MANN ENG GENERAL NOTES

Inspections Required By Mann Eng:
1. Footings 2. Foundation Walls 3. Final Framing

General Notes:

1. These notes should be attached to the plans for this project which have been submitted for a building permit. These notes apply unless noted otherwise on the drawings.
2. Mann Engineering and Planning Corporation has been retained to provide structural engineering services as set forth on Building Code Schedule B and noted above for the construction of the above referenced project. Mann Engineering and Planning Corporation employs a professional engineer licensed to practice in the Province of British Columbia who will provide the aforementioned services.
3. All construction and materials to conform to the Building Code of British Columbia 2006.
4. It is the client's responsibility to ensure that the engineer is informed when the various aspects of the project are ready for inspection. 48 hours notice is required.
5. When ACQ or CA is used we suggest stainless steel hardware and fasteners. If stainless steel is not feasible Hot-Dipped Galvanized fastener produced to ASTM-A153, G185, ASTM A123 Standard is okay.

Non -Structural Items:

Items Not Covered by Mann Engineering

1. "Non-structural" or "Secondary Structural" elements are not part of the structural design shown on these drawings. Such elements are designed, detailed and reviewed in the field by others. They appear on drawings other than these drawings of Mann Engineering and Planning Corporation, where structural engineering responsibility is required for these elements, this shall be provided by other specialty engineers, who shall also provide any letters required by the owner and building permit authorities.

2. Mann Engineering is not responsible and does not provide review and design for the following items unless noted by scope of work, sealed detail or sealed inspection report:
a. Concrete Slabs poured on grade
 - Sidewalks
 - Driveways
 - Garage Floor Slabs
 - Basement Floor Slabs
b. Stairs
c. Exterior Railings
d. Interior Railings
e. Retaining Walls not Attached to Structure
f. Architectural details
g. Cladding, glazing, window mullions
h. Interior non-load bearing partition walls and all finishes including drywall.
i. Brick or Stone veneers and their attachments
j. Chimneys

3. Mann Engineering is a structural engineer and does not take any responsibility for BUILDING ENVELOPE particularly in residential design where a building envelope engineer may not be retained. Mann Engineering recommends that in all cases a qualified Building Envelope Engineer be retained for design of the building envelope system and details. Any reference 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.

Prefabricated Roof Trusses:

Roof Trusses

1. This section of notes apply if "Trusses" is included in the scope noted above.
2. Prefabricated roof trusses will be used for this project. The truss supplier is to provide shop drawings and layout plan at time of delivery of trusses. Review and sealing of truss shop drawings will be by truss supplier's engineer.
3. Inspection and certification of the installation of prefabricated trusses will be carried out by the client's engineer. 48 hours notice is required for site inspections.

Engineered Wood Products:

Laminated Veneer Lumber Beams, Parallel Strand Lumber Beams and Composite Floor Joists

1. This section of notes apply if "LVLs", "PSLs", "LSLs", "Glu-Lams" and / or "I-Joists" are included in the scope noted above.
2. Laminated Veneer Lumber Beams, Parallel Strand Lumber Beams and/or Composite Floor Joists may be used for this project. The supplier of the manufactured wood product is to provide shop drawings and layout plan at time of delivery. Review and sealing of shop drawings will be by the supplier's engineer. Multiple plies up to 1.75" thick should be fastened together with 3.5" common nails at 12" centres, 2 rows for depths up to 12", 3 rows up to 18" and 4 rows up to 24". Multi-ply beams built up from more than 3 plies require bolting in addition to nailing in accordance with the manufacturers instructions.
3. Unless otherwise noted, Simpson AC post cap connections are required wherever a beam is supported by a post. Simpson PB post base connections are required for all post bases.
4. Inspection and certification of the installation will be carried out by the client's engineer. 48 hours notice is required for site inspections. Ideally, the inspection should take place after the plumbing, ventilation and electrical have been roughed in.
5. Floor system supplier must design and supply the entire floor system including the following elements:
 - Joist Runs
 - Beam Runs
 - Joist Hangers and hardware
 - Bridging and Blocking
 - Rim Joists
 - Squash Blocks and web stiffeners
 - Shop drawings and layouts shall be provided and sealed by component engineer.
6. Do not cut, notch, or damage I-Joist flanges.
7. Contact engineer prior to cutting holes in I-Joist webs or LVL beams.
8. All Engineered Wood Products to be kept dry and protected from the environment during storage on the job site as per manufacturer requirements.

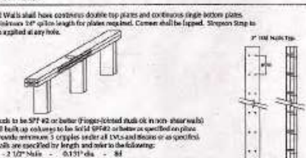
9. The following shown on plan denotes support for LVLs (if 2x4 notation indicates 2x6)
 2C - 2 - 2x6 SPF#2 or better cripples (No Fingerjoint) - 2.5kips (F)
 3C - 3 - 2x6 SPF#2 or better cripples (No Fingerjoint) - 12.6kips (F)
 4C - 4 - 2x6 SPF#2 or better cripples (No Fingerjoint) - 21.1kips (F)

Shrinkage:

1. The Contractor is responsible for all shrinkage related issues.
2. Framing details shall ensure uniform vertical shrinkage. Structure shall contain equivalent amounts of 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.

Materials:

1. All Walls shall have continuous double top plates and continuous single bottom plates. Minimum 24" splice length for plates required. Corner shall be lapped. Simpson Strap to be applied at any hole.



2. Studs to be SPF #2 or better (Finger-Jointed studs ok in non-shear walls)
3. All built-up columns to be Solid SPF#2 or better as specified on plans.
4. Provide minimum 3 cripples under all LVLs and Beams or as specified.
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. Any Steel used must meet CAN/CSA - G40.21, any welds must meet CSA W59 and CSA W55.

Truss Installation:

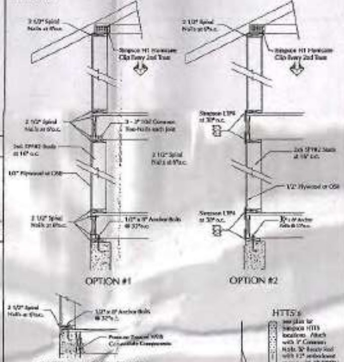
1. Read and follow all literature provided by Truss Supplier.
2. Bottom Chord lateral bracing is at 10ft intervals or less. See shop drawing from truss provider.
3. Apply the following detail when installing lateral bracing on truss webs.

Individual Shop drawing will show webs needing lateral bracing. This detail to be applied to those webs.

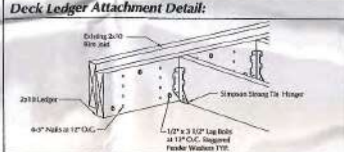
Standard Exterior Framing Detail:

Lateral Resistance

1. If used re-sawn lumber to be applied diagonally and nailed at all intersections with 3 - 3½" nails.
2. Mann Engineering and Planning is bound by the Association of Professional Engineers to provide seismic design beyond the BC Building Code. Mann Engineering will specify Shear wall and Lateral Restraint details as necessary. It is expected that the Standard Lateral Restraint Detail will be incorporated into exterior framing in all areas where Shear Walls are not specified.
3. Re-Sawn lumber to be applied diagonally (45°) and nailed at all intersections with 3 - 3.25" Spiral Nails if used.



Deck Ledger Attachment Detail:



Beam and Joist Hanger Nailing:

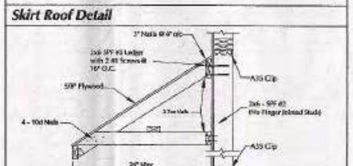
1. All hangers to be installed according to Manufacturer Specification.
2. All Standard Hangers use 3" - 10d Common Nails.
3. All HGUS, HUS, HHUS Hangers use 3 1/2" - 16d Common Nails.
4. 1 1/2" 10d Nails are only appropriate for face mount nailing in hangers supporting a single joist with Engineering Approval. 3" Nails are required for the double shear location.

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. Due to the "open concept" design of the structure and non-stacking exterior walls, steel moment frames were required to resist lateral forces.
It is the contractors responsibility to ensure that wood shrinkage is taken into account when integrating the moment frames with the wood structure.

Skirt Roof Detail

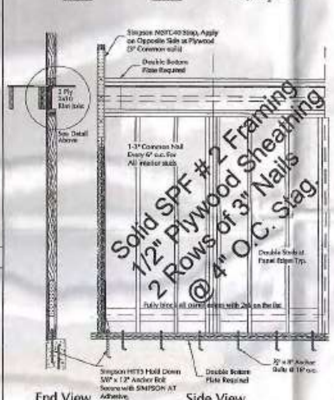


Shearwall SW15 Details:

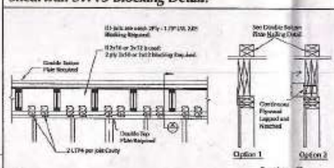
Notes on the Construction of Shear Walls (SW15) for Enhancing Part 9 Structures:
1. All construction and materials to conform to the Building Code of BC 2006.
2. These notes accompany a typical cross section and detail for a shear wall. Do not scale these sketches. Please refer to the building permit plans for wall heights and floor elevations.
3. Confirm locations of hold downs on building plans. 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.
[illegible]
12. Nails are to be:
 a) [illegible]
 b) Minimum 3/8" from sheathing edge
 c) Staggered along edges where [illegible]
 d) Clipped heads [illegible]
 e) [illegible]

Shearwall SW15 Panel Detail:

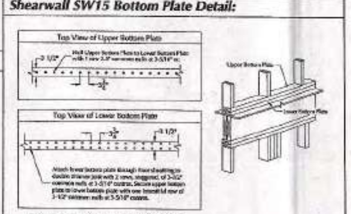
Note:
1) If I-Joists are used:
2Ply - 1.75" LVL 2.0E Blocking Required.
2) If 2x10 or 2x12 is used:
3 ply 2x10 or 2x12 Blocking Required.
3) Secure sheathing to trimmer, base plates and all panel edges with 2 rows of 3" common nails at 4" centre staggered observing minimum spacing and edge distances.



