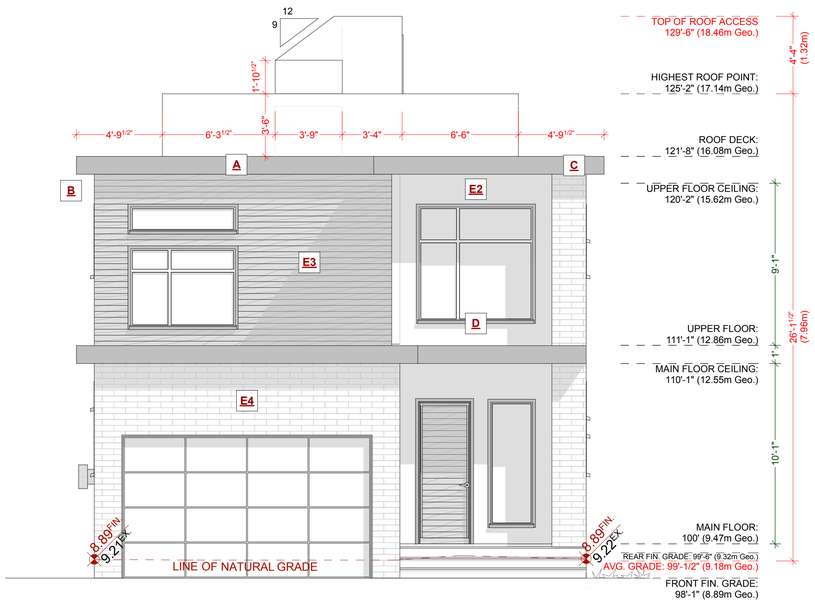
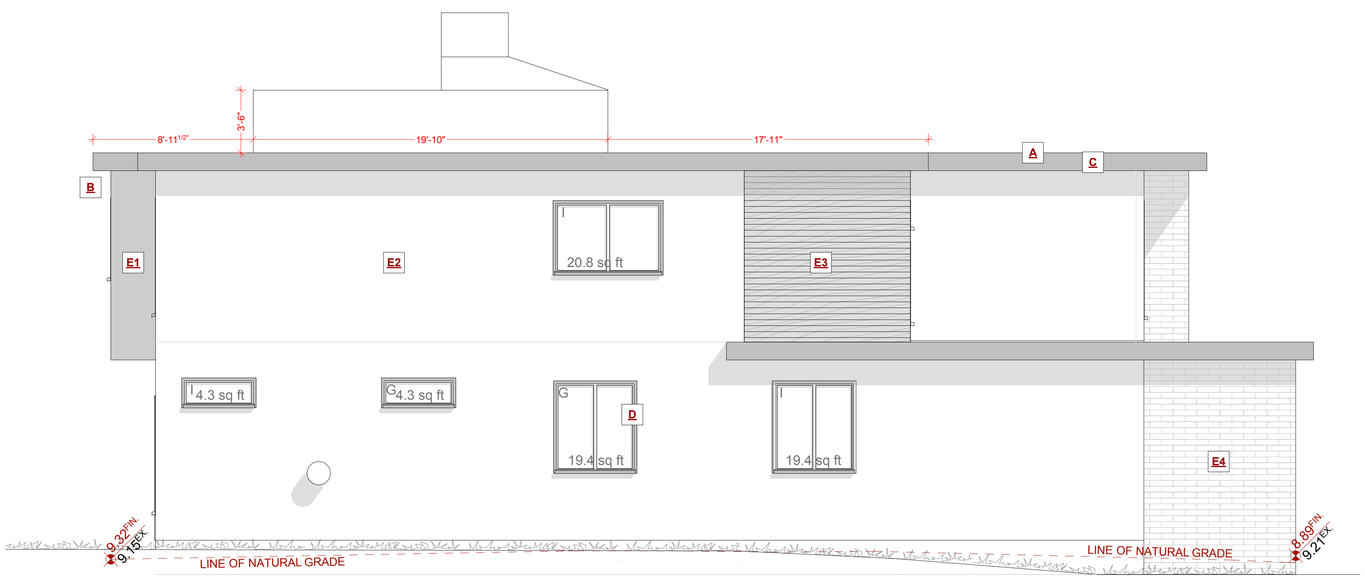
SHEET NUMBER
A3



A FRONT ELEVATION

SCALE: 1/4" = 1' - 0"