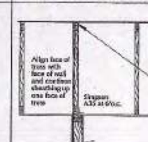
Shearwall SW15 Blocking Detail:



Shearwall SW15 Bottom Plate Detail:



SW15 Shear Wall Truss Detail:



Note:
Shearwall Standard SW15 has a factored resistance of 1058plf (15kN/m)

Roof sheathing must be plywood or OSB with a minimum thickness of 3/8" (10mm)

Nail roof sheathing to each ply of truss with 2½" common nails at 3" (76mm) spacing. Each 2½" nail has factored resistance of 103lbs (0.462kN) in this application.

Concrete:

Footings and Foundation

1. Mann Engineer is only responsible design and review of footings and foundation if included as "Foundation" in the scope of the Schedule B.
2. Steel reinforcement will depend on foundation wall and backfill heights. Refer to Table 9.15.4.2.A in the Building Code of BC 2006 for maximum heights of foundation walls. If walls cannot be made to conform with this table, contact the engineer for a site specific foundation design. *The engineer must be contacted at least 48 hours prior to pouring to allow for inspection of the cribbing and reinforcement for concrete footings, suspended slabs and foundation walls.*
3. Floors using composite joists (I-Joists) are not considered to provide lateral support to foundation walls.
4. For walls conforming to Table 9.15.4.2.A, provide a minimum 18" wide by 8" deep footing. Provide at least one #4 steel reinforcing bar at the top of the wall and two #4 bars in the footing.
5. Foundation Wall Concrete to be 25 MPa Normal Portland Cement Concrete, Class of Exposure F-2, Nominal size of Coarse Aggregate: 20 mm (¾"), Slump to be 75 mm (3") ± 20 mm (¾"), Maximum Water/Cement Ratio: 0.55, Total Air Content: 5 to 8 %, supplier to assume responsibility for concrete mix proportions.
6. Suspended Slab Concrete to be 35 MPa Normal Portland Cement Concrete, Class of Exposure C-1, Nominal size of Coarse Aggregate: 20 mm (¾"), Slump to be 75 mm (3") ± 20 mm (¾"), Maximum Water/Cement Ratio: 0.45, Total Air Content: 5 to 8 %, supplier to assume responsibility for concrete mix proportions.
7. Pool decks, patios, tennis courts, freshwater pools and fresh water control structures to be 25 MPa Normal Portland Cement Concrete, Class of Exposure: F-1, Nominal size of Coarse Aggregate: 20 mm (¾"), Slump to be 75 mm (3") ± 20 mm (¾"), Maximum Water/Cement Ratio: 0.55, Total Air Content: 4 to 7 %, supplier to assume responsibility for concrete mix proportions.
8. Reinforcing Steel to be Grade 400 (400MPa) metric or Grade 60 Imperial Reinforcing bars to CSA G30.18.
 Minimum clear cover for reinforcement in non pre-stressed concrete shall be:
a. Cast against or permanently exposed to earth - 75mm (3")
b. Exposed to earth or weather:
 i. 20M to 55M - 50 mm (#6 to #18 bar - 2")
 ii. 15M and smaller - 40 mm (#5 and smaller - 1.5")
c. Walls not exposed to weather or in contact with the ground:
 iii. 45M to 55M - 40 mm (#14 to #18 Bar - 1.5")
 iv. 35M and smaller - 20 mm (#11 Bar and smaller - 3/4")
9. The engineer must be afforded an opportunity to inspect the formwork and reinforcing steel for the foundation and footings prior to pouring. 48 notice is required for inspections.
10. Foundation walls should not be backfilled until after 28 days and after the floor slab or concrete ground seal has been poured.
11. 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 ®
12. Soil Bearing capacity of 3000 psf (143.6 kPa unfactored) is assumed. Please refer to Table 9.4.4.1 to establish the allowable bearing pressure for the actual soil encountered. Contact the engineer if the soil encountered will not provide the assumed capacity.

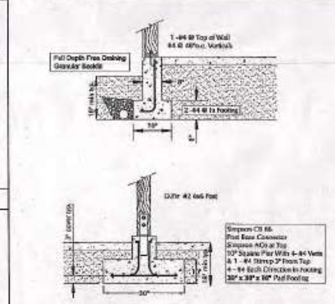
Typical Stepped Footings:

Adjacent Footings:

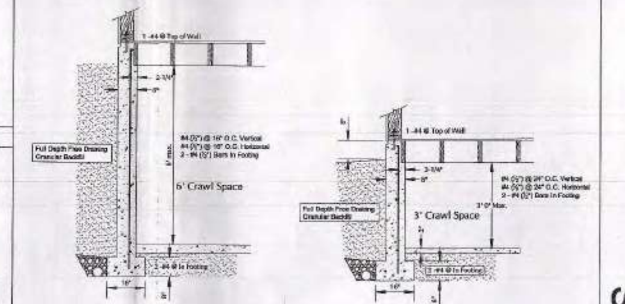
Backfilling Details:

1. Foundation walls should not be backfilled until after 28 days and after the floor slab or concrete ground seal has been poured.
2. Floor system should also be installed prior to backfill.
3. All Backfill must be geotechnically approved free draining granular material. 3/4" crush road base is acceptable.

Concrete Details:



Additional Details:



Mann Engineering Loads

Ground Snow Load (Ss) = 1.5 kPa
Rain Load (Sr) = 0.4 kPa

Part 9 Specified Snow Load
0.55*Ss + Sr = 1.3 kPa
= 26.7 psf

Live Load (LL) = 2.0 kPa / 40 psf
Dead Load (DL) = 0.5 kPa / 15 psf

No Concrete Topping

MANN ENGINEERING
204-2780 VETERANS MEMORIAL PARKWAY
LANGFORD BC, V9B 3S6
Phone: (250) 479-9983
Fax: (250) 391-9982
www.manengineering.ca

Mann Eng

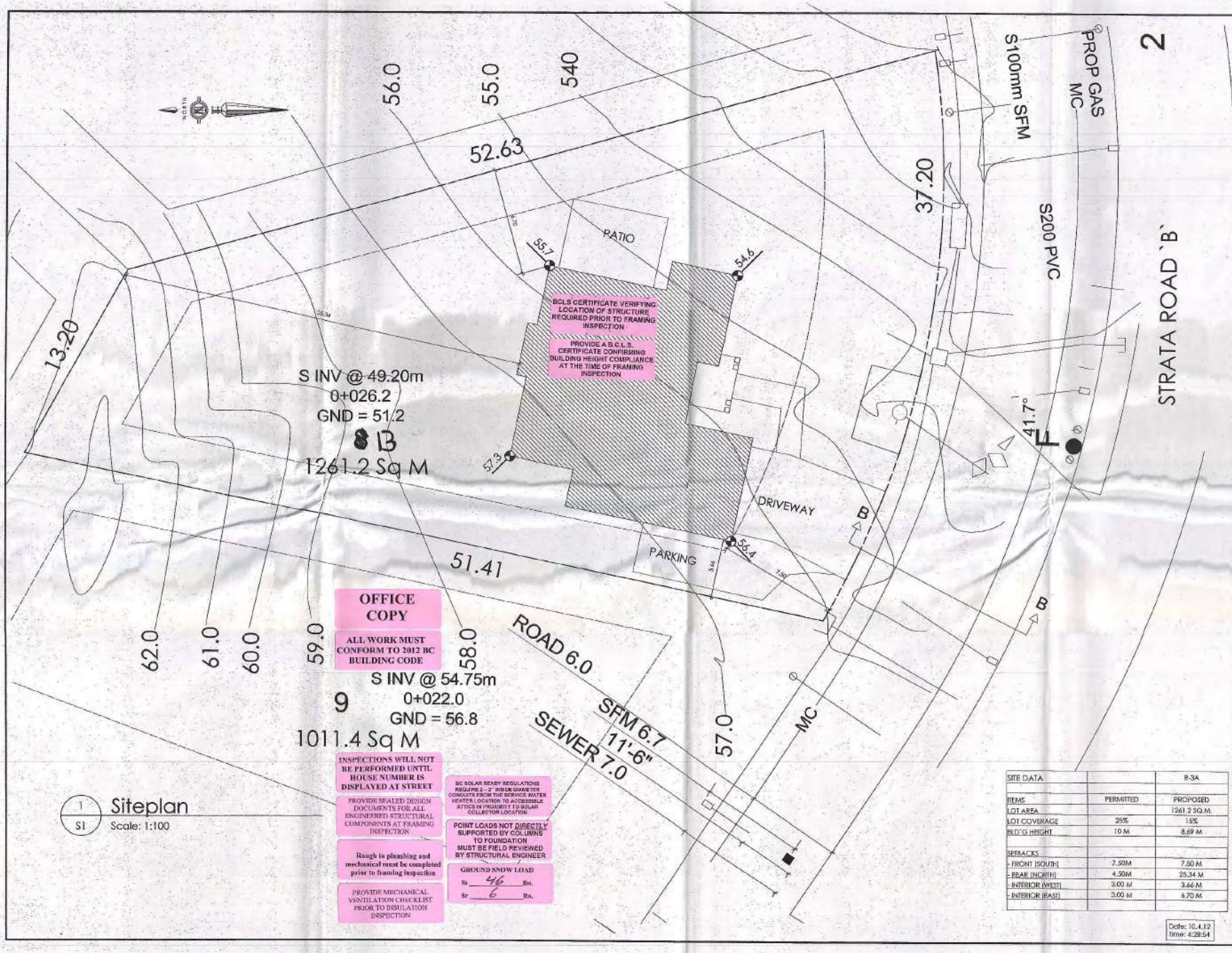
MANN ENGINEERING
STRUCTURAL
Sept 11 2012

Mann Engineering Corp. - Structural Engineering
New Home
Lot 13 Hidden Creek
(Part 9 Structure) Lot 13
Cowichan Valley Regional District
Foundation, LVL's & Trusses
31-Aug-2012 / Drawing Date: Friday, August 31, 2012
Brian Bickford, Hidden Creek Construction Ltd.
Mann File No.: 54560

Sheet Title
General Notes

SCALE: NTS

© Copyright Mann Engineering 2011



OFFICE COPY

ALL WORK MUST CONFORM TO 2012 BC BUILDING CODE

INSPECTIONS WILL NOT BE PERFORMED UNTIL HOUSE NUMBER IS DISPLAYED AT STREET

PROVIDE SEALED DESIGN DOCUMENTS FOR ALL ENGINEERED STRUCTURAL COMPONENTS AT FRAMING INSPECTION

Rough in plumbing and mechanical must be completed prior to framing inspection

PROVIDE MECHANICAL VENTILATION CHECKLIST PRIOR TO INSULATION INSPECTION

BC SOLAR READY REGULATIONS REQUIRE 2 – 2" INSIDE DIAMETER CONDUITS FROM THE SERVICE WATER HEATER LOCATION TO ACCESSIBLE ATTICS IN PROXIMITY TO SOLAR COLLECTOR LOCATION

POINT LOADS NOT DIRECTLY SUPPORTED BY COLUMNS TO FOUNDATION MUST BE FIELD REVIEWED BY STRUCTURAL ENGINEER

GROUND SNOW LOAD
Ss 46 lbs.
Sr 6 lbs.

1 / S1 Siteplan
Scale: 1:100

SITE DATA		R-3A
ITEMS	PERMITTED	PROPOSED
LOT AREA		1261.2 SQ.M.
LOT COVERAGE	25%	15%
BLD'G HEIGHT	10 M	8.69 M
SETBACKS		
- FRONT (SOUTH)	7.50M	7.50 M
- REAR (NORTH)	4.50M	25.34 M
- INTERIOR (WEST)	3.00 M	3.66 M
- INTERIOR (EAST)	3.00 M	6.70 M

Date: 10.4.12
Time: 4:28:54

PROFESSIONAL SEAL

List of Drawings

S1	Siteplan
A1	Elevations
A2	Foundation
A3	Main Floor Plan
A4	Upper Floor Plan
A5	Section
D1	Rainscreen Application Details

ISSUED/REVISED

01	15/02/12	95% Complete

General Contractor and or Owner to verify and thoroughly review all aspects of plan prior to commencement and setting out of all work. Any discrepancies are to be reported to Building Designer immediately. Building Designer not liable for changes made to plans on site or failure to report discrepancies. Refer to General notes included on plan.

Note: B.C.L.S. to verify placement and siting of all structures on lot. General Contractor to work in conjunction with B.C.L.S. to ensure proper placement of structures on site prior to starting work. Building Designer not responsible for any encroachments of any kind with regard to siting or placement of structures on lot.

Structural Engineer to review plans (where required), and provide structure as deemed necessary. It is the responsibility of the owner or contractor to verify and consultation all engineering requirements with municipal building departments prior to starting work.

Truss Manufacturer to review plans to verify roof design where any roof trusses are shown, and to contact building designer for review if revisions are necessary.

©COPYRIGHT

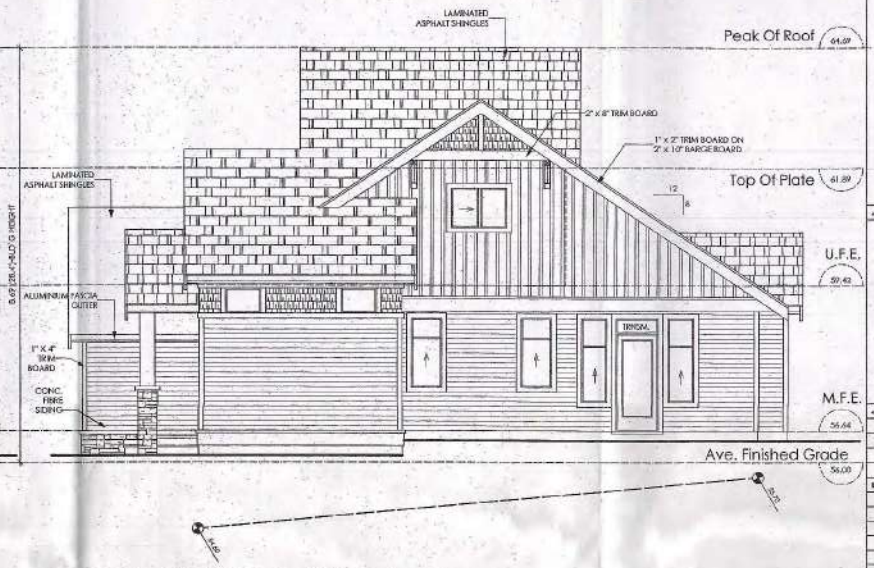
This plan and design is covered by copyright law and may not be reproduced, copied or used in any form whole or in part without the express written permission of Victoria Design Limited, and may only be used to construct this particular dwelling on the specified lot indicated in the title block below.

VICTORIA DESIGN GROUP
INC. - 106
1175 BANK STREET
VICTORIA, B.C.
V8V 4X8
PH: 250 383 2936
FAX: 250 383 2946
WWW.VICTORIADESIGNGROUP.CA

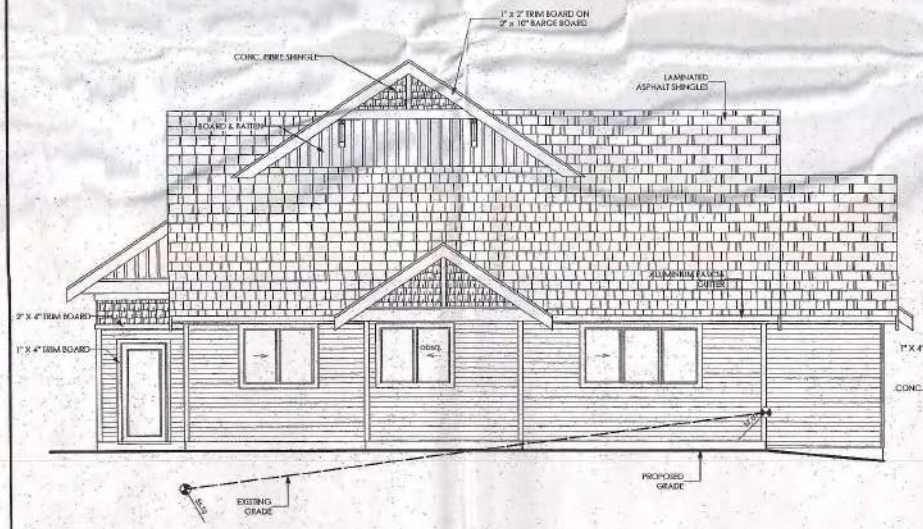
DWG'G NO. 7131-8
SHT NO. S1 OF S1
DATE 10 APR., 2012
SCALE As Shown
DRAWN CB
REVIEWED BY WSP

PROJECT
Lot 13
PROPOSED RESIDENCE
FOR BICKFORD ENTERPRISES
~~LOT 8~~ HIDDEN CREEK
MILL BAY B.C.