A LEFT ELEVATION

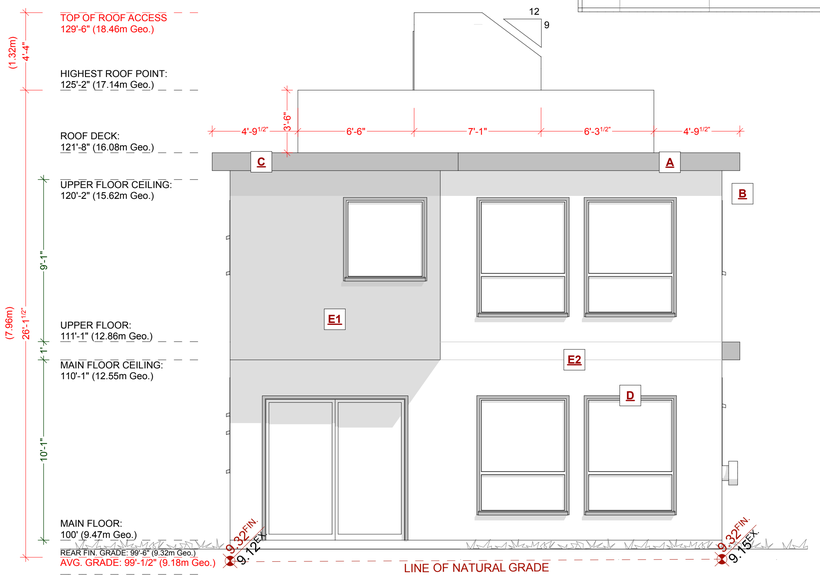
SCALE: 1/4" = 1' - 0"

EXPOSING BUILDING FACE: 109.10m²
LIMITING DISTANCE: 1.50m
AREA OF GLAZED OPENINGS: 6.34m²
% GLAZED OPENINGS: 5.81%
45 min FIRE-RESISTANCE RATING: not required
TYPE OF CLADDING: no limits
PERMITTED % OF GLAZED OPENINGS (as per Table 9.10.15.4): 7.00%
PERMITTED AGGREGATE AREA OF GLAZED OPENINGS: 7.64m²

EXTERIOR FINISHES SCHEDULE - LOT A

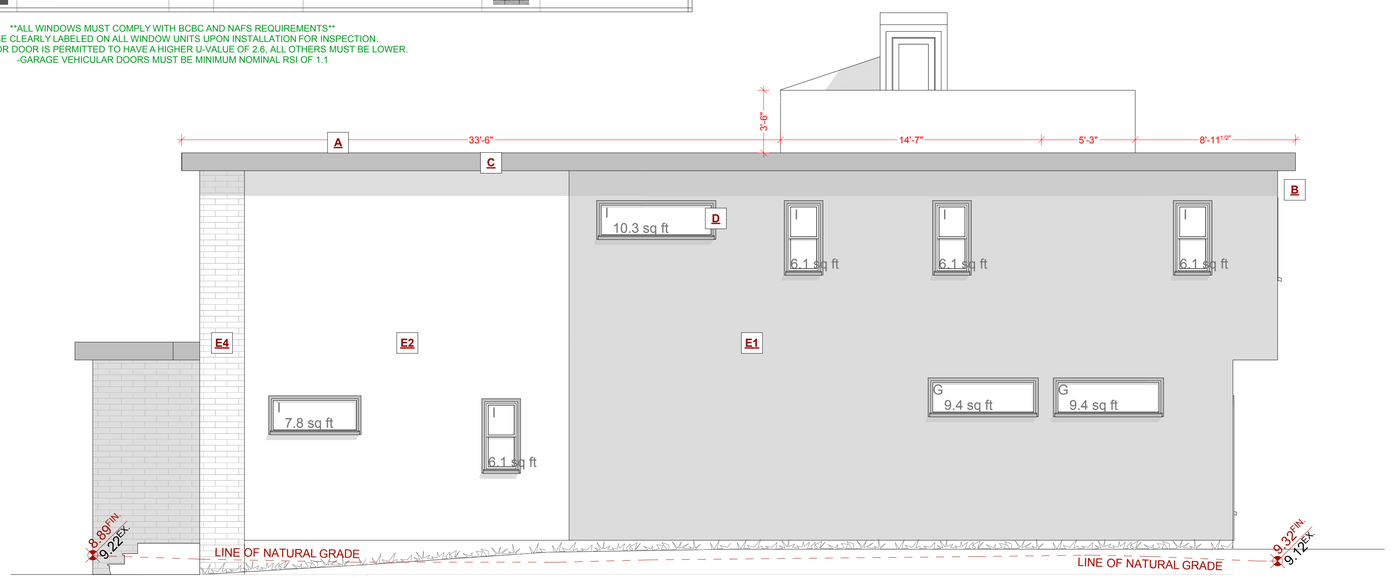
A	ROOFING:	BUILT UP TORCH-ON/ METAL STANDING SEEM ROOFS AS PER CONTRACTORS SPECS		BLACK TORCH ON	E1	WALL FINISH:	STUCCO - SEE OWNER FOR TEXTURE FINISH - RAIN SCREEN AS PER BCBC	VALSPAR, VESSEL GREY 4005-2A
B	GUTTER & SOFFIT:	ALUMINIUM GUTTER AND NON-VENTED SOFFIT		VALSPAR, MUSKEG GREY 4005-2C	E2	WALL FINISH:	STUCCO - SEE OWNER FOR TEXTURE FINISH - RAIN SCREEN AS PER BCBC	VALSPAR, BLUE KISS 7004-11
C	BARGE BOARD:	2x10 WITH 1x4 DOUBLE BARGE BOARD, PAINTED TRIM COLOUR		VALSPAR, MUSKEG GREY 4005-2C	E3	WALL FINISH:	HORIZONTAL CEDAR SIDING LAPPED TO 4" EXPOSURE - COLOUR AS PER BUILDERS SPECS	VARATHANE, SUN BLEACHED ULTIMATE WOOD STAIN
D	WINDOW & DOOR TRIM:	1x4 TRIM BOARDS - PAINTED/ STAINED		VALSPAR, MUSKEG GREY 4005-2C	E4	WALL FINISH:	BRICK- COLOUR AND MANUF. AS PER BUILDERS SPECS	AS PER BUILDER/ OWNERS SPECS