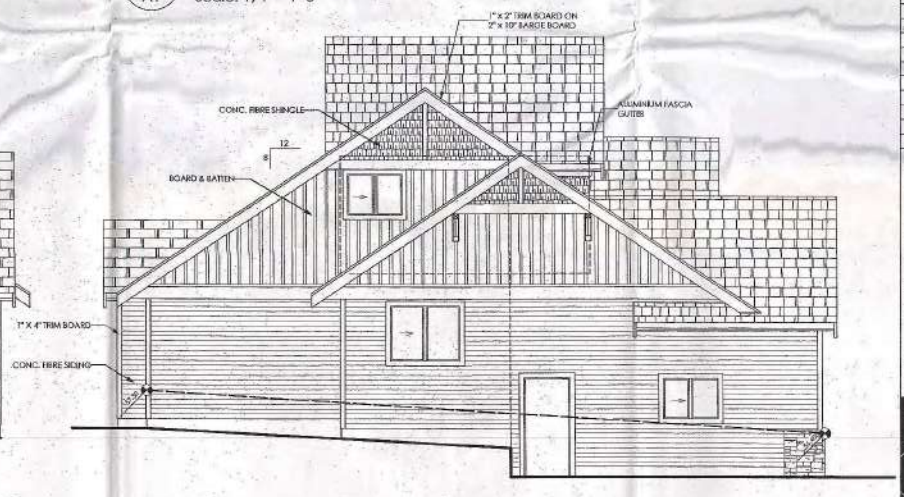
1 / A1 **Front Elevation**
Scale: 1/4" = 1'-0"



2 / A1 **Right Side Elevation**
Scale: 1/4" = 1'-0"



3 / A1 **Rear Elevation**
Scale: 1/4" = 1'-0"



4 / A1 **Left Side Elevation**
Scale: 1/4" = 1'-0"

Date: 10.4.12
Time: 4:28:54

List of Drawings

S1	Siteplan
A1	Elevations
A2	Foundation
A3	Main Floor Plan
A4	Upper Floor Plan
A5	Section
D1	Rainscreen Application Details

ISSUED/REVISED

NO.	DATE	DESCRIPTION
01	15/02/12	95% Complete

General Contractor and or Owner to verify and thoroughly review all aspects of plans prior to commencement and setting out of all work. Any discrepancies are to be reported to Building Designer immediately. Building Designer not liable for changes made to plan on site or failure to report discrepancies. Refer to General notes included on plan.

Note: B.C.L.S. to verify placement and siting of all structures on lot. General Contractor to work in conjection with B.C.L.S. to ensure proper placement of structures on site prior to starting work. Building Designer not responsible for any encroachments of any kind with regard to siting or placement of structures on lot.

Structural Engineer to review plan (where required), and specify structure as deemed necessary. It is the responsibility of the owner or contractor to verify and coordinate all engineering requirements with municipal building department prior to starting work.

Truss Manufacturer to review plans to verify roof design where sing. roof trusses are shown, and to contact building designer to advise if revisions are necessary.

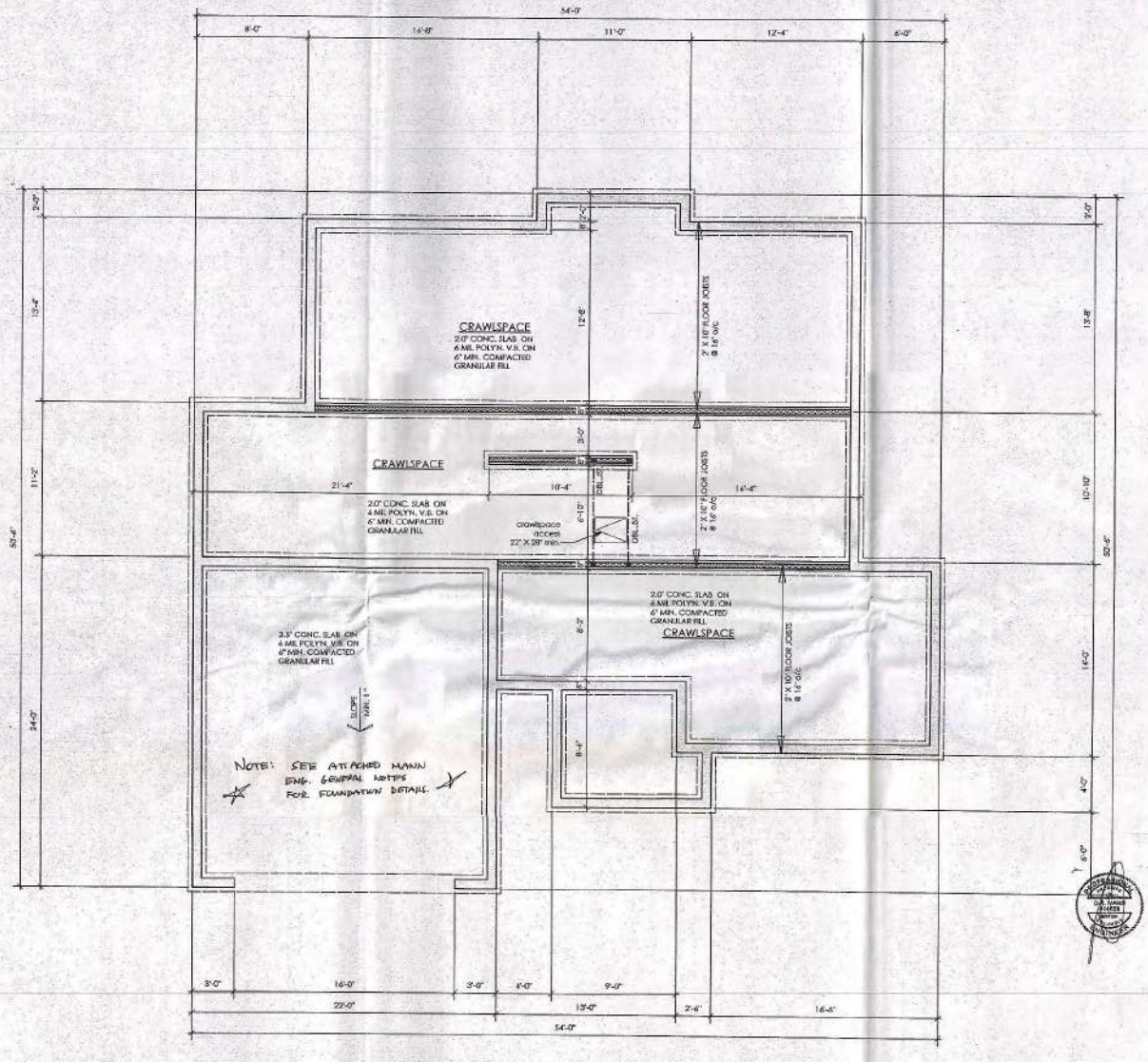
© COPYRIGHT

This plan and design is covered by copyright law and may not be reproduced, copied or used in any form whole or in part without the express written permission of Victoria Design Limited, and may only be used to construct this particular dwelling on the specified lot indicated in the Title block below.

VICTORIA DESIGN GROUP
INC. - BC
A-1 TERRA AVENUE
VICTORIA, B.C.
V8Z 6X8
PH: 250-386-7794
FAX: 250-386-7796
WWW.VICTORIADESIGNGROUP.CA

DRAWING NO. 7131-8
SHT. NO. A1 OF A5
DATE 10 APR., 2012
SCALE As Shown
DRAWN CB
REVIEWED BY WSP

PROJECT
Lot 13
PROPOSED RESIDENCE
FOR BICKFORD ENTERPRISES
~~LOT 13~~ HIDDEN CREEK
MILL BAY_____B.C.



1 / A2 **Foundation Plan**
Scale: 1/4" = 1'-0"

MANN ENGINEERING
STRUCTURAL
SEP 11 2012
3708 Nicholas Memorial Hwy
Victoria BC V9E 2E6
Phone: 250-475-0833
Fax: 250-391-9582

GENERAL NOTES

Dimensions given shall take precedence over scale. Contractor to check and confirm all dimensions of Building Designer and Consultants drawings prior to work commencement.
Any discrepancies are to be reported immediately.
Surveyor and/ or Contractor to confirm all aspects of siting and placement of structure on lot. Designer not responsible for placement.
In the event that the proposed new or existing structure does not conform to N.B.C. of Canada, & 2006 B.C. Building Code a structural engineer may be required commissioned by owner.
All materials to be of best quality, complying with the applicable sections of the latest C.S.A., C.O.S.B. and N.B.C. standards.
All work shall at least comply with the "National Building Code of Canada", the rules and customs of best trade practice and these specifications to be executed by skilled tradespersons, well equipped and adequately supervised.
All materials shall be used strictly according to manufacturer printed direction, where not inconsistent with this specification; no deviation permitted except where specified.

STRUCTURAL DESIGN

Structural is based on criteria stated in Part 3 and Part 9 of the 2006 B.C. Building Code and other applicable sections. Design live loads as follows:

Design main floor load	- 40 p.s.f. -	1.92kPa
Design bedroom floor load	- 40 p.s.f. -	1.92kPa
Design roof load	- 25.7lb s.f. -	1.23kPa

For heavier snow loading, drawings must be revised.

DEMOLITION

For all renovations and additions, contractor must maintain strength and stability of existing structure; provide and install all shoring and braces to support existing construction during the duration of the work.

CONCRETE

All concrete used for footings and foundations to be no less than 15 MPa @ 28 days unless otherwise noted.
All concrete used for floors to be not less than 20 MPa @ 28 days unless otherwise noted.
All concrete used for carport, garage floor and exterior steps to be minimum 32 MPa @ 28 days.
Exterior slabs and slabs also require 5-8% air entrainment.
All finishes and tips to be coined down to solid unstructured swaying.