ALL WINDOWS MUST COMPLY WITH BCBC AND NAFS REQUIREMENTS
MUST BE CLEARLY LABELED ON ALL WINDOW UNITS UPON INSTALLATION FOR INSPECTION.
-ONE EXTERIOR DOOR IS PERMITTED TO HAVE A HIGHER U-VALUE OF 2.6, ALL OTHERS MUST BE LOWER.
-GARAGE VEHICULAR DOORS MUST BE MINIMUM NOMINAL RSI OF 1.1



A REAR ELEVATION

SCALE: 1/4" = 1' - 0"



A RIGHT ELEVATION

SCALE: 1/4" = 1' - 0"

EXPOSING BUILDING FACE: 117.57m²
LIMITING DISTANCE: 1.50m
AREA OF GLAZED OPENINGS: 5.70m²
% GLAZED OPENINGS: 4.85%
45 min FIRE-RESISTANCE RATING: not required
TYPE OF CLADDING: no limits
PERMITTED % OF GLAZED OPENINGS (as per Table 9.10.15.4): 7.00%
PERMITTED AGGREGATE AREA OF GLAZED OPENINGS: 8.23m²

CUSTOMER: RYAN LARGE
ADDRESS: LOT A: 9495 MARYLAND DRIVE, SIDNEY

DRAWING NAME: LOT A: ELEVATIONS AND MATERIAL SCHEDULE
DRAWING SCALE: 1/4"=1'-0"

ISSUE DATE: DEC. 07, 2019
DRAWN BY: KYLE LEGGETT

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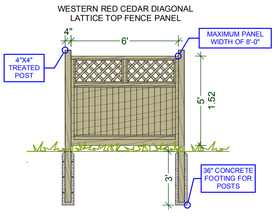
SHEET NUMBER
A4



FENCING: REAR & SIDES

SCALE: 1/4" = 1' - 0"

SURFACE CALCULATION

FRONT YARD AREA: 120.35 Sq M
TOTAL SURFACE AREA: 42.87%
HARD SURFACE AREA: 29.58%
PERMEABLE SURFACE AREA: 13.29%

HARDSCAPE SPECIFICATIONS

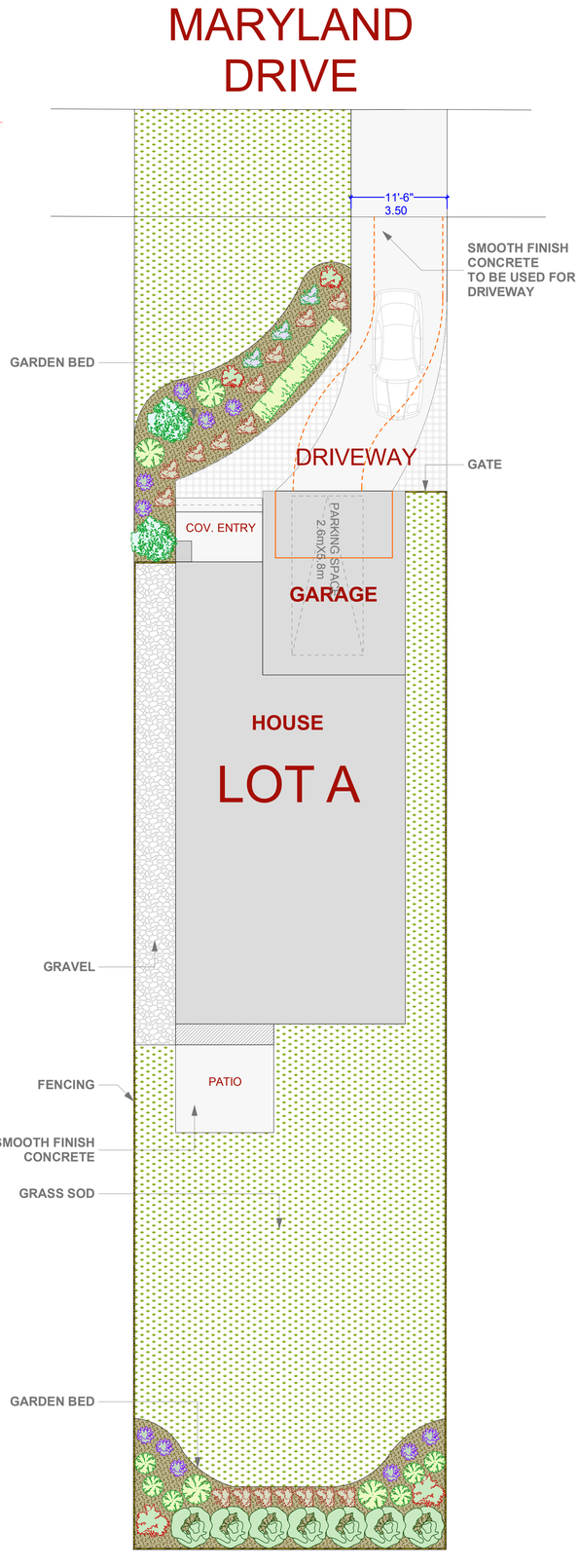
TYPE	MANUF.	COLOUR	PATTERN
POURED CONCRETE	SEE CONTRACTOR	GREY	SMOOTH FINISH

SOFTSCAPE SPECIFICATIONS

TYPE		TYPE	
GARDENS		LAWN - SOD	

PLANT LIST - 9495 MARYLAND DRIVE - LOT B

ID	QTY.	LATIN NAME	COMMON NAME	SIZE	EXAMPLE
PL1	2	HYDRANGEA	BIGLEAF HYDRANGEA "BLUE MARKER"	#3 POT	
PL2	4	SKIMMIA JAPONICA	JAPANESE SKIMMIA	#3 POT	
PL3	3	LAVANDULA ANGUSTIFOLIA	ENGLISH LAVENDER	#2 POT	
PL3	11	ERYSIMUM	ERYSIMUM "BOWLES MAUVE"	#2 POT	
PL4	10	EUONYMUS FORTUNEI	WINTERCREEPER EUOMYMOUS	#3 POT	
PL5	6	BUXUS	BOXWOOD	#2 POT	
TR1	16	KINNIKINNICK	VANCOUVER JADE	#1 POT	
TR1	7	THUJA OCCIDENTALIS	EMERALD CEDARS	5 GAL.	



LANDSCAPE PLAN

1 : 100 SCALE

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ISSUE DATE: DEC. 07, 2019

DRAWN BY: KYLE LEGGETT

DRAWING NAME: **LOT A: LANDSCAPE PLAN**

DRAWING SCALE: **SEE DRAWINGS**

CUSTOMER: **RYAN LARGE**

ADDRESS: **LOT A: 9495 MARYLAND DRIVE, SIDNEY**