ROUGH CARPENTRY

All construction and materials to comply with the "approved" current issue and amendments of C.S.A. of Canada and N.B.C.
All structural framing members are rated for standard grade No. 2 better Spruce-Pine-Fir (in accordance with N.L.G.A. standard grading rules for Canadian lumber) except where specifically noted otherwise.
Framing contractor is to provide backing for all plumbing accessories, shelving, switch rods, cabinets, etc.
Contractor shall be responsible for the proper setting out of all work and ensure no accumulated fresh occurs.

MECHANICAL

Plumbing contractor is to allow for from 2 exterior hose bibs at convenient locations.
Flash over all exposed openings, doors, windows, etc. not directly protected by eaves.
Plumbing installation shall comply with current edition of A.C.N.B.C., Canadian Plumbing Code and Electrical Code.
Heating and/ or air conditioning systems are to comply with A.C.N.B.C., the Canadian Heating Ventilation & Air Conditioning Code current issue.
All fuel lines, flues and ventilation requirements to be verified prior to installation and to install to manufacturers specs.
Kitchen fan minimum req'd by B.C.B.C. 2006, See B.C.B.C. table 9.32.3.3.B. 45 cfm exhaust, 50 CFM Intermittent, 2" external static pressure
Dual size: 6" smooth, 6" flexible, shall be non combustible, and not exceed 10m and 2 elbows.
Commonly sold fans exceed req'd CFMs and dual size should be revised to meet B.C.B.C. requirements and manufacturers specs.
Bathroom fan - Minimum required by B.C.B.C. 2006:
Fan 1 - See B.C.B.C. table 9.32.3.5.A
50 CFM Min. 110 CFM Max @ 2" External static pressure
Dual size: 6" smooth, 6" flexible round ratio @ 1.5 area
Connect to intermittent control so to provide a min. of two 4 hour operating periods per day.
Fan 2 - See B.C.B.C. table 9.32.3.5.B
50 CFM @ 2" External static pressure.
Duct size: 6" smooth, 3" flexible

COPYRIGHT

This plan and design is covered by copyright law and is the sole property of Victoria Design Limited and may not be reproduced or used in any form without written permission from same. Victoria Design Limited permits the purchaser to construct only one (1) dwelling with one purchaser of plans.

IF RESAWN LUMBER USED FOR EXTERIOR SHEATHING IT MUST BE PLACE AT 45° USE 3 - 2½" SPIRAL NAILS PER STUD

NOTE: ALL FLOOR SHEATS ARE TO BE SPIKE, SCREWED & GLUED.

DESIGN CRITERIA: Part 9 BC Building Code (Pt. 9 OCBC)
ROOF: SL = 26.7 PSF DL = 10 PSF
FLOOR: LL = 40 PSF DL = 15 PSF
ASSUMED SOIL BEARING CAPACITY 3000 PSF
ALL FRAMING PER Pt. 9 BCBC
LINTELS TO BE 2-2x10 unless noted otherwise (UNO).
MINIMUM BEARING FOR ENGINEERED BEAM IS 3"
(Double Cripple or 3.5" STP WALL PLATE BEARING UNO)

Mann Engineering Corp. - Structural Engineering
New Home
Lot 13 Hidden Creek
(Part 9 Structure) Lot 13
Cowichan Valley Regional District
Foundation, LVL's & Trusses
31-Aug-2012 / Drawing Date: Friday, August 31, 2012
Brian Bickford, Hidden Creek Construction Ltd.
Mann File No.: 54580

Wall Legend

- 8" THK. CONC. FOUNDATION WALL
- 16" X 8" CONC. STRIP FOOTING
- BUILT-UP WD. POST
- BUILT-UP WD. POST TO SUPPORT LOAD FROM ABOVE
- POINT LOAD ON BEAM FROM ABOVE

Date: 10.4.12
Time: 4:28:54

PROFESSIONAL SEALS

SIGNATURE

List of Drawings

S1	Sitepian
A1	Elevations
A2	Foundation
A3	Main Floor Plan
A4	Upper Floor Plan
A5	Section
D1	Rainscreen Application Details

ISSUED/REVISED

NO.	DATE	DESCRIPTION
01	15/02/12	95% Complete

General Contractor and or Owner to verify and thoroughly review all aspects of plan prior to commencement and setting out of all work. Any discrepancies are to be reported to Building Designer immediately. Building Designer not liable for changes made to plan on site or failure to report discrepancies. Refer to General notes included on plan.

Note: B.C.L.S. to verify placement and siting of all structures on lot. General Contractor to work in conjuction with B.C.L.S. to ensure proper placement of structures on site prior to starting work. Building Designer not responsible for any encroachments of any kind with regard to siting of placement of structures on lot.

Structural Engineer to review plan (where required) and specify structure as deem necessary. It is the responsibility of the owner or contractor to verify and commission all engineering requirements with municipal building departments prior to starting work.

Truss Manufacturer to review plans to verify roof design where eng. roof trusses are shown, and to contact building designer to advise if revisions are necessary.

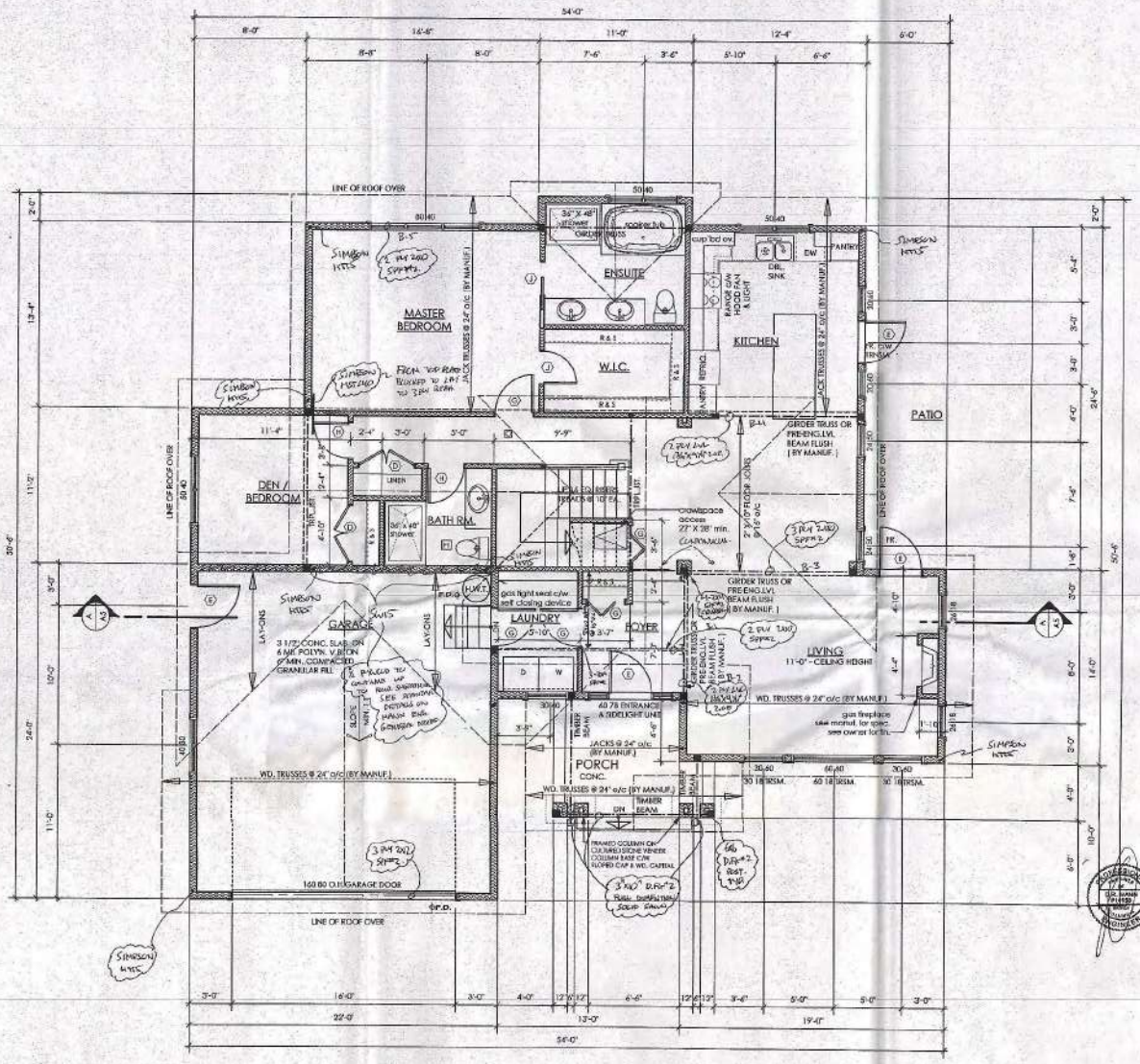
© COPYRIGHT

This plan and design is covered by copyright law and may not be reproduced, copied or used in any form whole or in part without the express written permission of Victoria Design Limited, and may only be used to construct this public for dwelling on the specified lot indicated in the title block below.

VICTORIA DESIGN GROUP
102 - 1st
ATTREE AVENUE
VICTORIA, B.C.
V9B 2Z3
PH: 250.382.7574
FAX: 250.382.7584
WWW.VICTORIADESIGNGROUP.CA

DRAWING NO.	7131-8
SHEET NO.	A2 OF A5
DATE	10 APR., 2012
SCALE	As Shown
DRAWN	CB
REVIEWED BY	WSP

PROJECT
Lot 13
PROPOSED RESIDENCE
FOR BICKFORD ENTERPRISES
~~LOT 8~~ HIDDEN CREEK
MILL BAY_____B.C.



Main Floor Plan

1 / A3

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

1480.8 sq.ft. (137.57 sq.m.)
Garage 528.0 sq.ft. (49.05 sq.m.)

Interconnected Smoke & Carbon Monoxide Alarm

NOTE: ALL STRUCTURE TO BE VERIFIED OR DESIGNED BY STRUCTURAL ENGINEER

MAIN ENGINEERING STRUCTURAL

IF RESAWN LUMBER USED FOR EXTERIOR SHEATHING IT MUST BE PLACE AT 45° USE 3 - 2½" SPIRAL NAILS PER STUD

NOTE: ALL FLOOR JOISTS MUST BE BUT SPLICED & NAILED.

DESIGN CRITERIA: Part 9 BC Building Code (Pt. 5 NBC)
ROOF: SL = 24.7 PSF DL = 12 PSF
FLOOR: SL = 40 PSF DL = 15 PSF
ASSUMED SOIL BEARING CAPACITY 3000 PSF
ALL FRAMING FDN. PL. 9 BCBC
LINTELS TO BE S-2010 unless noted otherwise (LINCL.
MINIMUM BEARING FOR ENGINEERED BEAM 3.5"
(Double Cripples or 3x6" TOP WALL PLATE BEARING LUMB

Main Engineering Corp. - Structural Engineering
New Home
Lot 13 Hidden Creek
(Part 9 Structure) Lot 13
Cowichan Valley Regional District
Foundation, LVL's & Trusses
31-Aug-2012 / Drawing Date: Friday, August 31, 2012
Brian Bickford, Hidden Creek Construction Ltd.
Main File No.: 54560

DOOR SCHEDULE

A	6'0 X 6'8 (1828 X 2032)	F	3'0 X 6'8 (864 X 2032)
B	6'0 X 6'8 (1829 X 2032)	G	2'8 X 6'8 (813 X 2032)
C	5'0 X 6'8 (1524 X 2032)	H	2'6 X 6'8 (762 X 2032)
D	4'0 X 6'8 (1219 X 2032)	J	2'4 X 6'8 (711 X 2032)
E	3'0 X 6'8 (914 X 2032)	K	2'0 X 6'8 (610 X 2032)
		L	1'6 X 6'8 (508 X 2032)

Wall Legend

- 2" X 6" EXTERIOR WALL
- 2" X 4" INTERIOR PARTITION
- BUILT-UP WD. POST
- BUILT-UP WD. POST TO SUPPORT LOAD FROM ABOVE
- POINT LOAD ON BEAM FROM ABOVE
- 90 c.f.m. ventilation fan c/w intermittent control
- 90 c.f.m. ventilation fan

refer to general notes for ducting sizes

Date: 10.4.12
Time: 4:28:54

PROFESSIONAL SEAL

REV.	DATE	DESCRIPTION

List of Drawings

S1	Siteplan
A1	Elevations
A2	Foundation
A3	Main Floor Plan
A4	Upper Floor Plan
A5	Section
D1	Rainscreen Application Details

ISSUED/REVISED

REV.	DATE	DESCRIPTION
01	15/02/12	95% Complete

General Contractor and or Owner to verify and thoroughly review all aspects of plan prior to commencement and/or pouring out of all work. Any discrepancies are to be reported to Building Designer immediately. Building Designer not liable for changes made to plan on site or failure to report discrepancies. Refer to General notes included on plan.

Note: S.C.L.S. to verify placement and siting of all structures on lot. General Contractor to work in conjunction with S.C.L.S. to ensure proper placement of structures on site prior to starting work. Building Designer not responsible for any encroachments of any kind with regard to siting or placement of structures on lot.

Structural Engineer to review plan (where required), and specify structure as deemed necessary. It is the responsibility of the owner or contractor to verify and commission all engineering requirements with municipal building department prior to starting work.

Truss Manufacturer to review plans to verify roof design where eng. roof trusses are shown, and to contact building designer to advise if revisions are necessary.

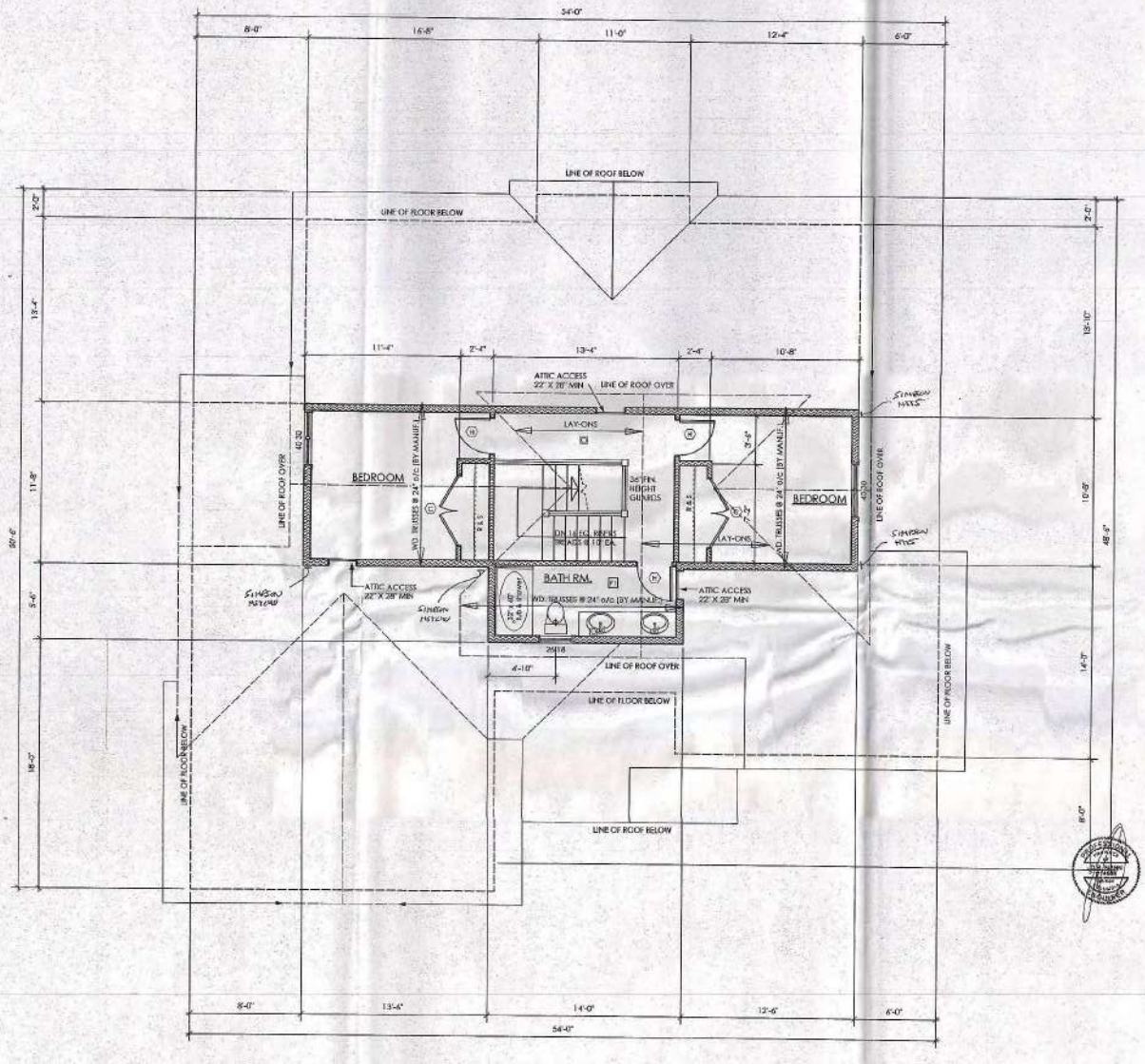
©COPYRIGHT

This plan and design is covered by copyright law and may not be reproduced, copied or used in any form whole or in part without the express written permission of Victoria Design Group, and may only be used to construct this particular dwelling on the specified lot indicated in the Title Block below.

VICTORIA DESIGN GROUP
102 - 821 ATTRIDGE AVENUE
VICTORIA, B.C. V9B 6W6
TEL: 250-381-7324
FAX: 250-381-7324
WWW.VICTORIADESIGNGROUP.CA

DRAWING NO. 7131-8
SHT. NO. A3 OF A5
DATE 10 APR., 2012
SCALE As Shown
DRAWN CB
REVIEWED BY WSP

PROJECT
Lot 13
PROPOSED RESIDENCE
FOR BICKFORD ENTERPRISES
~~LOT 8~~ HIDDEN CREEK
MILL BAY B.C.



1 A4 Upper Floor Plan

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

442.00 sq.ft. (41.06 sq.m.)

Interconnected Smoke & Carbon Monoxide Alarm

NOTE: ALL STRUCTURE TO BE VERIFIED OR DESIGNED BY STRUCTURAL ENGINEER

IF RESAWN LUMBER USED FOR EXTERIOR SHEATHING IT MUST BE PLACE AT 45° USE 3 - 3½" SPIRAL NAILS PER STUD

DESIGN CRITERIA: Part 9 BC Building Code (Pt. 9 BCBC)

ROOF: DL = 26.7 PSF DL = 10 PSF

FLOOR: DL = 10 PSF DL = 15 PSF

ASSUMED SOIL BEARING CAPACITY: 3000 PSF

ALL DRAWING PER PART 9 BCBC

LINTELS TO BE 2-2x10 unless noted otherwise (U.N.O.)

MINIMUM BEARING FOR ENGINEERED BEAM is 3" (Double Cripple or 3.5" TOP WALL PLATE BEARING UNO

Mann Engineering Corp. - Structural Engineering
New Home
Lot 13 Hidden Creek
(Part 9 Structure) Lot 13
Cowichan Valley Regional District
Foundation, LVL's & Trusses
31-Aug-2012 / Drawing Date: Friday, August 31, 2012
Brian Bickford, Hidden Creek Construction Ltd.
Mann File No.: 54560

MANN ENGINEERING STRUCTURAL

DOOR SCHEDULE

A	610 X 610 (2400 X 2400)	F	2610 X 610 (864 X 2032)
B	610 X 610 (1829 X 2032)	G	2/8 X 4/8 (610 X 2032)
C	610 X 610 (1524 X 2032)	H	2/6 X 4/8 (762 X 2032)
D	610 X 610 (1219 X 2032)	J	2/4 X 4/8 (711 X 2032)
E	610 X 610 (914 X 2032)	K	2/0 X 4/8 (610 X 2032)
		L	1/4 X 4/8 (406 X 2032)

Wall Legend

2" X 4" EXTERIOR WALL

2" X 4" INTERIOR PARTITION

BUILT-UP WD. POST

BUILT-UP WD. POST TO SUPPORT LOAD FROM ABOVE

POINT LOAD ON BEAM FROM ABOVE

90 c.f.m. ventilation fan c/w intermittent control

90 c.f.m. ventilation fan

refer to general notes for ducting size

Date: 10.4.12
Time: 4:28:54

List of Drawings

S1	Siteplan
A1	Elevations
A2	Foundation
A3	Main Floor Plan
A4	Upper Floor Plan
A5	Section
D1	Rainscreen Application Details

ISSUED/REVISED

REV.	DATE	DESCRIPTION
01	15/02/12	95% Complete

General Contractor and or Owner to verify and thoroughly review all aspects of plans prior to commencement and setting out of all work. Any discrepancies are to be reported to Building Designer immediately. Building Designer not liable for changes made to plan on site or failure to report discrepancies. Refer to General notes included on plan.

NOTE: B.C.L.S. to verify placement and siting of all structures on lot. General Contractor to work in conjuction with B.C.L.S. to ensure proper placement of structures on site prior to starting work. Building Designer not responsible for any encroachments of any kind with regard to siting or placement of structures on lot.

Structural Engineer to review plan (where required), and specify structure as deemed necessary. It is the responsibility of the owner or contractor to verify and determination of engineering requirements with municipal building department prior to starting work.

Truss Manufacturer to review plans to verify roof design where any roof frames are shown, and to contact building designer for advise if revisions are necessary.

©COPYRIGHT

This plan and design is covered by copyright law and may not be reproduced, copied or used in any form whole or in part without the express written permission of Victoria Design Limited, and may only be used to construct this particular dwelling on the specified lot indicated in the Title Block below.

VICTORIA DESIGN GROUP

#11 - 1501 ULTEN AVENUE VICTORIA, B.C. V9B 6H6

PH: 250.380.1976
FAX: 250.386.7984

WWW.VICTORIADESIGNGROUP.CA

DRWG. NO. 7131-8

SHT. NO. A4 OF A5

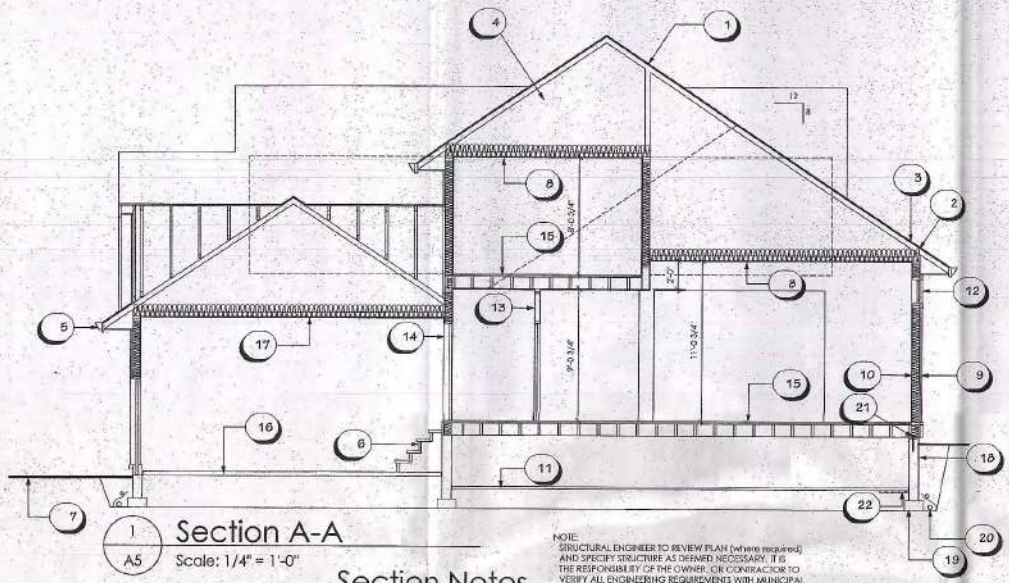
DATE 10 APR., 2012

SCALE As Shown

DRAWN CB

REVIEWED BY WSP

PROJECT Lot 13
PROPOSED RESIDENCE
FOR BICKFORD ENTERPRISES
~~LOT~~ HIDDEN CREEK
MILL BAY_____B.C.



1 / A5 **Section A-A**
Scale: 1/4" = 1'-0"

Section Notes

1. LAMINATED ASPHALT SHINGLES ON 1/2" PLYWOOD OR EQUAL WD TRUSSES (DESIGNED BY MANUF.)
2. PROVIDE 2 1/2" (63 mm) CLEAR BETWEEN R - 40 INSULATION AND SHEATHING. (min. R - 20 @ roof-wall connection)
3. EAVE PROTECTION CONT. UP ROOF SLOPE FOR 12" PAST EXTERIOR WALL.
4. PROVIDE 1 SQ.FT. ATTIC VENT PER 300 SQ.FT. MIN. 25% OF REQUIRED TO BE @ TOP AND BOTTOM
5. PRE- FIN. ALUMINUM FASCIA GUTTER 2"X 4" SUB. FASCIA BD. VENTED SOFFIT (see contractor)
6. STEP DOWN TO GARAGE SLAB MAY VARY, VERIFY EXTENT ON SITE
7. FINISHED GRADE
8. 5/8" GYPSUM BOARD 6 MIL POLY'N V.B. ON U.S. OF WD. TRUSSES
9. CONC. FIBER SIDING OR WD. SHINGLES OR BOARD & BATTEN 19mm (3/4") AIR SPACE / P.T. WOOD STRAPPING ON 2 LAYERS 30 MIN. BUILDING PAPER ON 1/2" PLYWOOD SHEATHING OR EQ. ON 2" X6" STUDS @ 16" O.C. (refer to details provided on D1)
10. 1/2" GYP'BD. ON c/w 6 MIL POLY'N. & R - 20 INSULATION
11. 2.0" CONCRETE SLAB 6 MIL POLY'N V.B. 6" COMPACTED GRAVEL OR SAND
12. DOUBLE GLAZING IN THERMAL BREAK FRAMES 2/2"X10" LINTEL OVER (TYPICAL) FLASHING OVER @ EXTERIOR (glazing in all exterior doors & within 3 ft. of exterior doors to be shatterproof (SP))
13. INTERIOR PARTITION 1/2" GYPSUM BOARD ON EACH SIDE OF 2"X 4" STUDS @ 16" o/c
14. 5/8" X TYPE GYPSUM BOARD (garage side) OF 2"x6" STUDS @ 16" o/c c/w R-20 INSULTN 1/2" GYPSUM BOARD (living side) (between garage & living)
15. FINISHED FLOORING ON 5/8" T& G PLYWOOD OR EQ. (nailed & glued to floor struct. below) ON 2" X 10" FLOOR JOISTS @ 12" or 16" O/C (refer to floor plans for joist spacing) C/W 2" X 2" X-BRIDGING @ 1/2 SPAN
16. 3.5" CONCRETE SLAB 6 MIL POLY'N V.B. 6" COMPACTED GRAVEL OR SAND
17. 5/8" X TYPE GYPSUM BOARD 6 MIL POLY'N V.B. ON U.S. OF WD. TRUSSES OR FLOOR JOISTS (as noted) c/w R-28 INSULTN IN CAVITY
18. DAMPROOFING (where required) ON 8" THK. CONC. FOUNDATION WALL C/W 15 M BARS @ 24" o/c B/W ON UNDISTURBED SOIL(SOLID BEARING)
19. 16"X 8" CONC. FOOTINGS C/W 2 # 4 BARS CONT. 3 IN. FROM BOTT. ON UNDISTURBED SOIL(SOLID BEARING)
20. 4" PERIMETER DRAIN 3 " TIGHT PIPE FOR RWL DRAIN ROCK
21. ANCHOR BOLTS @ 4.0 FT. o/c MAX C/W SILL GASKETS
22. R-12 RIGID INSULATION FOR 2'-0" CONT. AROUND PERIMETER NOT SHOWN (under slab where less than 2'-0" below grade where required.)
23. PRE-MAN. STONE VENEER ON (installed to manuf. spec) LIME BASED MORTER ON WIRE LATHE ON 2 LAYERS 30 MIN. BUILDING PAPER ON 7/16" PLYWOOD SHEATHING OR EQ. ON 2" X 6" STUDS @ 16" O/C C/W R 20 F/C BATT INSULATION 6 MIL POLY'N. V.B. & 1/2" GYPSUM BD. (Ext. Wall w/. veneer, not shown in section)

NOTE:
STRUCTURAL ENGINEER TO REVIEW PLAN (where required) AND SPECIFY STRUCTURE AS DEEMED NECESSARY. IT IS THE RESPONSIBILITY OF THE OWNER, OR CONTRACTOR TO VERIFY ALL ENGINEERING REQUIREMENTS WITH MUNICIPAL BUILDING DEPARTMENTS PRIOR TO STARTING WORK.

Date: 10.4.12
Time: 4:28:54

PROFESSIONAL SEALS

Revisions

List of Drawings

S1	Siteplan
A1	Elevations
A2	Foundation
A3	Main Floor Plan
A4	Upper Floor Plan
A5	Section
D1	Rainscreen Application Details

ISSUED/REVISED

NO.	DATE	DESCRIPTION
01	15/02/12	95% Complete

General Contractor and or Owner to verify and thoroughly review all aspects of plan prior to commencement and ordering out of all work. Any discrepancies are to be reported to Building Designer immediately. Building Designer not liable for changes made to plan on site or failure to report discrepancies. Refer to General notes included on plan.

Note: B.C.L.S. to verify placement and siting of all structures on lot. General Contractor to work in conjuction with B.C.L.S. to ensure proper placement of structures on site prior to starting work. Building Designer not responsible for any encroachments of any kind with regard to siting or placement of structures on lot.

Structural Engineer to review plan (where required), and specify structure as deemed necessary. It is the responsibility of the owner or contractor to verify and commission all engineering requirements with municipal building departments prior to starting work.

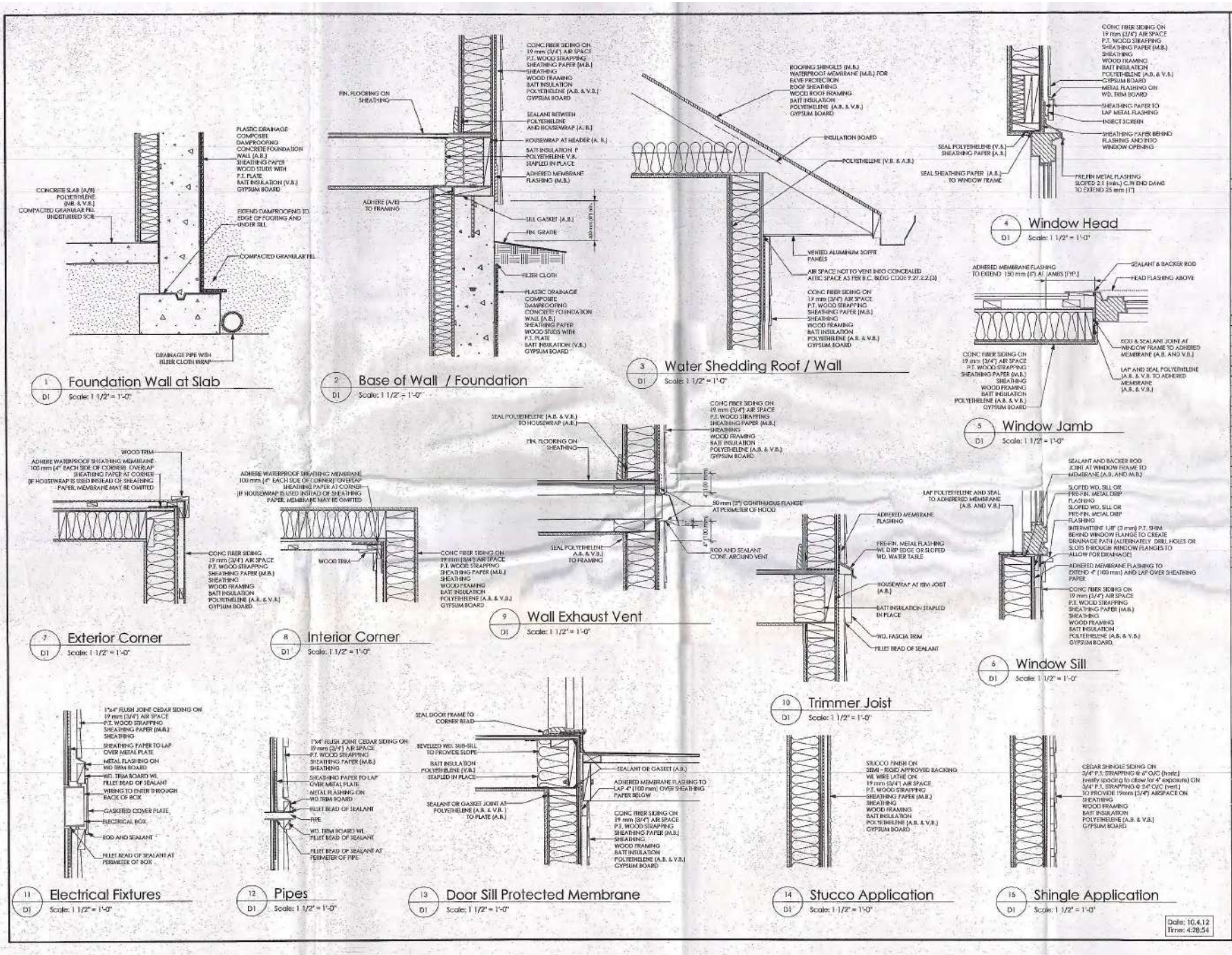
Truss Manufacturer to review plans to verify roof design where eng. roof trusses are shown, and be contact building designer to advise if revisions are necessary.

©COPYRIGHT
This plan and design is covered by copyright law and may not be reproduced, copied or used in any form whole or in part without the express written permission of Victoria Design United, and may only be used to construct this particular dwelling on the specified lot indicated in the title block below.

VICTORIA DESIGN GROUP
102 - 911 STORES AVENUE
VICTORIA, B.C.
V9A 0B8
PH: 250.382.7221
FAX: 250.382.7266
WWW.VICTORIADESIGNGROUP.CA

DRWG. NO.	7131-B
SHT. NO.	A5 OF A5
DATE	10 APR., 2012
SCALE	As Shown
DRAWN	CB
REVIEWED BY	WSP

PROJECT
Lot 13
PROPOSED RESIDENCE
FOR BICKFORD ENTERPRISES
~~LOT 8~~ HIDDEN CREEK
MILL BAY _____ B.C.



Date: 10.4.12
Time: 4:28:54

PROFESSIONAL SEALS

REVISIONS

List of Drawings

S1	Siteplan
A1	Elevations
A2	Foundation
A3	Main Floor Plan
A4	Upper Floor Plan
A5	Section
D1	Rainscreen Application Details

ISSUED/REVISED

NO.	DATE	DESCRIPTION
01	15/02/12	95% Complete

General Contractor and or Owner to verify and thoroughly review all aspects of plan prior to commencement and setting out of all work. Any discrepancies are to be reported to Building Designer immediately. Building Designer not liable for changes made to plan on site or failure to report discrepancies. Refer to General notes included on plan.

Note: B.C.S.S. to verify placement and siting of all structures on lot. General Contractor to work in conjunction with B.C.L.S. to ensure proper placement of structures on site prior to starting work. Building Designer not responsible for any encroachments of any kind with regard to siting or placement of structures on lot.

Structural Engineer to review plan where required, and specify structure as deemed necessary. It is the responsibility of the owner or contractor to verify and coordination all engineering requirements with municipal building departments prior to starting work.

Truss Manufacturer to review plans to verify roof design where ridge and valleys are shown, and to contact building designer for advise if revisions are necessary.

© COPYRIGHT

This plan and design is covered by copyright law and may not be reproduced, copied or used in any form whole or in part without the express written permission of Victoria Design Limited, and may only be used to construct this particular dwelling on the specified lot indicated in the title block below.

VICTORIA DESIGN GROUP
102 - 911 ESTHER AVENUE VICTORIA, B.C. V9B 1G8
PH: 250.382.9206
FAX: 250.382.7384
WWW.VICTORIADESIGNGROUP.CA

LEDGER NO.	7131-8
SHEET NO.	D1 OF D1
DATE	10 APR., 2012
SCALE	As Shown
DRAWN	CB
REVIEWED BY	WSP

PROJECT:
Lot 13
PROPOSED RESIDENCE
FOR BICKFORD ENTERPRISES
~~LOT 8~~ HIDDEN CREEK
MILL BAY B.C.